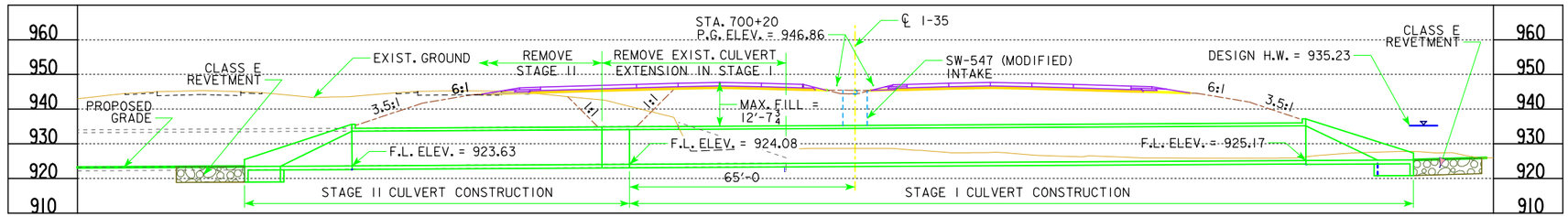
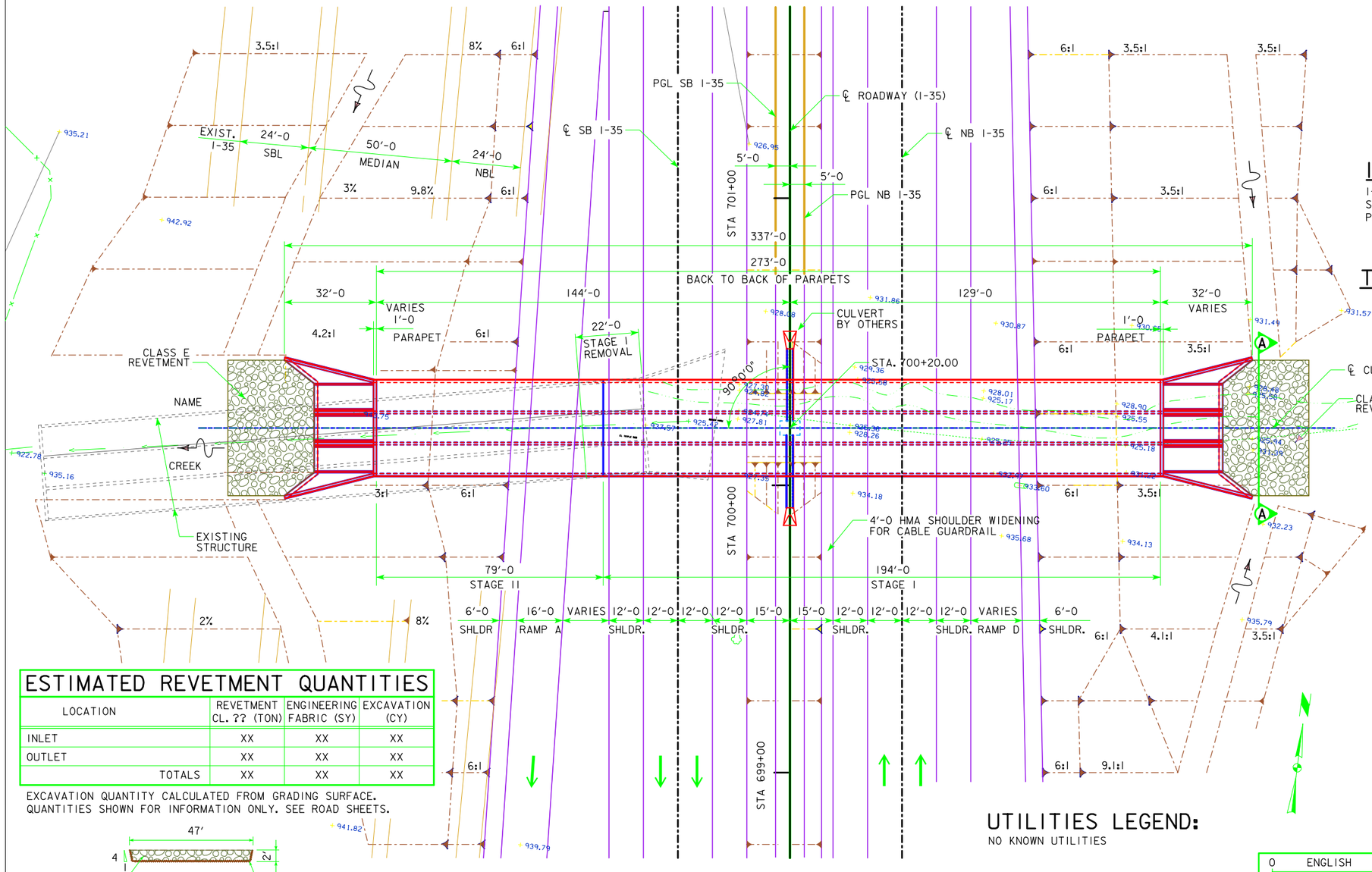


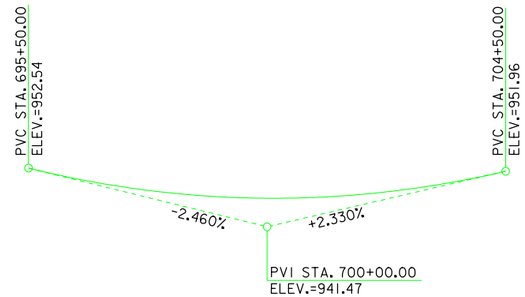
LONGITUDINAL SECTION ALONG ℄ CULVERT



SITUATION PLAN

BENCH MARK: #504
DESCRIPTION: CUT "X" IN CONCRETE FOOTING OF E. POST OF "REST AREA NEXT RIGHT" SIGN.
STA. 685+35.19, 349.17' LT.
ELEV. 962.96

