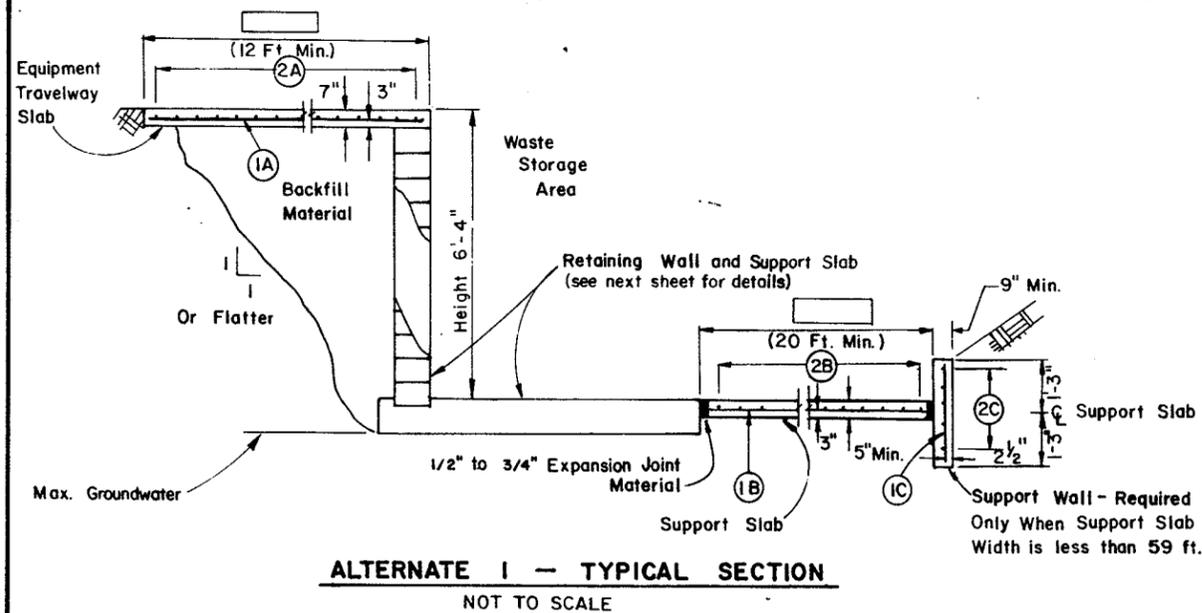
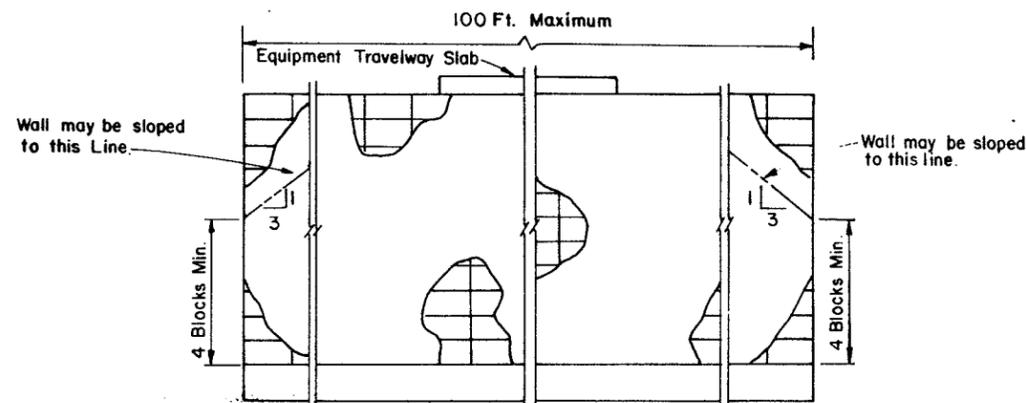


