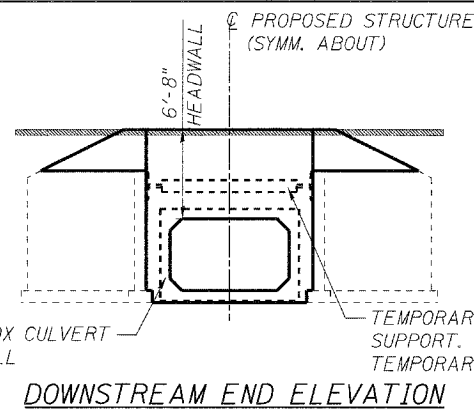


# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

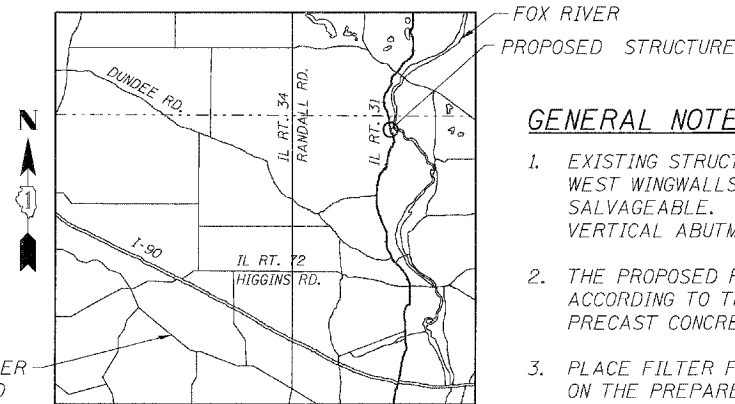
## INDEX OF STRUCTURAL SHEETS

SHT. NO.	DESCRIPTION
10	GENERAL PLAN, ELEVATION AND INDEX
11	REMOVAL PLAN AND SECTION
12	STRUCTURE DETAILS AND REINFORCING
13	STRUCTURE DETAILS AND REINFORCING
14	BAR SPLICER ASSEMBLY DETAILS
15	TEMPORARY CONCRETE BARRIER DETAILS



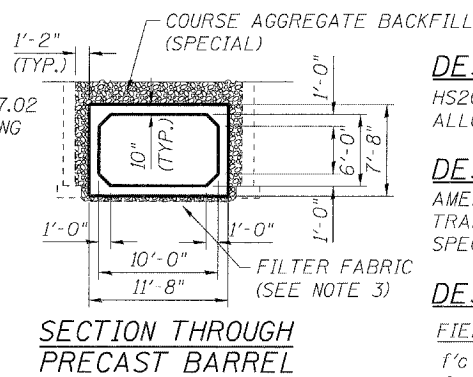
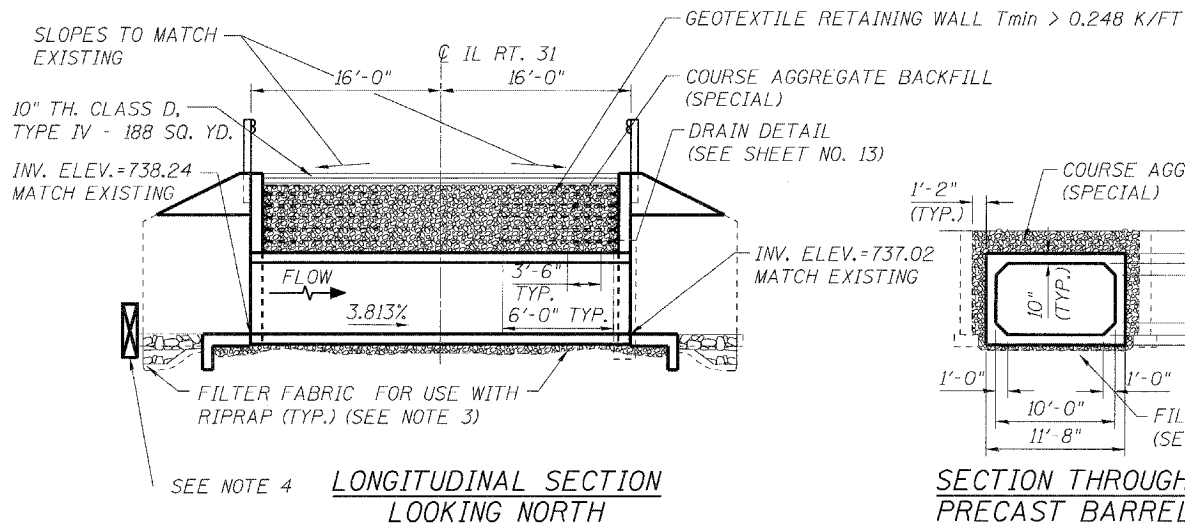
STATION 37+42 (PROJECT)  
BUILT 200 BY  
STATE OF ILLINOIS  
F.A.P. ROUTE 3887 SEC. S-T-1  
LOADING HS20  
STR. NO. 045-0330

