

LAKE HAVASU CITY - DEVELOPMENT SERVICES DEPARTMENT
RESIDENTIAL MASONRY RETAINING WALL DESIGN

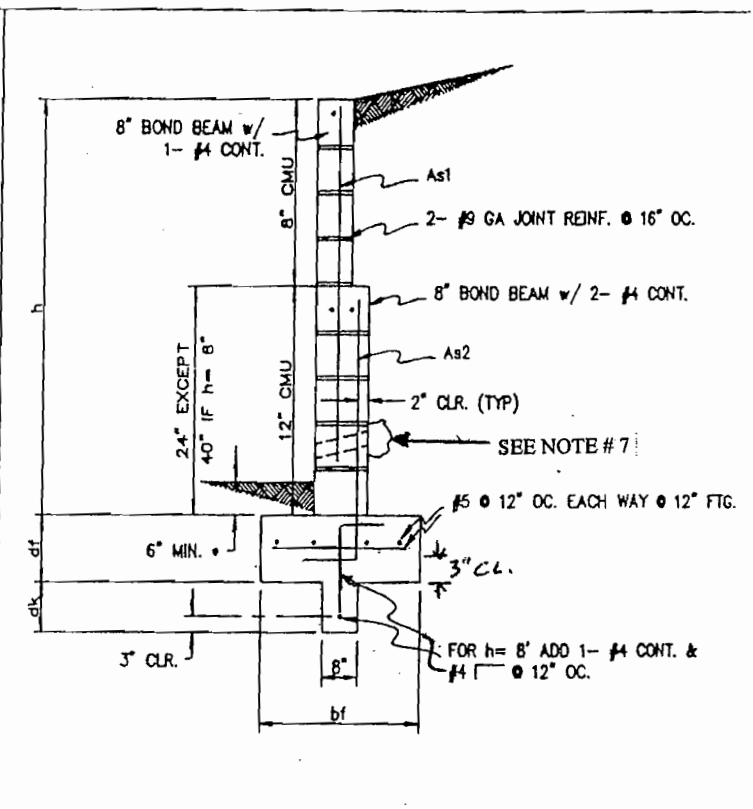
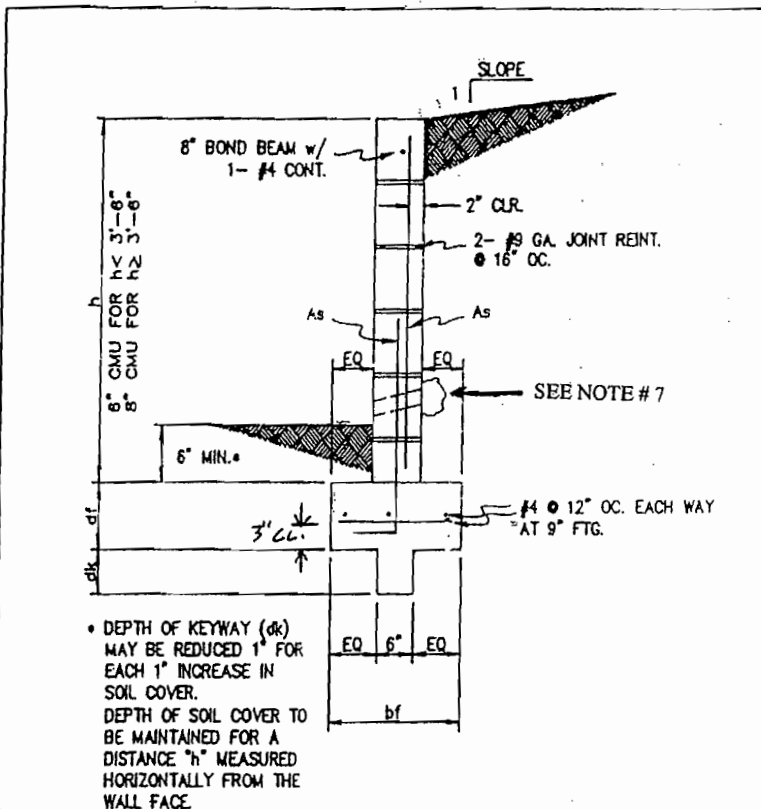
Applicant _____ Date _____

Address _____ Legal: Tract _____ Block _____ Lot _____

Retaining: Length _____ Height _____ Slope: None _____ 5:1 _____ 4:1 _____ 3:1 _____ 2:1 _____

