



# City of Milpitas

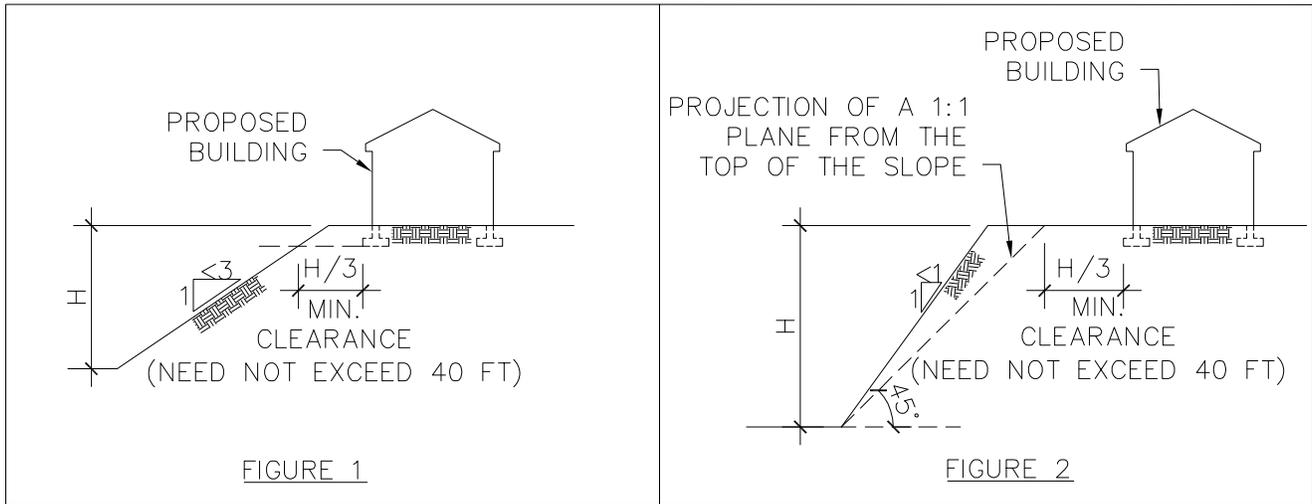
Building & Safety Department

## DESIGN GUIDELINES FOR FOOTING AND POOL ON OR ADJACENT TO SLOPES



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FOOTING SETBACK FROM DESCENDING SLOPE SURFACE

NOTES: (CBC SEC. 1808.7.2)

1. FOUNDATION ON OR ADJACENT TO SLOPE SURFACES SHALL BE FOUNDED IN FIRM MATERIAL WITH AN EMBEDMENT AND SET BACK FROM THE SLOPE SURFACE SUFFICIENT TO PROVIDE VERTICAL AND LATERAL SUPPORT FOR THE FOUNDATION WITHOUT DETRIMENTAL SETTLEMENT. THE SETBACK AS SHOWN IN FIGURES 1 & 2 WILL BE ASSUMED ADEQUATE TO MEET THE CRITERIA.
2. WHERE THE SLOPE IS STEEPER THAN 1 UNIT VERTICAL IN 1 UNIT HORIZONTAL, THE REQUIRED SETBACK SHALL BE MEASURED FROM AN IMAGINARY PLANE 45 DEGREE TO THE HORIZONTAL, PROJECTED UPWARD FROM THE TOE OF THE SLOPE (SEE FIGURE 2).

ALTERNATE SETBACK AND CLEARANCE: (CBC SEC. 1808.7.5)

ALTERNATE SETBACKS AND CLEARANCES ARE PERMITTED, SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL. THE BUILDING OFFICIAL SHALL BE PERMITTED TO REQUIRE A GEOTECHNICAL INVESTIGATION BY A REGISTERED DESIGN PROFESSIONAL TO DEMONSTRATE THAT THE INTENT OF THIS SECTION HAS BEEN SATISFIED. SUCH AN INVESTIGATION SHALL INCLUDE CONSIDERATION OF MATERIAL, HEIGHT OF SLOPE, SLOPE GRADIENT, LOAD INTENSITY AND EROSION CHARACTERISTICS OF SLOPE MATERIAL.

