



April 11, 2013

NOTICE TO ALL CONTRACTORS:

Official Notice 27-2013: Rehabilitation of the St. Paul Avenue Lift Bridge over the Milwaukee River

Bid Opening on April 18, 2013, at 10:30 a.m.

This is Addendum No. 2, which provides for the following:

Special Provisions

Added Special Provisions	
Article No.	Description
	4-Duct Conduit Cement Encased, 4-Inch Conduit DB-60, Item SPV.0090.175, 2-Duct Conduit Cement Encased, 4-Inch Conduit DB-60, Item SPV.0090.176

Schedule of Items

Revised Bid Item Quantities					
Bid Item	Item Description	Unit	Old Quantity	Revised Quantity	Proposal Total
204.0100	REMOVING PAVEMENT	SY	315	427	427
204.0155	REMOVING CONCRETE SIDEWALK	SY	80	98	98
415.0105	CONCRETE PAVEMENT 10 ½-INCH	SY	109	174	174
502.6105	MASONRY ANCHORS TYPE S 5/8-INCH	EA	568	694	694
601.0331	CONCRETE CURB AND GUTTER 31-INCH	LF	128	149	149
602.0410	CONCRETE SIDEWALK 5-INCH	SF	76 SY	846 SF	846 SF
690.0250	SAWING CONCRETE	LF	142	776	776
SPV.0035.174	LIGHTWEIGHT CONCRETE MASONRY	CY	8	10	10

Added Bid Item Quantities					
Bid Item	Item Description	Unit	Old Quantity	Revised Quantity	Proposal Total
204.0150	REMOVING CURB AND GUTTER	LF	0	149	149
416.0170	CONCRETE DRIVEWAY 7-INCH	SY	0	47	47
465.0105	ASPHALTIC SURFACE	TON	0	11	11
SPV.0090.175	4-Duct Conduit Cement Encased 4-Inch Conduit DB-60	LF	0	170	170
SPV.0090.176	2-Duct Conduit Cement Encased 4-Inch Conduit DB-60	LF	0	213	213

Plan Sheets

Revised Plan Sheets	
Plan Sheet	Plan Sheet Title
13 of 23	MISCELLANEOUS QUANTITIES
14 of 23	MISCELLANEOUS QUANTITIES
S3 of S60	ESTIMATE OF QUANTITIES
S4 of S60	TYPICAL SECTION FIXED SPAN
S10 of S60	EAST WINGWALLS RECONSTRUCTION
S12 of S60	EAST AND WEST ABUTMENTS BILL OF BARS
S16 of S60	PIER 2 COLUMN RECONSTRUCTION
S20 of S60	PIER 3 COLUMN RECONSTRUCTION
S21 of S60	PIER BILL OF BARS
S40 of S60	DIAPHRAGM REINFORCEMENT DETAILS
S41 of S60	FIXED SPAN SUPERSTRUCTURE BILL OF BARS
S43 of S60	FIXED SPAN EXPANSION JOINT DETAILS
S45 of S60	LIGHT POLE BASE (1 OF 2)
S51 of S60	PIER 2 ELECTRICAL PLATFORM
LS1 of LS33	LIFT SPAN FRAMING PLAN
LS12 of LS33	LIFTING GIRDER
LS25 of LS33	TRAFFIC RAILING
LS28 of LS33	COUNTERWEIGHT
LS29 of LS33	COUNTERWEIGHT DETAILS

Added Plan Sheets	
Plan Sheet	Plan Sheet Title (brief description of why sheet was added)
4A of 23	CONSTRUCTION DETAILS
E33A of E33	COMMUNICATION DUCT PLAN
E33B of E33	COMMUNICATION DUCT DETAIL

List of Changes Included in Addendum 2

Changes in Invitation to Bid:

Replace “Bid Forms – Item Sheets” (Sheets 6-18) included with the original package with the attached updated “Bid Forms – Item Sheets” which are dated April 12, 2013 in the upper right hand corner.

CHANGES TO THE SPECIAL PROVISIONS:

Add the special provision for “4-Duct Conduit Cement Encased, 4-Inch Conduit DB-60, Item SPV.0090.175, 2-Duct Conduit Cement Encased, 4-Inch Conduit DB-60, Item SPV.0090.176”

CHANGES TO THE “BID ITEMS”

Note: All of these changes have been incorporated on the updated “Bid Forms – Item Sheets”

Add Bid Item 204.0150, Removing Curb and Gutter, Quantity 149 LF

Add Bid Item 416.0170, Concrete Driveway 7-Inch, Quantity 47 SY

Add Bid Item 465.0105, Asphaltic Surface, Quantity 11 TON

Add Bid Item SPV.0090.175 4-Duct Conduit Cement Encased 4-Inch Conduit DB-60, Quantity 262 LF

Add Bid Item SPV.0090.176, 2-Duct Conduit Cement Encased 4-Inch Conduit DB-60, Quantity 303 LF

Revise Item 204.0100, Removing Pavement from 315 SY to 427 SY

Revise Item 204.0155, Removing Concrete Sidewalk from 80 SY to 98 SY

Revise Item 415.0105, Concrete Pavement 10 ½-Inch from 109 SY to 174 SY

Revise Item 502.6105, Masonry Anchors Type S 5/8-Inch from 568 Each to 694 Each

Revise Item 601.0331, Concrete Curb and Gutter 31-Inch from 128 LF to 149 LF

Revise Item 602.0410, Concrete Sidewalk 5-Inch from 76 SY to 846 SF

Revise Item 690.0250, Sawing Concrete from 142 LF to 776 LF

Revise Item SPV.0035.174, Lightweight Concrete Masonry from 8 CY to 10 CY

CHANGES TO THE PLANS

ADD THE FOLLOWING SHEETS:

SHEET 4A OF 23 – CONSTRUCTION DETAILS

SHEET E33A OF E33 – COMMUNICATION DUCT PLAN

SHEET E33B OF E33 – COMMUNICATION DUCT DETAIL

REVISE THE FOLLOWING SHEETS:

SHEET 13 OF 23 – MISCELLANEOUS QUANTITIES

Update the unit for Item “602.0410 Concrete Sidewalk 5-Inch” from SY to SF. The quantity has been updated to reflect this change.

Added Bid Item 204.0150, Removing Curb and Gutter to the Removal Quantities Table

SHEET 14 OF 23 – MISCELLANEOUS QUANTITIES

Added quantities table titled “Conduit Quantities.” Additional quantities to existing bid items are added as part of this table. New Bid Items are added as part of this table. These items include Bid Item 204.0150 Removing Curb and Gutter, Bid Item 416.0170 Concrete Driveway 7-Inch, Bid Item 465.0105 Asphaltic Surface, SPV.0090.175 4-Duct Conduit Cement Encased 4-Inch Conduit DB-60, and Bid Item SPV.0090.176 2-Duct Conduit Cement Encased 4-Inch Conduit DB-60.

SHEET S3 of S60 – ESTIMATE OF QUANTITIES

Multiple bid item titles have been adjusted. The Total Estimated Quantity has been updated from 568 Each to 694 Each for Item “502.6105 Masonry Anchors Type S 5/8-Inch.” The Total Estimated Quantity has been updated from 8 CY to 10 CY for item “SPV.0035.174 Lightweight Concrete Masonry.”

SHEET S4 OF S60 – TYPICAL SECTION FIXED SPAN

Updated “KEY NOTES,” and added “CONDUIT PENETRATION” Detail.

SHEET S10 OF S60 – EAST WINGWALLS RECONSTRUCTION

Dimensions and Notes have been updated on “SECTION C-C” and “PLAN NORTHEAST RETAINING WALL”

SHEET S12 OF S60 – EAST AND WEST ABUTMENTS BILL OF BARS

Updated “BILL OF BARS – RETAINING WALLS”. Updated “Bending Diagrams” for Bar R401 and R404.

SHEET S16 OF S60 – PIER 2 COLUMN RECONSTRUCTION

Updated Bar Spacing on “SECTION C-C”

Updated Bar Spacing and Bar Mark on “SECTION D-D”

Updated Bar Mark and Dimensions on “VIEW A-A (EAST COLUMNS)”

Updated Dimensions on “VIEW B-B (WEST COLUMNS)”

SHEET S20 OF S60 – PIER 3 COLUMN RECONSTRUCTION

Updated Bar Marks and Bar Spacing on “SECTION C-C,” “SECTION D-D,” “VIEW G-G,” and “VIEW F-F.”

SHEET S21 OF S60 – PIER BILL OF BARS

Updated “LOCATION” labels in the “BILL OF BARS” table. Updated multiple “Bending Diagrams.”

SHEET S40 of S60 – DIAPHRAGM REINFORCEMENT DETAILS

Updated Number of Required Bars and Bar Numbers in Multiple Location on Each “ELEVATION” view.

SHEET S41 of S60 – FIXED SPAN SUPERSTRUCTURE BILL OF BARS

Updated “BILL OF BARS – WEST FIXED SPANS” and “BILL OF BARS – EAST FIXED SPANS.”

Updated “BENDING DIAGRAMS” for S552, T552, S559, and T559.

Updated “APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES” Table.

SHEET S43 OF S60 – FIXED SPAN EXPANSION JOINT DETAILS

Updated dimensions and notes in all “SECTION THRU JOINT” details, “PART PLAN,” “SECTION B-B,” and “SECTION AT SIDEWALK.”

Updated notes under “LEGEND” and “GENERAL NOTES”

SHEET S45 OF S60 – LIGHT POLE BASE (1 OF 2)

Added note for web thickness to detail of “CANTILEVER BRACKET – ELEVATION”

SHEET S51 OF S60 – PIER 2 ELECTRICAL PLATFORM

Updated Dimensions and Elevations on details “TYPICAL STAINLESS STEEL BRACKET” and “SECTION A-A.”

SHEET LS1 OF LS33 – LIFT SPAN FRAMING PLAN

Updated dimensions on “PLAN”

SHEET LS12 of LS33 – LIFTING GIRDER

Updated dimensions on “ELEVATION LIFTING GIRDER”

SHEET LS25 OF LS33 – TRAFFIC RAILING

Updated notes under “LEGEND” and “GENERAL NOTES”

Updated Dimensions and Notes for “SECTION THRU RAILING AT SIDEWALK,” “DETAIL FOR END POSTS AT LIFT SPAN JOINTS,” “DETAIL FOR END POSTS NEAR ABUTMENTS,” “SECTION B-B,” “SECTION A-A,” “DETAIL A,” “ANCHORAGE DETAIL,” and “FIELD ERECTION JOINT DETAIL.”

SHEET LS28 OF LS33 – COUNTERWEIGHT

Updated Dimensions and Notes on “COUNTERWEIGHT ELEVATION.”

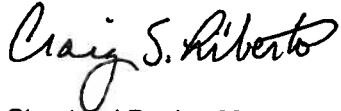
SHEET LS29 OF LS33 – COUNTERWEIGHT DETAILS

Updated Dimensions and Notes on “SECTION A-A.”

NOTE: Each contractor shall acknowledge receipt of Addendum Number 2 on Page 20 (Acknowledgements Page) in the bid documents.

The responsibility for notifying potential subcontractors and suppliers of these changes remains with the prime contractor.

Very truly yours,

A handwritten signature in black ink that reads "Craig S. Riberto". The signature is written in a cursive style with a large, looping initial "C".

Structural Design Manager
City of Milwaukee – Structural Design Section

OFFICIAL NOTICE NO. 2013-27-1

For Rehabilitation of the St. Paul Ave Lift Bridge over the Milwaukee River, etc...

(BR100130102)

St. Paul Ave. Vertical Lift Bridge over the Milwaukee River (Construction)

4th Aldermanic District

ALL BIDS MUST BE TYPED OR PRINTED

203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 28+53	1.00 LS
(Bid in figures)	\$ _____	per LS
(Bid in words)	\$ _____	per LS
204.0100	REMOVING PAVEMENT	427.00 sq. yd.
(Bid in figures)	\$ _____	per sq. yd.
(Bid in words)	\$ _____	per sq. yd.
204.0150	REMOVING CURB & GUTTER	149.00 lin. ft.
(Bid in figures)	\$ _____	per lin. ft.
(Bid in words)	\$ _____	per lin. ft.
204.0155	REMOVING CONCRETE SIDEWALK	98.00 sq. yd.
(Bid in figures)	\$ _____	per sq. yd.
(Bid in words)	\$ _____	per sq. yd.
205.0100	EXCAVATION COMMON	76.00 cu. yd.
(Bid in figures)	\$ _____	per cu. yd.
(Bid in words)	\$ _____	per cu. yd.
213.0100	FINISHING ROADWAY (PROJECT)	1.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH

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305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	131.00 TON
(Bid in figures)	\$ _____	per TON
(Bid in words)	\$ _____	per TON
415.0105	CONCRETE PAVEMENT 10 1/2-INCH	174.00 SY
(Bid in figures)	\$ _____	per SY
(Bid in words)	\$ _____	per SY
415.0410	CONCRETE PAVEMENT APPROACH SLAB	209.00 SY
(Bid in figures)	\$ _____	per SY
(Bid in words)	\$ _____	per SY
416.0170	CONCRETE DRIVEWAY 7-INCH	47.00 SY
(Bid in figures)	\$ _____	per SY
(Bid in words)	\$ _____	per SY
416.0620	DRILLED DOWEL BARS	90.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
465.0105	ASPHALTIC SURFACE	11.00 TON
(Bid in figures)	\$ _____	per TON
(Bid in words)	\$ _____	per TON
502.0100	CONCRETE MASONRY BRIDGES	372.00 CY
(Bid in figures)	\$ _____	per CY
(Bid in words)	\$ _____	per CY
502.3100	EXPANSION DEVICE (P-40-523)	1.00 LS
(Bid in figures)	\$ _____	per LS
(Bid in words)	\$ _____	per LS

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502.3200	PROTECTIVE SURFACE TREATMENT	1,738.00 SY
(Bid in figures)	\$ _____	per SY
(Bid in words)	\$ _____	per SY
502.5020	MASONRY ANCHORS TYPE L NO. 8 BARS	32.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
502.6102	MASONRY ANCHORS TYPE S 1/2-INCH	398.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
502.6105	MASONRY ANCHORS TYPE S 5/8-INCH	694.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	104.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	82,200.00 LB
(Bid in figures)	\$ _____	per LB
(Bid in words)	\$ _____	per LB
506.3003	WELDED STUD SHEAR CONNECTORS 5/8X4-INCH	312.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
506.3005	WELDED STUD SHEAR CONNECTORS 7/8X4-INCH	86.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH

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506.3010	WELDED STUD SHEAR CONNECTORS 7/8X5-INCH	1,644.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
506.3015	WELDED STUD SHEAR CONNECTORS 7/8X6-INCH	4,882.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
506.3020	WELDED STUD SHEAR CONNECTORS 7/8X7-INCH	170.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
506.5000	BEARING ASSEMBLIES FIXED (P-40-523)	4.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
506.6000	BEARING ASSEMBLIES EXPANSION (P-40-523)	4.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
506.7000.S	BEARING REPLACEMENT (P-40-523)	16.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
509.1500	CONCRETE SURFACE REPAIR	774.00 SF
(Bid in figures)	\$ _____	per SF
(Bid in words)	\$ _____	per SF
514.0445	FLOOR DRAINS TYPE GC	4.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH

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517.0600	PAINTING EPOXY SYSTEM (P-40-523)	1.00 LS
(Bid in figures)	\$ _____	per LS
(Bid in words)	\$ _____	per LS
517.0900.S	PREPARATION AND COATING OF TOP FLANGES	1.00 LS
(Bid in figures)	\$ _____	per LS
(Bid in words)	\$ _____	per LS
517.1010.S	CONCRETE STAINING P-40-523	7,540.00 S.F.
(Bid in figures)	\$ _____	per S.F.
(Bid in words)	\$ _____	per S.F.
517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE P-40-523	1.00 LS
(Bid in figures)	\$ _____	per LS
(Bid in words)	\$ _____	per LS
517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS STRUCTURE (P-40-523)	1.00 LS
(Bid in figures)	\$ _____	per LS
(Bid in words)	\$ _____	per LS
517.6001.S	PORTABLE DECONTAMINATION FACILITY	1.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
601.0331	CONCRETE CURB & GUTTER 31-INCH	149.00 LF
(Bid in figures)	\$ _____	per LF
(Bid in words)	\$ _____	per LF
602.0410	CONCRETE SIDEWALK 5-INCH	846.00 SF
(Bid in figures)	\$ _____	per SF
(Bid in words)	\$ _____	per SF

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616.0700.S	FENCE SAFETY	100.00 LF
(Bid in figures)	\$ _____	per LF
(Bid in words)	\$ _____	per LF
619.1000	MOBILIZATION	1.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
628.1504	SILT FENCE	100.00 LF
(Bid in figures)	\$ _____	per LF
(Bid in words)	\$ _____	per LF
628.1520	SILT FENCE MAINTENANCE	100.00 LF
(Bid in figures)	\$ _____	per LF
(Bid in words)	\$ _____	per LF
628.7015	INLET PROTECTION TYPE C	5.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
642.5201	FIELD OFFICE TYPE C	1.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
643.0100	TRAFFIC CONTROL (PROJECT)	1.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
643.0200	TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT)	335.00 DAYS
(Bid in figures)	\$ _____	per DAYS
(Bid in words)	\$ _____	per DAYS

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643.0420	TRAFFIC CONTROL BARRICADES TYPE III	5,695.00 DAYS
(Bid in figures)	\$ _____	per DAYS
(Bid in words)	\$ _____	per DAYS
643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	11,390.00 DAYS
(Bid in figures)	\$ _____	per DAYS
(Bid in words)	\$ _____	per DAYS
643.0900	TRAFFIC CONTROL SIGNS	2,345.00 DAYS
(Bid in figures)	\$ _____	per DAYS
(Bid in words)	\$ _____	per DAYS
643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	14.00 SF
(Bid in figures)	\$ _____	per SF
(Bid in words)	\$ _____	per SF
643.2000	TRAFFIC CONTROL DETOUR (PROJECT)	1.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
643.3000	TRAFFIC CONTROL DETOUR SIGNS	21,440.00 DAYS
(Bid in figures)	\$ _____	per DAYS
(Bid in words)	\$ _____	per DAYS
646.0106	PAVEMENT MARKING EPOXY 4-INCH	1,536.00 LF
(Bid in figures)	\$ _____	per LF
(Bid in words)	\$ _____	per LF
646.0126	PAVEMENT MARKING EPOXY 8-INCH	315.00 LF
(Bid in figures)	\$ _____	per LF
(Bid in words)	\$ _____	per LF

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646.0600	REMOVING PAVEMENT MARKINGS	1,063.00 LF
(Bid in figures)	\$ _____	per LF
(Bid in words)	\$ _____	per LF
647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	4.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
647.0356	PAVEMENT MARKING WORDS EPOXY	2.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
647.0576	PAVEMENT MARKING STOP LINE EPOXY 24-INCH	48.00 LF
(Bid in figures)	\$ _____	per LF
(Bid in words)	\$ _____	per LF
650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (P-40-523)	1.00 LS
(Bid in figures)	\$ _____	per LS
(Bid in words)	\$ _____	per LS
652.0230	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 1/2-INCH	380.00 LF
(Bid in figures)	\$ _____	per LF
(Bid in words)	\$ _____	per LF
657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	16.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
690.0250	SAWING CONCRETE	776.00 LF
(Bid in figures)	\$ _____	per LF
(Bid in words)	\$ _____	per LF

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715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	2,232.00 DOL
(Bid in figures)	\$ _____	per DOL
(Bid in words)	\$ _____	per DOL
SPV.0035.174	LIGHTWEIGHT CONCRETE MASONRY	10.00 CY
(Bid in figures)	\$ _____	per CY
(Bid in words)	\$ _____	per CY
SPV.0060.159	WEEP DRAIN CLEANING	22.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
SPV.0060.162	BEARING MAINTENANCE P-40-523	16.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
SPV.0060.170	JUNCTION BOXES 12X12X6-INCH	8.00 EACH
(Bid in figures)	\$ _____	per EACH
(Bid in words)	\$ _____	per EACH
SPV.0085.151	BRIDGE STRUCTURAL STEEL	427,800.00 LB
(Bid in figures)	\$ _____	per LB
(Bid in words)	\$ _____	per LB
SPV.0085.171	BRIDGE HOUSE STRUCTURAL STEEL	1,000.00 LB
(Bid in figures)	\$ _____	per LB
(Bid in words)	\$ _____	per LB
SPV.0090.150	MARINE DOCK FENDER	262.00 LF
(Bid in figures)	\$ _____	per LF
(Bid in words)	\$ _____	per LF

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SPV.0090.163 EPOXY CRACK SEALING 1,428.00 LF
(Bid in figures) \$ _____ per LF
(Bid in words) \$ _____ per LF

SPV.0090.175 4-DUCT CONDUIT CEMENT ENCASED 4-INCH CONDUIT DB-60 170.00 LF
(Bid in figures) \$ _____ per LF
(Bid in words) \$ _____ per LF

SPV.0090.176 2-DUCT CONDUIT CEMENT ENCASED 4-INCH CONDUIT DB-60 213.00 LF
(Bid in figures) \$ _____ per LF
(Bid in words) \$ _____ per LF

SPV.0105.152 COUNTERWEIGHT BALLAST 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS

SPV.0105.153 PEDESTRAIN RAILING 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS

SPV.0105.154 TUBULAR STEEL RAILING, TYPE F MODIFIED 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS

SPV.0105.155 PIER RAILING 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS

SPV.0105.158 REHABILITATING PIER CIRCULAR STAIR AND LADDERS 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS

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- SPV.0105.161 **FEILD VERIFICTON SURVEY** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS
- SPV.0105.164 **LIFT SPAN ROADWAY JOINTS** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS
- SPV.0105.165 **LIFT SPAN SIDEWALK JOINTS** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS
- SPV.0105.166 **REFURBISHING EXISTING NAME PLATES** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS
- SPV.0105.167 **TEMPORARY LIFT SPAN SHORING** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS
- SPV.0105.168 **UNDERDECK GUTTER SYSTEM P-40-523** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS
- SPV.0105.169 **STAINLESS STEEL PLATFORM FOR ELECTRICAL CABINETS** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS
- SPV.0105.172 **NAMEPLATE** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS

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SPV.0105.173 **REFURBISH AND REINSTALL BRIDGE HOUSE BELL** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS

SPV.0105.200 **COUNTERWEIGHT MACHINERY** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS

SPV.0105.201 **SPAN GUIDES** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS

SPV.0105.202 **BUMPER BEAM** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS

SPV.0105.203 **CENTERING DEVICE** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS

SPV.0105.250 **BRIDGE HYDRAULIC SYSTEM** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS

SPV.0105.300 **BRIDGE ELECTRICAL WORK** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS

SPV.0105.350 **BRIDGE OPERATOR'S HOUSE** 1.00 LS
(Bid in figures) \$ _____ per LS
(Bid in words) \$ _____ per LS

OFFICIAL NOTICE NO. 2013-27-1

SPV.0105.360 PRECAST CONCRETE PLANTERS	1.00 LS
(Bid in figures) \$ _____	per LS
(Bid in words) \$ _____	per LS
SPV.0105.400 HEATING VENTILATING & AIR CONDITIONING (HVAC) SYSTEMS	1.00 LS
(Bid in figures) \$ _____	per LS
(Bid in words) \$ _____	per LS
SPV.0105.410 PLUMBING SYSTEMS	1.00 LS
(Bid in figures) \$ _____	per LS
(Bid in words) \$ _____	per LS
SPV.0105.420 BRIDGE HOUSE ELECTRICAL SYSTEMS	1.00 LS
(Bid in figures) \$ _____	per LS
(Bid in words) \$ _____	per LS
SPV.0165.156 EXODERMIC DECK	3,437.00 SF
(Bid in figures) \$ _____	per SF
(Bid in words) \$ _____	per SF
SPV.0165.157 FIBERGLASS SIDEWALK FLOOR PLATES	1,120.00 SF
(Bid in figures) \$ _____	per SF
(Bid in words) \$ _____	per SF
TOTAL STATE:	
(Bid in figures) \$ _____	
(Bid in words) \$ _____	

1. 4-Duct Conduit Cement Encased 4-Inch Conduit DB-60, Item SPV.0090.175, 2-Duct Conduit Cement Encased 4-Inch Conduit DB-60, Item SPV.0090.176

A. Description

This work consists of furnishing and installing cement encased multiple duct conduit packages below grade in accordance with the applicable sections of the standard specifications, as shown on the plans and as hereinafter described.

B. Materials

Conduit. The contractor shall furnish DB-60 polyvinyl chloride (PVC) conduit.

PVC conduit and fittings shall conform to the requirements of Standard Specifications for Smooth-Wall Poly (Vinyl Chloride) (PVC) Conduit and Fittings for Underground Installation, ASTM Designation: F512 (latest edition).

