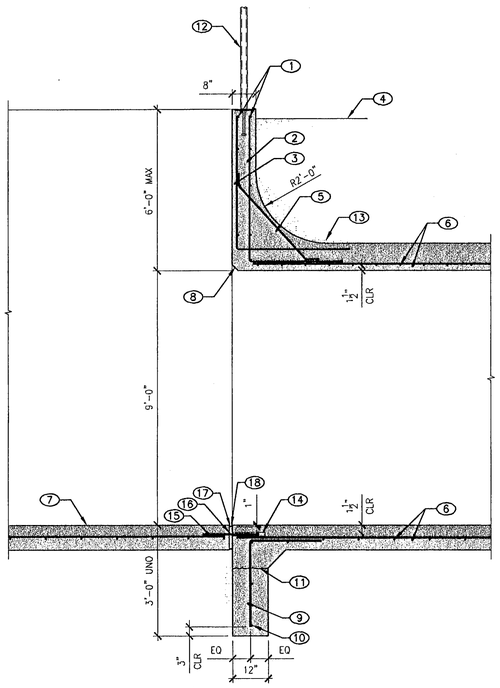
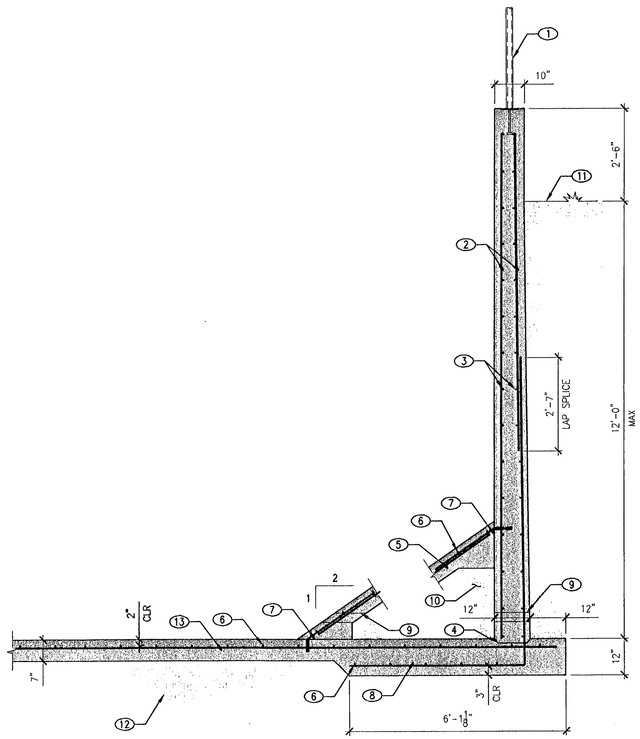


KEYNOTES:

1. #4 HORIZ EA FACE AT 12" O.C.
2. #4 VERT DOWEL AT 10" O.C. W/ 36" LONG HOOK AT BASE
3. #4 VERT AT 12" O.C. W/ 36" LONG HOOK AT BASE
4. FINAL GRADE PER CIVIL DWG
5. #4 AT 12" O.C. PLACE RADIALLY AROUND ARCH
6. CULVERT REINFORCING, SEE SECTION
7. APRON PER PLAN
8. 2" CHAMFER
9. #4 AT 12" O.C. 24" / 30"
10. #4 AT 12" O.C. HORIZONTAL
11. CONSTRUCTION JOINT AT CONTRACTORS OPTION
12. POST EMBEDMENT PER DETAIL 3/S2.2, SEE CIVIL FOR ADDITIONAL REQUIREMENTS
13. BACKFILL MATERIAL AND PROCEDURE PER GSN
14. 5/8"ø ID PLASTIC SLEEVE AS MANUFACTURED BY SPEED DOWEL OR APPROVED EQUAL
15. 5/8"ø x19" SMOOTH EPOXY COATED DOWELS AT 12" O.C. ALIGN ALL DOWELS TO BE SQUARE WITH WALL OR SLAB
16. NON-EXTRUDING PREMOLDED COMPRESSION MATERIAL
17. BOND BREAKER TAPE
18. SEALANT 2-COMPONENT POLYURETHANE "SIKAFLEX-2C" OR APPROVED EQUAL

3 HEADWALL SECTION AT ARCH
NO SCALE



KEYNOTES:

1. POST EMBEDMENT PER DETAIL 3/S2.2, SEE CIVIL FOR ADDITIONAL REQUIREMENTS
2. #4 DOWEL AT 18" O.C. VERT
3. #4 AT 18" O.C. HORIZ
4. 1 1/2" DEEP x 8" KEY
5. #4 AT 12" O.C. TRANSVERSE
6. #5 AT 12" O.C. LONGITUDINAL LAP LONGITUDINAL BAR 18"
7. #4 EPOXY DOWEL TO MATCH SLAB REINF, USE HILTY HY150 OR EQUAL, MIN 4" EMBED 24" / 6"
8. #5 DOWEL AT 5" O.C. 82" / 60"
9. WEEP HOLE AT 10'-0" O.C. AND ROCK POCKET, FILTER FABRIC PER TYP DETAIL 6/S0.1
10. BACKFILL MATERIAL AND PROCEDURE PER GSN OR USE 2500 PSI CONCRETE AS ALTERNATE
11. FINAL GRADE OR CIVIL FLAT WORK AS OCCURS
12. COMPACTED SUB GRADE PER GSN
13. #4 AT 12" O.C. TRANSVERSE

