

PETITION FOR A SPECIAL PRIVILEGE

SP 2129

\$208.00 Publication Fee
Must Accompany This Petition
SUBMIT PETITION IN DUPLICATE

July 14, , 20 04

To the Honorable, The Common Council of the City of Milwaukee:

Council Members:

The undersigned YWCA - NON PROFIT ORGANIZATION
(State whether petitioner is an individual, co-partnership, Wisconsin or foreign corporation)

being the owners of the following described real estate:

17,123⁺ SCHOOL

(Legal description)

_____ in the 10 Aldermanic District also known by street and number as 4610 W. STATE STREET (08) respectfully petition the Common Council of the City of Milwaukee according to the provisions of Section 66.045 of the Wisconsin Statutes, that the following privilege be granted:

CURRENTLY THERE IS AN 11" RETAINING WALL ALONG THE WEST PROPERTY LINE THAT IS BEING DUE TO THE UPPER LOT SLOPING DIRECTLY AT THE RETAINING WALL. WE WILL BE FIXING THE PROBLEM @ THE LOT BUT NEED TO STABILIZE THE WALL BY INSTALLING (4) 24" X 32" CMU PIERS WHICH WOULD BE ENCRACHING ON THE EXISTING 5' OF LANDSCAPED AREA BEFORE THE ALLY BEGINS.
(Here describe the privilege)

of which a plan or sketch is herewith submitted. Petitioner agrees to comply with all laws and all ordinances of the City of Milwaukee, to abide by any order or resolution of the Common Council affecting this privilege, to be primarily liable for damages to person or property by reason of the granting of such privilege, to furnish a bond and pay annual compensation as provided by law in the sum to be fixed by the proper city officers, and to file and keep current throughout the existence of the privilege, a certificate of insurance indicating applicant holds a public liability policy in at least the sums of \$25,000.00/\$50,000.00 bodily injury, and \$10,000.00 property damage, insuring the city against any liability that might arise by reason of the privilege.

Petitioner further agrees to remove said privilege whenever public necessity so requires when so ordered upon resolution adopted by the Common Council or other legislative body.

Should this special privilege be discontinued for any reason whatsoever, petitioner agrees to remove all construction work executed pursuant to this special privilege, to restore to its former condition and to the approval of the Commissioner of Public Works, any curb, pavement, or other public improvement which was removed, changed or disturbed by reason of the granting of this special privilege. Petitioner further agrees not to contest the validity of Section 66.045 of the Wisconsin Statutes, or the legality of this special privilege in any way.

FILE WITH CITY CLERK LICENSE DIVISION
ROOM 105 CITY HALL, 200 EAST WELLS STREET

Signed [Signature]

Address 1415 W. MARK DR.

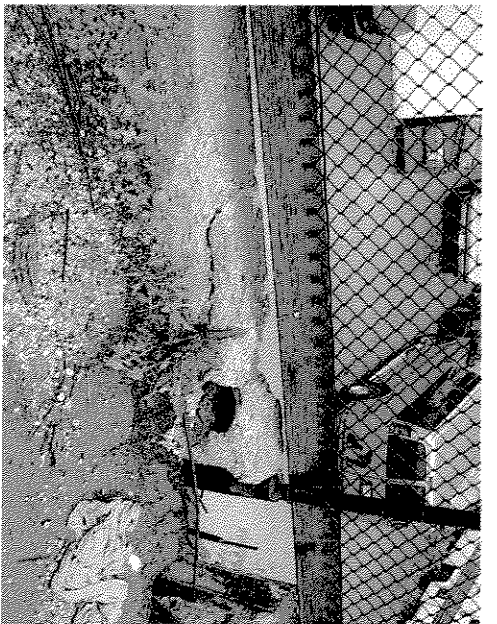
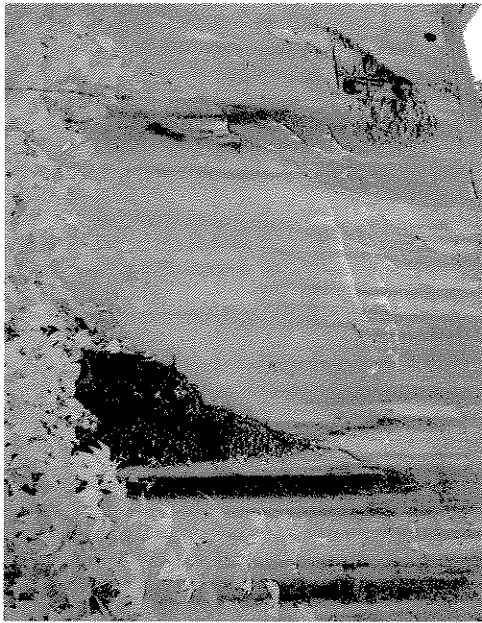
Milwaukee, WI 53212
YWCA of Greater Milwaukee

