To specify your own special title block here, use the "Settings" screen and enter your title block information.

Title : Gertz Construction
Job # : MC1250 Dsgnr: pw
Description....

Page: _____
Date: SEP 24,2012

This Wall in File: c:\documents and settings\all users\docu

Retain Pro 2007 , 5-Dec-2007, (c) 1989-2007
www.retainpro.com/support for latest release
Registration # : RP-1166685 2007010

Cantilevered Retaining Wall Design

Code: IBC 03 & 06

Criteria

Retained Height	=	4.50 ft
Wall height above soil	=	0.00 ft
Slope Behind Wall	=	0.00 : 1
Height of Soil over Toe	=	11.00 in
Water height over heel	=	0.0 ft
Wind on Stem	=	0.0 psf

Vertical component of active lateral soil pressure options:
USED for Soil Pressure.
USED for Sliding Resistance.
USED for Overturning Resistance.

Soil Data

Allow Soil Bearing	=	1,500.0 psf
Equivalent Fluid Pressure Method		
Heel Active Pressure	=	60.0 psf/ft
Toe Active Pressure	=	30.0 psf/ft
Passive Pressure	=	250.0 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	=	0.00 in

Footing Dimensions & Strengths

Toe Width	=	0.83 ft
Heel Width	=	2.25
Total Footing Width	=	3.08
Footing Thickness	=	16.00 in
Key Width	=	0.00 in
Key Depth	=	0.00 in
Key Distance from Toe	=	3.00 ft

f'c = 2,000 psi Fy = 60,000 psi
Footing Concrete Density = 150.00 pcf
Min. As % = 0.0018
Cover @ Top = 2.00 in @ Btm.= 3.00 in

Surcharge Loads

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

Lateral Load Applied to Stem

Lateral Load	=	0.0 #/ft
...Height to Top	=	3.00 ft
...Height to Bottom	=	2.00 ft

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs
Footing Width	=	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type		Line Load
Base Above/Below Soil at Back of Wall	=	0.0 ft
Poisson's Ratio	=	0.300

Axial Load Applied to Stem

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

ok

*Design Summary

Wall Stability Ratios

Overturning	=	1.92	OK
Sliding	=	1.51	OK
Total Bearing Load	=	1,973 lbs	
...resultant ecc.	=	7.73 in	
Soil Pressure @ Toe	=	1,468 psf	OK
Soil Pressure @ Heel	=	0 psf	OK
Allowable	=	1,500 psf	
Soil Pressure Less Than Allowable			
ACI Factored @ Toe	=	1,625 psf	
ACI Factored @ Heel	=	0 psf	
Footing Shear @ Toe	=	0.0 psi	OK
Footing Shear @ Heel	=	7.1 psi	OK
Allowable	=	67.1 psi	

Sliding Calcs (Vertical Component Used)

Lateral Sliding Force	=	944.9 lbs	
less 100% Passive Force	= -	632.8 lbs	
less 100% Friction Force	= -	789.3 lbs	
Added Force Req'd	=	0.0 lbs	OK
....for 1.5 : 1 Stability	=	0.0 lbs	OK

Load Factors

Building Code	IBC 03 & 0
Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.600
Seismic, E	1.000

Stem Construction

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	=	Edge
Design Data		
fb/FB + fa/Fa	=	0.591
Total Force @ Section	lbs =	951.8
Moment....Actual	ft-# =	1,451.8
Moment.....Allowable	=	2,455.6
Shear.....Actual	psi =	18.7
Shear.....Allowable	psi =	75.0
Wall Weight	=	75.0
Rebar Depth 'd'	in =	4.25
LAP SPLICE IF ABOVE	in =	12.00
LAP SPLICE IF BELOW	in =	
HOOK EMBED INTO FTG	in =	6.00
Masonry Data		
f'm	psi =	
Fs	psi =	
Solid Grouting	=	
Use Full 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
Fy	psi =	60,000.0

Jason, Margan
Used 60psi

SLIDING FORCE

12-15-8 BY RS

Footing Design Results

		Toe	Heel
Factored Pressure	=	1,625	0 psf
Mu' : Upward	=	502	0 ft-#
Mu' : Downward	=	124	0 ft-#
Mu: Design	=	378	1,452 ft-#
Actual 1-Way Shear	=	0.00	7.09 psi
Allow 1-Way Shear	=	67.08	67.08 psi

Toe Reinforcing = # 5 @ 16.00 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

