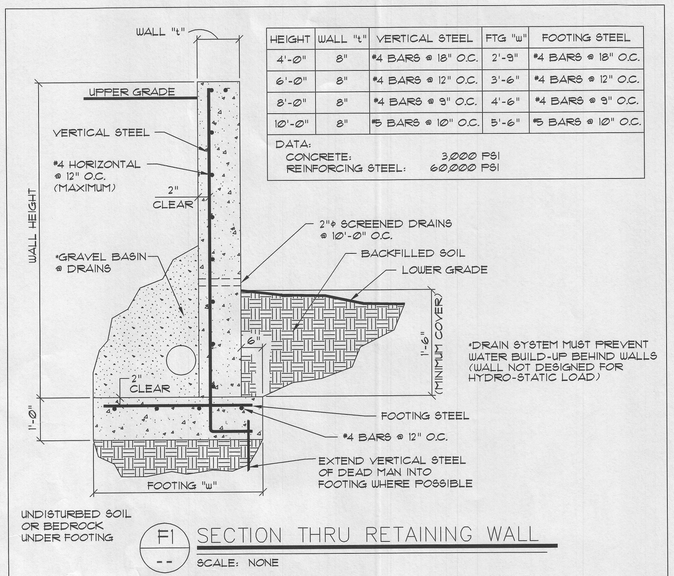


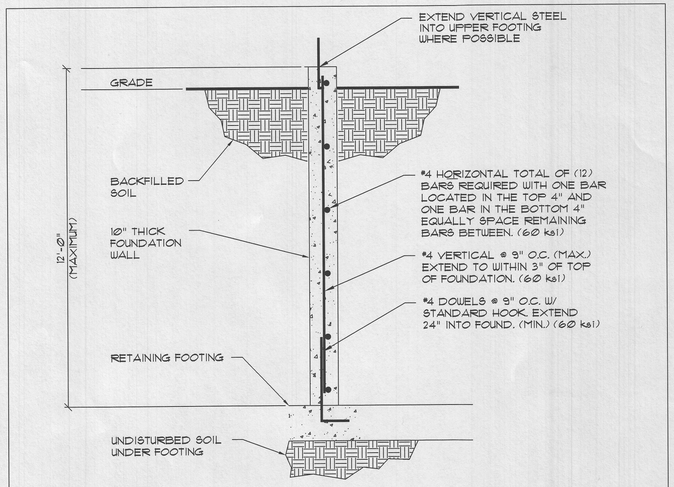
HEIGHT	WALL "L"	VERTICAL STEEL	FTG "w"	FOOTING STEEL
4'-0"	8"	#4 BARS @ 18" O.C.	2'-9"	#4 BARS @ 18" O.C.
6'-0"	8"	#4 BARS @ 12" O.C.	3'-6"	#4 BARS @ 12" O.C.
8'-0"	8"	#4 BARS @ 9" O.C.	4'-6"	#4 BARS @ 9" O.C.
10'-0"	8"	#5 BARS @ 10" O.C.	5'-6"	#5 BARS @ 10" O.C.

DATA:
CONCRETE: 3,000 PSI
REINFORCING STEEL: 60,000 PSI

*DRAIN SYSTEM MUST PREVENT WATER BUILD-UP BEHIND WALLS (WALL NOT DESIGNED FOR HYDRO-STATIC LOAD)

F1 / -- SECTION THRU RETAINING WALL

SCALE: NONE



F3 / - SECTION THRU 12'-0 DEAD MAN

SCALE: NONE

HEIGHT	WALL "L"	VERTICAL STEEL	FTG "w"	FOOTING STEEL
12'-0"	1'-3"	DOUBLE #6 BARS @ 12" O.C.	6'-6"	DOUBLE #6 BARS @ 12" O.C.
15'-0"	1'-3"	DOUBLE #6 BARS @ 6" O.C.	8'-6"	DOUBLE #6 BARS @ 6" O.C.

DATA:
CONCRETE: 3,000 PSI
REINFORCING STEEL: 60,000 PSI

F2 / -- SECTION THRU RETAINING WALL

SCALE: NONE

F4 / - CORNER & INTERSECTION DETAILS

SCALE: NONE

REINFORCING STEEL

1. REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-615 GRADE 60.
2. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
3. MINIMUM LAP OF WELDED WIRE FABRIC SHALL BE 6 INCHES OR ONE FULL MESH AND ONE HALF, WHICH EVER IS GREATER.
4. ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN-PLACE INSPECTION IS MADE.
5. REBAR SPLICES ARE TO BE: CLASS "C" IN CONCRETE, 52 BAR DIAMETERS IN C.M.U. (UNLESS NOTED OTHERWISE).
6. REINFORCING SPLICES SHALL BE MADE ONLY WHERE INDICATED ON THE DRAWINGS.
7. DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE, AND SPACING OR NUMBER AS THE VERTICAL REINFORCING, RESPECTIVELY.

