IMPROVING OUR COMMUNITY

COLUMBIA GATEWAY URBAN RENEWAL AGENCY

CITY OF THE DALLES

AGENDA STAFF REPORT

Meeting date: October 24, 2016

TO: Urban Renewal Agency

FROM: Eric Nerdin, Urban Renewal Contract Consultant
Mid-Columbia Economic Development District, Loan Fund Manager

ISSUE: Urban Renewal Property Rehabilitation Façade Improvement Application Review and Recommendation to the Agency Board for Hillis Hew Enterprises, LLC / Hew Hillis.

BACKGROUND: The Lemke Building located at 110 E. 2nd Street, The Dalles, Oregon, 97058, is within The Dalles Urban Renewal Zone and is owned by Hillis Hew Enterprises, LLC. This two-story brick building was constructed in 1910 *(See note at end of this section for more information on building construction date).* The main elevation displays the only white glazed brick used in the downtown area. The building has examples of classic detailing, including brick keystones with flat voussoirs above upper front windows and a six-course corbelled cornice.

Ferdinand Lemke, a German watchmaker, came to The Dalles from San Francisco after the gold rush. He opened a saloon called the Yellowstone across First Street from the Umatilla House hotel. Lemke's saloon was damaged by a fire in 1909 and the fire marshal, who owned a competing saloon, condemned the building. Lemke had this Renaissance Revival-style building constructed in 1910 to replace it and reopened his saloon. The Lemke Saloon was also home to a bordello on its top floor, according to owner, Hewitt Hillis. It was also a speakeasy during prohibition, with city hall, police and the fire department housed just across the alley.

Later on this building housed the Parlor Grocery (listed as occupant in 1926) and A.S. Milne meat cutters. The building was purchased from the Lemke family by Joseph Hillis in 1971. The Oregon Equipment Company operated out of this building for decades and the current business tenant is Lines of Designs – Clothing That Fits.

Note: Historical building background and architecture information listed above was not provided with the application and was sourced from the internet by staff to provide context for this project. Most online resources list this building as being built in 1910; however it is listed in a 1997 property inventory for the National Register of Historic Places as being built in 1912. This building is listed as #67 in the historic commercial district secondary classification inventory.

PROJECT DESCRIPTION: The existing awning will be removed and replaced with a new flat awning with guy wire cables similar in construction to the Commodore II building's awning and will include recessed lighting. The removal of the existing awning will expose a plywood and 2x4 wood plug that was put in place when the transom windows were removed. This plug will be taken out and new transom windows will be installed that are similar in style to the original transom windows as shown in historic photos. This will include the transom window over the door located at the east side of the facade.

Finally, the interior drop ceiling just inside the storefront will be beveled up above the new transom windows to allow light in and make the transom windows fully functional. This project will substantially improve the look of this historic downtown building located near a prominent corner, as well as bring back hidden historic features.

Please see the application and attached construction bids and architecture elevations and information for more details on this project.

According to the application, this project will include $39,919 of building façade, building exterior improvements and limited interior work, which is related to the transom windows being added as part of this building façade improvement project.

This project received approval from the City of The Dalles Historic Landmark Commission at its meeting on January 27, 2016.

APPLICATION: The application from Hillis Hew Enterprises, LLC / Hew Hillis was received on July 22, 2016. This application is for an Urban Renewal Façade Improvement Grant of $20,000 to assist with this $39,919 building façade improvement project. The applicant will contribute $19,919, which exceeds the 50% match required for urban renewal grant request amounts of $20,000 or less.

Note: The applicant has already completed the required engineering study. The cost of this study was paid for by the applicant and is not included as a cost in this project's budget, but is part of other monies used by applicant to support this project.

Expected Project Costs

The expected project costs as listed in the application total $39,919.00. Please see the application and attached construction bids for more detailed cost information for this project.

Proposed Fund Sources

Applicant:	$19,919.00
Urban Renewal Grant:	$20,000.00
Total:	**$39,919.00**

These proposed project costs and funding sources are provided by the applicant. Documentation verifying applicant funds must be provided to The Dalles Urban Renewal Agency prior to grant funding, if grant applicant is approved.

BUDGET IMPLICATIONS: This fiscal year there was $200,000 budgeted for new Property Rehabilitation Projects, including façade improvement grants. Thus far, the Agency has approved a total of $83,575.63 with $67,325.63 in grants for façade improvement and $16,250 for Civic Improvement Grants. There is $116,424.37 remaining for future applications.

If this $20,000 grant application is approved, the remaining funds available would be $96,424.37.

AGENCY ALTERNATIVES:

The Urban Renewal Advisory Committee recommends the Agency approve this grant request.

1. Staff recommendation: ***Move to approve the $20,000 Urban Renewal Property Rehabilitation Façade Improvement Grant to Hillis Hew Enterprises, LLC / Hew Hillis to be used for façade improvements, as presented, on the building located at 110 E. 2nd Street, The Dalles, Oregon, with the condition that the applicant provide the following information to staff:***

a. Applicant to provide documentation of match funds availability.

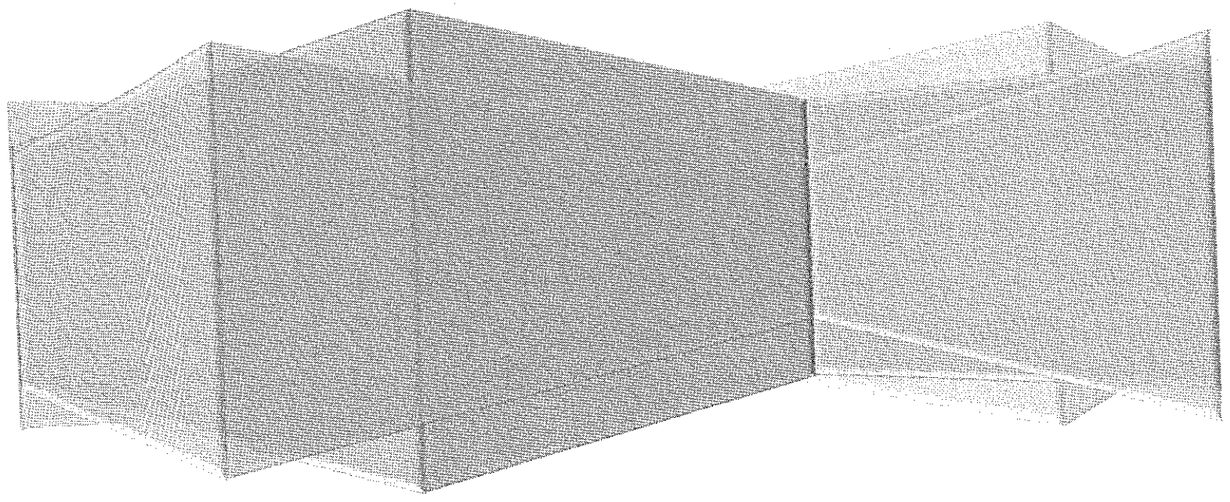
2. Deny the grant request.

APPLICATION

THE DALLES

URBAN RENEWAL AGENCY

PROPERTY REHABILITATION
GRANT AND LOAN PROGRAMS



MAY CONTAIN CONFIDENTIAL INFORMATION

The Dalles Urban Renewal Agency
Property Rehabilitation Grant and Loan Programs
-APPLICATION-

Application Date: 7/15/16 Application Number: _____

PROGRAM APPLYING TO (Check One)

- ☐ Historic Design and Restoration Program
- ☐ Redevelopment of Unused & Underused Property Program
  - ☐ Loan Interest Subsidy Program
  - ☐ Demolition Loan Program
- ☐ Civic Improvements Grant Program
- ■ Façade Improvement Grant Program
  - ☐ Residential Structure

APPLICANT INFORMATION

Applicant Name: Hewitt Hillis

Contact Person: _____

Mailing Address: 1505 W 1st St., The Dalles, OR 97058

Applicant is: Owner ■ Leaser ☐

Phone Number: 541-296-2915 Email: _____

Federal Tax ID or Social Security Number: _____
(Loan & Interest Subsidy Only)

Bank of account and contact:
(Loan & Subsidy Only)

Name of Business: Hillis Hew Enterprises LLC

Business Mailing Address: 1505 W 1st St., The Dalles, OR 97058

The Dalles Urban Renewal Agency
Property Rehabilitation Grant and Loan Programs
-APPLICATION-

Name of Principle: Hewitt Hillis

Site Address	Legal Description
110 E 2nd St., The Dalles OR	1N 13E 3 BC 200

HISTORIC PROPERTY (STAFF USE) YES☐ NO☐ (If yes, requires HLC approval)

PROJECT INFORMATION

Building Age: 1910 Building Square Footage: 15,000

Building Current Use: Retail

Building Planned Use: Retail

Project Description Outline:

The existing awning will be removed and replaced with a new flat awning with guy wire cables similar in construction to the Commodore II's awning and will include recessed lighting within.

The removal of the existing awning will expose a plywood and 2x4 wood plug that was put in place when the transom windows were removed. This plug will be taken out and new transom windows will be installed that are similar in style to the original transom windows as shown in historic photos. This will include the transom window over the door located at the east side of the facade.

Finally, the interior drop ceiling just inside the storefront will be beveled up above the new transom windows to allow light in and make the transom windows fully functional.

This project will substantially improve the look of this historic downtown building located near a prominent corner as well as bring back hidden historic features. It will also contribute to the general streetscape of the downtown. A multitude of projects such as this will have a significant impact on the downtown.

The applicant has already completed the required engineering study for the project and received HLC approval.

The Dalles Urban Renewal Agency
Property Rehabilitation Grant and Loan Programs
-APPLICATION-

EXPECTED PROJECT COSTS

Cost Item/Source:	Est. Cost
Awning fabrication and installation	$ 13,700.00
Demolition, install of steel beams & bracing, framing of windows, trim, lighting, beveling of ceiling	$ 26,219.00
	$
	$
	$
	$
	$
	$
	$
	$
	$
	$
Total Expected Cost	$ 39,919.00

Will there be an anticipated contractor's pre-payment for construction materials prior to the start of the project? YES ■ NO ☐ If yes, list the estimated dollar amount: $ 1/3 for awning, 1/2 for other work
(For Civic Improvement or Façade Improvement Grants only)

The Dalles Urban Renewal Agency
Property Rehabilitation Grant and Loan Programs
-APPLICATION-

PROPOSED SOURCES OF FUNDING (loans)

Source	Amount	Rate	Term	Match
Urban Renewal Loan	$_____			
Equity (applicant)	$_____			
_____Bank	$_____	_____%	_____	

PROPOSED SOURCES OF FUNDING (grants)

Urban Renewal Grant	$20,000.00			
Applicant Match	$19,919.00			
Other Source _____	$_____	_____%	_____	☐
Other Source _____	$_____	_____%	_____	☐
Other Source _____	$_____	_____%	_____	☐
Total	$39,919.00 (Must equal total expected costs)			

Façade Grant Matching Funds:

TIER 1: Request $20,000 or less (50% match) ■
TIER 2: Over $20,000 (100% match) ☐

NOTE: To determine what tier your grant match is in and what your match will need to be, divide your total project costs by three (3); that amount is your match in tier one, unless the balance remaining is higher than $20,000. If that request amount is higher than $20,000 your grant will be tier two. To determine that divide the total project cost by two (2), this amount is your grant request and your match.

