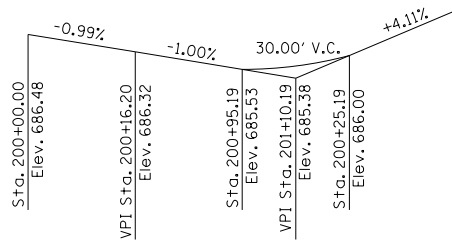


EXISTING STRUCTURE: DUAL 36" CMP'S

BENCHMARK ELEV. = 685.12 Chiseled square in top of northeast wingwall of S.N. 057-0093 at Sta. 429+62.04, 21.12' LT.



Profile Grade
Along ϕ TR 190 Roadway

DESIGN SPECIFICATIONS
2002 AASHTO

LOADING HS20-44

Allow 50#/sq.ft. for future wearing surface

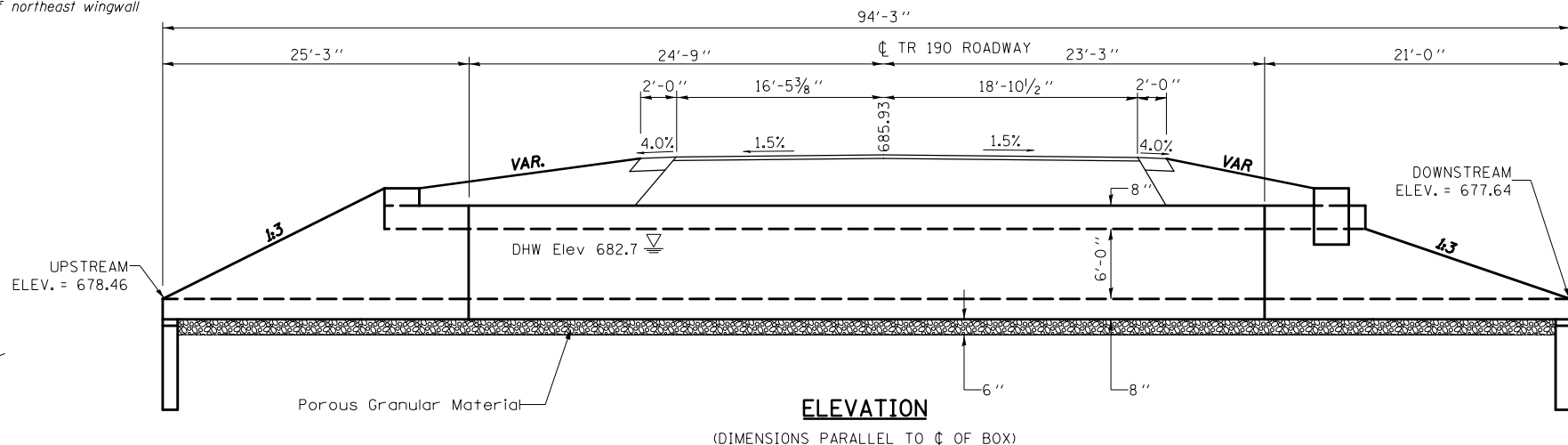
DESIGN STRESSES

FIELD UNITS

f'_c = 3,500 psi
 f_y = 60,000 psi (reinforcement)
 f_y = 65,000 psi (welded wire fabric)

