

Job No. 131008

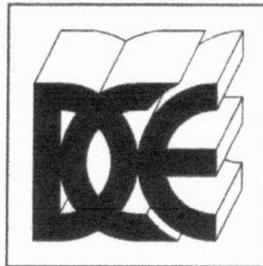
Date: 10/23/13

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Partridge-Thalheimer
Basement Retaining
Wall Calculations

1906 SE 42nd Avenue
Portland, OR 97215

For: NW Seismic Retrofit



Dove Civil Engineering

4914 SW Oakridge Road

Lake Oswego, OR 97035

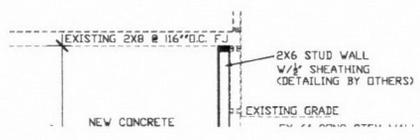
Phone/Fax(503) 697- 5926

E-Mail: Jeffdove112@gmail.com



13-225722-RS

13-552155-2



GENERAL NOTES

THESE NOTES ARE GENERAL IN NATURE AND INTENDED TO STIPULATE MINIMUM STANDARDS OF CONSTRUCTION. THE DRAWINGS SHALL GOVERN OVER THE NOTES IN ALL MATTERS SPECIFICALLY INDICATED. THESE DRAWINGS ARE FOR A SINGLE SPECIFIC CLIENT TO BE USED FOR CONSTRUCTING A SINGLE RESIDENCE. DOVE CIVIL ENGINEERING IS THE AUTHOR OF THESE DOCUMENTS AND RETAINS ALL COMMON LAW AND STATUTORY RIGHTS, INCLUDING THE COPYRIGHT. THESE DRAWINGS ARE NOT TO BE USED BY ANY PARTY OTHER THAN THE ORIGINAL CLIENT, EXCEPT BY WRITTEN AGREEMENT.

| |
|-----------------|
| Job No: 120908 |
| Date: 11/3/13 |
| Scale: AS SHOWN |
| Page 2 of 2 |

EXP: 12/31/16



Dove Civil Engineering

4914 S.W. Oakridge Rd.
Lake Oswego, OR 97035
Phone/Fax (503) 697-5926

Job # 131008
Date: 10/23/13
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DESIGN LOADS:

ROOF:

| | |
|---------------------------|-----------------|
| <u>Dead Load:</u> | |
| Comp Roofing | 3.0 |
| Felt | 0.3 |
| Sheathing | 2.0 |
| Rafters & Ceiling Joists | 3.0 |
| Gypsum Board | 2.5 |
| Insulation | 3.8 |
| Miscellaneous | 0.4 |
| <u>Dead Load Sum</u> | <u>15.0 psf</u> |
| <u>Live Load W / Snow</u> | <u>25.0 psf</u> |
| <u>Total Load</u> | <u>40.0 psf</u> |

FLOOR:

| | |
|----------------------|-----------------|
| <u>Dead Load:</u> | |
| Plywood | 2.3 |
| Joists | 3.2 |
| Gypsum Board | 2.5 |
| Miscellaneous | 2.0 |
| <u>Dead Load Sum</u> | <u>10.0 psf</u> |
| <u>Live Load</u> | <u>40.0 psf</u> |
| <u>Total Load</u> | <u>50.0 psf</u> |

EXTERIOR WALLS:

| | |
|----------------------|-----------------|
| <u>Dead Load:</u> | |
| Studs | 1.5 |
| Sheathing | 2.0 |
| Siding | 4.0 |
| Gypsum Board | 2.5 |
| Insulation | 2.0 |
| <u>Dead Load Sum</u> | <u>12.0 psf</u> |

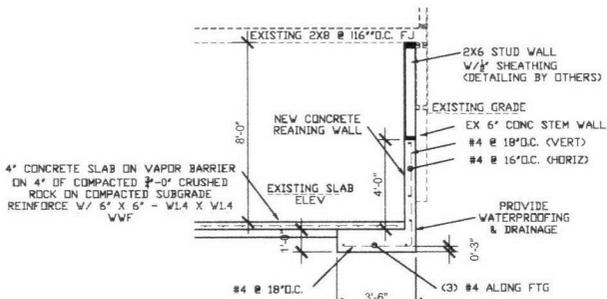
INTERIOR WALLS:

| | |
|-----------------------|----------------|
| <u>Dead Load:</u> | |
| Studs | 1.0 |
| Gypsum Board(2 sides) | 5.0 |
| <u>Dead Load Sum</u> | <u>6.0 psf</u> |

LUMBER GRADES SHALL BE AS FOLLOWS:

| <u>Member</u> | <u>Grade</u> |
|------------------------|---------------------------------------------------|
| Beams | DF No.1 |
| Headers 8 ft or longer | DF No.1 |
| Headers less than 8 ft | DF No.2 |
| Roof Rafters | DF No.2 |
| Joists | DF No.2 |
| Posts | DF No.1 |
| Glu-Lam Beams | 24F-V4 or 24F-V8 for Cantilevers & Multiple Spans |

CALDSGNC



SIDE WALL SECTION

SCALE : 1/4" = 1'- 0"

USE 3000 PSI MIN CONCRETE AT 28 DAYS FOR WALLS & 2500 PSI MIN CONCRETE FOR FLOOR SLAB & GRADE 60 REBAR

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THE ENGINEER SHALL NOT HAVE CONTROL OR NOR SHALL BE RESPONSIBLE FOR CONSTRUCTION METHODS OR TECHNIQUES, OR PROCEDURES, OR FOR SAFETY PRECAUTIONS USED OR REQUIRED IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THEIR FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.

