

| REV | DESCRIPTION | BY | DATE |
|-----|---------------------------------------|----|----------|
| Α | REVISED GENERAL NOTES | FB | 5/21/03 |
| В | CHANGED TITLE BLOCK | ΑT | 12/11/09 |
| С | CHANGED GENERAL NOTE 6, ADDED INSERTS | ΑT | 4/14/10 |
| D | UPDATED NOTES & TITLE BLOCK | FS | 5/23/14 |
| E | UPDATED NOTES | ΑT | 4/26/16 |
| F | NCS UPDATES | CP | 6/26/17 |

STRUCTURAL NOTES

1. CONCRETE: 28 DAY COMPRESSIVE STRENGTH fc = 5,000 psi

REBAR: ASTM A-615 GRADE 60
 ASTM A-1064 GRADE 65
 ADESIGN: ACI 318-14 BUILDING CODE

ASTM C-857 "MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST

CONCRETE UTILITY STRUCTURES"

5. LOADS: HS20-44 W/30% IMPACT PER AASHTO

80 PSF LATERAL LIVE LOAD SURCHARGE - UP TO 8"-0" DEPTH SOIL: 40 PCF LATERAL SOIL PRESSURE ABOVE WATER TABLE 80 PCF LATERAL SOIL PRESSURE BELOW WATER TABLE 120 PCF SOIL DENSITY

6. SOIL COVER: NONE

7. WATER TABLE: 5'-0" BELOW GRADE

8. BOLTS, NUTS, WASHERS: ASTM A307 & ASTM A153 9. GRILL CLAMP BOLTS: SAE J429 GRADE 5

10. STEEL: ASTM A36



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CATTLE GUARD

1'-2" X 7" KEYS

ADOT STANDARD H20 C-11.10

CUSTOMER

STANDARD

| DATE 4/26/16 | SALES | DRAWN AT | ENGINEER | CHECKED | SAI | LES ORE | DER | |
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| | REVISION REV DATE | 1 | OF | 1 | | | | |

GENERAL NOTES

- 1. THE STRUCTURE SHALL NOT BE PLACED ON ALLUVIAL DEPOSITS, QUICK SAND, SOFT, OR WET CLAY, OR WET SAND AND CLAY MIXED
- 2. THE TOP 6" OF THE SOIL ON WHICH THE STRUCTURE IS PLACED SHALL BE COMPACTED TO A DENSITY OF AT LEAST 95% OF THE MAXIMUM DENSITY DETERMINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MATERIALS SERVICES, INTERMODAL TRANSPORTATION DIVISION. ARIZONA DEPARTMENT OF TRANSPORTATION
- 3. EXCAVATION SHALL BE TO A PLANE 3" BELOW GRADE WITH THE FINAL 3" TO BE EXCAVATED BY HAND. THE 3" OF SAND PLACED ON THE COMPACTED SOIL SHALL BE CAREFULLY SCREEDED UNIFORMLY TO GRADE AND COMPACTED
- 4. CONCRETE GRILL BEAM BEARING SURFACES SHALL BE UNIFORMLY FLAT WITHIN A TOLERANCE OF ±0.010"
- 5. ELASTOMERIC BRIDGE PAD SHALL BE ELASTOMER (NOT LAMINATED), HAVE A DUROMETER HARDNESS OF 55, AND HAVE A THICKNESS TOLERANCE OF ± 0.125 ". PADS FOR A SINGLE INSTALLATION SHALL BE OF UNIFORM THICKNESS WITHIN A TOLERANCE OF ± 0.031 ". PADS SHALL BE FASTENED TO THE BAR WITH AN APPROVED NON-WATER SOLUBLE EPOXY
- 6. GRILL UNITS, END POSTS, GRILL CLAMPS, BIKE SAFETY KITS, AND BRACES SHALL BE FABRICATED IN ACCORDANCE WITH A.D.O.T. STD. C-11.10.