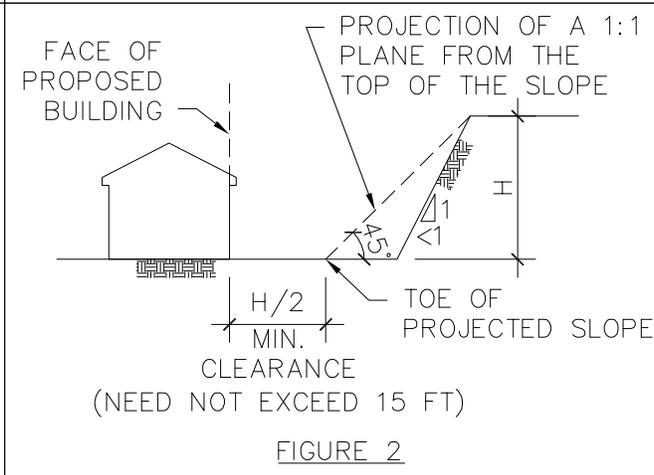
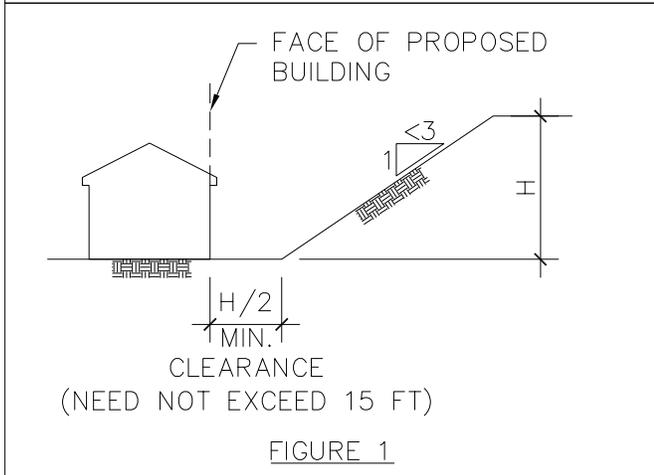
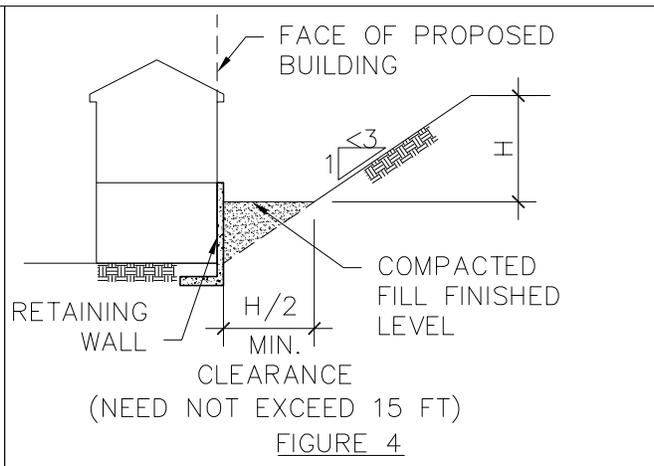
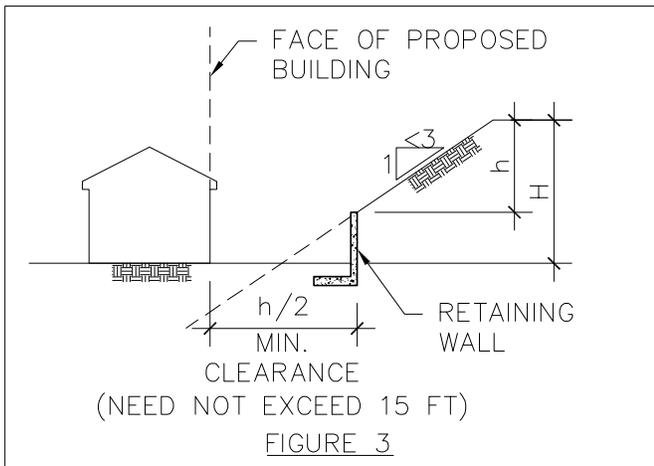
DISCLAIMER:

THE INFORMATION PROVIDED IN THIS DESIGN GUIDE CARRIES NO IMPLIED OR INFERRED GUARANTEE AGAINST FAILURE OR DEFECTS. BY USING THIS DESIGN GUIDE, THE CONTRACTOR/OWNER ACCEPTS THE FULL RESPONSIBILITY OF RISK. ALTERNATE DESIGN MAY BE USED WHEN PROVIDED WITH WET STAMPED AND SIGNED STRUCTURAL CALCULATIONS & DETAILS BY A CALIFORNIA LICENSED ENGINEER OR ARCHITECT.