EXAMPLE 1: Suppose your total project cost is $22,170. Divide that by three (3) gives you $7,390, this is your required match. The remaining balance is $14,780. This is your grant request, since it is $20,000 or less. Your grant is in tier one. ($7,390 is 50% of $14,780)

EXAMPLE 2: Suppose your total project cost is $45,650. Divide that by three (3) gives you $15,216.66, and the remainder is $30,433.34 which is greater than $20,000. Your grant is tier 2. Divide the total project cost by two (2); $22,825 this is the amount of your grant and your required match.

The Dalles Urban Renewal Agency
Property Rehabilitation Grant and Loan Programs
-APPLICATION-

Applicant hereby certifies that all information contained above and in exhibits attached hereto are true and complete to the best knowledge and belief of the applicant and are submitted for the purpose of allowing the full review by The Dalles Urban Renewal Agency and its agents for the purpose of obtaining the financial assistance requested in this application.

Applicant hereby consents to disclosure of information herein and the attachments as may be deemed necessary by MCEDD and its agents for such review and investigation.

I Hewitt K Wells have read and understood the guidelines of The Dalles Urban Renewal Agency Property Rehabilitation Grant and Loan Programs and agree to abide by its conditions.

Signature and Title if appropriate — Date: 7-20-16

Signature and Title if appropriate — Date

Signature and Title if appropriate — Date

The Following Items Are Required Before A Loan Is Approved Or Grant Project Can Begin:

A. Loans and Grants
1. Certificate of approval from agency (if required).
2. Letter of approval from Historic Landmarks Commission (if required).
3. A summary of the project outlining the work to be done.
4. Complete plans and specifications.
5. Costs estimates or bids from a licensed contractor.
6. Evidence that building permits or any other required permits are in place.
7. Preliminary commitment of any other funds to be used in the project.

B. Loans Only
1. Amount of loan requested and proposed terms being requested.
2. Bank's loan application and any other information the bank requires, such as current financial statements, including balance sheets and income statements.

For Applicants Under The Civil Improvements Grant Program:

The grants will be awarded semi-annually on a competitive basis and based on the selection criteria in your narrative and attach it to this application form. The deadlines for applications are July 31 and January 31 of each year.

Pike AWNING CO

7300 SW LANDMARK LANE PORTLAND, OREGON 97224
(503) 624-5600 | (800) 866-9172 | Fax: (503) 968-5440 | www.pikeawning.com

Date: July 21, 2016

QUOTATION

FROM THE DESK OF: GLENN WONG | glenn@pikeawning.com

SUBMITTED TO:

Lines of Designs
110 E 2nd
The Dalles, OR. 97068

SITE:

Lines of Designs
110 E 2nd
The Dalles, OR.

Attn: Luise Langheinrich **Phone:** 541-296-4470 **Email:**.luise@linesofdesigns.comm

INCLUDES:

1-Stationary c-channel awning complete and installed

Height: 8"
Projection 4'
Width: 25'

Frame: 8" steel c-channel with powder coat finish
Ceiling: Galvanized, corrugated steel roofing with powder coat finish, top and bottom
Upper supports: Threaded steel rods and clevises with a powder coat finish.
Color: Standard colors to be chosen
Graphics: None indicated
Obtain permit

Cost: $13,700.00

Note: The Haffner Consulting Engineering study calls for epoxy anchors and an onsite weld, for the awning attachments. These items are included in the new price but also require a special inspection by an independent consulting provider. As the installer, we cannot order or pay for this service. This has to done by the building owner. Please make sure that Mr Hillis is aware of this, as it will be his responsibility to make these arrangements and co-ordinate with our installers.

EXCLUDES:

Remedial work to the building to support the awning

Total: $13,700.00 **Sales Terms:** 1/3 down and balance due upon completion
Accepted by: _____ **Date:** _____ Price good 90 days

Craftsmanship & Creativity Since 1891

ADAMS CONSTRUCTION

Lemke Building
110 E 2nd St.
The Dalles, OR 97058

Date: 3/21/2016

Proposal #1744

We Hereby submit specifications and estimate for: **Building Façade**

Demolition
> Interior; T-bar ceiling at front of building, 2x6 ceiling joist, plywood and 2x4 pony wall (transom window location).
> Exterior; awning and all components.
Lead paint if found will be handled with lead safe practices. Asbestos has not be detected.

Steel Beams and Bracing
> All materials, fabrication (as per drawings), primer if necessary, instalation, crane and man lift service.

Framing
> Frame as needed window opening for new transom windows.

Windows
> Supply and install (6) window units; each unit consting of (2) 24"x18" and (1) 48" x 30" clear annealed, std. Low-e, insulated glass set in clear anodized storefront metal.

Trim
>Trim interior of windows with MDF flat sock size TBD.

Electric
> Includes materials, labor and permits.
> Remove existing light fixtures and wiring at front of store.
> Remove (2) troff fixtures just inside the store.
> Supply and install (5) LED surface type fixtures in awning.
> At this time owner is not sure about lighting in store, fitures not included, installation provided.

Ceiling
> Install new T-bar ceiling bar angling to top of new transom windows, approximate 8lf from front of store.
> Install existing/ new matching as close as possible 2'x4' ceiling tiles.

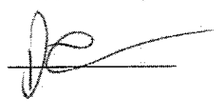
Painting
> Paint all exposed walls above existing ceiling line to new T-bar, blend to match existing.
> Paint new interior trim, color TBD.

Misc
> Clean up and haul away all construction debris.
> Scaffolding needed.
> Building Codes Permit costs.

Total Project Cost: $26,219.00

Any alterations or deviations from work to be performed will involve extra cost of materials and labor above the sum mentioned in this contract which does not include the cost of any permits that may be involved, plumbing, or electrical unless specifically stated in the above proposal. All agreements must be in writing. Note: This proposal may be withdrawn by us if not accepted within 30 days.

Authorized by



TERMS

Cash or check payments require 50% due at time of acceptance. 50% due at time of substantial completion. For convenience purposes Credit Card payments are accepted and require 100% down at time of acceptance.

Total Down $_____ **Check #**_____ **Verification**_____/_____

ACCEPTANCE

You are herby authorized to furnish all materials and labor required to complete the work mentioned in the above proposal, for which

_____ agrees to pay the proposed amount, according to the terms above.

Accepted

Date_____

_____

(541) 296-4242
1215 E. 18th Street • The Dalles, OR 97058
CCB# 160249 • WA# ADAMSCL956JL

HCE JOB #2016-106

NEW CANOPY
LEMKE BUILDING

110 EAST 2ND STREET
THE DALLES, OREGON

1	4
CTH	4-22-16

HAFFNER CONSULTING ENGINEERING

P.O. Box 584 Mosier, OR 97040
Phone & Fax: (541) 478-3052
www.haffnerconsulting.com

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY ALL NEW AND EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS. CONTRACTOR SHALL NOTIFY THE ENGINEER OF SIGNIFICANT DISCREPANCIES PRIOR TO INITIATING ANY RELATED WORK.
2. STRUCTURAL STEEL SHALL BE ASTM A992 (BEAMS), ASTM A36 (MISC. STEEL), ASTM A500 GRADE B (HSS SHAPES), AND ASTM A53 (PIPE).
3. ALL BOLTS AND RODS SHALL BE F1554, GRADE 36.
4. DRILL HOLES INTO EXISTING BRICK WITHOUT IMPACT (ROTARY ONLY). ALL EPOXY SHALL BE SIMPSON AT (ACRYLIC TIE), SIMPSON SET OR SIMPSON ET OR EQUAL WHERE INSTALLING INTO FULL DEPTH BRICK EMBED 8" WITH A SCREEN TUBE. ALL MANUFACTURERS RECOMMENDATIONS SHALL BE STRICTLY FOLLOWED.
5. DRAWINGS TAKE PRECEDENCE OVER CALCULATIONS.
6. THESE STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROPERLY ALIGN AND PROTECT THE STRUCTURE(S) DURING CONSTRUCTION.

REGISTERED PROFESSIONAL ENGINEER
19514PE
OREGON
JULY 16, 1982
CHRISTOPHER HAFFNER

Digitally signed by Christopher Haffner, PE
Date: 2016.04.22 11:34:13 -07'00'

HCE JOB #2016-106

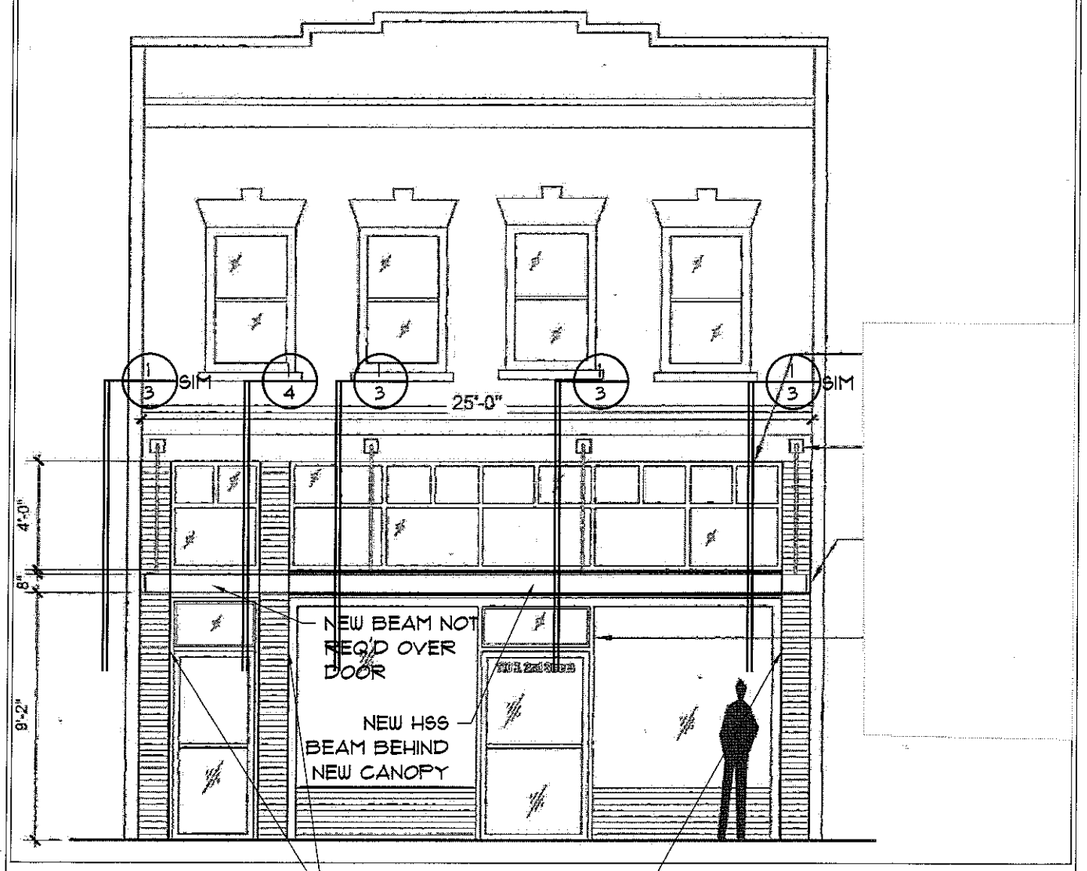
NEW CANOPY
LEMKE BUILDING

110 EAST 2ND STREET
THE DALLES, OREGON

2	4
CTH	4-22-16

HAFFNER CONSULTING ENGINEERING

P.O. Box 584 Mosier, OR 97040
Phone & Fax: (541) 478-3052
www.haffnerconsulting.com



