

STEEL SCHEDULE

MARK	SIZE	QUANTITY	TYPE	A	B	C	LENGTH	TOTAL LENGTH
①	#4	20		---	2'-2"	3'-6"	5'-8"	
②	#4		STR	---	---	---		
③	#4		STR	---	---	---		
④	#4	2		0'-8"	3'-4"	---	4'-0"	
#4 Bars Total Length								

CONDITIONS OF USE

Allowable backfill height = 0 to 2 ft
 Soil backfill type, granular = gravel-sand mix, or coarse sand, with less than 50% fines; OR
 Soil backfill type, CL = low to medium PI silts and clays, with 50% or more fines
 Water table below footing
 For granular backfill, machinery surcharge load allowed on soil or pavement slab
 For CL backfill, machinery surcharge load allowed ONLY on pavement slab for backfill heights greater than 1 ft
 Not designed to support buildings or roofs

MATERIALS

Concrete compressive strength = 4,000 psi
 Reinforcing steel may be Grade 40 or 60.
 Concrete and reinforcing steel shall meet requirements of Construction Specification IA-31.

WALL DESIGN LOADINGS

Manure load inside = 65 psf/ft EFP (Equivalent Fluid Pressure)
 Soil backfill density = 110 pcf
 Soil backfill load, granular = 60 psf/ft EFP
 Design surcharge load for granular backfill = 120 psf horizontal pressure (modeling machinery on soil)
 Soil backfill load, CL = 85 psf/ft EFP
 Design surcharge load for CL backfill = 64 psf horizontal pressure (modeling machinery on concrete pavement slab)

WALL SLIDING RESTRAINT REQUIREMENTS

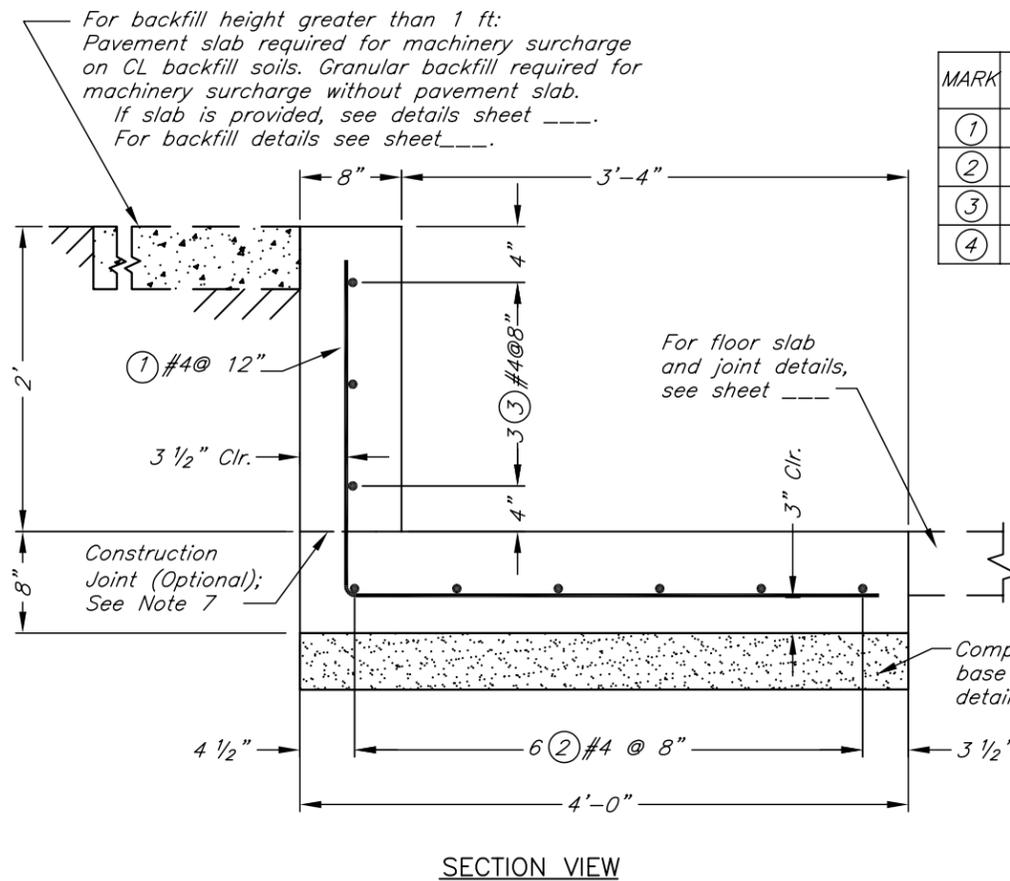
Assumptions:
 5-inch thick floor slab, factor of safety against sliding 1.5
 Coefficient of friction (soil/concrete) = 0.25 (wet, medium to dense clay foundation)

Backfill Height, ft.	Min. Floor Slab Length, ft.*	
	Granular Backfill	CL Backfill
2	43	37
1	19	13
0	0	0

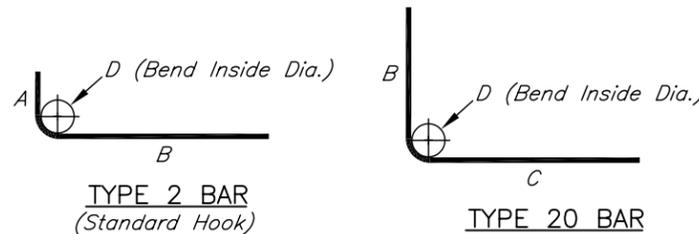
* Min. floor slab length for restraint is not required if L-wall forms a tank with opposing wall having approximately the same backfill height.