GENERAL CONSTRUCTION NOTES

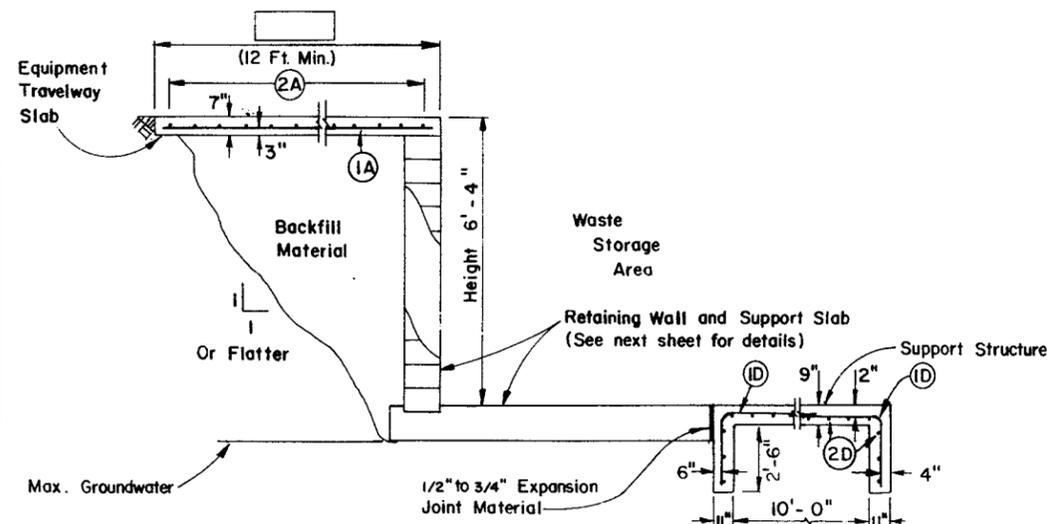
- Construct equipment travelway slab at all locations along the wall that may be used for equipment travel. The maximum allowed size of equipment is a loaded 1500 gallon tank wagon and/or a 130 hp. size tractor.
- Construct a support slab (Alternate 1) or support structure (Alternate 2) except where one wall faces another wall.
- Concrete: Use 3,000 p.s.i. minimum 28 day compressive strength concrete with a maximum aggregate size 1 1/2" use a minimum of 6 bags of cement per cubic yard of concrete with a maximum of 6 gallons of water per bag of cement.
- Steel: Use deformed reinforcing steel. $f_s = 20,000$ p.s.i. minimum. (Grade 40 or higher) Locate steel accurately in concrete. Hold firmly in place with wire ties and other accessories as needed.
- Stack bonded units should be reinforced horizontally with joint reinforcement spaced a maximum of 16 inches on center vertically.
- Concrete shall be evenly distributed in the forms and vibrated or tamped to assure maximum consolidation. Concrete shall be prevented from drying for at least 7 days after it is placed.
- Forms shall be mortar tight, substantial and unyielding. Forms shall not be removed until at least 1 day after placement of concrete. Defective concrete (eg. honey comb) shall be repaired promptly as instructed by SCS technician. Concrete shall be prevented from drying for at least 7 days.
- Do not pour concrete until SCS technician has inspected forms and steel placement.
- Do not backfill the walls until 10 days after the walls have been constructed.
- Backfill with free-draining, non-cohesive, granular materials such as gravel, sand or loamy sand. (Unified Classification: GP, GW, GM, GC, SP, SW, SC, OR SM - SC.)
- Provide surface drainage away from the facility.
- For walls with a required length of more than 100 feet, divide the length into sections not exceeding 100 feet in length. Place expansion joint material between sections.
- The length of reinforcing bar splices shall equal at least 30 diameters of the smaller bar being spliced, but not less than 12 inches.
- Dimensions from face of concrete to reinforcing bars designate the clear distance. (minimum clear distance 2 inches).



