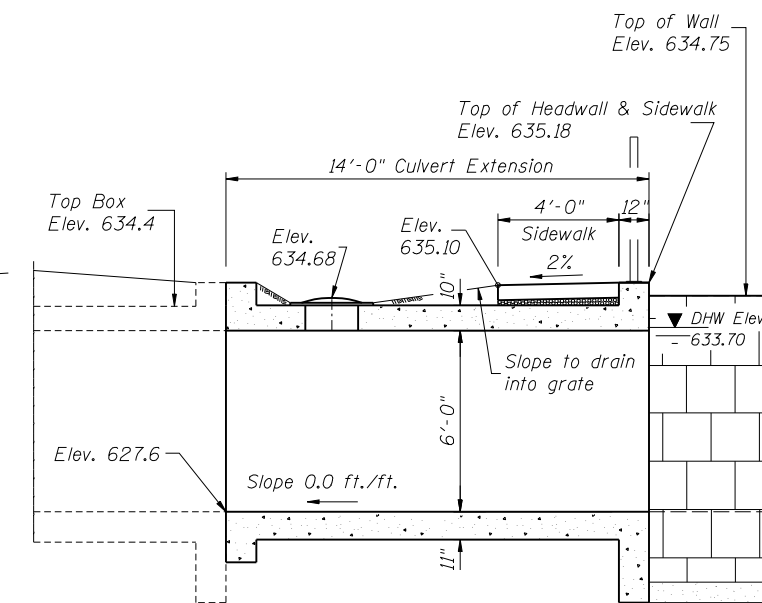
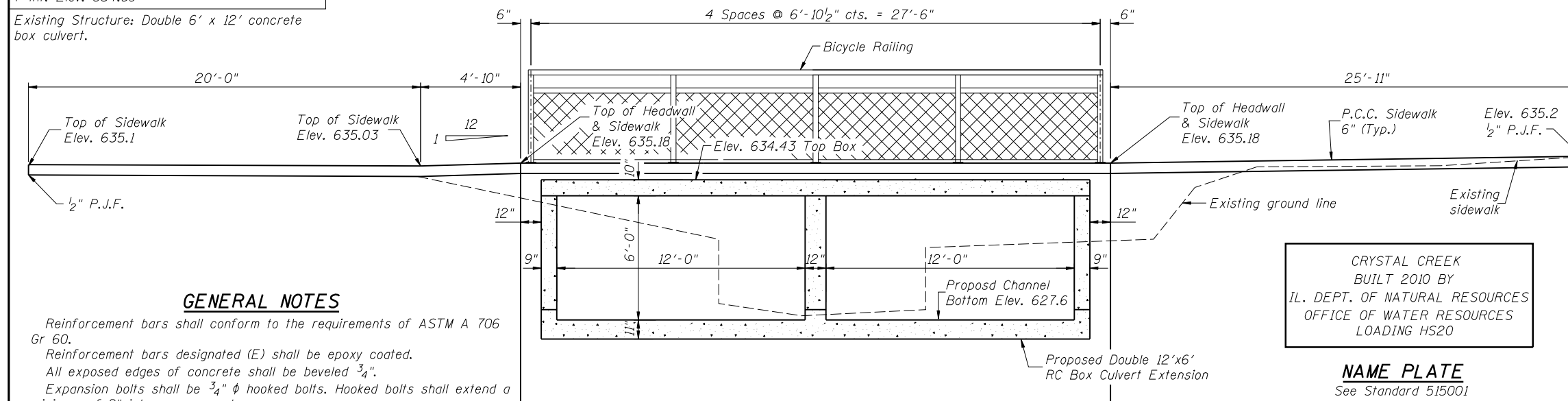


TH-11: Chis. square on left D.S. headwall at 25th Ave. over Crystal Creek south of Ruby St. T int. Elev. 634.89

Existing Structure: Double 6' x 12' concrete box culvert.



**GENERAL NOTES**

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.  
Reinforcement bars designated (E) shall be epoxy coated.  
All exposed edges of concrete shall be beveled 3/4".  
Expansion bolts shall be 3/4" φ hooked bolts. Hooked bolts shall extend a minimum of 9" into new concrete.  
For backfilling and embankment, see Standard Specifications.  
Precast alternate is not allowed.

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**NAME PLATE**

See Standard 515001  
Note: Attach name plate to upstream headwall.

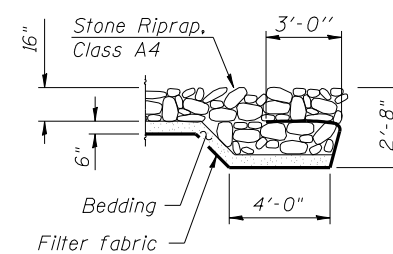
**SECTION A-A**

A-1  
(Actual location 10' further west)

