

STRUCTURE ESTIMATED QUANTITIES

**Bridge No. FRA-70-1321A
Over The Scioto River**

**FRA-70/71-12.68/14.86
PID No. 105523**

Franklin County, Ohio

Prepared For:

**The Ohio Department of Transportation
District 6**



GPD GROUP®

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July 12, 2021

Rev. 11/12/2021 Addendum 2

Project: FRANKLIN COUNTY - 1321A
Subject: Estimated Quantities - Final Plans
Date: 7/9/2021 rev. Addendum 2 11/12/21

Design: RFV
Check: TJW

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING

Lump Sum

ITEM 503 - UNCLASSIFIED EXCAVATION

Forward Abutment:
area = 1182.00 sf
avg. top elevation = 733.00 ft
bot. elevation = 715.50 ft

Total = 767 cy

ITEM 503 - PILE DRIVING EQUIPMENT MOBILIZATION

Lump Sum

ITEM 505 - STEEL PILES HP10X42, FURNISHED

Forward Abutment = 27.00 piles
Length = 65.00 ft
Furnished Length = 5.00 ft

Total = 1890 ft

ITEM 505 - STEEL PILES HP10X42, DRIVEN

Total = 1755 ft

ITEM 507 - STEEL POINTS OR SHOES

Total = 27 each

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

Slab = 592,279 lbs
Deck End = 8,398 lbs
Deck Railing = 54,598 lbs
Abutments = 23,664 lbs
Pier = 216,790 lbs

Total = 895,729 lbs

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN

Deck:
thickness = 9.5 in
area = 67999.0 sf, cadd area
deck volume = 53833 cf

End Haunch:
Pier A
x-sectional area = 6.78 sf, below main deck thickness
length = 121.87 ft

Forward Abutment

x-sectional area = 6.16 sf, below main deck thickness
length = 92.03 ft

End Haunch Volume = 1393 cf

Girder Haunch:

top/deck to top/web= 13.5 in 0.806 sf gross interior haunch area incl. top flange
t/flange width = 20 in 1.646 sf gross exterior haunch area incl. top flange
haunch thick. = 2 in
avg. t/flange thick. = 1.36 in 4143.3 cf gross interior haunch
total length int. beams 5143.36 ft 3388.6 cf gross exterior haunch
total length ext. beams 2058.90 ft 1360.4 cf embedded top flange plates
overhang width = 3.73 ft 17.9 cf embedded top flange splice plates
6153.5 cf total net girder haunch volume

Total = 2.274 cy

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)

	area (sf)	length (ft)	total (cf)
left parapet	4.08	1036.00	4226.88
right parapet	4.08	1026.33	4187.44
gore sloped	4.08	25.23	102.94
gore non-sloped	5.25	12.34	64.79
sign support	94.17		cf
pilasters	119.47		cf

Total = 326 cy

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING

Skew angle = 52.07 degrees

Forward Abutment

Beam Seat

beam seat area (plan) = 648.45 sf (cad)
avg. beam seat height = 3.41 ft
footing key = 42.70 cf
Beam Seat Volume = 2168.15 cf

Backwall

backwall area = 794.89 sf (cad) *average between front and back
backwall thickness = 2.25 ft
approach slab thickness = 1.42 ft
approach slab length = 86.62 ft
utility opening = 10.94 cf
Back Wall Volume = 1716.22 cf

Left Forward Wingwall

face area = 206.47 sf *average between front and back
thickness = 1.50 ft
footing key = 1.71 cf
extension length = 6.98 ft *average between front and back
extension height = 6.40 ft
extension thickness = 0.83 ft
parapet transition volume = 49.14 cf
parapet area = 4.08 sf
parapet length = 7.00 ft
Left Forward WW Volume = 422.91 cf

Rigth Forward Wingwall

face area = 175.92 sf *average between front and back
thickness = 1.50 ft
footing key = 1.53 cf

extension length = 5.35 ft *average between front and back
 extension height = 6.44 ft
 extension thickness = 0.83 ft
 parapet transition volume = 49.14 cf
 parapet area = 4.08 sf
 parapet length = 7.00 ft
Right Forward WW Volume = 368.77 cf

Footing
 plan area = 942.63 sf
 height = 3.00 ft
 footing key = 2.25 sf
 key length = 133.72 ft
Footing Volume = 3128.75 cf

Total = 289 cy

ITEM 511 - CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA

Pier A:

front face area = 1204.98 sf 33.7 sf at 3.25 ft
 width = 4.25 ft 200.3 sf at 4.25 ft
 back face area = 1040.48 sf 1003.5 sf at 7.50 ft
 width = 3.25 ft
 no. columns = 6 8487.05 cf cap
 column diameter = 5.00 ft 2250.17 cf col's
 column length = 19.1 ft 16.65 cf ped's
 volume of pedestal = 8.32 cf
 no. pedestals = 2
Pier A Volume = 10769.56 cf 10753.86 cf

Pier 1:

front face area = 786.38 sf
 width = 5.50 ft
 no. columns = 4
 column diameter = 5.00 ft
 column length = 32.23 ft
Pier 1 Volume = 6856.44 cf

Pier 2:

front face area = 685.93 sf
 width = 5.50 ft
 no. columns = 4
 column diameter = 5.00 ft
 column length = 22.84 ft
Pier 2 Volume = 5566.46 cf

Pier 3:

front face area = 674.92 sf
 width = 5.50 ft
 no. columns = 4
 column diameter = 5.00 ft
 column length = 18.35 ft
Pier 3 Volume = 5153.24 cf

Pier 4:
front face area = 727.05 sf
width = 5.50 ft
no. columns = 4
column diameter = 5.50 ft
column length = 10.57 ft
Pier 4 Volume = 5003.29 cf

Total = 1236 cy

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

Pier A:
front face perimeter = 276.91 ft 1238.0 sf cap elev.
width = 4.25 ft 30 sf cap north end elev.
front face area = 1204.98 sf 61.19 sf cap north end elev.
back face perimeter = 267.58 ft 943.0469 sf cap top
width = 3.25 sf 825.2372 sf cap bottom
back face area = 1040.48 sf
cap area = 4174.17 sf 4335.474 sf total cap 103.9% say Ok
no. columns = 6
column diameter = 5 ft
column length = 17.1 ft
column area = 1611.64 sf
Pier A Area = 5785.80 sf

