

SACRA ENGINEERING

CONSULTING ENGINEERS

312 South Convent Avenue
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PROJECT NO. 92130

SHEET NO. 38 OF 46

PROJECT TITLE DEL WEBB SUN CITY ARCH BRIDGES

COMPUTED T.A.S.

DATE JULY 92

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REMARKS

GENERAL NOTES

- 1.) DESIGN SPECIFICATIONS: AASHTO "Standard Specifications for Highway Bridges," 1989 ed. and revisions thereto except where noted otherwise.
- 2.) CONSTRUCTION SPECIFICATIONS: State of Nevada Department of Highways "Standard Specifications for Road and Bridge Construction," current edition and Special Provisions thereto except where noted otherwise.
- 3.) LOADING CLASS: HS20-44
- 4.) DEAD LOADS: For self weight of structure, reinf. concrete = 150 pounds per cubic foot (pcf), backfill around structure = 145 pcf.
- 5.) DESIGN METHODOLOGY:
 - A.) Concrete arch: Finite element soil-structure interaction computer program utilizing service load stresses. Program calculates design moments for arch, walls, and slab acting as a unit with surrounding soil.
 - B.) Concrete reinforcing requirements computed by the Service Load method.
- 6.) REINFORCING STEEL: ASTM A615 Grade 60. Minimum cover 3 inches where concrete cast against earth, 2 inches for #6 through #11 or 1 1/2 inches for #5 and smaller bars where concrete surface is exposed to earth backfill or weather U. N. O. (unless noted otherwise).
- 7.) REINFORCING BAR BENDS AND LAPS: Bends and hooks shall conform to A. C. I. Std. 315-80 U. N. O. Bend dimensions are from out to out and laps shall be 40 bar diameters minimum U. N. O.
- 8.) CONCRETE AND SHOTCRETE:
 - A.) Shotcrete arches: $f_c' = 3,250$ psi @ 28 days mixed for and placed by the wet mix placement process.
 - B.) All other concrete: $f_c' = 3,250$ psi @ 28 days.
- 9.) WORKMANSHIP: Chamfer exposed corners 3/4 in. U. N. O. Finish exposed conc. surfaces per NDOT box culvert practice or per the instruction of the owner.
- 10.) SCALE: Do not scale dimensions from drawings

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