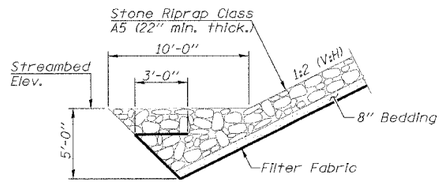
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 731	*	GREENE	30	6
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
FEDERAL AID PROJECT				

* 01-00071-00-BR

CONTRACT NO. 97289 Sheet No. 2 of 23 Sheets



STONE RIPRAP ANCHOR DETAIL

GENERAL NOTES

Fasteners shall be high strength bolts A.A.S.H.T.O. M 164, Type 3 in unpainted areas and mechanically galvanized A.A.S.H.T.O. M 164, Type 1 or 2 in painted areas. Bolts ⅞"Ø, open holes 15/16 "Ø, unless otherwise noted.

Calculated weight of structural steel = 501,980 Pounds (M 270 Grade 50W).

All structural steel shall be A.A.S.H.T.O. M 270 Grade 50W except expansion joint plates and attached bars which shall be A.A.S.H.T.O. M 270 Grade 50.

Field welding of construction accessories will not be permitted to beams.

Anchor bolts shall be set before bolting diaphragms over supports.

The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of A.A.S.H.T.O. M 270, Grade 50W.

The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams and all splice plate material except fill plates.

Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M31 or M322, Grade 60.

Layout of the slope protection system may be varied in the field to suit ground conditions as directed by the engineer.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two ⅛" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

The Contractor shall drive one test pile in a permanent location at each substructure unit as directed by the Engineer before ordering the remainder of piles.

When the deck pour is stopped for the day at one or more of the Transverse Bonded Construction Joints in the deck Pouring Sequence as shown, the next pour shall not be made until both of the following requirements are met:

1. At least 72 hours shall have elapsed from the end of the previous pour.
2. The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

All construction joints shall be bonded.

The contractor shall obtain a construction permit from the Illinois Department of Natural Resources (I.D.N.R.), Office of Water Resources for any temporary construction activity placed in the water except cofferdams. This shall include the placement of material for run-arounds, causeways, etc. Any permit application by the Contractor shall refer to the I.D.N.R. permit number D52004161 which was issued for the permanent construction.

Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.

Concrete Sealer shall be applied to the seat area of the abutments.

A.A.S.H.T.O. M 270 Grade 50W structural steel shall only be painted, for a distance of three times the depth of the beams (but not exceeding 10 feet) each way from the deck joints. All structural steel shall be cleaned as specified in the special provision for "Surface Preparation and Painting Requirements for Weathering Steel".

TOTAL BILL OF MATERIAL

Item		Super	Sub	Total
Channel Excavation	Cu. Yd.			821
Stone Riprap, Class A5	Ton		1166	1166
Filter Fabric	Sq. Yd.		890	890
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		427	427
Preformed Joint Strip Seal	Foot	60		60
Concrete Structures	Cu. Yd.		298.6	298.6
Concrete Superstructure	Cu. Yd.	409.7		409.7
Bridge Deck Grooving	Sq. Yd.	1639		1639
Protective Coat	Sq. Yd.	1639		1639
Elastomeric Bearing Assembly, Type II	Each	10		10
Elastomeric Bearing Assembly, Type III	Each	10		10
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	4935		4935
Reinforcement Bars (Epoxy Coated)	Pound	101230	39900	141130
Steel Railing Type SM	Foot	992		992
Furnishing Steel Piles HP10x42	Foot		810	810
Furnishing Steel Piles HP12x53	Foot		1880	1880
Driving Piles	Foot		2690	2690
Test Pile, Steel HP10x42	Each		2	2
Test Pile, Steel HP12x53	Each		4	4
Name Plates	Each		1	1
Concrete Sealer	Sq. Ft.		195	195
Underwater Structure Excavation Protection - Location 1 (Pier 1)	Each		1	1
Underwater Structure Excavation Protection - Location 2 (Pier 4)	Each		1	1
Cofferdam (Pier No. 2)	Each		1	1
Cofferdam (Pier No. 3)	Each		1	1
Cofferdam Excavation	Cu. Yd.		607	607
Seal Coat Concrete	Cu. Yd.		82.6	82.6

WATERWAY INFORMATION

Drainage Area = 146.5 Sq. Miles Low Grade Elev. = 91.55 @ Sta. 482+60

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head-Ft. Exist.	Head-Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	25	14,158	2,983	2,991	87.5	0.3	0.3	87.8	87.8
Base	100	18,936	3,603	3,653	88.9	0.5	0.4	89.4	89.3
Exist. Overtop Greater than 500 Years									
Prop. Overtop Greater than 500 Years									
Max. Calc.	500	24,622	4,114	4,221	90.4	0.8	0.8	91.2	91.2

DESIGN STRESSES
FIELD UNITS

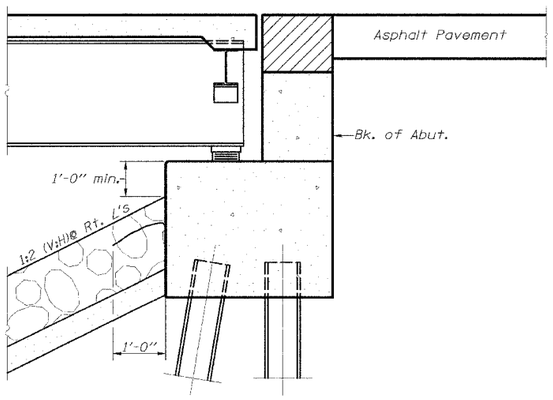
f'c = 3500 psi
fy = 60,000 psi (Reinf.)
Fy = 50,000 psi (Structural Steel) (M270 Grade 50W)

DESIGN SPECIFICATIONS

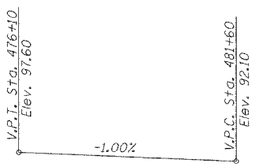
2002 A.A.S.H.T.O. Specifications.

LOADING HS 20-44

Allow 50#/sq. ft. for future wearing surface.



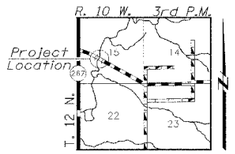
SECTION THRU PILE BENT ABUTMENT
(Horiz. dim. @ Rt. L's)



PROFILE GRADE

APPLE CREEK
BUILT 200 BY
ATHENSVILLE TOWNSHIP
GREENE COUNTY
SECTION 01-00071-00-BR
STA. 478+65.75
STR. NO. 031-3144 LOADING HS20

NAME PLATE
(Standard 515001)



LOCATION SKETCH

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "A.A.S.H.T.O. Standard Specifications For Highway Bridges".

Gerald B. Rotherham
Expiration Date 11/30/2006

LICENSED STRUCTURAL ENGINEER
GERALD B. ROTHERHAM
081-005673
STATE OF ILLINOIS

10/20/2006

GENERAL PLAN & ELEVATION
F.A.S. 731 - C.H. 2
OVER APPLE CREEK
SECTION 01-00071-00-BR
GREENE COUNTY

Designed: GBR
Checked: MAH
Drawn: JRP
Checked: GBR

FILE NAME: STRUCTURE PLANS (REV. 10/16/06)