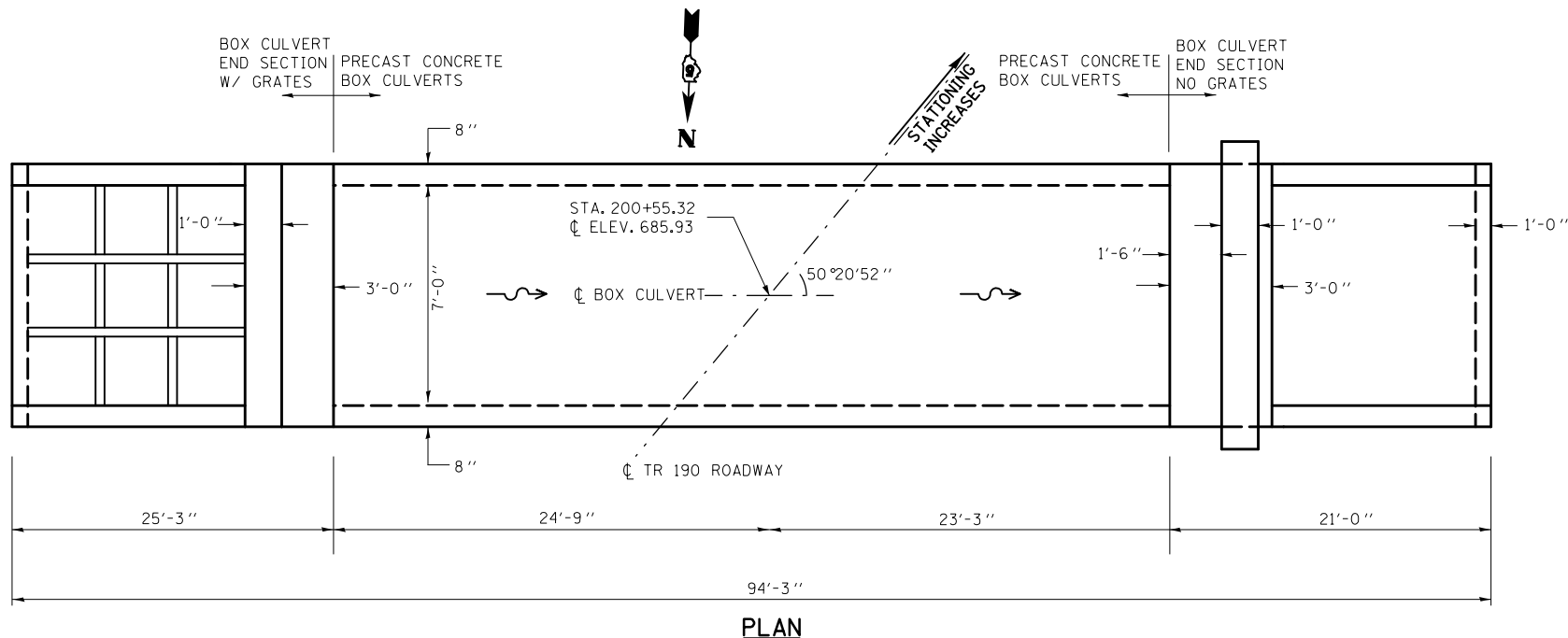
PRECAST UNITS

f'_c = 5,000 psi
 f_y = 65,000 psi (welded wire fabric)



ELEVATION

(DIMENSIONS PARALLEL TO ϕ OF BOX)



PLAN

WATERWAY INFORMATION TABLE

Route:	FAP 315 (US136)
Section:	121 BR-2
County:	McLean
Date:	2/23/2011

S.N.:	Under TR 190
Waterway:	Unnamed
By:	EDG

Existing Low Grade Elev. = 684.45 @ Sta. 431+72.2 Rt 46.5'

Proposed Low Grade Elev. = 685.75 @ Sta. 431+72.2 Rt 75'

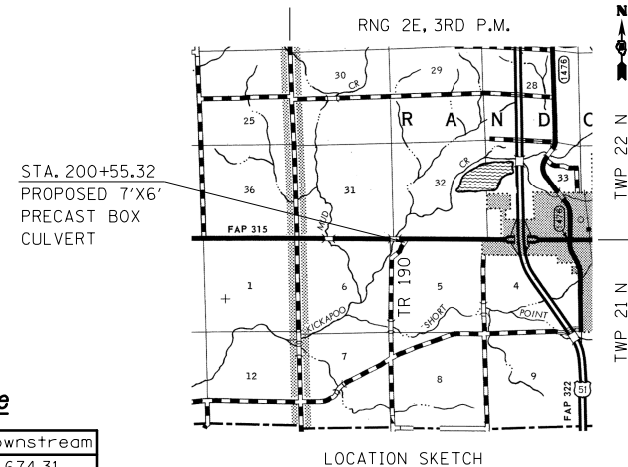
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural H.W.E.	Head - Ft.		Headwater Elevation	
			Existing	Proposed		Existing	Proposed	Existing	Proposed
10	137	13.1	19.4	681.6	3.1	0.5	684.7	682.1	
Design	50	279	14.1	25.9	682.7	2.7	1.9	685.4	684.6
Base	100	345	14.1	28.2	683.1	2.5	2.7	685.6	685.8
Overtopping Exist.	10	137	13.1		681.6	3.1		684.7	
Overtopping Prop.	100	345		28.5	683.1		2.7		685.8

10 YEAR VELOCITY THROUGH EXISTING BRIDGE = 9.4 fps

10 YEAR VELOCITY THROUGH PROPOSED BRIDGE = 11.1 fps

Design Scour Elevation Table

Design Scour Elevation (ft.)	Upstream	Downstream
	675.13	674.31



LOCATION SKETCH

General Notes

See 'Precast Box Culvert End Sections' for end section details. The design reinforcement for a 6 foot rise shall be used for A_{s1m}

The design reinforcement areas for the Precast Concrete Box Culverts shall conform to those found in Table 1 of the AASHTO M 273 Specification for a 7' x 6' box section with a design fill height of 1.0 feet.

The joints between precast box sections shall be sealed, all voids filled with a mastic joint sealer. In addition, the joints shall be externally sealed on all four sides with a 13 inch wide external sealing band. The seal shall be centered over the joint, secured in place and protected during the backfilling process.

All dimensions are in FEET (') - INCHES (") unless otherwise noted.

Drawings not to scale.

TOTAL BILL OF MATERIAL

Item	Unit	Total
Precast Concrete BC 7'x6' (M273)	Foot	48
Box Culvert End Sections C*01	Each	1
Grated Box Culvert End Sections C*01	Each	1

GENERAL PLAN AND ELEVATION
7'x6' PRECAST BOX CULVERT
F.A.P. ROUTE 315 - SECTION 121BR-2
MCLEAN COUNTY
STATION 200+55.32

FILE NAME =	USER NAME = hoganbj	DESIGNED -	BJH 5/24/2011	REVISED -	
et:\pwork\pwork\hoganbj\d0142533\0570093\52-sht-culvert_CR_1300.CEL		DRAWN -	BJH 5/24/2011	REVISED -	
		CHECKED -		REVISED -	
		DATE -		REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
TR 190 BOX CULVERT STA 200+55.32

SCALE: _____ SHEET NO. 1 OF 1 SHEETS STA. _____ TO STA. _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	121BR-2	MCLEAN	144	86
CONTRACT NO. 70552				
ILLINOIS FED. AID PROJECT				