

124-132 CONGRESS STREET



Full cut # 020R - Half cut # 0202R - Th. cut # 0203R - Full cut # 0205R

124-130 Congress St.

October 25, 1976

George DiMatteo Co.
169 Front St.
South Portland, Me.

c.c. Doug Christopherson
22 Monument Square
c.c. Fire Dept.
c.c. Bldg. Committee,
City of Portland

Gentlemen:

Permit to construct a 72'x135' two story building to be used as a fire station and community center as per plans is issued herewith subject to the following building code requirements.

Please provide this office with the engineers computations which concerns the load bearing capacity of the floor over the boiler room. (Sec. 7, page 2 of plans submitted)

Based on prior experience a Proctor Test should be required on the compacted gravel beneath the slab in the apparatus room.

Please provide this office with the Statement of Design on the concrete beam detail.

Scuppers should be provided on roof of elevator shaft.

All doors involved in the means of egress are required to be equipped with latch sets, such as will open from the inside without the use of keys, special knowledge or ability, but by merely turning the usual knob or by pressure on a plate or lever.

The white light and exit lights should be on the same circuit so that when the exit lights are energized, the white light on the outside wall will also be lit.

Very truly yours,

Earle S. Smith
Plan Examiner

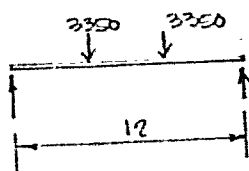
ESS:k

FIRE STATION ROOF FRAMING (CONT'D)

OVER GYM RM: HEADERS AT ELEVATOR - WEST $P_{HWR} = \frac{5(268)}{2} = 3350^{\#}$

EAST $P_{HWR} = \frac{2}{2}(268) = 1072$

HEADER - WEST



$$R_L = R_R = 3350 + (110) = 3460$$

$$M_{MAX} = 3460(6) - 3350(2) - 100(6)^2(.5) = 15,200^{\#}$$

$$S_{REQ'D} = \frac{15,200(12)}{22,000} = 8.36 \text{ IN}^3$$

USE W 8 x 13

$$S = 9.90 \text{ IN}^3$$

- EAST

$$R_L = R_R = 1072 + 600 = 1672^{\#}$$

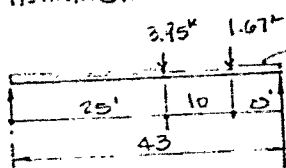
$$M_{MAX} = 1672(6) - 1072(2) - 100(6)^2(.5) = 6088^{\#}$$

$$S_{REQ'D} = \frac{6088(12)}{22,000} = 3.32 \text{ IN}^3$$

USE W 8 x 13

$$S = 9.90 \text{ IN}^3$$

TRIMMERS



$$W_2 = 134^{\#}/\text{FT.}$$

$$W_1 = 268^{\#}/\text{FT.}$$

$$R_L = 7.32^{\text{K}}$$

$$R_R = 7.48^{\text{K}}$$

$V = 0$ AT 395' LOAD

$$M_{MAX} = 7.32(25) - 134(25)^2(.5) = 99,750^{\text{FT}} - 1191^{\text{K}}^{\text{FT}}$$

$$W = \frac{8(1191)}{4.22} = 515^{\#}/\text{FT. APPROX. EQUIV}$$

USE DOUBLE 28LH 05 AT SIDES

Free Station -

3 of 23

2ND FLOOR FRAMING

LIVE LOADS	BUNK ROOMS	40	
	DAY ROOM	50	
	TOILETS	40	
	LOCKERS	40	
	CORRIDORS	100	
DEAD LOAD :	SLAB 2 1/2"	32	PF
	JOISTS & BRACING	5	
	CEILING	5	PF AT ACOUSTIC, 10 PF AT PLASTER
	U.L.C.	3	" " OR 50 " "
		45	

PARTITIONS: 12 x 15 = 180 PF

JOISTS - DAY ROOM & BUNK ROOM

SPAN = 47' C. TO C, 46' CLEAR

ASSUME 2" SPACING

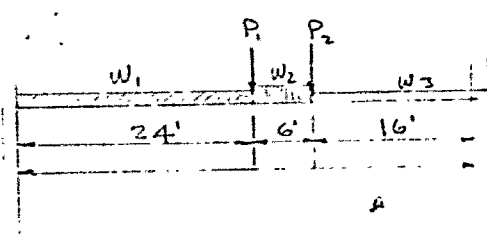
DAY ROOM $W_{LL} = 2(50) = 100 \text{ #/LF}$

$W_{DL} = 2(50) = 100$

BUNK RM $W_{LL} = 2(40) = 80 \text{ #/LF}$

$W_{DL} = 100$

PARTITION: CONC. LOAD = 2(180) = 360 #



$$W_1 = (50 + 50)(2) = 200 \text{ #/LF TL. } \& 100 \text{ #/LF LL}$$

$$W_2 = (100 + 50)(2) = 300 \text{ #/LF TL. } \& 200 \text{ #/LF LL}$$

$$W_3 = (40 + 50)(2) = 180 \text{ #/LF TL. } \& 80 \text{ #/LF LL}$$

$$P_1 = P_2 = 360 \text{ #}$$

$$R_L = 5.09 \text{ #}$$

$$R_R = 5.11 \text{ #}$$

$$V = 0 \text{ AT } P_1$$

$$M_{MAX} = 5.09(24) - .2(24)^2(5) = 64.56 = 774.72 \text{ #}$$

$$W_{EQUIV} = \frac{8(64.56)}{(46)^2} = 0.244 \text{ #/T.}$$

TRY 24 LHOS GOOD FOR 269 #/FT
17 #/T & 155 #/FT

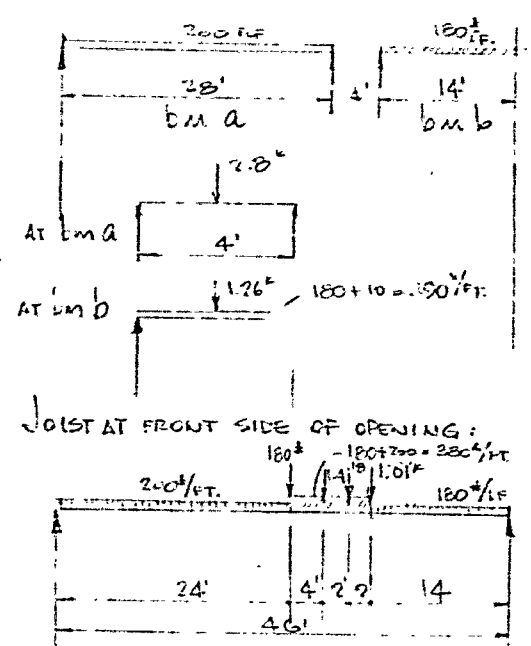
USE 28 LH OS GOOD FOR 27
16 #/FT 14

(CODE REQUIRES DEPTH
= $\frac{SPAN}{20} = \frac{46}{20} = 2.3 \text{ (12) } = 27.6 \text{ #}$

FILE STATION

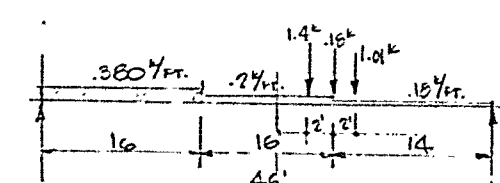
2ND FLR (CONT'D)

AT OPENING FOR PILE SLIDE :

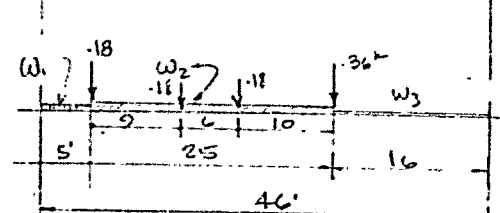


JOIST AT FRONT SIDE OF OPENING:
 $180' - 180' + 200' = 200' / ft$
 $240' / ft$
 $180' / ft$

JOIST AT REAR SIDE OF OPENING



JOIST AT REAR CORRIDOR



$$bm a \cdot R_L \cdot R_R = 28(5)(2) = 2.8^k$$

$$bm b \cdot R_L \cdot R_R = 14(5)(18) = 1.26^k$$

$$HEADER AT bm a: R_L \cdot R_R = 28(5) = 1.4^k$$

$$M = 2.8(4)(\frac{1}{4}) = 2.8^k$$

$$S_{REQD} = 2.8(6) = 1.68 in^3$$

$$L \leq 4 \times \frac{1}{4}$$

$$HEADER AT bm b: R_L \cdot R_R = 1.26(5) + 1.9(2) = 1.01^k$$

$$M = 1.01(2) - 1.9(2)(5) = 1.64^k$$

$$S_{REQD} = 1.64(6) = 0.98 in^3$$

$$L \leq 4 \times \frac{1}{4}$$

$$HANGER: M_{max} = 2.8(2.5) = 7^k \quad S = \frac{7}{27} = 0.26$$

$$R_L = 6.12^k \quad U = \frac{1}{2} ft$$

$$R_R = 7.01^k \quad Use \ 2 \ 28 LH OS$$

$$R_L = 7.74^k \quad Use \ 2 \ 28 LH OS$$

$$R_R = 6.65^k$$

$$w_1 = 2(150) = 300 \text{ hf}$$

$$w_2 = 1(150) + 1(90) + 120 = 420$$

$$w_3 = 2(90) = 180$$

$$R_L = 8.94^k \quad Use \ 2 \ 28 LH OS$$

$$R_R = 6.24^k$$

FIRE STATION

2ND FLOOR FRAMING

AT MEETING ROOMS

L.L. = 100 PSF

D.L. = 45

LOAD TO JOISTS = $2(145) = 290$ PLF

SPAN = 42'

TRY 28 LH05

GOOD FOR 323 PLF TL @ 42' SPAN
258 PLF LL @ 42', $\Delta = \frac{2}{360}$

SPAN = 33'-4"

TRY 20 LH03

SPAN ALLOWED = $20(1.67) = 33.4'$

GOOD FOR 307 #/FT TL

200 #/FT LL @ $\Delta = 2/360$

TRY 20 H7

GOOD FOR 355 #/FT ± 205 #/FT L.L.

WGT. = 10.7 #/LF

USE 20 H7

SPAN = 27'-2"

TRY 18 H5

GOOD FOR 297 #/FT ± 215 #/FT LL @ $\Delta = 2/360$

WGT. = 8.0 #/LF

USE 18 H5

SPAN = 20'-0"

TRY 16 H4

GOOD FOR 236 #/FT ± 175 #/FT LL @ $\Delta = 2/360$

WGT. = 6.6 #/LF

SPAN = 17'-0"

TRY 10 H4

GOOD FOR 219 #/FT ± 206 #/FT LL @ $\Delta = 2/360$

WGT. = 6.1 #/FT

USE 10 H4

FUTURE 2ND FLOOR

SPAN = 43' ; SPACING = 2'-0"

ASSUME LL = 100 PSF DL = 45 PSF

LOAD TO JOIST = $2(145) = 290$ #/LF

TRY 28 LH05

GOOD FOR 310 #/FT TL
 ± 240 #/FT LL @ $\Delta = 2/360$

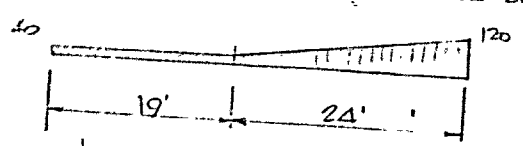
DIFFERENCE IN ROOF HEIGHTS = 12 FT.