(if firm, society or corporation, give its full name)
1415 W. Dr. Martin Luther King Jr. Dr

Address
Facilities Manager 414-217-3163

(Title or office held in same) (Local Phone Number of Engineer/Contractor)

R



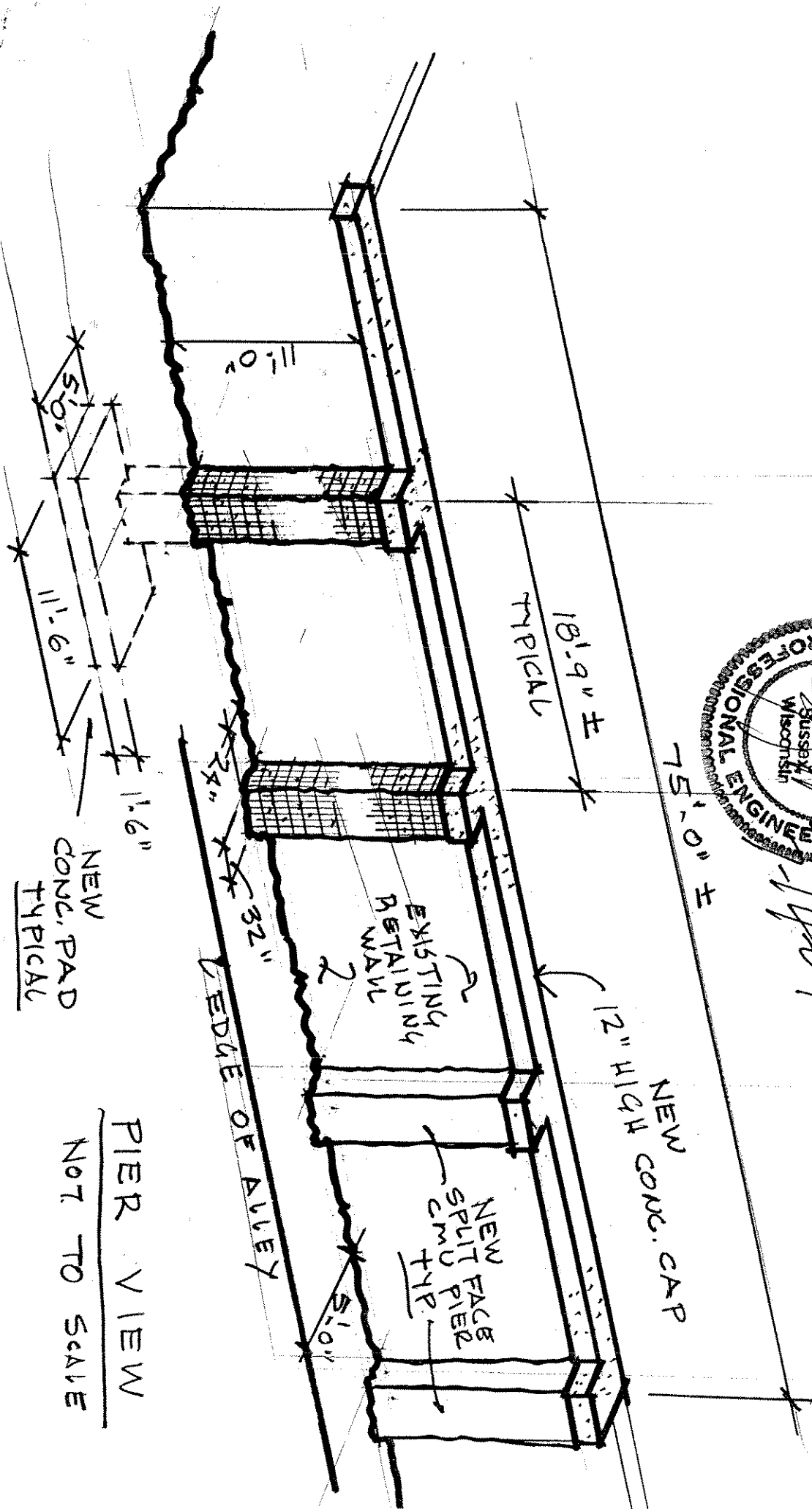
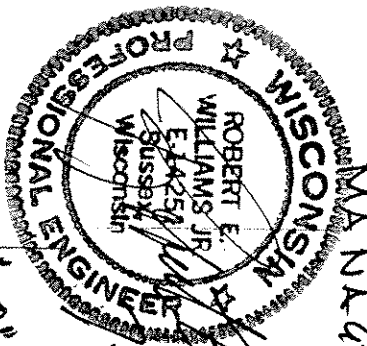
YWCA
4610 W. STATE ST
MILWAUKEE

