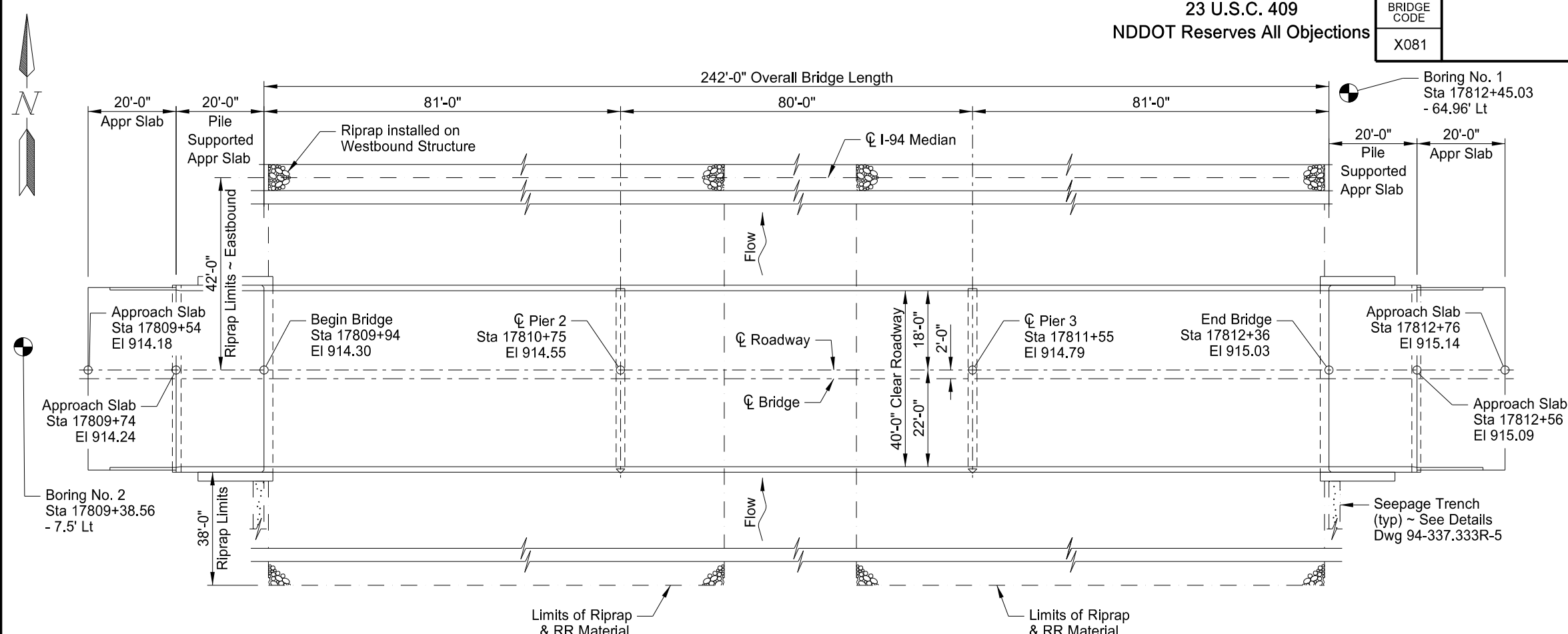


BRIDGE CODE	STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
X081	ND	IM-8-094(100)337	170	19



**HYDRAULIC DATA:**

Drainage Area	1,467.8	sq mi
Design Frequency	50	yr
Design Discharge	11,443	cfs
Design Stage (upstream)	908.27	ft
Stream Gradient	0.00068	ft/ft
Waterway Provided Below Design Stage	2,717	sq ft
Waterway Provided Below Clearance Elevation	3,291.5	sq ft
Average Velocity of Flow in Natural Channel	4.28	fps
Depth of Flow	18.36	ft
Velocity of Flow Under Bridge	4.21	fps
100-Year Frequency Discharge	13,269	cfs
100-Year Frequency Stage	909.03	ft
Overtopping Stage	914.24	ft
Overtopping Discharge	45,093.6	cfs