Pier 1:
cap perimeter = 195.92 ft
width = 5.50 ft
face area = 786.38 sf
cap area = 2571.80 sf
no. columns = 4
column diameter = 5.00 ft
column length = 32.23 ft
column area = 2025.071 sf
Pier 1 Area = 4596.87 sf

Pier 2:
cap perimeter = 178.98 ft
width = 5.50 ft
face area = 685.93 sf
cap area = 2277.73 sf
no. columns = 4
column diameter = 5.00 ft
column length = 22.84 ft
column area = 1435.08 sf
Pier 2 Area = 3712.81 sf

Pier 3:
cap perimeter = 184.72 ft
width = 5.50 ft
face area = 685.93 sf
cap area = 2309.29 sf
no. columns = 4
column diameter = 5.00 ft
column length = 18.35 ft
column area = 1152.965 sf
Pier 3 Area = 3462.25 sf

Pier 4:

cap perimeter = 205.02 ft
width = 5.50 ft
face area = 727.05 sf
cap area = 2486.70 sf
no. columns = 4
column diameter = 5.50 ft
column length = 10.57 ft
column area = 730.546 sf
Pier 4 Area = 3217.25 sf

Forward Abutment:

backwall area = 989.68 sf *includes end face of parapet
beam seat area = 443.21 sf
left forward ww area = 188.39 sf
end face extension area = 13.39 sf
parapet area = 90.41 sf
right forward ww area = 168.31 sf
end face extension area = 10.59 sf
parapet area = 90.41 sf
Forward Abutment Area = 1994.37 sf

Superstructure:

Parapet/Deck sealed perimeter = 9.64 ft
Left Parapet Lenth = 1036.00 ft
Right Parapet Lenth = 1026.33 ft

Sloped gore parapet perimeter = 7.89 ft
Sloped gore parapet length = 25.23 ft
Straight gore parapet perimeter = 8.50 ft
Straight gore parapet length = 12.34 ft
Superstructure Area = 20191.03 sf

Abutment = 222 sy
Pier = 2309 sy
Super. = 2244 sy

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 5

From Steel Spreadsheet Total = 2,355,836 lbs

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ITEM 513 - STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN

From Steel Spreadsheet Total = 1,495,251 lbs

ITEM 513 - STRUCTURAL STEEL MEMBERS, MODULAR EXPANSION JOINT, LEVEL UF, AS PER PLAN

forward abutment = 89.54 ft
ramp A5 = 38.95 ft
ramp C5 = 33.69 ft

Total = 163 ft

ITEM 513 - WELDED STUD SHEAR CONNECTORS

From Stud Spreadsheet Total = 27,788 each

ITEM 513 - STRUCTURAL STEEL, MISC.: PARAPET SLIDING PLATE JOINT

pier a = 4 ea Future ramp sliding plates (2 each) not included, for reference only
forward abutment = 2 ea
Total = 6 each

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

girder perimeter 237.00 in use 2 x beam depth + 3 x flange width per CMS
length = 10.00 ft
no. of girders ends = 16
crossframe factor = 1.10
Total = 3,476 sf

ITEM 514 - FINAL INSPECTION REPAIR

Painted length of beam/flange 160.00 ft
No. of painted x-frames 22.00 each
Total = 3 each

ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES & LOAD PLATE (NEOPRENE AS PER PLAN (1'-5" DIA.) (PTFE)

pier a = 10 ea
Total = 10 each

ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES & LOAD PLATE (NEOPRENE AS PER PLAN (1'-6.5" DIA.) (PTFE)

forward abutment = 6 ea
Total = 6 each

ITEM 518 - SCUPPER, INCLUDING SUPPORTS, AS PER PLAN

Total = 8 each

ITEM 518 - POROUS BACKFILL WITH GEOTEXTILE FABRIC

Forward Abutment:
avg. top of backwall = 730.73
top of footing = 718.50
height = 10.31 ft
length = 106.00 ft
thickness = 2.00 ft
Forward Abutment Subtotal = 2,186 cf
Total = 81 cy

ITEM 518 - 6" PERFORATED CORRUGATED PLASTIC PIPE

length = 100.00 ft
Total = 100 ft

ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS

length = 30 ft

Total = 30 ft

ITEM 518 - PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN

length = 60 ft

Total = 60 ft

ITEM 518 - PIPE HORIZONTAL CONDUCTOR, AS PER PLAN

length = 15 ft

Total = 15 ft

ITEM 524 - DRILLED SHAFTS, 60" DIAMETER, INTO BEDROCK, AS PER PLAN

pier A socket length = 9 ft
no. of sockets = 6
pier 2 socket length = 4.25 ft
no. of sockets = 4
pier 3 socket length = 9 ft
no. of sockets = 4

Total = 107 ft

ITEM 524 - DRILLED SHAFTS, 66" DIAMETER, ABOVE BEDROCK, AS PER PLAN, PIER 4

pier 4 shaft length = 58.7 ft
no. of shafts = 4

Total = 235 ft

ITEM 524 - DRILLED SHAFTS, 66" DIAMETER, ABOVE BEDROCK, AS PER PLAN

pier a shaft length = 66.7 ft
no. of shafts = 6
pier 2 shaft length = 49.8 ft
no. of shafts = 4
pier 3 shaft length = 53.4 ft
no. of shafts = 4

Total = 814 ft

ITEM 524 - DRILLED SHAFTS, 66" DIAMETER, INTO BEDROCK, AS PER PLAN

pier 1 socket length = 9 ft
no. of sockets = 4 ft

Total = 36 ft

ITEM 524 - DRILLED SHAFTS, 72" DIAMETER, ABOVE BEDROCK, AS PER PLAN

pier 1 shaft length = 45.5 ft
no. of drilled shafts = 4

Total = 182 ft

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17")

area = 1674.38 sf

Total = 187 sy

ITEM 526 - TYPE A INSTALLATION

length = 84.81 ft

Total = 85 ft

ITEM 601 - CONCRETE SLOPE PROTECTION

forward abutment area = 7674.00 sf (measured to 3' outside and parallel to both deck edges)
slope factor = 1.02