Concrete. The type of concrete to be used to encase the ducts will be:

<u>Class of Concrete</u>	<u>Type of Cement</u>	<u>Min. Cement Content Sacks per Cubic Yard</u>	<u>Sizes of Coarse Aggregate</u>
G	Standard Portland Cement Type 1A or 1SA	4.0	Sharp Torpedo Sand only

Slurry Backfill. Aggregate slurry backfill consists of No. 1 concrete aggregate Class ‘C’ concrete mix with the cement deleted.

Fly Ash (Class C)	75 lbs.
Concrete Sand (Damp)	1830 lbs.
No. 1 Concrete Aggregate	1830 lbs.

The material shall be mixed with water to inundate the aggregate sufficiently to provide an approximate 3 inch slump. The mix shall be deposited in the trench directly from a concrete transit mix truck.

Pull Rope Pull rope specifications will be:

- Flat construction (7/16” to 5/8” wide)
- 100% woven aramid fiber (may include tracer wire)
- 1500 lbs. Minimum pull strength prelubricated
- sequential footage markings for location

For any questions on materials, contact Ms. Karen Rogney at (414) 286-3243.

C. Construction

Excavation. The excavation shall have the minimum or maximum dimensions shown on the plans and as follows:

<u>No. of Ducts Wide</u>	<u>Minimum</u>	<u>Maximum</u>
2	14 1/8"	16 5/8"
3	19 3/4"	22 1/4"
4	25 3/8"	27 7/8"

These minimum and maximum trench widths apply to standard 4 inch PVC electrical duct only. When required, the excavation may be widened for the handling and placing of materials.

Open-cut trenches shall be sheathed and braced as required by code and as necessary to maintain safety. The cost of furnishing, placing and removing of sheathing and bracing shall be included in the unit bid for the work.

The dimensions of the excavation will be governed by the number, configuration and the grade (cover) to which the conduit is to be installed as shown on the plan. The walls of the excavation shall be clean and true.

Previous to excavating trenches, the contractor shall expose the existing manhole and conduit lines. The object of this is to permit adjustments in line and grade to avoid special construction methods. The exposed manhole and conduit shall be protected from damage.

The conduit shall be laid at a depth so that sufficient protection from damage is provided. Allowable covers shall be as follows:

The standard cover for mainline conduit is 39 inches and the minimum cover acceptable shall be 28 inches.

The standard cover shall be maintained wherever possible and any deviation less than the minimum may be allowed only with specific approval of the engineer.

The trench shall be graded so that it will have a minimum pitch of three inches per 100 feet. When an obstruction is encountered in the trench and it is necessary to excavate a deeper trench than would otherwise be required, in order to obtain drainage, refer the matter to the Inspector to determine whether the extra excavation should be made.

In grading a trench for mainline conduit, there are three general practices for direction of pitch.

- (a) When grading a trench in a street with a level grade, the high point of the trench bottom should ordinarily be centered between manholes and pitched downward equally toward each manhole.
- (b) Where the street slopes in one direction, locate the high point of the trench bottom approximately 30 feet from the end wall of the higher manhole and grade toward both manholes.
- (c) Where a steep grade is encountered, grade the trench at the minimum pitch from the end wall of the higher manhole to a point 20 feet plus or minus toward the lower manhole. From this point, follow the street grade at the standard cover to a point 20 feet plus or minimum away from the end wall of the lower manhole. From this point, the remainder of the section shall be laid at the normal pitch.

After the rough excavation is completed, the bottom of the trench shall be prepared to receive the conduit. The duct bed shall be brought to the final grade and graded uniformly from the high point to the low or drainage points. Stone chips or limestone screenings shall be used for grading the trench.

Placing of Duct. Placing of the duct is to proceed as soon as the duct bed has been completed. All ducts shall be inspected before placing to see that the bores are clean and free from mud, sand, etc. Only ducts with a smooth bore, free from burrs, rough projections etc. shall be used. Where burrs or other rough areas likely to damage cable are found in the duct, they shall be smoothed off by rasping or scraping.

The duct shall be placed (as shown on the detail) with the ends staggered so no two couplings are adjacent. This may be accomplished by the use of the short lengths in stock or cutting back full length sections to the desired lengths. If cut pieces are used, the cut end shall be placed at the manhole.

Full length pieces shall be used for the balance of the conduit line.

Formations of two ducts or more in height are to be carried forward in full formation, that is, as each tier of twenty foot lengths is laid on base spacers, the next higher tier of ducts shall then be placed on the intermediate spacers. These spacers shall be two feet from each duct end and one in the middle. The intermediate spacers and ducts shall be placed for the remaining tiers. Each length shall be glued into the adjoining coupling. A twist and push on the duct being placed will suffice for a water tight joint. Caution must be exercised in the driving operation, so that neither the coupling nor duct will be split or damaged in any way. After the full formation has been completed, wood trench and duct bracing shall be placed on the ducts to prevent shifting or floating while the concrete envelope is being placed and during driving operation.

This procedure shall be followed with succeeding lengths, providing spacers (as shown on the detail) at the proper intervals, until sufficient trench footage of completed formation has been placed and is ready to receive concrete encasement.

The terminating point for mainline conduit will be the inside manhole wall, inside abutment wall, or inside wall of bridge house. A standard end bell fitting shall be installed on all duct access points into manholes.

A #10 copper tracer wire shall be installed along and above the centerline of the duct for encasement in the concrete. The wire shall be 2 feet longer than the run of conduit and extend beyond the end of the grout encasement.

Concreting. After sufficient conduit has been laid and the trench and duct have been inspected, concreting is to begin. The minimum concrete encasement of the ducts shall be three inches on the top, two inches on the sides, and three inches on the bottom (as shown on the detail).

After placing, the concrete shall be puddled with a splicing bar or similar tool so that complete duct encasement is accomplished. Wood braces used to keep the conduit from floating shall be removed before the concrete sets completely and the resultant encasement voids filled with concrete.

Concrete encasement shall be allowed sufficient time to set before backfilling is commenced.

Slurry Backfill. The backfilling of the conduit shall commence immediately after the duct has been inspected, approved and has had sufficient time to set to withstand the load.

An aggregate slurry as specified shall be used to backfill all concrete encased conduit. The trench shall be slurry backfilled to the proposed or existing subgrade. The mix shall be deposited in the trench directly from a concrete transit mix truck.

As-built Drawings. Prepare and submit as-built drawing of the conduit installation. The as-built drawing shall show the alignment, profile, and configuration of the conduit installation including stations and offsets to all bends, and locations where the configuration of the conduits within the duct package changes.

D. Measurement

The City will measure 4-Duct and 2-Duct Conduit Cement Encased 4-Inch Conduit DB-60, by the linear foot acceptably installed the linear feet of encased duct will be measured along the centerline of duct between ends of conduit.

E. Payment

The City will pay for the measured quantity at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.175	4-Duct Conduit Cement Encased 4-Inch Conduit DB-60	LF
SPV.0090.176	2-Duct Conduit Cement Encased 4-Inch Conduit DB-60	LF

Payment is full compensation for furnishing the conduit, conduit bodies, conduit fittings, conduit spacers, end caps, pull ropes and trace wires; for excavating, bedding, encasement, connection to existing manholes, and backfilling including any concrete, stone, aggregate slurry, bracing, or other related materials; for disposing of surplus materials; and for making inspections, for installing the conduit, for preparing as-built drawings, and for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the contract work.

ST PAUL AVE. LIFT BRIDGE OVER THE MILWAUKEE RIVER
CONSTRUCTION DETAILS

REVISIONS

ADDENDUM 2
ADDED SHT 4A
4-11-2013

DESIGNED BY
JTS

DRAWN BY
JTS

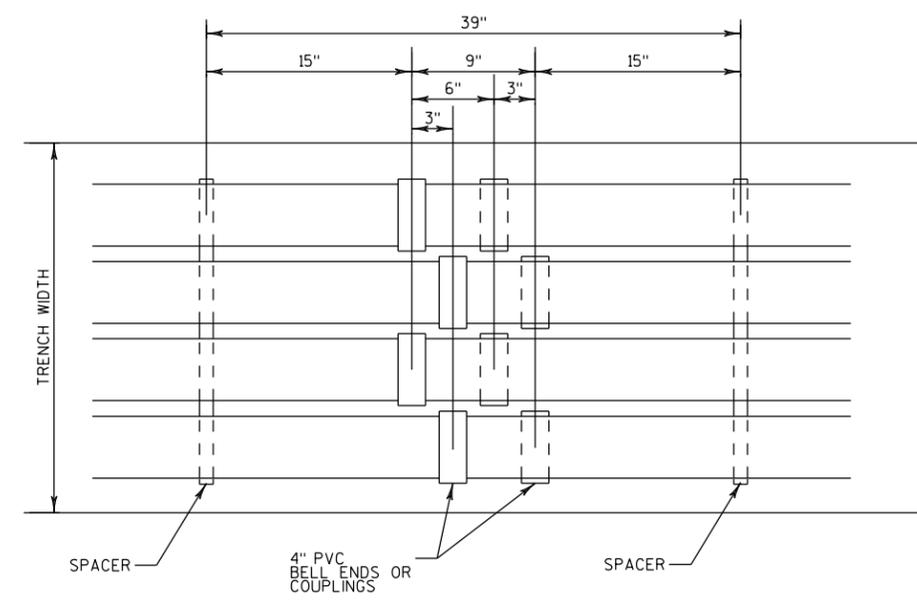
CHECKED BY
TJB

DATE SCALE
FEB 2013 15:1

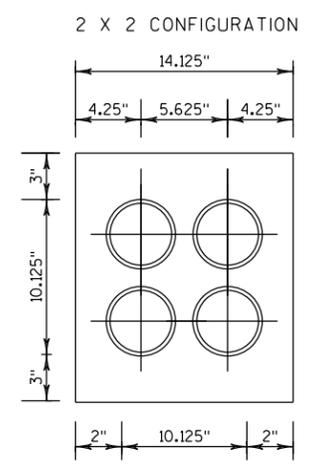
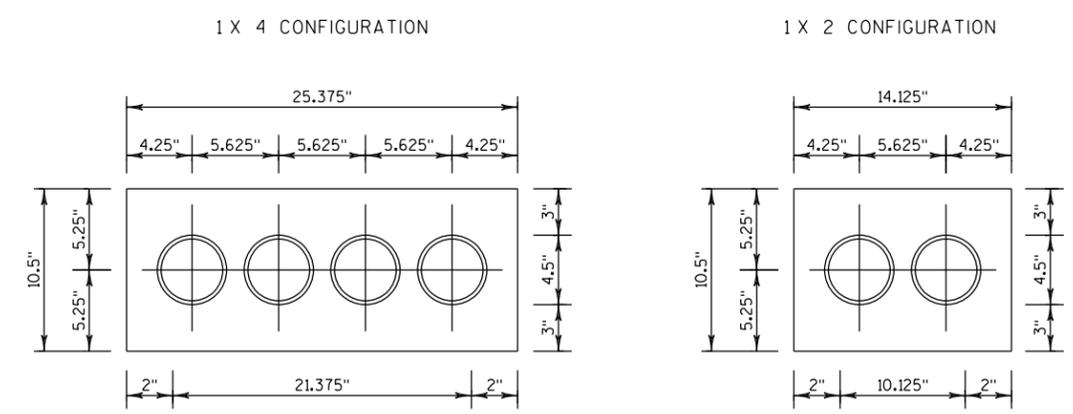
JOB NUMBER
BR100-10-0106

SHEET NUMBER
4A OF 23

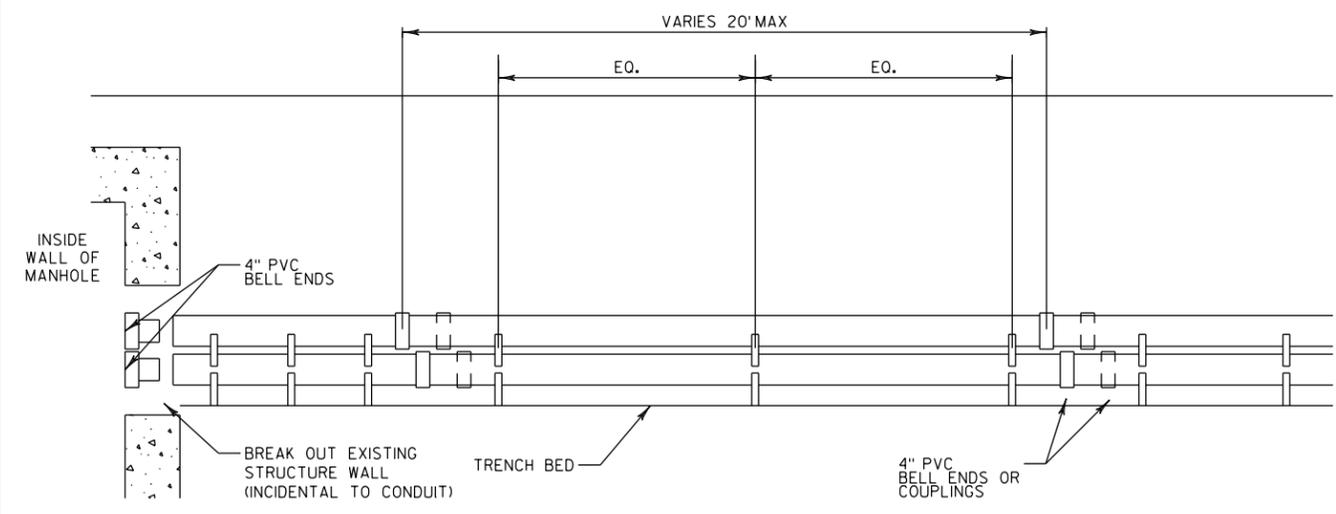
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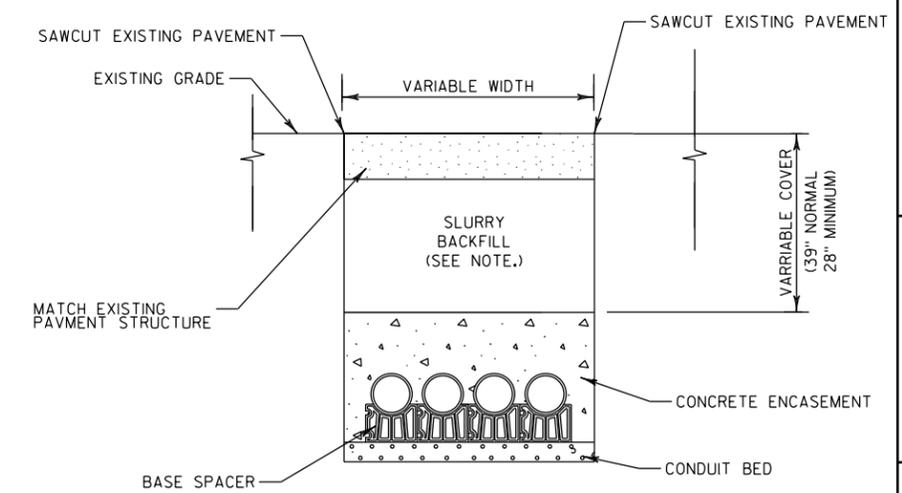
PLAN VIEW



CROSS SECTION VIEW



SECTION VIEW



CROSS SECTION VIEW (TYP.)

4-DUCT CONDUIT CEMENT ENCASED, 4-INCH CONDUIT DB-60 /
2-DUCT CONDUIT CEMENT ENCASED, 4-INCH CONDUIT DB-60

NOTE:
PAYMENT FOR SLURRY BACKFILL IS INCIDENTAL TO 4-DUCT CONDUIT CEMENT ENCASED, 4-INCH CONDUIT DB-60 / 2-DUCT CONDUIT CEMENT ENCASED, 4-INCH CONDUIT DB-60 ITEMS.

REVISIONS

ADDENDUM 2
REVISED SHT 13
4-11-2013

DESIGNED BY

JTS

DRAWN BY

JTS

CHECKED BY

TJB

DATE

12/27/12

SCALE

40:1

JOB NUMBER

BR100-10-0106

SHEET NUMBER

13 OF 23

OF

REMOVAL QUANTITIES

STATION	LOC.	204.0100 REMOVING PAVEMENT SY	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	646.0600 REMOVING PAVEMENT MARKINGS LF
26+94.61 - 27+31.60	LT	--	--	30	--
26+94.61 - 27+30.96	LT	--	37	--	--
26+94.61 - 27+20.12	RT	--	25	--	--
26+94.61 - 27+30.96	LT/RT	157	--	--	--
26+95.24 - 27+19.48	RT	--	--	16	--
29+85.76 - 30+13.04	LT	--	27	--	--
29+86.41 - 30+13.04	LT	--	--	17	--
29+75.03 - 30+13.04	RT	--	39	--	--
29+75.03 - 30+13.04	LT/RT	159	--	--	--
29+74.38 - 30+02.75	RT	--	--	16	--
25+75.00 - 26+94.61	LT/RT	--	--	--	564
30+13.04 - 31+60.00	LT/RT	--	--	--	499
TOTAL		315	128	80	1,063

1

MISCELLANEOUS QUANTITIES

STATION	205.0100 EXCAVATION COMMON CY	213.0100 FINISHING ROADWAY EACH	616.0700.S FENCE SAFETY LF	619.1000 MOBILIZATION EACH	642.5201 FIELD OFFICE TYPE C EACH
PROJECT	76	1	100	1	1
TOTAL	76	1	100	1	1

ROADWAY QUANTITIES

STATION	LOC.	305.0120 BASE A GGRGATE DENSE 1 1/4-INCH TON	415.0105 CONCRETE PAVEMENT 10 1/2-INCH (DOWELED) SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	416.0620 DRILLED DOWEL BARS EACH	601.0331 CONCRETE CURB AND GUTTER 31-INCH LF	602.0410 CONCRETE SIDEWALK 5-INCH SF	690.0250 SAWMG CONCRETE LF
26+94.61 - 27+31.60	LT	5	--	--	--	--	262	--
26+94.61 - 27+30.96	LT	4	--	--	--	37	--	--
26+94.61 - 27+04.45	LT/RT	17	52	--	--	--	--	--
27+04.45 - 27+30.96	LT/RT	35	--	106	--	--	--	--
26+95.24 - 27+19.48	RT	3	--	--	--	--	141	--
26+94.61 - 27+20.12	RT	2	--	--	--	25	--	--
29+86.41 - 30+13.04	LT	3	--	--	--	--	142	--
29+85.76 - 30+13.04	LT	3	--	--	--	27	--	--
29+75.03 - 30+01.43	LT/RT	34	--	103	--	--	--	--
29+75.03 - 30+13.04	RT	4	--	--	--	39	--	--
29+74.38 - 30+02.75	RT	3	--	--	--	--	141	--
31+01.43 - 30+13.04	LT/RT	19	57	--	--	--	--	--
WEST PROJECT LIMITS	LT/RT	--	--	--	45	--	--	68
EAST PROJECT LIMITS	LT/RT	--	--	--	45	--	--	74
TOTAL		131	109	209	90	128	686	142

1

EROSION CONTROL QUANTITIES

STATION	LOC.	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7015 INLET PROTECTION TYPE C LF
25+85	33' LT	--	--	1
25+97	47' RT	--	--	1
26+92 - 27+36	LT	45	45	--
29+93 - 30+13	LT	25	25	--
29+73 - 30+03	RT	30	30	--
31+36	59' RT	--	--	1
31+50	26' RT	--	--	1
31+59	24' LT	--	--	1
TOTAL		100	100	5



City of Milwaukee

Department of Public Works

Infrastructure Services Division

HNTB
1414 West Park Place, Suite 300
Milwaukee, WI 53224
414-359-2300

ST PAUL AVE. LIFT BRIDGE
OVER THE MILWAUKEE RIVER
MISCELLANEOUS QUANTITIES

TRAFFIC CONTROL QUANTITIES								
	643.0100 TRAFFIC CONTROL (PROJECT)	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT)	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	643.0900 TRAFFIC CONTROL SIGNS	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE	643.2000 TRAFFIC CONTROL DETOUR (PROJECT)	643.3000 TRAFFIC CONTROL DETOUR SIGNS
	EACH	DAY	DAY	DAY	DAY	SF	EACH	DAY
PROJECT	1	335	5,695	11,390	2,345	14	1	21,440
TOTAL	1	335	5,695	11,390	2,345	14	1	21,440

PAVEMENT MARKING QUANTITIES									
		646.0106 PAVEMENT MARKING EPOXY 4-INCH YELLOW	646.0106 PAVEMENT MARKING EPOXY 4-INCH 3 FT LINE 9 FT SKIP WHITE	646.0106 PAVEMENT MARKING EPOXY 4-INCH 12.5 FT LINE 37.5 FT SKIP WHITE	646.0126 PAVEMENT MARKING EPOXY 8-INCH WHITE	646.0126 PAVEMENT MARKING EPOXY 8-INCH 3 FT LINE 9 FT SKIP WHITE	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2	647.0356 PAVEMENT MARKING WORDS EPOXY	647.0576 PAVEMENT MARKING STOP LINE EPOXY 24-INCH
STATION	LOC.	LF	LF	LF	LF	LF	EACH	EACH	LF
25+78 - 28+83	RT	--	--	76	--	--	--	--	--
25+83 - 26+95	LT	--	--	--	112	--	--	--	--
25+92 - 31+64	LT / CL	1,350	--	--	--	--	--	--	--
25+94	LT	--	--	--	--	--	1	--	--
26+34	LT	--	--	--	--	--	--	1	--
26+75	LT	--	--	--	--	--	1	--	--
26+95 - 28+13	LT / CL	--	--	--	--	30	--	--	--
27+41	CL / RT	--	--	--	--	--	--	--	24
28+12 - 31+64	LT	--	--	88	--	--	--	--	--
28+75 - 30+29	CL / RT	--	--	--	--	39	--	--	--
29+48	CL / LT	--	--	--	--	--	--	--	24
30+29 - 31+15	RT	--	22	--	--	--	--	--	--
30+29 - 31+64	RT	--	--	--	135	--	--	--	--
30+55	RT	--	--	--	--	--	1	--	--
30+93	RT	--	--	--	--	--	--	1	--
31+35	RT	--	--	--	--	--	1	--	--
TOTAL		1,350	22	164	247	68	4	2	48

CONDUIT QUANTITIES												
		204.0100 REMOVING PAVEMENT SY	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	415.0105 CONCRETE PAVEMENT 10 1/2-INCH SY	416.0170 CONCRETE DRIVEWAY 7-INCH SY	465.0105 ASPHALTIC SURFACE TON	601.0331 CONCRETE CURB AND GUTTER 31-INCH LF	602.0410 CONCRETE SIDEWALK 5-INCH SF	690.0250 SAWING CONCRETE LF	SPV.0090.175 4-DUCT CONDUIT CEMENT ENCASED, 4-INCH CONDUIT DB-60 LF	SPV.0090.176 2-DUCT CONDUIT CEMENT ENCASED, 4-INCH CONDUIT DB-60 LF
25+57 - 25+86	RT	7	12	--	7	--	1	12	--	52	--	--
25+85 - 26+95	RT	47	9	18	--	47	--	9	160	232	--	--
30+13 - 31+83	RT	58	--	--	58	--	10	--	--	350	--	--
25+57 - 28+11	RT	--	--	--	--	--	--	--	--	--	170	--
28+85 - 31+83	RT	--	--	--	--	--	--	--	--	--	--	213
TOTAL		112	21	18	65	47	11	21	160	634	170	213

