I tem	I	Substr.	Superstr.	Total
Class 1 Excavation	cu, yard	210	30p0(31) •	210
Temporary Shoring	lump sum	2.10		1
Removal of Bridges (A-504 NB & SB)	lump sum			1
Bridge Approach Slab (Bridge)	sa. yard	536		536
Orilled Shafts (5 ft. 6 in. Dia.)	linear foot	260.0		260.0
Rock Sockets (5 ft. 0 in. Dia.)	linear foot	116.0		116.0
Supplementary Television Camera Inspection	each	8		8
Foundation Inspection Holes	linear foot	196.0		196.0
Sonic Logging Testing	each	8		8
Structural Steel Piles (14 in.)	linear foot	1755		1755
Pile Point Reinforcement	each	15		15
Class B Concrete (Substructure)	cu, yard	389.3		389.3
Slab on Steel	sq. yard		3075	3075
Safety Barrier Curb	linear foot		631	631
Median Barrier Curb (Type C)	linear foot		330	330
Reinforcing Steel (Bridges)	pound	115,490		115,490
Mechanical Bar Splice	each	144	2144	2228
Temporary Coating – Concrete Bents and Piers (Weathering S	Steel) lump sum			1
Fabricated Structural Low Alloy Steel (Plate Girder) A709,	Grade 50W pound		750,020	750,020
Slab Drain	each		56	56
Orainage System (On Structure)	lump sum			1
Intermediate Field Coat (System H)	sq. foot		3900	3900
Finish Field Coat (System H)	sq. foot		3900	3900
/ertical Drain at End Bents	each			2
Plain Neoprene Bearing Pad	each		12	12
aminated Neoprene Bearing Pad (Tapered)	each		12	12
aminated Neoprene Bearing Pad Assembly	each		24	24

* Barrier curb shall be cast-in-place option or slip-form option.

All concrete between the upper and lower construction joints in the end bents is included in the Estimated Quantities for Slab on Steel.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Steel.

All mechanical bar splices in the end bents and slab are included in the Superstructure Quantities.

Estimated Quantities - Slab on Steel	for	
I tem		Total
Class B-2 Concrete	cu, yard	887.8
Reinforcing Steel	pound	25,050
Reinforcing Steel (Epoxy Coated)	pound	223.180
Mechanical Bar Splice	each	2144

The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard with the horizontal dimensions as shown on the plan of slab. Payment for stay-in-place forms, conventional forms, all concrete and coated and uncoated reinforcing steel except MBS will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type

Slab shall be cast-in-place with conventional forms or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

- 1. Don't use note if pay item is not required (Total MBS quantity <50).
- Would exclude "end bents" if bents were non-integral.
- 3. Would replace "end bents" with "concrete diaphragms at end bents" if bents were non-integral and girders were concrete.
- 4. Would add ", intermediate bent concrete diaphragms" after "end bents" if girders were concrete.
- 5. Would exclude "slab" if MBS were not located in the slab

General Notes:

Design Specifications:

2007 - AASHTO LRFD 4th Edition and 2008 Interims

Load and Resistance Factor Design 2002 - AASHTO 17th Edition (Seismic) Load Factor Design

Seismic Performance Category B

Design Loading:

HL-93 (LRFD Superstructure, LRFD Substructure)

35#/Sq. Ft. Future Wearing Surface

Earth 120 #/Cu. Ft., Equivalent Fluid Pressure 45#/Cu. Ft.

400 kip Equivalent Static Collision Force Intermediate Bents No. 2 & 3 include dead load for a possible future reinforced concrete collision wall with a length of 80'-0", height of 23'-0" and a thickness of 2'-6"

- 1. Pay item required since total is greater than or equal to
- 2. Substructure total should include the quantity of mechanical bar splices located in non-integral end bents and all intermediate bents.
- 3. Superstructure total should include the quantity of mechanical bar splices located in deck slabs, integral end bents, concrete diaphragms at non-integral end bents and concrete diaphragms at intermediate bents.

oprene Bearing ith Sec 716.

Field connections shall be made with 3/4" diameter high strength bolts and 13/16" d High strength bolts, nuts and washers will be sampled for quality assurance as spec

completely covered

by the contract unit price for other items.

Section (FS-712) from Materials Manual.

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber ex partition joint filler, except as noted.

Minimum clearance to reinforcing steel shall be 1-1/2", unless otherwise shown.

MBS refers to mechanical bar splice. Mechanical bar splices shall be in accordance with Sec 706 or 710.