ASSUME GROUND SNOW LOAD = 40 PSF

COEFF. OF BANKING AT CHANGE IN ROOF $15(\frac{12}{40}) = 4.5 > 3.0$ USE 3.0

MAX. BANKED SNOW LOAD = $3(40) = 120$ PSF

WIDTH OF BANK TO NORMAL DEPTH = $2(12) = 24$ FT.



$$R_L = 43[2(40) + 2(45)] \cdot 5 + 24(80)(2)(5) \cdot \frac{3}{43} = 4012$$

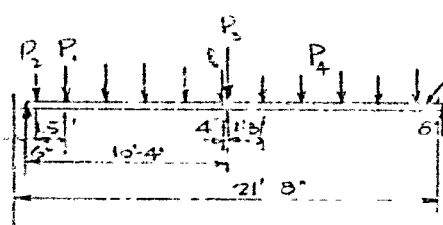
$$R_R = 24(20)(20)(5) \cdot \frac{3}{43} = 5218$$

R_{MAX} FOR 28 LH05 = 7020

USE 28 LH05

FIRE STATION
BEAMS - 2ND FLOOR
FRONT STAIR

4 = 23



SEE REVISED PLAN, SHEET # 8

$$W = 12(15) + 30 = 210 \text{ PLF}$$

$$P_1 = (25 + 17)(5)(2)(145) = 6090^{\#}$$

$$P_2 = P_1 / 2 = 3045^{\#}$$

$$P_3 = (\text{SEE BELOW}) = 379^{\#}$$

$$P_4 = 25(5)(2)(145) = 3625^{\#}$$

$$R_L = 31.47^{\text{k}}$$

$$R_R = 25.81^{\text{k}}$$

$$V = 0 \text{ AT } 1^{\text{ST}} \bar{F}_A, 10' \text{ FROM } R_L$$

$$M_{\text{MAX}} = 31.47(10) - 21(10)^2(5) - 6.09(2+4+6+8) - 3045(9.5) = 153.47^{\text{k}}$$

$$S_{\text{REQ'D}} = 153.47(5) = 76.74 \text{ IN}^3$$

$$\text{TRY } W 14 \times 16 \quad (14 \times 10) \quad S = 92.2 \text{ IN}^3$$

$$\text{USE } W 14 \times 61$$

$$\text{OR } W 14 \times 53 \quad S = 77.8$$

$$\text{BEG } R_L: A = \frac{25.81}{.75} = 103.25$$

$$\text{USE } 7 \times 15 \text{ IF ?}$$

$$P_1 = 4(5)(12)(5)(150) = 1800$$

$$P_2 = 1800 + 180(4) = 2520^{\#}$$

$$W_1 = 20$$

$$W_2 = 3(150) + 30 = 480^{\#}/\text{FT}$$

$$R_L = 3.79^{\text{k}}$$

$$R_R = 4.86^{\text{k}}$$

$$V = 0 \text{ AT } P_2$$

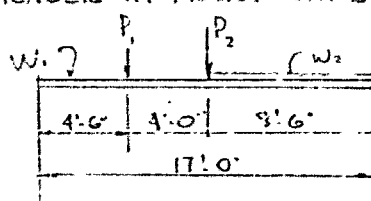
$$M_{\text{MAX}} = 4.86(2.5) - 4(2.5)^2(5) = 23.97^{\text{k}}$$

$$S_{\text{REQ'D}} = 23.97(5.5) = 13.18 \text{ IN}^3$$

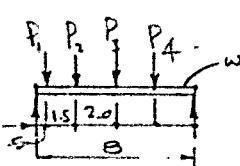
$$\text{USE } W 8 \times 17$$

$$14.1 \text{ IN}^3$$

HEADER AT FRONT STAIR



HEADER AT REAR STAIR



$$S_{\text{REQ'D}} = 28.41(5) = 14.21 \text{ IN}^3$$

$$\text{TRY } W 8 \times 24 \quad S = 20.8 \text{ IN}^3$$

$$\text{USE } W 8 \times 24$$

$$W = .04$$

$$P_1 = 2(5)(33.33 + 14.83)(5)(145) = 3492^{\#}$$

$$P_2 = 2(P_1) = 6984^{\#}$$

$$P_3 = 4(5)(12.5)(1500) + 33.33(5)(2)(145) + 14.83(5)(145) = 7703^{\#}$$

$$P_4 = 33.33(5)(2)(145) = 4833^{\#}$$

$$R_L = 13.73^{\text{k}}$$

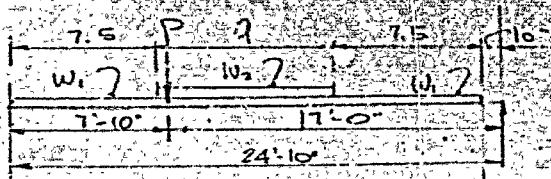
$$R_R = 9.60^{\text{k}}$$

$$V = 0 \text{ AT } P_3$$

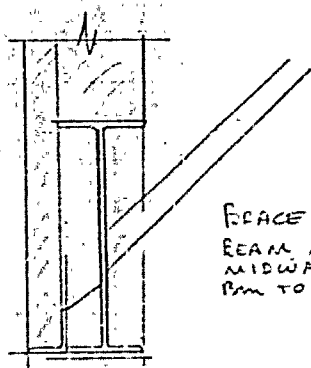
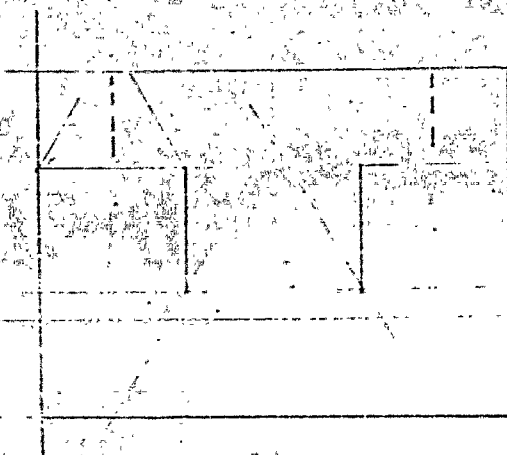
$$M_{\text{MAX}} = 13.73(4) - 0.04(4)^2(5) - 34.72(2.5) - 6.983(2) = 28.41^{\text{k}}$$

FIRE STATION
2ND FLOOR FRAMING
BEAM AT FRONT

7-13



SEE REVISED BEAM AT FRONT, SHED B



BRACE AT
BEAM &
MIDWAY,
Pm TO R

$$\begin{aligned} \text{WEIGHT OF EXTERIOR WALL} &= 55(40)(10) = 105 \\ W_1 &= 6.5(105) + 6.5(10) + 50 \text{ LB} = 798 \text{ SAY } 800 \\ W_2 &= 12(105) + 50 + \frac{5(3.5)(2)(105)}{9} = 1348 \text{ / FT.} \end{aligned}$$

$$P = 31.47 \text{ K FROM FRONT STAIR BEAM.}$$

$$R_L = 38.67 \text{ K}$$

$$R_R = 25.94 \text{ K}$$

$$V = 0 \text{ AT } P + 0.10'$$

$$\begin{aligned} M_{max} &= 38.67(7.0) - \frac{1}{2}(12)(4.10) - 31.47(11) = 278.4 \text{ K} \\ &= 278.4 \text{ K} \end{aligned}$$

$$S_{REQ'D} = 278.4(.5) = 139.2 \text{ IN}^3$$

$$\text{TRY } W 24 \times 68 \quad S = 153 \text{ IN}^3$$

$$\text{BRACE AT } P \text{ \& MIDWAY, P TO } R$$

BEARING PLATE:

$$\text{AT } R_L: A_{REQ'D} = \frac{38.67}{.25} = 154.68 \text{ IN}^2$$

$$\text{TRY } 12 \times 14: A = 168 \text{ IN}^2 \quad \left\{ \begin{array}{l} p = .230 \quad k_1 = \frac{1.5}{16} = .09375 \\ B = 12 \quad n = 6 - .94 = 5.06 \end{array} \right.$$

$$t = \sqrt{\frac{3(.23)(5.06)}{27}} = 0.81 \text{ IN}$$

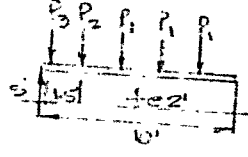
$$\text{USE } 12 \times 14 \times 1 \text{ PL}$$

$$\text{AT } R_R: A_{REQ'D} = \frac{25.94}{.25} = 103.76 \text{ IN}^2$$

SEE Pm AT SIDE OF ENTR

THE CENTRAL
REVISED BEAM AT 2ND FLOOR - FRONT STAIR

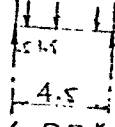
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$$W = 12(15) + 20 = 210 \text{ L/LF}$$

$$P_1 = (25 + 17)(.5)(2)(14.5) = 6090 \text{ L}$$

$$P_2 = \frac{(1.5 + 2)(.5)(6090)}{2} = 5359 \text{ L}$$



$$R_L = 6.83 \text{ K}$$

$$R_R = 8.61 \text{ K}$$

$$V = 0 \text{ AT } P_2$$

$$M = 6.83(2) - 3045(.5) - .21(2)(.5) = 2.68$$

$$S = 5.21 \text{ IN}^3$$

$$P_3 = (.5 + 1.5)(.5)(.5)(6090) = 3045 \text{ L}$$

$$R_L = 15.54 \text{ K}$$

$$R_R = 13.24 \text{ K}$$

$$V = 0 \text{ AT } 4.97' \text{ FROM } R_L$$

$$M_{MAX} = 15.54(4.97) - .21(4.97)(.5) - 6.09(4.97) - 5.359(2.97) - 3045(4.97) = 31.21 \text{ K}$$

$$S_{REQ'D} = \frac{39.21(65)}{21.56} = 21.56 \text{ IN}^3 \text{ FOR CORNER}$$

$$39.21(6) = 23.52 \text{ IN}^3 \text{ FOR NORMAL}$$

$$\text{USE } W 12 \times 27 \quad S = 34.2$$

$$L_u = 10.1$$

REVISED BEAM AT FRONT

SAME DIAGRAM AS ORIGINAL :

$$P = 15.54 \text{ K} \quad (R_L \text{ FROM FRONT STAIR BEAM})$$

$$W_1 = .8 \text{ FT}$$

$$W_2 = 2.245 \text{ FT}$$

$$R_L = 27.76 \text{ K}$$

$$R_R = 20.91 \text{ K}$$

$$V = 0 \text{ AT } 12.32' \text{ TO RIGHT OF } P$$

$$M_{MAX} = 27.76(9.65) - .8(7.5)(3.75 + 2.65) - 15.54(2.32) = 187.11 \text{ K}$$

$$S_{REQ'D} = 187.11(.5) = 93.56 \text{ IN}^3$$

$$M_{MAX} = 21.8(11.32) - .8(7.5)(7.57) - \frac{2344(7.32)^2}{2} - 6.83(3.22 - .33) = 160.39 \text{ K}$$

$$S = 160.39(.5) = 80.19 \text{ IN}^3$$

$$\text{USE } W 16 \times 58$$

$$L_u = \frac{W 16 \times 58}{L_c = 2.9'} \quad S = 94.4$$

BRACE TOP FLANGE OF BEAM AT MID POINT
BETWEEN P AND R_R

BEARING PLATE AT R_L : $P = 27.76$

$$A_{REQ'D} = \frac{27.76}{1.315 \times .25} = 111.04 \text{ IN}^2$$

$$t_w = .4375"$$

$$\text{TRY } 14 \times 8$$

$$t_{REQ'D} = .426"$$

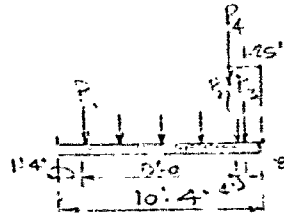
$$f_p = .248$$

BEARING PLATE AT R_R (COMPARE WITH BEAM AROUND CORNER)

$$\text{USE } 14 \times 8 \times \frac{1}{2}$$

FIRE STATION

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$$\begin{aligned}
 &= 17(.5)(270) = 2465 \text{ SAY } 2470 \\
 P_1 &= P_1(.5) = 1.23^k \\
 P_3 &= 4.86^k \text{ (} P_1 \text{ FROM FRONT LINE)} \\
 W &= L(15+10) + 4.5(10) + 20 = 205^k \text{ FT.} \\
 P_4 &= 2.5(16)(115) + 2.5(.5)(5)(105) = 7144 \\
 R_L &= 10.33 \\
 &13.95
 \end{aligned}$$

$$\begin{array}{r}
 \text{Perf. R.} \quad 10.33 \\
 \quad \quad \quad 13.17 \\
 \hline
 23.5 = 114
 \end{array}$$