Total = 870 sy

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC

pier a area = 9890.3 sf
pier 4 area = 2344.0 sf (measured to 3' outside and parallel to both deck edges)
thickness = 2.50 ft
slope factor = 1.05

Total = 1190 cy

ITEM 869 - HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS, AS PER PLAN

pier 1 = 9 ea
pier 2 = 7 ea
pier 3 = 6 ea
pier 4 = 6 ea

Total = 28 each

ODOT PID 77372 Franklin County

Br. No FRA-70-1321A

ITEM 513 - STRUCTURAL STEEL MEMEBERS, LEVEL 5

ITEM 513 - STRUCTURAL STEEL MEMEBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION

Legend:

Input Cells
Qty. of GR. 70W Steel
Qty. Carried to GR. 70W Steel Total
Qty. Carried to GR. 50W Steel Total

Item Total = 2,355,836 lbs
Item Total = 1,495,251 lbs

Girder 1	Web							Top Flange							Bottom Flange							GR. 50W Steel Weight (lbs)	GR. 70W Steel Weight (lbs)
	Depth (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)		
Pier A to FS No. 1	87	0.6875	59.81	203.53	126.30	1	25,705.03	20	1	20.00	68.06	126.30	1	8,595.20	20	1.5	30.00	102.08	126.30	1	12,892.81	47,193.04	0.00
FS No. 1 to FS No. 2	87	0.6875	59.81	203.53	94.95	1	19,324.62	20	1.875	37.50	127.60	94.95	1	12,115.75	27	1.875	50.63	172.27	94.95	1	16,356.26	0.00	47,796.63
FS No. 2 to FS No. 3	87	0.6875	59.81	203.53	107.20	1	21,818.91	20	1	20.00	68.06	107.20	1	7,295.77	20	1.375	27.50	93.58	107.20	1	10,031.68	39,146.36	0.00
FS No. 3 to FS No. 4	87	0.6875	59.81	203.53	105.17	1	21,405.49	20	1.875	37.50	127.60	105.17	1	13,420.37	27	1.875	50.63	172.27	105.17	1	18,117.50	0.00	52,943.36
FS No. 4 to FS No. 5	87	0.6875	59.81	203.53	130.56	1	26,573.21	20	1	20.00	68.06	130.56	1	8,885.50	20	1.5	30.00	102.08	130.56	1	13,328.26	48,786.97	0.00
FS No. 5 to FS No. 6	87	0.6875	59.81	203.53	114.51	1	23,305.09	20	1.875	37.50	127.60	114.51	1	14,611.34	29	1.875	54.38	185.03	114.51	1	21,186.45	0.00	59,102.88
FS No. 6 to FS No. 7	87	0.6875	59.81	203.53	116.88	1	23,788.47	20	1	20.00	68.06	116.88	1	7,954.35	20	1.375	27.50	93.58	116.88	1	10,937.23	42,680.05	0.00
FS No. 7 to FS No. 8	87	0.6875	59.81	203.53	106.43	1	21,662.02	20	1.875	37.50	127.60	106.43	1	13,581.20	29	1.875	54.38	185.03	106.43	1	19,692.75	0.00	54,935.97
FS No. 8 to Frwd. Abutment	87	0.6875	59.81	203.53	131.44	1	26,752.36	20	1	20.00	68.06	131.44	1	8,945.41	20	1.5	30.00	102.08	131.44	1	13,418.11	49,115.87	0.00

Girder 2	Web							Top Flange							Bottom Flange							GR. 50W Steel Weight (lbs)	GR. 70W Steel Weight (lbs)
	Depth (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)		
Pier A to FS No. 1	87	0.6875	59.81	203.53	124.83	1	25,407.16	20	1	20.00	68.06	124.83	1	8,495.60	20	1.5	30.00	102.08	124.83	1	12,743.40	46,646.16	0.00
FS No. 1 to FS No. 2	87	0.6875	59.81	203.53	94.76	1	19,286.46	20	1.875	37.50	127.60	94.76	1	12,091.82	27	1.875	50.63	172.27	94.76	1	16,323.96	0.00	47,702.25
FS No. 2 to FS No. 3	87	0.6875	59.81	203.53	105.61	1	21,495.59	20	1	20.00	68.06	105.61	1	7,187.66	20	1.375	27.50	93.58	105.61	1	9,883.03	38,566.28	0.00
FS No. 3 to FS No. 4	87	0.6875	59.81	203.53	104.96	1	21,363.09	20	1.875	37.50	127.60	104.96	1	13,393.79	27	1.875	50.63	172.27	104.96	1	18,081.61	0.00	52,838.48
FS No. 4 to FS No. 5	87	0.6875	59.81	203.53	129.77	1	26,412.08	20	1	20.00	68.06	129.77	1	8,831.63	20	1.5	30.00	102.08	129.77	1	13,247.44	48,491.15	0.00
FS No. 5 to FS No. 6	87	0.6875	59.81	203.53	113.33	1	23,065.52	20	1.875	37.50	127.60	113.33	1	14,461.14	29	1.875	54.38	185.03	113.33	1	20,968.65	0.00	58,495.32
FS No. 6 to FS No. 7	87	0.6875	59.81	203.53	114.45	1	23,293.43	20	1	20.00	68.06	114.45	1	7,788.82	20	1.375	27.50	93.58	114.45	1	10,709.62	41,791.87	0.00
FS No. 7 to FS No. 8	87	0.6875	59.81	203.53	106.46	1	21,668.38	20	1.875	37.50	127.60	106.46	1	13,585.19	29	1.875	54.38	185.03	106.46	1	19,698.53	0.00	54,952.10
FS No. 8 to Frwd. Abutment	87	0.6875	59.81	203.53	132.15	1	26,895.46	20	1	20.00	68.06	132.15	1	8,993.26	20	1.5	30.00	102.08	132.15	1	13,489.89	49,378.61	0.00

