

Bench Mark: OSBM3: Yellow "Bench Tie Spike" in Northeast Bolt of Fire Hydrant On North Side of Wadsworth Road Elev. 710.10

Existing Structure: No Structure Number, Existing Structure Is 36" CMP With End Sections. See Drainage Plans For Removal And Pay Item.

The Proposed Culvert Will Be Constructed In Stages. See Maintenance Of Traffic Sheets.

No Salvage Of Existing Structure.

INDEX OF SHEETS

- S-1 Proposed Box Culvert General Notes, Plan And Elevation
- S-2 Structural Sections And Details
- S-3 Borings At Box Culvert

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Precast Concrete Box Culverts 12' x 3' (Special)	Ft	60
Concrete Structures	Cu Yd	39
Reinforcement Bars	Pound	2580
Geotechnical Fabric for Ground Stabilization	Sq Yd	140
Aggregate Subgrade Improvement	Cu Yd	55
Removal And Disposal Of Unsuitable Material	Cu Yd	55

WATERWAY INFORMATION

Drainage Area = ±0.66 sq. mi		Low Grade Elev. 711.21 @ Sta. 164+60.00							
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
Base	50	37	7.1	30.7	N/A	N/A	0.00	708.90	708.50
Overtopping	100	57	7.1	36.0	N/A	N/A	0.00	709.40	709.20

GENERAL NOTES

- All work and materials shall be in accordance with the Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction adopted January 1, 2012 and latest supplemental specifications and recurring special provisions, unless noted otherwise.
- The Contractor shall verify all dimensions in the field prior to commencing work. The engineer shall be notified of any discrepancies which may exist prior to proceeding with the work.
- Any information concerning type or location of underground and other utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determinations as to the type and location of the utilities as may be necessary to avoid damage thereto. Contractor shall call J.U.L.I.E. prior to excavation.
- The contractor is responsible for design, installation and removal of all excavation support systems.
- The excavation and work area shall be properly drained at all times during construction. All wet, loose, frozen or other unsuitable material shall be removed prior to placement of concrete or compacted backfill. Any and all dewatering required to keep excavation dry shall be the responsibility of the contractor. Dewatering shall be conducted in accordance with the Erosion and Sediment Control Standards of the IEPA and Lake County.
- Foundation design is based on information provided in Testing Service Corporation Report L#62,012 dated June 27, 2007.
- It shall be the responsibility of the contractor to divert the stream flow during construction in order to keep the construction areas free of water. The method of water diversion shall be subject to the approval of the Engineer and cost shall be included with "Precast Concrete Box Culvert". Any and all by-pass pumping as may be required for the construction of the proposed improvements shall be the responsibility of the contractor.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- For backfilling and embankment, see Standard Specifications.

CAST-IN-PLACE CONCRETE NOTES

- All cast-in-place concrete work shall be in accordance with section 503 of the Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction adopted January 1, 2012, supplemental specifications and recurring special provisions and as noted below.
- Reinforcement bars shall conform to the requirements of ASTM A 706 GR60 (IL Modified). See Special Provision.
- Exposed edges of cast-in-place concrete shall be beveled 3/4".
- All construction joints shall be bonded.
- All cast-in-place concrete shall be Class SI.

PRECAST CONCRETE BOX CULVERT

- All precast concrete box culvert work shall be in accordance with sections 504 and 540 of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction adopted January 1, 2012, supplemental specifications and recurring special provisions and as noted below.
- The precast concrete box culvert is a performance based system. The contractor shall be responsible for providing the design, engineering, fabrication and installation of the precast concrete box culvert. The contractor shall submit to the engineer calculations and shop drawings sealed by a Structural Engineer licensed in the state of Illinois for review prior to fabricating the precast concrete box culvert. Precast concrete box culverts are non-standard sections but shall conform to the requirements of ASTM C1577 for fill heights less than 2 ft. The shop drawings shall include the ferrule loop locations and details.
- Ferrule loop inserts shall be installed at the locations shown on the drawings by the precast concrete box culvert manufacturer. Install the ferrule loop inserts per the ferrule loop manufacturer's requirements. The ferrule loop insert shall be F-64, 1/2" x 4 1/8", ferrule loop insert by Dayton/Richmond concrete accessories, phone number - (800) 745-3700, website - www.daytonrichmond.com or approved equal.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges 17th Edition.