FOOTINGS

1. FOOTING DESIGN IS BASED ON AN ALLOWABLE SOIL PRESSURE OF 1,500 PSF (ASSUMED)
2. CONTRACTOR SHALL PROVIDE FOR PROPER DE-WATERING OF EXCAVATIONS FROM SURFACE WATER, GROUND WATER, SEEPAGE, ETC.
3. FOOTINGS SHALL BE PLACED AND ESTIMATED ACCORDING TO THE DEPTHS SHOWN SHOWN ON THE DRAWINGS.
4. FOOTING BACK FILL AND UTILITY TRENCH BACK FILL WITHIN BUILDING AREA SHALL BE MECHANICALLY COMPACTED IN LAYERS. FLOODING WILL NOT BE PERMITTED.
5. ALL ABANDONED FOOTINGS, UTILITIES, ETC., THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.
6. PREPARATION OF SOILS BENEATH BUILDING FOOTINGS AND FLOOR SLABS SHALL BE IN ACCORDANCE WITH INDUSTRY STANDARDS.

CONCRETE

1. ALL PHASES OF WORK PERTAINING TO THE CONCRETE CONSTRUCTION SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-LATEST APPROVED EDITION) WITH MODIFICATIONS AS NOTED IN THE DRAWINGS OR SPECIFICATING.
2. REINFORCED CONCRET DESIGN IS BY THE "ULTIMATE STRENGTH DESIGN METHOD", ACI 318-83.
3. SCHEDULE OF STRUCTURAL CONCRETE 28-DAY STRENGTHS AND TYPES:

LOCATION IN STRUCTURE	STRENGTH (PSI)
SLABS ON GRADE	2500
FOOTINGS	3,000

4. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150, TYPE "V" WHERE IN CONTACT WITH SOIL AND TYPE "I" ELSEWHERE.
5. AGGREGATE FOR HARDROCK CONCRETE SHALL CONFORM TO ALL REQUIREMENTS AND TESTS OF ASTM C-33 AND PROJECT SPECIFICATIONS. EXCEPTIONS MAY BE USED ONLY WITH PERMISSION OF THE STRUCTURAL ENGINEER.
6. CONCRETE MIXING OPERATIONS, ETC., SHALL CONFORM TO ASTM C-94.
7. PLACEMENT OF CONCRETE SHALL CONFORM TO ACI STANDARD 614 AND PROJECT SPECIFICATIONS.
8. CLEAR COVERAGE OF CONCRETE OVER OUTER REINFORCING BARS SHALL BE AS FOLLOWS:
   CONCRETE POURED DIRECTLY AGAINST EARTH ____ 3" CLEAR
   FORMED CONCRETE WITH EARTH BACKFILL ____ 2" CLEAR
9. ALL REINFORCMENT BARS, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
10. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT ANY REINFORCING WHICH MAY CONFLICT. CORING IN CONCRETE IS NOT PERMITTED EXCEPT AS SHOWN. NOTIFY STRUCTURAL ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE DRAWINGS.
11. CONDUIT OR PIPE SIZE (O.D.) SHALL NOT EXCEED 30% OF SLAB THICKNESS SHALL BE PLACED BETWEEN THE TOP AND BOTTOM REINFORCING, UNLESS SPECIFICALLY DETAILED OTHERWISE. CONCENTRATIONS OF CONDUITS OR PIPES SHALL BE AVOIDED EXCEPT WHERE DETAILED OPENINGS ARE PROVIDED.
12. MODULES OF ELASTICITY OF CONCRETE, WHEN TESTED IN ACCORDANCE WITH ASTM C469, SHALL BE AT LEAST THE VALUE GIVEN BY THE EQUATIONS IN SECTION 8.5.1 OF ACI 318 FOR THE SPECIFIED 28-DAY STRENGTH.
13. SHRINKAGE OF CONCRETE, WHEN TESTED IN ACCORDANCE WITH ASTM C-157, SHALL NOT EXCEED 0.00040 INCHES/INCH.

Engineering West, L.L.C.
Engineering West, L.L.C.
STRUCTURAL ENGINEERING SERVICES
380 NORTH 200 WEST, SUITE 110
BOUNTIFUL, UT 84010
PHONE: (801) 643-5710

CONCRETE SECTIONS & DETAILS

THE RETREAT ENTRY WALLS
AT WOLF CREEK

REVISIONS: date:	rev. # :
2/3/04	0

CHK'D BY: date:	
DRAWN BY: date:	SJC 5/23

REGISTERED PROFESSIONAL ENGINEER
No. 171553
STEVEN J. CARLSON
STATE OF UTAH

SHEET NO. S1