Structural Steel Protective Coatinas:

Protective Coating: Facia girders shall be coated with complete System H in accordance with Sec 1081.

Portions of the structural steel embedded in or in contact with concrete, including but not limited to the top flange of girders, shall be coated with not less than 2.0 mils of the prime coat for System H.

Prime Coat: The prime coat shall be applied in the fabrication shop. The cost of the prime coat will be considered completely covered by the contract unit price for the Fabricated Structural Steel

Field Coats: The color of the field coats shall be Brown (Federal Standard #30045). The cost of the Field Coats: The color of the field coats shall be Brown (Federal Standard #30045). The cost of the intermediate field coat will be considered completely covered by the contract unit price per sq. foot for Intermediate Field Coat (System H). The cost of the finish field coat will be considered completely covered by the contract unit price per sq. foot for Finish Field Coat (System H). At the option of the contractor, the intermediate and finish field coats may be applied in the shop. The contractor shall exercise extreme care during all phases of loading, hauling, handling, erection and pouring of the slab to minimize damage and shall be fully responsible for all repairs and cleaning of the coating systems as required by the engineer.

Permanent Steel Casing Protective Coatings (Int. Bent No. 3):

Before the coating is applied, steel casing shall be thoroughly cleaned. All exposed surfaces of the permanent steel casing shall be coated with one 6-mil (0.15 mm) thickness of approved gray epoxy-mastic in accordance with the epoxy-mastic manufacturer's recommendations.

No direct payment will be made for coating exposed surfaces of steel casing. Payment for coating the steel casing and all material, labor, tools, equipment and incidentals necessary to complete the protective coating items will be considered completely covered under the contract unit price for other items.

Concrete Protective Coatings:

Temporary coating for concrete bents and piers (weathering steel) shall be applied on all concrete surfaces above the ground line or low water elevation on all abutments and intermediate bents in accordance with Sec 711.

Staged construction. Maintain 2 lanes of traffic per direction, except for closure pours. See roadway plans for traffic control plan.

Miscellaneous:

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.

Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

Existing Structure:

With approval of the engineer, existing substructure may be removed to existing construction joints if necessary for stage construction. See existing bridge plans for location of existing construction joints.

Expansive Class B-2 concrete shall be used in the closure pour.

If this were the case. add the following to the end of this note: ... except that on measurement will be made for mechanica bar splices and they will be considered

This would be the only

highlighted item needed on this sheet if MBS pay

item were not required.

"THIS MEDIA SHOULD

NOT BE CONSIDERED

A CERTIFIED DOCUMENT.

6/18/2014

JOB NO

*

CONTRACT ID.

PROJECT NO

BRIDGE NO.