FLOOR BEAM AT BOILER ROOM

SPACING = 7'-0" SPAN = 16'-0"

$$D.L. = \frac{5.5(150)(7)}{12} + 20 = 511 \text{ #/FT.}$$

CONC. L.L. = 9^k

$$\begin{aligned}
 M_{MAX} &= \frac{1}{8}(.511)(16)^2 + \frac{9(16)}{2} = 52.35^k \\
 S &= 52.35(.6) = 31.41^4
 \end{aligned}$$

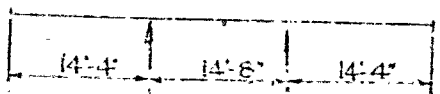
$$\begin{aligned}
 \Delta &= \frac{(16)^3}{100(2)} \left[\frac{16.35(7) + .2(30)(7)}{20(27.4)} \right] = .32' \quad \begin{array}{l} U.S.E. W 8 \times 31 \quad S = 27.4 \\ f_y = 19.77 \end{array} \\
 \frac{L}{360} &= \frac{16(12)}{7.60} = 0.53
 \end{aligned}$$

(U.S.E. W 8 x 31

FIRE STATION

LINTEL AT FRONT DOORS

10-23



ROOF LOAD: $3/2(67) = 101 \text{ lb/ft}$

WGT OF WALL BRICK $17(40) = 680 \text{ lb/ft}$

CUT $\frac{2(6)(680)}{42} = 51 \text{ lb/ft}$

NET BRICK = 680 lb/ft

C. BRICK $(55 \times 10) = 975$

OUT $\frac{2(6)(975)}{42} = 94 \text{ lb/ft}$

NET BRICK = 281 lb/ft

WEIGHT OF PLANK = 20 lb/ft

TRIAL SIZE FOR CENTER SPAN

$W = .101 + .629 + .281 + .02 = 1.691 \text{ lb/ft}$ $R = 12.4 \text{ ft}$

$M = \frac{1}{8}(1.691)(14.6)^2 = 45.49 \text{ ft-k}$

$S_{REQD} = 45.49(.55) = 25.02 \text{ in}^3$

TRY W 12x40 $11.94 \times 21.0 \text{ S} = 51.9 \text{ in}^3$

CHECK ECCENTRICITY:

$121 + 281 + 20 \times 0 = 0$

$\frac{629}{1691} \times 6 = 3774$

$e = \frac{3774}{1691} = 2.232 \text{ in}$

FOR W 12x40: $J = 0.956 \text{ in}^4$

$d = 11.94 \text{ in}$ $I_x = 310 \text{ in}^4$ $S_x = 51.9$ $Q_F = 11.8$ $Q_W = 28.2$

$E = 29.5 \times 10^6 \text{ psi}$ $G = 11.2 \times 10^6 \text{ psi}$

PLANE BENDING & SHEAR STRESS:

$M_{MAX} \text{ AT } Z = \frac{L}{2} = 45.49 \text{ ft-k} = 45.82 \text{ ft-k}$

NORMAL STRESS $f_{b,1} = \frac{M}{S} = \frac{54538}{51.9} = 1052 \text{ ksi}$

SHEAR AT $Z = 0 = 12.4 \text{ k}$

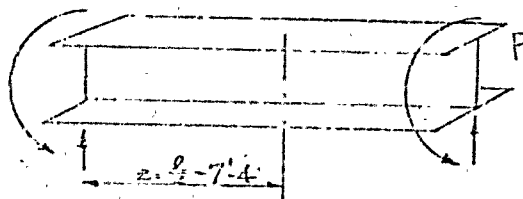
SHEARING STRESS: WEB $f_{v,3} = \frac{VQ_W}{I_x t_w} = \frac{12.4(28.2)}{310.4(.294)} = 391 \text{ psi}$

FLANGE $f_{v,1} = \frac{VQ_F}{I_x t_f} = \frac{12.4(11.8)}{310.4(.516)} = 914 \text{ psi}$

NORMAL STRESS AT $Z = 0 = 0$

SHEAR STRESS AT $Z = \frac{L}{2} = 0$

(CONT'D, NEXT PAGE)



FIRE STATION

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LINTEL AT FRONT DOORS
RESTRAINED TORSION -

$$m = w(e) = 1.691(2.232) = 3.774 \text{ "}/\text{ft}$$

$$\frac{M Q^2}{G K_t} = \frac{3.774(62.03)^2}{11.2(10^3)(.956)(12)} = 0.113$$

$$\frac{L}{a} = \frac{14.67(12)}{62.03} = 2.838$$

USE CASE 4, BETHLEHEM STEEL "TORSIONAL ANALYSIS" DESIGN FILE

AT CENTER ($\frac{L}{2} = 0.5$)

$$\phi\left(\frac{GJ}{M} \cdot \frac{1}{2a}\right) = 0.24 \quad \phi = \frac{0.24}{.3687} = .6510 \text{ RAD}$$

$$\phi''\left(\frac{GJ}{M} \cdot \frac{1}{10a^2}\right) = -0.54$$

$$\phi'''\left(\frac{GJ}{M} \cdot a\right) = 0 \quad .651 \text{ RAD} = 37.3^\circ$$

Too MUCH ROTATION

TRY W 12x50 $J=1.79$ $a=52.2$ $\frac{L}{a} = \frac{168}{52.2} = 3.2184$ $+ .36 \cdot \phi\left(\frac{11.2(10^3)(1.79)}{3.774} \cdot \frac{1}{2(52.2)^2}\right)$

TRY W 14x50 $J=1.93$ $a=58.3$ $\frac{L}{a} = \frac{168}{58.3} = 2.882$ $+ .25 = \frac{11.2(10^3)(1.93)}{3.774} \cdot \frac{1}{2(58.3)^2}$

TRY CASE 7, FIXED ENDS: W 14x53: $\phi\left(\frac{GJ}{M} \cdot \frac{2}{aL}\right) = .10$ $\phi = \frac{.25}{.2426} = .2967 \text{ RAD} = 17^\circ$

$$\frac{L}{a} = \frac{14(12)}{58.3} = 2.822$$

$$\phi = \frac{.10}{1.1696} = 0.0855 \text{ RAD} = 4.90^\circ$$

TRY W 21x55, CASE 7: $J=1.24$ $a=102$ $\frac{L}{a} = 1.647$ $+ .028 = \phi\left(\frac{11.2(10^3)(1.24)}{3.774} \cdot \frac{2}{102(55)}\right)$

TRY W 16x53, CASE 7 $+ .07 = \frac{11.2(10^3)(1.98)}{3.774} \cdot \frac{2}{70.3(68)}$

$$\phi = .0703 \text{ RAD} > .0513 \text{ FOR W 14x53}$$

TRY W 12x40 $+ .1 = \phi\left(\frac{11.2(10^3)(.956)}{3.774} \cdot \frac{2}{62.03(68)}\right)$

$$\phi = \frac{.1}{.5445} = 0.1837 > .0513 \text{ FOR W 14x53}$$

USE W 21x55

CHECK ALL STRESSES

USE REINP CONC. PM;
ARCHITECT'S PREFERENCE
SEE SH-# 13

FIRE STATION

CHECK $W 21 \times 55$ $J = 1.74$ $a = 102$ $b = 8.215$ $t_f = 0.572$ $t_w = 0.375$ 12.0-23

$$L/a = 1.647$$

$$d = 20.80$$

$$I_x = 1140$$

$$S_x = 110$$

$$Q_F$$

$$Q_w$$

PLANE BENDING & SHEAR STRESSES

$$M_{max} = 1/12 w l^2 = 1/12 (1.691)(14)^2 = 27.62 \text{ k}$$

$$M_{max} = 1/24 w l^2 = 13.81 \text{ k}$$

PLANE BENDING & SHEAR STRESSES

$$AT z = \frac{l}{2} : f_{b1} = \frac{M}{S} = \frac{13.81(12)}{77.8} = 2.13 \text{ ksi}$$

$$AT z = 0 : f'' = \frac{27.62(12)}{77.8} = 4.26 \text{ ksi}$$

WEB SHEAR

$$AT z = l/2$$

$$f_{v3} = 0$$

$$AT z = 0$$

$$f_{v3} = \frac{VQ}{It}$$

$$AT z = 2l$$

$$f_{v3} = \frac{VQ}{It}$$

$$V = \frac{12.4 - 2.8(1.691)(43.6)}{542(0.370)} = 1.67 \text{ ksi}$$

FLANGE SHEAR: AT $z = l/2$

$$= 0$$

$$AT z = 0$$

$$f_{v3} = \frac{VQ}{It}$$

$$f_{v3} = \frac{12.4(17.3)}{542(0.580)} = 0.60 \text{ ksi}$$

$$AT z = 2l$$

$$f_{v3} = \frac{VQ}{It}$$

$$f_{v3} = \frac{12.4 - 2.8(1.691)(17.3)}{542(0.580)} = 0.37 \text{ ksi}$$

TORSIONAL STRESSES

$$AT z = \frac{l}{2}$$

$$\phi = \frac{GJ}{M} \cdot \frac{2}{L}$$

$$\phi' = \frac{GJ}{M} \cdot \frac{2a}{L}$$

$$\phi'' = \frac{GJ}{M} \cdot \frac{2}{L}$$

$$\phi''' = \frac{GJ}{M} \cdot \frac{2a^2}{L}$$

$$AT z = 0$$

$$\phi = \frac{GJ}{M} \cdot \frac{2}{L}$$

$$\phi' = \frac{GJ}{M} \cdot \frac{2a}{L}$$

$$\phi'' = \frac{GJ}{M} \cdot \frac{2}{L}$$

$$\phi''' = \frac{GJ}{M} \cdot \frac{2a^2}{L}$$

$$AT z = 2l$$

$$\phi = \frac{GJ}{M} \cdot \frac{2}{L}$$

$$\phi' = \frac{GJ}{M} \cdot \frac{2a}{L}$$

$$\phi'' = \frac{GJ}{M} \cdot \frac{2}{L}$$

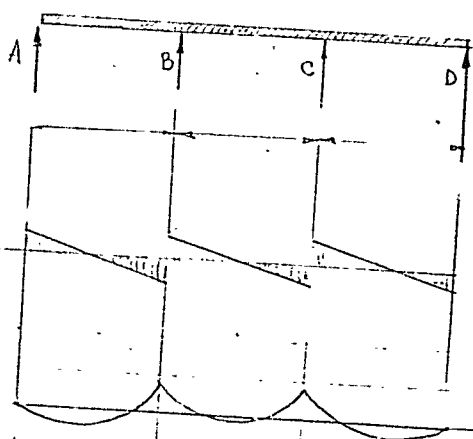
$$\phi''' = \frac{GJ}{M} \cdot \frac{2a^2}{L}$$

