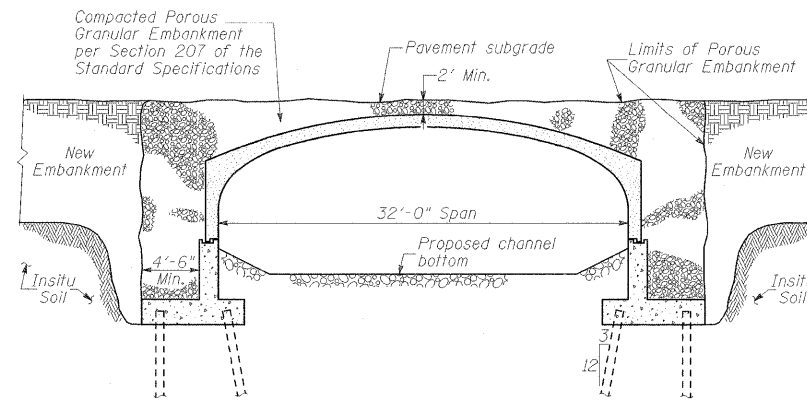


GENERAL NOTES

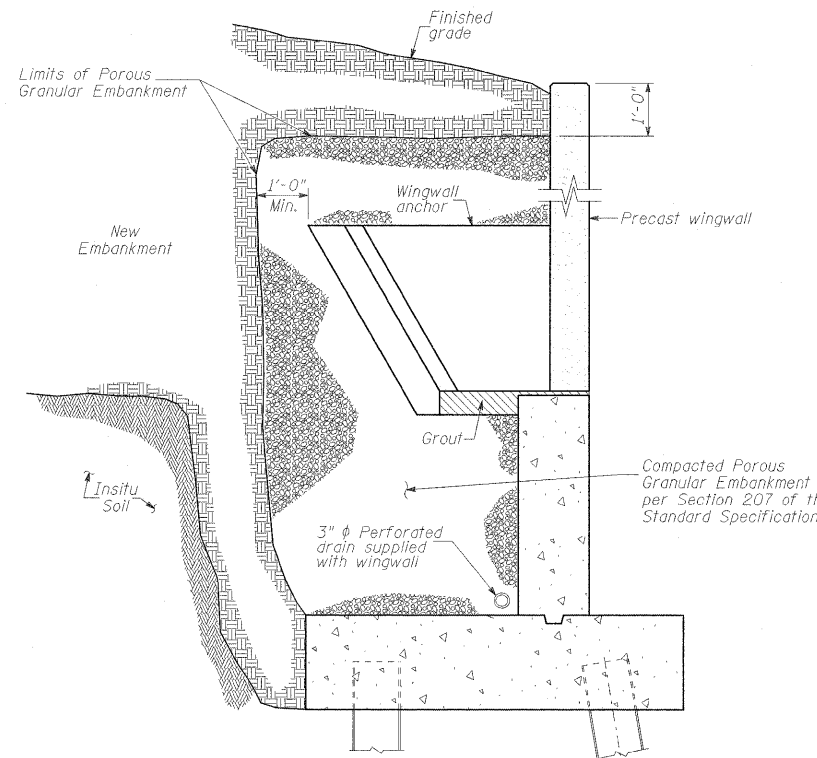
- Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60, See Special Provisions.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- The Contractor shall drive one steel HP 12x53 test pile to 110% of the nominal required bearing specified in a permanent location at the North abutment as directed by the Engineer before ordering the remainder of piles.
- Each precast unit shall be clearly marked by waterproof paint. The following shall be shown on the inside of the vertical leg of the units:
 - Unit span x Rise
 - Date of manufacture
 - Name or trademark of the manufacturer.