IF THE CONTRACTOR DISCOVERS ANY DEFECTS IN THE CONSTRUCTION DOCUMENTS, HE SHALL PROVIDE WRITTEN NOTICE OF THAT DEFECT TO THE ENGINEER SO THAT THE DESIGNER MAY CORRECT SUCH DEFECT. IF THE CONTRACTOR FAILS TO DO SO, HE SHALL BEAR ALL COSTS ASSOCIATED WITH PROCEEDING CAUSED BY SUCH DEFECT. IF THE CONTRACTOR DISCOVERS A DEFECT IN CONSTRUCTION RESULTING FROM THE WORK OF THE ENGINEER, HE SHALL NOTIFY THE ENGINEER IN WRITING, AND ALLOW ENGINEER TIME TO SUGGEST REPAIRS. IF THE CONTRACTOR DOES NOT NOTIFY THE ENGINEER IN WRITING, OR ALLOW REASONABLE TIME TO SUGGEST REPAIRS, OR DOES THE REPAIRS NOT IN CONFORMANCE WITH THE DESIGNERS SUGGESTED METHODS, THEN THE CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH SUCH DEFECT.

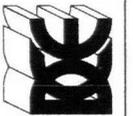
THE CONTRACTOR IS RESPONSIBLE FOR SAFE CONDITIONS AT THE JOB SITE AND FOR TEMPORARY SUPPORT OF THE STRUCTURE PRIOR TO COMPLETION OF THE VERTICAL AND LATERAL LOAD SYSTEMS. ALL WORK SHALL BE DONE IN COMPLIANCE WITH THE GOVERNING STATE AND LOCAL CODES AND ORDINANCES. VERIFY ALL DIMENSIONS PRIOR TO ERECTION.

Job No: 120908
Date: 11/9/13
Scale: AS SHOWN
Page 2 of 2



PARTRIDGE/THALHEIMER
RESIDENCE
1906 SE 42ND AVENUE
PORTLAND, OR 97215
BASEMENT WALLS

DOVE CIVIL
ENGINEERING
4914 SW Oakridge Road
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Job No. 13/008
Date: 10/23/13
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APPROXIMATE DESIGN LOADS TO EXISTING FOUNDATION

$$\begin{aligned} \text{E.D.L.} &\approx (24+3)(15) = 405 \text{ PLF [ROOF]} \\ &+ (10)(24) = 240 \text{ PLF [2ND FL]} \\ &+ (10)(24) = 240 \text{ PLF [1ST FL]} \\ &= 885 \text{ PLF, + WALLS.} \end{aligned}$$

$$\begin{aligned} \text{DL (INT LINE)} &= \left(\frac{885}{24}\right) \left(\frac{24}{2}\right) + \left[\frac{(2)(4)}{2}\right] 6 + (8)(6)(2) \\ &= 563 \text{ PLF.} \end{aligned}$$

$$\begin{aligned} \text{DL (EXT WALLS)} &\approx \left(\frac{885}{24}\right) \left(\frac{14}{2}\right) + (4/2)(6) + (1)(12) \\ &= 403 \text{ PLF., USE 410 PLF} \end{aligned}$$

$$\begin{aligned} \text{E.L.L.} &\approx (24+3)(25) = 675 \text{ PLF [SNOW]} \\ (12)(40) &= 480 \text{ PLF [2ND]} \\ (24)(40) &= 960 \text{ PLF [1ST]} \\ &= 2115 \text{ PLF.} \end{aligned}$$

$$\text{LL (INT LINE)} \approx \frac{2115}{2} = 1058 \text{ PLF,}$$

$$\text{LL (EXT WALLS)} \approx \left(\frac{2115}{24}\right) \left(\frac{14}{2}\right) = 617 \text{ PLF,}$$

USE 620 PLF

NOTE: LOADS ON BLDG END WALLS
WILL BE LESS THAN THESE
DESIGN LOADS.

INITIALLY BLDG LOADS WILL
ACT AS A SURCHARGE
ACTING ON THE EX
CONC STEM WALL.