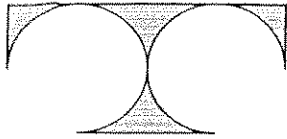
14 July, 2004

ABOUT GROUND ENCROACHMENT = 22 SF
BELOW GROUND ENCROACHMENT = 230 SF

ARCHITECT : TDI ASSOCIATES INC
ENGINEER : 262-437-0400

CONSTRUCTION : VENTURE DEVELOPMENT
MANAGER 262-524-6000





Concrete Foundation Wall- Resist Soil Pressure

12' - 0"

If Unreinforced Wall works for Loading, Reinforcement may be added without satisfying Temperature & Shrinkage

Thickness of Foundation Wall (Width)	W (in)	12
Height of Wall	L (ft)	12.0
Top of Wall to Grade	l (inches)	6
Thickness of Basement Slab	t _{slab} (inches)	4

Equivalent Lateral Fluid Pressure

Horizontal Pressure from Soil	psf	60
Hydrostatic Pressure	psf	15
Total Equiv. Pressure (unfactored)	psf	75
Unbraced Length	ft	11.33

Horizontal Force and Moment Produced from Equiv. Pressure

Compounded Press. At Wall Bot.	psf	850
Horizontal Force (1/3) from Bot.	Pound-force	4816.7
Unfactored Moment	M (#-ft)	6987.38
Factored Moment (1.2DL+1.6LL)	M _u (#-ft)	8943.84

Check Wall Design- Unreinforced

Section Modulus of Wall Section	S (in ³)	288
Concrete Compressive Strength	F _c (psi)	5,000
$\phi Mn = \phi 5 (F_c)^{1/2} S (1'/12")$	ϕMn (#*ft)	7636.8
Check $\phi Mn > M_u$		Need Reinforcement per ACI

Vertical Reinforcement Required (for Bending)

