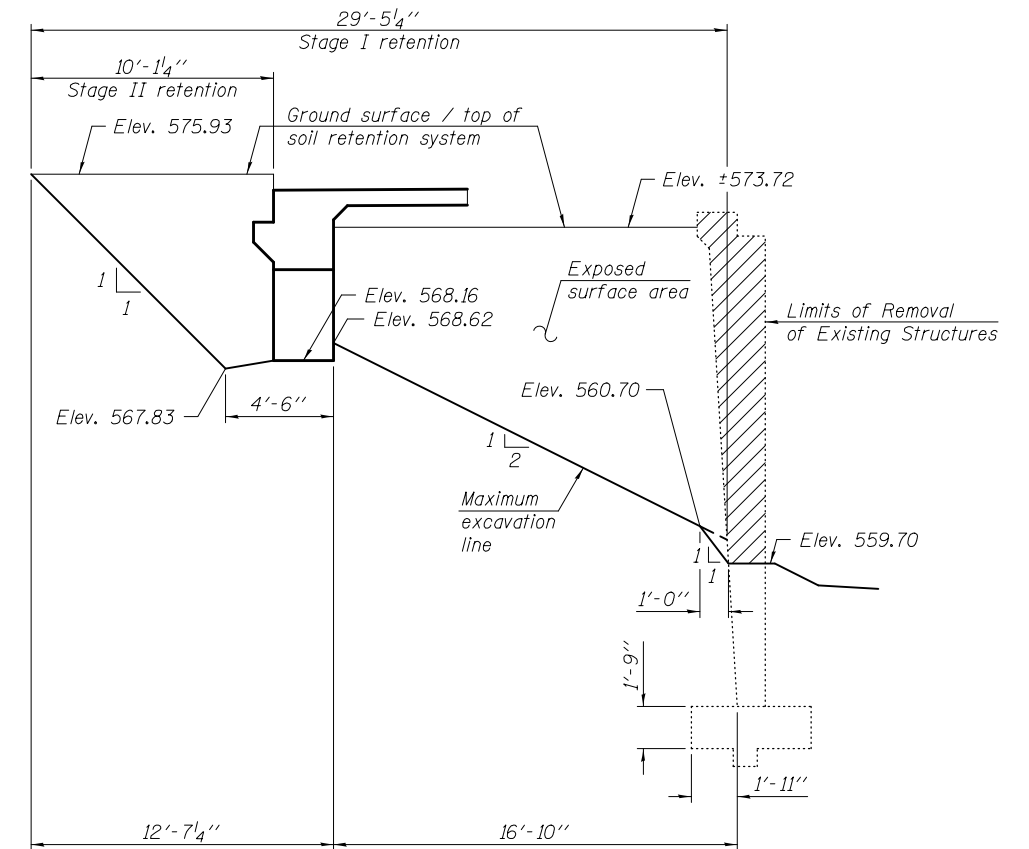


TOTAL BILL OF MATERIAL

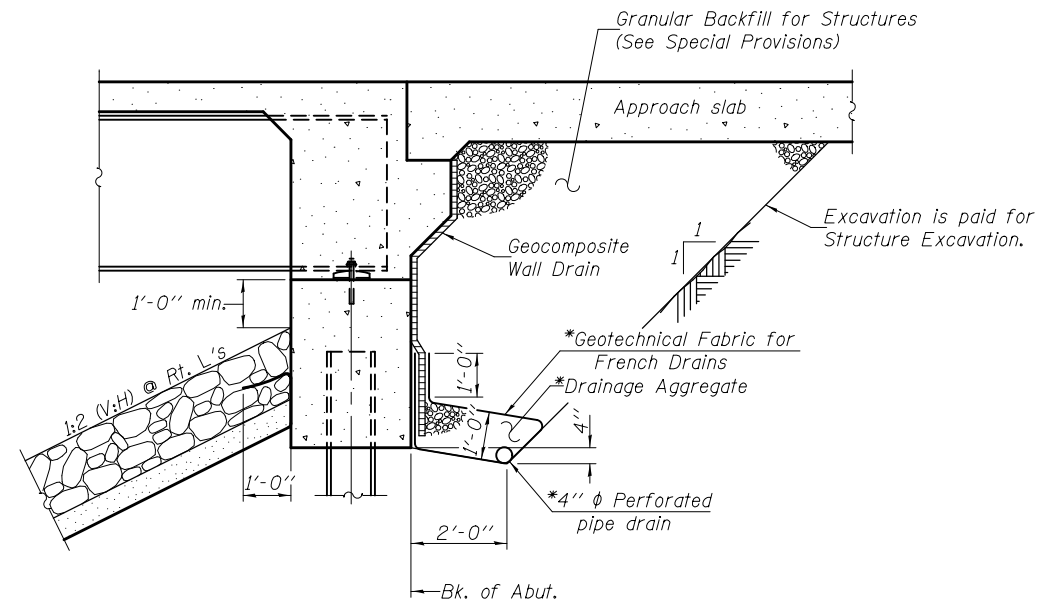
ITEM	UNIT	SUPER	SUB	TOTAL
Granular Backfill for Structures	Cu. Yd.		215	215
Stone Riprap, Class A4	Sq. Yd.		1535	1535
Filter Fabric	Sq. Yd.		1535	1535
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		118.0	118.0
Concrete Structures	Cu. Yd.		107.0	107.0
Concrete Superstructure	Cu. Yd.	489.0		489.0
Bridge Deck Grooving	Sq. Yd.	1011		1011
Concrete Encasement	Cu. Yd.		7.6	7.6
Protective Coat	Sq. Yd.	1395		1395
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	4312		4312
Reinforcement Bars, Epoxy Coated	Pound	117470	7680	125150
Bar Splicers	Each	622	102	724
Bicycle Railing	Foot	152		152
Parapet Railing	Foot	149		149
Furnishing Steel Piles HP10x42	Foot		483	483
Driving Piles	Foot		483	483
Test Pile Steel HP10x42	Each		1	1
Name Plates	Each	1		1
Anchor Bolts, 1"	Each		44	44
Geocomposite Wall Drain	Sq. Yd.		112.0	112.0
Drainage Scuppers, DS-12	Each	2		2
Temporary Soil Retention System	Sq. Ft.		407	407
Pipe Underdrains for Structures 4"	Foot		218	218