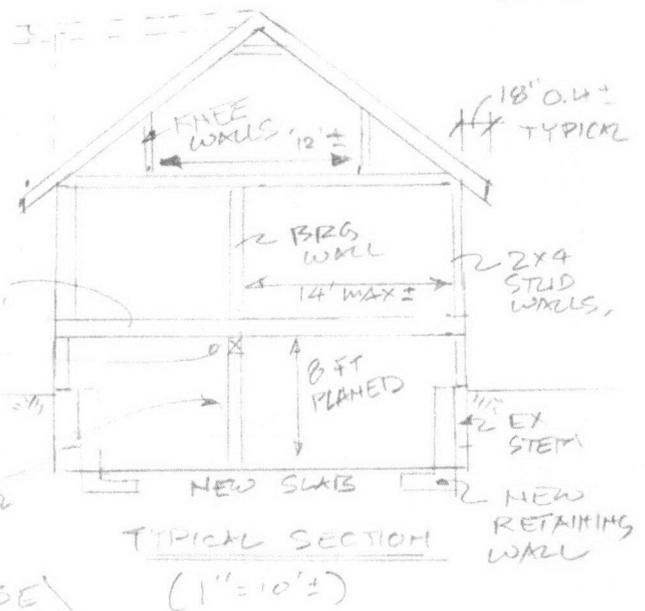
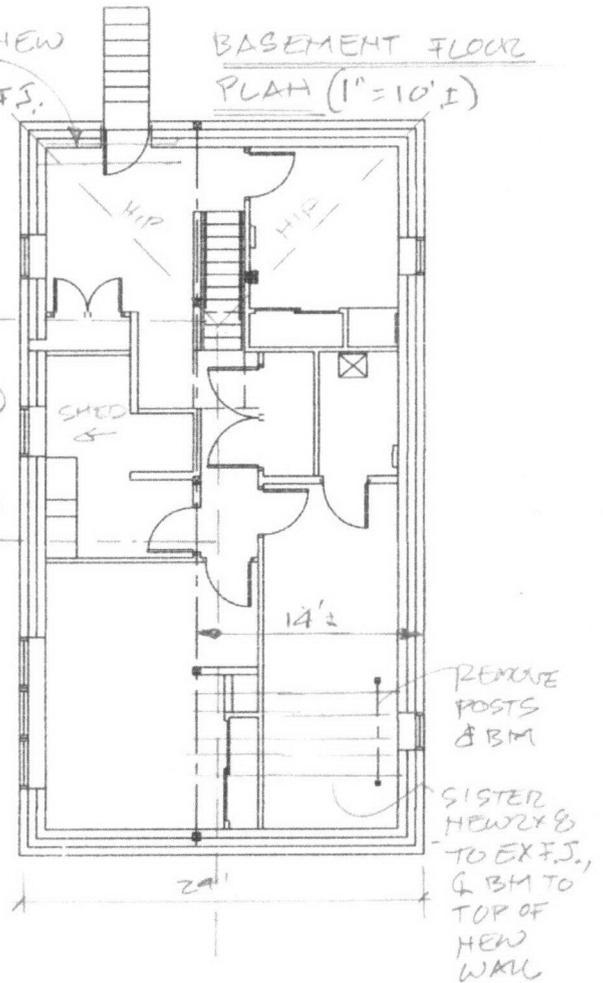
AFTER SETTLEMENT
LOAD WILL SHIFT TO
NEW WALL STEM.

BOTH CONFIGURATIONS
WILL BE CHECKED.

(LOADS ON ADJACENT FTGS FOUND TO BE
MORE CRITICAL)

SISTER NEW
2x8 TO
MOTCHED FS.

BASEMENT FLOOR PLAN (1"=10'±)





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(503) 697-5926

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LOADS TO POST @ \pm BM

$$DL + LL = (563 + 1058) / (17/24) = 1149 \text{ PLF}$$

$$\text{WORST CASE EX POST LOCATION LOAD} \approx (22/2)(1149) = 12,630 \text{ PLF}$$

$$\text{USING 1500 PSF MAX SOIL BRG CAPACITY} \times 1.15 = 1725 \text{ PSF}$$

$$\text{FTG SIZE REQ} \times \sqrt{12630 / 1725} = 2.7 \text{ FT} \approx 32.5 \text{ IN}$$

USE 36" X 30" X 10" CONC FTG W/ (3) # EACH WAY.

3' CONC FROM FTG BOTTOM. (6x6 POST OR W/CB66 #)
DF#1 BCBR

RET WALL EX STEM

$$\text{WT AS ADJACENT FTG, } (4)(.5)(150) + (3)(12) = 336 \text{ PLF, USE 340 PLF}$$

w/o LOADS FROM ABOVE
USE W/ LOAD ON STEM

TRY 1ST FLOOR DL & LL ON NEW STEM

AND REMAINING LOADS AS SURCHARGE LOAD ON ADJACENT FTG,

SOUTH SIDE

$$\text{NEW STEM DL} \approx (240/24)(14/2) = 70 \text{ PLF}$$

$$\text{LL} \approx (960/24)(14/2) = 280 \text{ PLF}$$

$$\text{ADJ FTG LOAD} = 410 + 620 - 70 - 280 + 340 = 1020 \text{ PLF}$$

$$\text{FTG WIDTH} = 3.50 \text{ FT}$$

WINDOW HDRS @ SIDE WALLS.

$$9' \text{ HDR } W = 403 + 617 = 1020 \text{ PLF, } R = 4590 \#, M = 10.4 \text{ KI}$$

USE 6x12 OR USE POSTS BTWN WINDOWS,

$$\text{FOR 3' SPAN, } R = 1530 \#, M = 1.25 \text{ KI}$$

USE 4x8 OR 6x6 HDRS.

$$\text{POST LOAD} \approx (2)(1530) = 3060 \#$$

2x6 BTWN WINDOWS OK

$$(5.5)(1.5)(625) = 5156 \# > 3060 \text{ OK}$$

3 FT TALL

$$\text{FOR 4' SPAN, } R = 2040 \#, M = 2.00 \text{ KI, } 6x6 \text{ OK}$$

Use menu item Settings > Printing & Title Block
to set these five lines of information
for your program.