REVISIONS

ADDENDUM 2
REVISED SHT 13
4-11-2013

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DATE

12/27/12

SCALE

40:1

JOB NUMBER

BR100-10-0106

SHEET NUMBER

14 OF 23

OF

1

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	SUBSTRUCTURE					SUPERSTRUCTURE			BRIDGE HOUSE	TOTAL	
			WEST ABUTMENT	PIER 1	PIER 2	PIER 3	PIER 4	EAST ABUTMENT	WEST FIXED SPANS	EAST FIXED SPANS			LIFT SPAN
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 28+53	LS											1
502.0100	CONCRETE MASONRY BRIDGES	CY	5		15	15			7	165	165		372
502.3100	EXPANSION DEVICE P-40-523	LS											1
502.3200	PROTECTIVE SURFACE TREATMENT	SY								663	663	412	1738
502.5020	MASONRY ANCHORS TYPE L NO. 8 BARS	EACH			16	16							32
502.6102	MASONRY ANCHORS TYPE S 1/2-INCH	EACH	90		60	81			167				398
502.6105	MASONRY ANCHORS TYPE S 5/8-INCH	EACH	126		218 ^Δ	224 ^Δ			126				694 ^Δ
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EACH			52	52							104
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1200		3500	3600			1500	36200	36200		82200
506.3003	WELDED STUD SHEAR CONNECTORS 5/8X4-INCH	EACH										312	312
506.3005	WELDED STUD SHEAR CONNECTORS 7/8X4-INCH	EACH										86	86
506.3010	WELDED STUD SHEAR CONNECTORS 7/8X5-INCH	EACH										1644	1644
506.3015	WELDED STUD SHEAR CONNECTORS 7/8X6-INCH	EACH								2441	2441		4882
506.3020	WELDED STUD SHEAR CONNECTORS 7/8X7-INCH	EACH								85	85		170
506.5000	BEARING ASSEMBLIES FIXED (P-40-523) ^Δ	EACH				4							4
506.6000	BEARING ASSEMBLIES EXPANSION (P-40-523) ^Δ	EACH			4								4
506.7000.S	BEARING REPLACEMENT P-40-523	EACH	8						8				16
509.1500	CONCRETE SURFACE REPAIR	SF	24		440	310							774
514.0445	FLOOR DRAINS TYPE GC	EACH								2	2		4
517.0600	PAINTING EPOXY SYSTEM (P-40-523) ^Δ	LS											1
517.0900.S	PREPARATION AND COATING OF TOP FLANGES	LS											1
517.1010.S	CONCRETE STAINING P-40-523	SF	660		2100	1400	1350		680				7540
517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE P-40-523	LS		1350									1
517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS P-40-523	LS											1
517.6001.S	PORTABLE DECONTAMINATION FACILITY ^Δ	EACH											1
650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (P-40-523) ^Δ	LS											1
652.0230	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 1/2- INCH	LF								190	190		380
657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH								8	8		16
715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	30		90	90			42	990	990		2232
SPV.0035.174	LIGHTWEIGHT CONCRETE MASONRY	CY										10 ^Δ	10 ^Δ
SPV.0060.159	WEEP DRAIN CLEANING	EACH	12						10				22
SPV.0060.162	BEARING MAINTENANCE P-40-523	EACH			8	8							16
SPV.0060.170	JUNCTION BOXES 12X12X6 -INCH	EACH								4	4		8
SPV.0085.151	BRIDGE STRUCTURAL STEEL	LB			1200	1200				64500	64500	294700	427800
SPV.0085.171	BRIDGE HOUSE STRUCTURAL STEEL	LB										1000	1000
SPV.0090.150	MARINE DOCK FENDER	LF			142	120							262
SPV.0090.163	EPOXY CRACK SEALING	LF	98	37	675	480	32		106				1428
SPV.0105.152	COUNTERWEIGHT BALLAST	LS											1
SPV.0105.153	PEDESTRIAN RAILING	LS											1
SPV.0105.154	TUBULAR STEEL RAILING, TYPE F MODIFIED	LS											1
SPV.0105.155	PIER RAILING	LS											1
SPV.0105.158	REHABILITATING PIER CIRCULAR STAIR AND LADDERS	LS											1
SPV.0105.161	FIELD VERIFICATION SURVEY	LS											1
SPV.0105.164	LIFT SPAN ROADWAY JOINTS	LS											1
SPV.0105.165	LIFT SPAN SIDEWALK JOINTS	LS											1
SPV.0105.166	REFURBISHING EXISTING NAME PLATES	LS											1
SPV.0105.167	TEMPORARY LIFT SPAN SHORING	LS											1
SPV.0105.168	UNDERDECK GUTTER SYSTEM P-40-523	LS											1
SPV.0105.169	STAINLESS STEEL PLATFORM FOR ELECTRICAL CABINETS	LS											1
SPV.0105.172	NAMEPLATE	LS											1
SPV.0105.173	REFURBISH AND REINSTALL BRIDGE HOUSE BELL	LS											1
SPV.0105.200	COUNTERWEIGHT MACHINERY	LS											1
SPV.0105.201	SPAN GUIDES	LS											1
SPV.0105.202	BUMPER BEAM	LS											1
SPV.0105.203	CENTERING DEVICE	LS											1
SPV.0105.250	BRIDGE HYDRAULIC SYSTEM	LS											1
SPV.0105.300	BRIDGE ELECTRICAL WORK	LS											1
SPV.0105.350	BRIDGE OPERATOR'S HOUSE	LS											1
SPV.0105.360	PRECAST CONCRETE PLANTERS	LS											1
SPV.0105.400	HEATING VENTILATING & AIR CONDITIONING (HVAC) SYSTEMS	LS											1
SPV.0105.410	PLUMBING SYSTEMS	LS											1
SPV.0105.420	BRIDGE HOUSE ELECTRICAL SYSTEMS	LS											1
SPV.0165.156	EXODERMIC DECK	SF										3437	3437
SPV.0165.157	FIBERGLASS SIDEWALK FLOOR PLATES	SF										1120	1120



City of Milwaukee

 Department of Public Works

 Infrastructure Services Division

BLOOM COMPANIES, LLC

 Infrastructure Innovation and Integrity

 10501 W. Research Drive • Milwaukee, WI 53228

 Phone: (414) 771-3390 Fax: (414) 771-4490

ST PAUL AVE. LIFT BRIDGE

OVER THE MILWAUKEE RIVER

ESTIMATE OF QUANTITIES

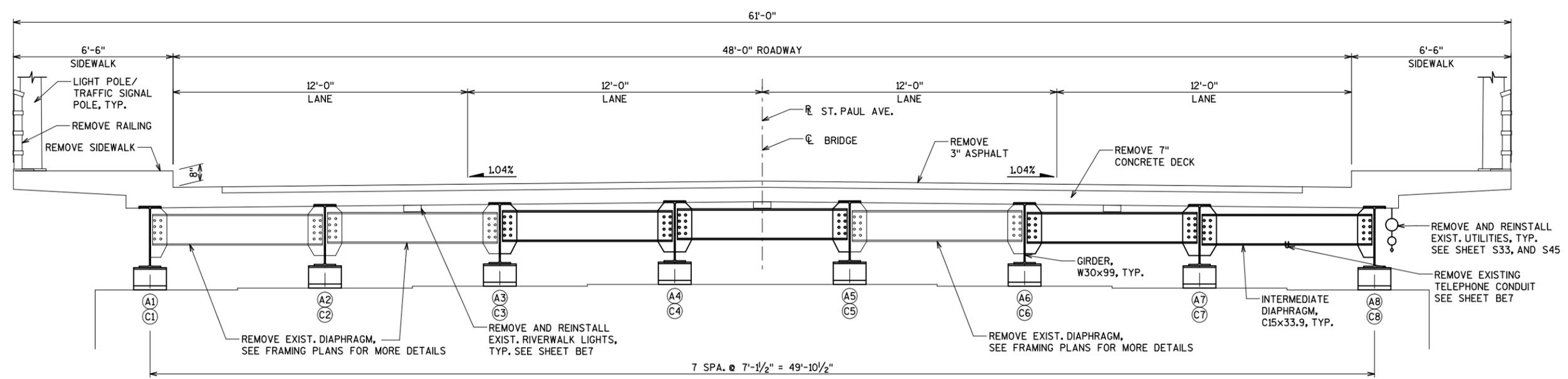
REVISIONS

^Δ	ADDENDUM 2	4/11/13
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DESIGNED BY	BDT
DRAWN BY	TAL
CHECKED BY	JRS
DATE	SCALE
FEB 2013	NTS
JOB NUMBER	BR100-10-0106
SHEET NUMBER	S3 OF S60
OF	198

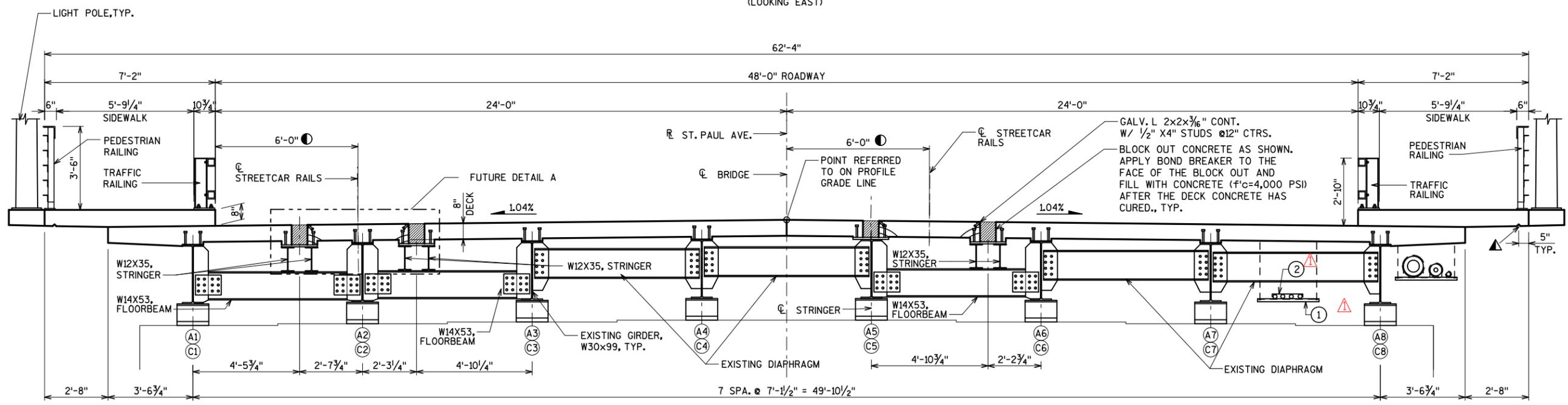
REVISIONS	
▲	ADDENDUM 2 4/11/13

DESIGNED BY BDT	SCALE NTS
DRAWN BY TAL	JOB NUMBER BR100-10-0106
CHECKED BY JRS	SHEET NUMBER S4 OF S60
DATE FEB 2013	OF 198



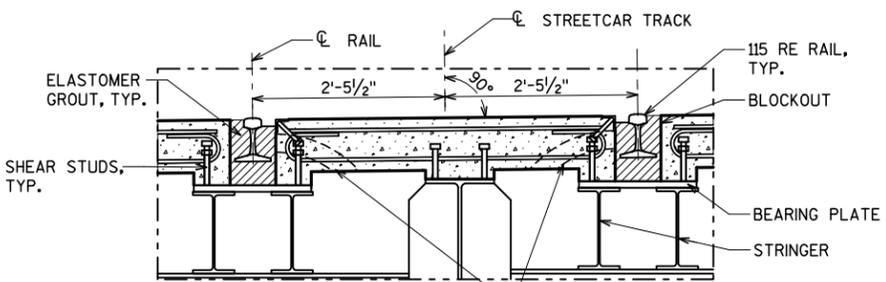
EXISTING SECTION THRU FIXED SPAN-REMOVALS

(LOOKING EAST)



PROPOSED SECTION THRU FIXED SPAN

(LOOKING EAST)



FUTURE DETAIL A

(FUTURE TYPICAL SECTION THRU STREETCAR TRACKS)

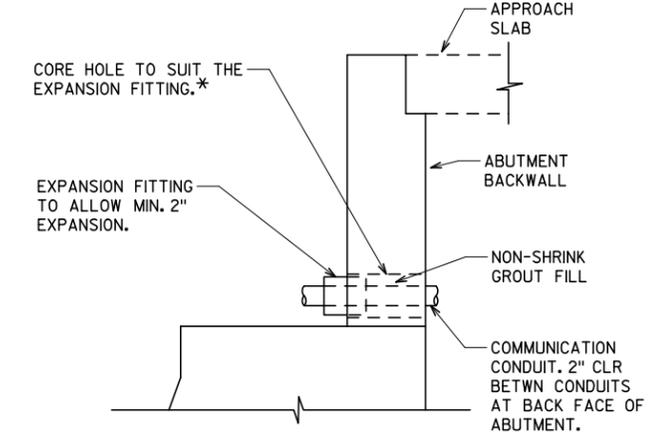
NOTE: ALL ITEMS SHOWN, EXCEPT FOR STREETCAR RAIL AND ELASTOMER GROUT, ARE PART OF THIS CONTRACT.

LEGEND

- ▲ 3/4" CONTINUOUS V-GROOVE TO TERMINATE 2'-0" FROM FACE OF ABUTMENTS
- MEASURED AT THE POINT OF INTERSECTION OF STREETCAR RAIL TRACK AND TOP OF DECK.

KEY NOTES

- ① PLACE 5/8" LOOP FERRULE INSERTS AT 8'-0" C-C SPACING BEFORE DECK POUR FOR 5/8" DIA SS THREADED ROD HANGERS ATTACHED TO 1 5/8" X 1 1/2" SS SLOTTED STRUT. CONDUITS SECURED TO STRUT WITH SS STRAPS, TYP. CORE HOLES ON THE BACKWALL OF ABUTMENT FOR THE CONDUITS AND FILL WITH GROUT AFTER THE CONDUITS ARE INSTALLED. COST OF INSERTS, HANGERS, AND CONDUIT EXPANSION JOINTS IS INCLUDED IN THE BID ITEM "BRIDGE ELECTRICAL WORK".
- ② COMMUNICATION CONDUITS. SEE SHEETS 4A, 14, E33A, AND E33B.



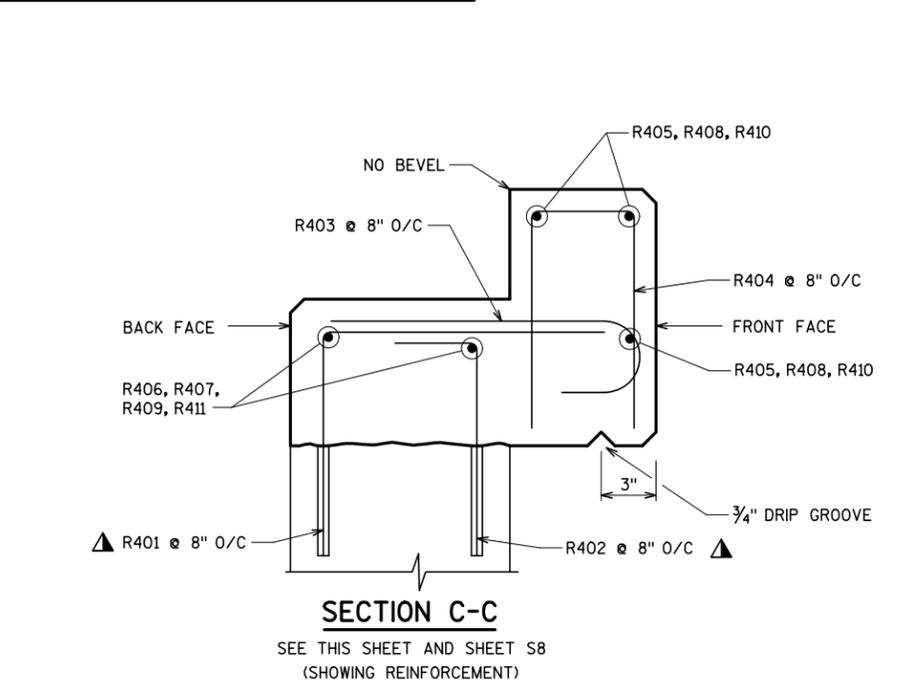
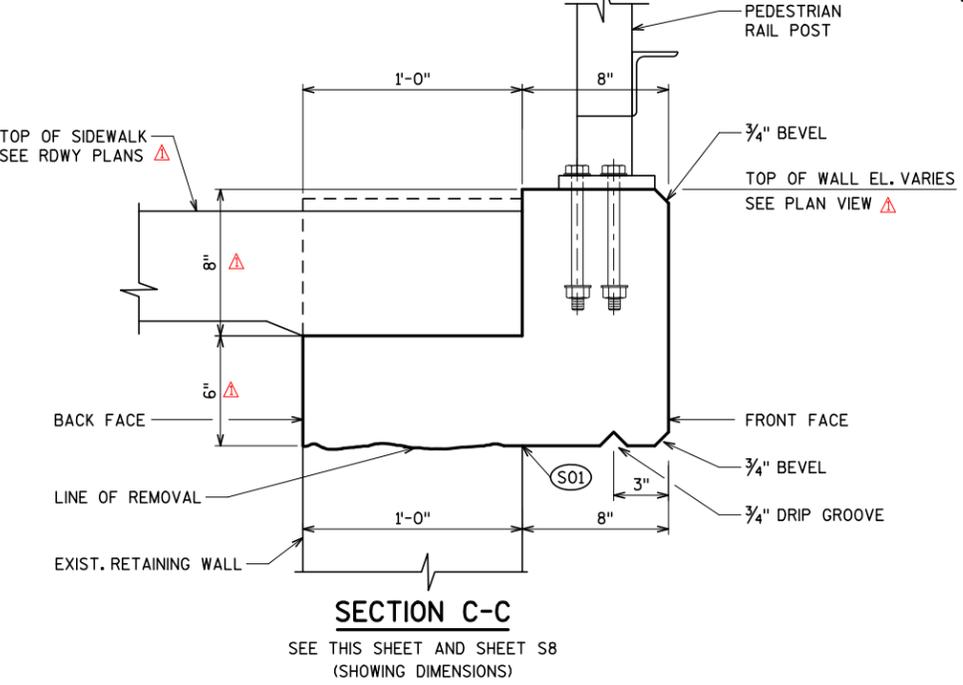
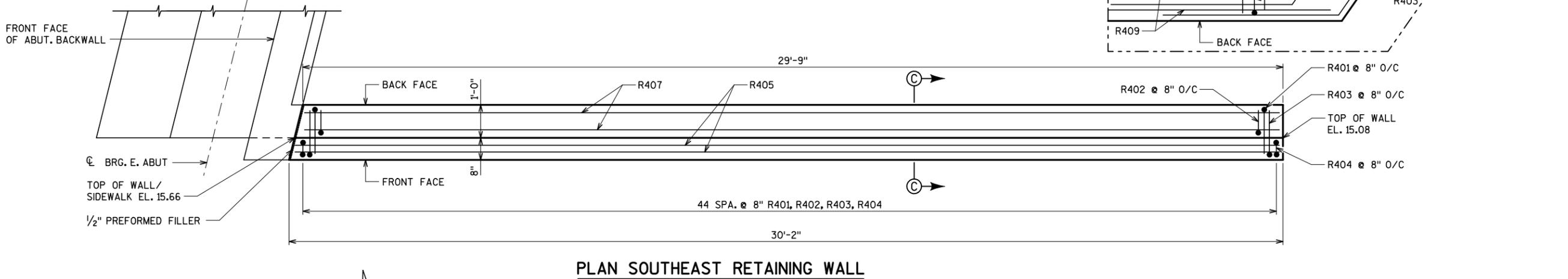
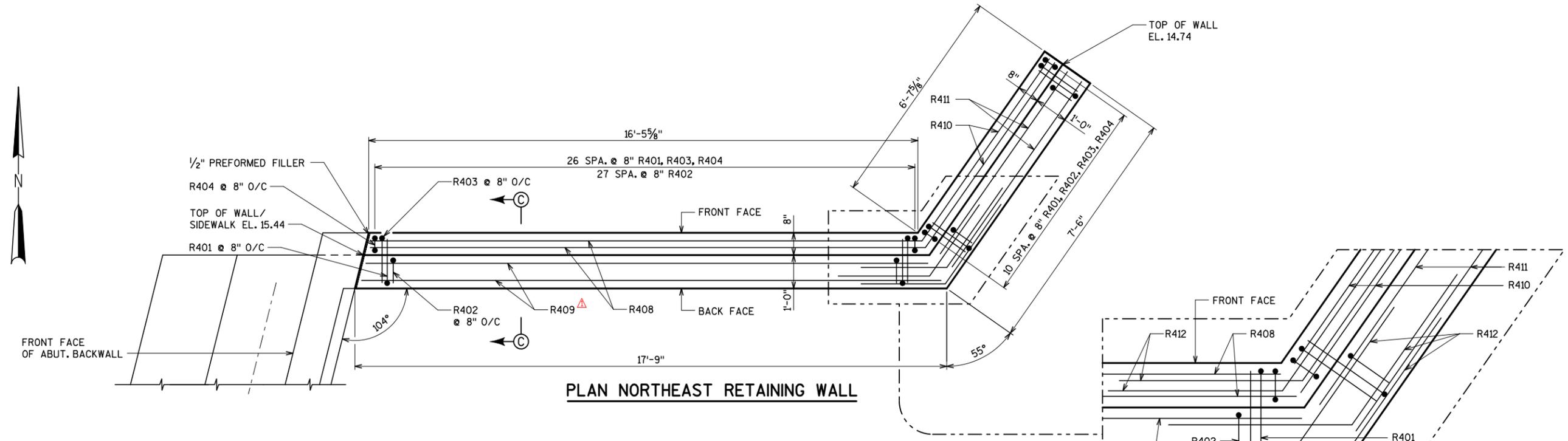
CONDUIT PENETRATION

* COST OF CORING THE HOLE IN THE ABUTMENT AND FILLING WITH NON-SHRINK GROUT IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

ST PAUL AVE. LIFT BRIDGE OVER THE MILWAUKEE RIVER EAST WINGWALLS RECONSTRUCTION

REVISIONS	
▲	ADDENDUM 2 4/11/13

DESIGNED BY BDT	SCALE NTS
DRAWN BY TAL	JOB NUMBER BR100-10-0106
CHECKED BY JRS	SHEET NUMBER S10 OF S60
DATE FEB 2013	OF 198



LEGEND

- (S01) LINE OF REMOVAL. DEFINE LINE OF REMOVAL BY A 1/2" DEEP SAW CUT. COST OF REMOVAL IS INCLUDED IN BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS".
- ▲ CONCRETE MASONRY ANCHOR TYPE S. EMBED #4 BARS 5", AND #5 BARS 6" INTO EXISTING CONCRETE. MINIMUM PULLOUT CAPACITY OF 12 KIPS FOR #4 BARS AND 19 KIPS FOR #5 BARS.

NOTES

ANY EXCAVATION AND BACKFILL REQUIRED FOR RECONSTRUCTING THE ABUTMENT AND RETAINING WALLS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

BILL OF BARS - WEST ABUTMENT

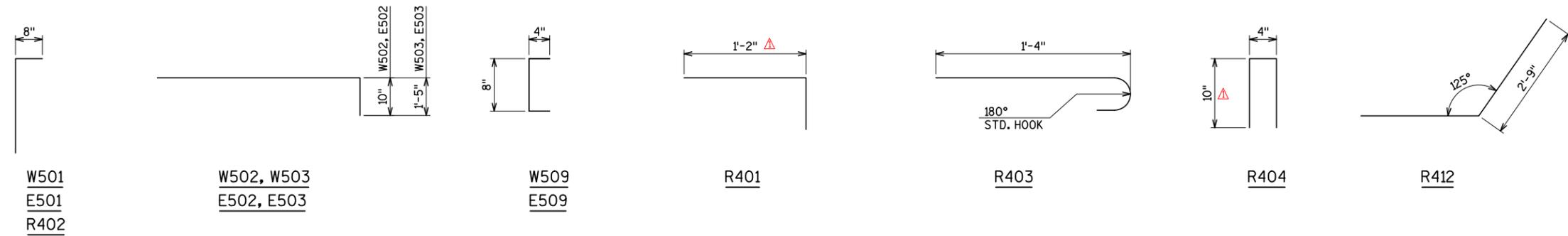
BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION
W501	X	126	2'-0"	X	-	VERTICAL, EACH FACE
W502	X	4	4'-9"	X	-	HORIZ., TOP, SIDEWALKS
W503	X	4	5'-4"	X	-	HORIZ., TOP, SIDEWALKS
W504	X	2	8'-0"	-	-	HORIZ., BOTTOM, SIDEWALKS, BACK FACE
W505	X	9	6'-1"	-	-	HORIZ., TOP AND BOTTOM, EACH FACE
W506	X	12	2'-3"	-	-	HORIZ., TOP AND BOTTOM, EACH FACE
W507	X	9	6'-8"	-	-	HORIZ., TOP AND BOTTOM, EACH FACE
W508	X	6	2'-6"	-	-	HORIZ., TOP AND BOTTOM, EACH FACE
W509	X	2	1'-3"	X	-	TIES, CORNERS
						NOT USED
W511	X	4	1'-0"	-	-	TOP AND BOTTOM, AT ENDS
W412	X	48	1'-9"	-	-	BEARING BLOCK
W413	X	32	2'-7"	-	-	BEARING BLOCK

BILL OF BARS - EAST ABUTMENT

BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION
E501	X	126	2'-0"	X	-	VERTICAL, EACH FACE
E502	X	4	4'-9"	X	-	HORIZ., TOP, SIDEWALKS
E503	X	4	5'-4"	X	-	HORIZ., TOP, SIDEWALKS
E504	X	2	8'-0"	-	-	HORIZ., BOTTOM, SIDEWALKS, BACK FACE
E505	X	9	6'-1"	-	-	HORIZ., TOP AND BOTTOM, EACH FACE
E506	X	12	2'-3"	-	-	HORIZ., TOP AND BOTTOM, EACH FACE
E507	X	9	6'-8"	-	-	HORIZ., TOP AND BOTTOM, EACH FACE
E508	X	6	2'-6"	-	-	HORIZ., TOP AND BOTTOM, EACH FACE
E509	X	2	1'-3"	X	-	TIES, CORNERS
						NOT USED
E511	X	4	1'-0"	-	-	TOP AND BOTTOM, AT ENDS
E412	X	48	1'-9"	-	-	BEARING BLOCK
E413	X	32	2'-7"	-	-	BEARING BLOCK

BILL OF BARS - RETAINING WALLS

BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION
R401	X	128 ^Δ	2'-0" ^Δ	X	-	VERTICAL, BACK FACE
R402	X	129 ^Δ	1'-4" ^Δ	X	-	VERTICAL, FRONT FACE
R403	X	128	1'-10"	X	-	HORIZ., TOP
R404	X	128	1'-10" ^Δ	X	-	VERTICAL
R405	X	6	29'-8"	-	-	HORIZ., TOP AND F. F., NW AND SE WALLS
R406	X	2	29'-7"	-	-	HORIZ., TOP, NW WALL
R407	X	2	29'-5"	-	-	HORIZ., TOP, SE WALL
R408	X	3	16'-2"	-	-	HORIZ., TOP AND FRONT FACE, NE WALL
R409	X	2	17'-5"	-	-	HORIZ., TOP, NE WALL
R410	X	3	6'-4"	-	-	HORIZ., TOP AND FRONT FACE, NE WALL
R411	X	2	6'-7"	-	-	HORIZ., TOP, NE WALL
R412	X	6	5'-6"	X	-	HORIZ., AT CORNER, NE WALL



BENDING DIAGRAMS

LEGEND

^Δ CONCRETE MASONRY ANCHOR TYPE S. EMBED #4 BARS 5", AND #5 BARS 6" INTO EXISTING CONCRETE. MINIMUM PULLOUT CAPACITY OF 12 KIPS FOR #4 BARS AND 19 KIPS FOR #5 BARS.