ALTERNATE 1 - TYPICAL SECTION
NOT TO SCALE



ELEVATION VIEW
NOT TO SCALE



ALTERNATE 2 - TYPICAL SECTION
NOT TO SCALE

CONCRETE BLOCK CONSTRUCTION NOTES

- Mortar mix (by volume): 1 part Portland Cement; 1 part masonry cement; 4-6 parts sand in damp, loose condition.
- Mortar should be used within 2 hours after original mixing and should not stand more than one hour without remixing.
- Grout mix (by volume) for filling block cores: 1 part Portland Cement; 1/4 part masonry cement (optional); 2 1/2 parts fine aggregate, 1 1/2 parts coarse aggregate.
- Maximum size coarse aggregate 1/2".
- Materials used in construction should be of good quality. No second-hand materials shall be used.
- Grout fill each concrete block core and end connections (by hand).
- Concrete block $f'_m = 1,500$ p.s.i. minimum. (ASTM C-90, Grade N, Type I).
- First course of blocks are to be laid in 3" of concrete heel (footing).
 - Lay maximum of 4 courses of blocks prior to filling cores.
 - Each filling of the cores shall end 4" below the top of the top course of blocks so as to form a construction joint.
 - Place lap steel in freshly poured concrete and tamp firmly around steel.
- The mortar bed shall be placed on all webs as well as the shell. (i.e. full mortar bedding is required).

BAR TYPES



BAR SCHEDULE

MARK	SIZE	QUANTITY	LENGTH	TOTAL LENGTH	TYPE	B	C	LOCATION
1A	#4 @ 12"				I			Equip. Slab
2A	#4 @ 12"				I			Equip. Slab
1B	#3 @ 18"				I			Support Slab
2B	#3 @ 18"				I			Support Slab
1C	#4 @ 12"		2'-0"		I			Support Wall
2C	#5 @ 12"				I			Support Wall
1D	#4 @ 12"		9'-3"		2I	2'-10"	6'-5"	Support Str.
2D	#4 @ 12"				I			Support Str.

NOTE: Welded Wire Fabric, 6 X 6-6/6, may be substituted for Bar Marks 1B and 2B.