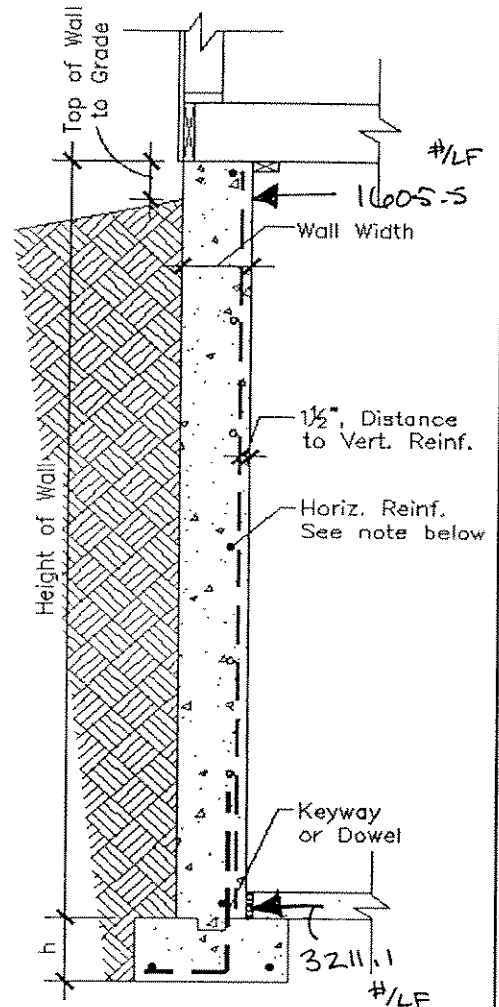
Factored Moment (1.2DL+1.6LL)	M _u (#-ft)	8943.84
Depth to Comp. Line (minus cover)	d (in)	10.13
Bar Designation	___/8 = inches	6
Allowed Steel Stress	f _y (psi)	60,000
Bar Development at Critical Bending	# bar vs. 1/3L	O.K.
As- required (bending vs. Asmin, if Req'd)	in ²	0.2592
Spacing of Bars- Maximum	inches	18.00
Spacing of Bars- Chosen (less than Max)	inches	18
$\phi Mn = \phi Asfy/12 * [d - (Asfy/(1.7*b*f_c))]$	ϕMn (#*ft)	13137.24
Check $\phi Mn > M_u$		O.K.

Check Beam Shear at Bottom Support

Force at Bottom of wall (at support)	P (lbs)	3211.1
$V_u = [(1.2DL+1.6LL)/DL+LL]*P$	V _u (lbs)	4110.2
$\phi V_c = \phi * 2 * (f'_c)^{1/2} * d$	ϕV_c (lbs)	14605.3
Check $\phi V_c > V_u$		O.K.

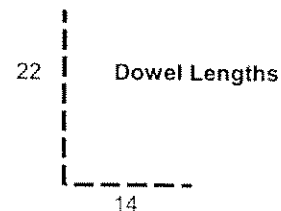
Design width of Keyway or Dowel required

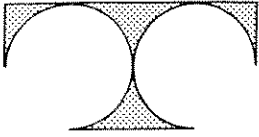
Keyway width (minimum) = $(V_u * d) / \phi V_c$	w (inches)	2.849
Bar Designation	___/8 = inches	6
Spacing of Bars- Chosen	inches	18
Depth of Footing	h (inches)	12.0
Strength of Rebar (see lengths, right)	ϕV_n (lbs)	8089.3
Check $\phi V_n > V_u$		O.K.