Title: Partridge-Thalheimer
Job #: 131008 Dsgnr: JCD
Descr: WALKER EMDS (MIA)

Page: 6 of 11
Date: 20 OCT 2013
23

This Wall in File: c:\program files (x86)\retainpro_10\partridge.rp5

RetainPro 10 (c) 1987-2012, Build 10.13.6.24
License : KW-06060568
License To : DOVE CIVIL ENGINEERING

Retained Height = 5.25 ft
Wall height above soil = 0.25 ft
Slope Behind Wall = 0.00 : 1
Height of Soil over Toe = 4.00 in
Water height over heel = 0.0 ft

Allow Soil Bearing = 1,500.0 psf
Coulomb Soil Pressure calculation
Soil Friction Angle = 28.0 deg
Active Pressure: $K_a \cdot \gamma$ = 34.8 psf/ft
Passive Pressure: $K_p \cdot \gamma$ = 304.7 psf/ft
Soil Density, Heel = 110.00 pcf
Soil Density, Toe = 0.00 pcf
Footing Soil Friction = 0.400
Soil height to ignore for passive pressure = 12.00 in

Surcharge Over Heel = 0.0 psf
Used To Resist Sliding & Overturning
Surcharge Over Toe = 0.0 psf
Used for Sliding & Overturning

Lateral Load = 0.0 #/ft
...Height to Top = 0.00 ft
...Height to Bottom = 0.00 ft
The above lateral load has been increased by a factor of 1.00
Wind on Exposed Stem = 0.0 psf

Adjacent Footing Load = 340.0 lbs
Footing Width = 0.50 ft
Eccentricity = 0.00 in
Wall to Ftg CL Dist = 0.25 ft
Footing Type = Line Load
Base Above/Below Soil at Back of Wall = -4.0 ft
Poisson's Ratio = 0.300

Axial Dead Load = 0.0 lbs
Axial Live Load = 0.0 lbs
Axial Load Eccentricity = 0.0 in

Wall Stability Ratios
Overturning = 1.58 OK
Slab Resists All Sliding !

Total Bearing Load = 938 lbs
...resultant ecc. = 10.42 in

Soil Pressure @ Toe = 709 psf OK
Soil Pressure @ Heel = 0 psf OK
Allowable = 1,500 psf

ACI Factored @ Toe = 851 psf
ACI Factored @ Heel = 0 psf
Footing Shear @ Toe = 5.5 psi OK
Footing Shear @ Heel = 0.0 psi OK
Allowable = 75.0 psi

Sliding Calcs Slab Resists All Sliding !
Lateral Sliding Force = 689.3 lbs

Load Factors
Building Code = IBC 2009, ACI
Dead Load = 1.200
Live Load = 1.600
Earth, H = 1.600
Wind, W = 1.600
Seismic, E = 1.000

Top Stem
Design Height Above Ftg ft = 0.00
Wall Material Above "Ht" = Concrete
Thickness = 6.00
Rebar Size = # 4
Rebar Spacing = 18.00
Rebar Placed at = Center

Design Data
 $f_b/FB + f_a/Fa$ = 0.794
Total Force @ Section lbs = 781.6
Moment...Actual ft-# = 1,355.0
Moment...Allowable = 1,705.6
Shear...Actual psi = 21.7
Shear...Allowable psi = 75.0
Wall Weight = 75.0
Rebar Depth 'd' in = 3.00
LAP SPLICE IF ABOVE in = 14.87
LAP SPLICE IF BELOW in =
HOOK EMBED INTO FTG in = 6.59

Lap splice above base reduced by stress ratio
Hook embedment reduced by stress ratio

Masonry Data
 f_m psi =
 F_s psi =
Solid Grouting =
Use Half Stresses =
Modular Ratio 'n' =
Short Term Factor =
Equiv. Solid Thick. =
Masonry Block Type = Medium Weight
Masonry Design Method = ASD

Concrete Data
 f_c psi = 2,500.0
 F_y psi = 60,000.0

Use menu item Settings > Printing & Title Block
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Title : Partridge-Thalheimer
Job # : 131008 Dsgnr: JCD Page: 20 of 11
Descr: WWSB EHTS(MH) 23 Date: 20 OCT 2013

This Wall in File: c:\program files (x86)\retainpro_10\partridge.rp5

RetainPro 10 (c) 1987-2012, Build 10.13.6.24
License : KW-06060568
License To : DOVE CIVIL ENGINEERING

