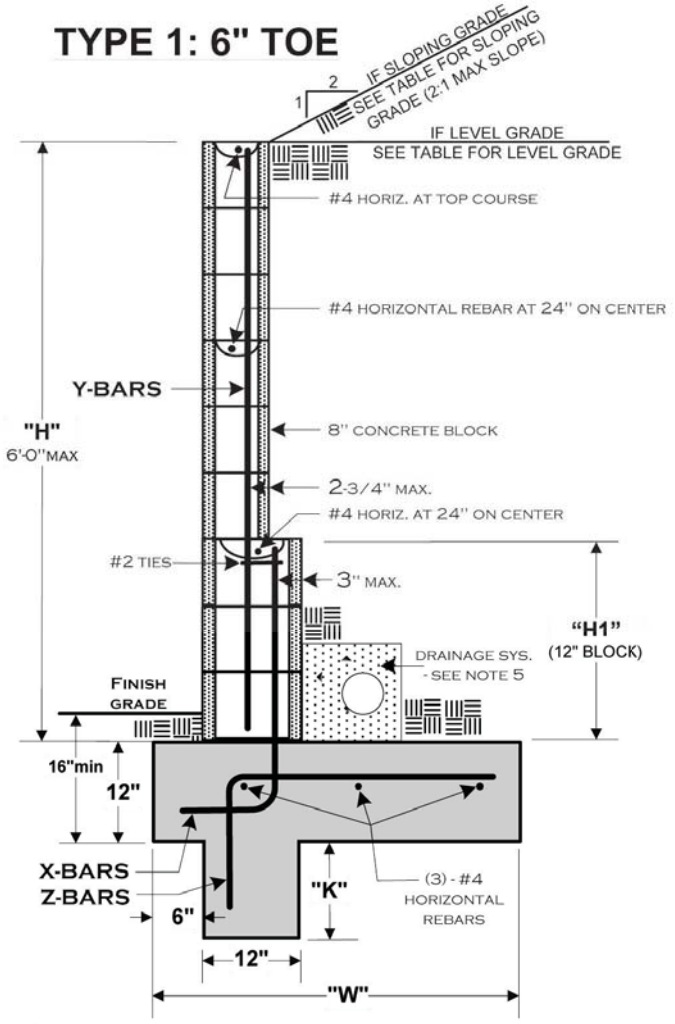
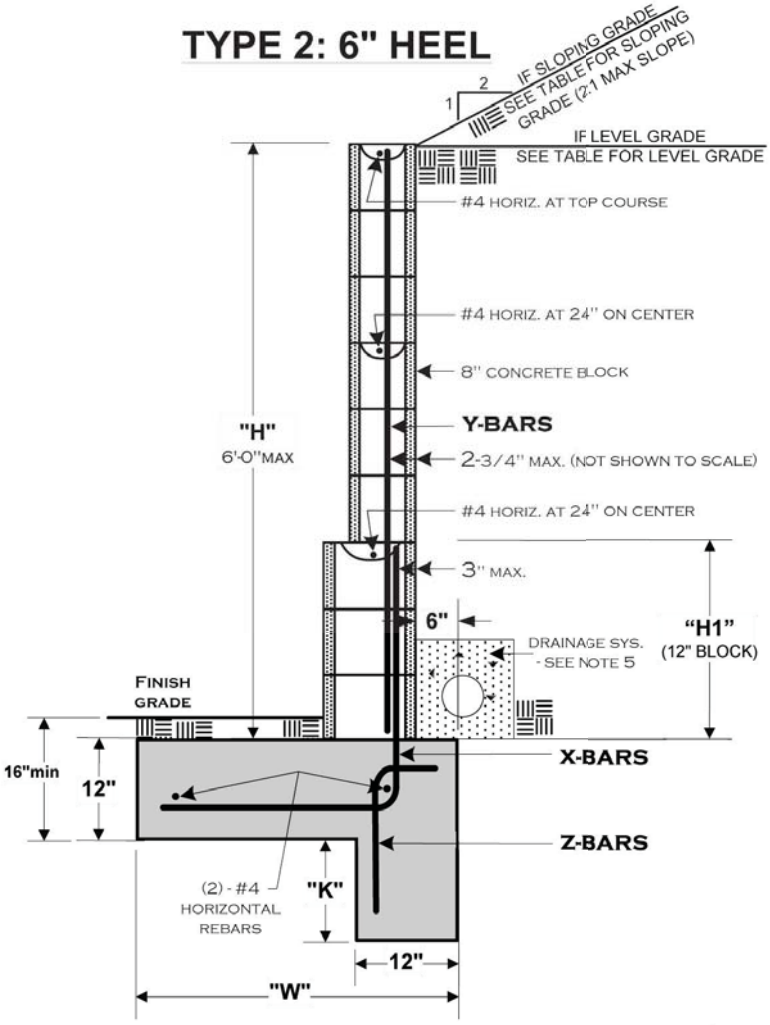
TYPE 1: 6" TOE



