Benchmark: BM#178; Chisled square at south end of storm inlet ±0.45 miles south of Morgan Cass County Rd and Rt 78 intersection. Sta. 18+604.7, 4.95 m Rt. Elev. 169.317

Existing Structure: Reinforced concrete double box culvert (each box 2.75 m x 3.35 m) approximately 20.9 m in length. Built about 1928. The contractor shall remove the existing culvert in stages and replace it with a new double 2.75 m x 3.35 m reinforced concrete box culvert 41.9 m in length.

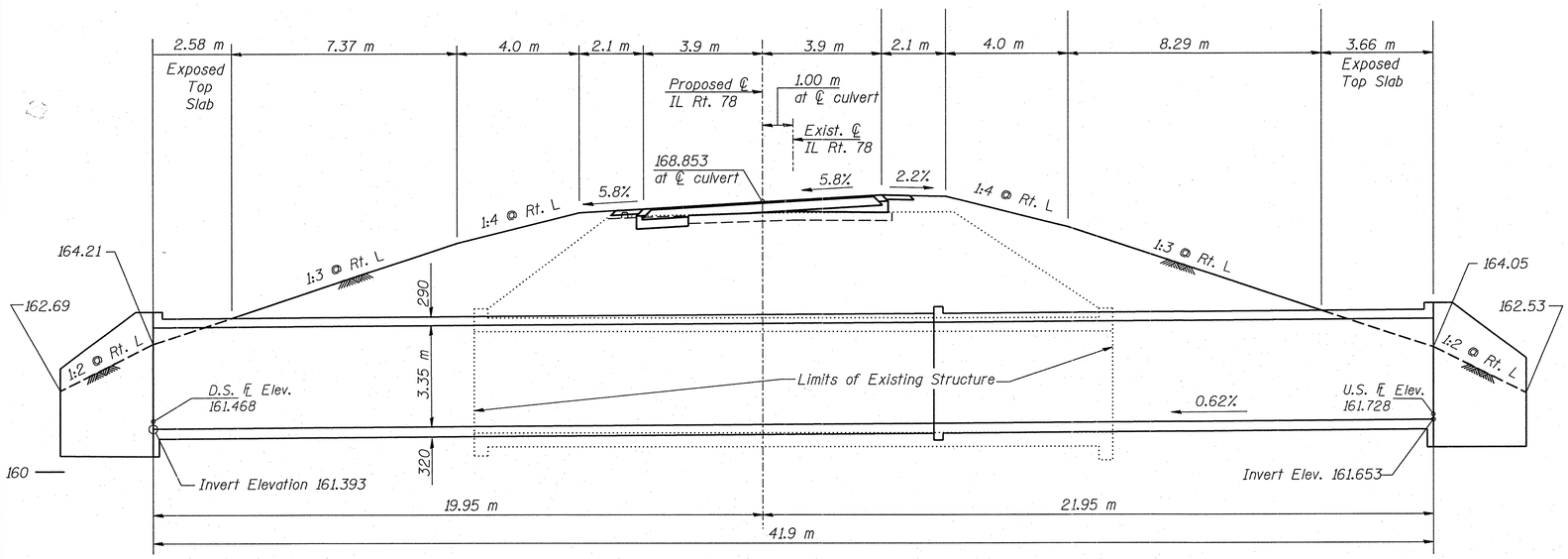
No Salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. B. I. F. A.			200	110
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 1
5 SHEETS

92656



ELEVATION
(Looking North)

PROP. CURVE 32000
PI STA = 18+754.940
Δ = 30° 53′ 40″ (LT)
R = 436.000 m
T = 120.481 m
L = 235.095 m
E = 16.340 m
T.R. = 20 m
S.E. RUN. = 50 m
SE = 0.058 m/m
P.C. STA = 18+634.460
P.T. STA = 18+869.554

SA = 18+581.127
18+651.127
SR = 18+852.887
18+922.887

PROPOSED HORIZONTAL CURVE DATA

GENERAL NOTES

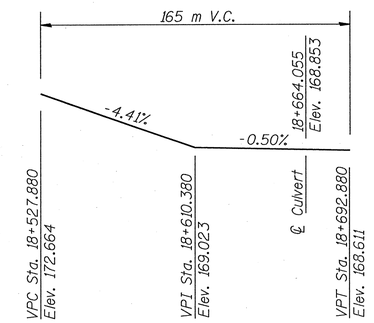
Reinforcement bars shall conform to the requirements of AASHTO M31M or M322M, Grade 420.

All dimensions are in millimeters (mm) except as noted.

A distance of half the length of the wingwall but not less than 2 m of the barrel shall be poured monolithically with the wingwalls.

All construction joints shall be bonded.

Precast culvert alternate is not allowed.



PROFILE GRADE
(℄ proposed roadway)