Girder 3	Web							Top Flange							Bottom Flange							GR. 50W Steel Weight (lbs)	GR. 70W Steel Weight (lbs)
	Depth (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)		
Pier A to FS No. 1	87	0.6875	59.81	203.53	123.40	1	25,115.65	20	1	20.00	68.06	123.40	1	8,398.13	20	1.5	30.00	102.08	123.40	1	12,597.19	46,110.96	0.00
FS No. 1 to FS No. 2	87	0.6875	59.81	203.53	95.30	1	19,396.70	20	1.875	37.50	127.60	95.30	1	12,160.94	27	1.875	50.63	172.27	95.30	1	16,417.27	0.00	47,974.92
FS No. 2 to FS No. 3	87	0.6875	59.81	203.53	104.03	1	21,172.28	20	1	20.00	68.06	104.03	1	7,079.55	20	1.375	27.50	93.58	104.03	1	9,734.38	37,986.21	0.00
FS No. 3 to FS No. 4	87	0.6875	59.81	203.53	104.77	1	21,323.87	20	1.875	37.50	127.60	104.77	1	13,369.19	27	1.875	50.63	172.27	104.77	1	18,048.41	0.00	52,741.47
FS No. 4 to FS No. 5	87	0.6875	59.81	203.53	127.79	1	26,008.20	20	1	20.00	68.06	127.79	1	8,696.58	20	1.5	30.00	102.08	127.79	1	13,044.87	47,749.65	0.00
FS No. 5 to FS No. 6	87	0.6875	59.81	203.53	113.33	1	23,065.52	20	1.875	37.50	127.60	113.33	1	14,461.14	29	1.875	54.38	185.03	113.33	1	20,968.65	0.00	58,495.32
FS No. 6 to FS No. 7	87	0.6875	59.81	203.53	112.02	1	22,798.39	20	1	20.00	68.06	112.02	1	7,623.29	20	1.375	27.50	93.58	112.02	1	10,482.02	40,903.69	0.00
FS No. 7 to FS No. 8	87	0.6875	59.81	203.53	106.46	1	21,668.38	20	1.875	37.50	127.60	106.46	1	13,585.19	29	1.875	54.38	185.03	106.46	1	19,698.53	0.00	54,952.10
FS No. 8 to Frwd. Abutment	87	0.6875	59.81	203.53	132.82	1	27,033.27	20	1	20.00	68.06	132.82	1	9,039.34	20	1.5	30.00	102.08	132.82	1	13,559.01	49,631.61	0.00

Girder 3A	Web							Top Flange							Bottom Flange							GR. 50W Steel Weight (lbs)	GR. 70W Steel Weight (lbs)
	Depth (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)		
Pier A to FS No. 1	87	0.6875	59.81	203.53	120.86	1	24,599.40	20	1	20.00	68.06	120.86	1	8,225.51	20	1.5	30.00	102.08	120.86	1	12,338.26	45,163.17	0.00
FS No. 1 to End Diaphragm	87	0.6875	59.81	203.53	91.70	1	18,663.15	20	1.875	37.50	127.60	91.70	1	11,701.04	27	1.875	50.63	172.27	91.70	1	15,796.40	0.00	46,160.59

Girder 3B	Web							Top Flange							Bottom Flange							GR. 50W Steel Weight (lbs)	GR. 70W Steel Weight (lbs)
	Depth (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)		
Pier A to FS No. 1	87	0.6875	59.81	203.53	125.17	1	25,476.06	20	1	20.00	68.06	125.17	1	8,518.64	20	1.5	30.00	102.08	125.17	1	12,777.96	46,772.67	0.00
FS No. 1 to FS No. 2	87	0.6875	59.81	203.53	97.40	1	19,822.84	20	1.875	37.50	127.60	97.40	1	12,428.11	27	1.875	50.63	172.27	97.40	1	16,777.95	0.00	49,028.91
FS No. 2 to FS No. 3	87	0.6875	59.81	203.53	104.61	1	21,291.00	20	1	20.00	68.06	104.61	1	7,119.25	20	1.375	27.50	93.58	104.61	1	9,788.97	38,199.22	0.00
FS No. 3 to End Diaphragm	87	0.6875	59.81	203.53	99.02	1	20,152.52	20	1.875	37.50	127.60	99.02	1	12,634.81	27	1.875	50.63	172.27	99.02	1	17,056.99	0.00	49,844.31

Girder 3C	Web							Top Flange							Bottom Flange							GR. 50W Steel Weight (lbs)	GR. 70W Steel Weight (lbs)
	Depth (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)		
Pier A to FS No. 1	87	0.6875	59.81	203.53	128.29	1	26,111.03	20	1	20.00	68.06	128.29	1	8,730.96	20	1.5	30.00	102.08	128.29	1	13,096.44	47,938.43	0.00
FS No. 1 to End Diaphragm	87	0.6875	59.81	203.53	87.84	1	17,878.72	20	1.875	37.50	127.60	87.84	1	11,209.23	27	1.875	50.63	172.27	87.84	1	15,132.46	0.00	44,220.41

Girder 4	Web							Top Flange							Bottom Flange							GR. 50W Steel Weight (lbs)	GR. 70W Steel Weight (lbs)
	Depth (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)		
Pier A to FS No. 1	87	0.6875	59.81	203.53	128.57	1	26,168.27	20	1	20.00	68.06	128.57	1	8,750.10	20	1.5	30.00	102.08	128.57	1	13,125.15	48,043.52	0.00
FS No. 1 to FS No. 2	87	0.6875	59.81	203.53	99.83	1	20,317.88	20	1.875	37.50	127.60	99.83	1	12,738.48	27	1.875	50.63	172.27	99.83	1	17,196.95	0.00	50,253.32
FS No. 2 to FS No. 3	87	0.6875	59.81	203.53	105.53	1	21,478.63	20	1	20.00	68.06	105.53	1	7,181.99	20	1.375	27.50	93.58	105.53	1	9,875.23	38,535.85	0.00
FS No. 3 to FS No. 4	87	0																					