Toe Width = 3.00 ft
Heel Width = 0.50
Total Footing Width = 3.50
Footing Thickness = 12.00 in
Key Width = 0.00 in
Key Depth = 0.00 in
Key Distance from Toe = 3.17 ft
fc = 2,500 psi Fy = 60,000 psi
Footing Concrete Density = 150.00 pcf
Min. As % = 0.0018
Cover @ Top 2.00 @ Btm = 3.00 in

Factored Pressure = 851 0 psf
Mu' : Upward = 2,552 0 ft-#
Mu' : Downward = 1,008 0 ft-#
Mu: Design = 1,544 0 ft-#
Actual 1-Way Shear = 5.47 0.00 psi
Allow 1-Way Shear = 75.00 0.00 psi
Toe Reinforcing = # 4 @ 18.00 in
Heel Reinforcing = None Spec'd
Key Reinforcing = None Spec'd

Other Acceptable Sizes & Spacings

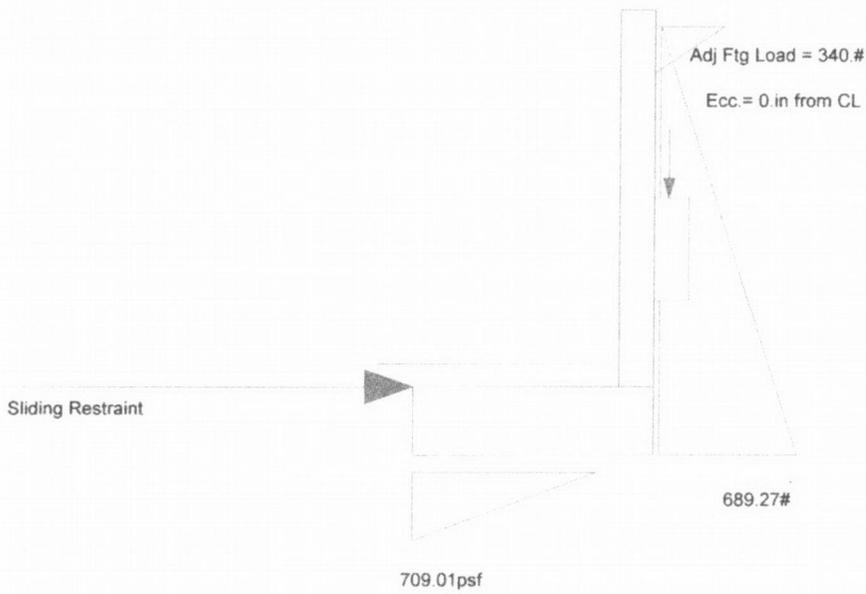
Toe: Not req'd, Mu < S * Fr
Heel: Not req'd, Mu < S * Fr
Key: No key defined

| Item | Force lbs | Distance ft | Moment ft-# | | Force lbs | Distance ft | Moment ft-# |
|---------------------------------------|--------------|----------------|----------------|---------------------------|------------------|----------------|----------------|
| Heel Active Pressure | = 680.4 | 2.08 | 1,417.5 | Soil Over Heel | = | 3.50 | |
| Surcharge over Heel | = | | | Sloped Soil Over Heel | = | | |
| Surcharge Over Toe | = | | | Surcharge Over Heel | = | | |
| Adjacent Footing Load | = 8.9 | 1.74 | 15.5 | Adjacent Footing Load | = | | |
| Added Lateral Load | = | | | Axial Dead Load on Stem | = | | |
| Load @ Stem Above Soil | = | | | * Axial Live Load on Stem | = | | |
| | | | | Soil Over Toe | = | 1.50 | |
| | | | | Surcharge Over Toe | = | | |
| Total | 689.3 | O.T.M. | 1,433.0 | Stem Weight(s) | = 412.5 | 3.25 | 1,340.6 |
| | | | | Earth @ Stem Transitions | = | | |
| Resisting/Overturning Ratio | | | = 1.58 | Footing Weight | = 525.0 | 1.75 | 918.8 |
| Vertical Loads used for Soil Pressure | = | 937.5 | lbs | Key Weight | = | 3.17 | |
| | | | | Vert. Component | = | | |
| | | | | Total = | 937.5 lbs | R.M. = | 2,259.4 |

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.

DESIGNER NOTES:

PCE JOB# 131008
10/23/13
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WKLUS @ ENDS (MIN)



If adjacent footing or seismic loading is used, the numerical values are displayed, but the loading curve does not represent the composite loading.

Use menu item Settings > Printing & Title Block
to set these five lines of information
for your program.