PROFILE GRADE ON I-35



I-35 ALIGNMENT

I-35 TANGENT BETWEEN CURVES
ST STA. 692+63.27
PC STA. 710+42.11

HYDRAULIC DATA

DRAINAGE AREA= 6.13 SQ. MI.
DESIGN DISCHARGE, Q_{100}= 2,823 CFS
DESIGN HIGH WATER ELEVATION, Q_{100}= 935.23

TRAFFIC ESTIMATE

2006 ADT, 41,900 VPD
2030 ADT, 73,200 VPD
15% TRUCKS
DESIGN ESAL _____

LOCATION

I-35 OVER xxx CREEK
T-xx-N, R-xx-W
SECTION x
LAT 41.765799
LONG -93.570354

PLAN NOTES:
1. PROFILE GRADE LINE (P.G.L.) IS 5.0 FEET OFFSET FROM CENTERLINE I-35.
2. EXISTING TRIPLE 10x10x209'-4 R.C.B. BOX CULVERT. DESIGN NO. 1562 & 2691.
3. DRAINAGE THROUGH EXISTING CULVERT/CHANNEL MUST BE MAINTAINED THROUGHOUT CONSTRUCTION.

ESTIMATED REVETMENT QUANTITIES

LOCATION	REVETMENT CL. ?? (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
INLET	XX	XX	XX
OUTLET	XX	XX	XX
TOTALS	XX	XX	XX

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.
QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.

UTILITIES LEGEND:

NO KNOWN UTILITIES

0 ENGLISH 40
SCALE IN FEET

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

DATE

License Number:
My license renewal date is
Pages or sheets covered by this seal:

PRELIMINARY

DESIGN FOR 0° 00' 00" SKEW

TRIPLE 10' X 10' X 273' REINFORCED CONC. BOX CULVERT

SITUATION PLAN

STA. 700+20.00 DATE:

XXXX COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. XXX DESIGN NO. XXX

DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER

PRELIMINARY DESIGN PLAN CHECKLIST – RCB CULVERT

DATE: 1-1-2014

County:_____ **Design No.:**_____ **Check By:**_____ **Date:**_____

Project Location:_____ **Consultant:**_____

General

___ Benchmark description

___ Vertical curve data – include sta/elev of g1/g2 end points

___ Horizontal curve data

___ Traffic estimate (ESLS)

___ Hydraulic Data table - include Drainage Area, Q_{50} cfs. and Design High Water Elevation. Include $Q_{100,}$ Q_{500} or roadway over-topping for bridge size culverts (≥ 20 ft. total spans)

___ Utilities - add legend table and label each for all utilities shown on plan sheet

___ Location table – include lat/long at centerline of approach roadway/centerline of RCB

___ Size in Title Block – new RCB - W x H x L
Extension – W x H only

___ Skew angle – show actual in plan view, 'design to' in Title Block to nearest whole degree

___ Project number, file number, design number, CADD file name, FHWA No. (≥ 20 ft. total spans)

___ Scale bar ~~(shown on preliminary Situation Plan, removed during Final Design)~~

___ North arrow

___ Staging – show sequence details as needed ~~on separate sheet if needed, including B sheet~~

___ Add other NOTES as needed

___ Add Revetment to all RCB's 6'x6' and larger at inlet and outlet. Show cross section, quantities table and riprap limits (see CAD cell)

___ Consultant PE signature for H&H on TSL for new RCB's

___ For single cast-in-place, use parallel wing headwalls

___ Pre-cast boxes - use new LRFD standards.

___ Pedestrian structures:
- Layout cast-in-place, Final Design to determine if precast optional
- Use flared-wing headwalls
- Add 3'6 height vinyl safety rail along wing headwalls and parapet per 12B-10
- Add Note: Frost trough not included
- Add Note: Lighting inside culvert is required

Plan View

___ Label "Situation Plan"

___ Ground elevations, contours, and topography. Label contour elevations.

___ Existing utilities (fence-lines, tiles); label - fiber optic/gas line/etc.

___ Existing structures (bridge, culverts); label - type/size/station and design number

___ Proposed length (back-to-back of parapet)

___ Proposed station on road construction centerline

___ Skew angle of culvert to roadway

___ Skew of headwalls, if different than skew to roadway

___ Proposed lane and shoulder widths

___ Proposed embankment and ditch shaping

___ Label all centerlines

___ Label stationing on at least two "tic" marks in the plan view

___ Stream name and direction of flow

___ Location and designation of soil test holes (if known)

___ Check that all text and dimensioning is legible and not placed on top of other text or features such as riprap details

___ Label type, location and limits of features such as riprap and channel changes and provide typical cross section.

Longitudinal Section

___ Roadway section drawn perpendicular to road

___ Projection is along centerline of culvert (therefore, true length not shown for skewed culverts)

___ Existing ground line and proposed grade line shown and labeled

___ Existing structure

___ Proposed flow-lines at inlet, outlet, or other features (slope taper, drop inlet, flume, etc)

___ Label roadway fore-slope used (e.g., 6:1, 3.5:1)

___ Profile grade elevation at intersection of culvert and road centerline

___ Design high water elevation

___ Note maximum fill height and location.