GENERAL DESIGN NOTES

- Design loadings and soil pressures based upon criteria found in Conservation Practice Standard 313 (Waste Storage Facility).
- Drainage shall be away from the wall.
- Backfill to top of wall is recommended for frost protection.
- Mark ② and ③ bars shall extend to 2 to 3 inches from edge of concrete at ends of straight wall sections.
- Mark ① bars shall be placed a maximum of 6 inches from wall end.
- Footing slab reinforcement at corners (see detail): extend Mark ② (longitudinal) bars into Corner Region from both sides of corner and field-bend to extend up into wall same distance as Mark ① bars. Discontinue Mark ① bars in Corner Region.
- Construction joint, if used, shall be completed as described in Construction Specification IA-31. Surface of construction joint shall be roughened to approximately 1/4" depth. Or, slab and wall may be poured at the same time, eliminating the need for a construction joint.



SECTION VIEW



STEEL DETAILS

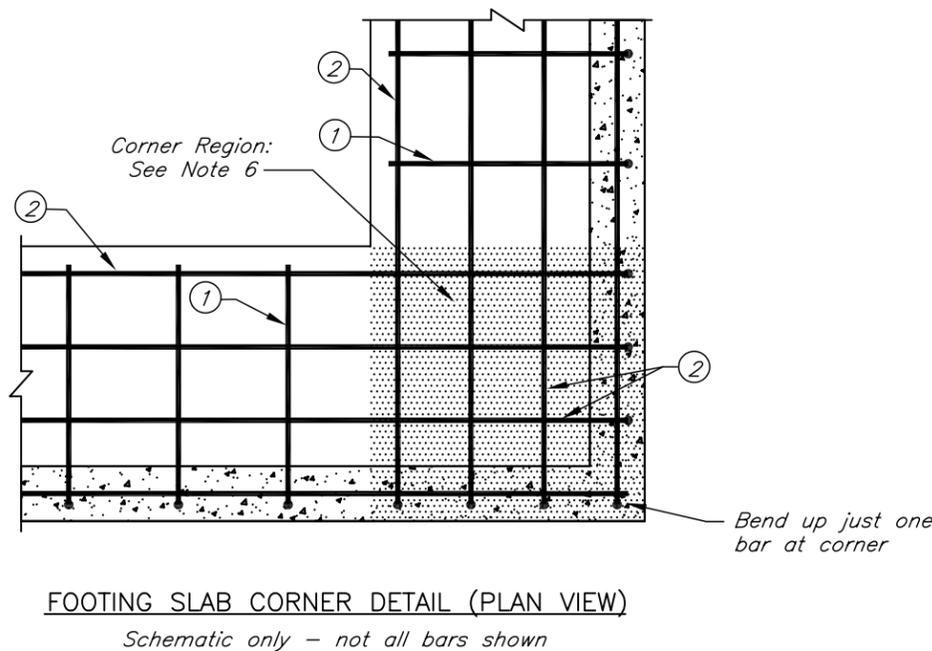
BAR SIZE	INSIDE BEND DIAMETER (D) INCHES	LONGITUDINAL STEEL LAP SPLICE LENGTH, INCHES (MIN.)	
		Wall bars	Footing bars
#4	3	19	16

Total length of wall (measured along \hat{C} wall) = _____ ft.

ESTIMATED QUANTITIES

CONCRETE (0.148 CU.YD./FT OF WALL) = _____ CU.YD.
 STEEL #4 BARS (0.668 LB./FT.) = _____ LB.

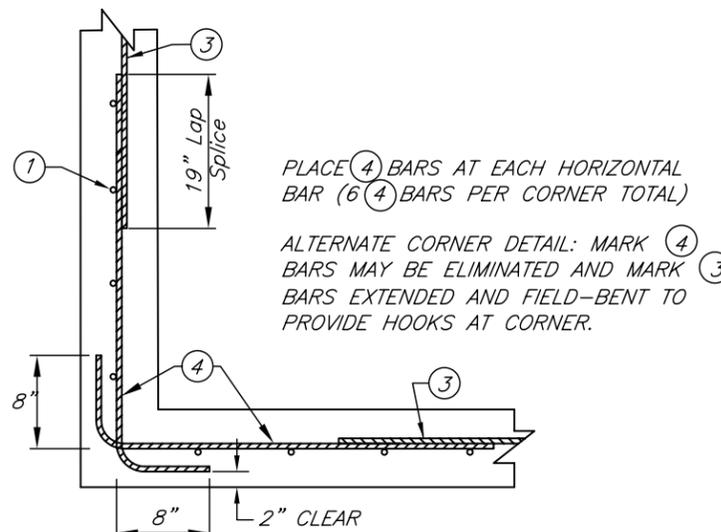
Steel quantity include splice lengths? Y___ N___



FOOTING SLAB CORNER DETAIL (PLAN VIEW)

Schematic only - not all bars shown

NOT TO SCALE



WALL CORNER DETAIL (PLAN VIEW)

Date	07/08
Designed	JGibbs
Drawn	JGibbs
Checked	
Approved	

2-FT HIGH REINFORCED CONCRETE "L" WALL
 0'-2' GRANULAR OR CL BACKFILL, WITH SURCHARGE
 8" WALL THICKNESS