Summary of Overturning & Resisting Forces & Moments

Item		.....OVERTURNING..... Force lbs	Distance ft	Moment ft-#			.....RESISTING..... Force lbs	Distance ft	Moment ft-#
Heel Active Pressure	=	1,020.8	1.94	1,985.0	Soil Over Heel	=	866.3	2.21	1,910.1
Toe Active Pressure	=	-75.9	0.75	-57.0	Sloped Soil Over Heel	=			
Surcharge Over Toe	=				Surcharge Over Heel	=			
Adjacent Footing Load	=				Adjacent Footing Load	=			
Added Lateral Load	=				Axial Dead Load on Stem	=		0.00	
Load @ Stem Above Soil	=				Soil Over Toe	=		0.42	
					Surcharge Over Toe	=			
					Stem Weight(s)	=	337.5	1.08	364.5
					Earth @ Stem Transitions	=			
Total	=	944.9	**O.T.M.** =	1,928.0	Footing Weight	=	616.0	1.54	948.6
Resisting/Overturning Ratio			=	**1.92**	Key Weight	=		3.00	
Vertical Loads used for Soil Pressure		=	1,973.3 lbs		Vert. Component	=	153.5	3.08	472.9
					Total	=	1,973.3 lbs	**R.M.=**	3,696.1

Vertical component of active pressure used for soil pressure

DESIGNER NOTES:

City of Portland, Oregon - Bureau of Development Services

1900 SW Fourth Avenue • Portland, Oregon 97201 • 503-823-7300 • www.portlandoregon.gov/bds

Permit Revision Application and Submittal Requirements

A Permit Revision is required when there are proposed changes to the project after the permit has been issued. This may arise due to discrepancies between the city-approved permit drawings and actual field conditions, or the customer has changed their mind about an aspect of the project. In all cases, a revision to the existing permit must be submitted, reviewed and approved.

Applicants will provide:

- ☒ A copy of this application
- ☒ Three (3) sets of plans that clearly reflect the proposed change(s).

  Drawings and calculations must be stamped and signed by the Architect and/or the Engineer of Record, if applicable.
- ☒ One (1) copy of the original city approved permit drawings. (NOTE: If your project has an assigned process manager please contact them regarding submittal of the revision).
- ☒ Two (2) sets of calculations, if applicable
- ☒ Inspector's correction notice, if revision is due to an inspection correction
- ☒ Revision fee (paid at time of submittal)

Contact Information:

Contact name ROB HUMPHREY FASTER PERMITS

Address 14334 NW EAGLERIDGE LN

City PDX **State** OR **Zip Code** 97229

Phone 503 320 5030 **Email** ROB@FASTERPERMITS.com

Value of proposed revision 5,000 **Issued permit #** 12-159847 RS

Description of revision INCREASE RETAINING WALL HEIGHT

Fees:

The Permit Revisions are subject to fees associated with plan review, processing and any increase in project value. Additional fees may apply if adding plumbing fixtures.

The Bureau of Development Services fee schedule is available under the fees tab on the BDS web site at: *www.portlandoregon.gov/bds*. Fees are updated annually on July 1st.

Helpful Information:

