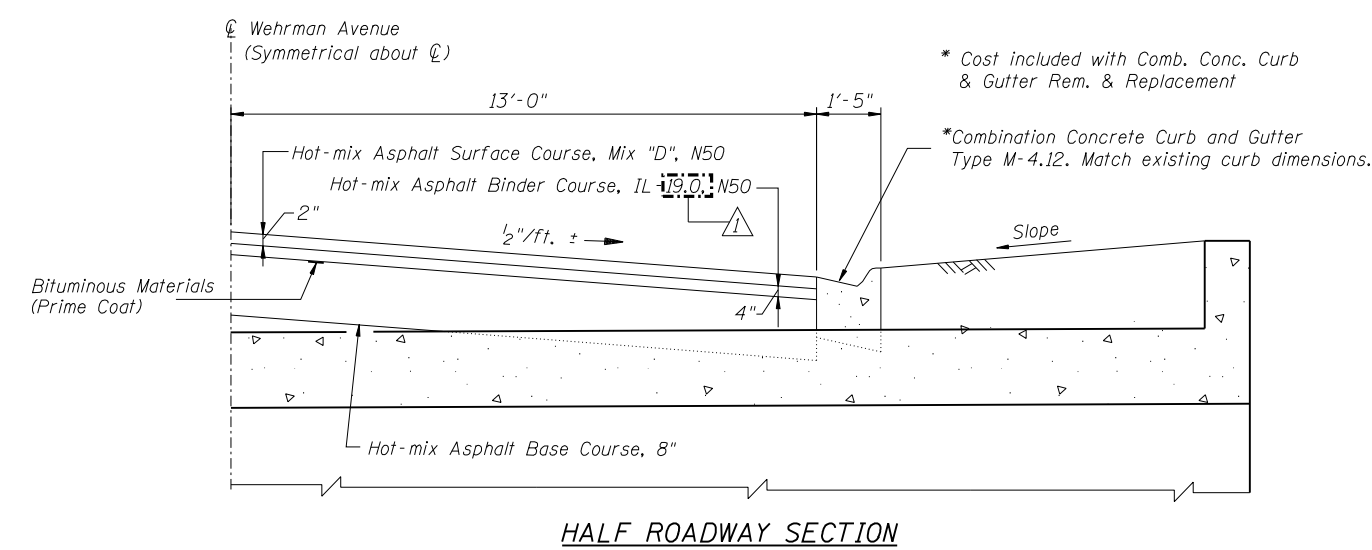
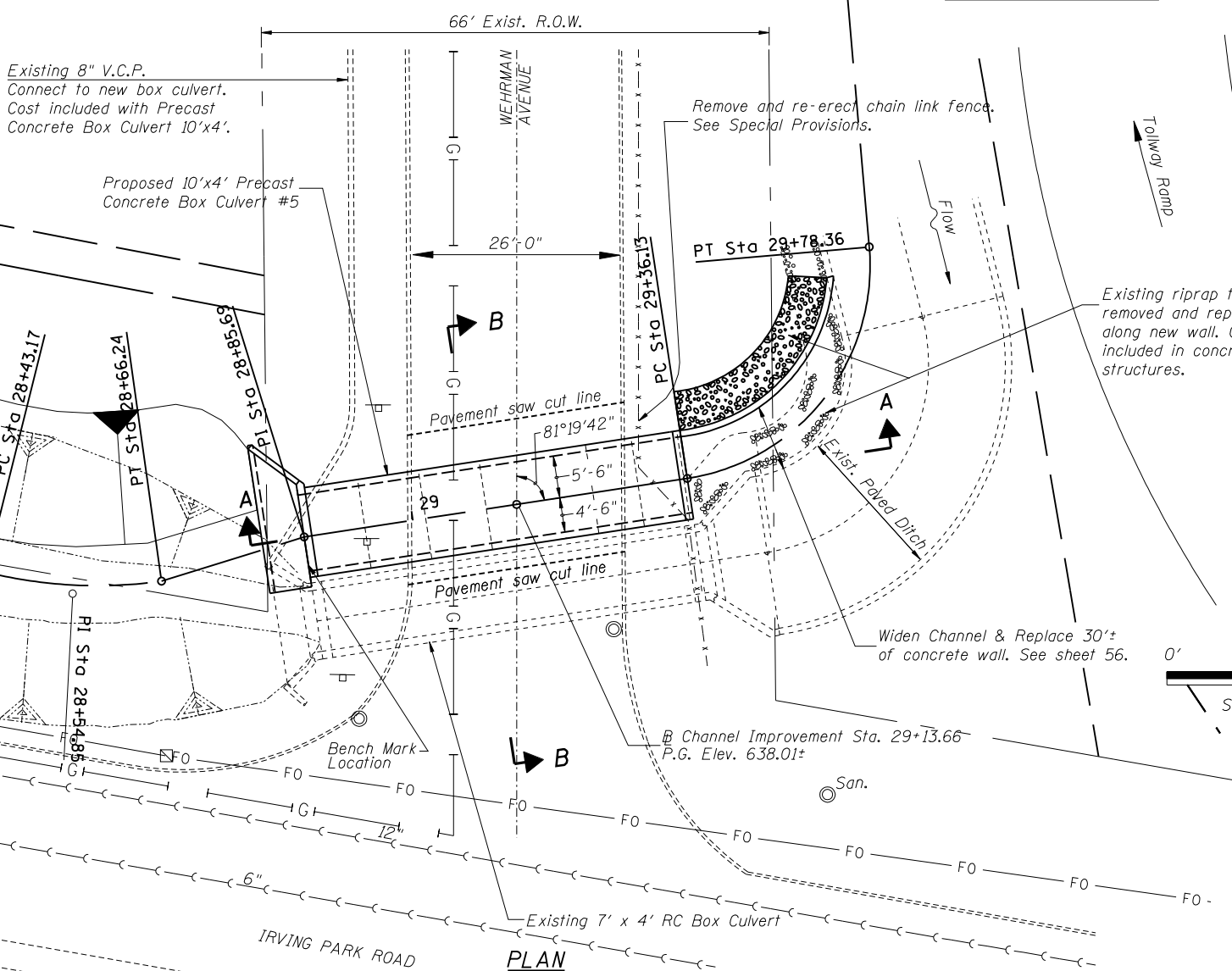
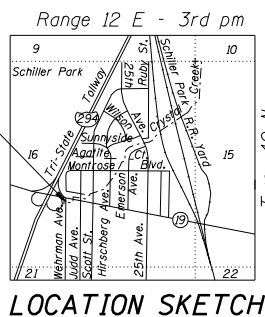