REVISIONS

NO.	DESCRIPTION	DATE
1	^Δ ADDENDUM 2	4/11/13

DESIGNED BY

BDT

DRAWN BY

TAL

CHECKED BY

JRS

DATE

FEB 2013

SCALE

NTS

JOB NUMBER

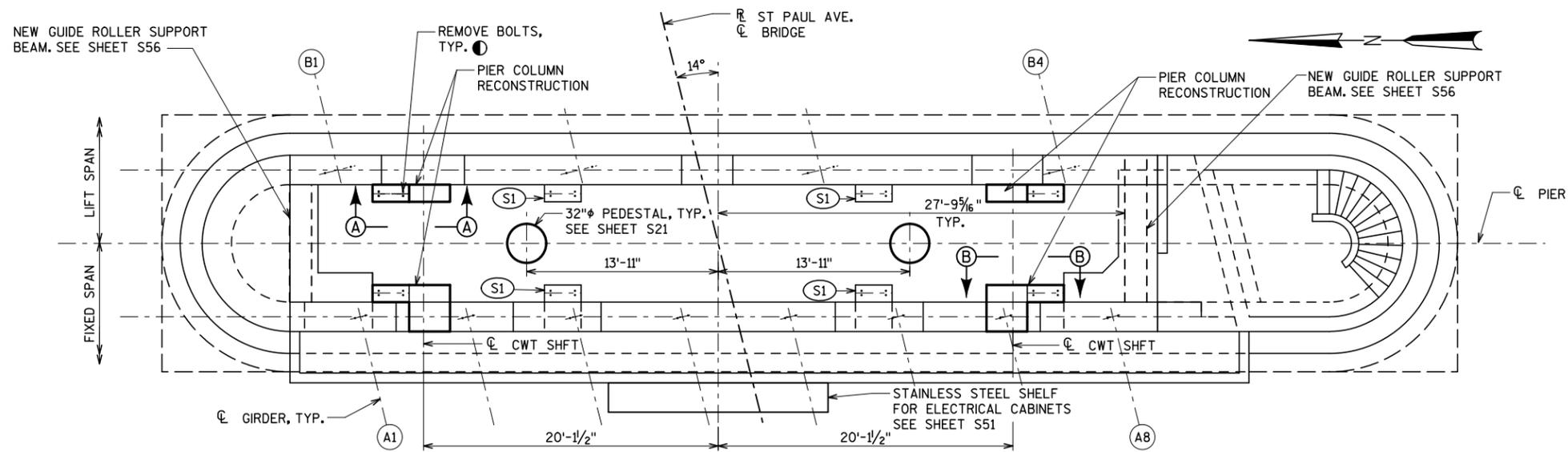
BR100-10-0106

SHEET NUMBER

S12 OF S60

OF

198



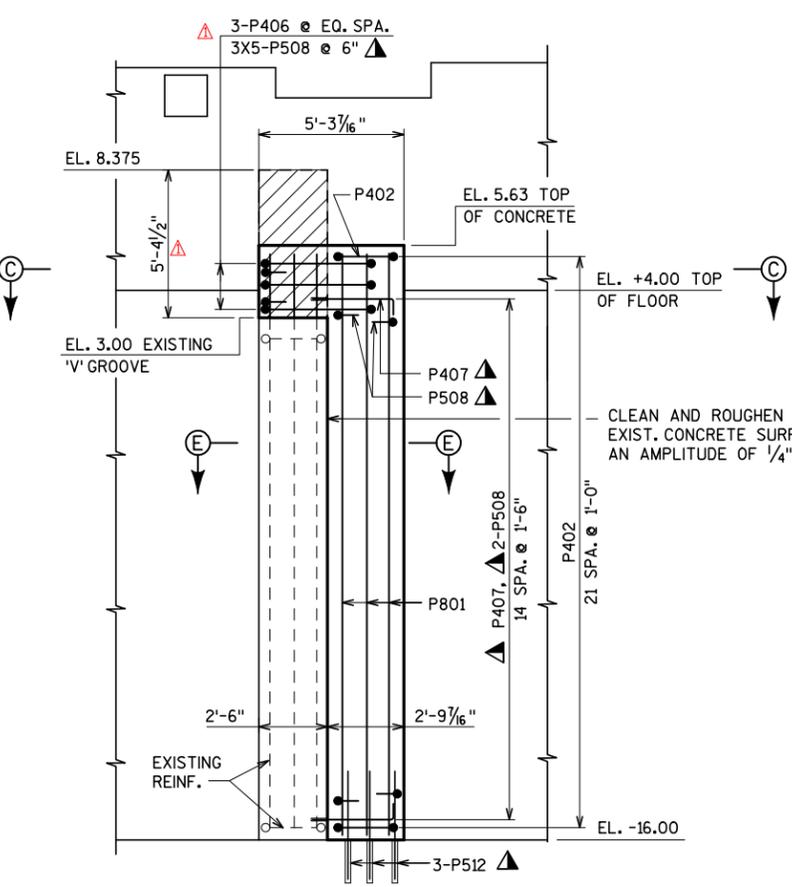
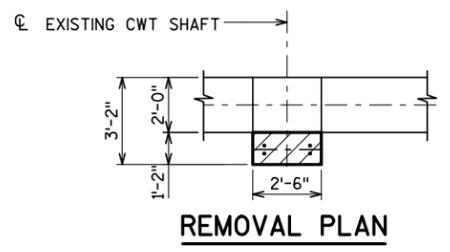
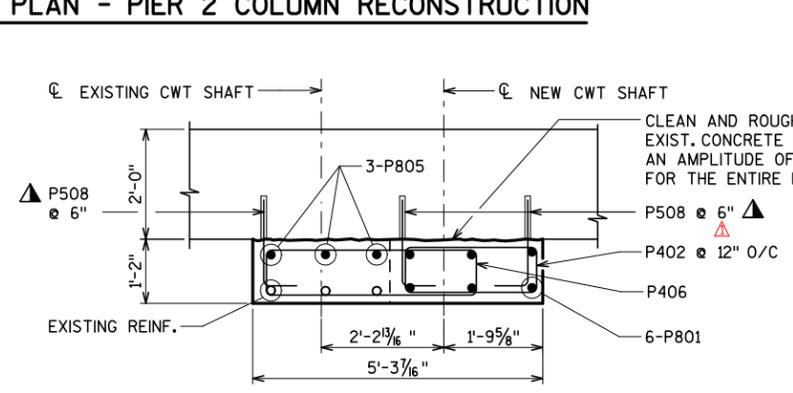
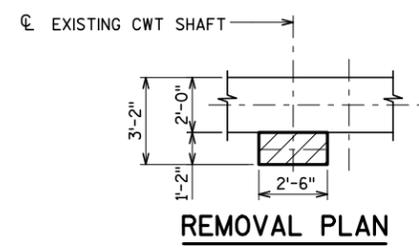
- LEGEND**
- DENOTES LIMITS OF CONCRETE REMOVAL. SEE SHEET S13 THRU S15.
 - CONCRETE MASONRY ANCHOR TYPE S. EMBED #4 BARS 5", AND #5 BARS 6" INTO EXISTING CONCRETE. MINIMUM PULLOUT CAPACITY OF 12 KIPS FOR #4 BARS AND 19 KIPS FOR #5 BARS.
 - COST OF REMOVAL IS INCLUDED IN BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS".
 - CONSTRUCT LEDGE FOR TEMPORARY SUPPORT FOR COUNTERWEIGHT. SEE SHEET S56.

TOP OF CONCRETE AT GIRDER SEATS

GIRDER	ELEVATION
A1	12.75
A2	12.81
A3	12.86
A4	12.90
A5	12.90
A6	12.81
A7	12.72
A8	12.62
B1	12.10
B2	12.28
B3	12.25
B4	12.00

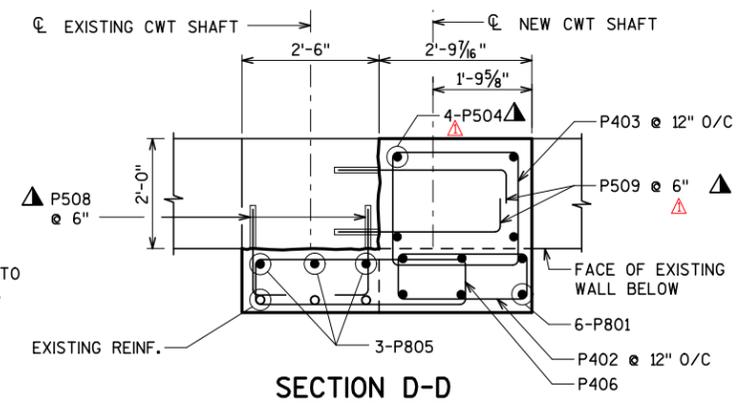
ELEVATIONS ARE BASED ON EXISTING PLANS

KEY PLAN - PIER 2 COLUMN RECONSTRUCTION

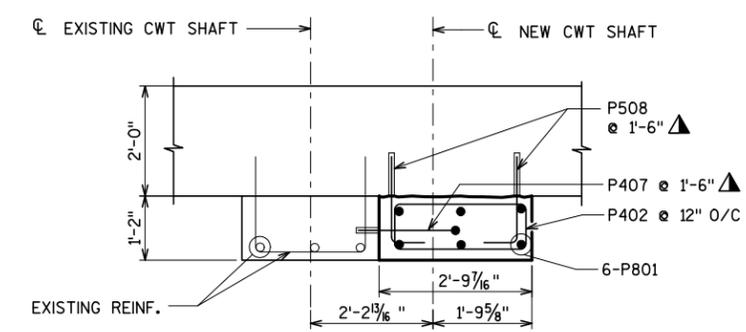


VIEW A-A (EAST COLUMNS)

(NORTH COLUMN SHOWN, SOUTH COLUMN OPPOSITE)
REMOVE EXISTING COLUMN TO LIMITS SHOWN. INCORPORATE EXISTING VERTICAL BARS INTO NEW CONSTRUCTION.

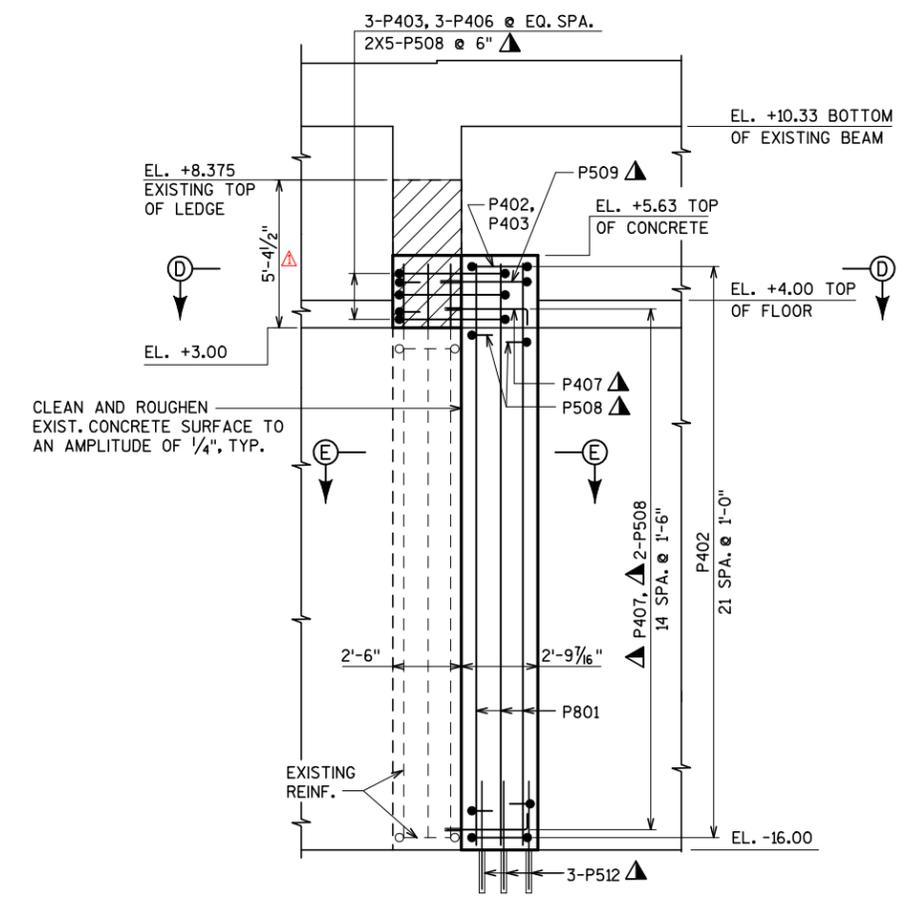


SECTION D-D



SECTION E-E

(NORTH COLUMN SHOWN, SOUTH COLUMN OPPOSITE)



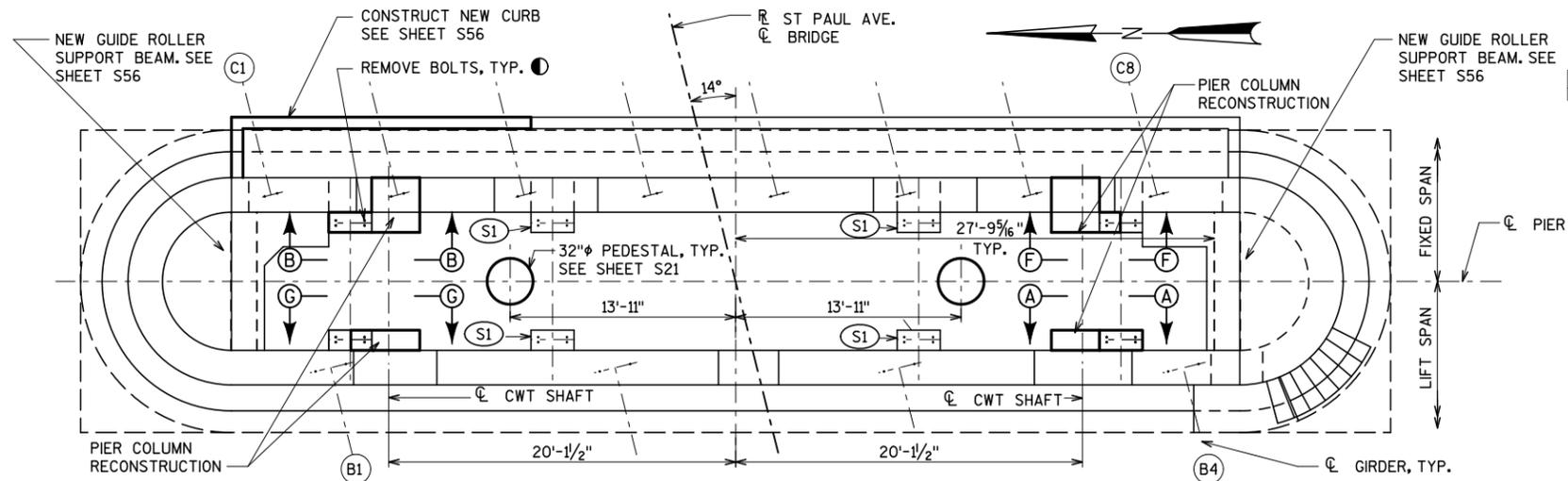
VIEW B-B (WEST COLUMNS)

(SOUTH COLUMN SHOWN, NORTH COLUMN OPPOSITE)
REMOVE EXISTING COLUMN TO LIMITS SHOWN. INCORPORATE EXISTING VERTICAL BARS INTO NEW CONSTRUCTION.

**TOP OF CONCRETE
GIRDER SEATS**

GIRDER	ELEVATION
C1	12.75
C2	12.81
C3	12.86
C4	12.90
C5	12.90
C6	12.81
C7	12.72
C8	12.62
B1	12.10
B2	12.28
B3	12.25
B4	12.00

ELEVATIONS ARE BASED ON EXISTING PLANS



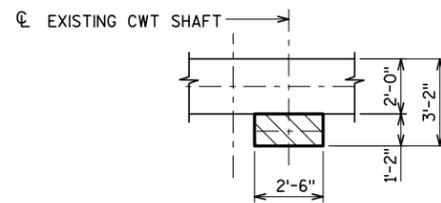
KEY PLAN - PIER 3 COLUMN RECONSTRUCTION

LEGEND

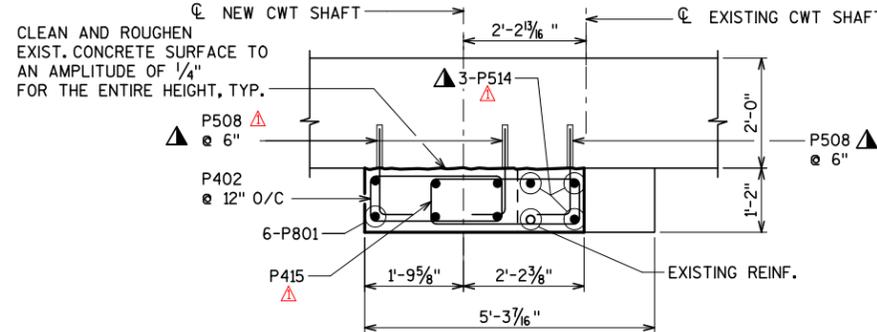
- DENOTES LIMITS OF CONCRETE REMOVAL. SEE SHEET S17 THRU S19.
- CONCRETE MASONRY ANCHOR TYPE S. EMBED #4 BARS 5", AND #5 BARS 6" INTO EXISTING CONCRETE. MINIMUM PULLOUT CAPACITY OF 12 KIPS FOR #4 BARS AND 19 KIPS FOR #5 BARS.
- COST OF REMOVAL IS INCLUDED IN BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS".
- CONSTRUCT LEDGE FOR TEMPORARY SUPPORT OF COUNTERWEIGHT. SEE SHEET S56.

NOTES

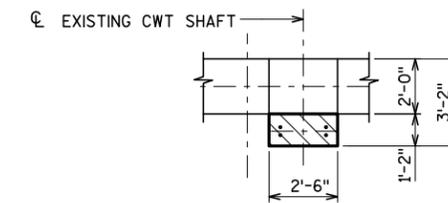
SEE SHEET S16 FOR VIEW A-A AND B-B.



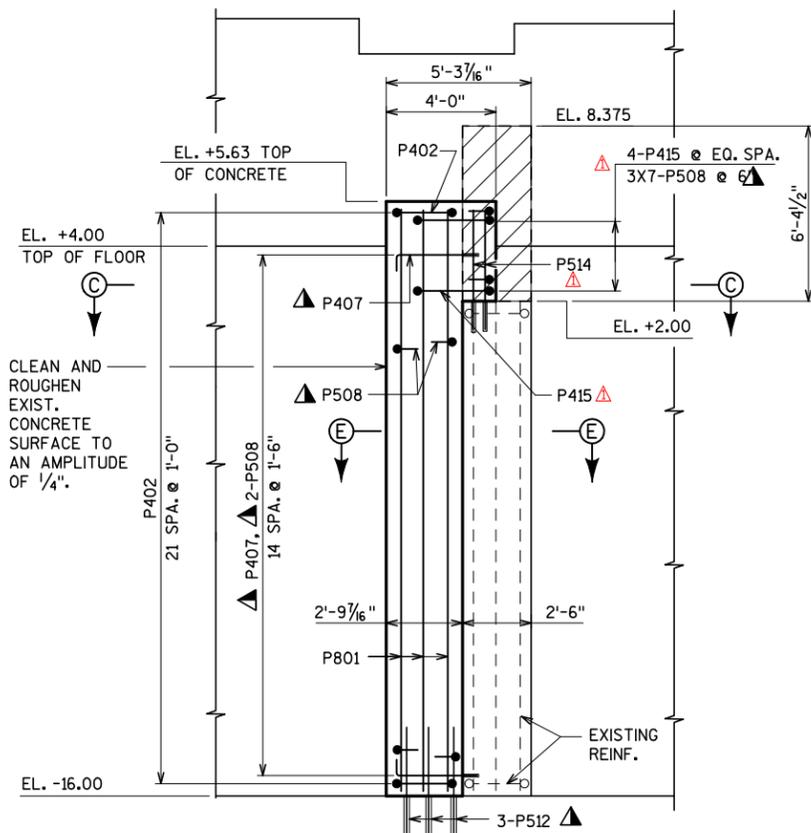
REMOVAL PLAN



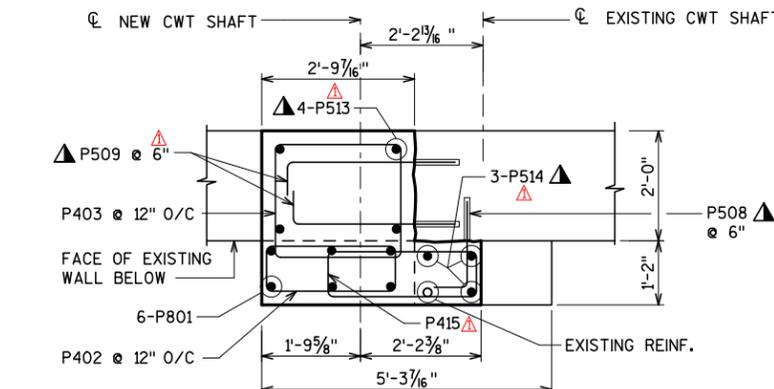
SECTION C-C



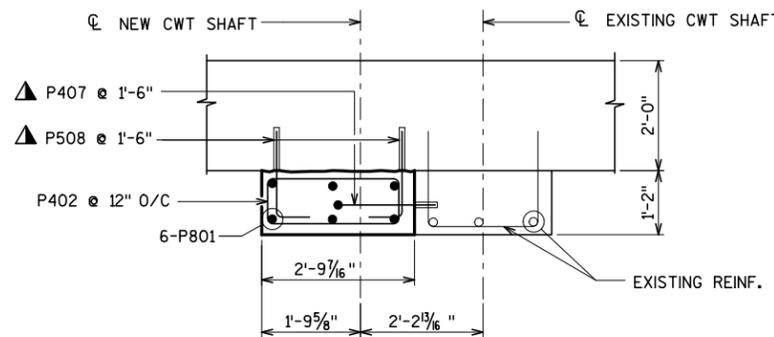
REMOVAL PLAN



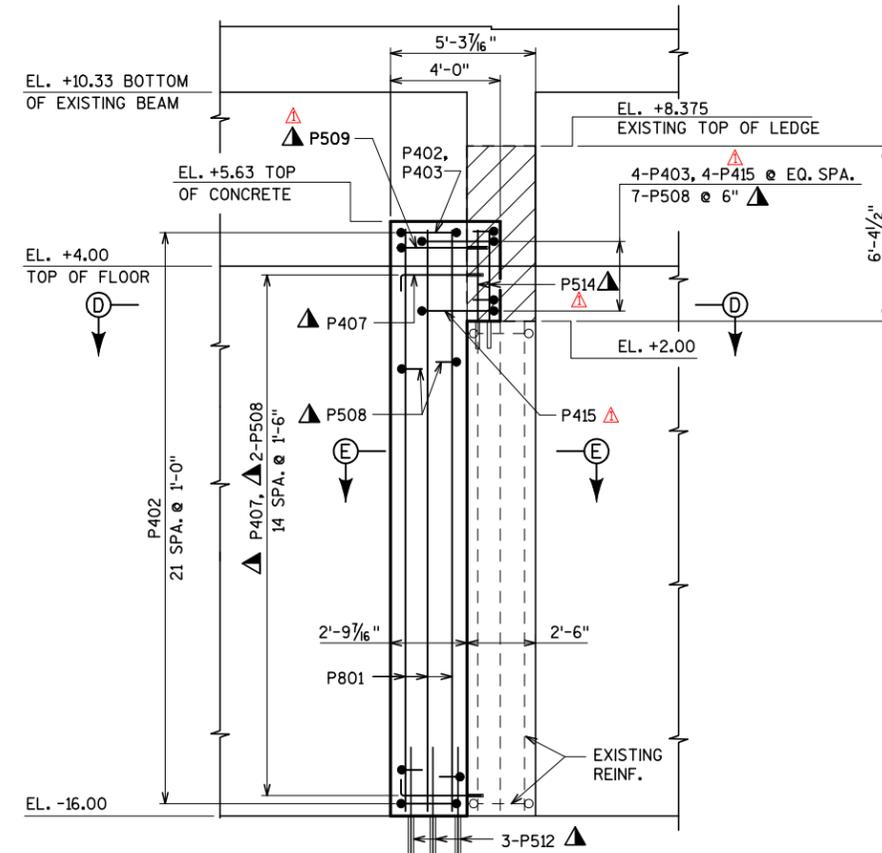
VIEW G-G



SECTION D-D



SECTION E-E



VIEW F-F

REMOVE EXISTING COLUMN TO LIMITS SHOWN. INCORPORATE EXISTING VERTICAL BARS INTO NEW CONSTRUCTION.