DESIGN SPECIFICATIONS

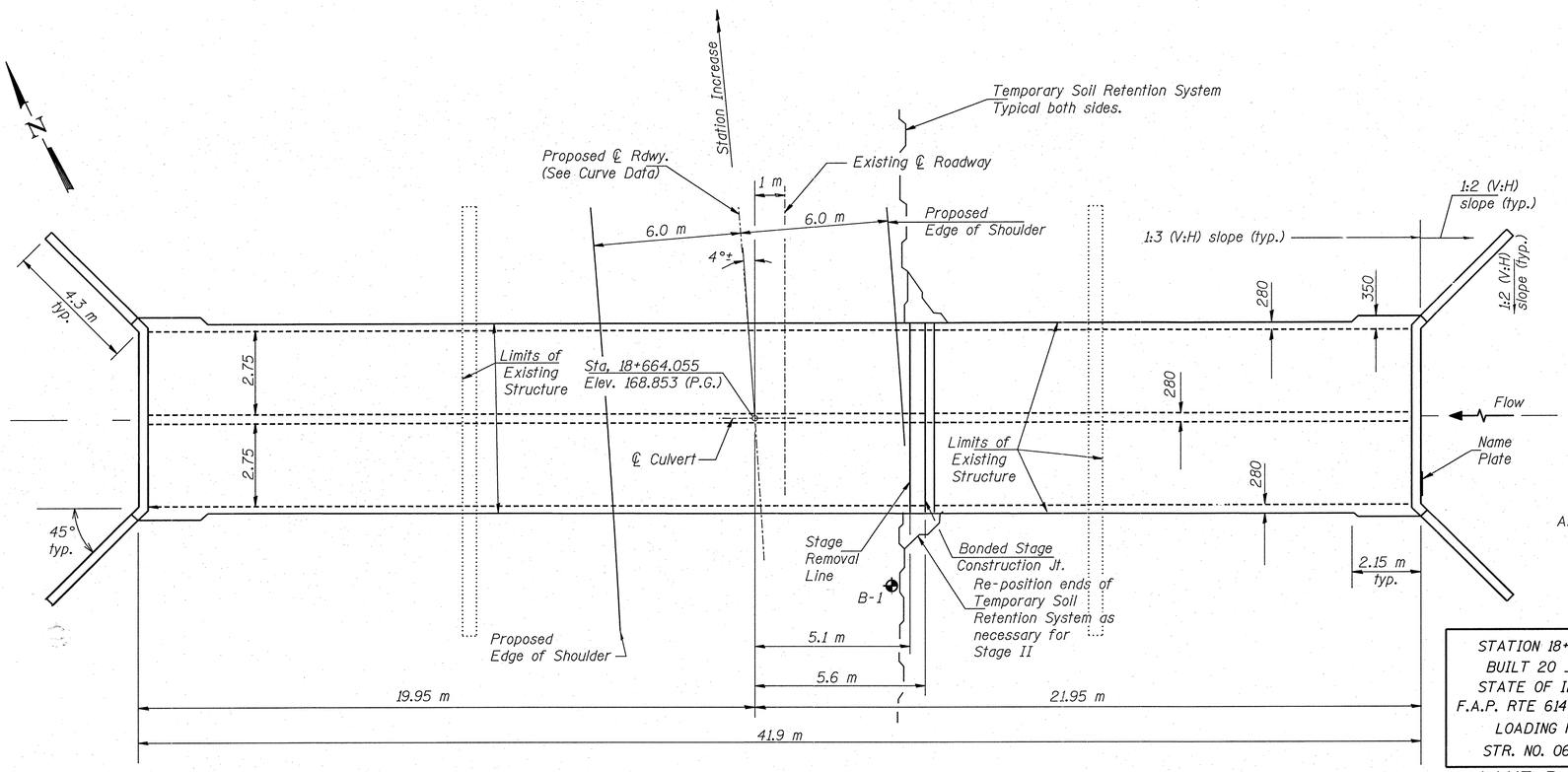
2002 AASHTO "Standard Specifications for Highway Bridges" 17th Edition

WATERWAY INFORMATION

Drainage Area = 7.02 km²

Ex. Low Grade Elev. - 168.56 m @ Sta. - 18+650
Pr. Low Grade Elev. - 168.70 m @ Sta. - 18+712

Flood	Freq. Yr.	Q C.M.S.	Opening m² Exist.	Opening m² Prop.	Nat. H.W.E Exist.	Nat. H.W.E Prop.	Head - m Exist.	Head - m Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	22.3	13.0	16.4	164.27	164.28	0.00	0.00	164.27	164.28
Design	50	36.3	14.4	17.8	164.51	164.53	0.09	0.08	164.60	164.61
Base	100	42.6	14.8	18.2	164.59	164.61	0.19	0.18	164.79	164.79
Overtopping	-		-	-	-	-	-	-	-	-
Max. Calc.	500	57.9	15.1	18.4	164.75	164.79	0.47	0.50	165.23	165.29



PLAN

DESIGN STRESSES

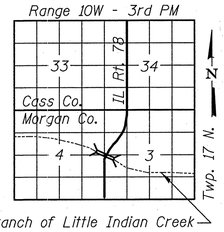
FIELD UNITS
f'c = 24 MPa
fy = 420 MPa (reinf.)

LOADING MS18

Allow 2.4 kN/m² for future wearing surface.

STATION 18+664.055
BUILT 20 _ BY
STATE OF ILLINOIS
F.A.P. RTE 614 SEC 147B
LOADING MS18
STR. NO. 069-C151

NAME PLATE
See Std. 515001



LOCATION SKETCH

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal of Existing Structures	Each	1
Concrete Box Culverts	m³	311.1
Bar Splicers	Each	126
Reinforcement Bars	kg	31,270
Name Plates	Each	1
Temporary Soil Retention System	m²	32

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DONALD D. SCHELL
062-056
12-23-03
PROFESSIONAL ENGINEER

EXPIRES:
11/30/04

GENERAL PLAN
DOUBLE BOX CULVERT
IL RTE 78 OVER CREEK
F.A.P. RTE 614 SECTION 147B
MORGAN COUNTY
STATION 18+664.055
S.N. 069-C151

DESIGNED	JFJ
CHECKED	DDB
DRAWN	JFJ
CHECKED	JFJ

RANDOLPH & ASSOCIATES, INC.
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CONSULTING ENGINEERS • LAND SURVEYORS

FILE NUMBER 136.080
DATE Dec. 23, 2003

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