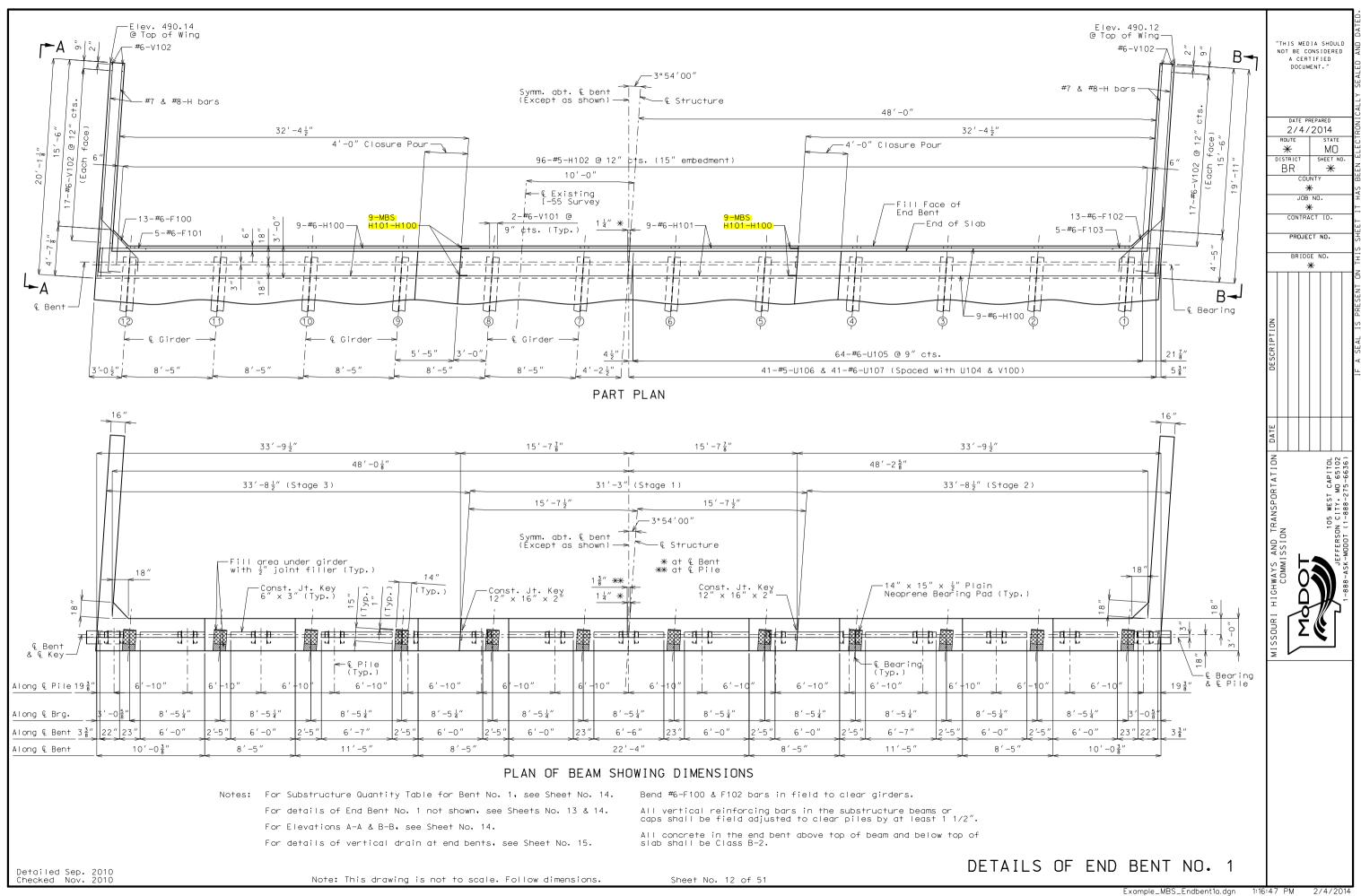
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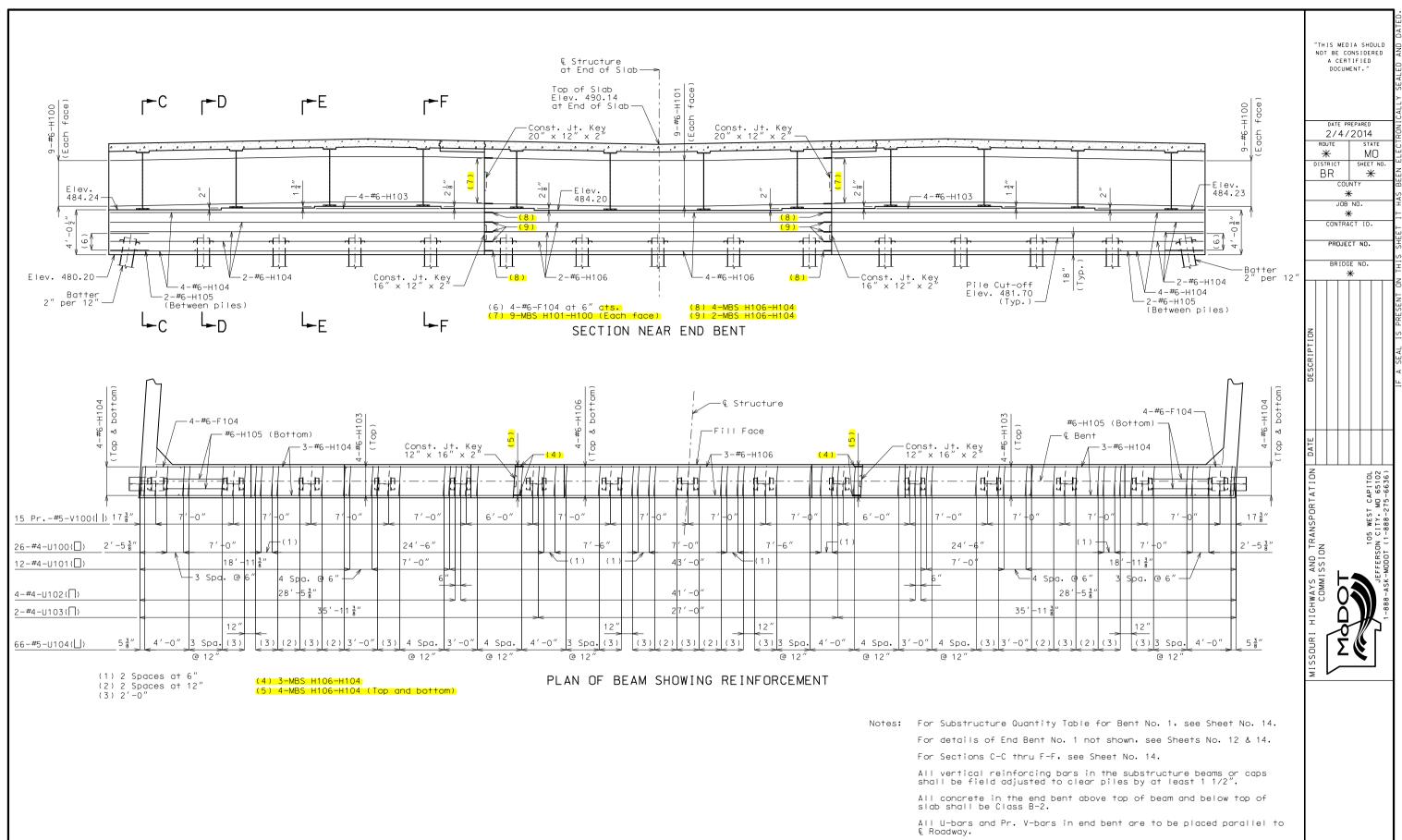
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