CONSTRUCTION REQUIREMENTS

- The Three Sided Precast Concrete Structures shall be installed on pile supported cast-in-place concrete footings as detailed in the Plans. The foundation walls shall be given a smooth float finish and shall reach a compressive strength of 2,500 psi before placement of precast concrete sections. The completed foundation surface shall be constructed in accordance with grades shown on the plans. When tested with a 10-foot straight edge, the surface shall not vary more than 1/4 inch in 10 feet. Precast concrete foundations may not be substituted for cast-in-place foundations.
- The Three Sided Precast Concrete Structures shall be placed as shown on the Plans. Special care shall be taken in setting the precast concrete structures to the true line and grade. The structures shall be set on 6" x 6" masonite or steel shims. A minimum of 1/2 inch gap shall be provided between the foundation and the bottom of the structures vertical legs. The gap shall be filled with cement grout. (Portland cement and water or cement mortar composed of one part Portland cement and three parts of sand, by volume, and water.) See structure manufacturer's instructions.
- The butt joint made by two adjoining structure segments shall be covered with a 7/8" x 1 3/8" (1/4" round equivalent) piece of butyl rope and a minimum of a 9-inch wide joint wrap. The surface shall be free of dirt before applying the joint material. A primer compatible with the joint wrap to be used shall be applied for a minimum width of nine inches on each side of the joint. The external wrap shall be either EZ-WRAP RUBBER by PRESS-SEAL GASKET CORPORATION, SEAL WRAP by MAR MAC MANUFACTURING CO. INC. or approved equal. The joint shall be covered continuously from the bottom of one structure segment leg, across the top of the arch and to the opposite structure segment leg. Any laps that result in the joint wrap shall be a minimum of six inches long with the overlap running downhill.
- In addition to the joints between segments, the joint between the end units and the headwalls shall also be sealed. The joint between the end structure segments and the wingwalls shall be sealed with this type of wrap or at the discretion of the Engineer filter fabric may be substituted.
- During the backfilling operation, care shall be taken to keep the joint wrap in its proper location over the joint.
- Backfill shall be considered as all replaced and new embankment adjacent to the Three Sided Precast Concrete Structure units and wingwalls. The 1001 Standard Specifications, which include the specifications for excavation for structures and roadway excavation and embankment construction, shall apply except as modified herein. No backfill shall be placed against any structural elements until they have been approved by the Engineer.
- Mechanical tampers or approved compacting equipment shall be used to compact all backfill and embankment immediately adjacent to each side of the structure and over the top of the structure until it is covered to a minimum depth of one foot. The backfill within four feet of each side of the structure shall be placed in lifts of eight inches or less (loose depth). Heavy compaction equipment shall not be operated in this area or over the structure until it is covered to a depth of one foot. See Backfill Limits Detail this sheet.
- Lightweight dozers and graders may be operated over the structure having one foot of compacted cover, but heavy earth moving equipment (larger than a D-4 Dozer weighing in excess of 12 tons and having track pressures of eight psi or greater) shall require two feet of cover unless the design cover is less than two feet. In no case shall equipment operating in excess of the design load (HS 20) be permitted over the structure unless approved by the precast structure manufacturer.
- Any additional fill and subsequent excavation required to provide this minimum cover shall be made at no additional cost to the project.
- As a precaution against introducing unbalanced stresses in the culvert when placing backfill, at no time shall the difference between the heights of fill on opposite sides of the structure exceed 24 inches.
- Backfill in front of wingwalls shall be carried to finish grade lines shown in the Plans.



ELEVATION - BRIDGE BACKFILL/EMBANKMENT REQUIREMENTS



WINGWALL BACKFILL/EMBANKMENT REQUIREMENTS

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Ton		1186	1186
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		920	920
Concrete Structures	Cu. Yd.		180.0	180.0
Reinforcement Bars, Epoxy Coated	Pound		20,260	20,260
Furnishing Steel Piles HP 12x53	Foot		635	635
Driving Piles	Foot		635	635
Test Pile Steel HP 12x53	Each		1	1
Name Plates	Each		1	1
Pedestrian Railing	Foot	246		246
Three Sided Precast Concrete Structures, 32'x9'	Foot	68		68
Precast Concrete Substructure	L. Sum		1	1

WATERWAY INFORMATION TABLE

Flood		Freq. (year)	Q (cfs)	Opening (Sq. Ft.)		Natural HWE	Head (FT.)		Head Water Elev.	
				Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
DESIGN		50	1315	416*	235	565.47	0.24	-0.05	565.71	565.42
BASE		100	1521	485*	244	565.83	0.18	-0.08	566.01	565.75
OVER TOPPING		-	-	-	-	-	-	-	-	-
MAX CALC.		500	2050	673*	265	566.60	0.14	-0.14	566.74	566.46

* Area includes roadway overtopping. Existing structure opening is 86 Sq. Ft.

IDNR/OWR has issued Permit DS2008044 for construction of this project.