NOT USED ;
SEE REINFORCED
CONC. BEAM

FIRE STATION
LINTEL AT FRONT DOORS
TRY CONT. LEIN CONCRETE LINTEL

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$$W = 1.691 - 20 + 1.5(67)(15) = 1.75 \text{ k/ft}$$



$$\begin{aligned} R_A &= 0.4 wL = 0.4(1.75)(14.67) = 10.27 \text{ k} \\ R_B &= 1.1 wL = 1.1(1.75)(14.67) = 28.24 \text{ k} \\ R_C &= R_B = 28.24 \text{ k} \\ R_D &= R_A = 10.27 \text{ k} \\ M_{\text{max}} \text{ AT } B \text{ \& } C &= .1 wL^2 = .1(1.75)(14.67)^2 = 37.66 \text{ k} \\ M_{\text{max}} \text{ AT } A \text{ \& } D \text{ FROM } A \text{ \& } D &= .02(1.75)(14.67)^2 = 30.13 \text{ k} \\ M_{\text{max}} \text{ OF } BC &= .025(1.75)(14.67)^2 = 9.42 \text{ k} \end{aligned}$$

ASSUME CONC. BEAM 8" WIDE X 18" DEEP
DEPTH TO SPAN RATIO = $\frac{18}{14.67(12)} = 0.10 < 4$
(SECT. 10.7) NOT A "DEEP" BM

DIST. BETWEEN LATERAL SUPPORTS = 176"
MIN DIST = $50(8) = 400" = 33.33'$ OK (SECT. 10.4)

PROVIDE BRACE AT B \& C
DEPTH / WIDTH = $\frac{18}{8} = 2.25 < 2.5$ MINIMUM
STIRRUPS NOT REQUIRED

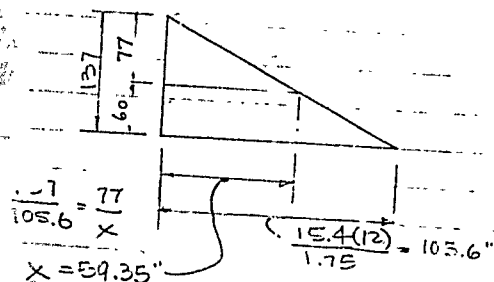
MIN. CONC. COVER: $1\frac{1}{2}"$ (SECT. 7.14.1.1)
EFFECTIVE $d = 18 - 1.5 - \frac{62.5}{2} = 16.19"$
USE $f'_c = 3000 \text{ PSI}$ $f_y = 60,000$
USE ALT. DESIGN METHOD: ACI 8.10

MOMENT REINF:

$$\begin{aligned} \text{TOP: } A_s &= \frac{37.66}{1.76(16.19)} = 1.32 \text{ in}^2 \text{ USE } 2 \#8 \text{ } A_s = 1.58 \\ \text{BOT: } A_s &= \frac{30.13}{1.76(16.19)} = 1.06 \text{ in}^2 \text{ USE } 2 \#7 \text{ } A_s = 1.20 \\ \text{BOT. GR: } A_s &= \frac{9.42}{1.76(16.19)} = 0.33 \text{ USE } 2 \#6 \text{ } A_s = 0.88 \end{aligned}$$

SHEAR REINF:

$$\begin{aligned} V_{\text{max}} &= .6 wL = 6.40 \text{ k} \\ V_c &= \frac{15.4(10^3)}{2(87)(16.19)} = 136.67 \text{ PSI} \\ V_c &= .5(2)\sqrt{3000} = 60 \text{ PSI} \\ \text{FOR } \#3 \text{ U, GR. 40, } A_v F_y &= 4400 \\ \frac{V_c}{A_v F_y} &= \frac{15.4(10^3)}{4400} = 0.14 \\ \text{FROM NOMOGRAPH, ACI P. 10.1.3, P. 10.5:} \\ \text{Ureq: } \#8, \#10, \#15, \#2 \text{ \& } 12 \\ \text{USE } \#4, \text{ REST } \#8 \end{aligned}$$



IRE STATION

LINTEL AT FRONT DOORS

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CHECK LINTEL DESIGN BY ULT STR. DESIGN

$$M_{ULT}^{-} = 1.4(37.66) = 52.72 \text{ k}$$

$$M_{ULT}^{+} = 1.4(30.13) = 42.18 \text{ k}$$

$$\text{Assume } \rho = .75(.0285) = .0214 \quad j = 1 - 11.76(.0214) = 0.7483$$

$$A_s^{-} = \frac{52.72}{3.3675(16.19)} = 0.967 \text{ in}^2 \quad \rho = \frac{0.967}{8(16.19)} = .0075 > .0214$$

$$\text{Try } \rho = .01 \quad F = 4.5(1 - 11.76(.01)) = 3.9708$$

$$A_s^{-} = \frac{52.72}{3.9708(16.19)} = 0.8201 \quad \rho = .0063$$

$$\text{Try } \rho = .007 \quad F = 4.1296 \quad A_s^{-} = \frac{52.72}{4.1296(16.19)} = 0.7885 \text{ in}^2$$

$\rho = .0061$: close enough

$$\text{Use } 2\#8 \quad A_s = 1.58 \text{ in}^2$$

$$\rho = \frac{1.58}{8(16.19)} = .0122$$

$$\rho_{max} = .0214 > .0122$$

$$A_s^{+} = \frac{42.18}{3.3675(16.19)} = 0.7737 \text{ in}^2 \quad \rho = \frac{0.7737}{8(16.19)} = .006$$

$$\text{Try } \rho = .006 \quad F = 4.5[1 - 11.76(.006)] = 4.1825$$

$$A_s^{+} = \frac{42.18}{4.1825(16.19)} = 0.6229 \text{ in}^2 \quad \rho = .0048$$

$$\text{Try } \rho = .005 \quad F = 4.5[1 - 11.76(.005)] = 4.2354$$

$$A_s^{+} = \frac{42.18}{4.2354(16.19)} = 0.6151 \quad \rho = .0047 \text{ close enough}$$

$$\text{Use } 2\#6 \quad A_s = 0.88 \text{ in}^2$$

$$\rho = .0068$$

$$V_u = 15.4(1.4) = 21.56 \text{ k}$$

$$\tau_u = \frac{21.56}{.85(8)(16.19)} = 195.8$$

$$\tau_c = 1.9\sqrt{3000} + 2500(.0122) \frac{6.62 \rightarrow \text{use } 1}{52.72}$$

$$= 104 + 30.5 = 134.5 \text{ PSI}$$

$$(\tau_u - \tau_c) = 195.8 - 134.5 = 61.3 \text{ PSI} < 4\sqrt{3000} \text{ OR } 219$$

USE MAX. STIRRUP SPACING = $(24 - 4)(.5) = 10"$

$$A_v \text{ MIN} = \frac{50(8)(10)}{60,000} = .0667 \text{ in}^2 \quad \text{USE } 2\#3 \quad A_v = 0.22 \text{ in}^2$$

FIRE STATION

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SLAB OVER BOILER ROOM

PER DICK WALLUM, AVER. LAFRANCE, ELMIRA, N.Y. MAX. AXLE LOADS, FRONT 16000 LBS, REAR 22000 " DUAL WHEEL

TRY 5 1/2" SOLID SLAB: $d = 4 1/2"$

$$V_u = 12(4.5)(.85)(\sqrt{3000}) = 5028 \text{ #/FT.}$$

WIDTH OF SLAB OVER WHICH LOAD IS DISTRIBUTED = $E = .6(\text{SPAN}) + 2.5 = 6.7'$

$$P_u \text{ MAX} = 6.7(5028) = 33687$$

$$P = \frac{33687}{1.7} = 19.816 \text{ K}$$

$$\text{WHEEL LOAD} = \frac{19.816}{1.5} = 13,211$$

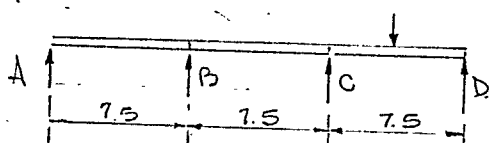
$$\text{AXLE LOAD} = 13,211(2) = 26,422 > 23,000 \text{ # (USE 5 1/2" SLAB)}$$

SAY MAXIMUM VEHICLE WEIGHT = 44000 #

$$\text{MAXIMUM AXLE LOAD} = 0.6(44000) = 26,400$$

$$\text{MAXIMUM WHEEL LOAD} = .5(26,400) = 13,200 \text{ #}$$

$$\text{DESIGN WHEEL LOAD} = 13,200(1.5) = 19,800 \text{ # } \text{LOAD/FT.} = \frac{19,800}{6.7} = 2955 \frac{\text{#}}{\text{FT.}}$$



PLACE WHEEL AT CENTER OF SPAN FOR M_{MAX}

$$\text{WEIGHT OF SLAB} = \frac{5.5(150)}{12} = 68.8 \text{ PPF}$$

$$M_{DL}: AB \text{ \& } DC = 0$$

$$BA \text{ \& } CD = .10(68.8)(7.5)^2 = -387 \text{ # } M_u = 1.4(37) = 542 \text{ #}$$

$$BC \text{ \& } CB = 0$$

$$M_{DL}: AB \text{ \& } CD = .08(68.8)(7.5)^2 = 310 \text{ #/FT. } M_u = 433$$

$$BC = .075(68.8)(7.5)^2 = 297 \text{ #/FT. } M_u = 415$$

$$M_P = \frac{2955(3)(7.5)}{16} = 4155 \text{ # } M_u = 1.7(4155) = 7064 \text{ #/FT.}$$

$$M_P^+ = \frac{2955(3)(7.5)}{32} = 3463 \text{ # } M_u = 1.7(3463) = 5887 \text{ #/FT.}$$

$$\text{AT C, } M_{\text{MAX}} = 7064 + 387 = 7451 \text{ #/FT.}$$

$$M_u = R b d^2 = 4.5(.0084)(.9014)(12)(4.5)^2 = 8.25 \frac{\text{#}}{\text{FT.}}$$

$$\text{TRY } p = .0084; j = 1 - 11.76(.0084) = .9014$$

$$F = 4.5j = 4.0563$$

$$A_s = \frac{M_u}{F d} = \frac{7.451}{4.0563(4.5)} = 0.408 \text{ IN}^2/\text{FT.}$$

$$p = .0076$$

$$\text{TRY } p = .008 \quad F = 4.5(1 - 11.76(.008)) = 4.0178$$

$$A_s = \frac{7.451}{4.0178(4.5)} = 0.404$$

$$p = \frac{.404}{4.5(12)} = .0075$$

$$11 \text{ # } 4 \text{ # } 12 \text{ # } \text{and } 1 \text{ # } 12 \text{ #}$$

FIRE STATION

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SLAB OVER BOILER ROOM

AT MIDSPAN C-D, $M^+ = 310 + 3463 = 3773^k$

TRY $p = .005$

$$j = 1 - 11.76(.005) = 0.9412 \quad F = 4.5[1 - 11.76(.005)] = 4.235$$

$$A_s = \frac{3.773}{4.235(4.5)} = 0.1920 \quad p = \frac{.1920}{4.5(12)} = .0037$$

$$p = .0037 \quad F = 4.5[1 - 11.76(.0037)] = 4.3012 \quad A_s = \frac{3.773}{4.3012(4.5)} = 0.1948 \quad p = \frac{.1948}{4.5(12)} = .0036$$

USE # 4 @ 12"

SHEAR: AT 1ST INT SUPPORT:

WHEEL LOAD = 2955 #/FT.