REV.	DATE	BY:	SCALE: N.T.S.
1	01/2011	OC/BK	DATE: AUG 2009
			DRAWN BY: BYC
			REVIEWED BY: KI/LS/OC/BK/GA

**City of Milpitas**  
 Building & Safety Department  
 FOOTING & POOL ON/ADJACENT TO SLOPES  
 FOOTING SETBACK FROM DESCENDING SLOPE SURFACE

SHEET  
**1**  
 OF 3 SHEETS



**BUILDING CLEARANCE FROM ASCENDING SLOPES**

**NOTES: (CBC SEC. 1808.7.1)**

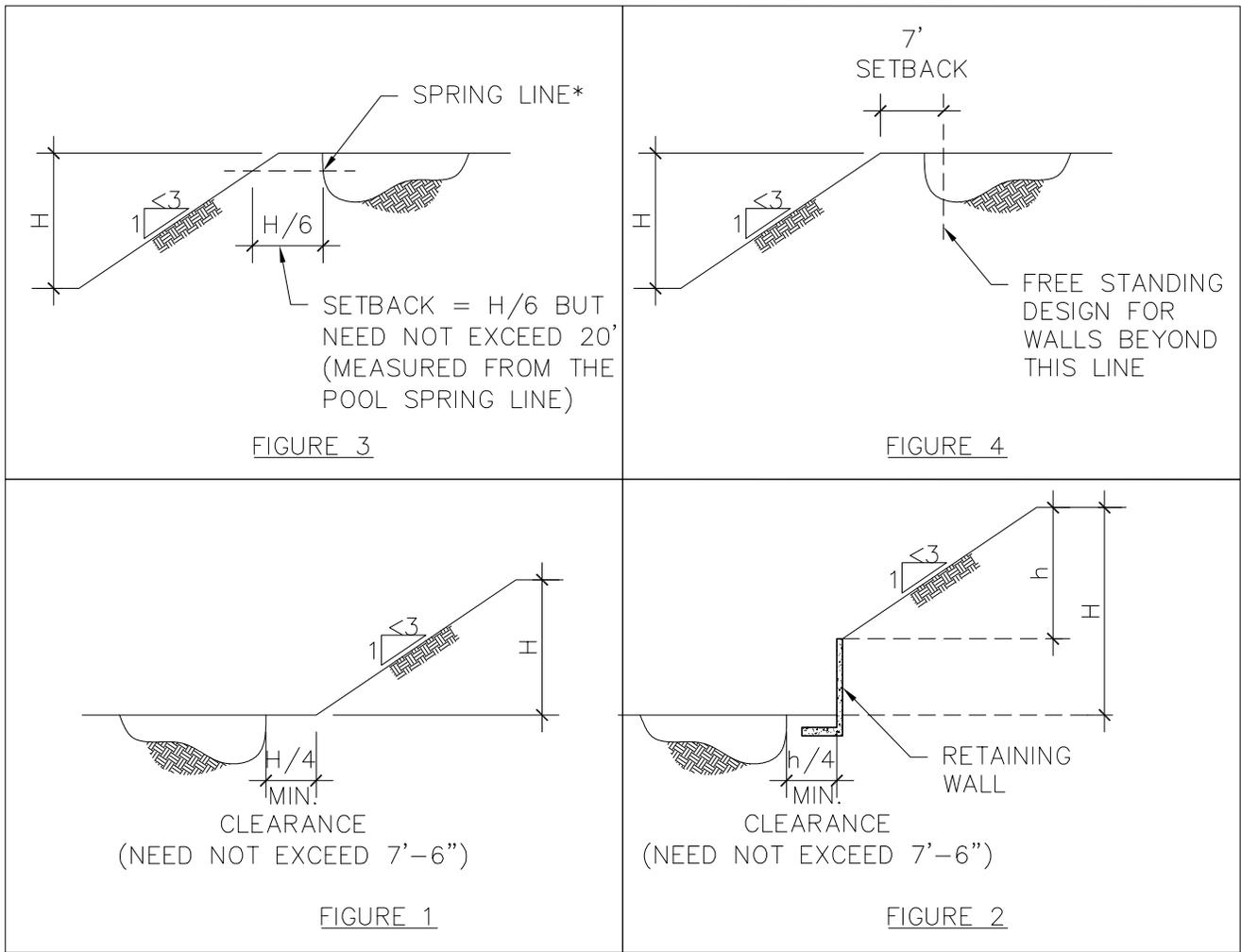
1. BUILDINGS BELOW SLOPES SHALL BE SET A SUFFICIENT DISTANCE FROM THE SLOPE TO PROVIDE PROTECTION FROM SLOPE DRAINAGE, EROSION AND SHALLOW FAILURES. THE CLEARANCE AS SHOWN IN FIGURES 1 THRU 4 WILL BE ASSUMED TO PROVIDE THIS PROTECTION.
2. WHERE THE EXISTING SLOPE IS STEEPER THAN ONE UNIT VERTICAL IN ONE UNIT HORIZONTAL, THE TOE OF THE SLOPE SHALL BE ASSUMED TO BE AT THE INTERSECTION OF A HORIZONTAL PLANE DRAWN FROM THE TOP OF THE FOUNDATION AND A PLANE DRAWN TANGENT TO THE SLOPE AT AN ANGLE OF 45 DEGREES TO THE HORIZONTAL (SEE FIGURE 2).
3. WHERE A RETAINING WALL IS CONSTRUCTED AT THE TOE OF THE SLOPE, THE HEIGHT OF THE SLOPE SHALL BE MEASURED FROM THE TOP OF THE WALL TO THE TOP OF THE SLOPE (SEE FIGURES 3 & 4).