TYPE 2: 6" HEEL



TYPE 1: 6" TOE							
GRADE CONDITION	"H" (WALL HEIGHT)	"H1" (12" BLOCK)	"W" (FOOTING WIDTH)	X BARS	Y BARS	ZBARS	"K" (KEY DEPTH)
SLOPING GRADE AT TOP OF WALL (2:1 MAX)	5'- 1" to 6'- 0"	24"	69"	#4 @ 16"	#4 @ 32"	#4 @ 11"	30"
	4'- 1" to 5'- 0"	N/R	48"	#4 @ 16"	#4 @ 16"	#4 @ 12"	25"
	3'- 1" to 4'- 0"	N/R	30"	#4 @ 32"	#4 @ 32"	#4 @ 32"	16"
	Up to 3'- 0"	N/R	18"	#4 @ 32"	#4 @ 32"	#4 @ 32"	8"
LEVEL GRADE AT TOP OF WALL	5'- 1" to 6'- 0"	24"	45"	#4 @ 24"	#4 @ 32"	#4 @ 24"	8"
	4'- 1" to 5'- 0"	N/R	36"	#4 @ 24"	#4 @ 24"	#4 @ 24"	7"
	3'- 1" to 4'- 0"	N/R	24"	#4 @ 32"	#4 @ 32"	#4 @ 32"	5"
	Up to 3'- 0"	N/R	21"	#4 @ 32"	#4 @ 32"	#4 @ 32"	N/R

TYPE 2: 6" HEEL							
GRADE CONDITION	"H" (WALL HEIGHT)	"H1" (12" BLOCK)	"W" (FOOTING WIDTH)	X BARS	Y BARS	ZBARS	"K" (KEY DEPTH)
SLOPING GRADE AT TOP OF WALL (2:1 MAX)	5'- 1" to 6'- 0"	24"	39"	#4 @ 16"	#4 @ 32"	#4 @ 12"	28"
	4'- 1" to 5'- 0"	N/R	29"	#4 @ 16"	#4 @ 16"	#4 @ 12"	22"
	3'- 1" to 4'- 0"	N/R	24"	#4 @ 32"	#4 @ 32"	#4 @ 32"	15"
	Up to 3'- 0"	N/R	18"	#4 @ 32"	#4 @ 32"	#4 @ 32"	8"
LEVEL GRADE AT TOP OF WALL	5'- 1" to 6'- 0"	24"	33"	#4 @ 24"	#4 @ 32"	#4 @ 24"	18"
	4'- 1" to 5'- 0"	N/R	26"	#4 @ 24"	#4 @ 24"	#4 @ 24"	13"
	3'- 1" to 4'- 0"	N/R	20"	#4 @ 32"	#4 @ 32"	#4 @ 32"	7"
	Up to 3'- 0"	N/R	20"	#4 @ 32"	#4 @ 32"	#4 @ 32"	N/R

N/R = NOT REQUIRED

SEE PAGE 2 FOR ADDITIONAL INFORMATION

DISCLAIMER:

ALTERNATE RETAINING WALL DESIGNS MAY BE POSSIBLE WHEN PROVIDED WITH AN ENGINEERED ANALYSIS. USE OF THIS STANDARD DESIGN IS AT THE USER'S RISK AND CARRIES NO IMPLIED OR INFERRED GUARANTEE AGAINST FAILURE OR DEFECTS.

COUNTY OF SAN BERNARDINO

SAN BERNARDINO COUNTY

COUNTY OF SAN BERNARDINO
Building & Safety Division

RETAINING WALLS

385 N. Arrowhead Ave.
San Bernardino, CA 92415

(909) 387-8311

GENERAL NOTES:

1) ALL WORK SHALL CONFORM TO THE ADOPTED CODES AND ZONING REGULATIONS.

