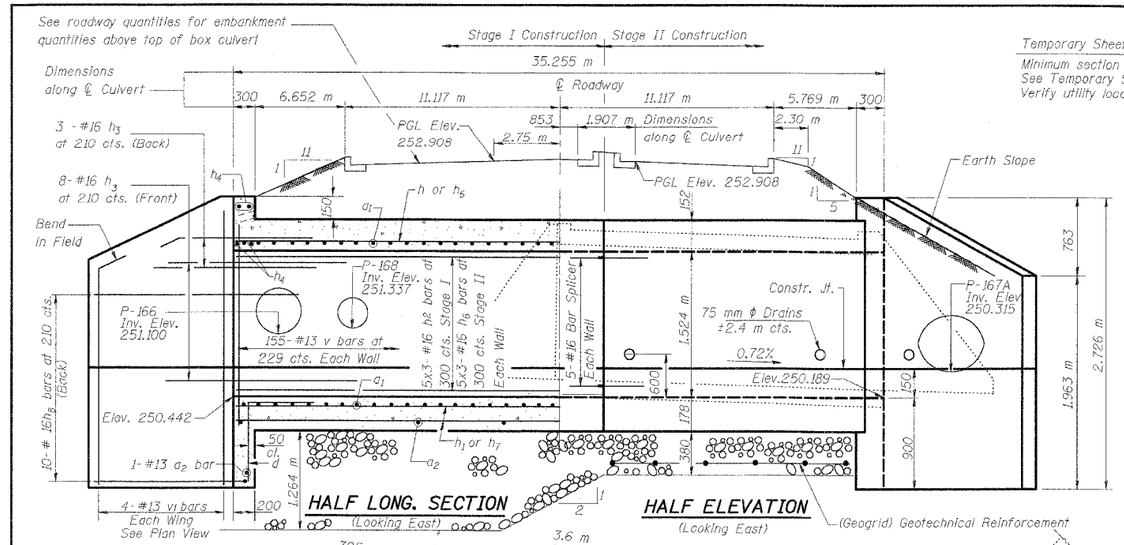
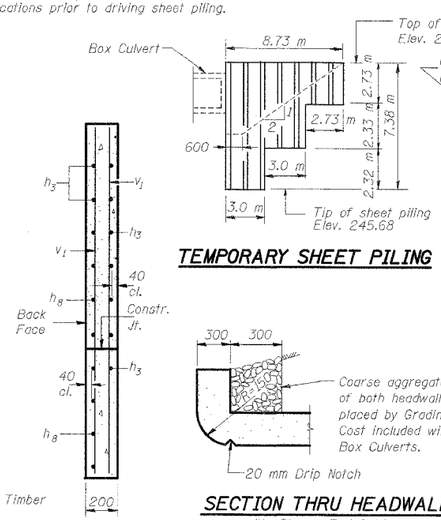
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
337	20 WRS-6	LAKE	3/5	196
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62030

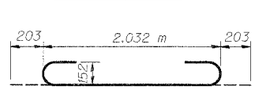


Temporary Sheet Piling Notes:

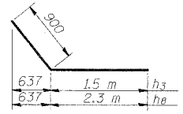
Minimum section modulus of temporary sheet piling shall be 791 x 10^3 mm^3 per meter of wall.
See Temporary Sheet Piling specifications for additional information
Verify utility locations prior to driving sheet piling.



SECTION A-A



BAR a_1



BARS h_3 & h_8

BAR d

LOADING MS18

Allow 2.4 kN/m^2 for future wearing surface.

DESIGN SPECIFICATIONS

1996 AASHTO with 1997-2000, & 2002 Interims

DESIGN STRESSES

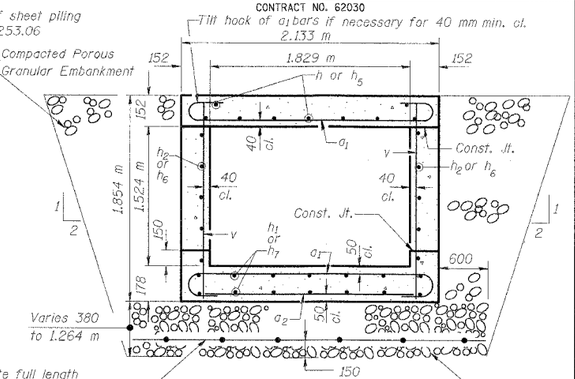
FIELD UNITS

f'_c = 24 MPa
f_y = 420 MPa (reinforcement)

TEMPORARY SHEET PILING

SECTION THRU HEADWALL

(Up Stream End Only)



SECTION THRU BARREL

(Cast-in-place)

Provide (Geogrid) Geotechnical Reinforcement under Stage II Construction only.