**ALTERNATE SETBACK AND CLEARANCE: (CBC SEC. 1808.7.5)**

ALTERNATE SETBACKS AND CLEARANCES ARE PERMITTED, SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL. THE BUILDING OFFICIAL SHALL BE PERMITTED TO REQUIRE A GEOTECHNICAL INVESTIGATION BY A REGISTERED DESIGN PROFESSIONAL TO DEMONSTRATE THAT THE INTENT OF THIS SECTION HAS BEEN SATISFIED. SUCH AN INVESTIGATION SHALL INCLUDE CONSIDERATION OF MATERIAL, HEIGHT OF SLOPE, SLOPE GRADIENT, LOAD INTENSITY AND EROSION CHARACTERISTICS OF SLOPE MATERIAL.

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**BUILDING CLEARANCE FROM ASCENDING SLOPES**



POOL SETBACK FROM ASCENDING OR DESCENDING SLOPE SURFACE

NOTES: (CBC SEC. 1808.7.3)

- FIGURES 1, 2, 3, AND 4 SHOW HOW THE STANDARD SETBACK CAN BE PROVIDED FOR POOLS ADJACENT TO A SLOPE STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL BUT LESS THAN 1 HORIZONTAL TO 1 VERTICAL. WHERE THE SLOPE IS STEEPER THAN 1:1, THE SETBACK SHALL BE MEASURED FROM AN IMAGINARY PLANE PROJECTED AT AN ANGLE OF 45 DEGREES AND TANGENT TO THE SLOPE. IN ADDITION TO THE FOOTING SETBACK, ANY PORTION OF THE POOL WALL WITHIN 7 FEET OF THE TOP OF THE SLOPE SHALL BE DESIGNED FOR A FREESTANDING CONDITION, WITHOUT SOIL SUPPORT (SEE FIGURE 4).
- THE SETBACK BETWEEN POOLS REGULATED BY SECTION 1808.7.3 OF 2013 CBC SHALL BE EQUAL TO ONE-HALF THE BUILDING FOOTING SETBACK DISTANCE REQUIRED (SEE FIGURES 1, 2, AND 3).
- ANY PORTION OF THE POOL WALL WITHIN A HORIZONTAL DISTANCE OF 7 FEET FROM THE TOP OF THE SLOPE SHALL BE CAPABLE OF SUPPORTING THE WATER IN THE POOL WITHOUT SOIL SUPPORT (SEE FIGURE 4).
- WHERE THE SLOPE IS STEEPER THAN 1:1, THE SETBACK SHALL BE MEASURED FROM AN IMAGINARY PLANE PROJECTED AT AN ANGLE OF 45 DEGREES AND TANGENT TO THE SLOPE.

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 POOL SETBACK FROM ASCENDING OR DESCENDING SLOPE SURFACE

SHEET  
**3**  
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