**NAME PLATE**  
See Std. 515001



### GENERAL NOTES

1. EXISTING STRUCTURE: 045-2036 BUILT CIRCA 1920'S AND REPAIRED WEST EDGE OF SLAB AND WEST WINGWALLS IN 2005. TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION. SALVAGEABLE. THE WING WALLS SHALL BE SALVAGED AND PORTIONS OF THE EXISTING VERTICAL ABUTMENT/WALLS SHALL REMAIN. THE NEW STRUCTURE NUMBER IS 045-0330.
2. THE PROPOSED PRECAST CONCRETE BOX CULVERT SHALL BE DESIGNED BY THE CONTRACTOR ACCORDING TO THE REQUIREMENTS OF AASHTO M259 (ASTM C789). COST IS INCLUDED IN PRECAST CONCRETE BOX CULVERT 10'x6' ITEM.
3. PLACE FILTER FABRIC CONFORMING TO SECTION 282 OF THE IDOT STANDARD SPECIFICATIONS ON THE PREPARED EXCAVATION BELOW POROUS GRANULAR MATERIAL AND UP THE SIDE OF EXISTING WALLS TO REMAIN A DISTANCE OF 3'-0". COST IS INCLUDED IN FILTER FABRIC ITEM.
4. PLACE A TEMPORARY STREAM DIVERSION AT THE UPSTREAM END OF THE BOX CULVERT/WINGWALLS AND TEMPORARILY PUMP OR OTHERWISE CONVEY THE STREAM FLOW THROUGH THE WORK ZONE. THE DESIGN AND CONSTRUCTION OF THE TEMPORARY DIVERSION SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND THE COST INCLUDED IN TEMPORARY CLEAR WATER DIVERSION ITEM. THE TEMPORARY STREAM DIVERSION PLAN TO BE USED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK.
5. ALL CONSTRUCTION JOINTS SHALL BE BONDED.
6. THE INFORMATION SHOWN IN THESE PLANS CONCERNING THE TYPE AND LOCATION OF UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE EXISTENCE OF TYPE, SIZE AND LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES AS MAY BE NECESSARY TO AVOID CONFLICT WITH CONSTRUCTION OPERATIONS AND/OR DAMAGE TO THE UTILITY.
7. PRIOR TO REMOVAL OF THE TOP OF THE EXISTING REINFORCED CONCRETE SLAB, THE CONTRACTOR SHALL ADEQUATELY BRACE AND SUPPORT THE TOP OF THE EXISTING VERTICAL WALLS TO REMAIN, AS WELL AS THOSE PORTIONS OF THE EXISTING SLAB THAT REMAINS. THE DESIGN OF ALL SHORING, BRACING AND SUPPORT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO BEGINNING OF WORK. ALL WORK ASSOCIATED WITH THE DESIGN AND CONSTRUCTION OF THE SHORING, BRACING AND SUPPORT OF THE EXISTING STRUCTURE SHALL BE INCLUDED IN THE COST OF TEMPORARY SHORING ITEM.
8. THE CONTRACTOR IS TO PROTECT AND MAINTAIN ALL EXISTING UTILITIES. THIS WORK WILL NOT BE PAID FOR SEPERATELY. THE COST OF PROTECTING AND MAINTAINING UTILITIES SHALL BE CONSIDERED INCIDENTAL TO PRECAST CONCRETE BOX CULVERT 10'x6'.
9. THE CONTRACTOR IS TO PROTECT AND MAINTAIN ALL TREES WITHIN AND ADJECENT TO THE WORK ZONE FOR THIS PROJECT. THIS WORK WILL NOT BE PAID FOR SEPERATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO PRECAST CONCRETE BOX CULVERT 10'x6'.
10. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 706 GR 60 (IL MODIFIED). SEE SPECIAL PROVISIONS.
11. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.