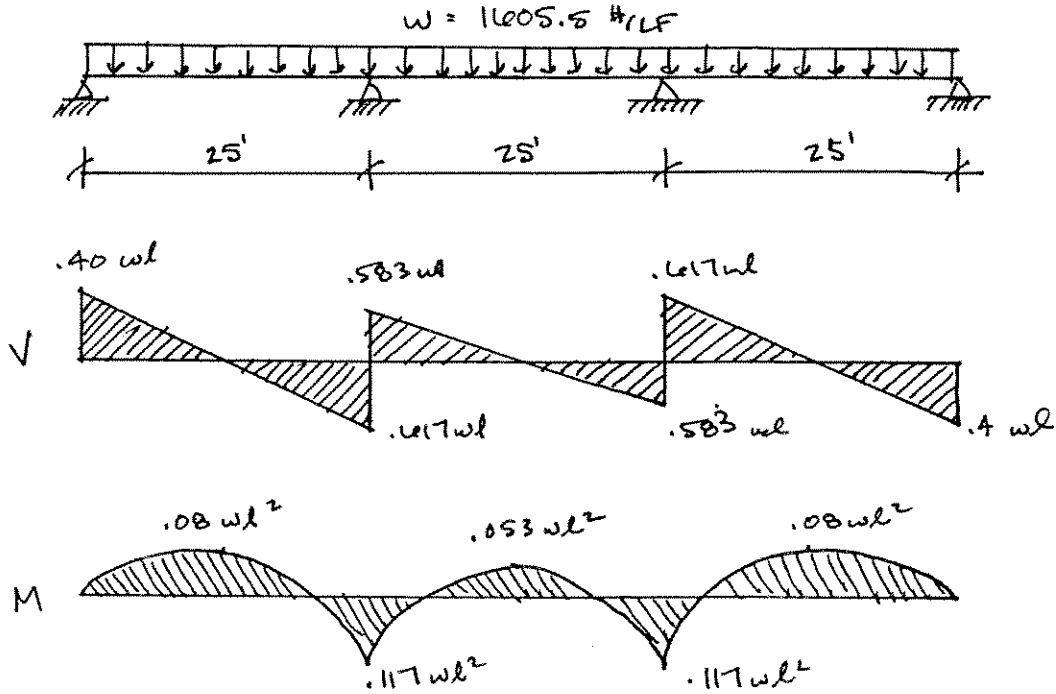
Horizontal Reinforcement

Reinforcing Per ACI 7.12.2 is Req'd
Use # 6 bar at 18 o.c





BEAM SPANNING OVER TWO SUPPORTS (WORST CASE REACTIONS, PATTERN)

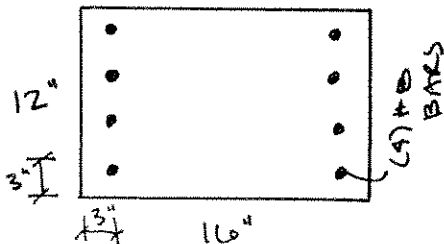


$$W_u = \frac{1.4(60) + 1.6(15)}{75} \times 1605.5 = 2055.0 \text{ \#/LF} = 2.06 \text{ k/ft.}$$

$$V_{\text{MAX}} = .617 \text{ wl} = .617 (2.06) (25') = 31.78 \text{ k}$$

$$M_{\text{MAX}} = .117 \text{ wl}^2 = .117 (2.06) (25')^2 = 150.66 \text{ k-ft.}$$

FOR POURED BEAM @ TOP OF WALL. USE 16" WIDE x 12" TALL WITH 3" OF COVER (TO ϕ , ACTUALLY)



$$\# \text{As} = \frac{150.66 / .9 (12)}{13 (60)} = 2.57$$

$$\text{TR4 } (5) \#7 \text{ BARS} \rightarrow (5)(.6) = 3.00$$

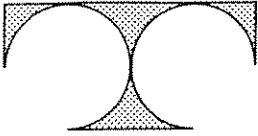
$$(4) \#8 \text{'S} \rightarrow (4)(.74) = 2.96$$

$$\phi M_n = \frac{.9 (3) (60)}{12} \left(13'' - \frac{(3)(60)}{1.7 (12) (3.5)} \right)$$

$$= 141.5 \text{ N.k.}$$

$$\phi M_n = \frac{.9 (3.96) (60)}{12} \left(13'' - \frac{(3)(6) (60)}{1.7 (12) (4)} \right)$$

$$= 151.8 > 150.66 \text{ O.K.}$$



TRANSFER SHEAR FORCE TO REINFORCED PIERS @ 25' O.C.

REDUCE TO 18'-9" O.C.

