PERMIT #
B9901794

ADDRESS
10 W San Marino
Dr

GLASS BLOCK CALCULATIONS

PROJET: Mr's Mrs. Jose Perez

ADDRESS: 10 West. San Marino

LEGAL: LOT: 1 **BLOCK:** 1

SUBDIV. PLAT OF SAN MARINO

PB. 9 **P.** 22

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MIAMI, FL 33155
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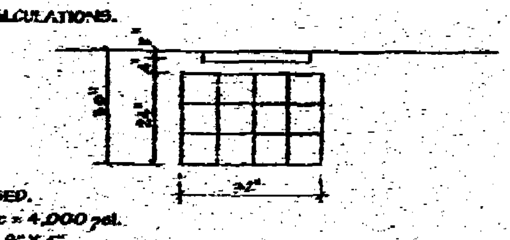
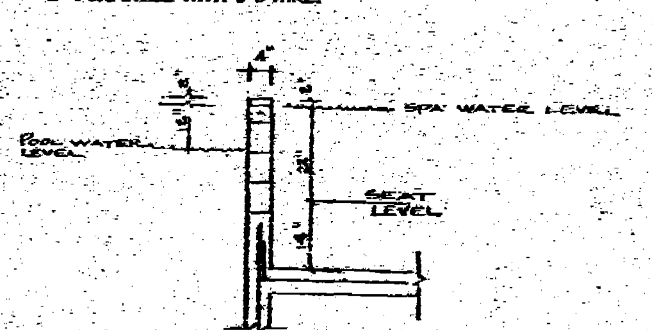
CIVIL ENG. P.E. 0014796

GLASS BLOCKS CALCULATIONS.

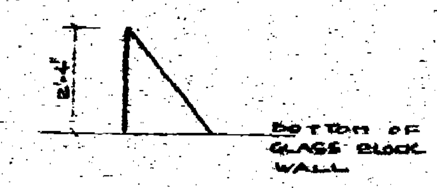


MATERIALS TO BE USED.
SPA SHOTCRETE $f'c = 4{,}000$ psi.
GLASS BLOCKS 8" X 8" X 4".
GLASS BLOCKS MORTAR TYPE M, ASTM C270
2" DURAWALL WITH # 9 WIRE.



WORST CONDITION FOR HIDRAULIC LOAD SPA FULL, POOL EMPTY

WORST CONDITION

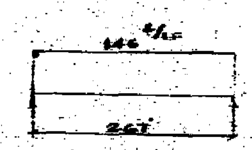


$P = wh$ — w = weight of water
$P = 62.4 \times 2.35$ — w = 62.4 #/cf
$P = 146$ #/sf

TO ANALYSE SHEAR & MOMENT USE
P = 146 #/sf ON A BAND BEAM 1'-0 WIDE

BEAM UNIFORM LOAD — 146 #/LF
SPAN — 32"

SHEAR.



$Vc = 2\sqrt{f'c}$

$Vc = 2\sqrt{2{,}000}$

$vc = 2 \times 45$

$vc = 90$ PSI

$Vn = \frac{VN}{bwd}$

$Vn = \frac{Vn}{\phi bwd}$

$vn = \frac{146 \times 2.67}{2}$
$vn = 195$ #

$vn = \frac{195}{.8 \times 12 \times 4}$

$vn = 5$ PSI < 90 psi

ok

MOMENT.