SLAB LOAD = $7.5(5)(68.8) + \frac{387}{7.5} = 310^k$ /FT. $V_u = 1.7(2955) = 5024^k$ /FT.

$$v_u = \frac{5458}{0.85(12)(4.5)} = 118.9 \text{ PSI}$$

$$v_c = 1.9 \sqrt{3000 + \frac{2500(.007)(5458(4.5))}{7451(12)}} = 109.2 \text{ PSI N.G.}$$

USE 6" SLAB:

WGT. OF SLAB = 75 PSF $d = 5"$

$$M_{MAX} = 7064 + \frac{75(397)(1.4)}{68.8} = 7655 < M_u \text{ OR } 8.28^k$$

$$p = .007 \quad F = 4.5[1 - 11.76(.007)] = 4.1296 \quad A_s = \frac{7.655}{4.1296(5)} = 0.3707$$

USE # 4 @ 6 $A_s = .4$

$$V_u = 5024 + \frac{75(310)(1.4)}{68.8} = 5497^k$$

$$v_u = \frac{5497}{.85(5)(12)} = 107.8 \text{ PSI}$$

$$v_c = 1.9 \sqrt{3000 + \frac{2500(.0067)(5497(5))}{7655(12)}} = 109.4 > 107.8$$

$$M_{MAX}^+ = 5887 + \frac{75(310)(1.4)}{68.8} = 6360^k$$

TRY $p = .005 \quad F = 4.5[1 - 11.76(.005)] = 4.2354$

$$A_s = \frac{6.360}{4.2354(5)} = 0.3003 \quad p = \frac{.3003}{5(12)} = .005$$

USE # 4 @ 8 BAR

TEMP. STEEL: $A_s = .0018(6)(12) = 0.13 \text{ in}^2$ USE # 4 @ 18

FIRE STATION

SLAB OVER BOILER ROOM: DEFLECTION

$$I_e = \left(\frac{M_{cr}}{M_a} \right)^3 I_g + \left[1 - \left(\frac{M_{cr}}{M_a} \right)^3 \right] I_{cr}$$

TABLE 9.5-b

$$t_{min} = \frac{c}{24} = \frac{7.5(12)}{24} = 3.75"$$

$$\Delta_{max} = \frac{c}{360} = \frac{7.5(12)}{360} = 0.25"$$

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$$M_{cr} = \frac{f_r I_g}{y_t} \quad I_g = 216 \quad f_r = 7.5 \sqrt{3000} = 410.8 \quad y_t = 3"$$

$$= \frac{410.8 (12(6)^3)}{12} = 29,577 \text{ IN LB}$$

I_{cr} FOR 6" SLAB, $p = .0067 = 90.89$

FOR $p = .005$, $I_{cr} = 71.8$

AVERAGE $I_{cr} = (90.89 + 71.8)(.5) = 81.35 \text{ IN}^4$

$$M_a^+ = \frac{5887}{1.1} + \frac{473}{1.4} = 3200 \text{ LB}$$

$$M_a^- = \frac{7064}{1.7} + \frac{591}{1.4} = 4577 \text{ LB}$$

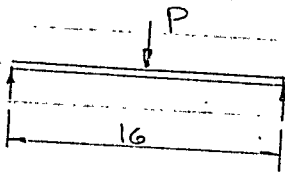
$$\text{Avg. } M_a = (3200 + 4577)(.5) = 4189 \text{ LB}$$

$$I_e = \left(\frac{29,577}{4189} \right)^3 (216) + \left[1 - \left(\frac{29,577}{4189} \right)^3 \right] 81.35 =$$

$$= \frac{76030}{1} + (-28553) = 47476 > I_g \quad \text{USE } I_g = 216$$

$$\Delta_{\text{END SPAN}} = \frac{3.25 W l^4}{384 EI} = \frac{3.25 (61.58) (7.5 \times 12)^4}{384 (3.6) (10^6) (216)} = 0.04" < 0.25" \text{ OK}$$

STEEL BEAM



$$P_{max} = 11,500(1.5) = 17,250 \text{ LB}$$

$$W = 7.5(75)(1.1) + 31 = 650 \text{ LB/FT}$$

$$R_{max} = 16(.5)(.65) + .5(17.25) = 13.83 \text{ K}$$

$$M_{max} = \frac{1}{8}(.65)(16)^2 + \frac{17.25(16)}{4} =$$

$$= 20.8 + 69.4 = 89.8 \text{ K}$$

$$S_{REQ'D} = 89.8(.5) = 44.9 \text{ IN}^3 \quad S_{FURN} = 27.4 \text{ W 8 X 31}$$

TRY 4 SPANS @ 5'-7 1/2"

5 1/2" SLAB

$$W = 5.625(68.8)(1.1) + 31 = 457 \text{ LB/FT}$$

$$R_{max} = 16(.5)(.457) + .5(17.25) = 12.28 \text{ K}$$

$$M_{max} = \frac{1}{8}(.457)(16)^2 + \frac{17.25(16)}{4} = 83.62 \text{ K}$$

N.G.

TRY W 16 X 31 $S = 47.2 \text{ IN}^3 > 44.9$

OR W 14 X 34 $S = 48.6$

OR W 12 X 36 $S = 46.0$

OR W 10 X 45 $S = 49.1$

W 8 X 48 $S = 43.2$

$$\frac{44.9 - 43.2}{44.9} = .04 \text{ NG.}$$

Per Berg. R. $A_{req'd} = 13.83$ 23.05 Use 6x4

$$m = \frac{6 - 1.06}{2} = 2.47$$

$$t = \sqrt{\frac{3 \cdot \frac{13.83}{24} (2.47)^2}{27}} = .063$$

USE 6x4x 3/4

USE W 16 X 31

OR W 10 X 45

FIRE STATION

POLE BASE PLATE

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BOLT FORCES :

$$\begin{aligned} \text{SM ABOUT ONE CENTROID OF FORCE (COMPRESSIVE)} \\ 9.22(18.5)(.5)(1676.8) \left[\frac{2}{3} \times 9.22 + \frac{2}{3}(9.22) \right] + 1725(9.25 - \frac{9.22}{3}) = 147.9(12000) \\ 1,763,262.6 + 10626 = 1,773,889 \approx 1,774,800 \end{aligned}$$

TENSION BOLT DIST. FROM CENTROID OF COMP. FORCE
 $6.375 + 9.25 - \frac{9.22}{3} = 12.53"$

$$T = \frac{1,774,800 - 10626}{12.53} = 140,796 \# \text{ OR } 70,398 \#/\text{BOLT}$$

COMP. BOLT DIST. FROM CENTROID OF TENSILE FORCE
 $6.375 + 9.25 - \frac{9.22}{3} = 12.55"$

$$C = \frac{1,774,800 + 10626}{12.55} = 142,265 \# \text{ OR } 71,133 \#/\text{BOLT}$$

FOR $1\frac{3}{4}" \phi$ BOLT, TENSILE STRESS AREA = $.7854(1.75 - \frac{.9743}{5})^2$
 $= 1.8995 \text{ IN}^2$

$$f_t = \frac{70398}{1.8995} = 37062 \text{ PSI}$$

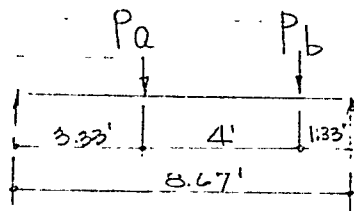
$$F_T = .6(55)(1.33) = 43.89 \text{ KSI} > 37.06 \text{ KSI}$$

FIRE STATION - ANTENNA BASE

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HEADER FOR JOISTS INTERRUPTED BY SLAB

L = 42-8-34
SPAN = 8'-8"



$$P_a = \frac{314}{2} (62)(34)(.5) = 3.69k$$

$$P_b = 4(62)(34)(.5) = 4.22k$$

$$R_L = \frac{3.69(3.33)}{8.67} + \frac{4.22(1.33)}{8.67} + 8.67(.5)(.03) = 3.05k$$

$$R_R = \frac{3.69(3.33)}{8.67} + \frac{4.22(7.33)}{8.67} + 8.67(.5)(.03) = 5.12k$$

$$M_{MAX} = 3.05(3.33) = 10.16k$$

$$S_{REQ'D} = 10.16(.55) = 5.59 IN^3$$

USE W 8x17

S = 14.1

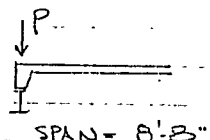
$$P_{REQ'D} = A \cdot \frac{5.12}{.25} = 20.48 IN^2$$

USE 6x8x1/4

b_f = 5.25"

t_{REQ'D} = .15" < .25

HEADER AT SLAB EDGE



SPAN = 8'-8"

$$P_{MAX} = 18.21k$$

$$W_{MAX} = 4(.5) \left(\frac{150}{3} + 40 + 10 \right) = 200 \text{ lb/ft}$$

$$R_L = R = \frac{3.67(.5)(2)}{2} + \frac{18.21}{2} = 9.11k$$

$$M_{MAX} = 9.11(4.33) - \frac{2(4.33)^2(.5)}{2} = 37.55k$$

$$S_{REQ'D} = 37.55(.55) = 20.65 IN^3$$

TRY W 10x21

S = 21.5 L_c = 6.1' OK

USE W 10x21

CONC. SLAB:

SPAN = 4'-0"

$$M_{MAX} = \frac{1}{8}(4)^2(100) = 200 \text{ lb-ft}$$

$$A_s = \frac{2}{1.76(2.5)} = .05 IN^2/FT$$

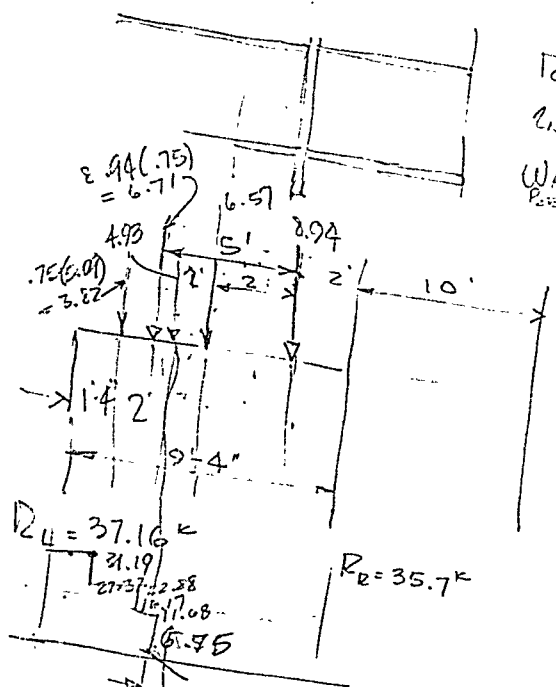
$$A_{S MIN} = .0018(12)(4) = .09 IN^2/FT$$

USE #4 @ 6 E.W.