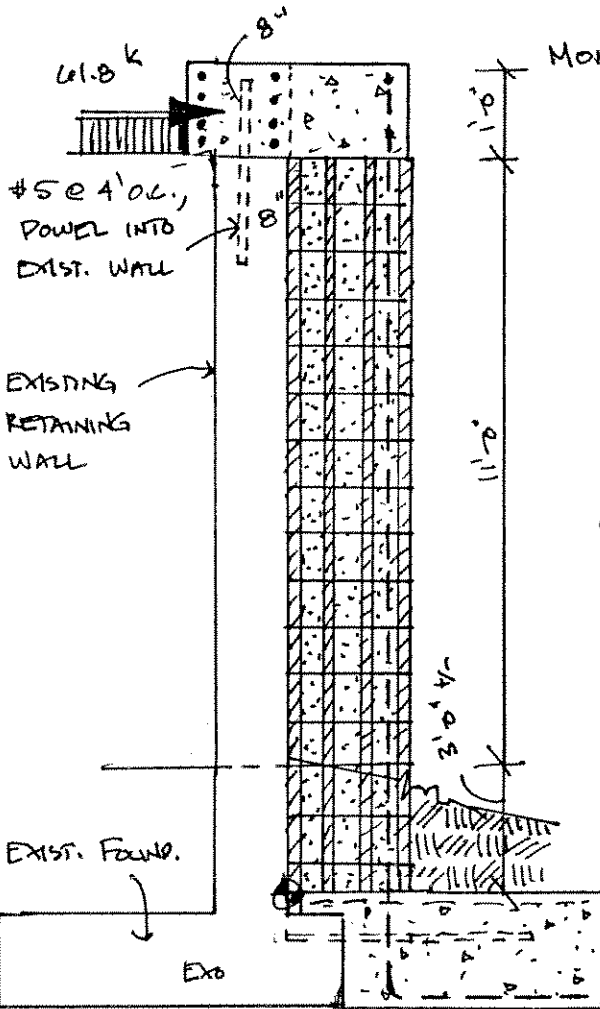
$$V_{@ \text{SUPPORT}} = (.583 + .1617)wl$$

$$= 1.2(2.06)(25)$$

$$= 61.8 \text{ k}$$

$$V_{@ \text{SUPPORT}} = 1.2(2.06)(18.75)$$

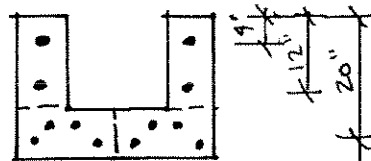
$$= 46.35 \text{ k}$$



MOMENT = $46.35 \text{ k} \times 12' - 6" = 579.4 \text{ k-ft}$

$$d = 24" - 4" = 20"$$

$$A_s = \frac{579.4 \times (12)}{20(60)} = 6.43 \text{ in}^2$$



$$\phi M_n^1 = \frac{.9(6.32)(60)}{12} \left(20 - \frac{(6.32)(60)}{1.7(32)(3)} \right)$$

$$= 502.71 \text{ k-ft}$$

$$\phi M_n^2 = \frac{.9(1.58)(60)}{12} \left(12 - \frac{(1.58)(60)}{1.7(16)(3)} \right)$$

$$= 77.06 \text{ k-ft}$$

$$\phi M_n^3 = \frac{.9(1.58)(60)}{12} \left(4 - \frac{1.58(60)}{1.7(16)(3)} \right)$$

$$= 20.18$$

$$\Sigma \phi M_n = 502.71 + 77.06 + 20.18$$

$$= 599 \text{ k-ft} > 579.4 \text{ o.k.}$$

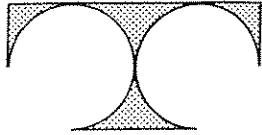
WEIGHT OF "PIER" = $150(2')(2.47)(15') = 12,015 \#$

$$M_{T.B.} = 300.2 \text{ k} \times 14' = 506.9 \text{ k-ft}$$

$$M = 12,015 \times 1.33 = 16 \text{ k} \quad \Sigma M = 16.01 + 506.9 = 522.9 \text{ k-ft}$$