NORTH ELEVATION

BY LRS ARCHITECTS

REGISTERED PROFESSIONAL ENGINEER
19514PE
OREGON
JULY 15, 1987
CHRISTOPHER T. HAFFNER
RENEWS: 6-30-17

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Date: 2016.04.22 11:35:04 -07'00'

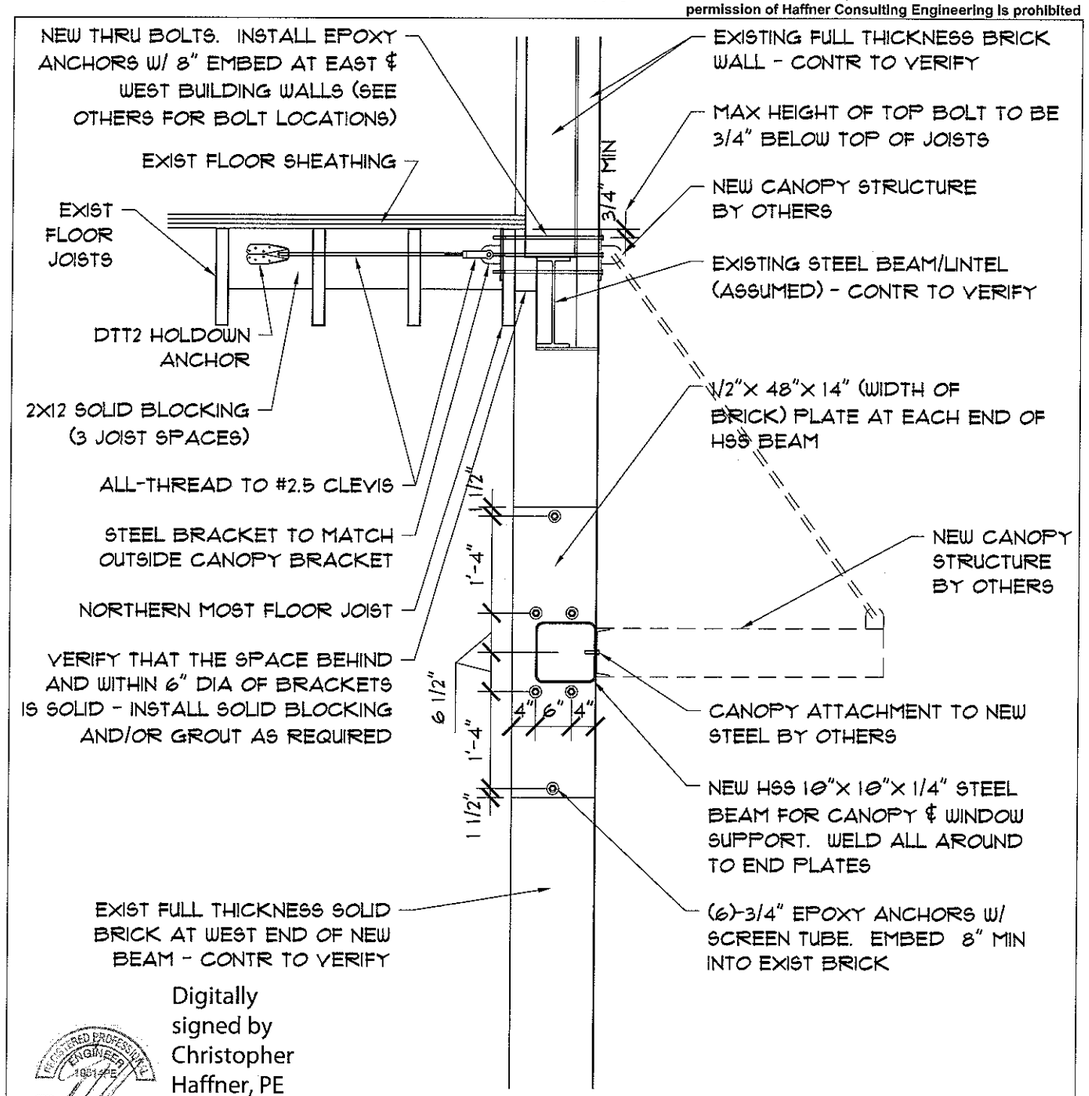
NEW CANOPY
LEMKE BUILDING

110 EAST 2ND STREET
THE DALLES, OREGON

HAFFNER CONSULTING ENGINEERING

P.O. Box 584 Mosier, OR 97040
Phone & Fax: (541) 478-3052
www.haffnerconsulting.com

3	4
CTH	4-22-16



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TYPICAL WALL SECTION 1/3

SCALE: 1/2"= 1'-0"

NEW CANOPY
LEMKE BUILDING

110 EAST 2ND STREET
THE DALLES, OREGON

4	4
CTH	4-22-16

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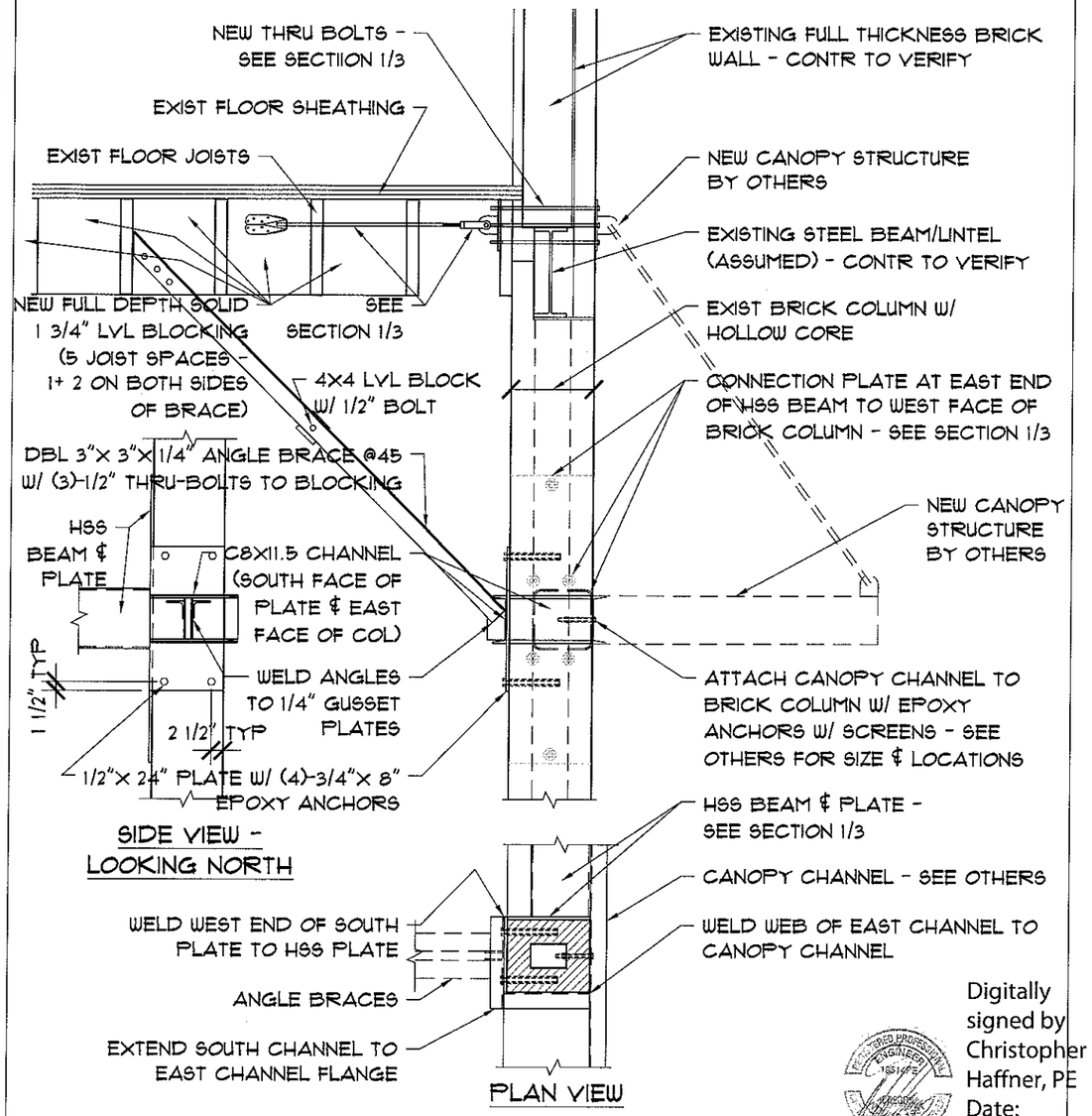

TYPICAL WALL SECTION 1/4

SCALE: 1/2"= 1'-0"

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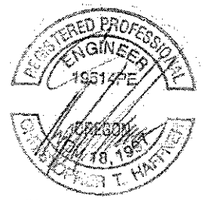
Date: 2016.04.22 11:36:40 07'00'

Job #:	2016-106	Date:
Project:	Lemke Building Canopy	4/16/2016

Haffner Consulting Engineering
www.haffnerconsulting.com
Christopher Haffner, P.E.
2016-106 HCE-Gravity Calcs.xlsx

Structural Design - Cover Page



Digitally signed by Christopher Haffner, PE
Date: 2016.04.22 11:43:44 -07'00'

Client:
Hewitt Hillis

Project Address:
110 E 2nd Street
The Dalles, OR
Latitude: Longitude: Per: www.latlong.net

Governing Jurisdiction:
Oregon Building Codes

Governing Building Code:
2014 Edition of the Oregon Structural Specialty Code (OSSC)

Standards:
See calculations but some of the standards used include the following:

Edition	Standard
2014	ACI 318 - American Concrete Institute Building Code
varies	AF&PA - American Forest & Paper Association
2012	NDS - National Design Specification for Wood Construction
2012	WFCM - Wood Frame Construction Manual
2008	SDPWS - Special Design Provisions for Wind & Seismic
2010	AISC 360 - Steel Construction Manual
varies	AISI S100 - American Iron & Steel Institute (Cold Formed Steel)
varies	AITC - American Institute of Timber Constructions (Glu-Lams)
varies	APA - Engineered Wood Association
2010	ASCE 7 - Minimum Design Loads for Buildings and Other Structures
varies	AWPA - American Wood Protection Association (treated wood)
varies	AWS - American Welding Society
2010	SJI - Steel Joist Institute
varies	WRI - Wire Reinforcement Institute (slab-on-grade foundations)

Project Scope:
structural support of new canopy

Structural Design Concept:
Gravity:
normal transfer of loads from roof through framing to foundation

Lateral:
normal transfer of loads from roof through framing to foundation

Design Assumptions:
Gravity:
Soil values for Site Class, bearing capacity, lateral soil load and lateral coefficient of friction per the Governing Building Code - also see Design Loading and individual calculations

Lateral:
none

P.O. Box 584 Mosier, OR 97040 Phone Fax: 541/478-3052 chris@haffnerconsulting.com