$\phi Mn = \phi\,[As\,fyd\,(1-0.59p\,\frac{fy}{f_c})]$

$Mll = 1/8\,wl^2$

$Mll = 1/8 \times 146 \times 2.67^2 = 130$ ft - lb

$Mll = 130 \times 12$

$Mll = 1{,}560$ in - lb — Actual bending moment

$Mn = 1.7 \times 1{,}560$

$Mn = 2{,}652$ in - Lb. — 0.0083

$f'c = 2{,}000$ Psi
$f c = 900$ psi
$fy = 24{,}000$

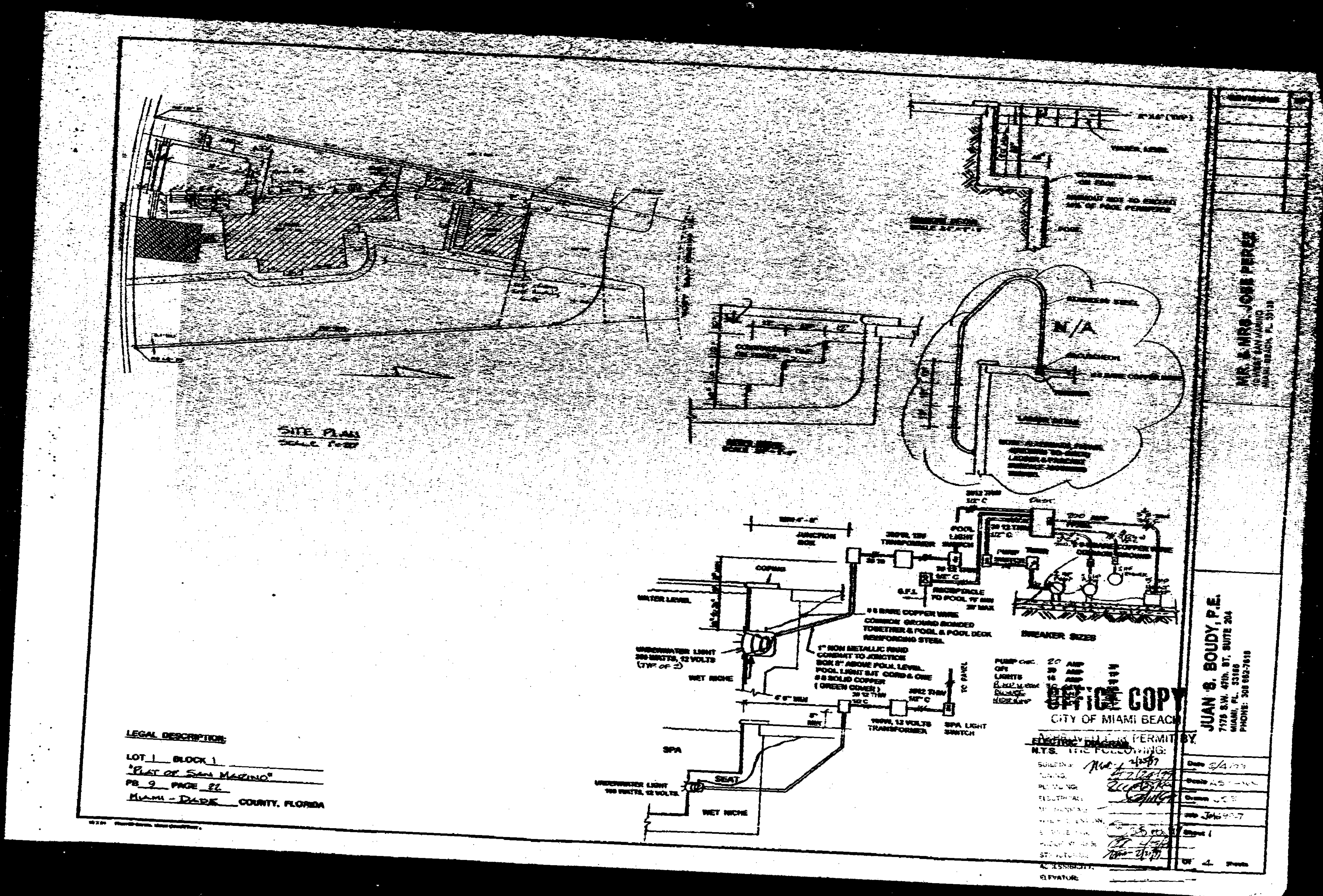
ANALISIS OF BEAM

$M = [0.0552 \times 24{,}000 \times 4\,(1 - 0.59 \times 0.00115\,\frac{24{,}000}{2{,}000})]$

0.0138

$M = 5{,}246$ in - lb $> 2{,}652$ in lb

ok.



SITE PLAN
LEGAL DESCRIPTION:
LOT 1 BLOCK 1
"PLAT OF SAN MARINO"
PB 9 PAGE 22
MIAMI - DADE COUNTY, FLORIDA
JUNCTION BOX
POOL LIGHT SWITCH
WATER LEVEL
UNDERWATER LIGHT
300 WATTS, 12 VOLTS
(TYP. OF 2)
WET NICHE
SPA
SEAT
UNDERWATER LIGHT
100 WATTS, 12 VOLTS
SPA LIGHT SWITCH
TO PANEL
BREAKER SIZES
PUMP CIRC.
GFI
LIGHTS
ELECTRIC DIAGRAM
N.T.S.
OFFICE COPY
CITY OF MIAMI BEACH
APPROVED FOR PERMIT BY THE FOLLOWING:
BUILDING
ZONING
PLUMBING
ELECTRICAL
STRUCTURAL
ELEVATOR
JUAN S. BOUDY, P.E.
7175 S.W. 47th. ST. SUITE 204
MIAMI, FL. 33155
PHONE: 305 662-7615
Date 3/4/97
Scale AS SHOWN
Sheet 1
OF 4 Sheets