Title : Partridge-Thalheimer
Job # : 131008 Dsgnr: JCD Page: 9 of 11
Date: 20-OCT 2013
Descr: WALLS @ SIDES (MAX) 22

This Wall in File: c:\program files (x86)\retainpro_10\partridge.rp5

RetainPro 10 (c) 1987-2012, Build 10.13.6.24
License : KW-06060568
License To : DOVE CIVIL ENGINEERING

Toe Width = 3.00 ft
Heel Width = 0.50
Total Footing Width = 3.50
Footing Thickness = 12.00 in
Key Width = 0.00 in
Key Depth = 0.00 in
Key Distance from Toe = 3.17 ft
f_c = 2,500 psi F_y = 60,000 psi
Footing Concrete Density = 150.00 pcf
Min. As % = 0.0018
Cover @ Top 2.00 @ Btm = 3.00 in

Factored Pressure = 675 272 psf
Mu' : Upward = 2,520 0 ft-#
Mu' : Downward = 1,008 0 ft-#
Mu: Design = 1,512 0 ft-#
Actual 1-Way Shear = 6.84 0.00 psi
Allow 1-Way Shear = 75.00 0.00 psi
Toe Reinforcing = # 4 @ 18.00 in
Heel Reinforcing = None Spec'd
Key Reinforcing = None Spec'd

Other Acceptable Sizes & Spacings

Toe: Not req'd, Mu < S * Fr
Heel: Not req'd, Mu < S * Fr
Key: No key defined

| Item | Force lbs | Distance ft | Moment ft-# | Force lbs | Distance ft | Moment ft-# |
|-----------------------------------------|--------------|----------------|----------------|-----------------------------|--------------------|-----------------------|
| Heel Active Pressure = | 680.4 | 2.08 | 1,417.5 | Soil Over Heel = | 3.50 | |
| Surcharge over Heel = | | | | Sloped Soil Over Heel = | | |
| Surcharge Over Toe = | | | | Surcharge Over Heel = | | |
| Adjacent Footing Load = | 26.7 | 1.74 | 46.5 | Adjacent Footing Load = | | |
| Added Lateral Load = | | | | Axial Dead Load on Stem = | 70.0 | 227.5 |
| Load @ Stem Above Soil = | | | | * Axial Live Load on Stem = | 280.0 | 910.0 |
| | | | | Soil Over Toe = | 1.50 | |
| | | | | Surcharge Over Toe = | | |
| Total | 707.0 | O.T.M. | 1,464.0 | Stem Weight(s) = | 412.5 | 1,340.6 |
| | | | | Earth @ Stem Transitions = | | |
| Resisting/Overturning Ratio | | | 1.70 | Footing Weight = | 525.0 | 918.8 |
| Vertical Loads used for Soil Pressure = | | 1,287.5 lbs | | Key Weight = | | 3.17 |
| | | | | Vert. Component = | | |
| | | | | Total = | 1,007.5 lbs | R.M. = 2,486.9 |

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.

DESIGNER NOTES:

Use menu item Settings > Printing & Title Block
to set these five lines of information
for your program.

Title : **Partridge-Thalheimer**
Job # : **131008** Dsgnr: **JCD**
Descr: **WAUSE SIDES (MAX)**

Page: **10 of 11**
Date: **20 OCT 2013**

This Wall in File: c:\program files (x86)\retainpro_10\partridge.rp5

RetainPro 10 (c) 1987-2012, Build 10.13.6.24
License : KW-06060568
License To : **DOVE CIVIL ENGINEERING**

Retained Height = 5.25 ft
Wall height above soil = 0.25 ft
Slope Behind Wall = 0.00 : 1
Height of Soil over Toe = 4.00 in
Water height over heel = 0.0 ft

Allow Soil Bearing = 1,500.0 psf
Coulomb Soil Pressure calculation
Soil Friction Angle = 28.0 deg
Active Pressure: $K_a \cdot \gamma \cdot H$ = 34.8 psf/ft
Passive Pressure: $K_p \cdot \gamma \cdot H$ = 304.7 psf/ft
Soil Density, Heel = 110.00 pcf
Soil Density, Toe = 0.00 pcf
Footing||Soil Friction = 0.400
Soil height to ignore
for passive pressure = 12.00 in

Surcharge Over Heel = 0.0 psf
Used To Resist Sliding & Overturning
Surcharge Over Toe = 0.0 psf
Used for Sliding & Overturning

Lateral Load = 0.0 #/ft
...Height to Top = 0.00 ft
...Height to Bottom = 0.00 ft
The above lateral load
has been increased
by a factor of 1.00
Wind on Exposed Stem = 0.0 psf

Adjacent Footing Load = 1,020.0 lbs
Footing Width = 0.50 ft
Eccentricity = 0.00 in
Wall to Ftg CL Dist = 0.25 ft
Footing Type = Line Load
Base Above/Below Soil
at Back of Wall = -4.0 ft
Poisson's Ratio = 0.300

Axial Dead Load = 70.0 lbs
Axial Live Load = 280.0 lbs
Axial Load Eccentricity = 0.0 in

Wall Stability Ratios
Overturning = 1.70 OK
Slab Resists All Sliding !