Job #:	2016-106		Date:
Project:	Lemke Canopy		4/16/2016

Haffner Consulting Engineering
HCE-Wind Loads - ASCE 7-10.xlsx

Wind Load Project Information

per ASCE 7-10 Chapter 26

Site

General

Lemke Canopy	Project Name
110 E 2nd	Project Address
The Dalles, OR	City, State

2	Building Risk Category	per ASCE 7 Table 1.5-1
120	Ultimate Wind Speed (mph)	per ASCE 7 Figure 26.5-1A
B	Exposure	per ASCE 7 Section 26.7.3
See 2nd Page	Topographic Factor (K_{zt})	per ASCE 7 Section 26.8
Enclosed	Enclosure Classification	per ASCE 7 Section 26.10

Building

Plan (ft)

↔	26	Maximum Width (left/right on plan) - parallel to main ridge	estimate
↕	100	Maximum Length (up/down on plan) - perpendicular to main ridge	estimate
	26	Minimum (least) horizontal dimension	
	0	Roof Slope (:12)	
↔	26	Width used for wind base shear comparison (left/right on plan)	
↕	100	Length used for wind base shear comparison (up/down on plan)	

Elevations (ft)

2	Stories above base
28	Maximum roof height above base
28	Eave height above base
15	Upper floor elevation above base
0	Main floor elevation above base
0	Lower floor elevation above base
0	Foundation elevation above base
0	Base elevation for wind base shear (top of foundation)
0	Roof height used for wind base shear comparison (max roof height - eave height)
28	Wall height used for wind base shear comparison (eave height - base height)

Job #:	2016-106		Date:
Project:	Lemke Canopy		4/16/2016

Haffner Consulting Engineering
HCE-Wind Loads - ASCE 7-10.xlsx

ASCE 7-10

per Chapter 28 - MWFRS (Envelope Procedure) PART 2: Enclosed Simple Diaphragm Low-Rise Buildings

Building Info

Maximum Roof Height	28	Mean Roof Height	28		
Eave Height Elevation	28	Roof Slope	0	:12	0.0 degrees
Upper Floor Elevation	15	Least Horizontal Dimension	26		
Main Floor Elevation	0	Risk Category - Table 1.5-1	2		
Lower Floor Elevation	0				
Foundation Elevation	0				

Site Info

Basic Wind Speed	120
Exposure	B

Conditions & Limitations (ASCE 7 Section 28.6.2)

1. Simple Diaphragm per 26.2	Yes		OK
2. Low Rise Building per 26.2	28	60' Max	OK
2. Low Rise Building per 26.2		mean ht.<horiz. dim.	NG
3. Enclosed per 26.2	Yes		OK
3. Enclosed per 26.10	Yes		OK
4. Regular Shaped per 26.2	Yes		OK
5.Flexible Building per 26.2 & 26.9.2	No		OK
6. Special Wind Loadings (28.6.2)	No		OK
7. Special Building Conditions (28.6.2)	No		OK
8. Exempt from torsional loads (28.6.2)	Yes		OK

DO NOT use Simplified Wind Load Method

Wind Pressures for Main Windforce-Resisting System (MWFRS) (ASCE 7 - 28.6.3)

ASCE 7 - (28.6-1.1) $p_s=\lambda K_{zt} p_{s30}$

find λ using ASCE 7 - Figure 28.6-1							
		Mean Roof Height =	28				
		15	20	25	30	35	40
x	λ (Exp B)	1.00	1.00	1.00	1.00	1.05	1.09
	λ (Exp C)	1.21	1.29	1.35	1.40	1.45	1.49
	λ (Exp D)	1.47	1.55	1.61	1.66	1.70	1.74
	Use λ =	1.000					

Topographical Factor - find K_{zt} using ASCE 7 - Section 28.8					
find K_1, K_2, & K_3 using ASCE 7 - Section 26.8 and Figure 26.8-1					
Does Topographical Factor apply to this site				No	
	K_1	K_2	K_3	See attached calculations if Topographical Factor applies	
	-	-	-		
K_{zt} =	1.00				

find p_{s30} using ASCE 7 - Figure 28.6-1 **Haffner Consulting Engineering**										
Roof Angle Used	0.0	Roof Angle	0.0	degrees	Wind Speed	Loads - ASCE	120			
	Zone									
Load	A	B	C	D	E	F	G	H	E_{OH}	G_{OH}
Case 1	22.8	-11.9	15.1	-7.0	-27.4	-15.6	-19.1	-12.1	-38.4	-30.1
Case 2										

Main Wind Force Resisting System - PART2: Enclosed Simple Diaphragm Low-Rise Buildings (Net Design Wind Pressure (p_s) using ASCE 7 Eq. 28.6-1 (psf))										
	Zone									
Load	A	B	C	D	E	F	G	H	E_{OH}	G_{OH}
Case 1	22.8	-11.9	15.1	-7.0	-27.4	-15.6	-19.1	-12.1	-38.4	-30.1
Case 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ASD Loading (ultimate ps * 0.6)										
Load	A	B	C	D	E	F	G	H	EOH	GOH
Case 1	13.7	-7.1	9.1	-4.2	-16.4	-9.4	-11.5	-7.3	-23.0	-18.1
Case 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

find 2a using ASCE 7 - Figure 28.6-1, Note 9			
	a		
lesser of 10% of least horiz dim	2.6	min	
or 0.4h	11.2	2.6	
not less than 4% least horiz dim	1.0	max	final a
or 3'	3.0	3.0	3.0

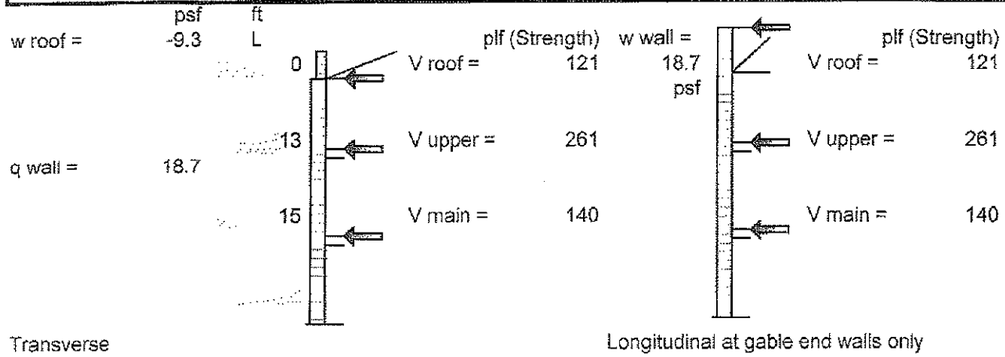
therefore length of Zone A		
2a =	6.0	feet

Uniform Wind Loads - Strength Values (V_{ult})

find uniform wind load on building by averaging A & C, B & D using ASCE 7 - Figure 28.6-1 (based on least						
	A	B	C	D	Wall Avg.	Roof Avg.
Transverse (perp. to gable roof ridge)	22.8	-11.9	15.1	-7.0	18.7	-9.3
Longitudinal (parallel to main ridge)	22.8	-11.9	15.1	-7.0	18.7	-9.3

Uniform Wind Loads - ASD Values

Adjust for ASD Load Combinations (ASCE 7, Section 2.4.1)						
	A	B	C	D	Wall Avg.	Roof Avg.
Transverse (perp. to gable roof ridge)	13.7	-7.1	9.1	-4.2	11.2	-5.6
Longitudinal (parallel to main ridge)	13.7	-7.1	9.1	-4.2	11.2	-5.6

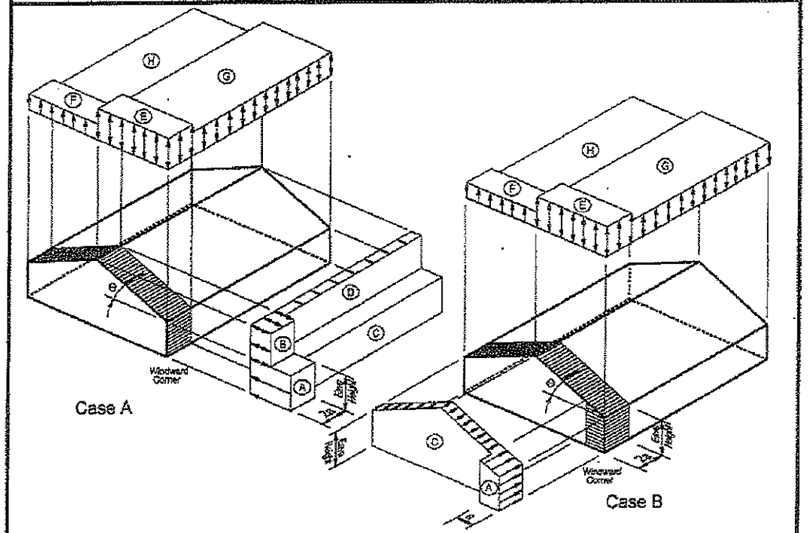


Transverse

Longitudinal at gable end walls only

MINIMUM DESIGN LOADS

Main Wind Force Resisting System – Method 2		h ≤ 60 ft.
Figure 28.6-1	Design Wind Pressures	**Walls & Roofs**
Enclosed Buildings		



Notes:
1. Pressures shown are applied to the horizontal and vertical projections, for exposure B, at h=30 ft (9.1m). Adjust to other exposures and heights with adjustment factor λ.
2. The load patterns shown shall be applied to each corner of the building in turn as the reference corner. (See Figure 28.4-1)
3. For Case B use $\theta = 0°$.
4. Load cases 1 and 2 must be checked for $25° < \theta \leq 45°$. *Load case 2 at 25° is provided only for interpolation between 25° and 30°.
5. Plus and minus signs signify pressures acting toward and away from the projected surfaces, respectively.
6. For roof slopes other than those shown, linear interpolation is permitted.
7. The total horizontal load shall not be less than that determined by assuming $p_s = 0$ in zones B & D.
8. Where zone E or G falls on a roof overhang on the windward side of the building, use E_{OH} and G_{OH} for the pressure on the horizontal projection of the overhang. Overhangs on the leeward and side edges shall have the basic zone pressure applied.
9. Notation:
   a: 10 percent of least horizontal dimension or 0.4h, whichever is smaller, but not less than either 4% of least horizontal dimension or 3 ft (0.9 m).
   h: Mean roof height, in feet (meters), except that eave height shall be used for roof angles <10°.
   θ: Angle of plane of roof from horizontal, in degrees.