CRYSTAL CREEK  
BUILT 2010 BY  
IL. DEPT. OF NATURAL RESOURCES  
OFFICE OF WATER RESOURCES  
LOADING HS20

**NAME PLATE**  
See Std. 515001  
(Attach to downstream headwall)



**LOADING HS20-44**  
Allow 50#/sq. ft. 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)

**PRECAST UNITS**  
f'c = 5,000 psi  
fy = 65,000 psi (Welded Wire Fabric)  
fy = 60,000 psi (Reinforcement)

**WATERWAY INFORMATION**

Drainage Area = 0.94 sq. mi. Low Grade Elev. 637.47 @ Sta. 638.01

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Design	10	227	28	68	636.12	1.97	0.11	638.09	636.23
Base	50	343	28	68	637.42	1.1	0.47	638.52	637.89
Overtopping	100	402	28	68	637.69	1.87	0.57	639.56	638.26
Max. Calc.	500								

**GENERAL NOTES**

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

All exposed edges of concrete shall be beveled 3/4".

For backfilling and embankment, see Standard Specifications.

It shall be the responsibility of the Contractor to divert the stream flow during construction in order to keep the construction areas free of water. The method of water diversion shall be subject to the approval of the Engineer, and the cost shall be included with "Concrete Box Culverts".

This box culvert has a fill height of 0.5 feet. The Precast Concrete Box Culvert sections shall conform to the requirements of AASHTO M-273.

The Contractor shall contact Mr. Dana Havranek from the Illinois Tollway permit section at 630-241-6800 ext. 3941 in order to obtain a tollway construction permit prior to commencement of any work on the Illinois tollway right-of-way or facilities.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QTY.
Precast Concrete Box Culvert 10' x 4' (M273)	Foot	50.5
Concrete Structures	Cu Yd	23
Reinforcement Bars, Epoxy Coated	Pound	1440
Expansion Bolts 3/4 Inch	Each	50
Hot-mix Asphalt Base Course, 8"	Sq Yd	53
Hot-mix Asphalt Surface Course, Mix "D", N50	Ton	7
Hot-mix Asphalt Binder Course, IL 119.0, N50	Ton	13
Pavement Removal	Sq Yd	59
Combination Conc. Curb and Gutter Removal & Repl.	Foot	39
Bituminous Materials (Prime Coat)	Gallon	3
Name Plates	Each	1

Revised 2/10/2010, RLP

Designed By TMM Checked By JUF  
 Drawn By JUF Checked By RLP  
 2/10/2010 3:56:05 PM  
 C:\Dwt\Proj\Imp\Projects\Crystal Creek\JF\Culvert No 5 Wehrman Avenue.dgn