**DESIGN STRENGTHS:**

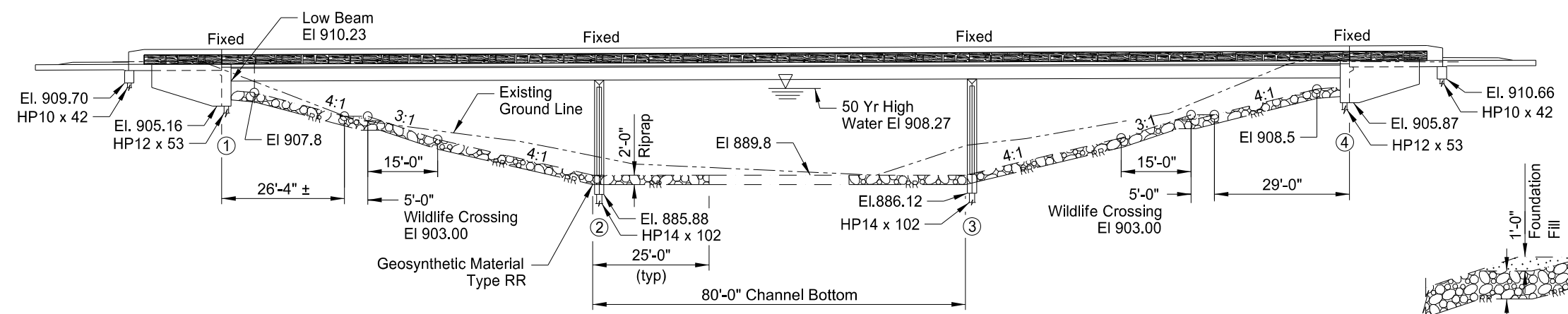
f'c = 3,000 psi ~ Class AE-3 Concrete  
 f'c = 4,000 psi ~ Class AAE-3 Concrete  
 f'c = 7,000 psi ~ Prestressed Beam Concrete  
 fy = 60,000 psi ~ Reinforcing Steel

Load & Resistance Factor Design

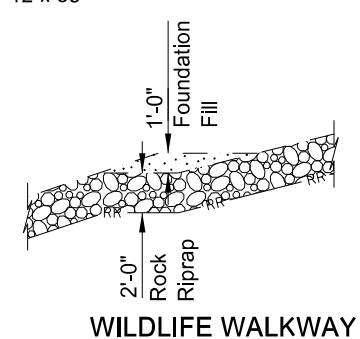
PLAN

**SURVEY CONTROL POINTS**

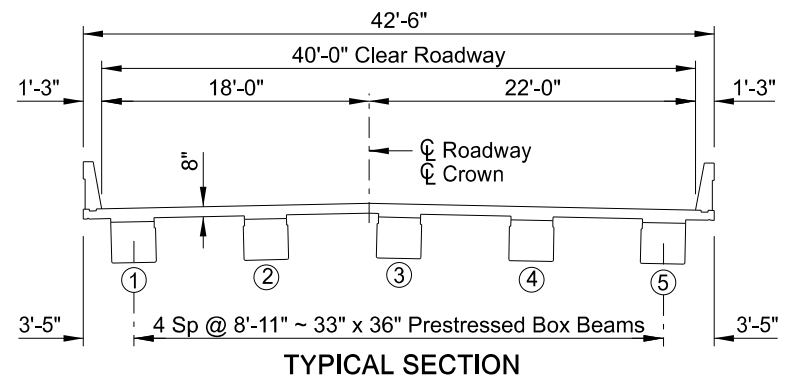
POINT	NORTHING	EASTING	ELEVATION
RTK 1018	460,119.90	2,823,629.48	913.03
RTK 1019	460,052.43	2,822,608.92	913.35



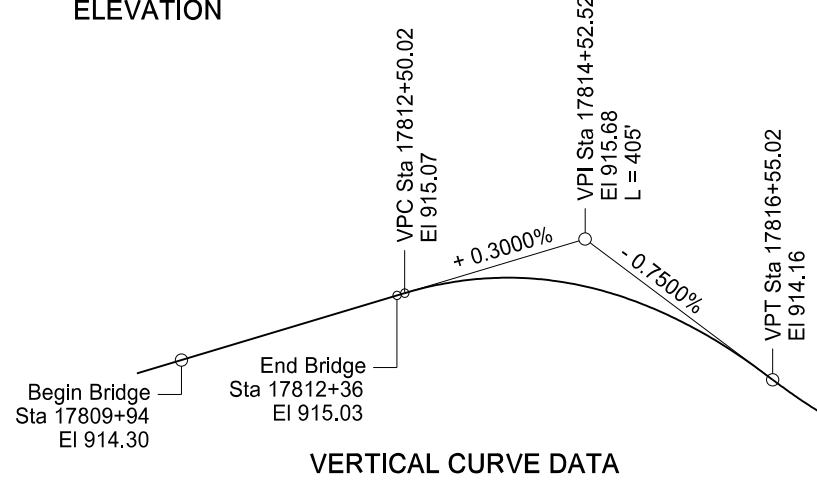
ELEVATION



WILDLIFE WALKWAY



TYPICAL SECTION



VERTICAL CURVE DATA

**NOTE:**  
Place 1'-0" of foundation fill over riprap for wildlife walkway. Include all costs for walkway in price bid for riprap.

This drawing is preliminary and not for construction or implementation purposes.

SPECIAL PROVISIONS	
SSP 2	MIGRATORY BIRD TREATY ACT
SP 294(20)	ARCHITECTURAL SURFACE
SP 355(20)	WINTER SUSPENSION
STANDARD DRAWINGS	
D-622-1, D-714-18, D-900-1	
F.W.S. 15 PSF	
HL-93 DESIGN LOADING	
MAPLE RIVER STA 17811+15 BRIDGE LAYOUT	
ND DEPARTMENT OF TRANSPORTATION BRIDGE DIVISION	