ASCE 7-10

CHAPTER 28 WIND LOADS ON BUILDINGS—MWFRS (ENVELOPE PROCEDURE)

Main Wind Force Resisting System – Method 2		h ≤ 60 ft.
Figure 28.6-1 (cont'd)	Design Wind Pressures	**Walls & Roofs**
Enclosed Buildings		

Simplified Design Wind Pressure , p_{S30} (psf) *(Exposure B at h = 30 ft. with I = 1.0)*

Basic Wind Speed (mph)	Roof Angle (degrees)	Load Case	Zones									
			Horizontal Pressures				Vertical Pressures				Overhangs	
			A	B	C	D	E	F	G	H	EOH	GOH
110	0 to 5°	1	19.2	-10.0	12.7	-5.9	-23.1	-13.1	-16.0	-10.1	-32.3	-25.3
	10°	1	21.6	-9.0	14.4	-5.2	-23.1	-14.1	-16.0	-10.8	-32.3	-25.3
	15°	1	24.1	-8.0	16.0	-4.6	-23.1	-15.1	-16.0	-11.5	-32.3	-25.3
	20°	1	26.6	-7.0	17.7	-3.9	-23.1	-16.0	-16.0	-12.2	-32.3	-25.3
	25°	1	24.1	3.9	17.4	4.0	-10.7	-14.6	-7.7	-11.7	-19.9	-17.0
		2	——	——	——	——	-4.1	-7.9	-1.1	-5.1	——	——
	30 to 45	1	21.6	14.8	17.2	11.8	1.7	-13.1	0.6	-11.3	-7.6	-8.7
		2	21.6	14.8	17.2	11.8	8.3	-6.6	7.2	-4.6	-7.6	-8.7
115	0 to 5°	1	21.0	-10.9	13.9	-6.5	-25.2	-14.3	-17.5	-11.1	-35.3	-27.6
	10°	1	23.7	-9.8	15.7	-5.7	-25.2	-15.4	-17.5	-11.8	-35.3	-27.6
	15°	1	26.3	-8.7	17.5	-5.0	-25.2	-16.5	-17.5	-12.6	-35.3	-27.6
	20°	1	29.0	-7.7	19.4	-4.2	-25.2	-17.5	-17.5	-13.3	-35.3	-27.6
	25°	1	26.3	4.2	19.1	4.3	-11.7	-15.9	-8.5	-12.8	-21.8	-18.5
		2	——	——	——	——	-4.4	-8.7	-1.2	-5.5	——	——
	30 to 45	1	23.6	16.1	18.8	12.9	1.8	-14.3	0.6	-12.3	-8.3	-9.5
		2	23.6	16.1	18.8	12.9	9.1	-7.1	7.9	-5.0	-8.3	-9.5
120	0 to 5°	1	22.8	-11.9	16.1	-7.0	-27.4	-15.6	-19.1	-12.1	-38.4	-30.1
	10°	1	25.6	-10.7	17.1	-6.2	-27.4	-16.8	-19.1	-12.9	-38.4	-30.1
	15°	1	28.7	-9.5	19.1	-5.4	-27.4	-17.9	-19.1	-13.7	-38.4	-30.1
	20°	1	31.6	-8.3	21.1	-4.6	-27.4	-19.1	-19.1	-14.5	-38.4	-30.1
	25°	1	28.6	4.6	20.7	4.7	-12.7	-17.3	-9.2	-13.9	-23.7	-20.2
		2	——	——	——	——	-4.8	-9.4	-1.3	-6.0	——	——
	30 to 45	1	25.7	17.6	20.4	14.0	2.0	-15.6	0.7	-13.4	-9.0	-10.3
		2	25.7	17.6	20.4	14.0	9.9	-7.7	8.6	-5.5	-9.0	-10.3
130	0 to 5°	1	26.6	-13.9	17.6	-8.2	-32.2	-16.3	-22.4	-14.2	-45.1	-35.3
	10°	1	30.2	-12.5	20.1	-7.3	-32.2	-19.7	-22.4	-15.1	-45.1	-35.3
	15°	1	33.7	-11.2	22.4	-6.4	-32.2	-21.0	-22.4	-16.1	-45.1	-35.3
	20°	1	37.1	-8.8	24.7	-5.4	-32.2	-22.4	-22.4	-17.0	-45.1	-35.3
	25°	1	33.6	5.4	24.3	5.5	-14.9	-20.4	-10.8	-16.4	-27.8	-25.7
		2	——	——	——	——	-5.7	-11.1	-1.5	-7.1	——	——
	30 to 45	1	30.1	20.6	24.0	16.5	2.3	-18.3	0.8	-15.7	-10.6	-12.1
		2	30.1	20.6	24.0	16.5	11.6	-9.0	10.0	-6.4	-10.6	-12.1
140	0 to 5°	1	31.1	-16.1	20.6	-9.6	-37.3	-21.2	-26.0	-16.4	-52.3	-40.9
	10°	1	35.1	-14.5	23.3	-8.5	-37.3	-22.8	-26.0	-17.5	-52.3	-40.9
	15°	1	39.0	-12.9	26.0	-7.4	-37.3	-24.4	-26.0	-18.6	-52.3	-40.9
	20°	1	43.0	-11.4	28.7	-6.3	-37.3	-26.0	-26.0	-19.7	-52.3	-40.9
	25°	1	39.0	6.9	28.2	6.4	-17.3	-23.6	-12.5	-19.0	-32.3	-27.5
		2	——	——	——	——	-6.6	-12.8	-1.8	-8.2	——	——
	30 to 45	1	35.0	23.9	27.8	19.1	2.7	-21.2	0.9	-18.2	-12.3	-14.0
		2	35.0	23.9	27.8	19.1	13.4	-10.5	11.7	-7.5	-12.3	-14.0
150	0 to 5°	1	36.7	-18.5	23.7	-11.0	-42.9	-24.4	-29.8	-18.9	-60.0	-47.0
	10°	1	40.2	-16.7	26.8	-9.7	-42.9	-26.2	-29.8	-20.1	-60.0	-47.0
	15°	1	44.8	-14.9	29.8	-8.5	-42.9	-28.0	-29.8	-21.4	-60.0	-47.0
	20°	1	49.4	-13.0	32.9	-7.2	-42.9	-29.8	-29.8	-22.6	-60.0	-47.0
	25°	1	44.8	7.2	32.4	7.4	-19.9	-27.1	-14.4	-21.8	-37.0	-31.6
		2	——	——	——	——	-7.5	-14.7	-2.1	-9.4	——	——
	30 to 45	1	40.1	27.4	31.9	22.0	3.1	-24.4	1.0	-20.9	-14.1	-16.1
		2	40.1	27.4	31.9	22.0	15.4	-12.0	13.4	-8.6	-14.1	-16.1

Unit Conversions – 1.0 ft = 0.3048 m; 1.0 psf = 0.0479 kN/m^2

MINIMUM DESIGN LOADS

Main Wind Force Resisting System – Method 2		h ≤ 60 ft.
Figure 28.6-1 (cont'd)	Design Wind Pressures	**Walls & Roofs**
Enclosed Buildings		

Simplified Design Wind Pressure , p_{S30} (psf) *(Exposure B at h = 30 ft.)*

Basic Wind Speed (mph)	Roof Angle (degrees)	Load Case	Zones: Horizontal Pressures A	B	C	D	Vertical Pressures E	F	G	H	Overhangs EOH	GOH
160	0 to 5°	1	40.6	-21.1	28.9	-12.5	-48.8	-27.7	-34.0	-21.5	-68.3	-53.5
	10°	1	45.8	-19.0	30.4	-11.1	-48.8	-29.8	-34.0	-22.9	-68.3	-53.5
	15°	1	51.0	-16.9	34.0	-9.6	-48.8	-31.9	-34.0	-24.3	-68.3	-53.5
	20°	1	56.2	-14.8	37.5	-8.2	-48.8	-34.0	-34.0	-25.8	-68.3	-53.5
	25°	1	60.9	8.2	36.9	8.4	-22.8	-30.8	-16.4	-24.8	-42.1	-95.9
		2	——	——	——	——	-8.6	-16.8	-2.8	-10.7	——	——
	30 to 45	1	45.7	31.2	36.3	25.0	3.6	-27.7	1.2	-23.8	-16.0	-18.3
		2	45.7	31.2	36.3	25.0	17.8	-13.7	15.2	-9.8	-16.0	-18.3
180	0 to 5°	1	51.4	-26.7	34.1	-15.8	-61.7	-35.1	-43.0	-27.2	-86.4	-67.7
	10°	1	58.0	-24.0	38.5	-14.0	-61.7	-37.7	-43.0	-29.0	-86.4	-67.7
	15°	1	64.5	-21.4	43.0	-12.2	-61.7	-40.3	-43.0	-30.8	-86.4	-67.7
	20°	1	71.1	-18.8	47.4	-10.4	-61.7	-43.0	-43.0	-32.5	-86.4	-67.7
	25°	1	64.5	10.4	46.7	10.6	-26.5	-35.0	-20.7	-31.4	-53.3	-45.4
		2	——	——	——	——	-10.9	-21.2	-3.0	-13.6	——	——
	30 to 45	1	57.6	39.5	45.9	31.6	4.4	-35.1	1.5	-30.1	-20.3	-23.2
		2	57.6	39.5	45.9	31.6	22.2	-17.3	19.3	-12.3	-20.3	-23.2
200	0 to 5°	1	63.4	-32.9	42.1	-19.5	-76.2	-43.3	-53.1	-33.5	-106.7	-83.5
	10°	1	71.5	-29.7	47.6	-17.3	-76.2	-46.5	-53.1	-35.8	-106.7	-83.5
	15°	1	79.7	-26.4	53.1	-15.0	-76.2	-49.8	-53.1	-38.0	-106.7	-83.5
	20°	1	87.8	-23.2	58.5	-12.8	-76.2	-53.1	-53.1	-40.2	-106.7	-83.5
	25°	1	79.6	12.8	57.6	13.1	-35.4	-48.2	-25.6	-38.7	-65.9	-56.1
		2	——	——	——	——	-13.4	-26.2	-3.7	-16.6	——	——
	30 to 45	1	71.3	48.8	56.7	39.0	5.5	-43.3	1.8	-37.2	-25.0	-28.7
		2	71.3	48.8	56.7	39.0	27.4	-21.3	23.8	-15.2	-25.0	-28.7

Adjustment Factor for Building Height and Exposure, λ

Mean roof height (ft)	Exposure B	C	D
15	1.00	1.21	1.47
20	1.00	1.29	1.55
25	1.00	1.35	1.61
30	1.00	1.40	1.66
35	1.05	1.45	1.70
40	1.09	1.49	1.74
45	1.12	1.53	1.78
50	1.16	1.56	1.81
55	1.19	1.59	1.84
60	1.22	1.62	1.87

Unit Conversions – 1.0 ft = 0.3048 m; 1.0 psf = 0.0479 kN/m^2

Job #:	2016-106	Date:
Project:	Lemke Building Canopy	4/21/2016

Haffner Consulting Engineering
2016-106 HCE-Gravity Calcs.xlsx

General Loading			
Roof	(D)	15	psf
	(S)	20	psf
Ceiling	(D)	5	psf
	(L)	10	psf
Floor	(D)	10	psf
	(L)	40	psf
Decks	(D)	10	psf
	(L)	40	psf
Balcony	(D)	15	psf
	(L)	60	psf

Canopy Loads: per engineering by Nordling Structural Engineers, LLC
date Feb 2016 for Pike Awning Company
Sheet #3 - see attached

Top Connection at rods to building
max vert load = 1130 #/rod
find the percentage of increase in load to existing beam
w exist (assumed) = (40*3*16) = 1920 plf full width masonry wall
w new = 1130/8.333 = 136 plf
% increase = 136/1920 = 7.1% <10%
therefore by insp say OK

max horiz load = 960 #/rod
drive load to upper floor diaphragm by tying to floor framing w/ DTT2 holdown
cap = 1825 #

Bottom Connection
use load combo of D+S w/o W (conservative)
Fy = use 530 # at 4'-2"o.c. wy = 530/4.17 = 127 plf
Fx = use 960 # at 4'-2"o.c. wx = 960/4.17 = 230 plf
but add wind from winndows above/below
wx = 16 psf (min ASD wind)*(4/2+1+9.17/2) = 121 plf
wx = 351 plf total
see Enercalc by insp beam will be OK under combined loading
Use HSS10x 10x 1/4