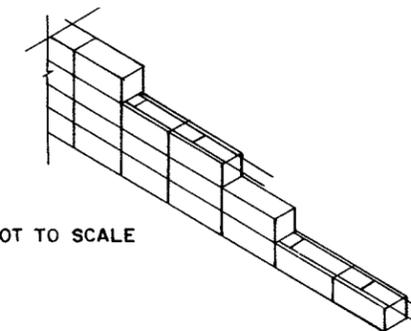
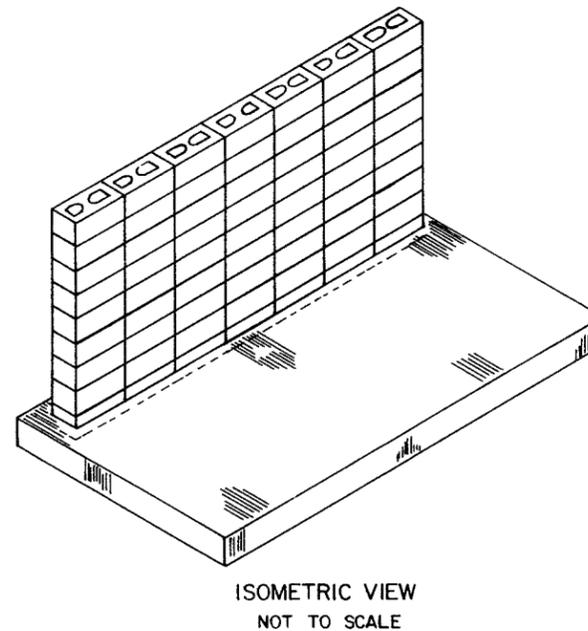
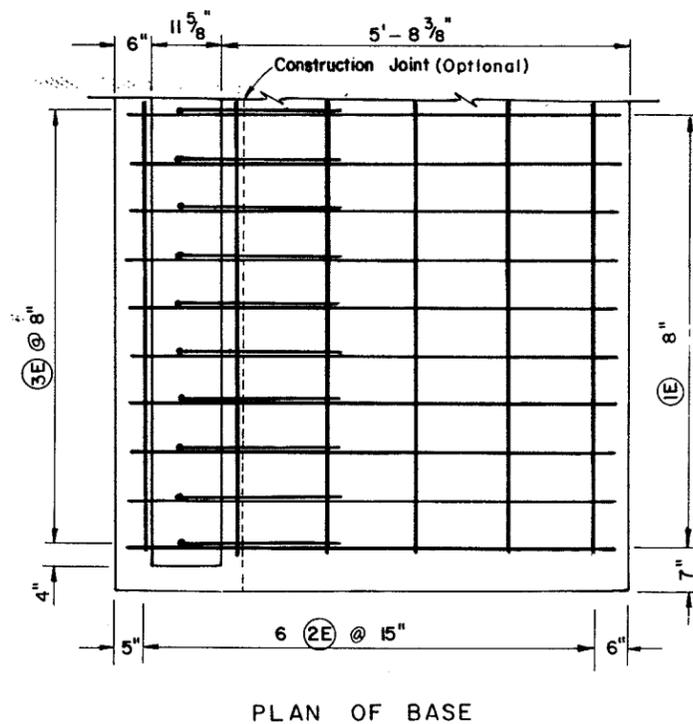
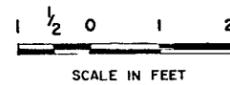
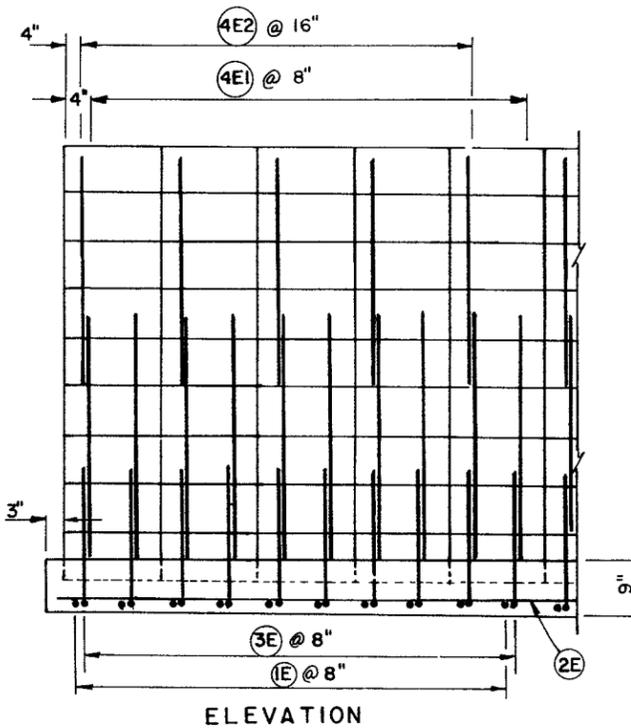
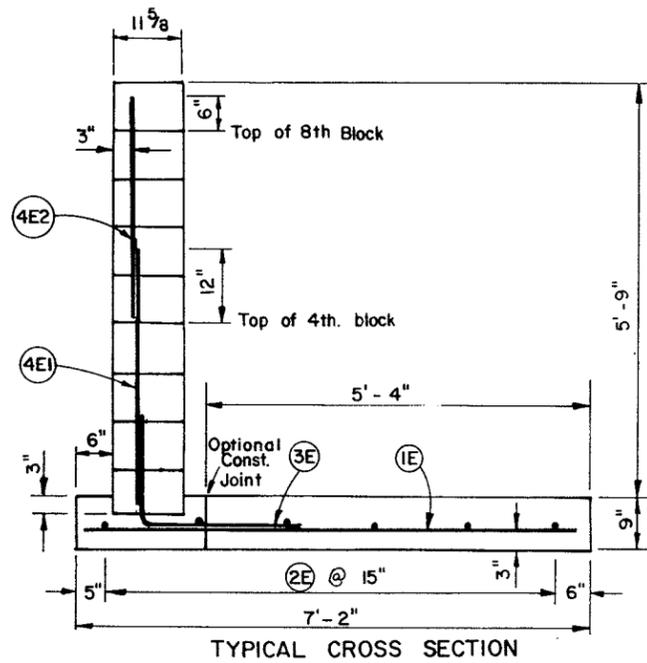
STACK BOND
WALL HEIGHT 6 FOOT
REINFORCED CONCRETE
BLOCK RETAINING WALL
FOR ANIMAL WASTE STORAGE