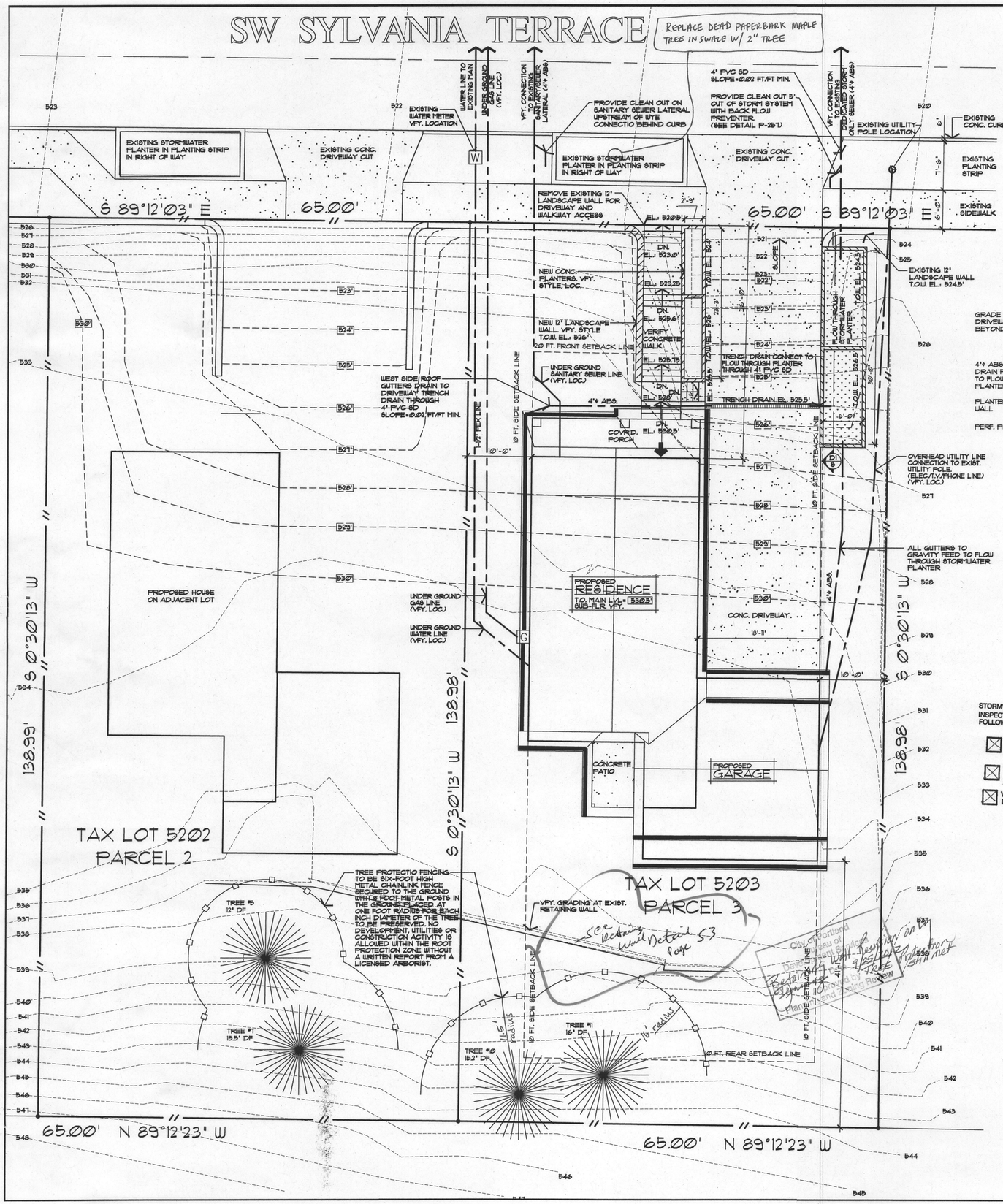
Bureau of Development Services
City of Portland, Oregon
1900 SW 4th Avenue, Portland, OR 97201
www.portlandoregon.gov/bds

Submit your plans in person to:
Development Services Center (DSC), First Floor,
Tuesday - Friday:
7:30 am - 12:00 pm

Closed Mondays

Important Telephone Numbers:

BDS main number	503-823-7300
DSC automated information line	503-823-7310
Building code information	503-823-1456
BDS 24 hour inspection request line	503-823-7000
Residential information for one and two family dwelling	503-823-7388
General Permit Processing and Fee Estimate info	503-823-7357
City of Portland TTY	503-823-6868



WORK IN PUBLIC RIGHT - OF - WAY IS NOT APPROVED AS PART OF THIS BUILDING PERMIT

See ST Job 43825

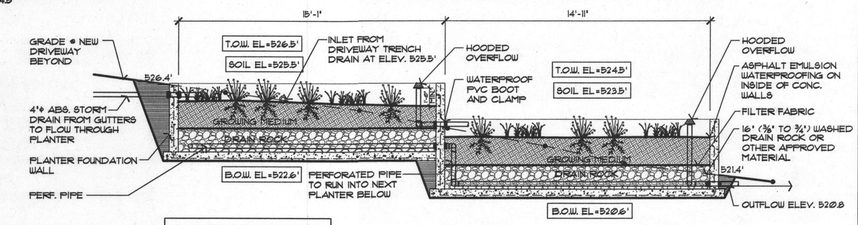
TREE PROTECTION

TO COMPLY WITH TREE PROTECTION REQUIREMENTS SPECIFIED IN THE LAND DIVISION, TREES #5, #7, #10, 11* INDICATED ON SITE PLAN MUST BE PRESERVED AND PROTECTED.