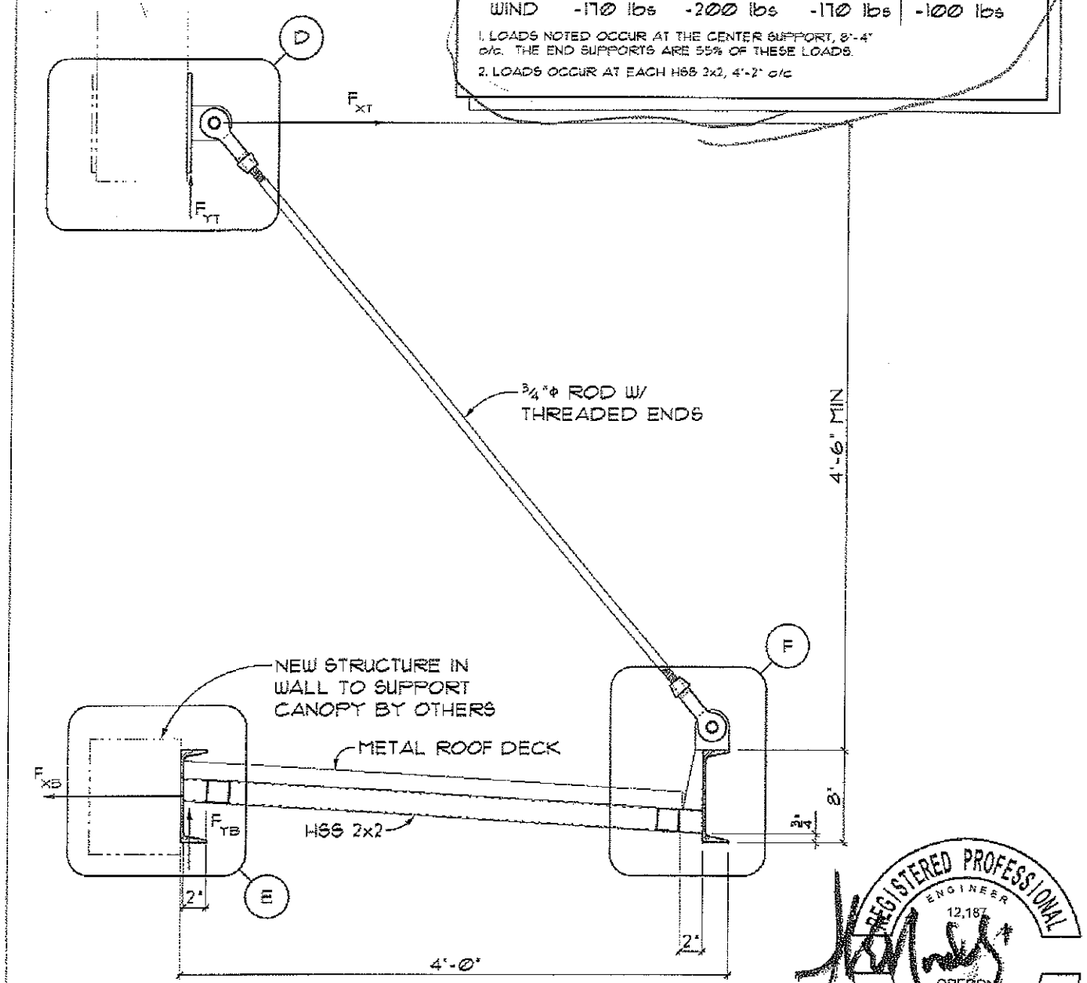
R at ends = 4.8 k Rx
2 k Ry
combined shear = 5.2 k
AT anchor cap = 1000 # in URM walls/columns at east/west end of new beam
need 6 3/4" dia anchors see attached design info

brace at column to floor
Fx = 4.8 k
F = P brace = 6.8 k 45 degrees)
Lu = 8 ft max
see Enercalc

ENGINEER OF RECORD TO REVIEW FRAMING FOR LOADS IMPOSED BY AWNINGS:

	F_{XT} (1)	F_{YT} (1)	F_{XB} (1)	F_{YB} (2)
SNOW	960 lbs	1,130 lbs	960 lbs	530 lbs
WIND	-170 lbs	-200 lbs	-170 lbs	-100 lbs

1. LOADS NOTED OCCUR AT THE CENTER SUPPORT, 8'-4" o/c. THE END SUPPORTS ARE 55% OF THESE LOADS.
2. LOADS OCCUR AT EACH HSS 2x2, 4'-2" o/c



B CANOPY SECTION

REGISTERED PROFESSIONAL ENGINEER 12,187 OREGON JULY 15, 1983 JOHN E. NORDLING

EXPIRES: 12/31/16

NORDLING STRUCTURAL ENGINEERS, LLC
6775 SW 111th, Suite 200 · Beaverton OR, 97008

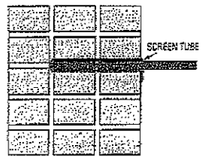
Proj. No.: 16-077
LINES OF DESIGNS
CHANNEL AWNING
PIKE AWNING COMPANY
Date: FEB 2016 By: JHW Sheet No.: 3

AT Design Information — Masonry

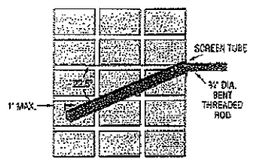
AT Allowable Tension and Shear Loads for Installations in Unreinforced Brick Masonry Walls — Minimum URM Wall Thickness is 13" (3 wythes thick)

Rod/Rebar Dia./Size in. (mm)	Drill Bit Dia. in.	Embed. Depth in. (mm)	Min. Edge/End Dist. in. (mm)	Min. Vertical Spacing Dist. in. (min)	Min. Horiz. Spacing Dist. in. (mm)	Tension Load Based on URM Strength: Minimum Net Mortar Strength = 50 psi: Allowable lb. (kN)	Shear Load Based on URM Strength: Minimum Net Mortar Strength = 50 psi: Allowable lb. (kN)
Configuration A (Simpson Strong-Tie® ATS or ATSP Screen Tube Required)							
¾ (19.1)	1	8 (203)	24 (610)	18 (457)	18 (457)	—	1,000 (4.4)
#5 (15.9)	1	8 (203)	24 (610)	18 (457)	18 (457)	—	750 (3.3)
#6 (19.1)	1	8 (203)	24 (610)	18 (457)	18 (457)	—	1,000 (4.4)
Configuration B (Simpson Strong-Tie ATS or ATSP Screen Tube Required)							
¾ (19.1)	1	13 (330)	16 (406)	18 (457)	24 (610)	1,200 (5.3)	1,000 (4.4)
Configuration C (Simpson Strong-Tie ATS Screen Tube and AST Steel Sleeve Required)							
⅝ (15.9)	1	**	24 (610)	18 (457)	18 (457)	1,200 (5.3)	750 (3.3)

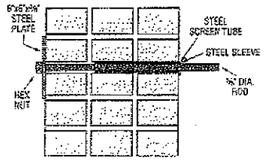
1. Threaded rods must comply with ASTM F1554 Grade 36 minimum.
2. All holes are drilled with a 1" diameter carbide-tipped drill bit with the drill set in the rotation-only mode. *
3. The unreinforced brick walls must have a minimum thickness of 13 inches (three wythes of brick).
4. The allowable load is applicable only where in-place shear tests indicate minimum net mortar strength of 50 psi.
5. The allowable load for Configuration B and C anchors subjected to a combined tension and shear load is determined by assuming a straight-line relationship between allowable tension and shear.
6. The anchors installed in unreinforced brick walls are limited to resisting seismic or wind forces only.
7. Configuration A has a straight threaded rod or rebar embedded 8 inches into the wall with a 5½" diameter by 8-inch long screen tube (part # ATS758 or ATS758P). This configuration is designed to resist shear loads only.
8. Configuration B has a ¾" threaded rod bent and installed at a 22.5-degree angle and installed 13 inches into the wall, to within 1-inch (maximum) of the exterior wall surface. This configuration is designed to resist tension and shear loads. The pre-bent threaded rod is installed with a 5⅛" diameter by 13-inch long screen tube (part # ATS7513 or ATS7513P).
9. Configuration C is designed to resist tension and shear forces. It consists of a ⅝" diameter, ASTM F1554 Grade 36 threaded rod and an 8" long steel sleeve (part # AST800) and a 5⅛" diameter by 8-inch long screen tube (part # ATS758). The steel sleeve has a plastic plug in one end. A 6" by 6" by ⅜" thick ASTM A 36 steel plate is located on the back face of the wall.
10. Special inspection requirements are determined by local jurisdiction and must be confirmed by the local building official.
11. Refer to in-service temperature sensitivity chart for allowable load adjustment for temperature.



Configuration A (Shear)



Configuration B (Tension & Shear)



Configuration C (Tension & Shear)

AT Allowable Tension and Shear Loads for Threaded Rod Anchors in Lightweight, Medium-Weight and Normal-Weight Hollow CMU

Rod Dia. in. (mm)	Drill Bit Dia. in.	Embed. Depth in. (mm)	Critical Edge Dist. in. (mm)	Critical Spacing Dist. in. (mm)	8-inch Hollow CMU Allowable Loads Based on CMU Strength: Tension: Ultimate lb. (kN)	Tension: Allowable lb. (kN)	Shear: Ultimate lb. (kN)	Shear: Allowable lb. (kN)
Anchor Installed in Face Shell with Simpson Strong-Tie ATSP (Plastic) Screen Tube								
⅜ (9.5)	9/16	3½ (88.9)	12 (305)	8 (203)	1,545 (6.9)	310 (1.4)	1,385 (6.2)	275 (1.2)
½ (12.7)	¾	3½ (88.9)	12 (305)	8 (203)	1,510 (6.7)	300 (1.3)	1,305 (5.8)	260 (1.2)
⅝ (15.9)	⅞	3 (76.2)	12 (305)	8 (203)	1,590 (7.1)	320 (1.4)	1,345 (6.0)	270 (1.2)

1. Threaded rods must comply with ASTM F1554 Grade 36 minimum.
2. The tabulated allowable loads are based on a safety factor of 5.0 for installations under the IBC and IRC.
3. Edge distances may be reduced to 4" with a corresponding 37% reduction in tension capacity. Shear capacity is unaffected.
4. Values for 8-inch wide, lightweight, medium-weight and normal-weight concrete masonry units with min. compressive strength of 1,900 psi and 1 ¼" thick face shell.
5. Embedment depth is measured from the outside face of the concrete masonry unit.
6. Refer to in-service temperature sensitivity chart for allowable load adjustment for temperature.
7. Set drill to rotation-only mode when drilling into hollow CMU.

* See page 12 for an explanation of the load table icons.

Installation Instructions for Configuration C

1. Drill hole perpendicular to the wall to a depth of 8" with a 1" diameter carbide-tipped drill bit (rotation only mode).
2. Clean hole with oil-free compressed air and a nylon brush.
3. Fill 8" steel screen tube with mixed adhesive and insert into hole.
4. Insert steel sleeve slowly into screen tube (adhesive will displace).
5. Allow adhesive to cure (see cure schedule).
6. Drill through plastic plug in (inside) end of steel sleeve with ⅝" bit.
7. Drill completely through the wall with ⅝" carbide tipped concrete drill bit (rotation mode only).
8. Insert ⅝" rod through hole and attach metal plate and nut.