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

MICHIGAN ENGINEERING STANDARD DRAWING

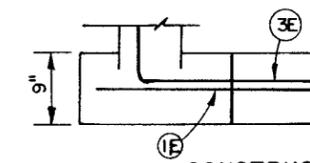
APPROVED BY <i>Loren S. S.C.E.</i>	DATE 5/17/78
DRAWING NO. SO-E-0141	SHEET 1 OF 2

Designed.....	Date.....	Approved by.....
Drawn.....		Title.....
Traced.....		Title.....
Checked.....	Sheet No.	Drawing No.
	of	

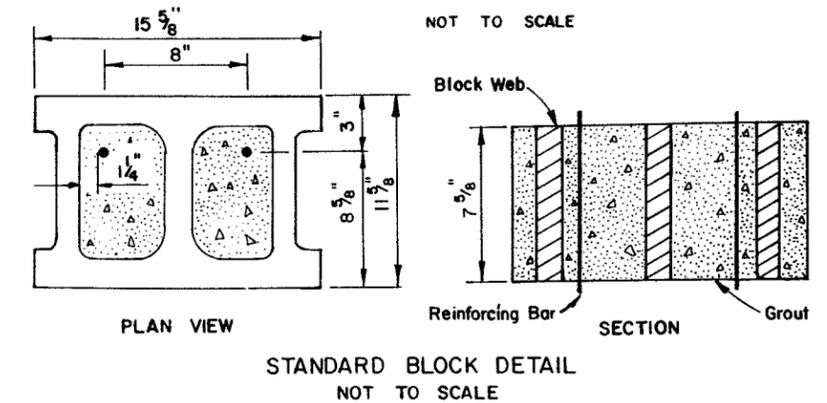


BAR TYPES								
STRAIGHT TYPE 1								
BAR SCHEDULE								
MARK	SIZE	QUANTITY	LENGTH	TOTAL LENGTH	TYPE	B	C	LOCATION
1E	4		6'-9"		1			
2E	5				1			
3E	4		4'-1"		21	1'-9"	2'-4"	
4E1	4		3'-6"		1			
4E2	3		3'-2"		1			

- NOTES:
- Bend radius 3 bar diameters
4 - 1 1/2 inches
 - Minimum lap splice 30 bar diameters.
3 - 12 inches
4 - 15 inches
5 - 19 inches
 - 0.21 Cu. ft. of mortar / foot of wall.
0.07 Cu. yd. of concrete grout / foot of wall.
0.20 Cu. yd. of concrete / foot of base.



CONSTRUCTION JOINT NOTE:
1E bars do not have to continue through the construction joint.
1E bars may be cut at joint.



STACK BOND
6FT. REINFORCED CONCRETE
BLOCK RETAINING WALL FOR
ANIMAL WASTE STORAGE

Blok-lok horizontal reinforcement or equivalent shall be used between every 2 courses of blocks. Standard #9 Ga. side wires X #9 Ga. cross ties shall be used. Cross ties will be spaced 16" o.c. maximum. Width between side wires will be 10"