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ST PAUL AVE. LIFT BRIDGE OVER THE MILWAUKEE RIVER
PIER 3 COLUMN RECONSTRUCTION

REVISIONS

ADDENDUM 2 4/11/13

DESIGNED BY BDT

DRAWN BY TAL

CHECKED BY JRS

DATE FEB 2013

SCALE NTS

JOB NUMBER BR100-10-0106

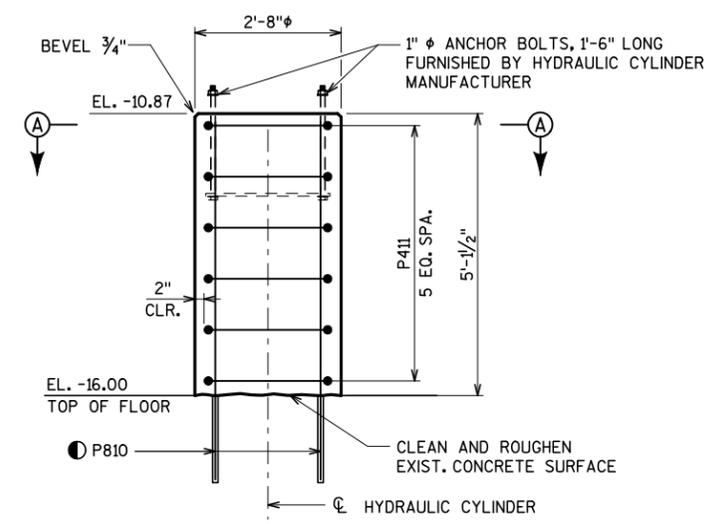
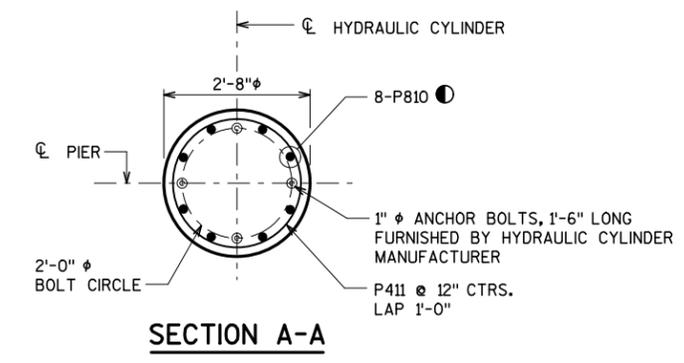
SHEET NUMBER

S20 OF S60

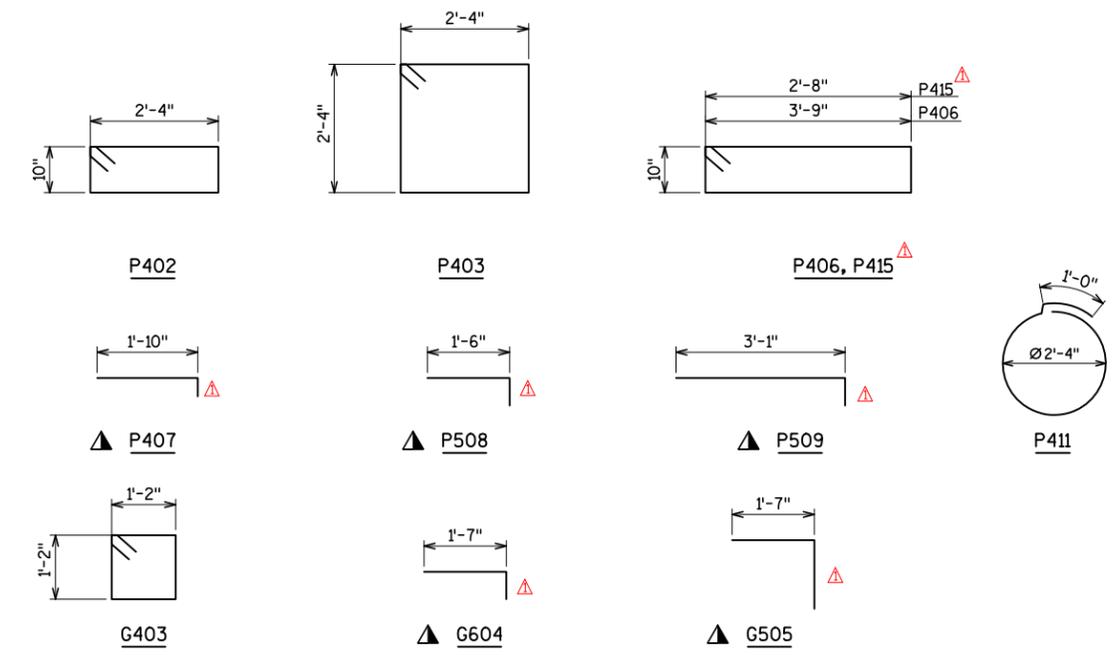
OF

BILL OF BARS

BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION
P801	X	48	21'-3"	-	-	PIER-VERTICAL
P402	X	176	7'-0"	X	-	PIER-TIES
P403	X	12	9'-10"	X	-	PIER-TIES
P504	X	12	2'-3"	-	-	PIER-VERTICAL
P805	X	18	2'-2"	-	-	PIER-VERTICAL
P406	X	18	9'-8"	X	-	PIER-TIES
▲ P407	X	120	2'-1"	X	-	PIER-HORIZONTAL
▲ P508	X	343	1'-11"	X	-	PIER-HORIZONTAL
▲ P509	X	37	3'-6"	X	-	PIER-HORIZONTAL
● P810	X	32	6'-6"	-	-	PIER VERTICAL, HYDR. CYLINDER PEDESTAL
P411	X	24	8'-4"	X	-	HOOPS, HYDR. CYLINDER PEDESTAL
P512	X	24	3'-0"	-	-	PIER VERTICAL
▲ P513	X	4	2'-2"	-	-	PIER VERTICAL PIER 3
▲ P514	X	6	4'-0"	-	-	PIER VERTICAL PIER 3
P415	X	8	7'-8"	-	-	TIES PIER 3
G601	X	40	7'-10"	-	-	GUIDE ROLLER SUPPORT BEAM, HORIZ.
G602	X	80	4'-0"	-	-	GUIDE ROLLER SUPPORT BEAM, HORIZ.
G403	X	64	5'-2"	-	-	GUIDE ROLLER SUPPORT BEAM, STIRRUPS
▲ G604	X	24	2'-0"	-	-	TEMP. SUPPORT FOR COUNTERWEIGHT, HORIZ.
▲ G505	X	16	3'-6"	-	-	TEMP. SUPPORT FOR COUNTERWEIGHT, HORIZ.
G406	X	3	17'-0"	-	-	CURB, PIER 3, HORIZ.
▲ G407	X	21	1'-3"	-	-	CURB, PIER 3, VERTICAL
G408	X	3	3'-2"	-	-	CURB, PIER 3, HORIZ.



HYDRAULIC CYLINDER PEDESTAL DETAIL
 FOR HYDRAULIC CYLINDER PEDESTAL LOCATIONS SEE PIER PLANS



BENDING DIAGRAMS

LEGEND

- ▲ CONCRETE MASONRY ANCHOR TYPE S. EMBED #4 BARS 5", #5 BARS 6", AND #6 BARS 7 INCHES INTO EXISTING CONCRETE. MINIMUM PULLOUT CAPACITY OF 12 KIPS FOR #4 BARS, 19 KIPS FOR #5 BARS, AND 26 KIPS FOR #6 BARS.
- CONCRETE MASONRY ANCHOR TYPE L. EMBED #8 BARS 19" INTO EXISTING CONCRETE. MINIMUM PULLOUT CAPACITY OF 33 KIPS.

REVISIONS

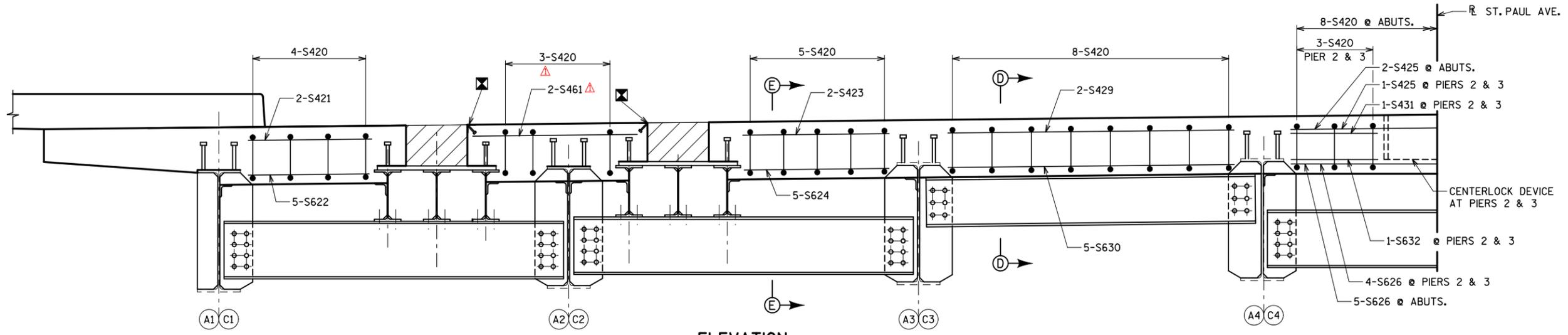
NO.	DESCRIPTION	DATE
▲	ADDENDUM 2	4/11/13

DESIGNED BY	BDT
DRAWN BY	TAL
CHECKED BY	JRS
DATE	FEB 2013
SCALE	NTS
JOB NUMBER	BR100-10-0106
SHEET NUMBER	S21 OF S60
OF	198

ST PAUL AVE. LIFT BRIDGE OVER THE MILWAUKEE RIVER
DIAPHRAGM REINFORCEMENT DETAILS

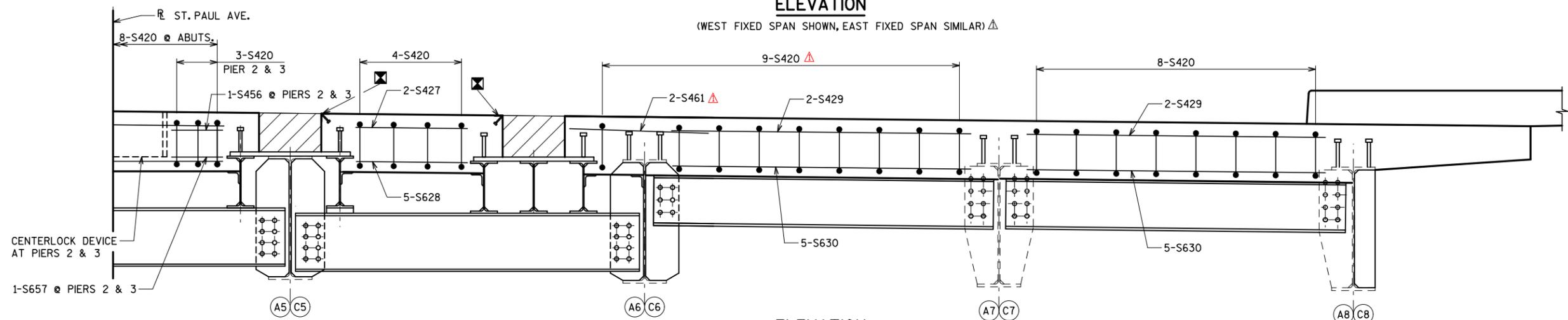
REVISIONS	
ADDENDUM 2	4/11/13

DESIGNED BY	BDT
DRAWN BY	TAL
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DATE	SCALE
FEB 2013	NTS
JOB NUMBER	BR100-10-0106
SHEET NUMBER	S40 OF S60
OF	198



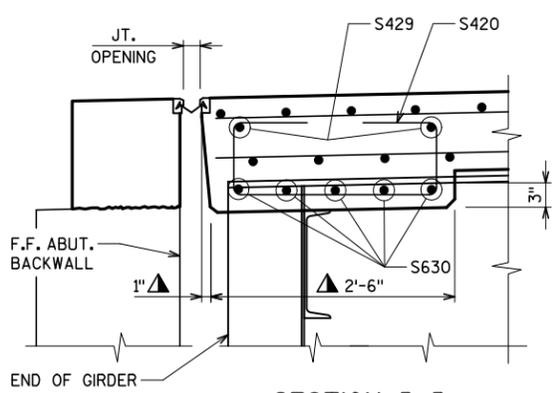
ELEVATION

(WEST FIXED SPAN SHOWN, EAST FIXED SPAN SIMILAR) Δ

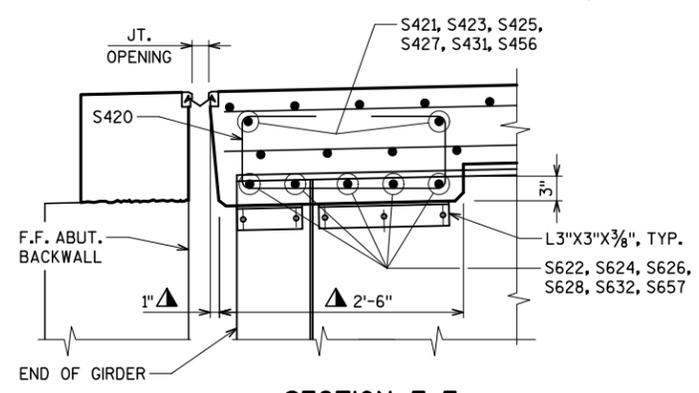


ELEVATION

(WEST FIXED SPAN SHOWN, EAST FIXED SPAN SIMILAR) Δ



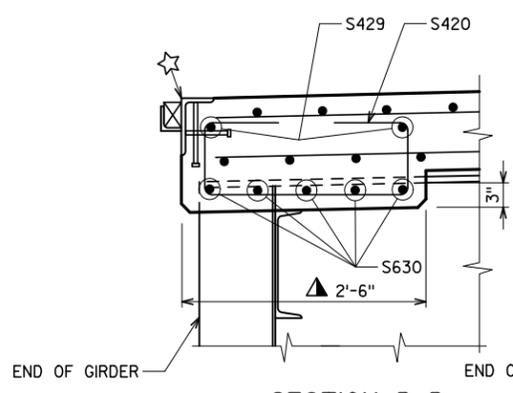
SECTION D-D



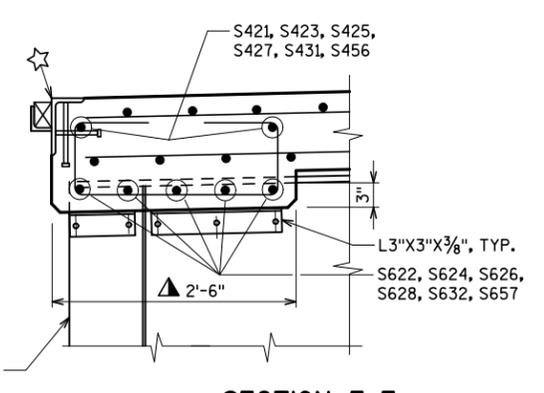
SECTION E-E

Δ DIMENSION IS TAKEN NORMAL TO C ABUTMENT

TYPICAL DIAPHRAGM SECTIONS AT ABUTMENTS



SECTION D-D



SECTION E-E

Δ DIMENSION IS TAKEN NORMAL TO C PIER

TYPICAL DIAPHRAGM SECTIONS AT PIERS

NOTES

- DIAPHRAGM SUPPORT ANGLES SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.
- ALL SUPPORT ANGLES SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A1153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENT OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.
- ALL DIAPHRAGM SUPPORT HARDWARE SHALL BE INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

LEGEND

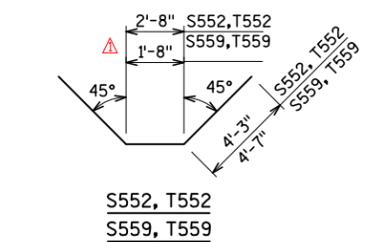
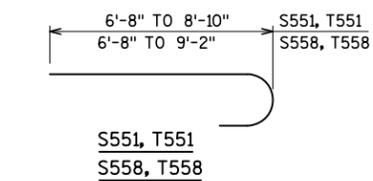
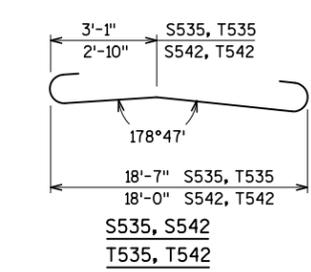
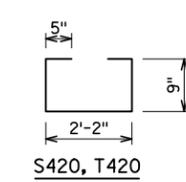
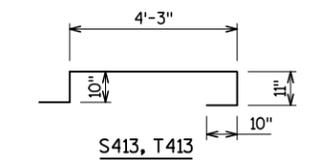
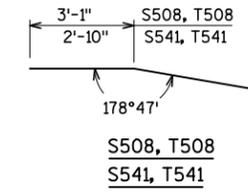
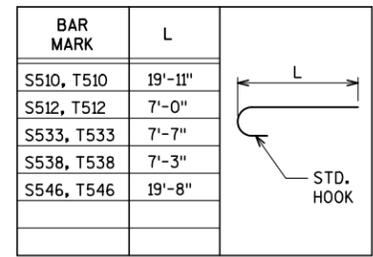
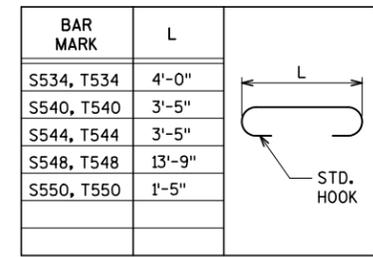
- ☒ L2x2x3/8" W/ 1/2"φX4" STUDS @ 12" CTRS, TYP. PAID UNDER BID ITEM "BRIDGE STRUCTURAL STEEL".
- ☆ LIFT SPAN ROADWAY JOINT, TYP. SEE SHEET LS23, PAID UNDER BID ITEM "LIFT SPAN ROADWAY JOINT".

BILL OF BARS- WEST FIXED SPANS

BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION
S601	X	84	32'-6"			LONGITUDINAL TOP OVER PIER 1
S402	X	76	28'-1"			LONGITUDINAL TOP AT ABUTMENT
S403	X	76	28'-5"			LONGITUDINAL TOP AT PIER 2
S404	X	76	45'-0"			LONGITUDINAL BOTTOM
S405	X	76	42'-3"			LONGITUDINAL BOTTOM
S506	X	113	7'-7"			TRANSVERSE TOP, NORTH
S507	X	226	4'-0"			TRANSVERSE TOP, BETWEEN RAILS
S508	X	113	18'-8"	X		TRANSVERSE TOP
S509	X	113	19'-11"			TRANSVERSE TOP, SOUTH
S510	X	113	20'-6"	X		TRANSVERSE BOTTOM, SOUTH
S511	X	8	5'-0"			LONGITUDINAL AT DRAINS
△ S512	X	344	7'-7"	X		TRANSVERSE VERTICAL, SIDEWALKS
S413	X	344	7'-8"	X		TRANSVERSE VERTICAL, SIDEWALKS
S414	X	116	4'-0"			TRANSVERSE BOTTOM, SIDEWALKS
S415	X	26	45'-0"			LONGITUDINAL TOP AND BOTTOM, SIDEWALKS
S416	X	26	42'-3"			LONGITUDINAL TOP AND BOTTOM, SIDEWALKS
S417	X	36	5'-6"			LONGITUDINAL TOP AND BOTTOM, PLATFORMS
S618	X	24	12'-8"			TRANSVERSE TOP, PLATFORMS
S619	X	14	8'-11"			TRANSVERSE BOTTOM, PLATFORMS
S420	X	88	4'-2"	X		STIRRUPS AT DIAPHRAGMS
S421	X	6	2'-8"			HORIZ TOP, DIAPHRAGMS AND EXP. JOINTS
S622	X	10	2'-8"			HORIZ BOTTOM, DIAPHRAGMS
△ S423	X	6	3'-4"			HORIZ TOP, DIAPHRAGMS AND EXP. JOINTS
△ S624	X	10	3'-4"			HORIZ BOTTOM, DIAPHRAGMS
△ S425	X	5	6'-0"			HORIZ TOP, DIAPHRAGMS AND EXP. JOINTS
△ S626	X	9	6'-0"			HORIZ BOTTOM, DIAPHRAGMS
△ S427	X	6	2'-1"			HORIZ TOP, DIAPHRAGMS AND EXP. JOINTS
△ S628	X	10	2'-1"			HORIZ BOTTOM, DIAPHRAGMS
S429	X	18	6'-0"			HORIZ TOP, DIAPHRAGMS AND EXP. JOINTS
S630	X	30	6'-0"			HORIZ BOTTOM, DIAPHRAGMS
S431	X	1	1'-11"			HORIZ TOP, DIAPHRAGM, PIER 2
S632	X	1	1'-11"			HORIZ BOTTOM, DIAPHRAGM, PIER 2
S533	X	113	8'-2"	X		TRANSVERSE BOTTOM
S534	X	226	5'-2"	X		TRANSVERSE BOTTOM, BETWEEN RAILS
S535	X	113	19'-9"	X		TRANSVERSE BOTTOM
S436	X	14	4'-2"			TRANSVERSE BOTTOM, PLATFORMS
S537	X	16	7'-3"			TRANSVERSE TOP, ENDS
S538	X	16	7'-10"	X		TRANSVERSE BOTTOM, ENDS
S539	X	16	3'-5"			TRANSVERSE TOP, ENDS
S540	X	16	4'-7"	X		TRANSVERSE BOTTOM, ENDS
△ S541	X	15	18'-0"	X		TRANSVERSE TOP, ENDS
S542	X	15	19'-2"	X		TRANSVERSE BOTTOM, ENDS
S543	X	16	3'-5"			TRANSVERSE TOP, ENDS
S544	X	16	4'-7"	X		TRANSVERSE BOTTOM, ENDS
S545	X	16	19'-8"			TRANSVERSE TOP, ENDS
△ S546	X	16	20'-3"	X		TRANSVERSE BOTTOM, ENDS
S547	X	1	13'-9"			TRANSVERSE TOP, AT PIER 2
S548	X	1	14'-11"	X		TRANSVERSE BOTTOM, AT PIER 2
S549	X	1	1'-5"			TRANSVERSE TOP, AT PIER 2
S550	X	1	2'-7"	X		TRANSVERSE BOTTOM, AT PIER 2
S551	X	32	8'-4"	X	X	TRANSV., TOP & BOT., LIGHT STD.
S552	X	16	10'-2"	X		HORIZ., TOP & BOT., LIGHT STD.
S453	X	8	23'-3"			LONGITUDINAL, TOP, RAILS, AT ABUTMENT
S454	X	8	23'-5"			LONGITUDINAL, TOP, RAILS, AT PIER 2
S455	X	8	32'-7"			LONGITUDINAL, BOTTOM, RAILS
S456	X	1	1'-2"			HORIZ TOP, DIAPHRAGM, PIER 2
S657	X	1	1'-2"			HORIZ BOTTOM, DIAPHRAGM, PIER 2
S558	X	32	8'-6"	X	X	TRANSV., TOP & BOT., LIGHT STD.
S559	X	16	12'-0"	X		HORIZ., TOP & BOT., LIGHT STD.
S660	X	32	6'-6"	-	-	TRANSVERSE TOP, PLATFORMS
△ S461	X	8	3'-3"	-	-	HORIZ. @ DIAPHRAGM