STORM WATER MANGEMENT

2,516 SF ROOF AREA + 725 SF OF DRIVEWAY AREA = 3,241 SF TOTAL IMPERVIOUS
180 SF OF FLOW THROUGH PLANTER AREA REQUIRED PER PAC CALCULATOR

FLOW THROUGH STORMWATER PLANTER = 180 SF



PAC DESIGNED STORMWATER PLANTER SYSTEM

D1/S STORMWATER MANAGEMENT PLANTER SECTION
SCALE: 1/4" = 1'-Ø"

This plan matches the approved by Planning and includes all notes from other reviews.
E. SANDY 8-23-12
(name) (date)
S.D. 9-6-12

STORMWATER FACILITY EVALUATION REQUIRED AT TIME OF INSPECTION. CALL 503-823-7000 TO SCHEDULE THE FOLLOWING: #497 STORM PLANTER
- ☒ EXCAVATION REVIEW OF SUBGRADE DRAINAGE MATERIALS AND PIPING DATE COMPLETED:
- ☒ REVIEW OF SOIL MEDIUM, FACILITY SURFACE, INLET/OUT/OVERFLOW PIPING, READY TO COVER DATE COMPLETED:
- ☒ VEGETATION/WORK COMPLETE DATE COMPLETED:

SEPARATE SEWER CONNECTION PERMIT REQUIRED
- ☒ SANITARY 12-177631 4B
- ☒ STORM 12-177619 4B
- ☐ COMBO

General Notes & Supplemental Information
The attached 8½ x 11 sheets are part of this plan approval. Plans are considered null and void without this information attached to the approved set of plans.

SITE INFORMATION

R-Ø

SITE AREA (PARCEL 3): 9,Ø34 SQ. FT.

MINIMUM REQUIRED SETBACKS:
FRONT: 2Ø FT.
REAR: 1Ø FT.
SIDE: 1Ø FT.
GARAGE: 18 FT.

HEIGHT: 3Ø FT. MAX
22 FT. PROPOSED

LOT COVERAGE

ALLOWABLE COVERAGE:
2,25Ø SQ. FT. + ((.15x(9Ø34 SQ. FT.-5ØØØ SQ. FT.)) = 2,855 SQ. FT.

ACTUAL:
COVERAGE: 2,057 SQ. FT.

TOTAL LOT AREA (PARCEL 3) = 9,Ø34 Sq. Ft.

A/S SITE PLAN
SCALE: 1" = 8'-Ø"

ND

LEGAL DESCRIPTION:
TAX LOT 52Ø3,
PARCEL 3 OF 'PARTITION PLAT NO. 2Ø1Ø-2'
CITY OF PORTLAND,
MULTNOMAH COUNTY, OREGON

City of Portland REVIEWED FOR CODE COMPLIANCE SEP 06 2012 Permit Number

City of Portland REVIEWED FOR CODE COMPLIANCE SEP 26 2012 Permit Number

NOTE:
- FOOTINGS TO BEAR ON FIRM, UNDISTURBED NATIVE SOIL OR PROPERLY COMPACTED ENGINEERED FILL (95% PROCTOR)
- VERIFY LOCATION OF ELECTRIC, CABLE T.V., TELEPHONE, AND NATURAL GAS SERVICE RUNS TO HOUSE. ALL SERVICE TO BE UNDERGROUND.
- VERIFY LOCATION OF EXISTING WATER METER. PROVIDE 1½"Ø SERVICE TO RESIDENCE. PROVIDE P.R.V. IF OVER 8Ø P.S.I.
- VERIFY LOCATION OF EXISTING SANITARY SEWER STUB OUT. PROVIDE 4"Ø A.B.S. SERVICE TO RESIDENCE.

