6/

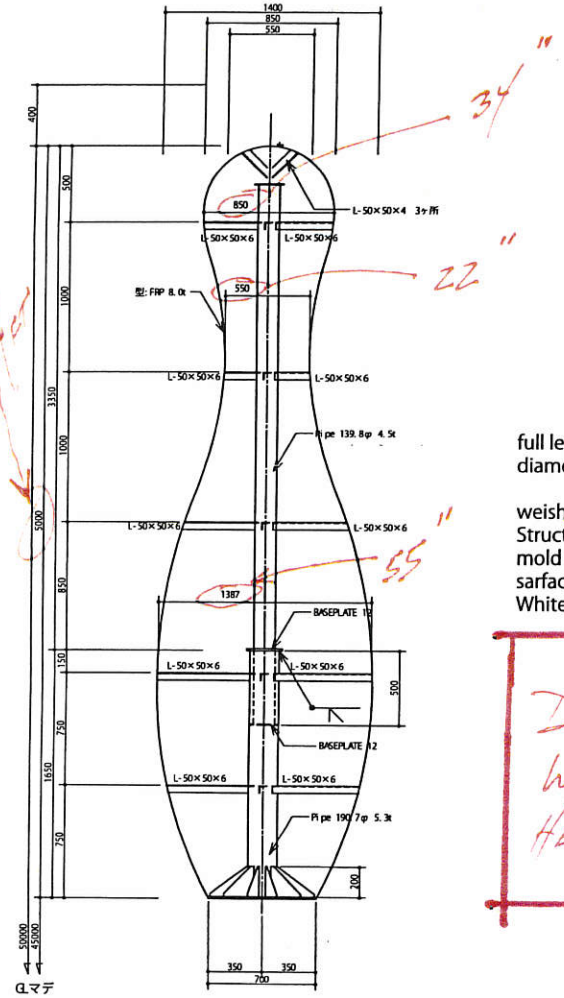
Structural Calculations Related to Bowling Pin Foundation

Structural Detail: 1/S501

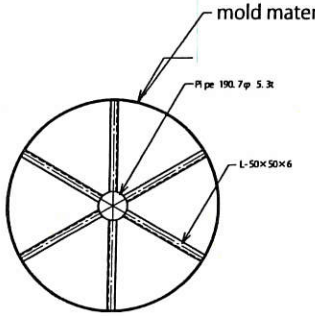
City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

12-15-20



front steel detail plan



full length 17feet
diameter 550mm～1400mm
(BasePlate700mmΦ)
weisht 3.55kn
Structure steel strapping
mold material 8t thick fiberglass
sarface Matthews Brand
White paint and Clear Coat

800#

DESIGN FOR THE FOLLOWING
WIDTH = 4'-0"
HEIGHT = 16'-6"

attachmet detail plan

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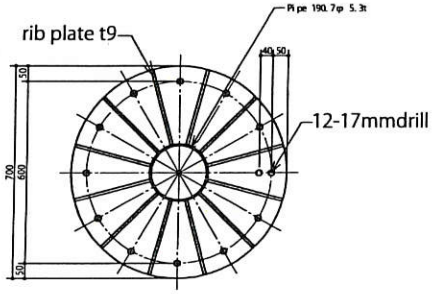
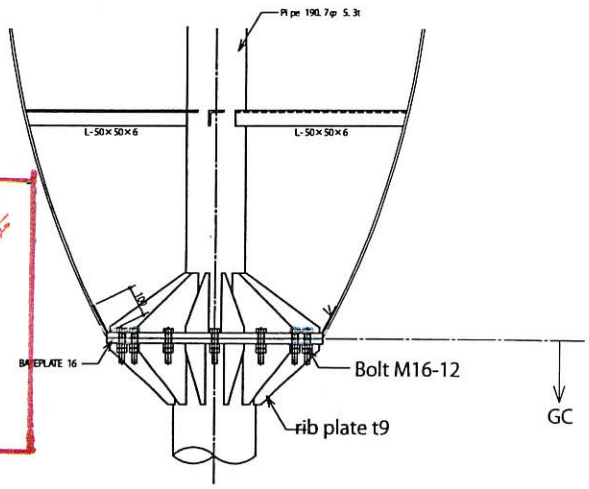


attoehment flat detail plan



attachmet detail plan

02

ROUND1	17feet pin	detail plan1				

SOILS & STRUCTURES
www.soilsandstructures.com
(231) 798 4127
1(800) 933 3959
fax (231) 798 1353
5480 Grand Haven Road
Muskegon, MI 49441