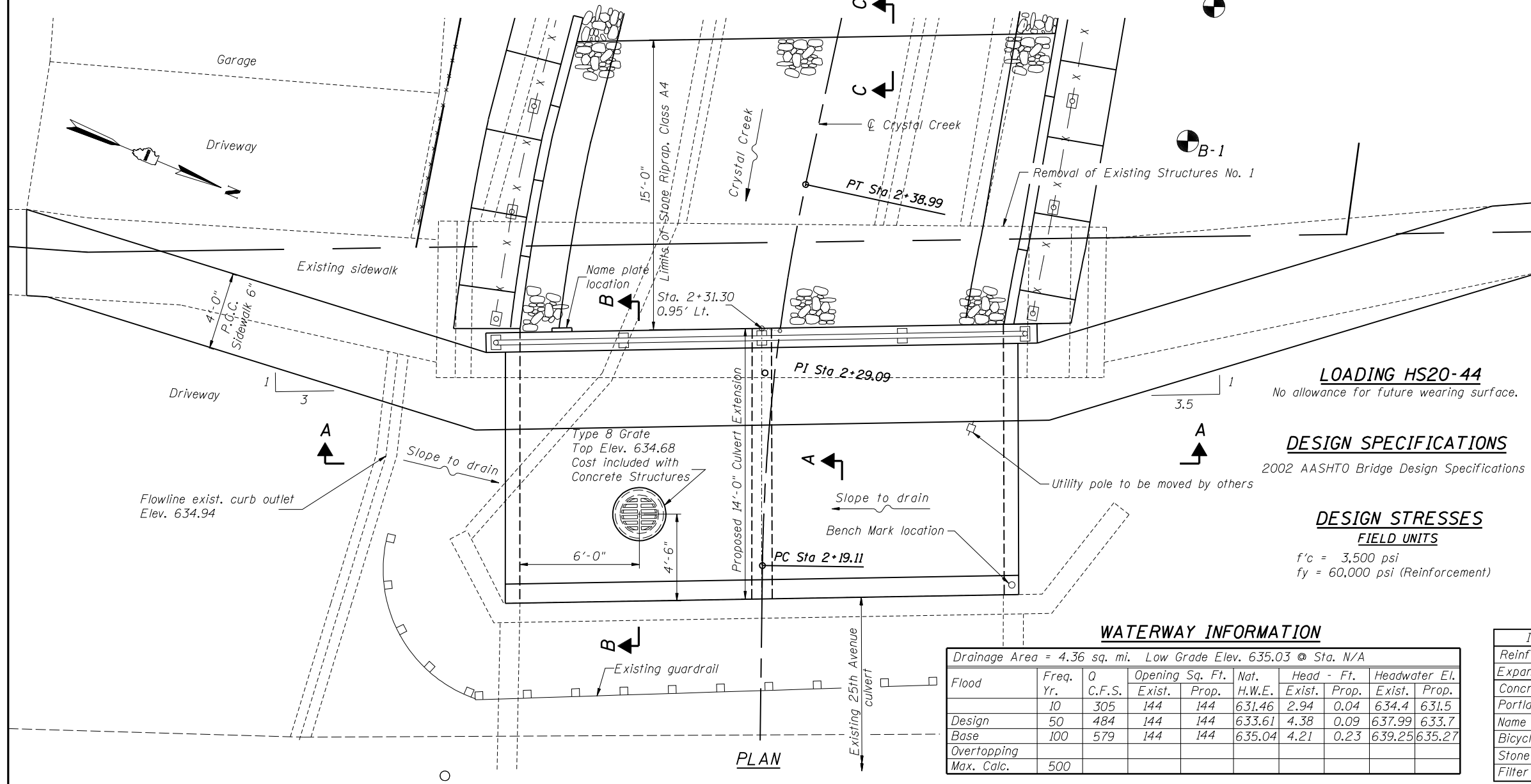
B-1A

B-1

**SECTION B-B**



**SECTION C-C**



**LOADING HS20-44**

No allowance for future wearing surface.

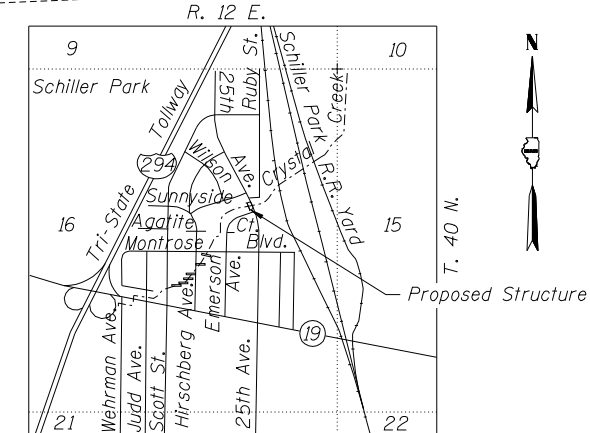
**DESIGN SPECIFICATIONS**

2002 AASHTO Bridge Design Specifications

**DESIGN STRESSES**

**FIELD UNITS**

f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)



**LOCATION SKETCH**

**WATERWAY INFORMATION**

Drainage Area = 4.36 sq. mi. Low Grade Elev. 635.03 @ Sta. N/A

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	305	144	144	631.46	2.94	0.04	634.4	631.5	
Base	50	484	144	144	633.61	4.38	0.09	637.99	633.7	
Overtopping	100	579	144	144	635.04	4.21	0.23	639.25	635.27	
Max. Calc.	500									

**TOTAL BILL OF MATERIAL**

Item	Unit	Total
Reinforcement Bars	Pound	6,120
Expansion Bolts 3/4"	Each	49
Concrete Box Culverts	Cu Yd	36.2
Portland Cement Concrete Sidewalk 6 Inch	Sq Ft	321
Name Plates	Each	1
Bicycle Railing	Foot	28
Stone Riprap, Class A4	Sq Yd	42
Filter Fabric	Sq Yd	42

Designed By TMM Checked By JUF  
 Drawn By JUF Checked By RLP  
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