

[illegible]

1. STORM DRAINAGE STRUCTURES SHOWN ON THESE DRAWINGS ARE TO BE CONCRETE ARCH CULVERTS.
2. CONCRETE ARCH CULVERTS SHALL BE CAPABLE OF CARRYING THE DESIGN FLOWS SHOWN ON THE DRAWINGS WITHOUT EXCEEDING THE MAXIMUM HYDRAULIC GRADE LINE ELEVATIONS INDICATED AT THE UPSTREAM HEADWALL. THE CONTRACTOR SHALL PROVIDE AN ENGINEERING REPORT FOR THE ARCHES INCLUDED IN THIS BID. THIS REPORT SHALL BE SIGNED BY AN ENGINEER REGISTERED IN THE STATE OF NEVADA AND SHALL INCLUDE:
HYDRAULIC CALCULATIONS DEMONSTRATING THE CAPACITY OF THE ARCH CULVERTS,
STRUCTURAL CALCULATIONS AND DRAWING DETAILS WHICH DEMONSTRATE THE ARCHES ARE DESIGNED TO SUPPORT AN $HS-20$ LOADING.
STRUCTURAL CALCULATIONS AND DRAWING DETAILS FOR CAST IN PLACE CONCRETE HEADWALLS AND WINGWALLS.
A CONCRETE MIX DESIGN MATCHING THE COMPRESSIVE STRENGTH UTILIZED IN THE STRUCTURAL CALCULATIONS.
FIVE COPIES OF THE ENGINEERING REPORT SHALL BE SUBMITTED WITHIN 14 DAYS OF NOTIFICATION OF AWARD LOW BIDDER STATUS. THE REPORT MUST BE REVIEWED AND APPROVED BY THE CITY OF LAS VEGAS, INC. ON BEHALF OF THE NEVADA COMMUNITIES INC. AND THE CITY OF LAS VEGAS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL AFOREMENTIONED APPROVALS AND ALL CONSTRUCTION PERMITS.
3. THE CROSS SECTION DIMENSIONS SHOWN FOR THE CONCRETE ARCH CULVERTS ARE APPROXIMATE AND MAY BE INCREASED OR DECREASED AS REQUIRED BY THE CONTRACTOR'S ENGINEERING REPORT.

FOR ADDITIONAL ARCH CULVERT DETAILS SEE SHEETS 22 - 28