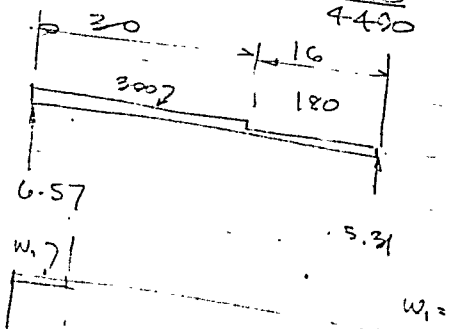
FIRE STATION :

LINTELS AT DIVIDING WALL, MEZZ. VIEWING PLATFORM

20 CP 23



ROOF LOAD $\frac{47+43}{2}(62) = 2790 \text{ #/LF.}$
 1st FLOOR $8(.5)(170) = 680$
 WALL BEAM $12(80) = 960$
 $\frac{680}{2} = 340$
 $\frac{960}{2} = 480$
 $340 + 480 = 820$



$V=0$ AT 4.83' FROM R_L

$M_{max} = 37.16(4.83) - \frac{4.49(4.83)^2}{2} - 4.49(1.5) - \frac{6.71(2.5) - 3.80(5.5)}{16.78} \cdot 13.37$
 $= 89.57$
 $SREQ'D = 44.78$
 USE W 12x40 $S = 51.9$
 OR

PIPE STA
FOOTING @ O.H. DOOR

$$\begin{array}{r} \text{COL LOAD} \quad 28,240 \\ \text{COLUMN} \quad 10,000 \quad 400 \\ \text{FOOTING} \quad 4(150) \quad 160 \\ \hline 28,800 \div 2500 = 11.52 \end{array}$$

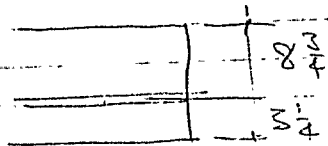
PIER AT FRONT ENTRANCE

$$\begin{array}{r} 10.33 \\ 18.17 \\ \hline \text{PIER} \quad 2.57 \\ 10.67 \quad 32.07 \end{array} \quad \frac{P}{A} = \frac{32.07}{20 \times 20} = 80 \text{ PSI}$$

$$\frac{20 \times 20 (3)(150)}{144} = 1.26$$

$$33.33$$

USE 4x4



2.5(2x1)

Boiler Room

$$7.5(250) = 1875$$

$$\text{WALL } 9.33(150) = 1400$$

$$\text{FOOTING } 2(150) = 300$$

$$3575 \div 2500$$

$$\begin{array}{r} \text{Beam } 7(250) = 1.75 \\ M = \frac{1}{8}(1.75)(13)^2 = 36.97 \quad R = 14.0 \\ S_{REQ'D} = 36.97(.55) = 20.33 \end{array}$$

FIRE STATION

FOOTING LOADS

WEST - ROOF (FUTURE)	$\frac{44}{2}(62) =$	1364
WALL (2ND TO ROOF)	$\frac{12(40+55+10)}{2} =$	1260
2ND FLR.	$22(145) =$	3190
WALL 1ST TO 2ND	$16.67(105) =$	1750
FOUND. WALL	$4(150) =$	600
FOOTING	$433(150) =$	650
		8814 #/LF.

$$A_{REQ'D} = \frac{8814}{2500} = 3.53 \text{ SF/FT.}$$

USE 3'-6" WIDE
P = 2483 PSF

SOUTH.	WALL	$(12+16.67)(105) =$	3010
	FOUND WALL	$4(150) =$	600
	FOOTING	$1.67(150) =$	250
			3860

$$A_{REQ'D} = \frac{3860}{2500} = 1.54 \text{ SF/FT.}$$

USE 1'-8" WIDE
P = 2311 PSF

WALL BETWEEN ACTIVITY & HEALTH

ROOF	$(44+44)(5)(62) =$	2728
2ND	$22(145) + 21(145) =$	6235
WALL	$28(105) =$	2940
FOUND WALL	$3(150) =$	450
FOOTING	$5(150) =$	750
		13103

$$A_{REQ'D} = \frac{13103}{2500} = 5.24 \text{ SF/FT.}$$

USE 5' P = 2621 PSF

WALL BETWEEN APPARATUS & HEALTH - 1st 20 FT.

ROOF	$(47+44)(5)(62) =$	2821
SECOND	$(5.09)(5) + 4(150)(5) =$	2943
WALL	$28(90) =$	2520
FOUND WALL	$3(150) =$	450
FOOTING	$3.67(150) =$	550
		9187

$$A_{REQ'D} = \frac{9187}{2500} = 3.67$$

USE 3'-8" P = 2500

FIRE STATION

(WALL BETWEEN APPARATUS & HEALTH)

23 OF 23

ROOF	$(17.44)(5)(62)$	=	2221
SECOND	$7.75(5) + 2(150)(2)$	=	4475
MEZZ	$2(150)(5)$	=	600
WALL	$28(90)$	=	2520
FOUND WALL	$3(150)$	=	450
FOOTING	$45(150)$	=	675
			<u>11541</u>

$$A_{REQ'D} = \frac{11541}{2500} = 4.62 \text{ SF/FT}$$

USE 4'-6" WIDE
P-2565

EAST WALL

ROOF	$47(.5)(62)$	=	1457
2ND	$69(.5)(10^3)$	=	3450
WALL	$28(105)$	=	2940
FOUND WALL	$3.83(150)$	=	500
			<u>8347</u>

$$A_{REQ'D} = \frac{8347}{2500} = 3.34$$

USE 3'-4"
P-2500

WALL HEALTH & MEZZ

			600
MEZZ			600
SECOND	$33.67(5)(145)$	=	2441
WALL	$16(90)$	=	1440
FOUND	$3(150)$	=	450
FOOTING	$3(150)$	=	450
			<u>5981</u>

$$5981 \div 2500 = 2.39' \text{ (USE 2'-4")}$$

124-130 Congress St.

October 25, 1976

George DiMatteo Co.
169 Front St.
South Portland, Me.

C.C. Doug Christopherson
22 Monument Square
C.C. Fire Dept.
C.C. Bldg. Committee,
City of Portland

Gentlemen:

Permit to construct a 72'x135' two story building to be used as a fire station and community center as per plans is issued herewith subject to the following building code requirements.

Please provide this office with the engineers computations which concerns the load bearing capacity of the floor over the boiler room. (Sec. 7, page 2 of plans submitted)

Based on prior experience a Proctor Test should be required on the compacted gravel beneath the slab in the apparatus room.

Please provide this office with the Statement of Design on the concrete beam detail.

Scuppers should be provided on roof of elevator shaft.

All doors involved in the means of egress are required to be equipped with latch sets, such as will open from the inside without the use of keys, special knowledge or ability, but by merely turning the usual knob or by pressure on a plate or lever.

The white light and exit lights should be on the same circuit so that when the exit lights are energized, the white light on the outside wall will also be lit.

Very truly yours,

Earle S. Smith
Plan Examiner

ESS:K

PERMIT TO INSTALL PLUMBING
 PERMIT NUMBER **0495**

Date Issued **10-25-76**
 Portland Plumbing Inspector
 By **ERNOLD R. GOODWIN**

App. First Insp. **MAY 10 1977**
 ERNOLD R. GOODWIN
 CHIEF PLUMBING INSPECTOR

Date By **AUG - 8 1976**
 App. Final Insp.
 Type of Bldg. **GOODWIN**
☐ Commercial
☐ Residential
☐ Single
☐ Multi Family
☒ New Construction
☐ Remodeling

Address **130-132 Congress St.**
 Installation For **Fire station**
 Owner of Bldg. **City of Portland**
 Owner's Address **389 Congress St.**
 Plumber **Andrew E. Motivier 71 Church St.**
 Date **10-29-76**

NEW TRIPLE SINKS	4	
LA	18	NOV 18 1976
TOLLETS	2	
BATH TUBS	12	
SHOWERS		
NO. WATER TANKS		
TANK		
CAPBA DE		
SEPTIC TANKS		
HOUSE SEWERS		
WATER LEADERS		
AUTOMATIC WASHERS		
DISHWASHERS		
OTHER		
1 mop basin		
1 urinal		
base fee		
TOTAL		

Building and Inspection Services Dept. Plumbing Inspection

44.50
 3.00
 47.50



CITY OF PORTLAND, MAINE
Department of Building Inspection

cc to: City Manager

Certificate of Occupancy

Issued to **Fire Station & Munjoy Rec. Center** LOCATION
City of Portland, Maine Date of Issue **July 25, 1977**
This is to certify that the building, premises, or part thereof, at the above location, built—altered
—changed as to use under Building Permit No. 76/985, has had final inspection, has been found to conform
substantially to requirements of Zoning Ordinance and Building Code of the City, and is hereby approved for
occupancy or use, limited or otherwise, as indicated below.

PORTION OF BUILDING OR PREMISES

APPROVED OCCUPANCY

Entire

Limiting Conditions:

**Fire Station & Munjoy
Recreational Center**

This certificate supersedes
certificate issued

Approved: _____

(Date)

Inspector

Inspector of Buildings

Notice: This certificate identifies lawful use of building or premises, and ought to be transferred from
owner to owner when property changes hands. Copy will be furnished to owner or lessee for one dollar.

CITY OF PORTLAND, MAINE
MEMORANDUM

124 Congress Street

TO: A. J. Wilson, City Manager
FROM: R. Lovell Brown, Director of Building & Inspections Dept.
SUBJECT: Certificate of Occupancy - Fire Station & Munjoy Recreation Center

DATE: 7-25-77

Certificate of Occupancy for entire building for City of Portland
Munjoy Fire Station and Recreation Center at 124 Congress Street
is issued July 25, 1977


R. Lovell Brown, Director

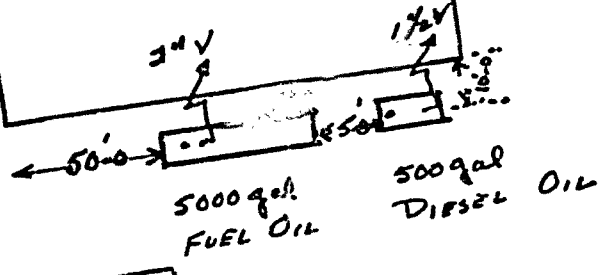
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROGRESS ESTIMATE COMPUTATIONS

Source
Reference

Preliminary Estimated Quantity

CONCRETE ST

MUNICIPAL FIRE STATION



P. REUBEN & Co.
Nov. 17, 1976

RECEIVED
NOV 17 1976
DEPT. OF BLDG. INSP.
CITY OF PORTLAND

SH. NO.

DESCRIPTION

ITEM NO.
1/70



FILL IN AND SIGN WITH INK

APPLICATION FOR PERMIT FOR
HEATING, COOKING OR POWER EQUIPMENT

Portland, Maine, Nov. 17, 1976

PERMIT ISSUED

NOV 17 1976

CITY OF PORTLAND

To the INSPECTOR OF BUILDINGS, PORTLAND, ME.

The undersigned hereby applies for a permit to install the following heating, cooking or power equipment in accordance with the Laws of Maine, the Building Code of the City of Portland, and the following specifications:

Location 124-130 Congress St. Use of Building fire station No. Stories New Building
Name and address of owner of appliance City of Portland Existing " "
Installer's name and address E. Reuben Co. - 252 Brackett St. Telephone

General Description of Work

To install heating system - new

IF HEATER, OR POWER BOILER

Location of appliance Any burnable material in floor surface or beneath?
If so, how protected? Kind of fuel?
Minimum distance to burnable material, from top of appliance or casing top of furnace
From top of smoke pipe From front of appliance From sides or back of appliance
Size of chimney flue Other connections to same flue
If gas fired, how vented? Rated maximum demand per hour
Will sufficient fresh air be supplied to the appliance to insure proper and safe combustion?