Title :
Dsgnr:
Description :

Job #
Date: 5:24PM, 16 APR 16

Scope :

Steel Beam Design

Description Bottom Connection - Fx -

General Information

Code Ref: AISC 9th ASD, 1997 UBC, 2003 IBC, 2003 NFPA 5000

Steel Section : HS10X10X1/4

			Fy	36.00 ksi
		Pinned-Pinned	Load Duration Factor	1.00
Center Span	25.00 ft	Bm Wt. Added to Loads	Elastic Modulus	29,000.0 ksi
Left Cant.	0.00 ft	LL & ST Act Together		
Right Cant	0.00 ft			
Lu : Unbraced Length	25.00 ft			

Distributed Loads

Note! Short Term Loads Are WIND Loads.

	#1	#2	#3	#4	#5	#6	#7	
DL								k/ft
LL								k/ft
ST	0.351							k/ft
Start Location								ft
End Location								ft

Summary

Beam OK
Short Term Load Case Governs Stress

Using: HS10X10X1/4 section, Span = 25.00ft, Fy = 36.0ksi
End Fixity = Pinned-Pinned, Lu = 25.00ft, LDF = 1.000

	Actual	Allowable		
Moment	29.800 k-ft	50.940 k-ft	Max. Deflection	-0.820 in
fb : Bending Stress	12.636 ksi	21.600 ksi	Length/DL Defl	4,586.1 : 1
fb / Fb	**0.585 : 1**		Length/(DL+LL Defl)	365.9 : 1
Shear	4.768 k	67.104 k		
fv : Shear Stress	1.023 ksi	14.400 ksi		
fv / Fv	**0.071 : 1**			

Force & Stress Summary

<<-- These columns are Dead + Live Load placed as noted -->>

	Maximum	DL Only	LL @ Center	LL+ST @ Center	LL @ Cants	LL+ST @ Cants	
Max. M +	29.80 k-ft	2.38		29.80			k-ft
Max. M -							k-ft
Max. M @ Left							k-ft
Max. M @ Right							k-ft
Shear @ Left	4.77 k	0.38		4.77			k
Shear @ Right	4.77 k	0.38		4.77			k
Center Defl.	-0.820 in	-0.065	0.000	-0.820	0.000	0.000	in
Left Cant Defl	0.000 in	0.000	0.000	0.000	0.000	0.000	in
Right Cant Defl	0.000 in	0.000	0.000	0.000	0.000	0.000	in
...Query Defl @	0.000 ft	0.000	0.000	0.000	0.000	0.000	in
Reaction @ Left	4.77	0.38		4.77			k
Reaction @ Rt	4.77	0.38		4.77			k

Fa calc'd per Eq. E2-2, K*L/r > Cc
Appdx B, Tube, in-Plane Slenderness Recalculated

Description Bottom Connection - Fx -

Section Properties HS10X10X1/4

Depth	10.000 in	Weight	30.43 #/ft
Web Thick	0.233 in	Ixx	141.000 in4
Width	10.000 in	Iyy	141.000 in4
Flange Thick	0.233 in	Sxx	28.300 in3
Area	8.96 in2	Syy	28.300 in3
Rt	0.000 in	R-xx	3.970 in
Values for LRFD Design....		R-yy	3.970 in
J	220.000 in4	Zx	32.700 in3
Cw	44.40 in6	Zy	32.700 in3

Title :
Dsgnr:
Description :

Job #
Date: 5:24PM, 16 APR 16

Scope :

Steel Beam Design

Description Bottom Connection - Fy -

General Information

Code Ref: AISC 9th ASD, 1997 UBC, 2003 IBC, 2003 NFPA 5000

Steel Section : HS10X10X1/4

			Fy	36.00 ksi
		Pinned-Pinned	Load Duration Factor	1.00
Center Span	25.00 ft	Bm Wt. Added to Loads	Elastic Modulus	29,000.0 ksi
Left Cant.	0.00 ft	LL & ST Act Together		
Right Cant	0.00 ft			
Lu : Unbraced Length	25.00 ft			

Distributed Loads

Note! Short Term Loads Are WIND Loads.

	#1	#2	#3	#4	#5	#6	#7	
DL								k/ft
LL								k/ft
ST	0.127							k/ft
Start Location								ft
End Location								ft

Summary

Beam OK
Short Term Load Case Governs Stress

Using: HS10X10X1/4 section, Span = 25.00ft, Fy = 36.0ksi
End Fixity = Pinned-Pinned, Lu = 25.00ft, LDF = 1.000

	Actual	Allowable		
Moment	12.300 k-ft	50.940 k-ft	Max. Deflection	-0.338 in
fb : Bending Stress	5.215 ksi	21.600 ksi	Length/DL Defl	4,586.1 : 1
fb / Fb	**0.241 : 1**		Length/(DL+LL Defl)	886.6 : 1
Shear	1.968 k	67.104 k		
fv : Shear Stress	0.422 ksi	14.400 ksi		
fv / Fv	**0.029 : 1**			

Force & Stress Summary

<<-- These columns are Dead + Live Load placed as noted -->>

	Maximum	DL Only	LL @ Center	LL+ST @ Center	LL @ Cants	LL+ST @ Cants	
Max. M +	12.30 k-ft	2.38		12.30			k-ft
Max. M -							k-ft
Max. M @ Left							k-ft
Max. M @ Right							k-ft
Shear @ Left	1.97 k	0.38		1.97			k
Shear @ Right	1.97 k	0.38		1.97			k
Center Defl.	-0.338 in	-0.065	0.000	-0.338	0.000	0.000	in
Left Cant Defl	0.000 in	0.000	0.000	0.000	0.000	0.000	in
Right Cant Defl	0.000 in	0.000	0.000	0.000	0.000	0.000	in
. .Query Defl @	0.000 ft	0.000	0.000	0.000	0.000	0.000	in
Reaction @ Left	1.97	0.38		1.97			k
Reaction @ Rt	1.97	0.38		1.97			k

Fa calc'd per Eq. E2-2, K*L/r > Cc
Appdx B, Tube, In-Plane Slenderness Recalculated

Description Bottom Connection - Fy -

Section Properties HS10X10X1/4

Depth	10.000 in	Weight	30.43 #/ft
Web Thick	0.233 in	Ixx	141.000 in4
Width	10.000 in	Iyy	141.000 in4
Flange Thick	0.233 in	Sxx	28.300 in3
Area	8.96 in2	Syy	28.300 in3
Rt	0.000 in	R-xx	3.970 in
Values for LRFD Design....		R-yy	3.970 in
J	220.000 in4	Zx	32.700 in3
Cw	44.40 in6	Zy	32.700 in3

Title :
Dsgnr:
Description :

Job #
Date: 9:02PM, 21 APR 16

Scope :

Steel Column

Description column brace - C5x9 or LL2x2x3/16

General Information

Code Ref: AISC 9th ASD, 1997 UBC, 2003 IBC, 2003 NFPA 5000

Steel Section	LL2X2X3/16X3/4	Fy	36.00 ksi	X-X Sidesway :	Restrained
		Duration Factor	1.330	Y-Y Sidesway :	Restrained
Column Height	8.000 ft	Elastic Modulus	29,000.00 ksi		
End Fixity	Pin-Pin	X-X Unbraced	8.000 ft	Kxx	1.000
Live & Short Term Loads Combined		Y-Y Unbraced	8.000 ft	Kyy	1.000

Loads

Axial Load...

Dead Load	k	Ecc. for X-X Axis Moments	0.000 in
Live Load	k	Ecc. for Y-Y Axis Moments	0.000 in
Short Term Load	6.80 k		

Summary

Column Design OK

Section : LL2X2X3/16X3/4, Height = 8.00ft, Axial Loads: DL = 0.00, LL = 0.00, ST = 6.80k, Ecc. = 0.000in
Unbraced Lengths: X-X = 8.00ft, Y-Y = 8.00ft

Combined Stress Ratios	Dead	Live	DL + LL	DL + ST + (LL if Chosen)
AISC Formula H1 - 1				
AISC Formula H1 - 2				0.1655
AISC Formula H1 - 3				

Stresses

Allowable & Actual Stresses	Dead	Live	DL + LL	DL + Short
Fa : Allowable	0.00 ksi	0.00 ksi	0.00 ksi	0.00 ksi
fa : Actual	0.00 ksi	0.00 ksi	0.00 ksi	4.76 ksi
Fb:xx : Allow [F1-6]	23.76 ksi	0.00 ksi	23.76 ksi	23.76 ksi
Fb:xx : Allow [F1-7] & [F1-8]	23.76 ksi	0.00 ksi	23.76 ksi	23.76 ksi
fb : xx Actual	0.00 ksi	0.00 ksi	0.00 ksi	0.00 ksi
Fb:yy : Allow [F1-6]	23.76 ksi	0.00 ksi	23.76 ksi	23.76 ksi
Fb:yy : Allow [F1-7] & [F1-8]	23.76 ksi	0.00 ksi	23.76 ksi	23.76 ksi
fb : yy Actual	0.00 ksi	0.00 ksi	0.00 ksi	0.00 ksi

Analysis Values

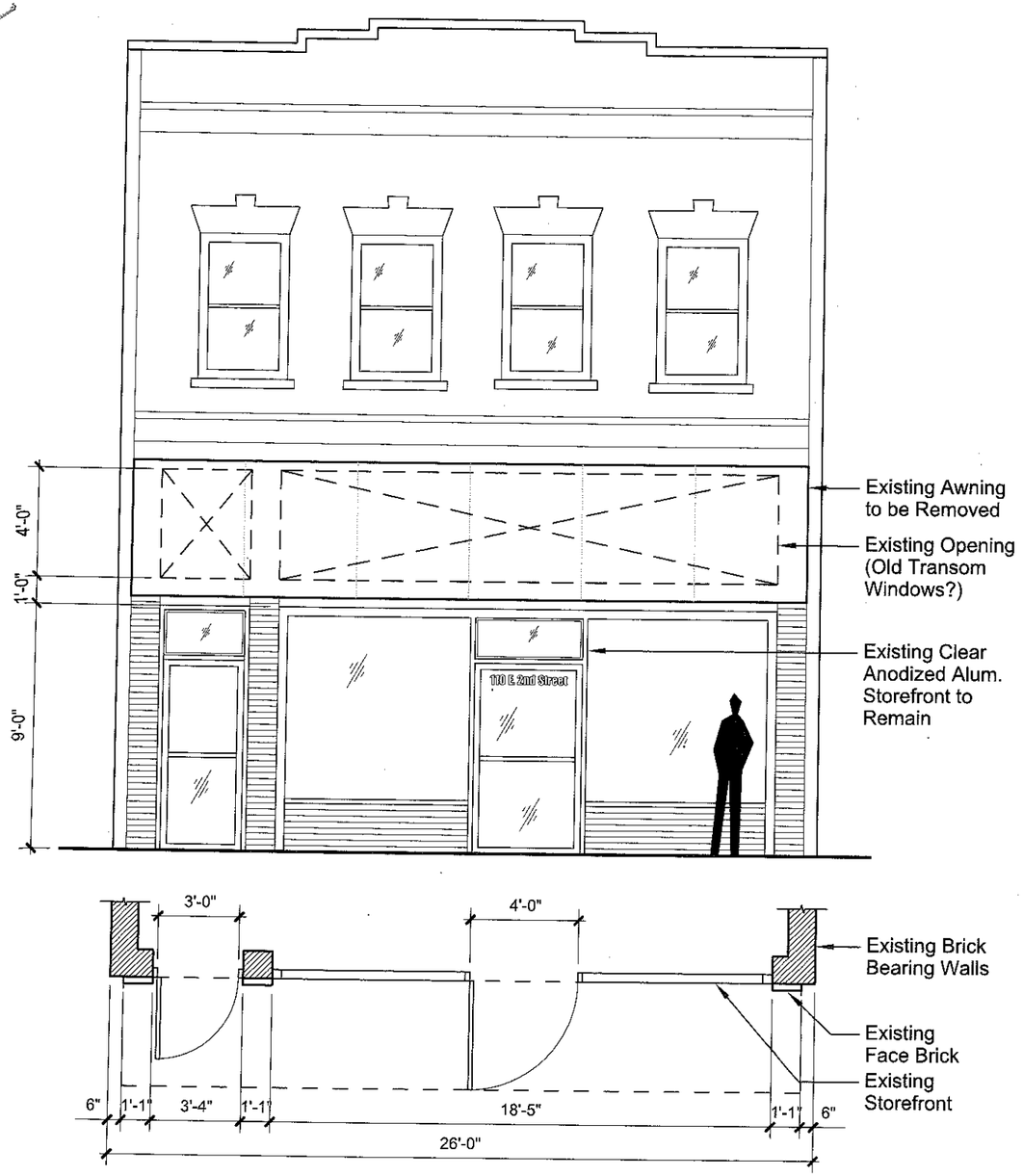
F'ex : DL+LL	6,175 psi	Cm:x DL+LL	0.60	Cb:x DL+LL	1.00
F'ey : DL+LL	20,690 psi	Cm:y DL+LL	0.60	Cb:y DL+LL	1.00
F'ex : DL+LL+ST	8,213 psi	Cm:x DL+LL+ST	0.60	Cb:x DL+LL+ST	1.00
F'ey : DL+LL+ST	27,518 psi	Cm:y DL+LL+ST	0.60	Cb:y DL+LL+ST	1.00