BILL OF BARS- EAST FIXED SPANS

BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION
T601	X	84	32'-6"			LONGITUDINAL TOP OVER PIER 4
T402	X	76	28'-1"			LONGITUDINAL TOP AT ABUTMENT
T403	X	76	28'-5"			LONGITUDINAL TOP AT PIER 3
T404	X	76	45'-0"			LONGITUDINAL BOTTOM
T405	X	76	42'-3"			LONGITUDINAL BOTTOM
T506	X	113	7'-7"			TRANSVERSE TOP, NORTH
T507	X	226	4'-0"			TRANSVERSE TOP, BETWEEN RAILS
T508	X	113	18'-8"	X		TRANSVERSE TOP
T509	X	113	19'-11"			TRANSVERSE TOP, SOUTH
△ T510	X	113	20'-6"	X		TRANSVERSE BOTTOM, SOUTH
T511	X	8	5'-0"			LONGITUDINAL AT DRAINS
T512	X	344	7'-7"	X		TRANSVERSE VERTICAL, SIDEWALKS
△ T413	X	344	7'-8"	X		TRANSVERSE VERTICAL, SIDEWALKS
T414	X	116	4'-0"			TRANSVERSE BOTTOM, SIDEWALKS
T415	X	26	45'-0"			LONGITUDINAL TOP AND BOTTOM, SIDEWALKS
T416	X	26	42'-3"			LONGITUDINAL TOP AND BOTTOM, SIDEWALKS
T417	X	36	5'-6"			LONGITUDINAL TOP AND BOTTOM, PLATFORMS
T618	X	24	12'-8"			TRANSVERSE TOP, PLATFORMS
T619	X	14	8'-11"			TRANSVERSE BOTTOM, PLATFORMS
T420	X	88	4'-2"	X		STIRRUPS AT DIAPHRAGMS
T421	X	6	2'-8"			HORIZ TOP, DIAPHRAGMS AND EXP. JOINTS
T622	X	10	2'-8"			HORIZ BOTTOM, DIAPHRAGMS
△ T423	X	6	3'-4"			HORIZ TOP, DIAPHRAGMS AND EXP. JOINTS
△ T624	X	10	3'-4"			HORIZ BOTTOM, DIAPHRAGMS
△ T425	X	5	6'-0"			HORIZ TOP, DIAPHRAGMS AND EXP. JOINTS
△ T626	X	9	6'-0"			HORIZ BOTTOM, DIAPHRAGMS
△ T427	X	6	2'-1"			HORIZ TOP, DIAPHRAGMS AND EXP. JOINTS
△ T628	X	10	2'-1"			HORIZ BOTTOM, DIAPHRAGMS
T429	X	18	6'-0"			HORIZ TOP, DIAPHRAGMS AND EXP. JOINTS
T630	X	30	6'-0"			HORIZ BOTTOM, DIAPHRAGMS
T431	X	1	1'-11"			HORIZ TOP, DIAPHRAGM, PIER 3
T632	X	1	1'-11"			HORIZ BOTTOM, DIAPHRAGM, PIER 3
T533	X	113	8'-2"	X		TRANSVERSE BOTTOM
T534	X	226	5'-2"	X		TRANSVERSE BOTTOM, BETWEEN RAILS
T535	X	113	19'-9"	X		TRANSVERSE BOTTOM
T436	X	14	4'-2"			TRANSVERSE BOTTOM, PLATFORMS
T537	X	16	7'-3"			TRANSVERSE TOP, ENDS
T538	X	16	7'-10"	X		TRANSVERSE BOTTOM, ENDS
T539	X	16	3'-5"			TRANSVERSE TOP, ENDS
T540	X	16	4'-7"	X		TRANSVERSE BOTTOM, ENDS
T541	X	15	18'-0"	X		TRANSVERSE TOP, ENDS
T542	X	15	19'-2"	X		TRANSVERSE BOTTOM, ENDS
T543	X	16	3'-5"			TRANSVERSE TOP, ENDS
T544	X	16	4'-7"	X		TRANSVERSE BOTTOM, ENDS
T545	X	16	19'-8"			TRANSVERSE TOP, ENDS
△ T546	X	16	20'-3"	X		TRANSVERSE BOTTOM, ENDS
T547	X	1	13'-9"			TRANSVERSE TOP, AT PIER 3
T548	X	1	14'-11"	X		TRANSVERSE BOTTOM, AT PIER 3
T549	X	1	1'-5"			TRANSVERSE TOP, AT PIER 3
T550	X	1	2'-7"	X		TRANSVERSE BOTTOM, AT PIER 3
T551	X	32	8'-4"	X	X	TRANSV., TOP & BOT., LIGHT STD.
T552	X	16	10'-2"	X		HORIZ., TOP & BOT., LIGHT STD.
T453	X	8	23'-3"			LONGITUDINAL, TOP, RAILS, AT ABUTMENT
T454	X	8	23'-5"			LONGITUDINAL, TOP, RAILS, AT PIER 3
T455	X	8	32'-7"			LONGITUDINAL, BOTTOM, RAILS
T456	X	1	1'-2"			HORIZ TOP, DIAPHRAGM, PIER 3
T657	X	1	1'-2"			HORIZ BOTTOM, DIAPHRAGM, PIER 3
△ T558	X	32	8'-6"	X	X	TRANSV., TOP & BOT., LIGHT STD.
T559	X	16	12'-0"	X		HORIZ., TOP & BOT., LIGHT STD.
T660	X	32	6'-6"	-	-	TRANSVERSE TOP, PLATFORMS
△ T461	X	8	3'-3"	-	-	HORIZ. @ DIAPHRAGM



BENDING DIAGRAMS

BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
S551	8 SERIES OF 4	7'-3" TO 9'-5"
S558	8 SERIES OF 4	7'-3" TO 9'-9"
T551	8 SERIES OF 4	7'-3" TO 9'-5"
T558	8 SERIES OF 4	7'-3" TO 9'-9"

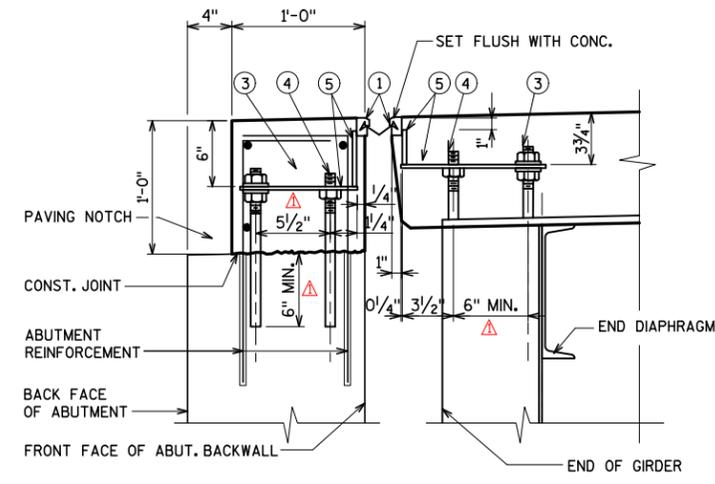
BUNDLE AND TAG EACH SERIES SEPARATELY

ST PAUL AVE. LIFT BRIDGE OVER THE MILWAUKEE RIVER FIXED SPAN SUPERSTRUCTURE BILL OF BARS

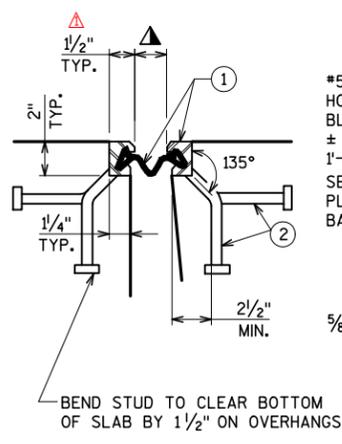
REVISIONS

△	ADDENDUM 2	4/11/13
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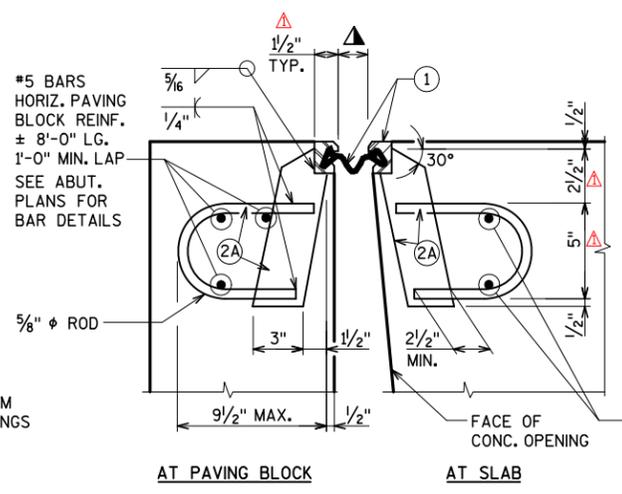
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DRAWN BY	TB
CHECKED BY	JRS
DATE	SCALE
FEB 2013	NTS
JOB NUMBER	BR100-10-0106
SHEET NUMBER	S41 OF S60
OF	198



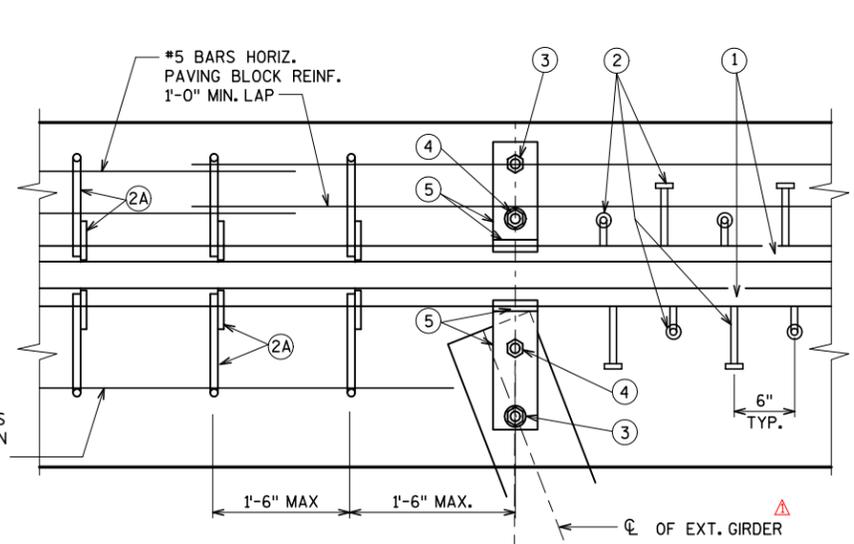
SECTION THRU JOINT
NORMAL TO ϕ SUBSTRUCTURE Δ



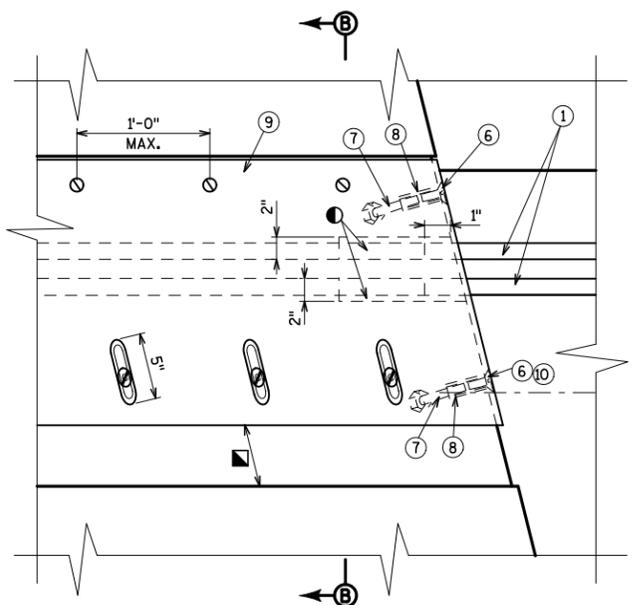
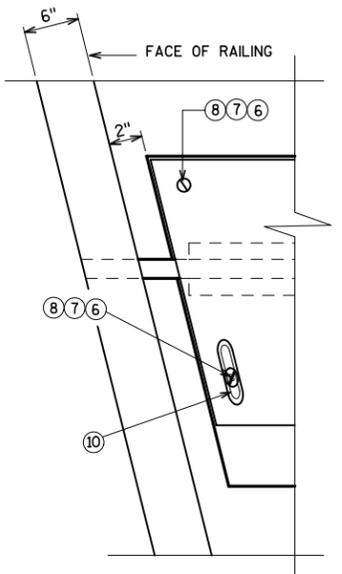
SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF SLAB & SIDEWALKS



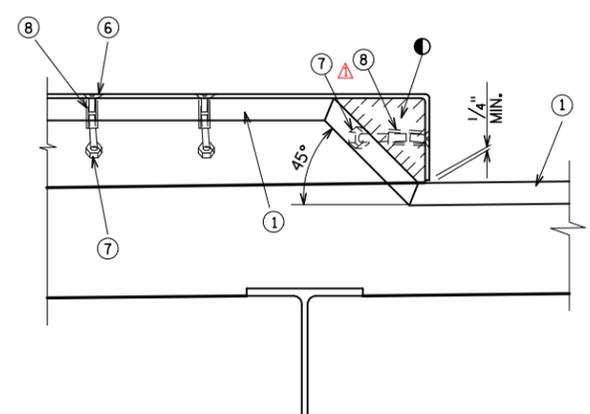
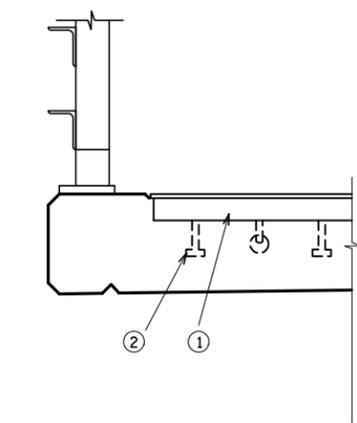
SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS
☆ S421, S423, S425, S427, S429 - WEST ABUT.
T421, T423, T425, T427, T429 - EAST ABUT.



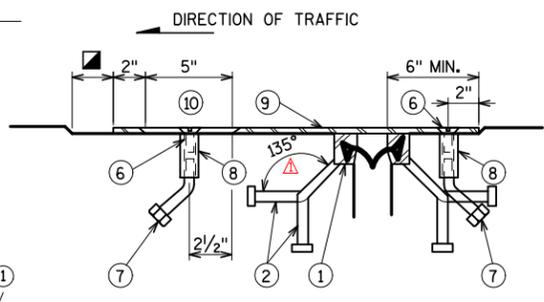
PART PLAN



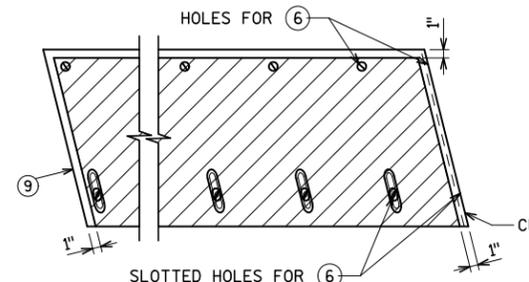
PLAN AT SIDEWALK



SECTION AT SIDEWALK
TRAFFIC RAILING NOT SHOWN FOR CLARITY



SECTION B-B



PLAN OF SIDEWALK COVER PLATES WITH SLIP-RESISTANT SURFACE

PLACE SLIP RESISTANT SURFACE ON TOP WALKING SURFACE IN HATCH AREA ONLY (NOT ON CURB FACE).

LEGEND

1. NEOPRENE STRIP SEAL 4-INCH, AND STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.
 2. STUDS $\frac{5}{8}$ " ϕ x $6\frac{3}{8}$ " LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.
 - 2A. $\frac{1}{2}$ " THICK ANCHOR PLATE WITH $\frac{5}{8}$ " ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO.1 AT 1'-6" CTRS. BETWEEN GIRDERS.
 3. $\frac{3}{4}$ " ϕ THREADED ROD WITH 2 NUTS AND WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
 4. $\frac{3}{4}$ " ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
 5. FABRICATE SUPPORT FROM 3" x $\frac{1}{2}$ " BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" ϕ HOLE FOR NO. 3 & 1" ϕ HOLE FOR NO. 4.
 6. $\frac{3}{4}$ " ϕ x 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
 7. $\frac{3}{4}$ " ϕ x 4" GALV. HEX HEAD BOLT. BEND 45°.
 8. $\frac{3}{4}$ " ϕ x 2 1/4" GALV. THREADED COUPLING.
 9. GALVANIZED SIDEWALK PLATE 3/8" x 2'-0" WIDE x LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR NO. 6. Δ
 10. 1" x 5" SLOTTED CSK. HOLE FOR NO. 6. Δ SLOT PARALLEL TO DIRECTION OF MOVEMENT.
- Δ SET JOINT OPENING AT 1 3/4" MEASURED NORMAL TO JOINT.
 ● BLOCK OUT CONCRETE 2" EACH SIDE FOR JOINT OPENING.
 ■ JOINT OPENING DIM. ALONG SKEW PLUS 1/2" = 2 1/4"

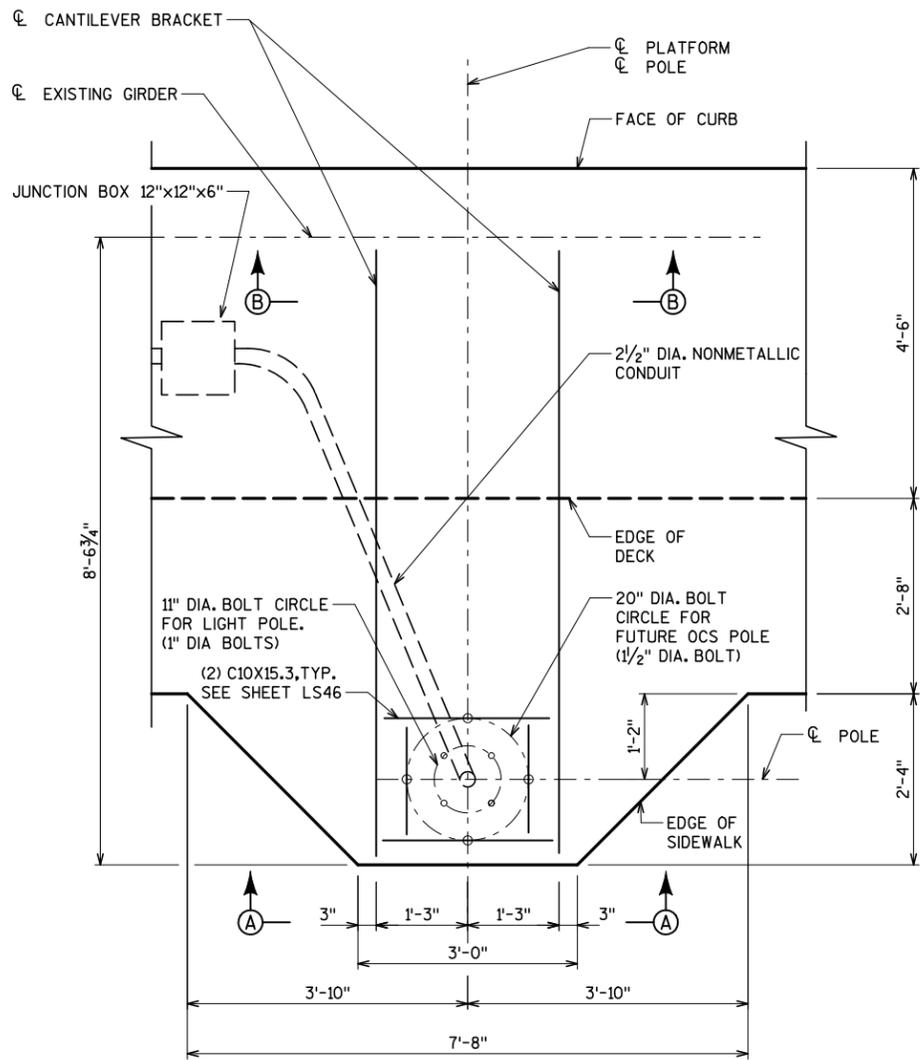
GENERAL NOTES

- ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.
- AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.
- FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.
- SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS, INCLUDING THREADED RODS, SHALL BE HOT DIPPED GALVANIZED.
- Δ ANCHOR SYSTEM NO. 7 & NO. 8 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.
- STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE P-40-523".
- SLIP RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT-DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

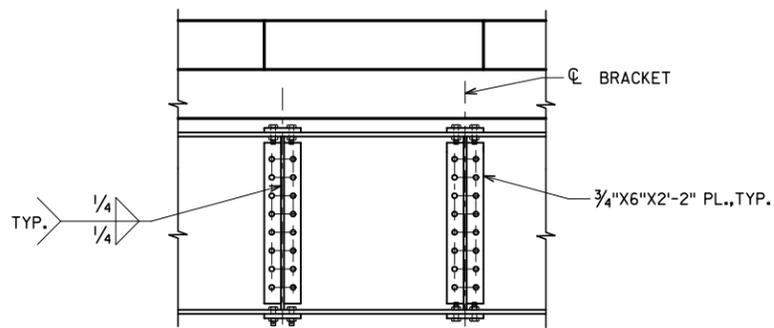
Δ APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT, GRADE2, STEEL	W.S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

REVISIONS	
Δ ADDENDUM 2	4/11/13

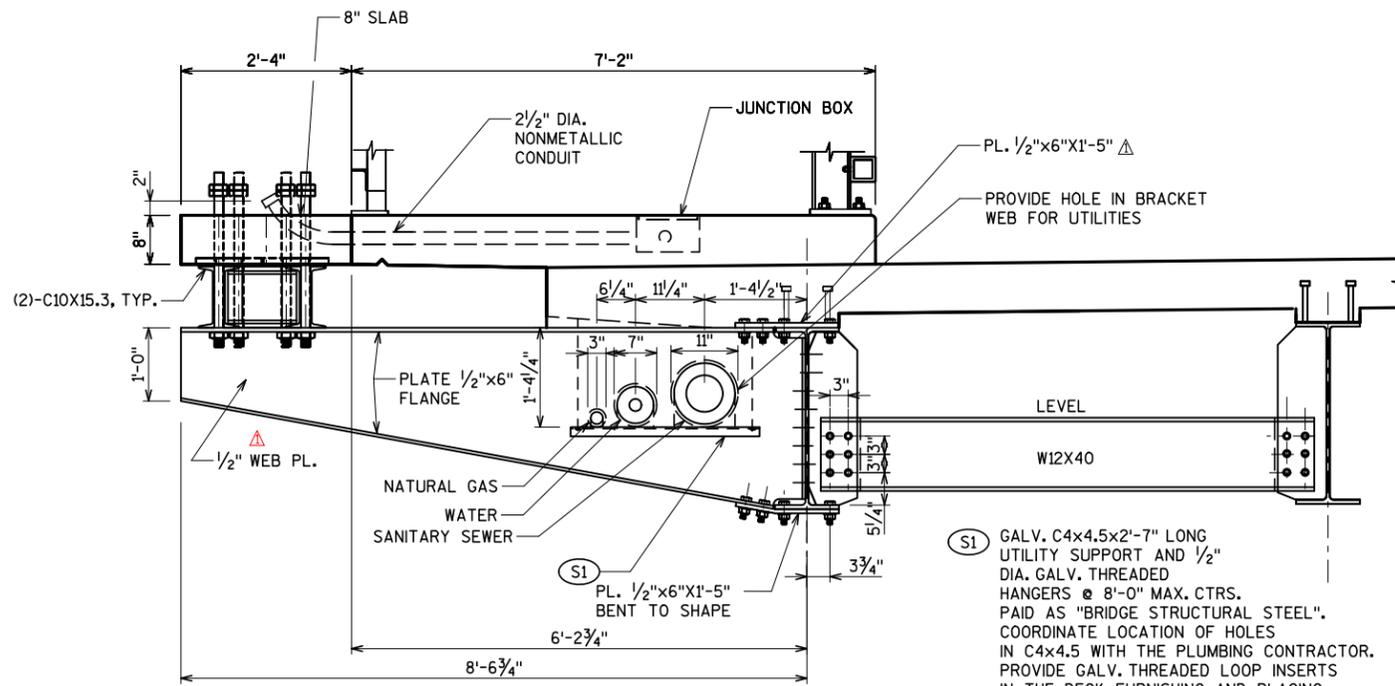
DESIGNED BY BDT	SCALE NTS
DRAWN BY TAL	JOB NUMBER BR100-10-0106
CHECKED BY JRS	SHEET NUMBER S43 OF S60
DATE FEB 2013	OF 198



