

REINFORCING STEEL FOR STRAIGHT WINGWALL ABUTMENTS

MARK	LENGTH	TYPE	A	B	C	BENDING DIAGRAMS
A801	*	STR				<p>TYPE 1</p> <p>TYPE 2</p> <p>TYPE 3 SEE STANDARD BRIDGE DWG. AS-1-81.</p> <p>TYPE 4</p> <p>* DIMENSIONS VARY</p>
A802	*	STR				
A803	*	STR				
A501	*	STR				
A502	*	STR				
A503	*	STR				
A504	*	STR				
A505	*	STR				
A506	*	4	*	*	*	
A507	SERIES BAR	1	2'-2"	*		
A508	*	1	2'-2"	*		
A509	*	2	*	2'-7"		
A510	*	2	2'-8"	*		
A511	*	2	2'-8"	*		
A512	*	1	1'-10"	*		
A513	*	STR				
D801	*	3				

GENERAL:

DETAILS SHOWN ARE TYPICAL FOR A STEEL BEAM OR GIRDER BRIDGE WITH ELASTOMERIC BEARINGS.

LIMITATIONS: THESE ABUTMENT DETAILS ARE INTENDED FOR USE ON STRAIGHT ALIGNMENT STRUCTURES WITH SKEWS NOT GREATER THAN 45 DEGREES, A BRIDGE EXPANSION LENGTH UP TO 250'-0" AND/OR A TOTAL LENGTH OF 400'-0" FOR SKEWS GREATER THAN 45 DEGREES, A SPECIAL DESIGN SHALL BE PERFORMED AS THE ABUTMENT BEAM SEATS SHOWN ON THESE PLANS, WOULD NEED TO BE SPECIFICALLY DESIGNED FOR THAT SKEW TO ACCOMMODATE THE BEARING RETAINER ASSEMBLIES.

SEMI-INTEGRAL ABUTMENT DETAILS CAN BE USED ON WALL TYPE ABUTMENTS, SPILL THRU TYPE ABUTMENTS ON TWO OR MORE ROWS OF PILES, SPREAD FOOTING TYPE ABUTMENTS FOUNDED ON ROCK, OR ABUTMENTS ON DRILLED SHAFTS. THIS ABUTMENT DESIGN SHOULD NOT BE USED ON NEW STRUCTURES WITH SPREAD FOOTINGS FOUNDED ON SOIL OR EXISTING STRUCTURES WHERE SPREAD FOOTINGS ON SOIL ARE EXPECTED TO CONTINUE TO HAVE SETTLEMENT.

HOLE LOCATIONS: THE DESIGNER SHALL DETAIL THE HOLE LOCATIONS IN THE PROJECT PLANS. FIELD CUTTING OF THE HOLES IN THE FIELD WILL NOT BE PERMITTED.

BEARING RETAINERS:

GENERAL: RETAINERS ARE REQUIRED FOR ANY BRIDGE STRUCTURE WITH A SKEW GREATER THAN 30 DEGREES. NEW AND REHABILITATED BRIDGE STRUCTURES WITHOUT PHASED CONSTRUCTION REQUIRE TWO RETAINER ASSEMBLIES AT EACH ABUTMENT, ONE LOCATED AT EACH OF THE OUTSIDE (FASCIA) BEAM LINES. STRUCTURES THAT REQUIRE PHASED CONSTRUCTION SHALL HAVE RETAINER ASSEMBLIES LOCATED AT EACH OF THE OUTSIDE BEAM LINES FOR THE FIRST PHASE OF CONSTRUCTION AND ADDITIONAL RETAINER ASSEMBLIES LOCATED AT THE NEW OUTSIDE BEAM OF EACH ADDITIONAL PHASE OF CONSTRUCTION.

CONSTRUCTION PROCEDURE: FIELD DRILL ANCHOR BOLT HOLES, INSTALL ANCHOR BOLTS AND PLACE EPOXY GROUT AFTER THE ERECTION OF STRUCTURAL STEEL BEAMS. WHEN DRILLING HOLES, TAKE PRECAUTIONS TO AVOID INTERFERING WITH REINFORCING STEEL. POSITION AND TIGHTEN THE RETAINER AND INSTALL A BLOCK OF POLYSTYRENE FILLER MATERIAL, DIMENSIONED AS SHOWN ON SHEET 6 OF 7, OVER THE TOP OF THE RETAINER ASSEMBLY BEFORE THE CONCRETE PLACEMENT FOR THE BEAM END ENCASEMENT.

MATERIALS: THE STEEL RETAINER ASSEMBLY AND THE SQUARE PLATE WASHER SHALL BE THE SAME GRADE OF STEEL AS THE MAIN STRUCTURAL MEMBERS. ANCHOR BOLTS AND NUTS SHALL BE ASTM A325. STEEL RETAINER ASSEMBLIES SHALL HAVE THE SAME PROTECTIVE COATING AS THE MAIN STRUCTURAL STEEL ANCHOR BOLTS, NUTS AND SQUARE PLATE WASHERS SHALL BE GALVANIZED ACCORDING TO 711.02. THE THREAD LENGTH REQUIREMENTS OF ASTM A325 MAY BE WAIVED. THE GROUT SHALL BE A NON-SHRINK, EPOXY GROUT MEETING THE REQUIREMENTS OF 705.20.

THE COSTS FOR FURNISHING AND INSTALLING THE STEEL RETAINER ASSEMBLIES, INCLUDING THE POLYSTYRENE, WILL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR THE ELASTOMERIC BEARINGS.

STEEL LOAD PLATE AND THE HP SHAPE (SUPPORT MEMBER): THE DESIGNER SHALL SPECIFY THE STEEL MATERIAL FOR THE LOAD PLATE AND THE HP SHAPE SUPPORT MEMBER TO BE THE SAME GRADE OF STEEL AS THE MAIN STRUCTURAL MEMBERS. THE BEARINGS SHALL BE FURNISHED AND INSTALLED ACCORDING TO 516. THE DESIGNER SHALL SHOW ALL BEARING DETAILS, INCLUDING NOTES, IN THE PROJECT PLANS. THE HP SHAPE IS CONSIDERED A COMPONENT OF THE BEARING.

REINFORCING STEEL FOR U-TYPE ABUTMENT

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A513	SERIES BAR	STR				
A514	*	STR				
A515	*	4	*	*	*	
A516	*	STR				
D801	*	3				

DESIGN AGENCY: OFFICE OF STRUCTURAL ENGINEERING

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

ADMINISTRATOR: Brad Taggell

DATE: 2-12-97

REVIEWED: L.M.W.

CHECKED: M.R.G./J.S.

DESIGNED: W.L.F.

REVISIONS: 04-20-01, 07-19-02

STANDARD: SEMI-INTEGRAL CONSTRUCTION DETAILS FOR STEEL BEAM AND GIRDER BRIDGES ON RIGID ABUTMENTS

SICD-1-96

DRAWN: W.L.F.

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