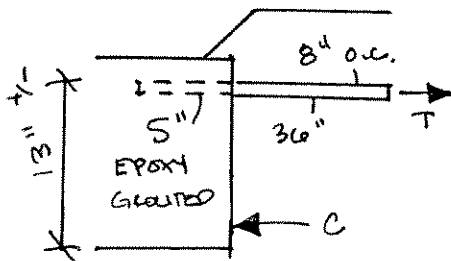
3,000 psf SOIL →

IF 8' WIDE → $B(3)/2 * x^2 = 692$; $x = 7.59$ → 8'-0" x 8'-0" REQ'D



$$.31 (660)(1.6) = 11.16 \text{ k} \times .9 = 10.0 \quad \frac{10}{2.26} = 4.85 \rightarrow \underline{\underline{4' \text{ o.c. DOWELS}}}$$

IF WE USE EPOXY ANCHORS TO EXISTING FOOTING, REDUCE MOMENT FOR "NEW" FOOTING.



#5 BARS

IF 5/8" ANCHORS USED @ 8" O.C.

$$(12/8)(4750) = 7125 \#$$

$$7125 (13/12) = 7.718 \text{ k} \cdot \text{ft} / \text{ft}$$

CALCULATE WIDTH OF FOOTING

MAX. ADDED LENGTH IS 5'-0"

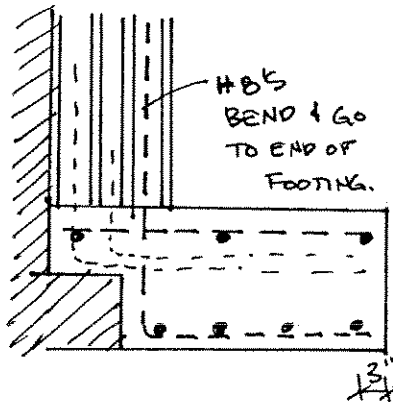
$$522.9 = 7.718x + 3k(5')(2.5)x$$

$$522.9 = 7.718x + 37.5x$$

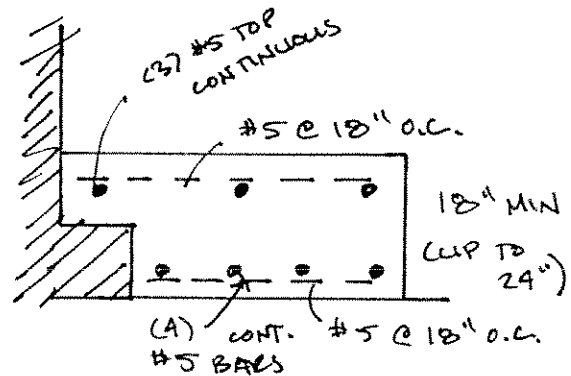
$$x = 11.5' \text{ WIDE}$$

MAKE FOOTING 5'-0" x 11'-6"
x 1'-6" @ 13000 PSI CONCR.

DEVELOPMENT LENGTH FOR #5 BARS IS 55". GO FULL LENGTH OF FOOTING AT COLUMN.



FOOTING UNDER PIER



FOOTING BEHIND PIER

CALC. MOMENT TO BE TRANSFERRED BEYOND PIER.

$$\frac{11'-6" - 2'}{2} = 4.75'$$

$$3000 (1.20) = 3840 \quad \# \text{ ft.}$$

$$M = 3840 (.5)(4.75)^2 = 43,320 \# \cdot \text{ft.} \quad 1.2(43,320) = 51,984$$

$$\frac{51,984}{.9}$$

$$A_s = \frac{51,984}{17(660)} = .77 \text{ in}^2 / \text{ft.} \quad (4) \#5 = 1.24 \text{ in}^2 > .77 \text{ o.k.}$$