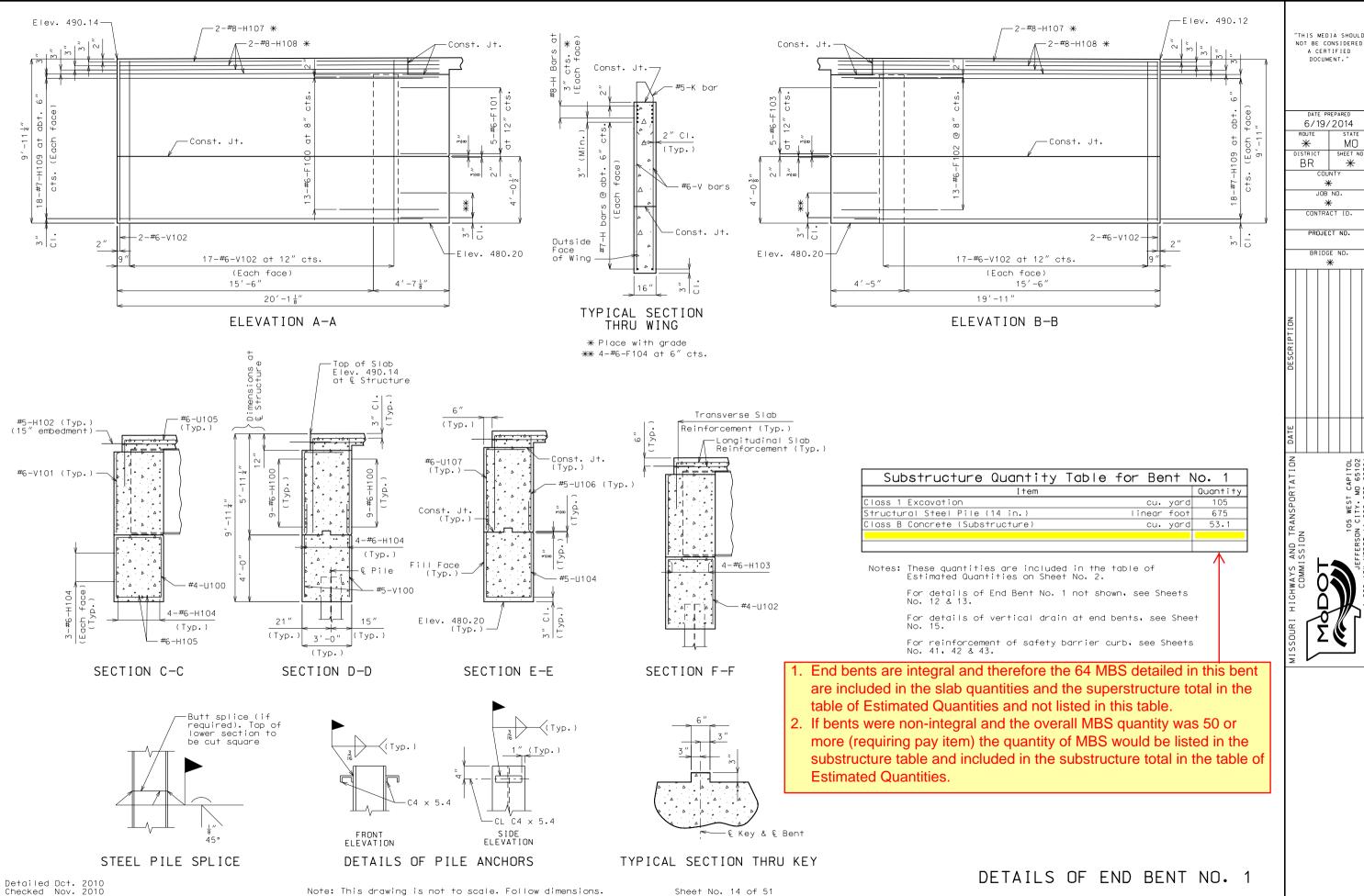
Concrete diaphragms at the integral end bents shall be poured a minimum of 12 hours before the slab is poured.