Girder 5	Web							Top Flange							Bottom Flange						
	Depth (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)
Pier A to FS No. 1	87	0.6875	59.81	203.53	132.59	1	26,985.57	20	1	20.00	68.06	132.59	1	9,023.39	20	1.5	30.00	102.08	132.59	1	13,535.08
FS No. 1 to FS No. 2	87	0.6875	59.81	203.53	100.20	1	20,393.15	20	1.875	37.50	127.60	100.20	1	12,785.67	27	1.875	50.63	172.27	100.20	1	17,260.66
FS No. 2 to FS No. 3	87	0.6875	59.81	203.53	103.80	1	21,125.64	20	1	20.00	68.06	103.80	1	7,063.95	20	1.375	27.50	93.58	103.80	1	9,712.94
FS No. 3 to FS No. 4	87	0.6875	59.81	203.53	109.73	1	22,334.09	20	1.875	37.50	127.60	109.73	1	14,002.56	27	1.875	50.63	172.27	109.73	1	18,903.46
FS No. 4 to FS No. 5	87	0.6875	59.81	203.53	124.28	1	25,293.73	20	1	20.00	68.06	124.28	1	8,457.68	20	1.5	30.00	102.08	124.28	1	12,686.51
FS No. 5 to FS No. 6	87	0.6875	59.81	203.53	113.33	1	23,065.52	20	1.875	37.50	127.60	113.33	1	14,461.14	29	1.875	54.38	185.03	113.33	1	20,968.65
FS No. 6 to FS No. 7	87	0.6875	59.81	203.53	107.16	1	21,809.37	20	1	20.00	68.06	107.16	1	7,292.58	20	1.375	27.50	93.58	107.16	1	10,027.29
FS No. 7 to FS No. 8	87	0.6875	59.81	203.53	106.46	1	21,668.38	20	1.875	37.50	127.60	106.46	1	13,585.19	29	1.875	54.38	185.03	106.46	1	19,698.53
FS No. 8 to Frwd. Abutment	87	0.6875	59.81	203.53	133.99	1	27,270.72	20	1	20.00	68.06	133.99	1	9,118.74	20	1.5	30.00	102.08	133.99	1	13,678.10

GR. 50W Steel	Weight (lbs)
49,544.03	0.00
0.00	50,439.47
37,902.53	0.00
0.00	55,240.11
46,437.92	0.00
0.00	58,495.32
39,129.24	0.00
0.00	54,952.10
50,067.56	0.00

GR. 70W Steel	Weight (lbs)
0.00	0.00
50,439.47	0.00
0.00	37,902.53
55,240.11	0.00
0.00	46,437.92
58,495.32	0.00
0.00	39,129.24
54,952.10	0.00
0.00	50,067.56

Girder 6	Web							Top Flange							Bottom Flange						
	Depth (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)
Pier A to FS No. 1	87	0.6875	59.81	203.53	131.79	1	26,823.38	20	1	20.00	68.06	131.79	1	8,969.16	20	1.5	30.00	102.08	131.79	1	13,453.73
FS No. 1 to FS No. 2	87	0.6875	59.81	203.53	100.34	1	20,422.83	20	1.875	37.50	127.60	100.34	1	12,804.28	27	1.875	50.63	172.27	100.34	1	17,285.78
FS No. 2 to FS No. 3	87	0.6875	59.81	203.53	98.81	1	20,111.17	20	1	20.00	68.06	98.81	1	6,724.74	20	1.375	27.50	93.58	98.81	1	9,246.52
FS No. 3 to FS No. 4	87	0.6875	59.81	203.53	112.98	1	22,995.56	20	1.875	37.50	127.60	112.98	1	14,417.28	27	1.875	50.63	172.27	112.98	1	19,463.32
FS No. 4 to FS No. 5	87	0.6875	59.81	203.53	118.70	1	24,158.43	20	1	20.00	68.06	118.70	1	8,078.05	20	1.5	30.00	102.08	118.70	1	12,117.08
FS No. 5 to FS No. 6	87	0.6875	59.81	203.53	121.41	1	24,710.71	20	1.875	37.50	127.60	121.41	1	15,492.61	29	1.875	54.38	185.03	121.41	1	22,464.28
FS No. 6 to FS No. 7	87	0.6875	59.81	203.53	100.47	1	20,449.33	20	1	20.00	68.06	100.47	1	6,837.81	20	1.375	27.50	93.58	100.47	1	9,401.99
FS No. 7 to FS No. 8	87	0.6875	59.81	203.53	106.46	1	21,668.38	20	1.875	37.50	127.60	106.46	1	13,585.19	29	1.875	54.38	185.03	106.46	1	19,698.53
FS No. 8 to Frwd. Abutment	87	0.6875	59.81	203.53	134.48	1	27,370.36	20	1	20.00	68.06	134.48	1	9,152.05	20	1.5	30.00	102.08	134.48	1	13,728.08

GR. 50W Steel	Weight (lbs)
49,246.27	0.00
0.00	50,512.89
36,082.43	0.00
0.00	56,876.16
44,353.56	0.00
0.00	62,667.60
36,689.13	0.00
0.00	54,952.10
50,250.50	0.00

GR. 70W Steel	Weight (lbs)
0.00	0.00
50,512.89	0.00
0.00	36,082.43
56,876.16	0.00
0.00	44,353.56
62,667.60	0.00
0.00	36,689.13
54,952.10	0.00
0.00	50,250.50

Girder End Diaphragms	Web							Top Flange							Bottom Flange						
	Depth (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)
Girder 3A	87	0.6875	59.81	203.53	11.83	1	2,408.42	18	1	18.00	61.25	10.83	1	663.54	18	1	18.00	61.25	10.83	1	663.54
Girder 3B	87	0.6875	59.81	203.53	10.89	1	2,215.49	18	1	18.00	61.25	9.89	1	605.48	18	1	18.00	61.25	9.89	1	605.48
Girder 3C	87	0.6875	59.81	203.53	10.96	1	2,230.33	18	1	18.00	61.25	9.96	1	609.95	18	1	18.00	61.25	9.96	1	609.95
Girder 4A	87	0.6875	59.81	203.53	10.65	1	2,166.73	18	1	18.00	61.25	9.65	1	590.81	18	1	18.00	61.25	9.65	1	590.81

GR. 50W Steel	Weight (lbs)
3,735.51	
3,426.46	
3,450.23	
3,348.35	

Girder End Diaphragm Connection Material	Qty.	Unit	Weight / Unit	No. per End Diaphragm	No. of End Diaphragms	Weight (lbs)
L 5x5x1/2", 7'-1" Long	7.08	ft	16.2	2	4	918.00
PL 3/4"x7"x7'-3"	0.26	ft ³	490	3	4	1,547.84
1" Dia. Bolts/Washers/Nuts	1	Each	1.09	107	4	466.52