Located in an Easement: No _____ Yes, Utility Approvals Attached _____

SUBMIT WITH A FULLY DIMENSIONED SITE PLAN AND UTILITY APPROVALS WHEN APPLICABLE



| h | df | bf | SLOPE | HORIZ | 5:1 | 4:1 | 3:1 | 2:1 | h | df | bf | SLOPE | HORIZ | 5:1 | 4:1 | 3:1 | 2:1 | |
|-------|-----|--------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-------|-------|-------|-------|-------|-------|
| 1'-6" | 8" | 1'-0" | As | #4@48 | #4@48 | #4@48 | #4@46 | #4@48 | 6'-0" | 12" | 3'-0" | As2 | NA | NA | NA | #4@24 | #4@24 | |
| | | | dk | NA | NA | NA | NA | NA | | | | NA | dk | NA | NA | NA | 10" | 1'-0" |
| 2'-0" | 9" | 1'-4" | As | #4@48 | #4@48 | #4@48 | #4@48 | #4@48 | 7'-0" | 12" | 3'-6" | As2 | #4@16 | #4@16 | #4@16 | #4@16 | #4@16 | #4@8 |
| | | | dk | NA | NA | NA | NA | NA | | | | NA | dk | 10" | 11" | 1'-0" | 1'-0" | 1'-3" |
| 2'-6" | 9" | 1'-4" | As | #4@48 | #4@48 | #4@48 | #4@48 | #4@48 | 8'-0" | 12" | 4'-0" | As2 | #5@16 | #5@8 | #5@8 | #5@8 | #5@8 | #5@8 |
| | | | dk | NA | NA | NA | 2" | 3" | | | | dk | 1'-0" | 1'-1" | 1'-2" | 1'-3" | 1'-6" | |
| 3'-0" | 9" | 1'-10" | As | #4@48 | #4@48 | #4@48 | #4@48 | #4@48 | As1 | | | #4@24 | #4@24 | #4@24 | #4@24 | #4@16 | | |
| | | | dk | NA | 2" | 2" | 3" | 4" | | | | | | | | | | |
| 3'-6" | 9" | 1'-10" | As | #4@48 | #4@48 | #4@48 | #4@48 | #4@40 | | | | | | | | | | |
| | | | dk | 3" | 4" | 4" | 4" | 6" | | | | | | | | | | |
| 4'-0" | 9" | 1'-10" | As | #4@48 | #4@48 | #4@48 | #4@48 | #4@40 | | | | | | | | | | |
| | | | dk | 6" | 6" | 6" | 7" | 8" | | | | | | | | | | |
| 4'-6" | 9" | 2'-0" | As | #4@40 | #4@40 | #4@40 | #4@32 | #4@32 | | | | | | | | | | |
| | | | dk | 6" | 7" | 7" | 8" | 10" | | | | | | | | | | |
| 5'-0" | 9" | 2'-4" | As | #4@24 | #4@24 | #4@24 | #4@24 | #4@16 | | | | | | | | | | |
| | | | dk | 7" | 8" | 8" | 9" | 11" | | | | | | | | | | |
| 5'-6" | 9" | 2'-6" | As | #5@24 | #5@24 | #5@24 | #5@16 | #5@8 | | | | | | | | | | |
| | | | dk | 9" | 10" | 11" | 11" | 1'-1" | | | | | | | | | | |
| 6'-0" | 12" | 3'-0" | As | #4@8 | #5@8 | #5@8 | NA | NA | | | | | | | | | | |
| | | | dk | 7" | 8" | 9" | NA | NA | | | | | | | | | | |

SYMBOL LEGEND

- h: TOP OF FOOTING TO TOP OF WALL HEIGHT
- df: DEPTH OF FOOTING
- dk: DEPTH OF KEYWAY
- bf: WIDTH OF FOOTING
- db: REINFORCING BAR DIAMETER
- As: VERTICAL WALL REINFORCING

NOTE: SEE REVERSE SIDE FOR MATERIAL STANDARDS AND CONSTRUCTION REQUIREMENTS.

NOTES

1. Concrete: Conform to ASTM C 94; Minimum compressive strength $f'c = 2500$ psi at 28 days.
2. Reinforcing: Conform to ASTM A 615, grade 40, deformed; Dowels to have standard hook, match and lap with vertical wall reinforcing; Vertical wall reinforcing to be secured in place prior to grouting by bar positioners spaced at 200 db o.c. max.; Lap splice length in concrete to be 32 db and 40 db in masonry; Wall horizontal joint reinforcing at 16 inches o.c., ladder or truss type, minimum yield strength $F_y = 60$ ksi, consisting of two deformed #9 ga. longitudinal wires with welded #9 ga. cross wires.
3. Masonry: Specified compressive strength of masonry $f'm = 1500$ psi; Concrete block conforming to ASTM C 90, normal weight, type 1, 1900 psi block unit compressive strength; Mortar conforming to ASTM C 270, type S, 28 day compressive strength $f'c = 1800$ psi; Grout conforming to ASTM C 476, compressive strength $f'c = 2000$ psi; Constructed with running bond, all cells filled solid with grout; Quality, prior to or at the time of delivery to the job site, letters of certification from the block manufacture and grout supplier assuring the materials conform to these requirements shall be forwarded to Building Department.
4. Backfill Material: Clean, granular, non expansive fines; Brace wall prior to compacting backfill adjacent to wall.
5. Bearing Soil: Class 4, 2000 psf allowable foundation pressure.
6. No surface surcharge loads over backfill material; Wall extensions or support fences which extend above the retaining wall height are not permitted.
7. Drainage: 1 inch diameter PVC weep pipe at base, 48 inches o.c., screen with 1 cubic foot of 1 inch diameter rock.