Note: This drawing is not to scale. Follow dimensions. Sheet No. 13 of 51

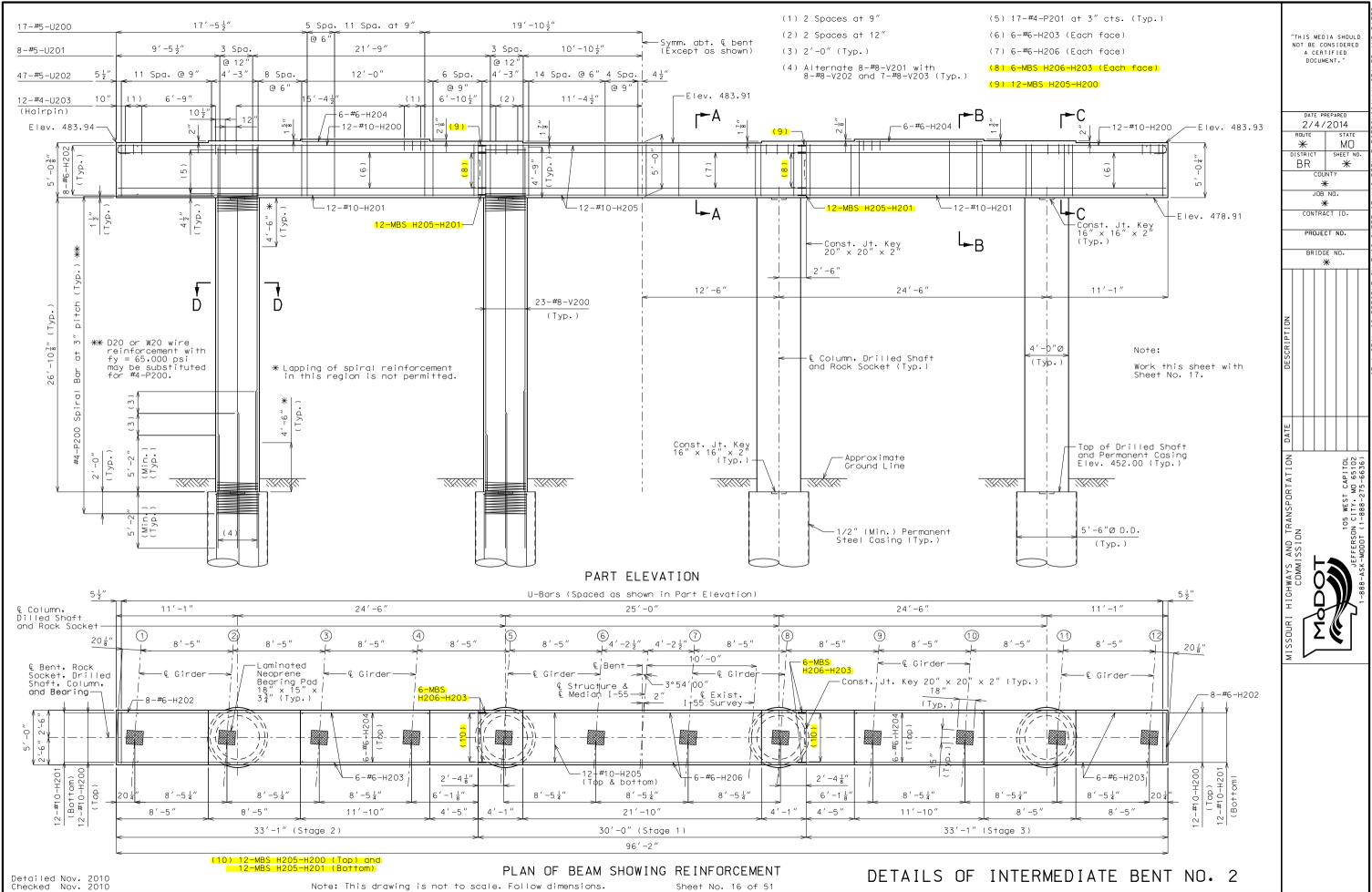
Detailed Sep. 2010

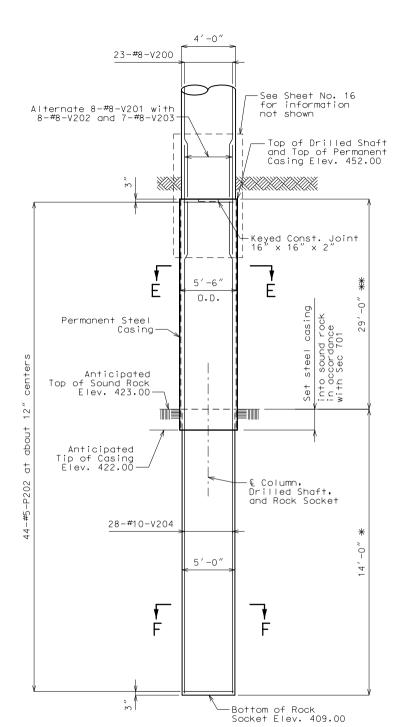
Checked Nov. 2010

DETAILS OF END BENT NO. 1



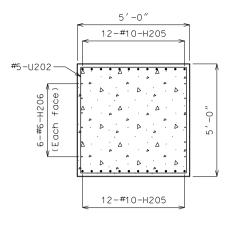
ΜO SHEET NO



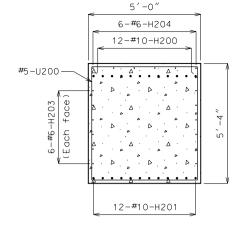


ELEVATION OF DRILLED SHAFTS AND ROCK SOCKETS

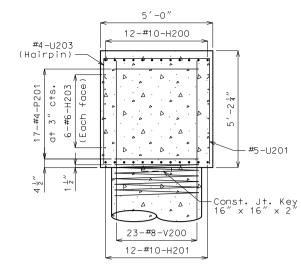
Pay Items Rock Socket (5'-0" diameter)
Pay Items Drilled Shaft (5'-6" diameter)



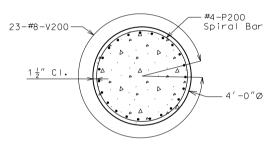
SECTION A-A



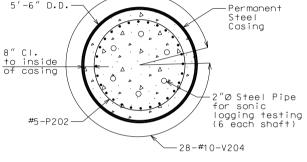
SECTION B-B



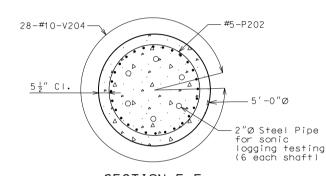
SECTION C-C



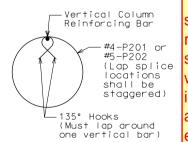
SECTION D-D



SECTION E-E



SECTION F-F



DETAIL OF SEISMIC STIRRUP BAR

If mechanical bar splices were also required in the drilled shafts, their quantity would also be included in this total and shown in the elevation detail.

Substructure Quantity Table for	Bent No.	2
I+em		Quantity
Drilled Shafts (5 ft. 6 in. Dia.)	linear foot	116.0
Rock Sockets (5 ft. 0 in. Dia.)	linear foot	56.0
Supplementry Television Camera Inspection	each	4
Foundation Inspection Holes	linear foot	96.0
Sonic Logging Testing	each	4
Class B Concrete (Substructure)	cu, yard	141.8
Reinforcing Steel (Bridges)	pound	55.630
Mechanical Bar Splice	each	72

These quantities are included in the table of Estimated Quantities on Sheet No. 2.

Notes:

All reinforcing bars in the tops of substructure beams or caps shall be spaced to clear anchor bolt wells for bearings by at least 1/2".