Note: Bolt weight is based upon 1.5" long, 1" Dia. High Strength Bolts per AISC Table 7-18. Grip subtracted, since bolt hole areas weren't removed from plates

Welds	Fillet Weld Size (in)	Weight (plf)	Total Girder Length (ft)	Total Weight (lbs)
All Girder Welds	0.3125	0.66	7,206.26	4,789.32

Bearing Stiffeners	Depth (in)	Thickness (in)	Width (in)	Area (in ²)	Clip Deduct (in ²)	Qty.	Volume (in ³)	Weight (lbs)
Pier A	87	1	Avg. = 9.65	839.55	2.50	20	837.05	4,747.16
Pier 1	87	1.125	10.50	913.50	2.50	18	1024.88	5,231.13
Pier 2	87	1.125	10.50	913.50	2.50	14	1024.88	4,068.66
Pier 3	87	1.125	10.50	913.50	2.50	12	1024.88	3,487.42
Pier 4	87	1.125	10.50	913.50	2.50	12	1024.88	3,487.42
Forward Abutment	87	0.875	9.00	783.00	2.50	12	682.94	2,323.88

Jacking Stiffeners	Depth (in)	Thickness (in)	Width (in)	Area (in ²)	Clip Deduct (in ²)	Qty.	Volume (in ³)	Weight (lbs)
				0.00			0.00	0.00
Pier 1	87	1.00	9.00	783.00	2.50	36	780.50	7,967.60
Pier 2	87	1.00	9.00	783.00	2.50	28	780.50	6,197.03
Pier 3	87	1.00	9.00	783.00	2.50	24	780.50	5,311.74
Pier 4	87	1.00	9.00	783.00	2.50	24	780.50	5,311.74
				0.00			0.00	0.00

Intermediate Stiffeners	Depth (in)	Thickness (in)	Width (in)	Area (in ²)	Clip Deduct (in ²)	Qty.	Volume (in ³)	Weight (lbs)
Interior	87	0.625	8.00	696.00	2.50	145	433.44	17,821.61
Exterior	87	0.625	8.50	739.50	2.50	47	460.63	6,139.00

Splice Plates	Width (in)	Thickness (in)	Area (in ²)	Weight (plf)	Length (ft)	Qty.	Weight (lbs)
Top Flange Splice Plate - Top	20	0.875	17.50	59.55	4.10	53	12,953.06
Top Flange Splice Plate - Bottom	8.75	1	8.75	29.77	4.10	53	6,476.53
Web Plates	17.25	0.5	8.63	29.35	6.73	53	10,467.18
Bottom Flange Plates - Top	8.75	1	8.75	29.77	4.10	53	6,476.53
Bottom Flange Plates - Bottom	20	0.875	17.50	59.55	4.10	53	12,953.06
Fill Plates - Top Flange	20	Avg. = 0.875	17.50	59.55	2.05	53	6,476.53
Fill Plate - Bottom Flange	20	Avg. = 0.436	8.73	29.69	2.05	53	3,229.54

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For Concrete Deck Quantity	
Top Flange Splice Plate Volume =	26.43 CF

Splice Bolts	Qty.	Unit	Weight / Unit	No. per Splice	No. of Splices	Weight (lbs)
1 1/8" Dia. Bolts/Washers/Nuts	1	Each	1.54	180	53	14,691.60

Note: Bolt weight is based upon 1.75" long, 1.125" Dia. High Strength Bolts per AISC Table 7-18. Grip subtracted, since bolt hole areas weren't removed from plates

End Cross Frames	Qty.	Unit	Weight / Unit	No. per End Cross	No. of End Cross Frames	Weight (lbs)
MC12X45	Avg. = 13.84	ft	45	1	14	8,719.20
L 6X6X3/8" - Diagonal	Avg. = 6.62	ft	14.9	4	14	5,523.73
L 6X6X3/8" - Vertical	Avg. = 4.21	ft	14.9	1	13	815.48
WT6X17.5	Avg. = 13.84	ft	17.5	1	14	3,390.80
Connection Plates	Avg. = 0.12	ft ³	490	8	14	6,585.60

Type 1A Cross Frames	Qty.	Unit	Weight / Unit	No. per Cross	No. of Cross Frames	Weight (lbs)
WT6X17.5 - Horizontal	Avg. = 10.16	ft	17.5	2	244	86,766.40
WT6X17.5 - Diagonal	Avg. = 7.98	ft	17.5	2	244	68,121.64
Stiffener Plates	0.28	ft ³	490	2	244	66,953.60
Connection Plates	Avg. = 0.08	ft ³	490	5	244	47,824.00
1" Dia. Bolts/Washers/Nuts	1	Each	1.09	32	244	8,510.72

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Note: Bolt weight is based upon 1.5" long, 1" Dia. High Strength Bolts per AISC Table 7-18. Grip subtracted, since bolt hole areas weren't removed from plates

Type 1B Cross Frames	Qty.	Unit	Weight / Unit	No. per Cross	No. of Cross Frames	Weight (lbs)
WT6X17.5 - Horizontal	Avg. = 10.37	ft	17.5	1	60	10,888.50
2-L 8X8X1" - Horizontal	Avg. = 10.37	ft	102.6	1	60	63,837.72
WT9X35.5 - Diagonal	Avg. = 7.63	ft	35.5	2	60	32,511.43
Stiffener Plates	0.28	ft ³	490	2	60	16,464.00
Connection Plates	Avg. = 0.13	ft ³	490	5	60	19,110.00
1" Dia. Bolts/Washers/Nuts	1	Each	1.09	52	60	3,400.80

Revised 11/12/2021 Adendum 2

Note: Bolt weight is based upon 1.5" long, 1" Dia. High Strength Bolts per AISC Table 7-18. Grip subtracted, since bolt hole areas weren't removed from plates

Type 1A Utility Cross Frames	Qty.	Unit	Weight / Unit	No. per Cross	No. of Cross Frames	Weight (lbs)
WT6X25 - Top Horizontal	Avg. = 10.37	ft	25	1	55	14,258.75
WT6X17.5 - Horizontal	Avg. = 10.37	ft	17.5	1	55	19,962.25
WT6X17.5 - Diagonal	Avg. = 10.37	ft	17.5	2	55	19,962.25
L6X4X1/2" LLH Utility	2.50	ft	16	1	55	2,200.00
Stiffener Plates	0.28	ft ³	490	2	55	15,092.00
Connection Plates	Avg. = 0.08	ft ³	490	5	55	10,780.00
1" Dia. Bolts/Washers/Nuts	1	Each	1.09	32	55	1,918.40