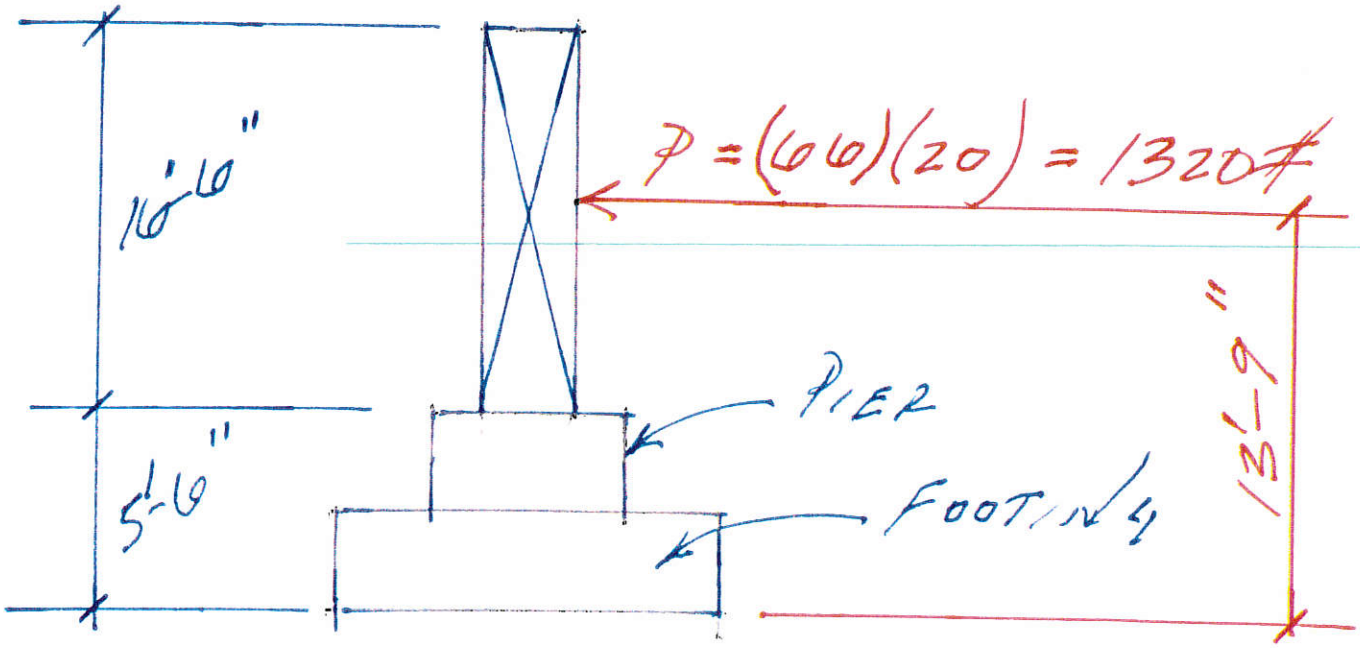
03

JOB # 21-
SHEET NO. OF
CALCULATED BY BM DATE 2-26-19
CHECKED BY DATE

MONUMENT SIGN WIND ANALYSIS

WIND PRESSURE PER ASCE 7-10 = 20psf (ASD)

PROJECTED AREA = (4)(16.5) = 66 SFT.