IF OIL BURNER

Name and type of burner H. B. Smith Labelled by underwriters' laboratories? yes
Will operator be always in attendance? no Does oil supply line feed from top or bottom of tank? top
Type of floor beneath burner cement Size of vent pipe 1 1/2 - 2 in
Location of oil storage underground as per plan Number and capacity of tanks 2 500gal & 5000 gal.
Low water shut off yes Make McDonald Miller No.
Will all tanks be more than five feet from any flame? yes How many tanks enclosed? none
Total capacity of any existing storage tanks for furnace burners 5500 gal.

IF COOKING APPLIANCE

Location of appliance Any burnable material in floor surface or beneath?
If so, how protected? Height of Legs, if any
Skirting at bottom of appliance? Distance to combustible material from top of appliance?
From front of appliance From side and back From top of smokepipe
Size of chimney flue Other connections to same flue
Is hood to be provided? If so, how vented? Forced or gravity?
If gas fired, how vented? Rated maximum demand per hour

MISCELLANEOUS EQUIPMENT OR SPECIAL INFORMATION

Amount of fee enclosed: 15.00

APPROVED:

O.K. E.B. - 11/17/76

Will there be in charge of the above work a person competent to see that the State and City requirements pertaining thereto are observed? yes

Signature of Installer

Samuel Bushoff Jr.

INSPECTION COPY

Permit No. 76-1158
Location 124-130 Piquette St.
Owner City of Detroit
Date of permit 11-17-76
Approved 11-17-76

NOTES

CODE
COMPLIANCE
COMPLETED
DATE 9-23-77



CITY OF PORTLAND, MAINE
Department of Building Inspection

cc to: City Manager

Certificate of Occupancy

Issued to **Fire Station & Munjoy Rec. Center**
City of Portland, Maine

LOCATION

Date of Issue **July 25, 1977**

This is to certify that the building, premises, or part thereof, at the above location, built—altered—changed as to use under Building Permit No. 76/985, has had final inspection, has been found to conform substantially to requirements of Zoning Ordinance and Building Code of the City, and is hereby approved for occupancy or use, limited or otherwise, as indicated below.

PORION OF BUILDING OR PREMISES

Entire

Limiting Conditions:

APPROVED OCCUPANCY

**Fire Station & Munjoy
Recreational Center**

This certificate supersedes
certificate issued

Approved:

(Date)

Inspector *R. L. S.*

[Signature]
Inspector of Buildings

Notice: This certificate identifies lawful use of building or premises and ought to be transferred from owner to owner when property changes hands. Copy will be furnished to owner or lessee for one dollar.

CITY OF PORTLAND, MAINE
MEMORANDUM

124 Congress St.

TO: A. J. Wilson, City Manager

DATE: 7-25-77

FROM: R. Lovell Brown, Director of Building & Inspections Dept.

SUBJECT: Certificate of Occupancy - Fire Station & Munjoy Recreation Center

Certificate of Occupancy for entire building for City of Portland
Munjoy Fire Station and Recreation Center at 124 Congress Street
is issued July 25, 1977

R. Lovell Brown, Director

August 15, 1977

Re: 124-130 Congress Street

Doug Christopherson
22 Monument Square

cc to: Geo DiMatteo Company
169 Front Street, So.P.

Dear Mr. Christopherson:

As per our phone conversation a few days back concerning the exit sign in stairwell No. 3. It was door 121 where the exit sign should be placed, clearly indicating the door that exits to the outside.

Very truly yours,

Hugh Irving
Building Inspector

HI:m

124-130 Congress St.

October 25, 1976

George DiMatteo Co.
169 Front St.
South Portland, Me.

C.C. Doug Christopherson
22 Monument Square
C.C. Fire Dept.
C.C. Bldg. Committee,
City of Portland

Gentlemen:

Permit to construct a 72'x135' two story building to be used as a fire station and community center as per plans is issued herewith subject to the following building code requirements.

Please provide this office with the engineers computations which concerns the load bearing capacity of the floor over the boiler room. (Sec. 7, page 2 of plans submitted)

Based on prior experience a Proctor Test should be required on the compacted gravel beneath the slab in the apparatus room.

Please provide this office with the Statement of Design on the concrete beam detail.

Scuppers should be provided on roof of elevator shaft.

All doors involved in the means of egress are required to be equipped with latch sets, such as will open from the inside without the use of keys, special knowledge or ability, but by merely turning the usual knob or by pressure on a plate or lever.

The white light and exit lights should be on the same circuit so that when the exit lights are energized, the white light on the outside wall will also be lit.

Very truly yours,

Earle S. Smith
Plan Examiner

ESS:k

9:30 AM

June 14/77 All trades working.
Chas with Mr Connelly: CLK of the works -

Holes in elevator wall to be cemented
& sealed; much detail to be completed.

Light fixtures - holes in wall etc etc;

door hardware - shelves -

Starting to install elevator.



APPLICATION FOR PERMIT

B.O.C.A. USE GROUP

B.O.C.A. TYPE OF CONSTRUCTION

ZONING LOCATION

PORTLAND, MAINE, Oct. 14, 1976

PERMIT ISSUED

OCT 26 1976

CITY of PORTLAND

To the DIRECTOR OF BUILDING & INSPECTION SERVICES, PORTLAND, MAINE

0985

The undersigned hereby applies for a permit to erect, alter, repair, demolish, move or install the following building, structure, equipment or change use in accordance with the Laws of the State of Maine, the Portland B.O.C.A. Building Code and Zoning Ordinance of the City of Portland with plans and specifications, if any, submitted herewith and the following specifications:

LOCATION 124 - 130 Congress St.

Fire District #1 ☐ #2 ☐

1. Owner's name and address City of Portland

Telephone

2. Lessee's name and address

Telephone

3. Contractor's name and address George DiMatteo Co. 169 Front St. So. Port.

Telephone 799-3307

4. Architect

Specifications

Plans

No. of sheets

Proposed use of building Fire Station & Community Center

No. families

Last use

No. families

Material

No. stories

Heat

Style of roof

Roofing

Other buildings on same lot

Estimated contractual cost \$ 510,000.

Fee \$ 2042.

FIELD INSPECTOR—Mr. *Irving*

GENERAL DESCRIPTION

This application is for:

@ 775-5451

To construct 72'x135' (approx) two story

Dwelling

Ext. 234

bldg. to be used for fire sta. & Comm. center as per plans on file

Garage

Masonry Bldg.

Metal Bldg.

Alterations

Demolitions

Change of Use

Other

Stamp of Special Conditions

PERMIT ISSUED
WITH LETTER

Appeal sustained conditionally

8/14/76
SECONITIONS FROM PLANNING DEPT.

NOTE TO APPLICANT: Separate permits are required by the installers and subcontractors of heating, plumbing, electrical and mechanicals.

PERMIT IS TO BE ISSUED TO 1 ☐ 2 ☐ 3 ☒ 4 ☐

WILL PICK UP

Other:

DETAILS OF NEW WORK

Is any plumbing involved in this work?

Is any electrical work involved in this work?

Is connection to be made to public sewer?

If not, what is proposed for sewage?

Has septic tank notice been sent?

Form notice sent?

Height average grade to top of plate

Height average grade to highest point of roof

Size, front

depth

No. stories

solid or filled land?

earth or rock?

Material of foundation

Thickness, top

bottom

cellar

Kind of roof

Rise per foot

Roof covering

No. of chimneys

Material of chimneys

of lining

Kind of heat

fuel

Framing Lumber—Kind

Dressed or full size?

Corner posts

Sills

Size Girder

Columns under girders

Size

Max. on centers

Studs (outside walls and carrying partitions) 2x4-16" O. C. Bridging in every floor and flat roof span over 8 feet.

Joists and rafters:

1st floor

2nd

3rd

roof

On centers:

1st floor

2nd

3rd

roof

Maximum span:

1st floor

2nd

3rd

roof

If one story building with masonry walls, thickness of walls?

height?

IF A GARAGE

No. cars now accommodated on same lot

to be accommodated

Will automobile repairing be done other than minor repairs to cars habitually stored in the proposed building?

APPROVALS BY:

DATE

MISCELLANEOUS

BUILDING INSPECTION—PLAN EXAMINER

Will work require disturbing of any tree on a public street?

ZONING: *C. 1-10/11/76* *all*

BUILDING CODE: *E. 55* *10/25/76*

Will there be in charge of the above work a person competent

Fire Dept.:

to see that the State and City requirements pertaining thereto

Health Dept.:

are observed? YES

Others:

Signature of Applicant

George DiMatteo

Phone #

Type Name of above George DiMatteo

1 ☐ 2 ☐ 3 ☐ 4 ☐

Other

and Address

FIELD INSPECTOR'S COPY

NOTES

Permit No.	76/985
Location	131-130 Stringer
Owner	City of Portland
Date of permit	6-14-76
Approved	6-30-76



APPLICATION FOR PERMIT

B.O.C.A. USE GROUP

B.O.C.A. TYPE OF CONSTRUCTION

ZONING LOCATION PORTLAND, MAINE,

To the DIRECTOR OF BUILDING & INSPECTION SERVICES, PORTLAND, MAINE

The undersigned hereby applies for a permit to erect, alter, repair, demolish, move or install the following building, structure, equipment or change use in accordance with the Laws of the State of Maine, the Portland B.O.C.A. Building Code and Zoning Ordinance of the City of Portland with plans and specifications, if any, submitted herewith and the following specifications:

LOCATION Fire District #1 ☐, #2 ☐
1. Owner's name and address Telephone
2. Lessee's name and address Telephone
3. Contractor's name and address Telephone
4. Architect Specifications Plans No. of sheets
Proposed use of building No. families
Last use No. families
Material No. stories Heat Style of roof Roofing
Other buildings on same lot
Estimated contractual cost \$ Fee \$

FIELD INSPECTOR—Mr. GENERAL DESCRIPTION

This application is for: @ 775-5451
Dwelling Ext. 234

Garage
Masonry Bldg.
Metal Bldg.
Alterations
Demolitions
Change of Use
Other

Stamp of Special Conditions

NOTE TO APPLICANT: Separate permits are required by the installers and subcontractors of heating, plumbing, electrical and mechanicals.

PERMIT IS TO BE ISSUED TO 1 ☐ 2 ☐ 3 ☐ 4 ☐
Other:

DETAILS OF NEW WORK

Is any plumbing involved in this work? Is any electrical work involved in this work?
Is connection to be made to public sewer? If not, what is proposed for sewage?
Has septic tank notice been sent? Form notice sent?
Height average grade to top of plate Height average grade to highest point of roof
Size, front depth No. stories solid or filled land? earth or rock?
Material of foundation Thickness, top bottom cellar
Kind of roof Rise per foot Roof covering
No. of chimneys Material of chimneys of lining Kind of heat fuel
Framing Lumber—Kind Dressed or full size? Corner posts Sills
Size Girder Columns under girders Size Max. on centers
Studs (outside walls and carrying partitions) 2x4-16" O. C. Bridging in every floor and flat roof span over 8 feet.
Joists and rafters: 1st floor 2nd 3rd roof
On centers: 1st floor 2nd 3rd roof
Maximum span: 1st floor 2nd 3rd roof
If one story building with masonry walls, thickness of walls? height?

IF A GARAGE

No. cars now accommodated on same lot to be accommodated number commercial cars to be accommodated
Will automobile repairing be done other than minor repairs to cars habitually stored in the proposed building?

APPROVALS BY:

DATE

MISCELLANEOUS

BUILDING INSPECTION—PLAN EXAMINER

Will work require disturbing of any tree on a public street?

ZONING:

BUILDING CODE:

Will there be in charge of the above work a person competent

Fire Dept.:

to see that the State and City requirements pertaining thereto

Health Dept.:

are observed?