Note: Bolt weight is based upon 1.5" long, 1" Dia. High Strength Bolts per AISC Table 7-18. Grip subtracted, since bolt hole areas weren't removed from plates

Type 1B Utility Cross Frames	Qty.	Unit	Weight / Unit	No. per Cross	No. of Cross Frames	Weight (lbs)
WT6X25 - Horizontal	Avg. = 10.38	ft	25	1	10	2,595.00
2-L 8X8X1" - Horizontal	Avg. = 10.38	ft	102.6	1	10	10,649.88
WT9X35.5 - Diagonal	Avg. = 7.64	ft	35.5	2	10	5,420.98
L6X4X1/2" LLH Utility	2.50	ft	16	1	10	400.00
Stiffener Plates	0.28	ft ³	490	2	10	2,744.00
Connection Plates	Avg. = 0.13	ft ³	490	5	10	3,185.00
1" Dia. Bolts/Washers/Nuts	1	Each	1.09	52	10	566.80

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Note: Bolt weight is based upon 1.5" long, 1" Dia. High Strength Bolts per AISC Table 7-18. Grip subtracted, since bolt hole area weren't removed from plates

Type 2A Cross Frames	Qty.	Unit	Weight / Unit	No. per End Cross	No. of Cross Frames	Weight (lbs)
WT6X17.5 - Horizontal	Avg. = 6.23	ft	17.5	2	34	7,413.70
WT6X17.5 - Diagonal	Avg. = 6.89	ft	17.5	2	34	8,203.73
Stiffener Plates	0.28	ft ³	490	2	34	9,329.60
Connection Plates	Avg. = 0.10	ft ³	490	4	34	6,664.00
1" Dia. Bolts/Washers/Nuts	1	Each	1.09	44	34	1,630.64

Revised 11/12/2021 Adendum 2

Note: Bolt weight is based upon 1.5" long, 1" Dia. High Strength Bolts per AISC Table 7-18. Grip subtracted, since bolt hole areas weren't removed from plates

Type 2B Cross Frames	Qty.	Unit	Weight / Unit	No. per Cross	No. of Cross Frames	Weight (lbs)
WT6X17.5 - Horizontal	Avg. = 6.37	ft	17.5	1	21	2,340.98
2- L6X6X5/8" - Horizontal	Avg. = 6.37	ft	48.6	1	21	6,501.22
WT6X17.5 - Diagonal	Avg. = 6.93	ft	17.5	2	21	5,090.46
Stiffener Plates	0.28	ft ³	490	2	21	5,762.40
Connection Plates	Avg. = 0.10	ft ³	490	4	21	4,116.00
1" Dia. Bolts/Washers/Nuts	1	Each	1.09	44	21	1,007.16

Note: Bolt weight is based upon 1.5" long, 1" Dia. High Strength Bolts per AISC Table 7-18. Grip subtracted, since bolt hole areas weren't removed from plates

Additional	Qty.	Unit	Weight / Unit	No. per Location	No. Locations	Weight (lbs)
Supplemental DOP WT6X25	10.38	ft	25	1	1	259.38
DOP Pullbox Support (2)WT6X25	Avg. = 10.38	ft	25	2	1	519.00
Drain. Hanger Stiff. (2)5/8x8.75"	0.28	ft ³	490	2	1	274.40

Sign Support	Qty.	Unit	Weight / Unit	No. per Location	No. Locations	Weight (lbs)
WT15X86.5 - Horizontal	4.90	ft	86.5	1	4	1,693.99
L 6x6x1/2 - Diagonal	7.00	ft	19.6	1	4	548.80
Stiffener Plates	0.28	ft ³	490	1	4	548.80
Connection Plates	0.10	ft ³	490	1	4	193.06
1" Dia. Bolts/Washers/Nuts	1	Each	1.09	12	4	52.32

Note: Bolt weight is based upon 1.5" long, 1" Dia. High Strength Bolts per AISC Table 7-18. Grip subtracted, since bolt hole areas weren't removed from plates

Girder 1

Girder Segment	Feet	Inches	16ths	Total (ft)	Btwn. Splices (ft)	
L1	1	0	11	1.06	126.30	L1+L2
L2	125	2	14	125.24	94.95	L3+L4
L3	42	8	9	42.71	107.20	L5
L4	52	2	13	52.23	105.17	L6+L7
L5	107	2	7	107.20	130.56	L8
L6	54	3	11	54.31	114.51	L9+L10
L7	50	10	6	50.86	116.88	L11
L8	130	6	12	130.56	106.43	L12+L13
L9	55	11	2	55.93	131.44	L14+L15
L10	58	6	15	58.58		
L11	116	10	9	116.88		
L12	56	5	9	56.46		
L13	49	11	10	49.97		
L14	129	5	3	129.43		
L15	2	0	2	2.01		

Girder 2

Girder Segment	Feet	Inches	16ths	Total (ft)	Btwn. Splices (ft)	
L1	1	0	11	1.06	124.83	L1+L2
L2	123	9	5	123.78	94.76	L3+L4
L3	42	7	5	42.61	105.61	L5
L4	52	1	13	52.15	104.96	L6+L7
L5	105	7	6	105.61	129.77	L8
L6	54	3	11	54.31	113.33	L9+L10
L7	50	7	14	50.66	114.45	L11
L8	129	9	4	129.77	106.46	L12+L13
L9	54	9	0	54.75	132.15	L14+L15
L10	58	6	15	58.58		
L11	114	5	6	114.45		
L12	56	5	9	56.46		
L13	50	0	0	50.00		
L14	130	1	8	130.13		
L15	2	0	4	2.02		