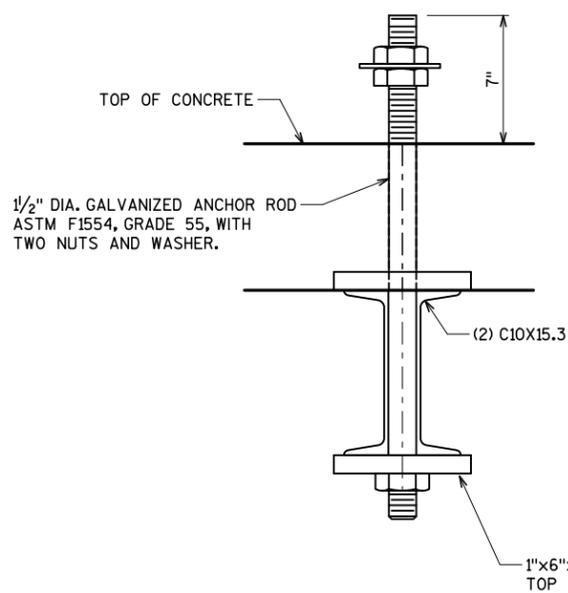
CANTILEVER BRACKET- PLAN



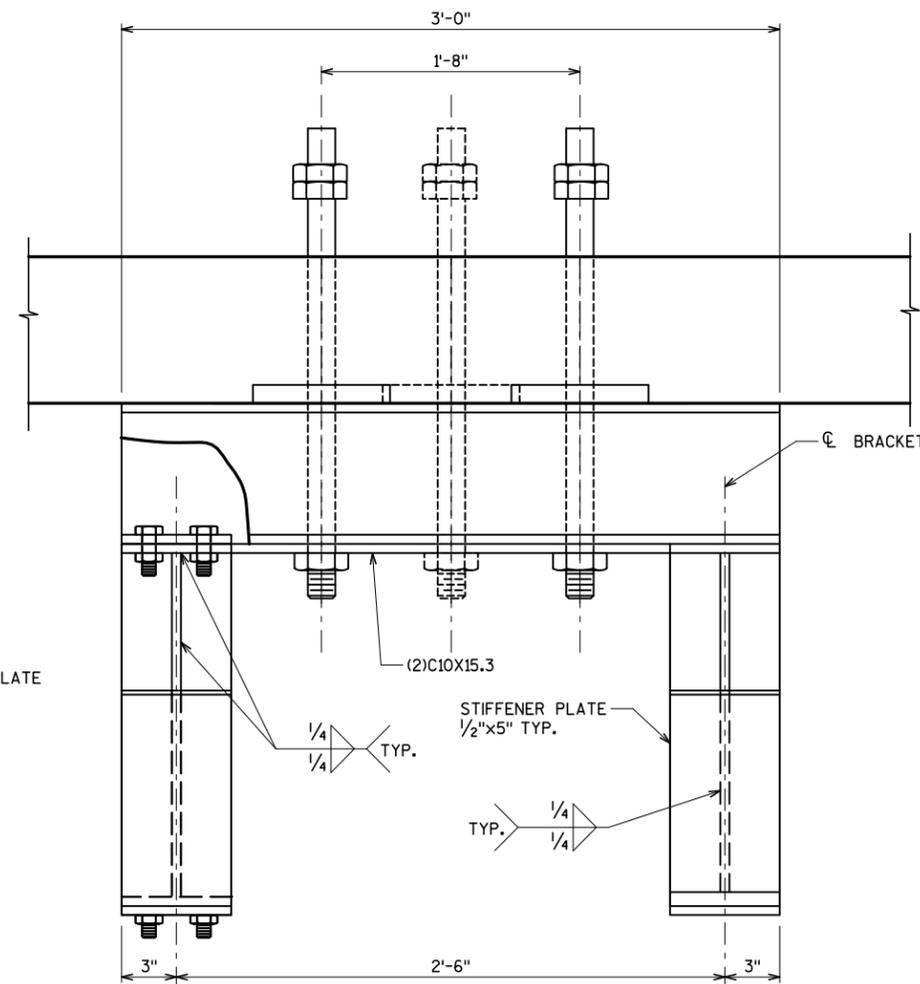
SECTION B-B



CANTILEVER BRACKET- ELEVATION



ANCHOR BOLT DETAIL



VIEW A-A

(LIGHT POLE ANCHORS NOT SHOWN FOR CLARITY)

REVISIONS

ADDENDUM 2	4/11/13
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DESIGNED BY BDT

DRAWN BY TAL

CHECKED BY JRS

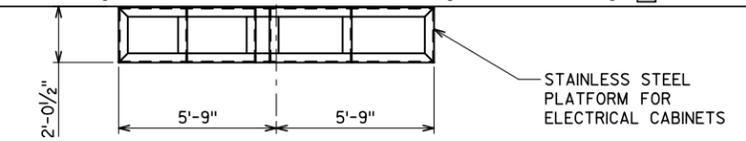
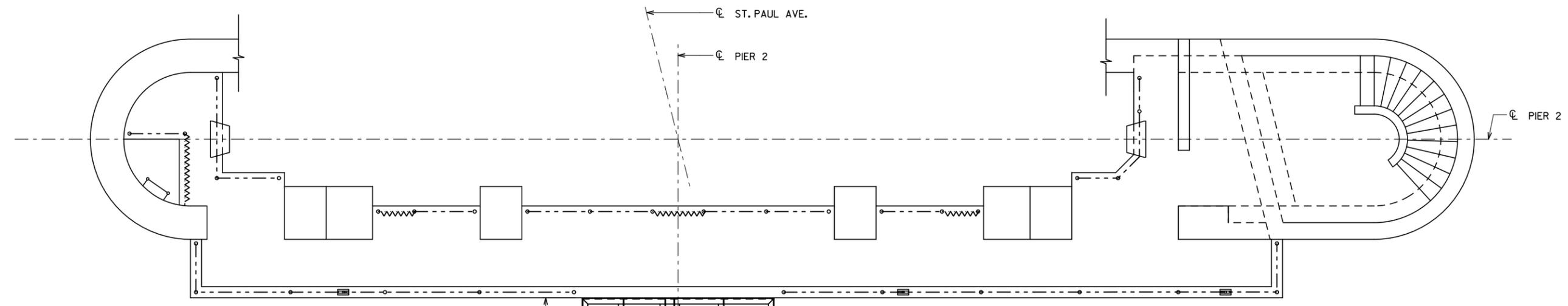
DATE FEB 2013 SCALE NTS

JOB NUMBER BR100-10-0106

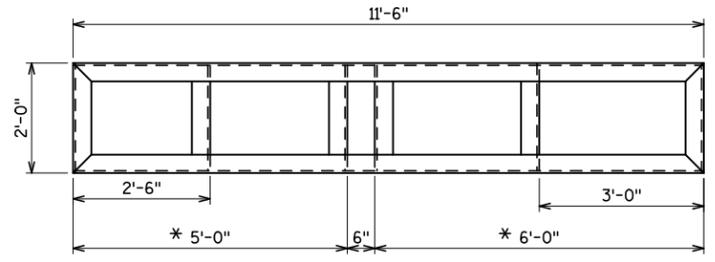
SHEET NUMBER S45 OF S60

OF 198

ST PAUL AVE. LIFT BRIDGE OVER THE MILWAUKEE RIVER
PIER 2 ELECTRICAL PLATFORM

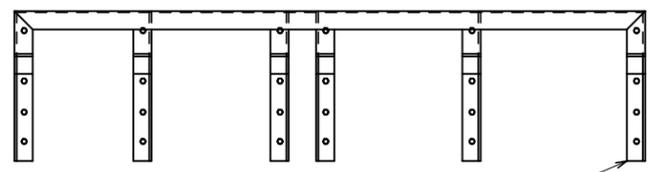


PLAN

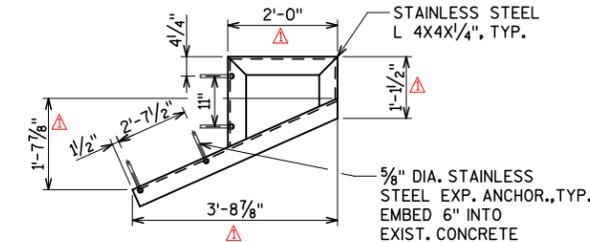


PLAN OF PLATFORM

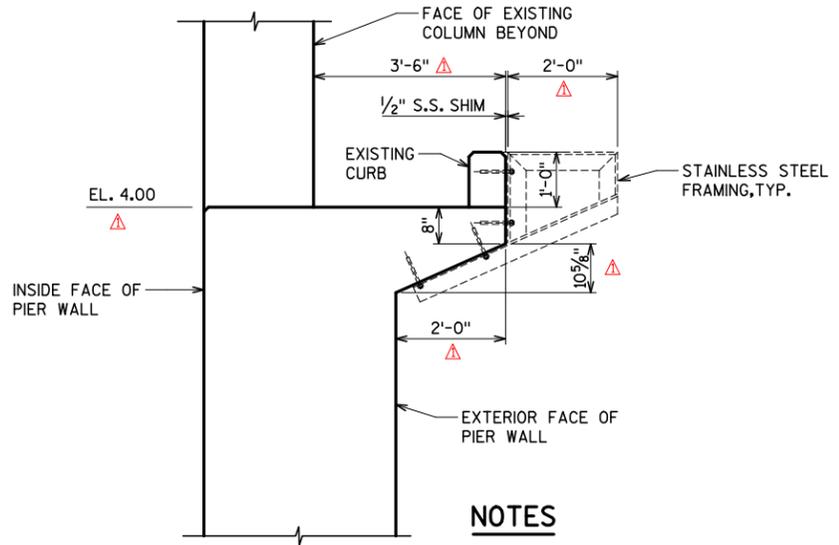
* VERIFY THIS DIMENSION WITH ELECTRICAL CONTRACTOR BEFORE FABRICATION



ELEVATION OF PLATFORM



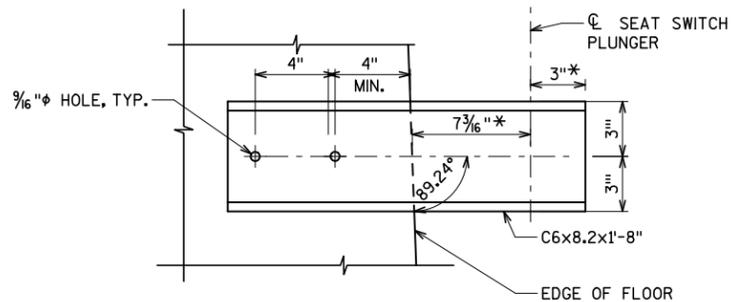
TYPICAL STAINLESS STEEL BRACKET



SECTION A-A

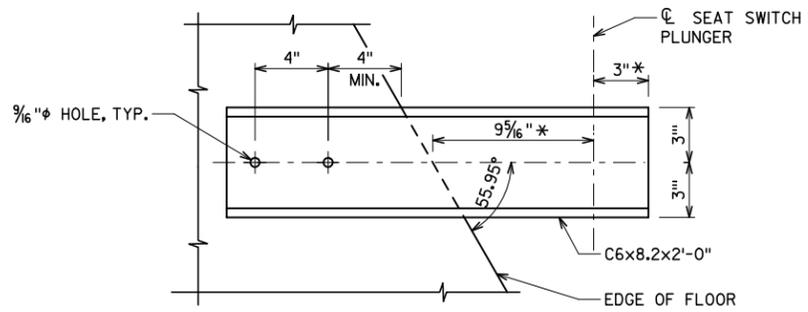
NOTES

- ELECTRICAL CONTRACTOR TO FIELD DRILL HOLES IN THE STAINLESS STEEL ANGLES FOR MOUNTING THE ELECTRICAL CABINETS.
- SEE SHEET E5 FOR LOCATION OF ELECTRICAL CABINETS.
- SEE SHEET E7 FOR STRIKER CHANNEL DETAILS



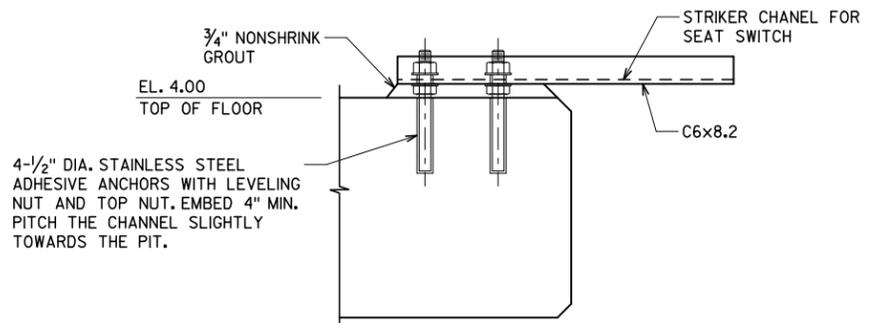
STRIKER CHANNEL DETAILS
(FOR NE & SW SEAT SWITCHES)

* COORDINATE DIMENSION WITH SEAT SWITCH MANUFACTURER.



STRIKER CHANNEL DETAILS
(FOR NW & SE SEAT SWITCHES)

* COORDINATE DIMENSION WITH SEAT SWITCH MANUFACTURER.



STRIKER CHANNEL DETAILS

REVISIONS

ADDENDUM 2	4/11/13
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DESIGNED BY BDT

DRAWN BY TAL

CHECKED BY JRS

DATE FEB 2013 SCALE NTS

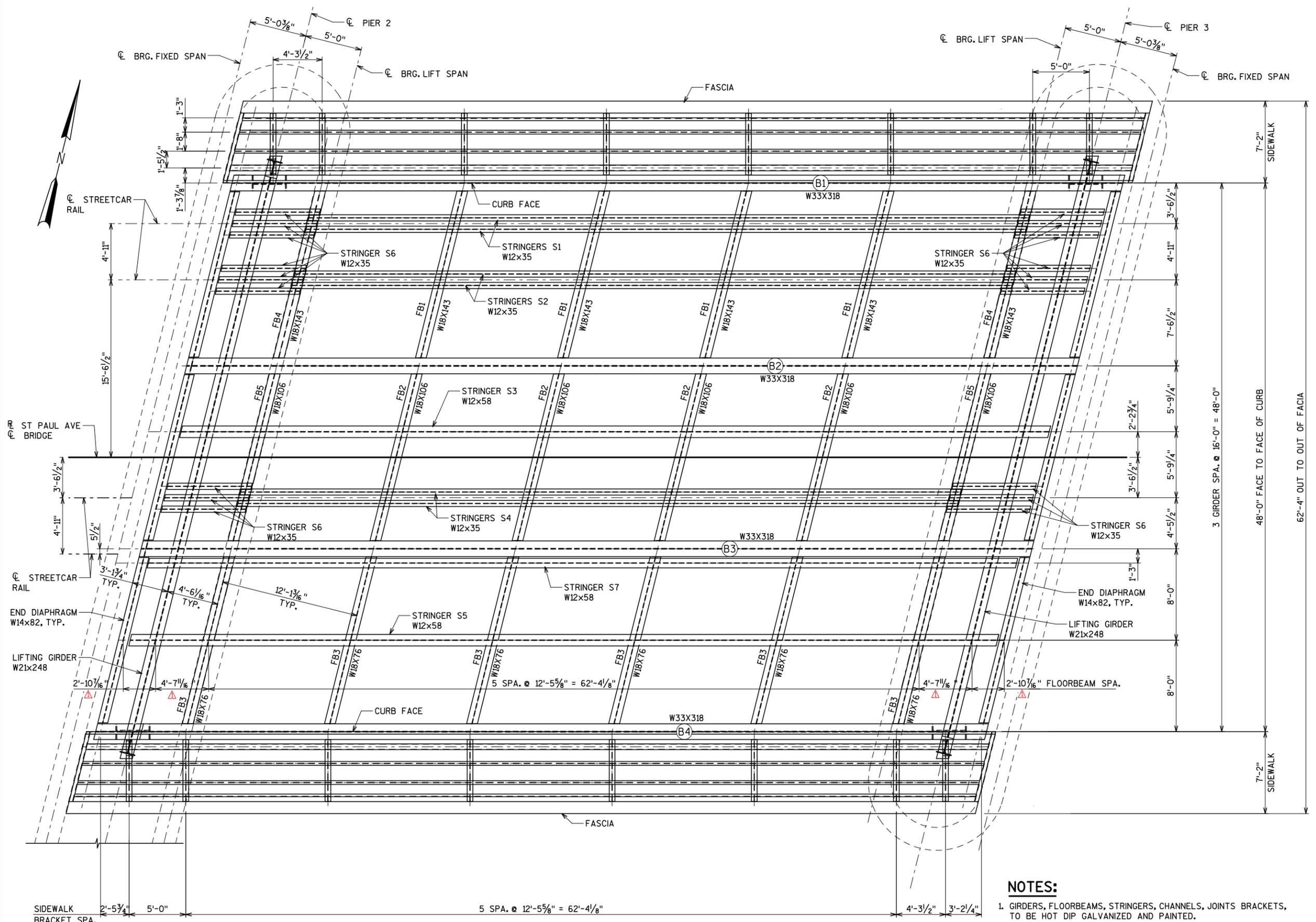
JOB NUMBER BR100-10-0106

SHEET NUMBER

S51 OF S60

OF 198

ST PAUL AVE. LIFT BRIDGE OVER THE MILWAUKEE RIVER LIFT SPAN FRAMING PLAN



PLAN

NOTES:

1. GIRDERS, FLOORBEAMS, STRINGERS, CHANNELS, JOINTS BRACKETS, TO BE HOT DIP GALVANIZED AND PAINTED.
2. SEE SHEET LS17 FOR FRAMING DETAILS AT SIDEWALK.
3. ALL MEMBERS SHALL BE ASTM A709 GRADE 50 UNLESS NOTED OTHERWISE.

REVISIONS

▲ ADDENDUM 2 4/11/13

DESIGNED BY
JRS

DRAWN BY
TAL

CHECKED BY
BDT

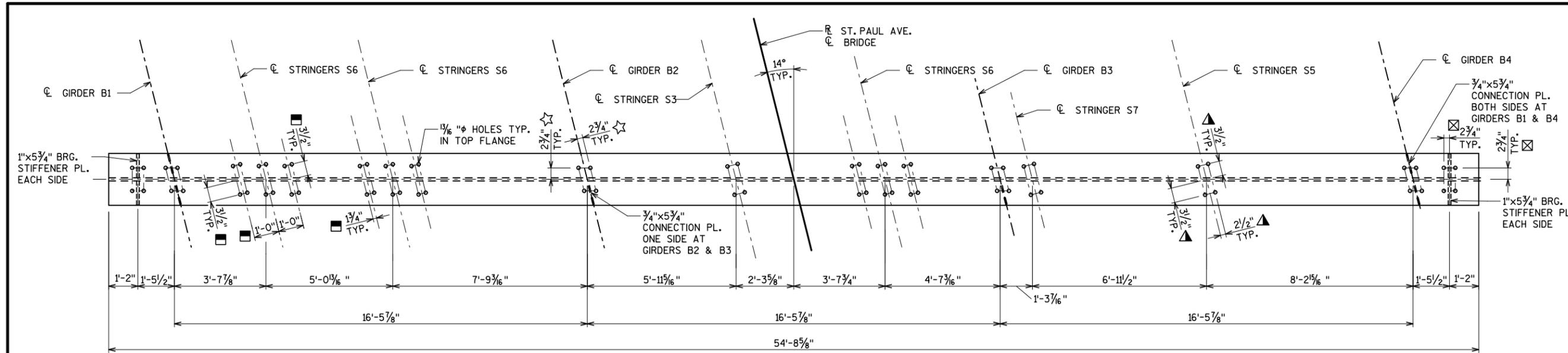
DATE
FEB 2013

SCALE
NTS

JOB NUMBER
BR100-10-0106

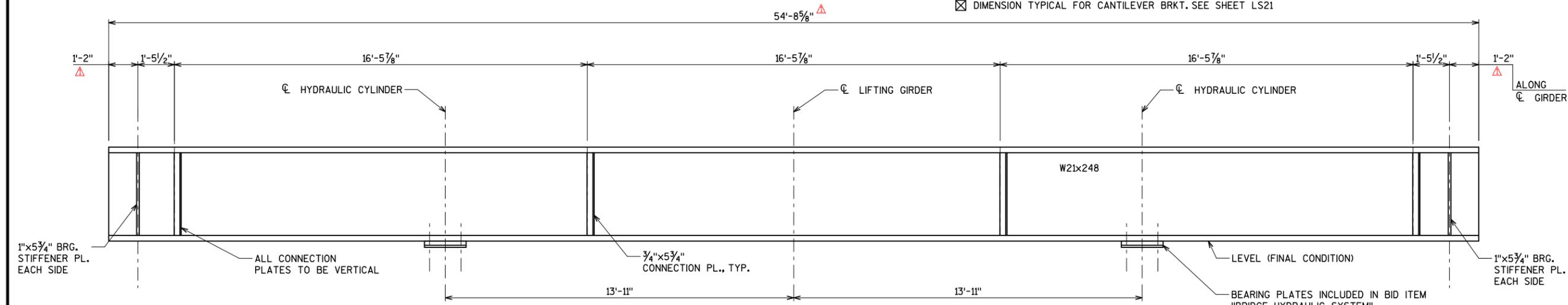
SHEET NUMBER
LS1 OF LS33

OF
198

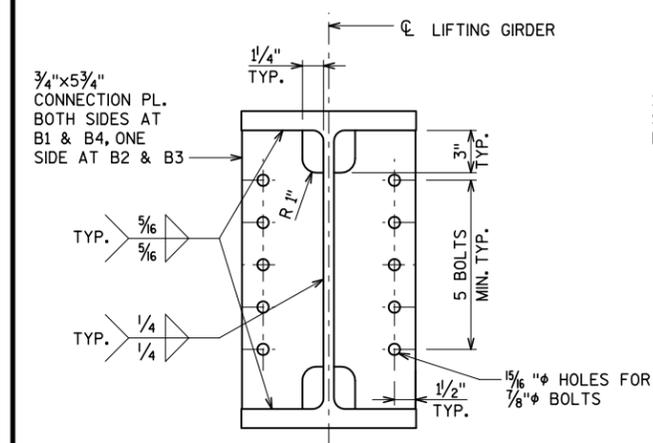


PLAN LIFTING GIRDER

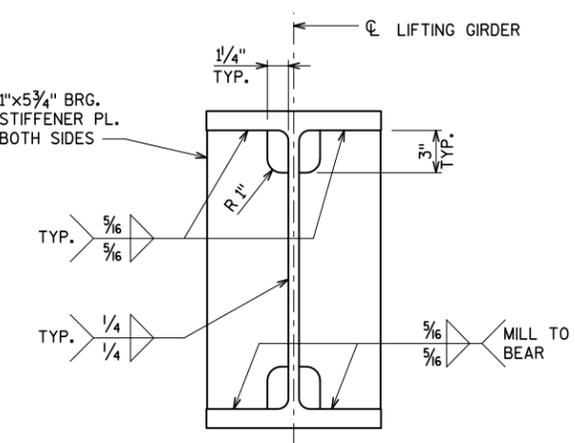
- DIMENSIONS TYPICAL FOR STINGERS S1, S2, & S4.
- ▲ DIMENSIONS TYPICAL FOR STINGER S3, S5, & S7.
- ☆ DIMENSIONS AT GIRDERS B1, B2, B3, & B4.
- ☒ DIMENSION TYPICAL FOR CANTILEVER BRKT. SEE SHEET LS21



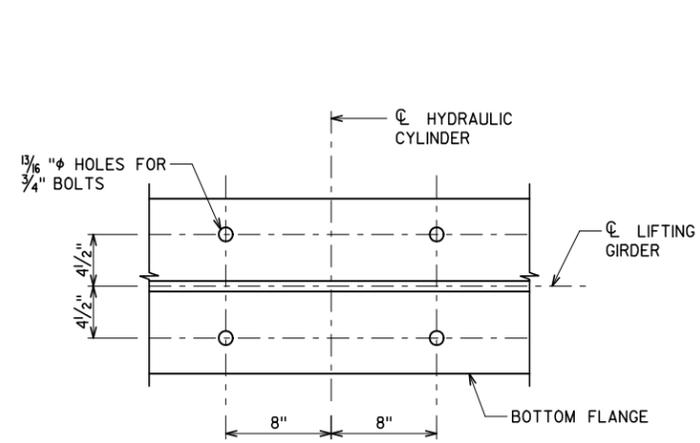
ELEVATION LIFTING GIRDER



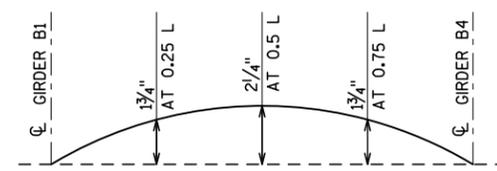
CONNECTION PLATE DETAIL



STIFFENER PLATE DETAIL



BOLT HOLE LAYOUT AT HYDRAULIC CYLINDER



LIFTING GIRDER CAMBER

NOTES

LIFTING GIRDER AND PLATES SHALL BE ASTM A709 GRADE 50 STEEL, GALVANIZED, AND PAINTED WITH A TWO COAT PAINT SYSTEM PER WISDOT STANDARD SPECIFICATION.

