

PLAN 1 Surcharge = 100 psf			
CONDITIONS OF USE: Backfill = 0 to 3 feet		DESIGN VALUES: Manure = 60 psf/ft EFP Earth = 60 psf/ft EFP	
MARK A	MARK B	MARK C	MARK D
#4 @ 12"	3-#4 @ 12"	6-#4 @ 12"	3-#4 @ 12"
b = 3'-0"			
c = 4'-9"			
L = 7'-9"			

**Notes:**

1. Drainage shall be away from the wall.
2. The maximum backfill is recommended for frost protection.
3. Backfill shall be sloped away from the wall.
4. For additional details, see MO Construction Specification 313A.

**Minimum Material Strength Requirements:**

Concrete  $f_c = 3500$  psi  
Steel  $f_s = 40000$  psi

**Wall Design Loading:**

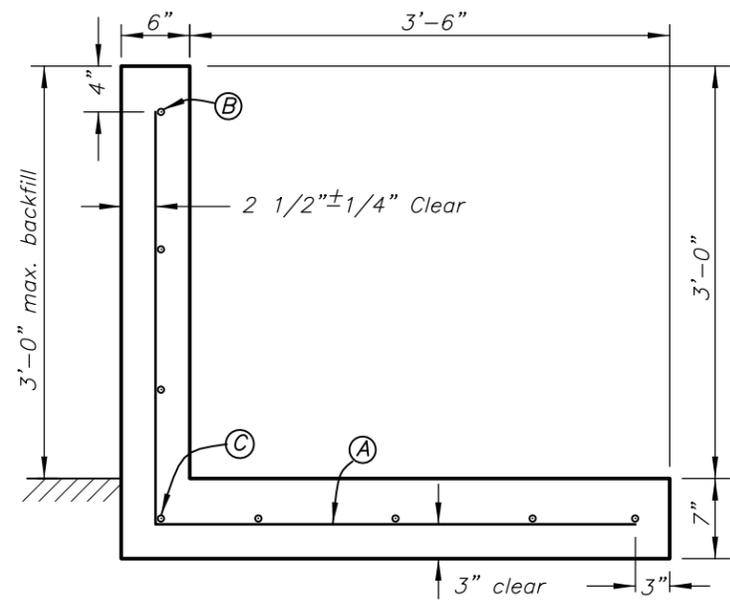
Minimum backfill height = 0 in.  
Maximum backfill height = 3'-0"  
Manure load inside = 60 psf/ft.  
Soil backfill outside loading = 60 psf/ft with 100 psf horizontal surcharge or 75 psf/ft. With no surcharge.  
Backfill soil weight = 100 pcf

**Floor Design:**

Maximum footing contact pressure = 300 psf  
Water table must be below the footing elevation.

**Wall Restraint:**

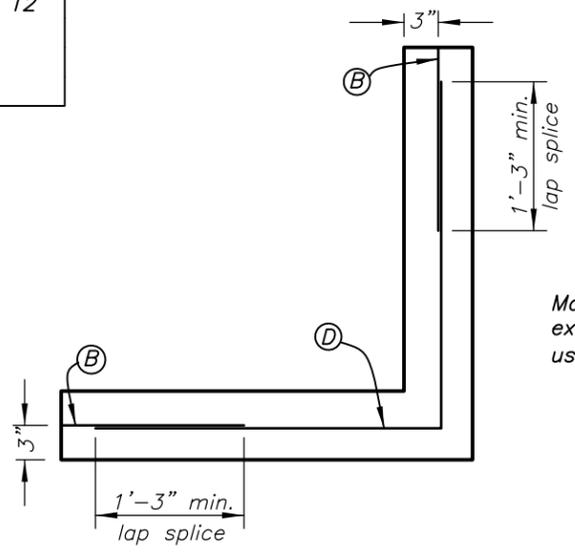
Walls must be restrained with a floor slab when backfilled. (5" thick slab assumed)  
Plan 1 - 10 feet minimum unrestrained slab length.  
Plan 2 - 2 feet minimum unrestrained slab length.



PLAN 2 No Surcharge			
CONDITIONS OF USE: Backfill = 0 to 3 feet		DESIGN VALUES: Manure = 60 psf/ft EFP Earth = 75 psf/ft EFP	
MARK A	MARK B	MARK C	MARK D
#4 @ 12"	3-#4 @ 12"	4-#4 @ 14"	3-#4 @ 12"
b = 3'-0"			
c = 3'-6"			
L = 6'-6"			

**Construction Joint Options**

1. If slab and wall are poured separately, the slab surface must be thoroughly cleaned with water and a wire brush. The surface of the joint shall be kept moist for at least 1 hour prior to placement of new concrete.
2. The slab and wall may be poured at the same time eliminating the need for a construction joint.



Mark A floor steel shall extend from corners using 1'-3" laps.

**Corner Detail (Plan View)**

MARK	SIZE	QUANTITY	TYPE	b	c	LENGTH	TOTAL LENGTH
A	#4		21	3'-0"			
B	#4		1				
C	#4		1				
D	#4		21	2'-6"	2'-6"	5'-0"	

Splices in Mark B and C bars are 15" min.

#4 Bars, total length = \_\_\_\_\_ ft X 0.668 lbs/ft = \_\_\_\_\_ lbs

**Estimated Quantities**

Concrete \_\_\_\_\_ cu. yds. \*  
Reinforcing steel \_\_\_\_\_ lbs. or ft.

\* Concrete quantity - 0.169 cy/ft for Plan 1  
- 0.142 cy/ft for Plan 2

DRAFT  
NOT FOR  
CONSTRUCTION

3 FOOT REINFORCED CONCRETE WALL

United States Department of Agriculture  
Natural Resources Conservation Service  
**NRCS**

File Name \_\_\_\_\_  
Drawing Name  
29-N-607  
Sheet \_\_\_\_\_ of \_\_\_\_\_

Designed \_\_\_\_\_  
Drawn \_\_\_\_\_  
Checked \_\_\_\_\_  
Approved \_\_\_\_\_  
Date \_\_\_\_\_