### DESIGN LOADING

HS20-44 AND ALTERNATE MILITARY LOADING AND ALLOWANCE FOR 50 P.S.F. FUTURE WEARING SURFACE

### DESIGN SPECIFICATIONS

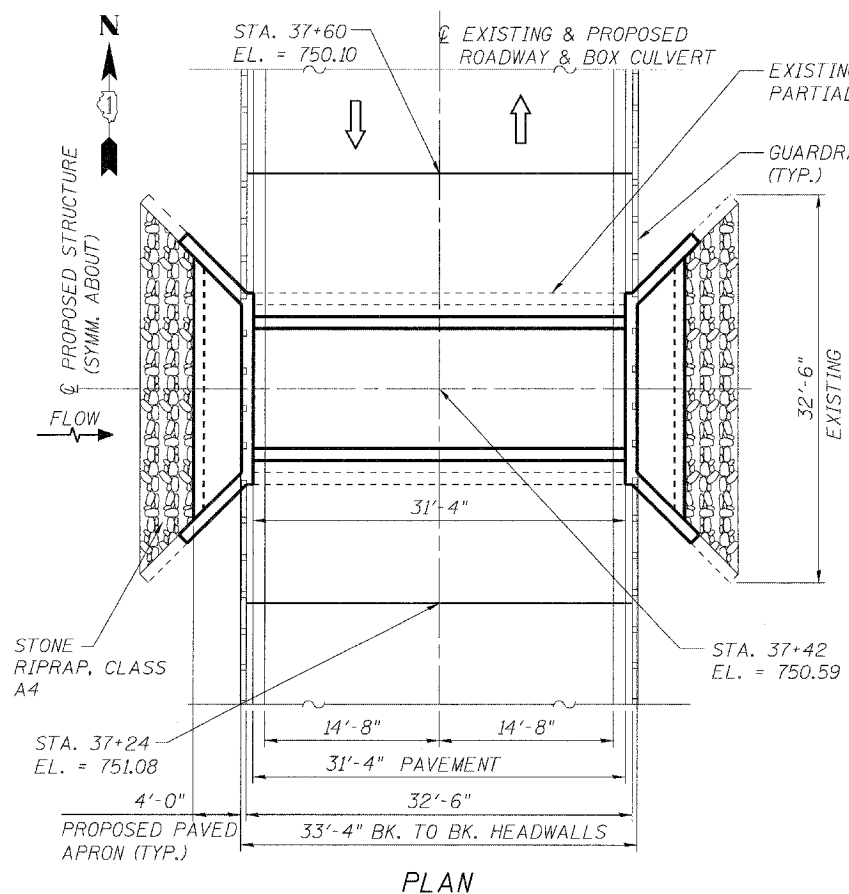
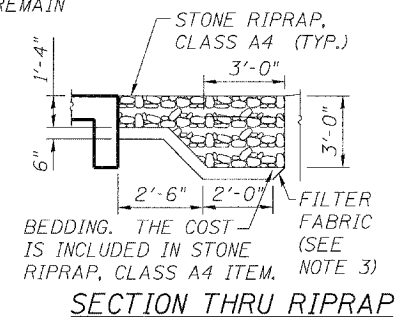
AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 2002

### DESIGN STRESSES

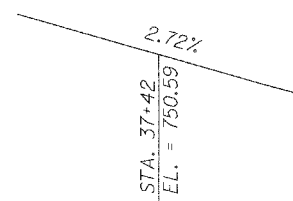
<b>FIELD UNITS</b>	<b>PRECAST UNITS</b>
$f'_c = 3,500$ psi	$f'_c = 5,000$ psi
$f_y = 60,000$ psi (REINFORCEMENT)	$f_y = 65,000$ psi (WWF)
	$f_y = 60,000$ psi (REINFORCEMENT)

### SEISMIC DATA

Seismic Performance Zone (SPZ) = A  
Horizontal Bedrock Acceleration Coefficient (A) = 0.4g  
Site Coefficient (S) = 1.0



### PROFILE GRADE (ALONG @ ROADWAY)



### WATERWAY INFORMATION

		DRAINAGE AREA = 110 AC LOW GRADE ELEV. = 751.33 EXISTING AND PROPOSED AT STATION 37+35				MAX. RECORDED H.W.E. =			
FLOOD	FREQUENCY (YR.)	DISCHARGE (CFS)	WATERWAY OPENING (FT.)		NATURAL H.W.E. (FT.)	CREATED HEAD (FT.)		HEADWATER ELEVATION (FT.)	
			EXISTING	PROPOSED		EXISTING	PROPOSED	EXISTING	PROPOSED
DESIGN	10	79.00	22.88	14.30	739.67	0.00	0.37	739.65	740.04
BASE	50	126.00	29.44	18.40	740.08	0.01	0.62	740.09	740.70
OVERTOPPING	100	145.50	31.68	19.80	740.22	0.05	0.72	740.27	740.94
MAX. CALC.	500	192.00	36.48	22.80	740.52	0.16	1.00	740.68	741.52

SIZE OF EXISTING BRIDGE OPENING: 16'x14'  
 SIZE OF PROPOSED BOX: 10'x6"  
 UPSTREAM INVERT: 738.24 (EXISTING, PROPOSED)  
 DOWNSTREAM INVERT: 737.02 (EXISTING, PROPOSED)  
 FREEBOARD: 11.24 FT. (EXISTING)-- 10.63 FT. (PROPOSED)  
 NOTE: NATURAL H.W.E ESTIMATED BASED ON CULVERT TAILWATER RATING CURVE AND EXTRAPOLATED TO UPSTREAM FACE OF CULVERT.

**LOVCO, INC.**  
CONSULTING ENGINEERS  
1919 N. WILL ST., SUITE 210  
NAPERVILLE, ILLINOIS 60563 PH: (630) 577-9100

USER NAME = #USER#	DESIGNED - WHE
PLOT SCALE = #SCALE#	DRAWN - ST
PLOT DATE = #DATE#	CHECKED - WHE
	DATE - 06/27/2008

REVISED - ---
REVISED - ---
REVISED - ---

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN, ELEVATION AND INDEX  
IL ROUTE 31**

SCALE: 1/8" = 1'-0" SHEET NO. 10 OF 17 SHEETS STA. 37+24 TO STA. 37+60

F.A. RTE. 3887	SECTION S-T-1	COUNTY KANE	TOTAL SHEETS 17	SHEET NO. 10
D-91-076-08			CONTRACT NO. 60E50	
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				