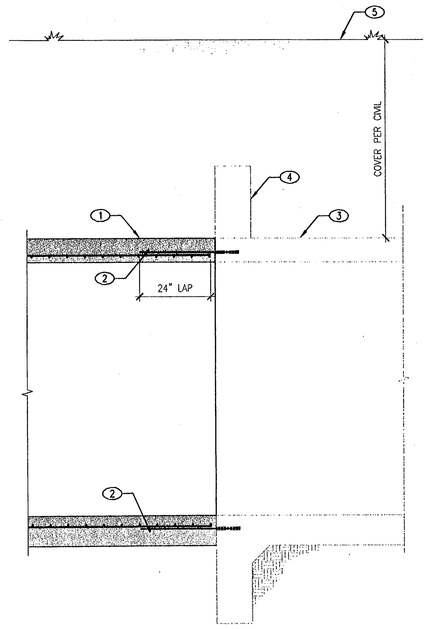
NOTES:

A. AT CONTRACTOR'S OPTION, VERT REINF PER KEYNOTE 8 MAY BE EXTENDED FULL WALL HEIGHT AND VERT REINF PER KEYNOTE 2 MAY BE ELIMINATED

B. CHAMFER ALL EXTERIOR CONCRETE EDGES

1 WARPED WING WALL SECTION
NO SCALE

Use Detail C7.01/1

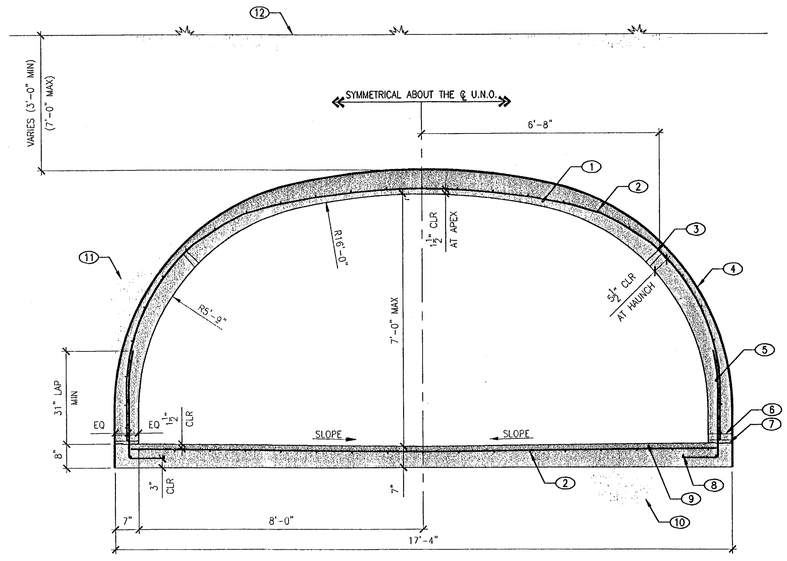


KEYNOTES:

1. ARCH PER SECTION
2. #4 DOWEL AT 18" O.C. DRILL AND EPOXY W/ HILTY HY150 OR EQUAL, PROVIDE 8" MIN OF EMBEDMENT
3. EXISTING ARCH, SEE CIVIL
4. EXISTING HEADWALL
5. FINAL GRADE

116859

4 JUNCTION W/ EXISTING ARCH
NO SCALE



KEYNOTES:

1. #4 AT 10" O.C. TRANSVERSE
2. #4 AT 12" O.C. LONGITUDINAL LAP 18" MIN
3. REBAR CHAIR POINT
4. WATER PROOF MEMBRANE COVER ARCH AND WALL ONLY
5. #4 DOWEL AT 10" O.C. W/ 12" HOOK AT BASE
6. 2"ø WEEP HOLE PER PLAN
7. ROUGHEN CONSTRUCTION JOINT, PER GSN
8. (2) #5 CONT LONGITUDINAL LAP 18" MIN
9. #4 AT 6" O.C. TRANSVERSE
10. BEDDING PER GSN
11. BACKFILL PER GSN
12. FINAL GRADE

RECORD COPY

2 16'-0"x7'-0" SECTION THRU CULVERT
NO SCALE

THESE PLANS, DRAWINGS AND DESIGNS ARE THE EXCLUSIVE PROPERTY OF ENGINEERING STRUCTURAL SOLUTIONS, AND SHALL NOT BE REPRODUCED IN ANY FORM WITHOUT WRITTEN CONSENT. ALL RIGHTS ARE RESERVED. COPYRIGHT 2006 ENGINEERING STRUCTURAL SOLUTIONS

SEAL: STATE OF NEVADA — DOUGLAS R. WEBER — Exp. 6-30-08 — CIVIL — STRUCTURAL — No. 15171 — PROFESSIONAL ENGINEER

DEC 2 1 2007

DESIGNED: J.W. | DRAWN: S.P. | CHECKED: J.W. | APPROVED:

ENGINEERING SYSTEM SOLUTIONS
4949 NORTH 29TH EAST, STE A
IDAHO FALLS, IDAHO 83401
Phone: (208) 552-9874
Fax: (208) 552-9302

HYDRO-ARCH
980 MARY CREST ROAD, UNIT B
HENDERSON, NV 89014

PROJECT: LA MADRE LAS VEGAS, NV FOR HYDRO-ARCH

SHEET TITLE: DETAILS

REV.	DESCRIPTION	DATE
	SUBMITTED FOR APPROVAL	12/21/07

DATE: December 13, 2007
PROJECT NUMBER: 29 07455
SHEET NUMBER: S2.1