OLSON GROUP ARCHITECTS AIA
17150 SW UPPER BOONES FERRY ROAD • DURHAM, OREGON 97223 • 503-620-9870

REGISTERED ARCHITECT 1860 RALPH G. OLSON DURHAM, OREGON STATE OF OREGON

NEW RESIDENCE FOR:
EDGE DEVELOPMENT
2748 SW SYLVANIA TERRACE
PORTLAND, OREGON

CONTRACTOR:
EDGE DEVELOPMENT, INC.
PO BOX 6Ø12
BEAVERTON, OR 97ØØ7
(5Ø3) 504-2223
(5Ø3) 292-7766
OFFICE (5Ø3) 292-7733
CCB# 12964

SURVEY:
BASELINE SURVEYING, LLC
25Ø5 PORTLAND RD., SUITE 2Ø6
NEWBERG, OR 97132
(5Ø3) 538-8Ø41
(5Ø3) 538-12Ø4

STRUCTURAL ENGINEER:
FWJ ENGINEERING, INC.
8Ø4 NW BETHANY BLVD.,
SUITE 12-#219, PORTLAND, OR
(5Ø3) 81Ø-83Ø9

RECEIVED AUG 22 2012 BDS DOCUMENT SERVICES

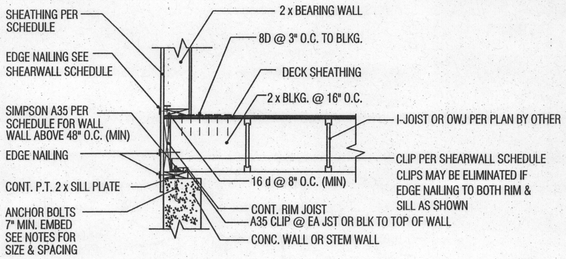
REVISED

DATED	6/28/2012
DRAWN	BTM / SSR
CHECKED	
SITE PLAN	

S

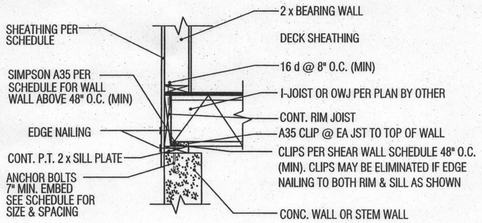
APPROVED REVISED 12-157847

37



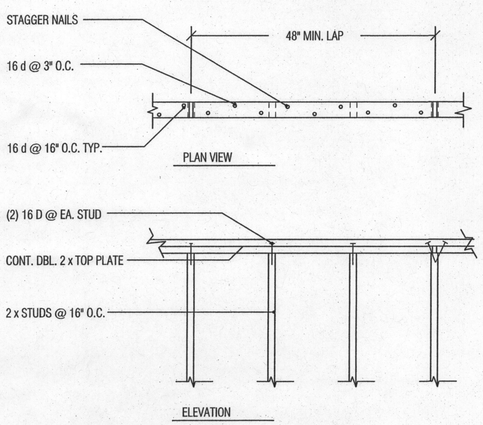
1 PARALLEL JOISTS

SCALE: N.T.S. SHEAR WALL



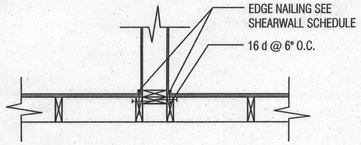
2 PERP JOISTS

SCALE: N.T.S. SHEAR WALL



3 TOP PLATE SPLICE

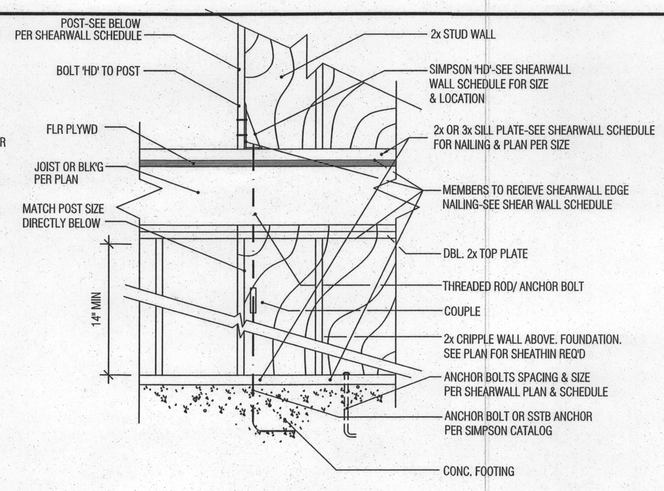
SCALE: N.T.S. SHEAR WALL



SHEAR TRANSFER

4 THRU WALL INTERRUPTION

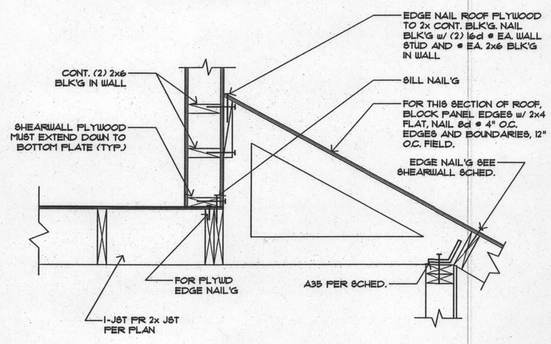
SCALE: N.T.S. SHEAR WALL



5 TYP. HOLDOWN

& SHEARWALL @ CRIPPLE WALLS

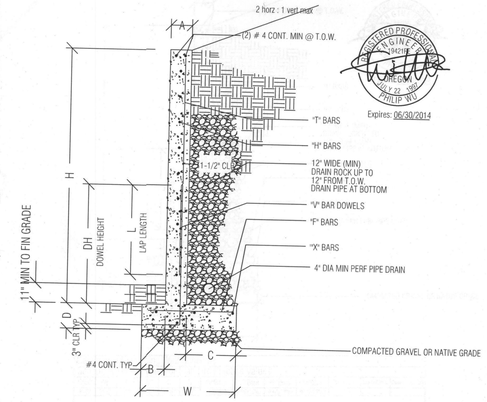
SCALE: N.T.S.



LATERAL LOAD PATH @

6 ROOF LEDGER

SCALE: N.T.S.



Expires: 06/30/2014

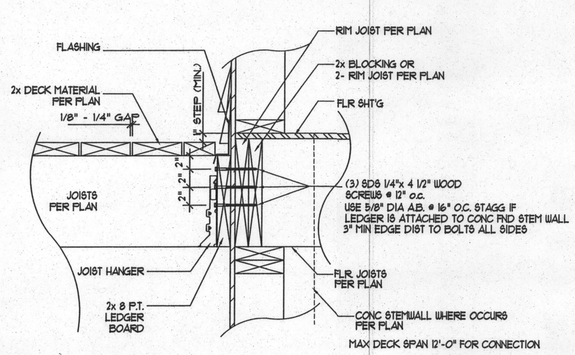
Cantilevered Retaining Wall Schedule												
Generic Retaining Wall For Standard Practice Values												
H(Ft)	W	A	B	C	D	"V"Bars	"H"Bars	"F"Bars	"X"Bars	"T"Bars	Lap Length L	Dowel Height DH