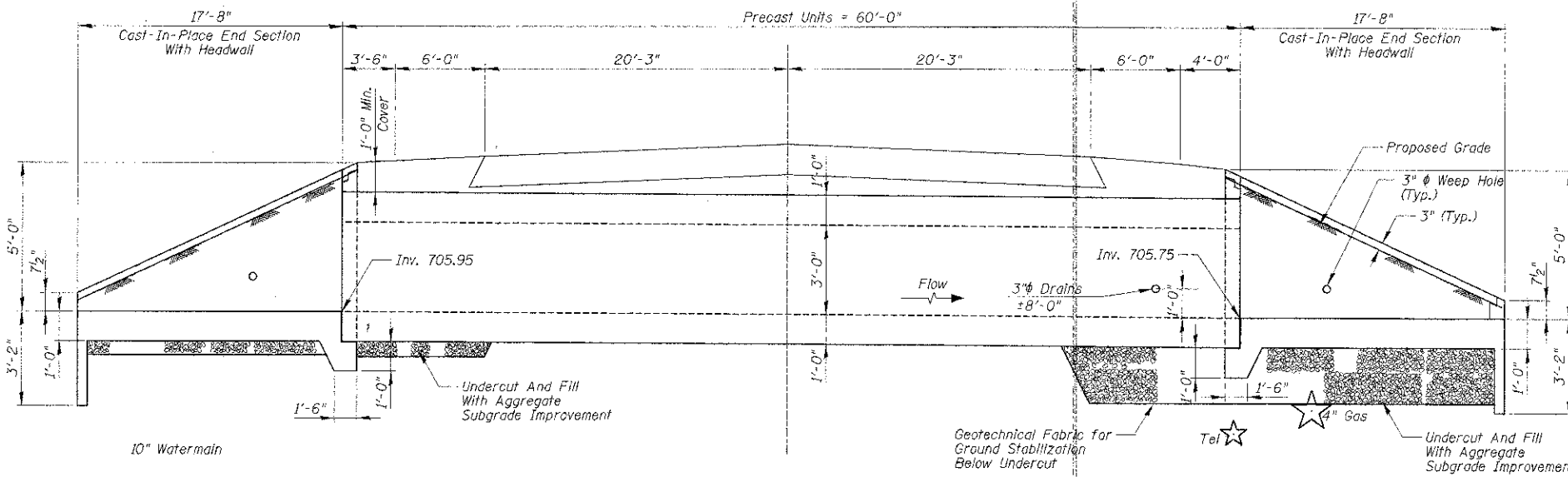
LOADING HS20-44

Allow 50 #/sq. ft. for future wearing surface
Soil loads shall be in accordance with the shown physical structure