2) CONCRETE BLOCK MASONRY SHALL COMPLY WITH THE FOLLOWING:
   A. CONCRETE MASONRY SHALL CONFORM TO ASTM C-90. GRADE - N.
   B. MORTAR: TYPE M OR S
   C. GROUT ALL CELLS W/2000 PSI PORTLAND CEMENT GROUT

3) THE ULTIMATE COMPRESSIVE STRENGTH REQUIRED FOR FOUNDATION CONCRETE SHALL BE 2500 PSI.

4) ALL REINFORCING STEEL SHALL BE INTERMEDIATE GRADE ASTM A614-40 AND OVERLAP SPLICES SHALL BE 40 BAR DIAMETERS MINIMUM. ALL REBAR HOOKS SHALL BE A MINIMUM OF 23 TIMES THE REBAR DIAMETER (12BD) IN LENGTH.

5) PROVIDE RETAINING WALL DRAINAGE SYSTEM AS FOLLOWS:
   PROVIDE 1 CF/FT OF CLEAN COURSE GRAVEL WITH 4" DIAMETER PERFORATED PVC DRAINAGE PIPE WITH 1% GRADIENT TO DRAIN - OR OMIT HEAD JOINTS IN FIRST COURSE. (NOT PERMITTED OVER PL)

6) OPTIONAL: INSTALLATION OF A MOISTURE BARRIER ON THE FILL SIDE OF THE WALL WILL HELP TO PREVENT MOISTURE FROM PENETRATING THE VISIBLE SIDE OF THE WALL. RESULTING IN DISCOLORATION.

7) THIS RETAINING WALL STANDARD IS NOT DESIGNED TO SUPPORT SURCHARGE LOADS FROM MOTOR VEHICLES OR OTHER STRUCTURES.

8) CLEANOUTS SHALL BE PROVIDED FOR ALL GROUT POURS OVER 5 FEET IN HEIGHT. WHERE REQUIRED, CLEANOUTS SHALL BE PROVIDED IN THE BOTTOMM COURSE AT EVERY VERTICAL BAR AND SHALL BE SEALED AFTER INSPECTION AND BEFORE GROUTING.

9) NO WALKING SURFACE ABOVE 30" WITHOUT A GUARDRAIL. THE PROPOSED GUARDRAIL SHALL BE SUBMITTED ON SEPARATE PLANS WITH DETAILS AND ENGINEERING CALCULATIONS.

REQUIRED INSPECTIONS:

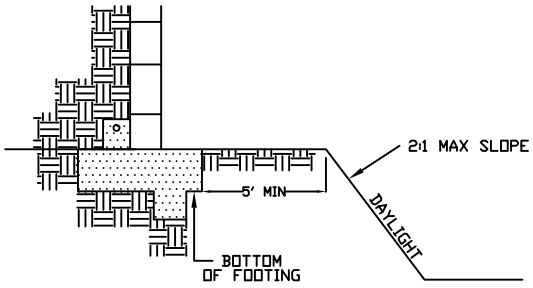
1) FOOTING:
   EXCAVATION TRENCH CLEAN WITH STEAL IN PLACE AND SUPPORTED 3" ABOVE AND AWAY FROM THE SURROUNDING EARTH/DIRT.

2) REBAR/PRE-GROUT AND DRAINAGE SYSTEM:
   BOND BEAM REBAR AND VERTICAL REBAR IN PLACE - INSPECTION PRIOR TO PLACING GROUT. DRAINAGE SYSTEM COMPLETE.

3) FINAL:
   AFTER GROUT IS PLACED AND COMPACTED BACKFILL COMPLETED - PRIOR TO ANY DECORATIVE CAP PLACEMENT.

SETBACK FROM TOP OF SLOPE:

ALL FOOTINGS ADJACENT TO SLOPES TO BE AT LEAST 5' TO DAYLIGHT AS SHOWN BELOW.



DESIGN PARAMETERS:

ACTIVE SOIL PRESSURE (PSF)	
LEVEL BACKFILL	=30
SLOPING (2:1) MAX	=43
PASSIVE SOIL BEARING (PSF)	=150
COEFFICIENT OF FRICTION	=0.25
ALLOWABLE SOIL BEARING PRESSURE (PSF)	=1500

(NO INCREASE TAKEN FOR DEPTH OR WIDTH OF FOOTING)

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