An additional 4 feet has been added to V-bar lengths and an additional 16 P-bars (4 per shaft) have been added for possible change in drilled shaft or rock socket depth. The excess V-bar length shall be cut off if not required. The P-bars shall be spaced similarly to that shown in elevation where required or a lesser spacing if not required but not less than 5" cts.

Sonic logging testing shall be performed on all drilled shafts and rock sockets.

The thickness of the steel casing shall meet all the requirements of Sec 701 with the minimum thickness being 1/2 inch.

All reinforcement in drilled shafts and rock sockets is included in Substructure Quantity Table for Bent No. 2.

For details of laminated neoprene bearing pad assembly, see Sheet No. 23. Work this sheet with Sheet No. 16.

Vertical Column
Reinforcing Bar

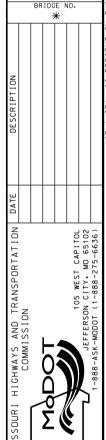
DETAILS OF 135
SEISMIC SPIRAL
TIE HOOK

ANCHOR SPI ICES IN SPIRAL ARCHIND VERTICAL BA

80 Diameter Lap —

ANCHOR SPLICES IN SPIRAL AROUND VERTICAL BAR (USE FOR INTERMEDIATE SPLICES OF SPIRALS)

Detailed Nov. 2010 Checked Nov. 2010



"THIS MEDIA SHOULD

NOT BE CONSIDERED

A CERTIFIED

DOCUMENT. "

10/31/2013

JOB NO.

CONTRACT ID.

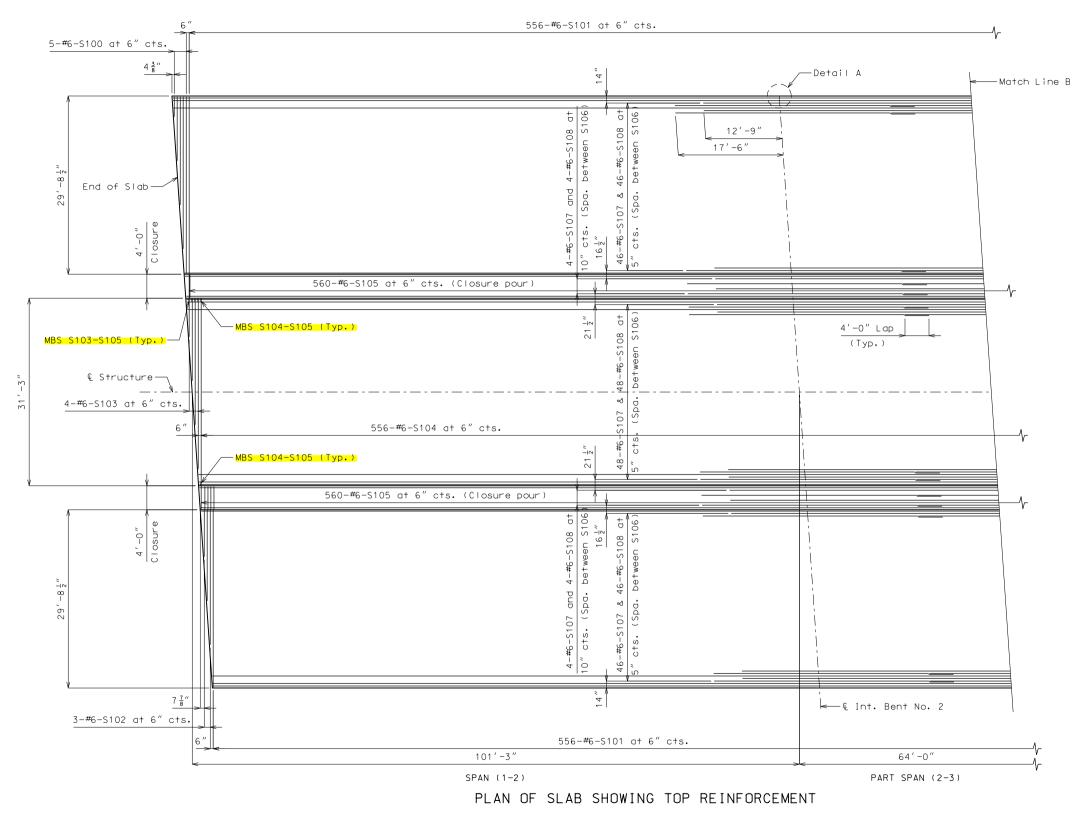
PROJECT NO.