Girder 3

Girder Segment	Feet	Inches	16ths	Total (ft)	Btwn. Splices (ft)	
L1	1	0	12	1.06	123.40	L1+L2
L2	122	4	1	122.34	95.30	L3+L4
L3	42	11	0	42.92	104.03	L5
L4	52	4	10	52.39	104.77	L6+L7
L5	104	0	5	104.03	127.79	L8
L6	54	3	11	54.31	113.33	L9+L10
L7	50	5	9	50.46	112.02	L11
L8	127	9	7	127.79	106.46	L12+L13
L9	54	9	0	54.75	132.82	L14+L15
L10	58	6	15	58.58		
L11	112	0	3	112.02		
L12	56	5	9	56.46		
L13	50	0	0	50.00		
L14	130	9	8	130.79		
L15	2	0	6	2.03		

Girder 3A

Girder Segment	Feet	Inches	16ths	Total (ft)	Btwn. Splices (ft)	
L1	1	0	13	1.07	120.86	L1+L2
L2	119	9	9	119.80	91.70	L3+L4
L3	46	7	4	46.60		
L4	45	1	2	45.09		

Girder 3B

Girder Segment	Feet	Inches	16ths	Total (ft)	Btwn. Splices (ft)	
L1	1	1	4	1.10	125.17	L1+L2
L2	124	0	13	124.07	97.40	L3+L4
L3	44	0	1	44.01	104.61	L5
L4	53	4	11	53.39	99.02	L6+L7
L5	104	7	5	104.61		
L6	55	6	13	55.57		
L7	43	5	6	43.45		

Girder 3C

Girder Segment	Feet	Inches	16ths	Total (ft)	Btwn. Splices (ft)	
L1	1	1	9	1.13	128.29	L1+L2
L2	127	1	15	127.16	87.84	L3+L4
L3	43	9	6	43.78		
L4	44	0	12	44.06		

Girder 4

Girder Segment	Feet	Inches	16ths	Total (ft)	Btwn. Splices (ft)	
L1	1	1	12	1.15	128.57	L1+L2
L2	127	5	2	127.43	99.83	L3+L4
L3	45	3	14	45.32	105.53	L5
L4	54	6	1	54.51	109.71	L6+L7
L5	105	6	6	105.53	126.04	L8
L6	56	11	15	56.99	113.33	L9+L10
L7	52	8	10	52.72	109.59	L11
L8	126	0	7	126.04	106.46	L12+L13
L9	54	9	0	54.75	133.43	L14+L15
L10	58	6	15	58.58		
L11	109	7	1	109.59		
L12	56	5	9	56.46		
L13	50	0	0	50.00		
L14	131	4	12	131.40		
L15	2	0	7	2.04		

Girder 4A

Girder Segment	Feet	Inches	16ths	Total (ft)	Btwn. Splices (ft)	
L1	1	2	1	1.17	137.88	L1+L2
L2	136	8	7	136.70		

Girder 5

Girder Segment	Feet	Inches	16ths	Total (ft)	Btwn. Splices (ft)	
L1	1	3	4	1.27	132.59	L1+L2
L2	131	3	13	131.32	100.20	L3+L4
L3	45	8	5	45.69	103.80	L5
L4	54	6	1	54.51	109.73	L6+L7
L5	103	9	9	103.80	124.28	L8
L6	56	11	15	56.99	113.33	L9+L10
L7	52	8	14	52.74	107.16	L11
L8	124	3	5	124.28	106.46	L12+L13
L9	54	9	0	54.75	133.99	L14+L15
L10	58	6	15	58.58		
L11	107	1	14	107.16		
L12	56	5	9	56.46		
L13	50	0	0	50.00		
L14	131	11	5	131.94		
L15	2	0	9	2.05		

Girder 6

Girder Segment	Feet	Inches	16ths	Total (ft)	Btwn. Splices (ft)	
L1	1	3	7	1.29	131.79	L1+L2
L2	130	6	1	130.51	100.34	L3+L4
L3	45	10	0	45.83	98.81	L5
L4	54	6	2	54.51	112.98	L6+L7
L5	98	9	12	98.81	118.70	L8
L6	60	2	15	60.24	121.41	L9+L10
L7	52	8	14	52.74	100.47	L11
L8	118	8	6	118.70	106.46	L12+L13
L9	58	7	0	58.58	134.48	L14+L15
L10	62	9	15	62.83		
L11	100	5	11	100.47		
L12	56	5	9	56.46		
L13	50	0	0	50.00		
L14	132	5	0	132.42		
L15	2	0	12	2.06		

ODOT PID 77372 Franklin County
Br. No FRA-70-1321A

ITEM 513 - WELDED STUD SHEAR CONNECTORS

Total = 27,788 Each

Girder =	1	2	3	3A	3B	3C	4	4A	5	6
	79	79	78	78	79	82	81	83	83	83
	54	53	52	50	53	54	55	50	57	57
	1	1	1	1	1	1	1	19	1	1
	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	7	1		1	7
	6	6	6	10	7	46	8		6	48
	45	45	45	45	45	57	46		49	67
	63	63	66	56	61	1	67		67	2
	4	4	1	3	8		3		3	1
	1	1	1	1	1		1		1	1
	135	132	131		128		132		127	123
	2	3	2		6		3		6	3
	1	1	1		1		1		1	1
	5	5	5		71		73		73	6
	65	65	65		62		74		74	72
	72	71	70		2		1		1	75
	1	2	3		1		1		1	1
	1	1	1				1		1	1
	186	187	184				180		178	170
	4	1	1				3		2	1
	1	1	1				1		1	1
	2	5	5				5		5	6
	79	75	75				75		75	80
	74	74	74				74		74	80
	1	1	1				1		1	1
	1	1	1				1		1	1
	147	145	142				139		135	126
	3	1	1				1		2	2
	1	1	1				1		1	1
	7	7	7				7		7	7
	66	66	66				66		66	66
	61	61	61				61		61	61
	3	3	3				3		3	3
	1	1	1				1		1	1
	2	3	4				5		7	1
	165	165	165				165		164	170
	1	1	1				1		1	1
Locations =	1,342	1,333	1,324	246	528	249	1,340	153	1,338	1,329
Per Beam =	4,026	3,999	3,972	738	1,584	747	4,020	459	4,014	3,987

End Cross Frames: 13 Avg. per End Cross Frame
 14 End Cross Frames
 Toatl = **182** Each

Sign Support Brackets: 15 per WT member
 4 End Cross Frames
 Toatl = **60** Each