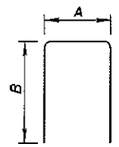
REINFORCING STEEL FOR STRAIGHT WINGWALL ABUTMENTS

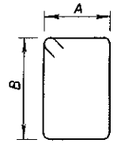
MARK	LENGTH	TYPE	A	B	C
A801	*	STR			
A802	*	STR			
A803	*	STR			
A501	*	STR			
A502	*	STR			
A503	*	STR			
A504	*	STR			
A505	*	STR			
A506	*	4	*	*	*
A507	SERIES BAR	1	2'-2"	*	
A508	*	1	2'-2"	*	
A509	*	2	*	2'-7"	
A510	*	2	2'-8"	*	
A511	*	2	2'-8"	*	
A512	*	1	1'-10"	*	
A513	*	STR			
D801	*	3			

BENDING DIAGRAMS

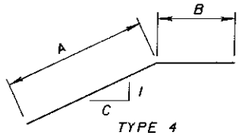


TYPE 1

TYPE 3
SEE STANDARD BRIDGE DWG. AS-1-81.



TYPE 2



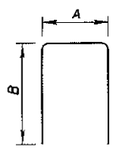
TYPE 4

* DIMENSIONS VARY

REINFORCING STEEL FOR U-TYPE ABUTMENT

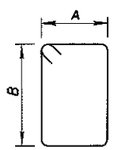
MARK	LENGTH	TYPE	A	B	C
A801	*	STR			
A802	*	STR			
A803	*	STR			
A804	*	STR			
A501	*	STR			
A502	*	STR			
A503	*	2	*	2'-7"	
A504	*	1	1'-2"	*	
A505	SERIES BAR	1	1'-2"	*	
A506	*	STR			
A507	*	1	1'-2"	*	
A508	*	1	1'-2"	*	
A509	*	2	*	2'-7"	
A510	*	2	2'-8"	*	
A511	*	2	2'-8"	*	
A512	*	1	1'-10"	*	
A513	SERIES BAR	STR			
A514	*	STR			
A515	*	4	*	*	*
A516	*	STR			
D801	*	3			

BENDING DIAGRAMS

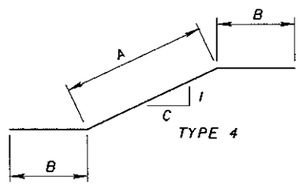


TYPE 1

TYPE 3
SEE STANDARD BRIDGE DWG. AS-1-81.



TYPE 2



TYPE 4

* DIMENSIONS VARY

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 IN THE STRUCTURAL STEEL ARE TO BE DETAILED IN THE PROJECT PLANS. FLAME CUTTING OF HOLES IS NOT PERMITTED.

BEARING RETAINERS

RETAINERS ARE REQUIRED FOR ANY BRIDGE STRUCTURE WITH A SKEW GREATER THAN 30 DEGREES. NEW BRIDGE STRUCTURES OR REHABILITATED BRIDGE STRUCTURES WITHOUT PHASED CONSTRUCTION SHALL REQUIRE TWO RETAINER ASSEMBLIES AT EACH ABUTMENT. THE RETAINERS SHALL BE INSTALLED AT THE OUTSIDE (FASCIA) BEAM LINES. STRUCTURES THAT REQUIRE PHASED CONSTRUCTION SHALL HAVE AT LEAST TWO RETAINER ASSEMBLIES INSTALLED AT EACH OF THE OUTSIDE BEAM LINES FOR THE FIRST PHASE OF CONSTRUCTION. AN ADDITIONAL RETAINER SHALL BE INSTALLED AT THE NEW OUTSIDE BEAM OF EACH ADDITIONAL PHASE OF CONSTRUCTION.

CONSTRUCTION PROCEDURE: ANCHOR BOLTS SHALL BE FIELD DRILLED AND EPOXY GROUTED AFTER THE ERECTION OF THE STRUCTURAL STEEL BEAMS. CARE SHALL BE TAKEN TO ASSURE THAT THE ANCHOR BOLTS DO NOT INTERFERE WITH REINFORCING STEEL. THE RETAINER SHALL BE POSITIONED AND TIGHTENED BEFORE THE CONCRETE IS POURED FOR THE BEAM END ENCASEMENT. A BLOCK OF POLYSTYRENE FILLER MATERIAL, 8" IN WIDTH AND THE HEIGHT AS REQUIRED BY THE PLANS SHALL BE INSTALLED OVER THE TOP OF THE RETAINER ASSEMBLY BEFORE THE CONCRETE PLACEMENT.

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 AS PER 711.02. THE THREAD LENGTH REQUIREMENTS OF ASTM A 325 ARE WAIVED. THE GROUT SHALL BE A NON SHRINK, EPOXY GROUT MEETING THE REQUIREMENTS OF 705.20.

PAYMENT FOR LABOR, MATERIALS, FABRICATION, PROTECTIVE COATING, GALVANIZING, POLYSTYRENE AND INSTALLATION OF THE RETAINER ASSEMBLIES SHALL BE INCLUDED WITH THE PAYMENT OF THE ELASTOMERIC BEARINGS.

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 ARE TO BE THE SAME GRADE OF STEEL AS THE MAIN STRUCTURAL MEMBERS. BEARINGS ARE PER 516. THE DESIGNER IS TO SHOW ALL BEARING DETAILS, INCLUDING NOTES, IN THE PROJECT PLANS. THE HP SHAPE IS CONSIDERED A COMPONENT OF THE BEARING.

DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Brad Fogwell — ADMINISTRATOR
2-12-97 — DATE

REVISIONS	DESIGNED	CHECKED	REVIEWED
04-20-01	WLF	MRG/JS	LMW
	DRAWN		
	WLF		

SICD-1-96

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