Others:

Signature of Applicant

Phone #

Type Name of above

1 ☐ 2 ☐ 3 ☐ 4 ☐

Other

and Address

FIELD INSPECTOR'S COPY

NOTES

Permit No. 76/985
 Location 124-130 Coopers Pass St
 Owner 1111 Coopers Pass St
 Date of Permit 10-14-76
 Approved 10-26-76

May 13/77 The loaded roof joist
 from truck, was cast stairs
 placed. Walls of main flg
 completed, to start on the
 interior soon.

May 8/77 Progressing - W:
 May 9/77 - AM 11 Same
 May 10/77 - AM Same - I
 told Mr Connolly we would want
 core test of concrete test before
 placing the concrete. That
 Mr Brown would be checking it out.

May 14/77 Roofing today.
 Mar.

Mar. 29/77 Concrete flr placed on
 right side of slab.

April 26/77 The flr is now ready for
 concrete - surround edging poured ready
 for steel latching etc.

4/27/77 Placed concrete ramp
 front door installed all the
 windows - much interior work to be
 done (finished off).

May 4/77 Progressing.

May 6/77 " In all areas, work
 continues as per plan.

May 17/77 Same - corrected electrical
 tubing being placed outside of the
 wall of elevator shaft, it should be
 inside of shaft. talked with Mr Connolly
 of the contractor about changing it. Correction
 will be made.

May 23/77 Steam filters being in for type
 3.00
 to
 3.30

Electrician pulling wires to receptacle
 boxes. 1 rovwalls installing gypsum board.
 Painters painting block walls.
 Carpenter installing partition.

Carpenter installing partition.
 1 Carpenter 3 steam filters 1 Electrician to
 install.

July 20/77 Some duct work being fire proofed
 some minor finishing up to go. (Sturwell 1013)

July 21/77 some minor details to July 27/77.
 4x7 sign
 not installed.
 to be completed.



APPLICATION FOR PERMIT
DEPARTMENT OF BUILDING INSPECTIONS SERVICES
ELECTRICAL INSTALLATIONS

Date April 19, 1977
Receipt and Permit number A09884

To the CHIEF ELECTRICAL INSPECTOR, Portland, Maine:

The undersigned hereby applies for a permit to make electrical installations in accordance with the laws of Maine, the Portland Electrical Ordinance, the National Electrical Code and the following specifications:

LOCATION OF WORK: 124 Congress St. - Fire Station
OWNER'S NAME: City of Portland ADDRESS: _____

OUTLETS: (number of)

Lights		
Receptacles	<u>108</u>	
Switches	<u>75</u>	
Plugmold		(number of feet)
TOTAL	<u>183</u>	<u>17.30</u>

FIXTURES: (number of)

Incandescent	<u>73</u>	
Fluorescent	<u>134</u>	(Do not include strip fluorescent)
TOTAL	<u>134</u>	<u>22.70</u>
Strip Fluorescent, in feet		

SERVICES:

Permanent, total amperes	<u>800</u>	<u>6.00</u>
Temporary		<u>.50</u>

METERS: (number of)

<u>1</u>		
----------	--	--

MOTORS: (number of)

Fractional		
1 HP or over	<u>24</u>	<u>12.00</u>

RESIDENTIAL HEATING:

Oil or Gas (number of units)		
Electric (number of rooms)		

COMMERCIAL OR INDUSTRIAL HEATING:

Oil or Gas (by a main boiler)		
Oil or Gas (by separate units)		
Electric (total number of kws)		

APPLIANCES: (number of)

Ranges	<u>2</u>	Water Heaters	
Cook Tops		Disposals	
Wall Ovens		Dishwashers	
Dryers hand	<u>12</u>	Compactors kilu	<u>1</u>
Fans	<u>2</u>	Others (denote compressors)	<u>2</u>
TOTAL			<u>28.50</u>

MISCELLANEOUS: (number of)

Branch Panels	<u>6</u>	<u>6.00</u>
Transformers		
Air Conditioners		
Signs		
Fire/Burglar Alarms		
Circus, Fairs, etc.		
Alterations to wires		
Repairs after fire		
Heavy Duty, 220v outlets		
Emergency Lights, battery		<u>5.00</u>
Emergency Generators	<u>1</u>	<u>98.00</u>

INSTALLATION FEE DUE: 98.00

FOR ADDITIONAL WORK NOT ON ORIGINAL PERMIT DOUBLE FEE DUE:
FOR REMOVAL OF A "STOP ORDER" (304-16.b) deduct fee from OK 46 19.50
FOR PERFORMING WORK WITHOUT A PERMIT (304-9) 78.50

TOTAL AMOUNT DUE: 78.50

INSPECTION:

Will be ready on _____, 19____; or Will Call X

CONTRACTOR'S NAME: Mancini Electric

ADDRESS: 179 Sheridan St.

TEL.: 774-5829

MASTER LICENSE NO.: 2436

LIMITED LICENSE NO.: _____

SIGNATURE OF CONTRACTOR: [Signature]

INSPECTOR'S COPY

Permit Number

Permit Number

9884

Location

124 Congress St.

Owner

City of Portland

Date of Permit: _____

4-19-77

Final Inspection

By Inspector

Permit Application Register Page No. 10

INSPECTIONS: Service _____ by _____

Service called in _____

Closing-in _____ by _____

PROGRESS INSPECTIONS: _____ / _____ / _____

_____/_____/_____

_____ / _____ / _____

_____ / _____ / _____

[illegible]

CODE
COMPLAINT
COMPLETED
DATE 7-22-77

DATE:

REMARKS:

[illegible]



APPLICATION FOR PERMIT
DEPARTMENT OF BUILDING INSPECTIONS SERVICES
ELECTRICAL INSTALLATIONS

Date April 27 19 77
Receipt and Permit number A00146

To the CHIEF ELECTRICAL INSPECTOR, Portland, Maine:

The undersigned hereby applies for a permit to make electrical installations in accordance with the laws of Maine, the Portland Electrical Ordinance, the National Electrical Code and the following specifications:

LOCATION OF WORK: Congress St. - Munjoy Hill Fire Station

OWNER'S NAME: City of Portland

ADDRESS: _____

OUTLETS: (number of) 1-100

Lights _____

Receptacles _____

Switches _____

Plugmold _____

(number of feet)

TOTAL _____

FEES

FIXTURES: (number of)

Incandescent _____

Fluorescent _____

(Do not include strip fluorescent)

TOTAL _____

Strip Fluorescent, in feet _____

9.00

SERVICES:

Permanent, total amperes 800

Temporary _____

6.00

METERS: (number of) 1

MOTORS: (number of)

Fractional _____

1 HP or over _____

.50

RESIDENTIAL HEATING:

Oil or Gas (number of units) _____

Electric (number of rooms) _____

COMMERCIAL OR INDUSTRIAL HEATING:

Oil or Gas (by a main boiler) _____

Oil or Gas (by separate units) _____

Electric (total number of kws) _____

APPLIANCES: (number of)

Ranges _____

Cook Tops _____

Wall Ovens _____

Dryers _____

Fans _____

Water Heaters _____

Disposals _____

Dishwashers _____

Compactors _____

Others (denote) _____

TOTAL _____

MISCELLANEOUS: (number of)

Branch Panels 4

Transformers _____

Air Conditioners _____

Signs _____

Fire/Burglar Alarms _____

Circus, Fairs, etc. _____

Alterations to wires _____

Repairs after fire _____

Heavy Duty, 220v outlets _____

Emergency Lights, battery _____

Emergency Generators _____

4.00

FOR ADDITIONAL WORK NOT ON ORIGINAL PERMIT _____

INSTALLATION FEE DUE: _____

FOR REMOVAL OF A "STOP ORDER" (304-16.b) _____

DOUBLE FEE DUE: _____

FOR PERFORMING WORK WITHOUT A PERMIT (304-9) _____

TOTAL AMOUNT DUE: _____

19.50

INSPECTION:

Will be ready on _____, 19____; or Will Call X

CONTRACTOR'S NAME: Mancini Electric

ADDRESS: 179 Sheridan St.

TEL.: 774-5829

MASTER LICENSE NO.: 2436

LIMITED LICENSE NO.: _____

SIGNATURE OF CONTRACTOR:

INSPECTOR'S COPY

ELECTRICAL INSTALLATION

Permit Number 0111

Location 1247

Owner John J. ...

1-5-1972

nal Inc.

100

12

INSPECTIONS:

Service

by

Libby

Service called in

5-13-77

Closing-in

4-11-7)

by

27

PROGRESS INSPECTIONS:

4-7-22, 6-13-22

4-11-77, 6-24-77

4-26-77

5.2.77

3-9-22

CODE

COMPLIANCE

COMPLETED

DATE 7-25-77

DATE:

REMARKS

4-7-77

Shedroking Started Without Authority
Case in center section

2-2-77

Started
CLOSE IN CENTER SECTION



APPLICATION FOR PERMIT
DEPARTMENT OF BUILDING INSPECTIONS SERVICES
ELECTRICAL INSTALLATIONS

Date Oct. 22, 1976
Receipt and Permit number A8041

To the CHIEF ELECTRICAL INSPECTOR, Portland, Maine:

The undersigned hereby applies for a permit to make electrical installations in accordance with the laws of Maine, the Portland Electrical Ordinance, the National Electrical Code and the following specifications:

LOCATION OF WORK: 130 Congress St. - Munjoy Hill Neighborhood Facility Fire
OWNER'S NAME: City Of Portland ADDRESS: Station

OUTLETS: (number of)
Lights _____
Receptacles _____
Switches _____
Plugmold _____ (number of feet) _____
TOTAL _____ FEES _____

FIXTURES: (number of)
Incandescent _____
Fluorescent _____ (Do not include strip fluorescent)
TOTAL _____
Strip Fluorescent, in feet _____

SERVICES:
Permanent, total amperes _____
Temporary 100 _____ 3.00
METERS: (number of) 1 _____ 50

MOTORS: (number of)
Fractional _____
1 HP or over _____

RESIDENTIAL HEATING:
Oil or Gas (number of units) _____
Electric (number of rooms) _____

COMMERCIAL OR INDUSTRIAL HEATING:
Oil or Gas (by a main boiler) _____
Oil or Gas (by separate units) _____
Electric (total number of kws) _____

APPLIANCES: (number of)
Ranges _____
Cook Tops _____
Wall Ovens _____
Dryers _____
Fans _____
Water Heaters _____
Disposals _____
Dishwashers _____
Compactors _____
Others (denote) _____
TOTAL _____

MISCELLANEOUS: (number of)
Branch Panels _____
Transformers _____
Air Conditioners _____
Signs _____
Fire/Burglar Alarms _____
Circus, Fairs, etc. _____
Alterations to wires _____
Repairs after fire _____
Heavy Duty, 220v outlets _____
Emergency Lights, battery _____
Emergency Generators _____

FOR ADDITIONAL WORK NOT ON ORIGINAL PERMIT
FOR REMOVAL OF A "STOP ORDER" (304-16.b)
FOR PERFORMING WORK WITHOUT A PERMIT (304-9)
INSTALLATION FEE DUE: _____
DOUBLE FEE DUE: _____

INSPECTION: Will be ready on _____, 19____; or Will Call ☒ _____
CONTRACTOR'S NAME: Mancini Electric Co.
ADDRESS: 179 Sheridan St.
TEL.: 774-5829
TOTAL AMOUNT DUE: 3.50

MASTER LICENSE NO.: 2436
LIMITED LICENSE NO.: _____
SIGNATURE OF CONTRACTOR: Anthony Mancini S.K.
INSPECTOR'S COPY