REVISIONS	
▲	ADDENDUM 2 4/11/13

DESIGNED BY
JRS

DRAWN BY
TAL

CHECKED BY
BDT

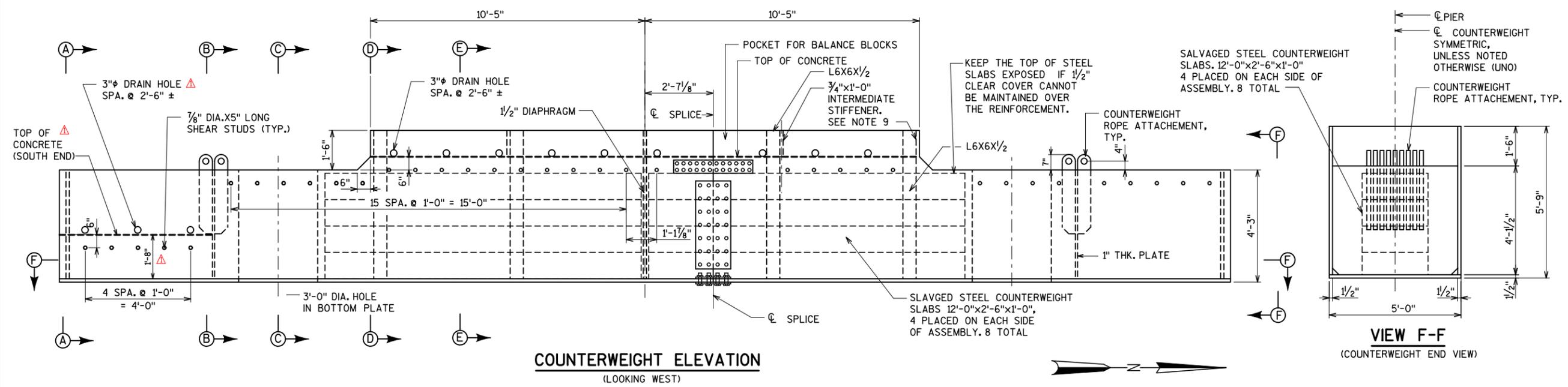
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FEB 2013

SCALE
NTS

JOB NUMBER
BR100-10-0106

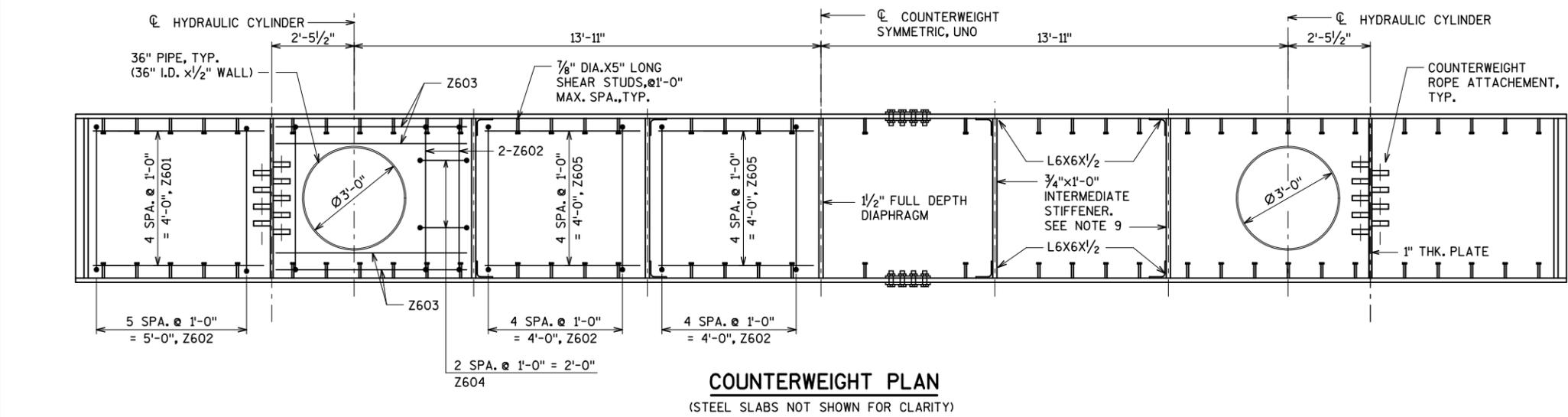
SHEET NUMBER
LS12 OF LS33

OF
198

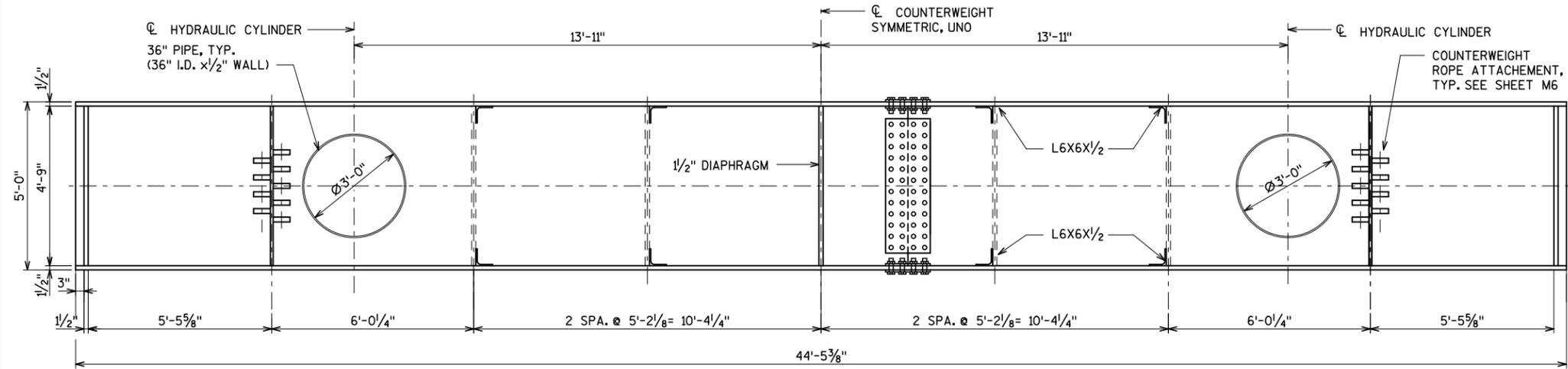


COUNTERWEIGHT ELEVATION
(LOOKING WEST)

VIEW F-F
(COUNTERWEIGHT END VIEW)



COUNTERWEIGHT PLAN
(STEEL SLABS NOT SHOWN FOR CLARITY)



SECTION F-F
(STEEL SLABS NOT SHOWN FOR CLARITY)

NOTES

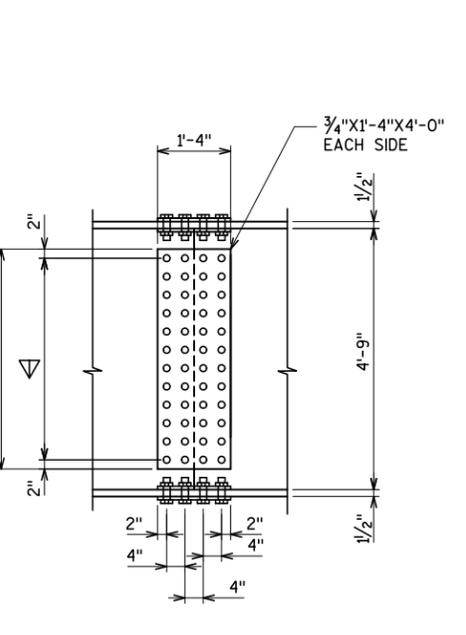
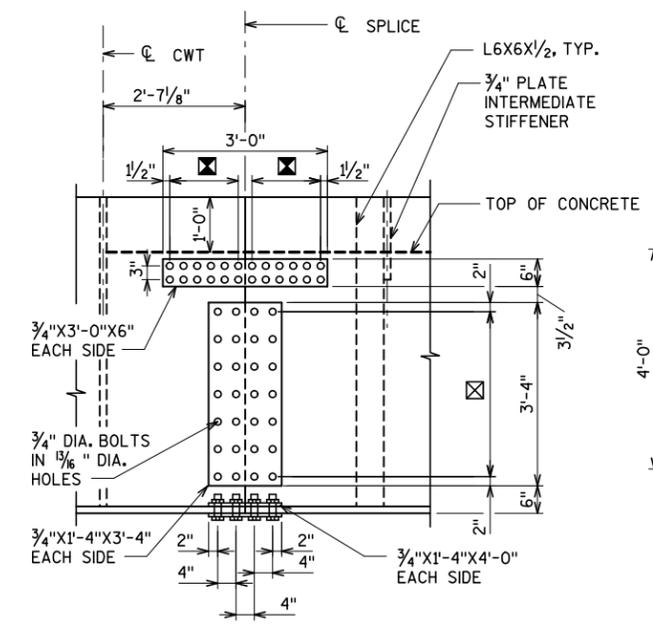
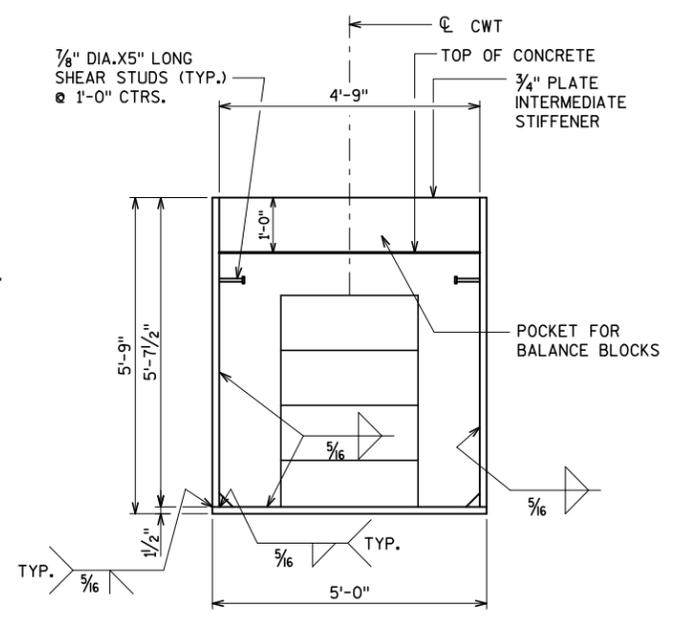
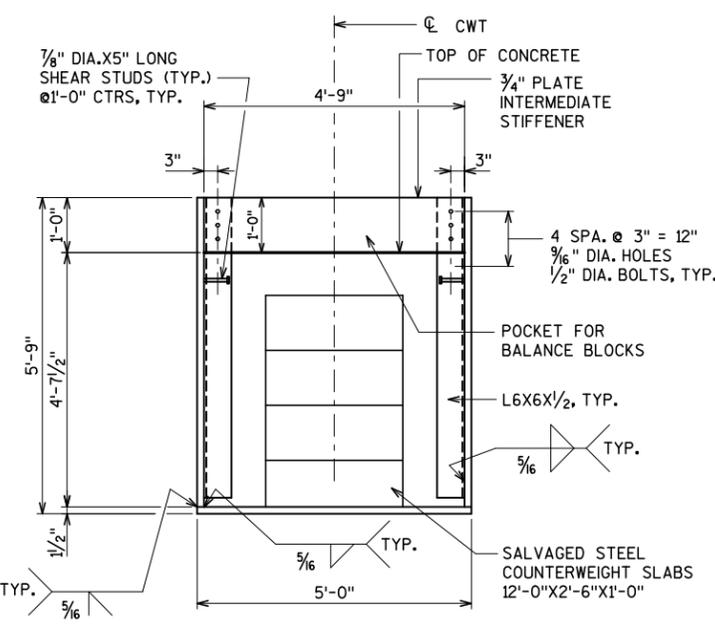
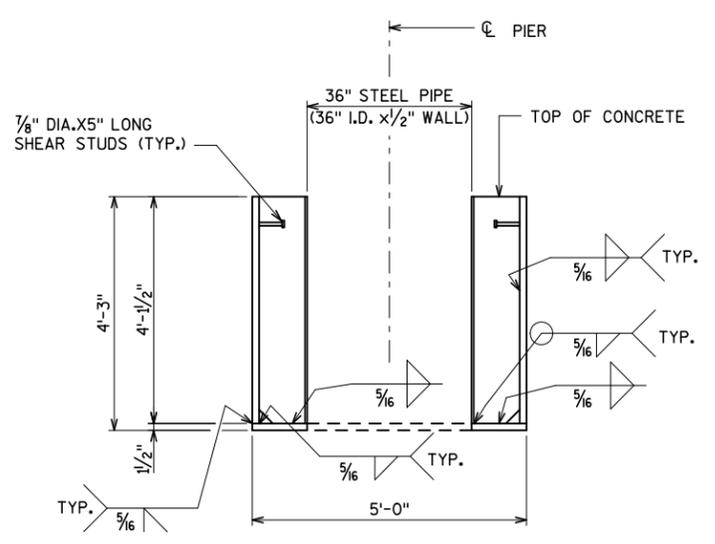
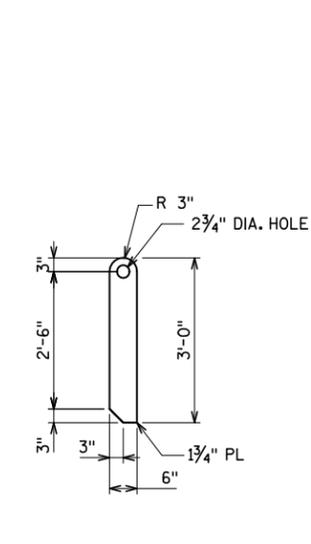
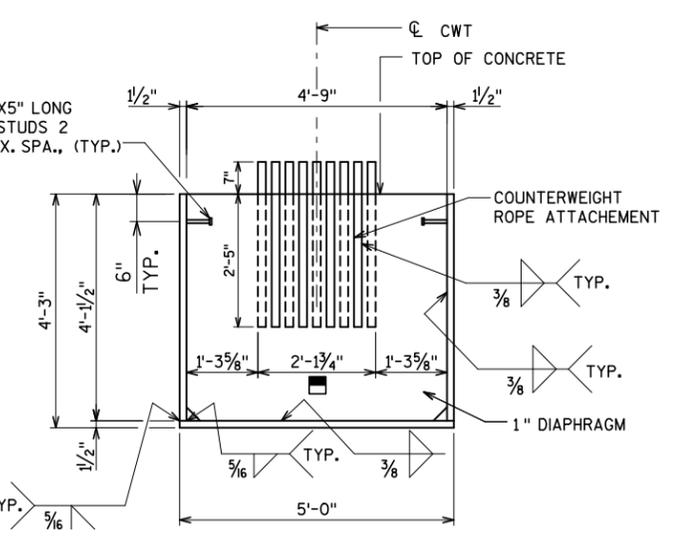
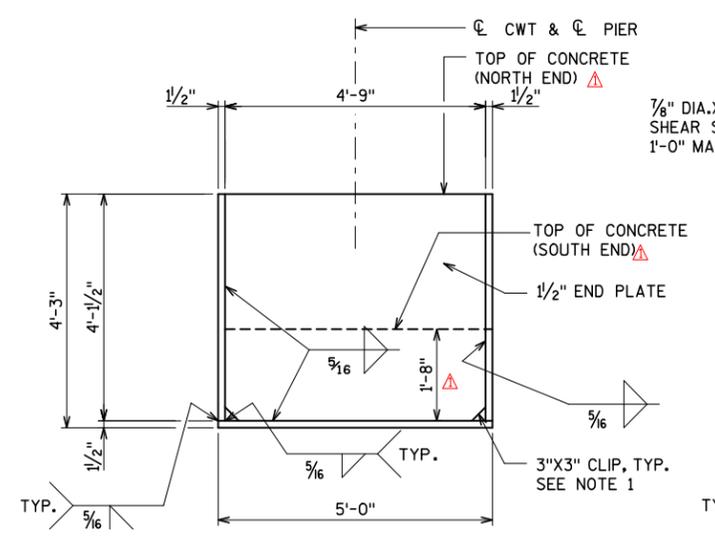
- ALL STEEL OF THE COUNTERWEIGHT(CWT) ASSEMBLY SHALL BE AASHTO M270 GRADE 50, EXCEPT THE PIPES, WHICH SHALL BE ASTM A139 GRADE B.
- CONCRETE UNIT WEIGHT SHALL BE 150 PCF. A LOW SLUMP CONCRETE SHALL BE USED WITH ANY EXCESS WATER DRAWN OFF AS THE CONCRETE IS PLACED.
- BOLTS IN SPLICE SHALL BE ORIENTED SUCH THAT BOLT HEAD IS OUTSIDE BOX AND NUT IS EMBEDDED IN CONCRETE.
- ALL STEEL, INCLUDING STUDS, BOLTS, NUTS, WASHERS, AND COUNTERWEIGHT ROPE ATTACHMENTS SHALL BE HOT-DIP GALVANIZED.
- THE COUNTERWEIGHT STEEL BOX ASSEMBLY SHALL BE SHOP PAINTED AFTER GALVANIZING WITH THE APPROVED TWO COAT PAINT SYSTEM. ALL EXPOSED SURFACES SHALL BE PAINTED, AND PAINT SHALL EXTEND 9" INTO CONCRETE.
- COORDINATE ANY DRAIN HOLES REQUIRED FOR GALVANIZING WITH THE ENGINEER.
- COORDINATE ANY STIFFENERS OR TEMPORARY BRACING REQUIRED FOR GALVANIZING WITH THE ENGINEER.
- INSTALL 8 SALVAGED STEEL SLABS IN COUNTERWEIGHT ASSEMBLY PRIOR TO PLACEMENT OF CONCRETE. SALVAGED STEEL SLABS SHALL BE SANDBLASTED AND PAINTED WITH THE APPROVED THREE COAT PAINT SYSTEM BEFORE PLACING IN THE COUNTERWEIGHT BOX.
- INTERMEDIATE STIFFENERS SHALL BE INSTALLED AFTER PLACEMENT OF THE STEEL BILLETS AND PRIOR TO PLACEMENT OF CONCRETE.
- ITEMS SHOWN ON SHEETS LS28 AND LS29 ARE FOR ONE COUNTERWEIGHT UNIT ONLY.
- SEE SHEET LS29 FOR SECTIONS.

REVISIONS	
ADDENDUM 2	4/11/13

DESIGNED BY MD	SCALE NTS
DRAWN BY TAL	JOB NUMBER BR100-10-0106
CHECKED BY BDT	SHEET NUMBER LS28 OF LS33
DATE FEB 2013	OF 198

REVISIONS	
ADDENDUM 2	4/11/13

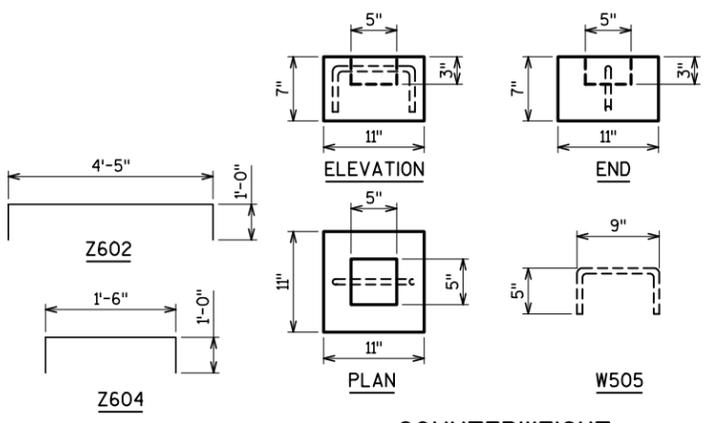
DESIGNED BY MD	SCALE NTS
DRAWN BY TAL	JOB NUMBER BR100-10-0106
CHECKED BY BDT	SHEET NUMBER LS29 OF LS33
DATE FEB 2013	OF 198



BILL OF BARS *

BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION
Z601	X	10	5'-1"			COUNTERWEIGHT TOP
Z602	X	38	6'-2"	X		COUNTERWEIGHT TOP
Z603	X	8	5'-8"			COUNTERWEIGHT TOP
Z604	X	6	3'-3"	X		COUNTERWEIGHT TOP
Z605	X	20	4'-8"			COUNTERWEIGHT TOP

* COST OF REINFORCEMENT INCLUDED IN BID ITEM "COUNTERWEIGHT BALLAST".



COUNTERWEIGHT * BALANCE BLOCKS

- LEGEND**
- COUNTERWEIGHT ROPE ATTACHEMENTS STAGGERED AT 3" ON ALTERNATING SIDES OF PLATE
 - ▽ 11 SPA. @ 4" = 3'-8"
 - ⊠ 5 SPA. @ 3" = 1'-3"
 - ⊞ 6 SPA. @ 6" = 3'-0"

NOTE

1. SEAL CLIPPED CORNERS OF END PLATES AND STIFFENERS AFTER GALVANIZING, PRIOR TO POURING CONCRETE.
 2. FURNISH BALANCE BLOCKS FOR 24,000 LBS PER COUNTERWEIGHT. (APPROXIMATELY 370 BLOCKS, EACH WEIGHING 65 LBS).
 3. THE EXISTING COUNTERWEIGHT STEEL SLABS ARE WARPED. SET THE BOTTOM SLAB ON A LAYER OF BEDDING MORTAR TO DISTRIBUTE THE LOAD EVENLY TO THE BOTTOM PLATE OF THE GALVANIZED STEEL BOX AND TO COVER THE BOLT HEADS AT THE SPLICE. SET THE REMAINING BLOCKS AFTER THE MORTAR HAS SET. USE PLASTIC OR STAINLESS STEEL SHIMS AS REQUIRED.
- * COST OF CONCRETE AND REINFORCEMENT FOR COUNTERWEIGHT AND BALANCE BLOCKS IS INCLUDED IN BID ITEM "COUNTERWEIGHT BALLAST".

REVISIONS

ADDENDUM 2
ADDED SHT
E33B
4-11-2013

DESIGNED BY

PDH

DRAWN BY

SMS

CHECKED BY

JGS

DATE

APR 2013

SCALE

1/2" = 1'-0"

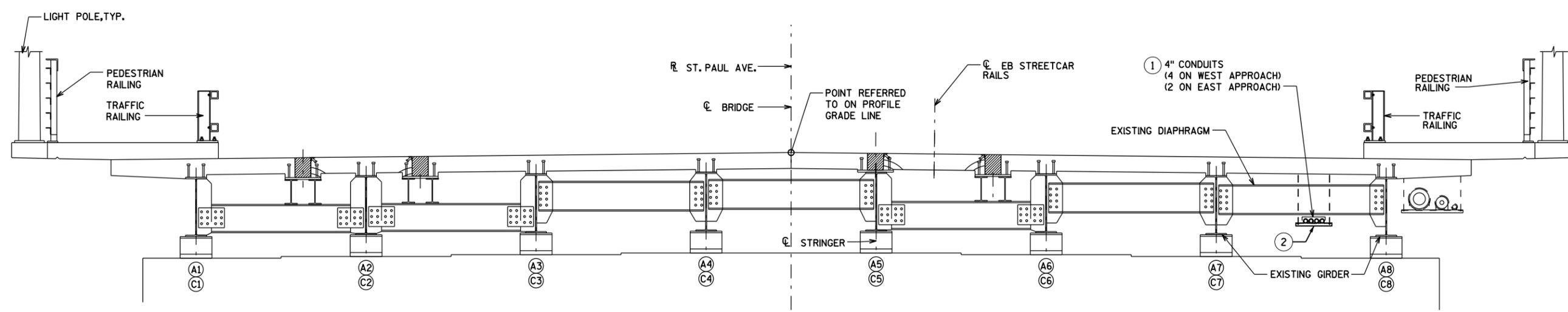
JOB NUMBER

BR100-10-0106

SHEET NUMBER

E33B OF E33

OF



PROPOSED SECTION THRU FIXED SPAN
(LOOKING EAST)

KEYED NOTES:

- ① THE CONDUITS SHALL BE PVC COATED GALVANIZED RIGID STEEL CONDUIT. SEE SPECIAL PROVISION FOR BRIDGE ELECTRICAL WORK.
- ② PROVIDE UTILITY HANGER AND INSERTS FOR COMMUNICATION CONDUITS. SEE SHEET S4.

GENERAL NOTES:

- 1. COST OF CONDUITS, EXPANSION FITTINGS, AND HANGERS UNDER THE BRIDGE DECK IS INCLUDED IN THE BID ITEM "BRIDGE ELECTRICAL WORK."
- 2. COST OF COMMUNICATION CONDUITS IN THE BRIDGE APPROACHES IS INCLUDED IN THE ROADWAY BID ITEMS.
- 3. CORE HOLES IN THE BACKWALL OF ABUTMENT FOR THE CONDUITS. SEE SHEET S4.