Max X-X Axis Deflection 0.000 in at 0.000 ft Max Y-Y Axis Deflection 0.000 in at 0.000 ft

Section Properties LL2X2X3/16X3/4

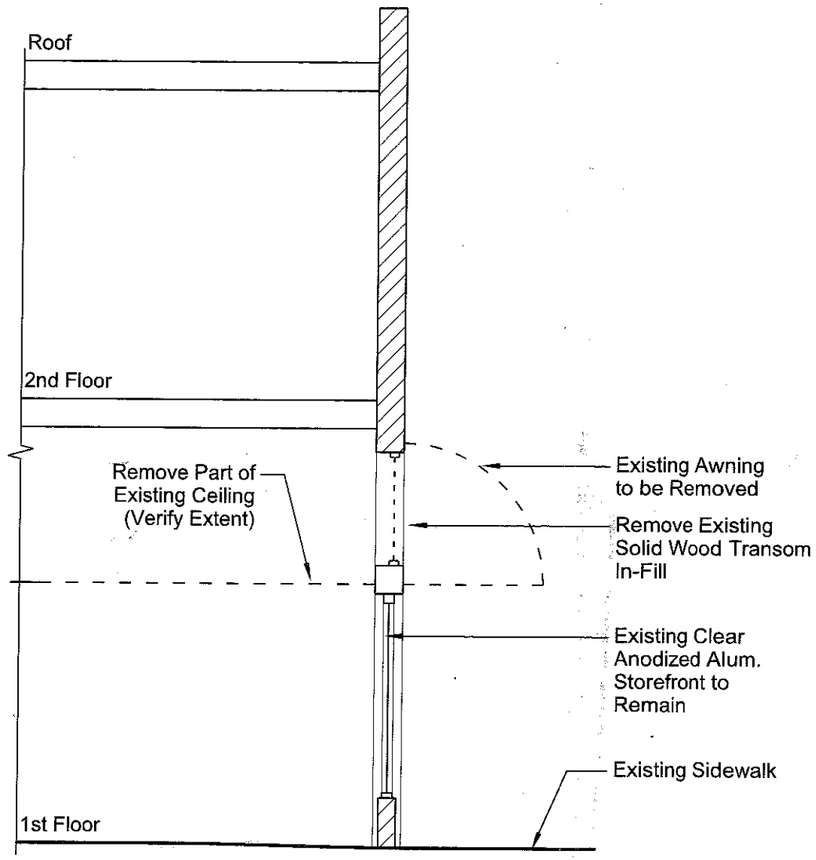
Depth	2.000 in	Weight	4.86 #/ft	Values for LRFD Design....	
Thickness	0.188 in	Ixx	0.545 in4	J	
Width	2.000 in	Iyy	1.826 in4		0.00
		Sxx	0.381 in3	Zx	
Area	1.43 in2	Syy	0.769 in3	Zy	
Angle Spacing	0.750 in	Rxx	0.617 in		0.000
		Ryy	1.130 in		

Section Type = LL-Equal



1. North Elevation

Scale: 3/16" = 1'-0" (PDF Not To Scale)



2. Existing Wall Section

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Portland, OR 97209 www.lrsarchitects.com

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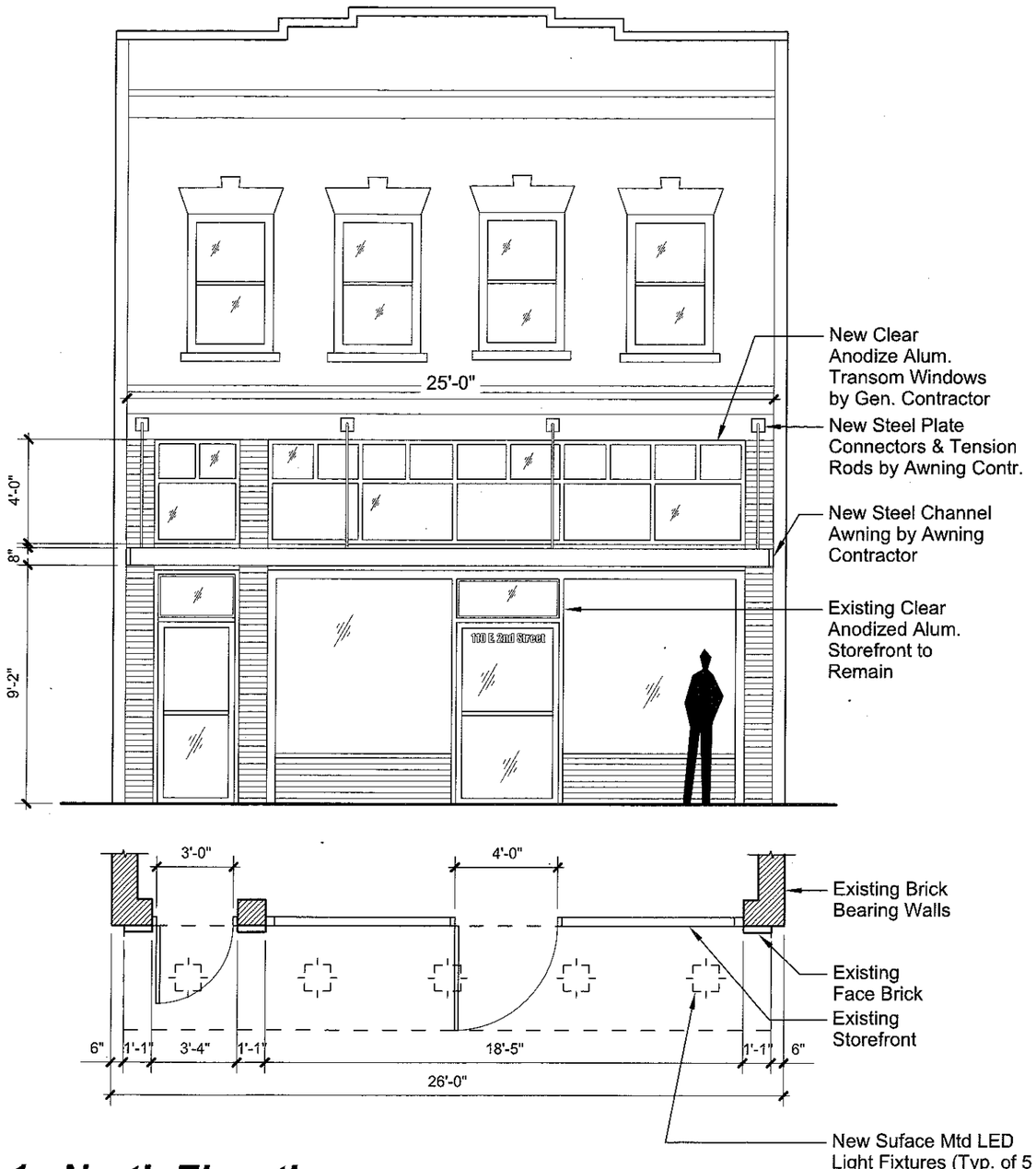
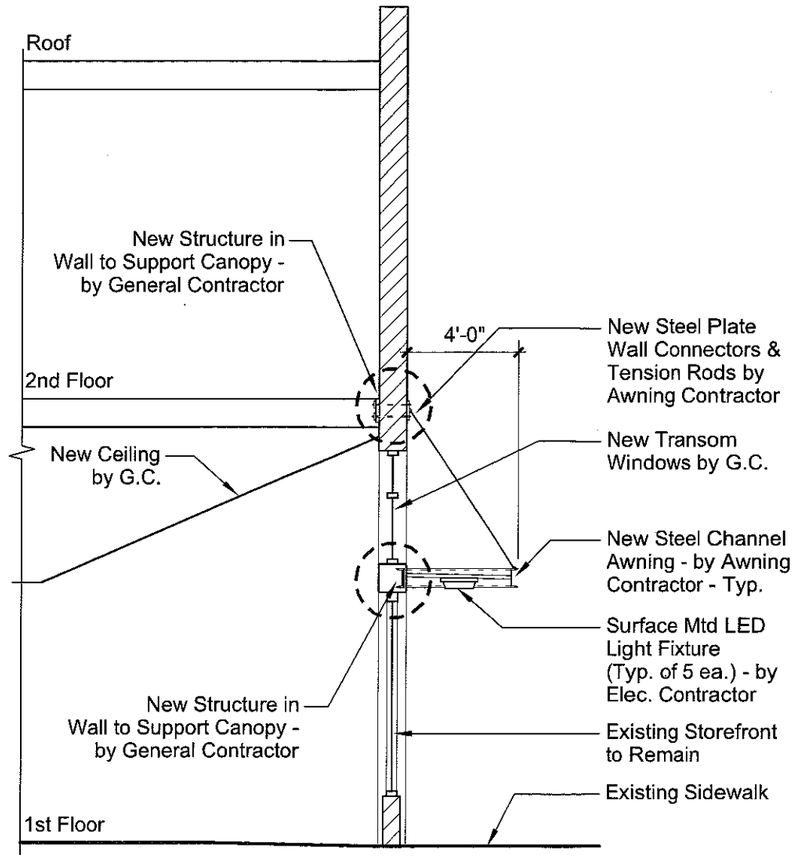
PROJECT NUMBER:	***215xxx***	***A1***
DATE ISSUED:	***09.16.15***	



1. North Elevation

Scale: 3/16" = 1'-0" (PDF Not To Scale)



2. Wall Section

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PROJECT NUMBER: *215xxx*

DATE ISSUED: *09.16.15*

SHEET: ***A2***