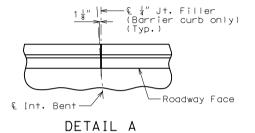
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SHEET NO

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Longitudinal dimensions shown are horizontal.

For Plan of Slab Showing Bottom Reinforcement, see Sheets No. 38 & 39.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 40.

For Plate Girder Camber Diagram and Theoretical Slab Haunch, see Sheet No. 27.

For Dead Load Deflection, see Sheet No. 28.

For Theoretical Bottom of Slab Elevations, see Sheet No. 29.

For details and locations of slab drains, see Sheets No. 32 & 33.

For details of barrier curb not shown, see Sheets No. 41, 42 & 43.

For details of median curb not shown, see Sheets No. 44 & 45.

Work this sheet with Sheet No. 37.

DETAILS OF SLAB

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

10/31/2013

JEFFERSON J6B0801H CONTRACT ID.

PROJECT NO.

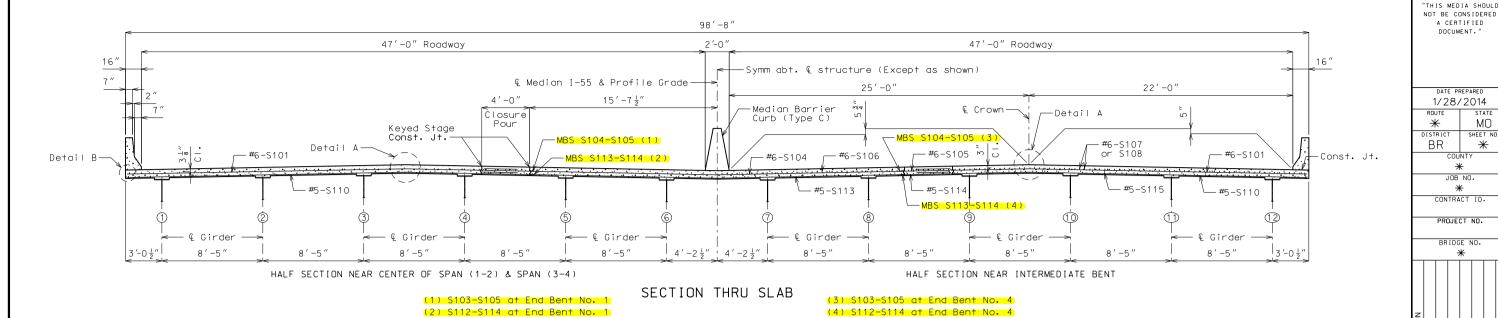
BRIDGE NO. A7867

MO

36

[-55]

BR



* Closure Pour Const. Jt.-⊱ € Int. Bent → -Const. Jt. End of Slab End Bent No. 4 (3) , Keyed Stage Const. Jt.

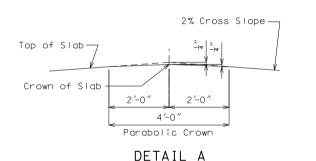
-€ Structure (2) End of Slab End Bent No. 1 79′-3

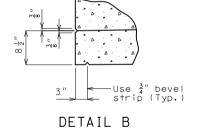
(2)		3
79'-3"	64'-0"	91'-3"
SPAN (1-2)	SPAN (2-3)	SPAN (3-4)
Sequen	ce of Pours	Min. rate of pour

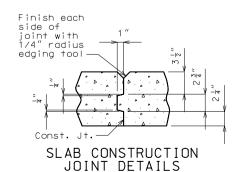
	Sequence of Pours Direction			Min. rate of pour cu. yds./hr.	
				With retarder	No retarder
Basic	1 2	2	3	25	38
sequence	Either	direction	1	25	20
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.					
Alternate "A"	1 + 3		2		
pours	2 to end		End to 1	28	47
Alternate "B"	2 + 1 + 3				
pours	End to end			28	47

Note: The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.

SLAB POURING SEQUENCE







Notes:

For Theoretical Bottom of Slab Elevation, Theoretical Slab Haunch, Dead Load Deflection and Plate Girder Camber Diagram, see Sheets No. 27 thru 29.

For Plan of Slab Showing Top Reinforcement, see Sheets No. 36 and 37.

For Plan of Slab Showing Bottom Reinforcement, see Sheets No. 38 and 39.

For details of barrier curb and median barrier curb, see Sheets No. 41 thru 45.

For details of optional stay-in-place forms, see Sheet No. 3.

DETAILS OF SLAB

MO

SHEET NO

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