Total Bearing Load = 1,288 lbs
...resultant ecc. = 2.98 in

Soil Pressure @ Toe = 525 psf OK
Soil Pressure @ Heel = 211 psf OK
Allowable = 1,500 psf

ACI Factored @ Toe = 675 psf
ACI Factored @ Heel = 272 psf
Footing Shear @ Toe = 6.8 psi OK
Footing Shear @ Heel = 0.0 psi OK
Allowable = 75.0 psi

Sliding Calcs Slab Resists All Sliding !
Lateral Sliding Force = 707.0 lbs

Top Stem
Stem OK
Design Height Above Ftg ft = 0.00
Wall Material Above "Ht" = Concrete
Thickness = 6.00
Rebar Size = # 4
Rebar Spacing = 18.00
Rebar Placed at = Center

Design Data
 $f_b / F_b + f_a / F_a$ = 0.807
Total Force @ Section lbs = 808.5
Moment...Actual ft-# = 1,376.6
Moment...Allowable = 1,705.6
Shear...Actual psi = 22.5
Shear...Allowable psi = 75.0
Wall Weight = 75.0
Rebar Depth 'd' in = 3.00
LAP SPLICE IF ABOVE in = 15.11
LAP SPLICE IF BELOW in =
HOOK EMBED INTO FTG in = 6.70

Lap splice above base reduced by stress ratio
Hook embedment reduced by stress ratio

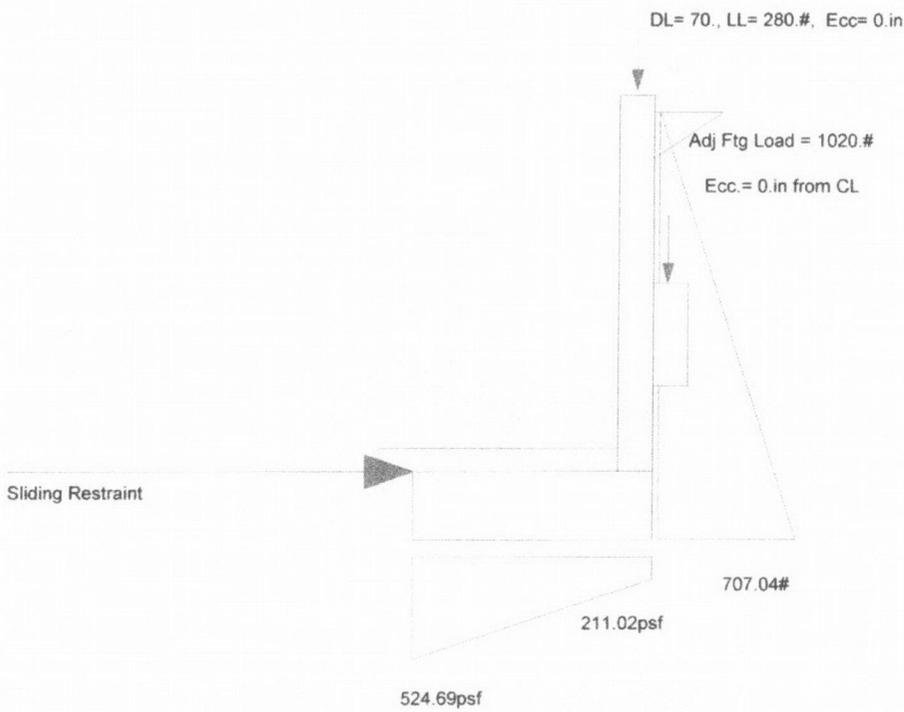
Masonry Data
 f_m psi =
 F_s psi =
Solid Grouting =
Use Half Stresses =
Modular Ratio 'n' =
Short Term Factor =
Equiv. Solid Thick. =
Masonry Block Type = Medium Weight
Masonry Design Method = ASD

Concrete Data
 f_c psi = 2,500.0
 F_y psi = 60,000.0

Load Factors
Building Code IBC 2009, ACI
Dead Load 1.200
Live Load 1.600
Earth, H 1.600
Wind, W 1.600
Seismic, E 1.000

DCE JOB# 131008
10/23/13
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WALUS@SIDES(M4X)



If adjacent footing or seismic loading is used, the numerical values are displayed, but the loading curve does not represent the composite loading.

New Cripple Walls Notes

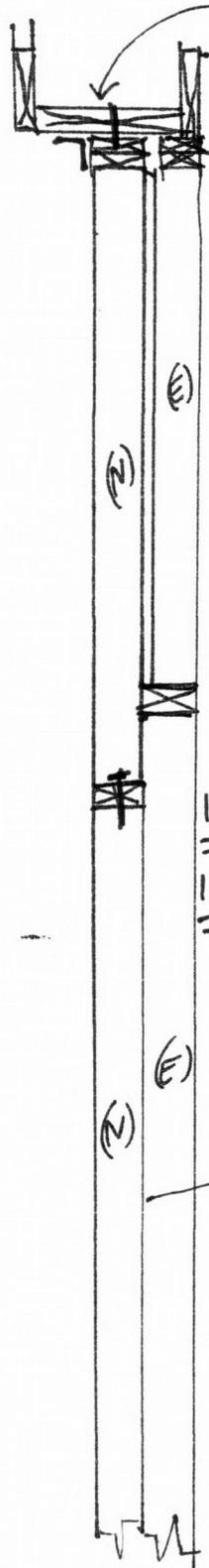
New framing to be No. 2 or better 2x6, sill plate to be separated from concrete by Sill Seal. Plywood to be 5-ply 1/2" Struc. 1, nailed with either 10d (.148) 4" o.c., or 8d (.131) nailed 3" o.c. at panel edges, with panel edges having a minimum of 1-1/2" of framing, 12" o.c. in field, minimum of 1-5/8 penetration into framing, plywood veneer not to be broken.