4'-6"	3'-1"	6"	0'-10"	1'-9"	16"	#4@18"o.c.	#4@18"o.c.	#4@18"o.c.	#4@18"o.c.			

Notes:

1. Design values are based on 60pcf active for a 2:1 backslope:
2. Allowable Soil Bearing = 1,500 psf, Passive = 250 psf/ft, Friction = .4
3. Footing and Wall Fc = 2,500 psf @ 28 days, Fy = 60 ksi
5. If no "T" bars are shown and no dimension is shown in the table above for Dowel Height DH, extend the "V" bar dowel from the footing to the top of the wall.

1 SITE RETAINING WALL EDGE DEV-SYLVANNIA TERR

SCALE: N.T.S.



8 DECK LEDGER @ WALL

1 ½"=1'-0"

City of Portland
REVIEWED FOR CODE COMPLIANCE
SEP 26 2012
Permit Number

City of Portland
REVIEWED FOR CODE COMPLIANCE
SEP 06 2012
Permit Number

OLSON GROUP ARCHITECTS AIA
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REGISTERED ARCHITECT 1860 RALPH G. OLSON DURHAM, OREGON STATE OF OREGON

NEW RESIDENCE FOR :

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PORTLAND, OREGON

CONTRACTOR:
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PO BOX 6072
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(503) 504-2223
(503) 292-7766
OFFICE (503) 292-7733
CCB# 12964

SURVEY:
BASELINE SURVEYING, LLC
2505 PORTLAND RD., SUITE 206
NEWBERG, OR 97132
(503) 538-8041
(503) 538-1204

STRUCTURAL ENGINEER:
PWU ENGINEERING, INC.
4804 NW BETHANY BLVD.,
SUITE 12-#279, PORTLAND, OR
(503) 810-8309

PWU ENGINEERING INC.
Email: pwuengineering@comcast.net

REGISTERED PROFESSIONAL ENGINEER 19421PE OREGON JULY 22 1997 PHILIP WU

Expires: 06/30/2014

JOB #: MC12029

REVISED

DATED 6/27/2012

DRAWN BTM / SGR

CHECKED P.W.

Structural Details

S3