Bedding to be Compacted Porous Granular Embankment CA-5. Bedding cost to be included in Concrete Box Culverts.

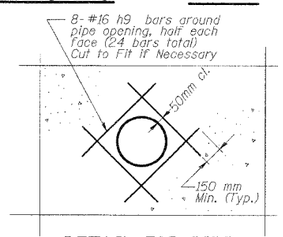
BILL OF MATERIAL

(Cast-in-place box culvert with wingwalls)

Bar	No.	Size	Length (m)	Shape
a1	558	16	2.44	
a2	62	13	1.93	
d	16	13	1.36	
h	18	16	9.38	
h1	28	13	9.26	
h2	30	16	6.44	
h3	44	16	2.40	
h4	8	19	2.03	
h5	18	16	8.88	
h6	30	16	6.15	
h7	28	13	8.82	
h8	40	16	3.20	
h9	24	16	1.10	
v	314	13	1.75	
v1	16	13	2.63	

Item	Unit	Quantity
Box Culvert Removal	m	17.6
Concrete Box Culverts	m^3	46.4
Reinforcement Bars	kg	4,885
Porous Granular Embankment	m^3	617.4
Temporary Sheet Piling	m^2	89.5
Geotechnical Reinforcement	m^2	63.7
Stone Dumped Riprap. Class A4	m^2	11.2
Bar Splicers	each	38

DETAIL FOR PIPE OPENINGS THRU WALL



WATERWAY INFORMATION

Drainage Area = 88 HA
Existing Low Grade Elev. = 252.70 @ Sta. 11+658
Proposed Low Grade Elev. = 252.85 @ Sta. 11+635

Flood	Freq. Yr.	Q m^3/s	Opening m^2 Exist.	Opening m^2 Prop.	Nat. H.W.E.	Head - m Exist.	Head - m Prop.	Headwater Elev.* Exist.	Headwater Elev.* Prop.
	10	1.1	1.3	1.4	251.18 / 251.18	0.01	0.01	251.19	251.19
Design	50	2.2	1.7	1.7	251.39 / 251.39	0.01	0.02	251.40	251.41
Base	100	2.9	1.8	1.9	251.48 / 251.48	0.04	0.05	251.52	251.53
Max. Calc.	500	5.2	2.3	2.4	251.74 / 251.74	0.19	0.22	251.95	251.93

WATER INFORMATION NOTES:

1. Headwater taken at u/s face of structure.
2. All elevations shown are on IDOT road survey elevations. (IDOT datum matches FEMA datum)
3. Two natural high water elevations are given. The first is located at the u/s face of the existing structure. The second natural high water is located at the u/s face of the proposed structure.

NOTES

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.
Reinforcement Bars shall conform to the requirements of AASHTO M-31M, M-42M or M-53M, Grade 420.
Bars indicated thus 12 x 4- #16 etc. indicates 12 lines of bars with 4 lengths per line.
All dimensions are in millimeters (mm) except as noted.
All construction joints shall be bonded.
See roadway plans for additional information
Exposed concrete edges shall have 20mm chamfers.
Min. Laps: #13=550, #16=680, #19=830, #22=1130
Contractor to see staging, utility, storm and sanitary drawings for additional information.

V3 Infrastructure Services Ltd.
7325 Janes Avenue · 630.724.9000 voice
Woodridge, IL 60517 630.724.9002 fax
www.v3is.com

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

IL. ROUTE 22
BOX CULVERT
STATION 11+640.961

DRAWN BY DF
CHECKED BY CB
DATE 3/11/05