MONUMENT WT. = 800#

PIER WT. = 4700# (4'-0"ϕ x 2'-6")

FTG. WT. = 13,600# (5'-6" x 5'-6" x 3'-0")

TOTAL DEAD LOAD = 19,100#

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6480 Grand Haven Road
Muskegon, MI 49441

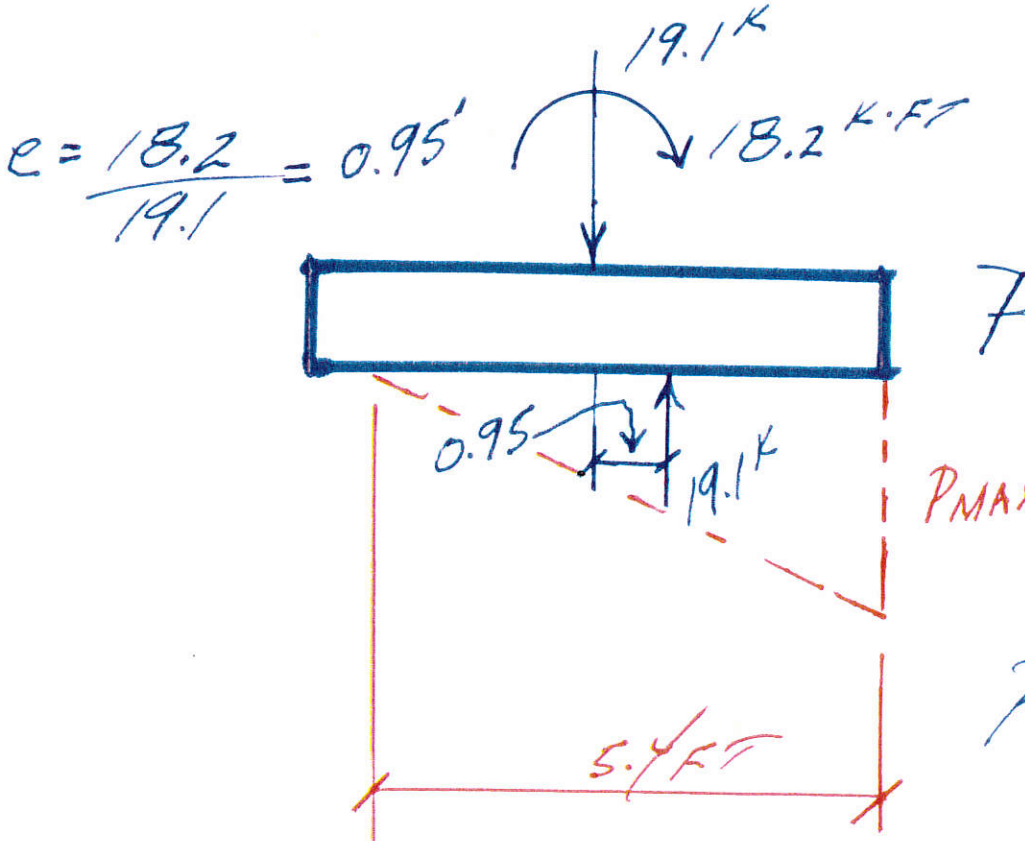
JOB NO. R1-
SHEET NO. ___ OF ___
CALCULATED BY BK DATE 2-26-19
CHECKED BY ___ DATE ___

WIND OVERTURNING = (1.32)(13.75) = 18.2 K·FT

RESISTING MOMENT = (19.1)(5.5/2) = 52.5 K·FT

SF AGAINST OVERTURNING = 2.9 OK.

CALCULATE SOIL PRESSURE



PMAX = 1300 psf

MAX. SOIL PRESSURE

5'-6" x 5'-6" x 3'-0" FTG. IS ACCEPTABLE FOR WIND

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JOB NO. 121-
CALCULATED BY BM DATE 2-26-19
CHECKED BY ________ DATE ________

MONUMENT SIGN SEISMIC ANALYSIS

DESIGN BASIS IS ASCE 7-10 CH. 15
NON-BUILDING STRUCTURES

WEIGHT = 800#

$V = 0.30 S_{DS} W I_e$

$S_{DS} = 0.617$

$W = 800\#$

$I_e = 1.25$

$V = (0.3)(0.617)(800)(1.25) = 185\#$

WIND LOAD WILL GOVERN
MONUMENT DESIGN

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