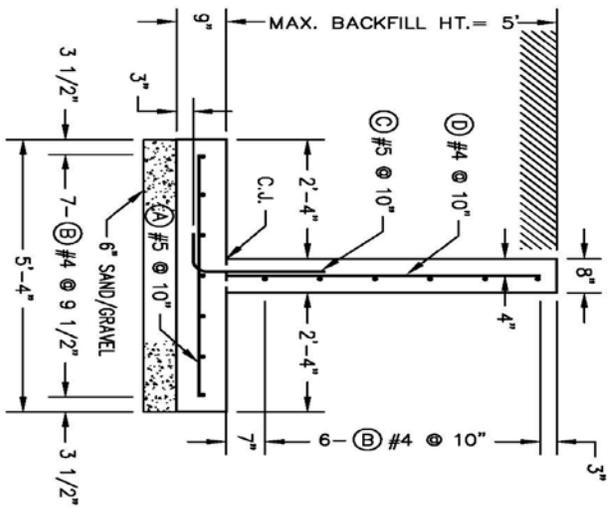


PA-021D 5'high, 8" T-wall (with surcharge)
Standard Drawings Folder



STEEL SCHEDULE

MARK	SIZE	QUAN	TYPE	R	S	LENGTH	TOTAL LENGTH
A	5	---	SIR	---	---	4'-9"	
B	4	---	SIR	---	---	4'-9"	
C	5	2	2'-0"	1'-0"	3'-0"		
D	4	---	SIR	---	---	4'-9"	
L	4	2	2'-6"	9"	3'-3"		
LI	4	---	SIR	---	---	4'-9"	

ESTIMATED QUANTITIES

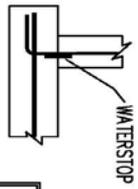
CONCRETE (0.27 CU.YDS./LIN.FT.)	CU. YDS.
STEEL #4 (19.6 FT./LIN. FT.)	_____ FT.
STEEL #5 (9.3 FT./LIN. FT.)	_____ FT.
STEEL (61.5 FT./CORNER)	_____ FT.

- NOTES:
- FOR FROST PROTECTION, A 2-FOOT BACKFILL IS RECOMMENDED.
 - DIMENSIONS ARE TO THE REINFORCING BAR SURFACE.

TOTAL LENGTH OF WALL _____ FT.

- *CONCRETE SHALL MEET PA-313 OR S61 SPECIFICATION REQUIREMENTS.
- *MINIMUM SPlice LENGTHS OF ALL #4 BARS IS 16".
- *MINIMUM SPlice LENGTHS OF ALL #5 BARS IS 17".
- *STEEL QUANTITY DOES NOT INCLUDE SPlice LENGTHS.
- *SUBSTITUTION OF GRADE 60 BARS IS PERMITTED.

- C.I. = CONSTRUCTION JOINT
- LIQUID-TIGHT JOINT YES NO
- LIQUID-TIGHT JOINT OPTIONS
- NON-METALLIC WATERSTOP (PVC)
 - HYDROPHILIC WATERSTOP



5-FOOT WALL CORNER DETAILS SEE PA-0268
SLAB CORNER DETAILS SEE PA-024
RESTRAINING SLAB OPTIONS SEE PA-024

- CONSTRUCTION JOINT OPTIONS
- 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 MOST FOR AT LEAST 1 HOUR PRIOR TO PLACEMENT OF NEW CONCRETE.
 - THE SLAB AND WALL MAY BE POURED AT THE SAME TIME ELIMINATING THE NEED FOR A CONSTRUCTION JOINT.

GENERAL DESIGN NOTES:

- *DRAINAGE SHALL BE AWAY FROM THE WALL.
- *THE MINIMUM TOP WIDTH OF THE BACKFILL AGAINST THE WALL SHALL BE EQUAL TO OR GREATER THAN THE BACKFILL HEIGHT.
- *MAXIMUM FOOTING CONTACT PRESSURE IS 870 psf/ft.
- *MAXIMUM FOOTING CONTACT PRESSURE IS 1440 psf/ft. WHEN USED AS A RAMP SUPPORT.
- DESIGN STRENGTHS, WORKING STRESS DESIGN
- CONCRETE $f_c = 4,000$ psi STEEL $f_s = 20,000$ psi (GRADE 40)
- WALL DESIGN LOADING: 313 STANDARD - LATERAL EARTH PRESSURE VALUES, SEE SECTION IV OF THE FIELD OFFICE TECHNICAL GUIDE.
- *MANURE LOAD INSIDE = 65 psf/ft.
- *SOIL BACKFILL LOAD OUTSIDE = 60 psf/ft.
- *120 psf HORIZONTAL SURCHARGE OR A 2.5:1 SLOPING BACKFILL IS ALLOWED.
- *SOIL BACKFILL DENSITY = 110 pcf.
- *WATER TABLE MUST BE BELOW THE FOOTING ELEVATION

- WALL RESTRAINT REQUIREMENTS:
- *5" THICK SLAB SAFETY FACTOR AGAINST SLIDING 1.5 MIN.

BACKFILL HEIGHT (OUTSIDE LOAD)	SLAB LENGTH (NO INSIDE LOAD)	SLAB LENGTH (FULL INSIDE LOAD)
5 FEET	47 FEET	NO SLAB
4 FEET	26 FEET	NO SLAB
3 FEET	12 FEET	NO SLAB
2 FEET	NO SLAB	4 FEET **
1 FOOT	NO SLAB	4 FEET **
0 FEET	NO SLAB	4 FEET **

- **MINIMUM SLAB LENGTH OF 4 FEET REQUIRED AND MUST BE TIED INTO THE WALL FOOTING.
- SLAB POURED WITH WALL FOOTING:
- #3 BARS @ 18" SPACING (MINIMUM REINFORCEMENT)
- SLAB NOT POURED WITH WALL FOOTING:
- #3 DOWEL BARS - 3'-0" LENGTH @ 3'-0" SPACING.

THIS STANDARDIZED DESIGN MUST BE ADAPTED TO THE SPECIFIC SITE. IT WAS DEVELOPED IN COOPERATION WITH THE WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION. THE DESIGN FOLDER IS FILED AT THE NRCS STATE OFFICE, 8030 EXCELSIOR DRIVE, MADISON, WI 53717-2906

(ADAPTED FROM WI-553, APRIL 2005)



_____ COUNTY, PENNSYLVANIA
5' HIGH, 8" THICK T-WALL (W/SURCHARGE)

Date: 06/23/05
Drawn: TJA
Checked: _____
Approved by: _____

PA-021D
06/23/05 12:50
PA-021D