GENERAL NOTES

Fasteners shall be ASTM A325 Type 3. Bolts 3/4" in. ϕ , holes 15/16 in. ϕ , unless otherwise noted.
 Calculated weight of Structural Steel = 288,130 lbs (M 270 Grade 50W).
 All structural steel shall be AASHTO M 270 Grade 50W.
 No field welding is permitted except as specified in the contract documents.
 Reinforcement bars designated (E) shall be epoxy coated.
 If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.
 Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.
 Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
 The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
 Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.
 A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
 Slipforming of parapets is not allowed.



TEMPORARY SOIL RETENTION SYSTEM
(West Abutment)

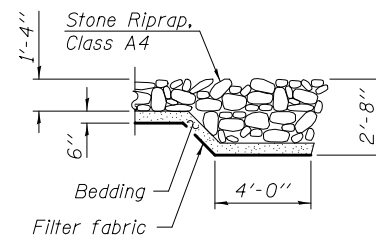


SECTION THRU INTEGRAL ABUTMENT

*Included in the cost of Pipe Underdrains for Structures.

Note:

All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).



SECTION A-A

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	568.16	568.60

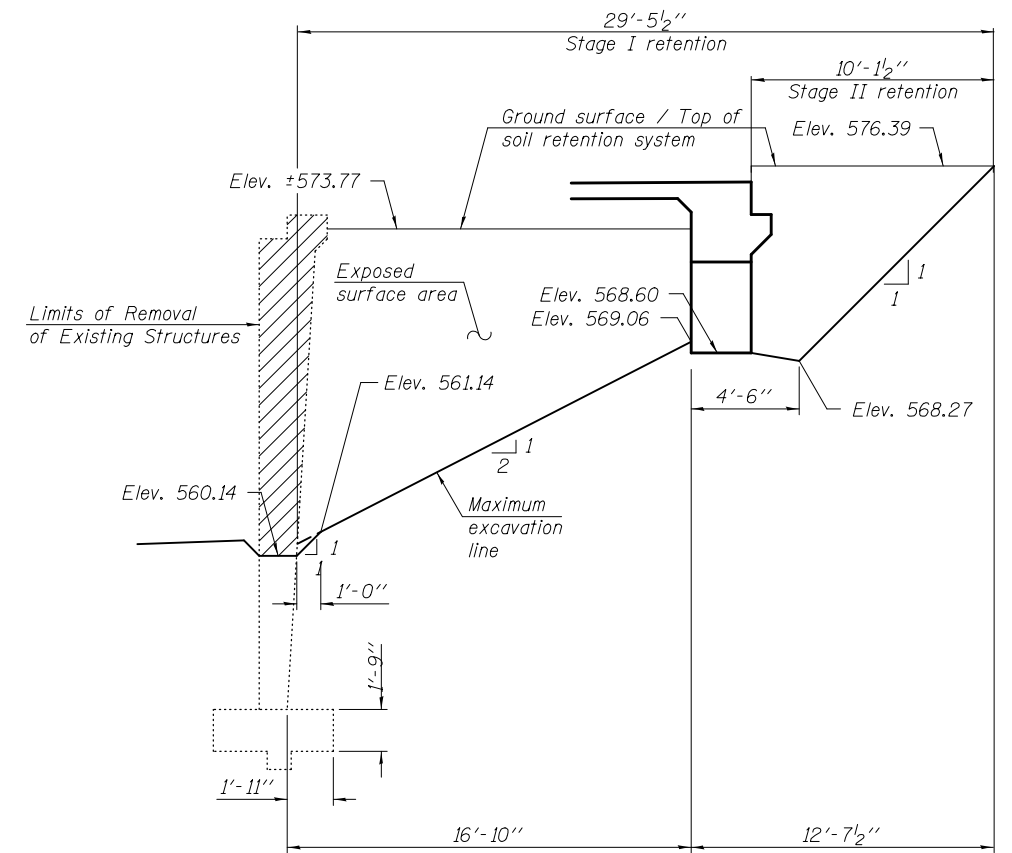
WATERWAY INFORMATION

Existing Low Grade Elev. 573.6 @ Sta. 382+25
 Proposed Low Grade Elev. 574.0 @ Sta. 382+50

Flood Yr.	Freq.	* Q		Opening Sq. Ft.		**Nat. H.W.E.		Head - Ft.		Headwater El.	
		C.F.S.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
	10	1050	313	503	569.5	0.1	0.0	569.6	569.5		
Design	50	1300	333	535	569.9	0.1	0.1	570.0	570.0		
Base	100	1350	338	543	570.0	0.1	0.1	570.1	570.1		
Overtopping											
Max. Calc.	500	1550	353	567	570.3	0.2	0.1	570.5	570.4		

10 Year velocity through existing bridge = 3.4 ft./sec.
 10 Year velocity through proposed bridge = 2.1 ft./sec.

* Total discharged reduced by amount lost to storage after overtopping Niabi Zoo Road.
 ** Shaffer Creek is under the control of the tailwaters of the Rock River at this location.



TEMPORARY SOIL RETENTION SYSTEM
(East Abutment)