Reinforced cripple walls to encompass minimum of 17 lf each wall, anchor bolts (Hilti HUZ-SD 1/2" x 6, min. 4" embedment) w/ 3/16" x 2" bearing plates 2' o.c. within shear wall, 4' o.c. outside shear wall. Connection between top plate and floor diaphragm to be any combination of the following, inside shear wall: Simpson L90, 12" o.c.; Simpson H10/H10(R), 12" o.c.; Simpson SDS25500, 6" o.c.,

LVL -to-rim joist connection to be Simpson SDS25500 6" o.c.



New 1 3/4" VL
see New Cripple Wall Notes

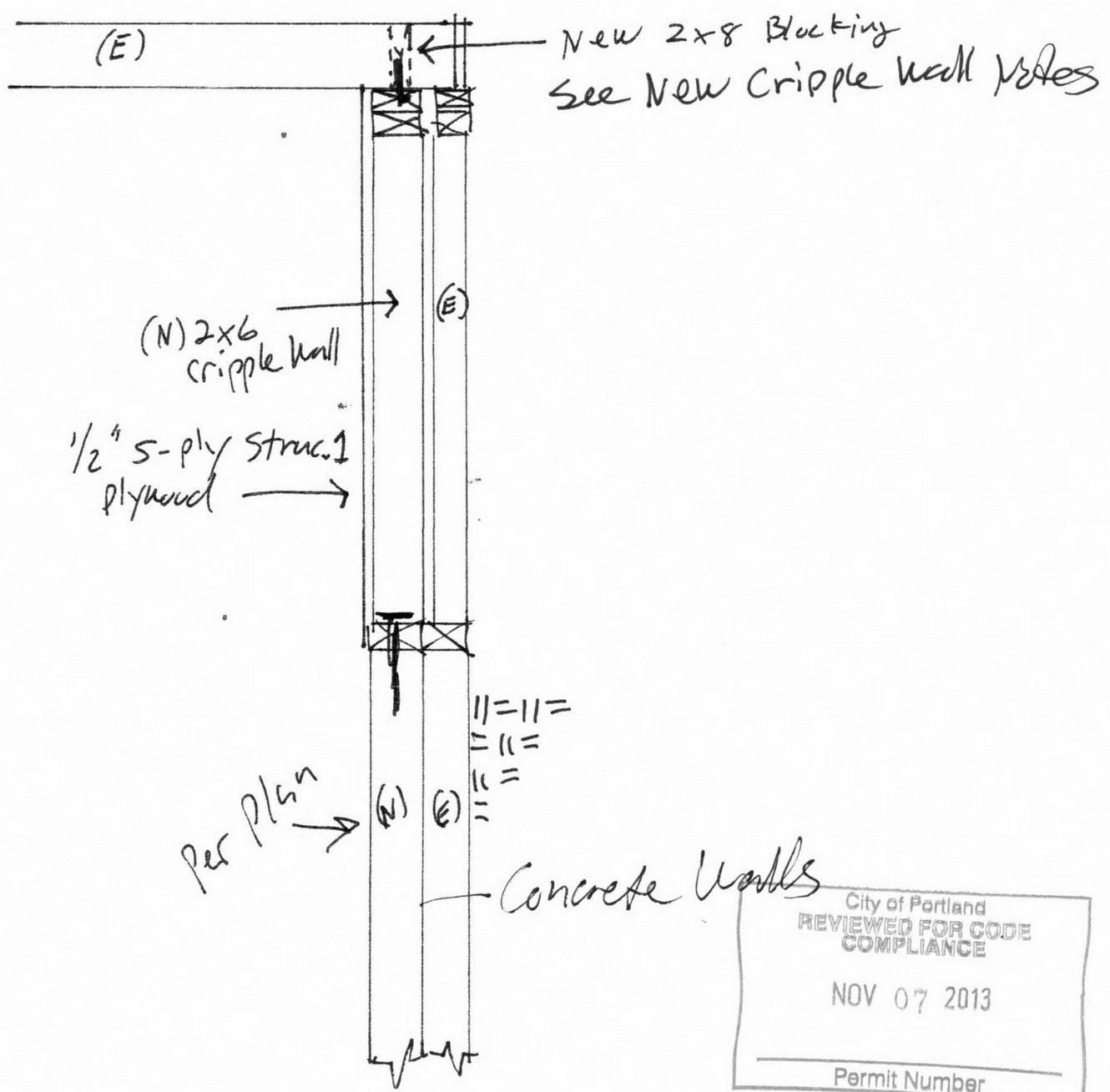


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Concrete Walls

Walls Parallel To Joist
North + South Walls



East and West Cripple Walls
 Perpendicular to Joist

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