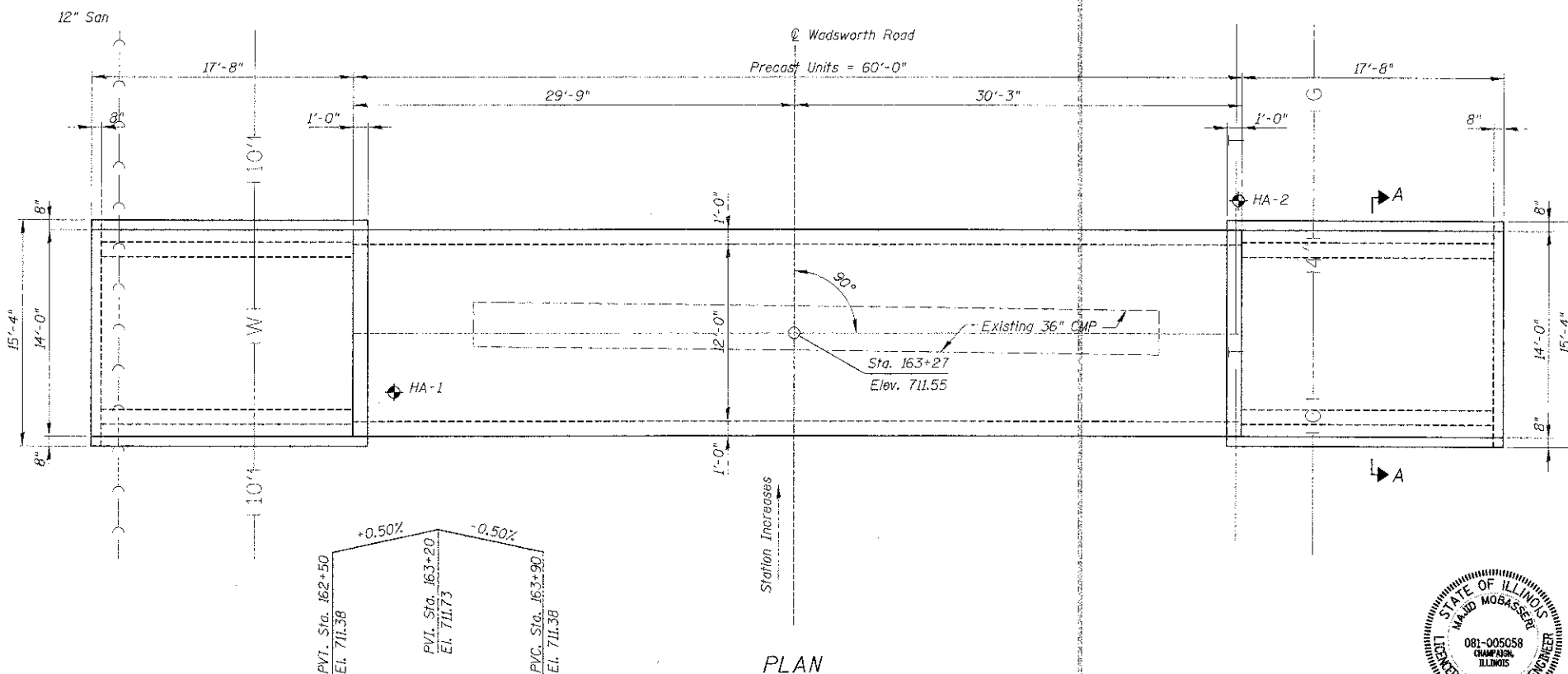
DESIGN STRESSES

PRECAST UNITS

$f_c = 5,000$ psi
 $f_y = 60,000$ psi (Reinforcement Bars)
 $f_y = 65,000$ psi (Welded Wire Fabric)

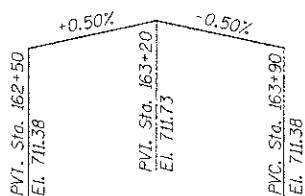


ELEVATION



PLAN

PROFILE GRADE
(along roadway)

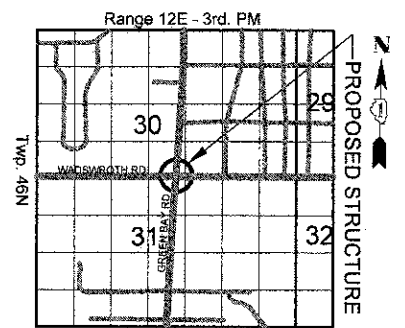


I Certify That To The Best Of My Knowledge, Information And Belief, This Bridge Design Is Structurally Adequate For The Design Loading Shown On The Plans. The Design Is An Economical One For The Style Of Structure And Complies With Requirements Of The Current "AASHTO Standard Specification For Highway And Bridges".



Majid Mobasseri 1/15/2013
MAJID MOBASSERI

ILLINOIS REGISTRATION NO. 081-005058 STRUCTURAL ENGINEER
EXPIRATION DATE: 11/30/14



LOCATION SKETCH

FILE NAME: N:\0001\8422\150-0001\229.S1.GHT

USER NAME: jpmoore11
DRAWN: jpmoore11
CHECKED: jpmoore11
DATE: 1/14/2013

DESIGNED: jpmoore11
DRAWN: jpmoore11
CHECKED: jpmoore11
DATE: 1/14/2013

REVISED: -
REVISED: -
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REVISED: -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WADSWORTH ROAD AT GREEN BAY ROAD
PROPOSED BOX CULVERT
GENERAL NOTES, PLAN AND ELEVATIONS

SCALE: SHEET NO. S-1 OF S-3 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1209	03-00033-12-CH	LAKE	189	131

CONTRACT NO. 63766
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT