INDEX OF SHEETS

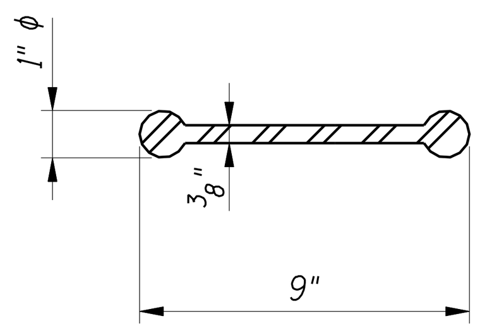
GENERAL NOTES

1. Reinforcement bars shall conform to the requirements of AASHTO M31 or M322, Grade 60.
2. Plan Dimensions and details relative to existing structures have been taken from existing plans and/or past surveys and reports are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
3. All construction joints in cast-in-place concrete shall be bonded.
4. Excavation for structures within the temporary cofferdam system will not be paid for as Cofferdam Excavation but shall be paid for as Earth Excavation or Rock Excavation.
5. The Earth Excavation and Rock Excavation quantities billed with the civil plans include all excavation work for structures.

BILL OF MATERIAL

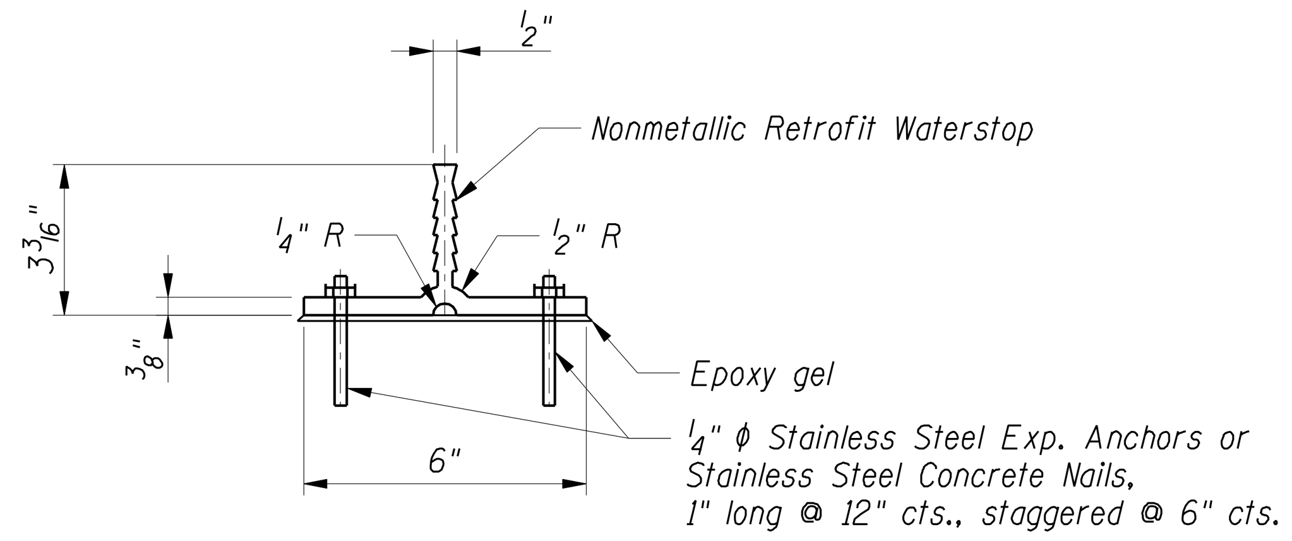
SUMMARY FOR DRAWINGS S1-S10

Item	Unit	Total
Concrete Removal	Cu yd	283
Recorder Gage House Removal	L Sum	1
Stone Riprap Removal	Ton	341.8
Riprap for Stilling Basin Relocation	Ton	1361
Galvanized Welded Steel Bar Grating	sq ft	38.8
Furnishing and Erecting Structural Steel	lb	1686
Precast Concrete Box Culvert 5'x3'	ft	5.0
Concrete Structures	Cu yd	159
Reinforcement Bars, Epoxy Coated	lb	12,680
Slide Gate	each	1
Steel Trash Rack	each	1
Pedestrian Railing	ft	88
Precast Stoplog Blocks	L sum	1
Roller Compacted Concrete	Cu yd	4081



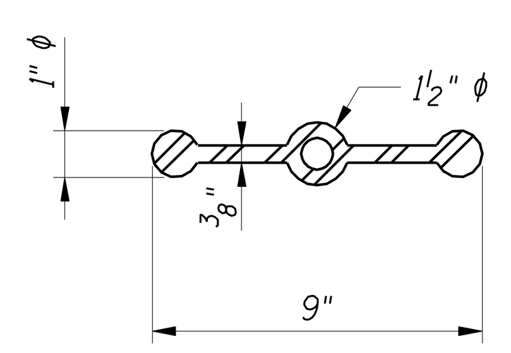
TYPE A WATERSTOP

Two Bulb Waterstop shall be provided at all vertical construction joints and as noted on the plans (Cost included with Concrete Structures)



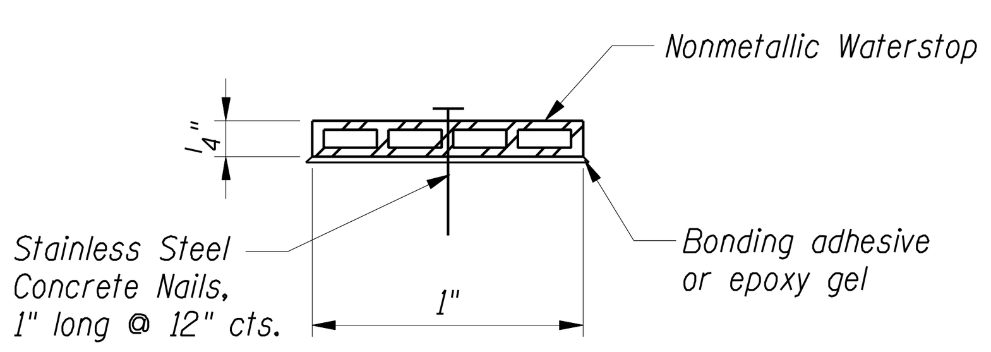
TYPE B WATERSTOP

Existing concrete surfaces in contact with waterstop shall be cleaned by sand blasting or grinding to assure a good bond. An epoxy gel bonding agent shall be applied per the manufacturer's instructions. (Cost included with Concrete Structures)



TYPE C WATERSTOP

Three Bulb Waterstop shall be provided at all expansion joints. (Cost included with Concrete Structures)



TYPE D WATERSTOP

Existing concrete surfaces in contact with waterstop shall be cleaned by sand blasting or grinding to assure a good bond. An epoxy gel bonding agent or bonding adhesive shall be applied per the manufacturer's instructions. (Cost included with Concrete Structures)

DESIGN SPECIFICATIONS

U.S. Army C.O.E. EM1110-2-2104 - Strength Design for Reinforced Concrete Hydraulic Structures (2003)
U.S. Army C.O.E. EC1110-2-6058 - Stability Analysis of Concrete Structures (2003)

DESIGN LOADING

	Fox River		Bypass Channel	
Load Case	Headwater	Tailwater	Headwater	Tailwater
Case 1 - Normal Operating Condition	577.7	574.7	575.6	575.6
Case 2 - Maintenance Condition	577.7 or 565.0	574.7 or 565.0	575.6 or 565.0	575.6 or 565.0
Case 3 - Seismic Condition	575.6	569.8	572.4	571.0
Case 4 - Design Flood Condition	579.7	578.6	579.0	579.0

(Headwater is upstream and Tailwater is downstream of the existing dam)

DESIGN STRESSES

Cast-in-Place Concrete	f'c = 3,500 psi
Roller Compacted Concrete	f'c=3500 psi (28 day)
Reinforcement	fy = 60,000 psi
Allowable Rock Bearing	Qall = 50 tsf

SEISMIC DATA

Sa (t=0.3 sec):
0.04g at Tr = 144 Yr
0.09g at Tr = 1000 Yr

Designed By TCU Checked By TKL
Drawn By JPR Checked By TCU