

PRCTI20230325


Approval of submitted plans is not an approval of omissions or oversight by this office or noncompliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable building codes and regulations of the local government.

THE APPROVED CONSTRUCTION PLANS AND ALL ENGINEERING MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION.

Engineer will review the site and provide a field report to the contractor; provide this report for City inspector review at framing inspection prior to cover.

City of Puyallup
Building
REVIEWED
FOR
COMPLIANCE

RayC
05/11/2023
12:57:47 PM




Submittal Documents

Library Book Locker Anchorage

Project

Puyallup Library

Location

Puyallup, WA

Contractor

Lamb Contracting

Project #: 2329

3/7/23

Prepared by:

Structural Works, PLLC
1412 Beach Drive NE, Tacoma, WA

REVO



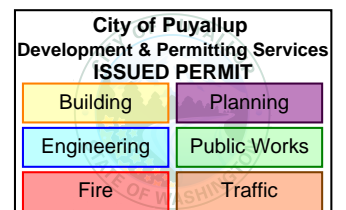
03/07/2023

City of Puyallup Development & Permitting Services ISSUED PERMIT	
Building	Planning
Engineering	Public Works
Fire	Traffic



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Basis for Design

BUILDING CODE:

2018 EDITION OF THE INTERNATIONAL BUILDING CODE SUPPLEMENTED BY THE ASCE 7-16

MATERIAL SPECIFICATIONS:

PLATE, ANGLE, MISC. STEEL SHAPES: ASTM A36 (Fy = 36,000 PSI)

BOLTS: ASTM A325

WELDING SHALL BE PERFORMED BY QUALIFIED WELDERS HAVING CURRENT WELDING CERTIFICATES. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE PORTION OF THE CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION OF THE AWS. WELDING SHALL BE PERFORMED USING A SHIELDED ARC PROCESS USING APPROVED ELECTRODES CONFORMING TO AWS SPECIFICATION E70XX (LOW HYDROGEN).

28-DAY COMPRESSIVE STRENGTH OF CONCRETE ASSUMED TO BE 3,000 PSI

COLD FORMED STEEL SHALL BE GRADE 50 FOR 16 GA OR HEAVIER AND GRADE 33 FOR 18 GA AND LIGHTER.

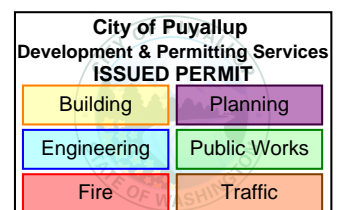
SHEET METAL SCREWS SHALL CONFORM TO ICC REPORT ESR-1408

BOLT/STRUT NUT TORQUE (IF NOT SUPPLIED BY THE MANUFACTURER):

3/8" DIA: 19 FT-LBS

1/2" DIA: 50 FT-LBS

5/8" DIA: 100 FT-LBS

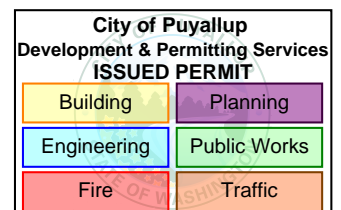


Basis for Design (cont.)

SCOPE OF WORK:

THE SUPPORTING STRUCTURE IS BEYOND THE SCOPE OF THIS SUBMITTAL. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SUBMIT THESE CALCULATIONS AND ASSOCIATED DOCUMENTS TO THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION TO ANALYZE THE ABILITY OF THE SUPPORTING STRUCTURE TO ACCOMMODATE THE REACTIONS FROM THE CONNECTIONS SPECIFIED IN THIS SUBMITTAL. EQUIPMENT DIMENSIONS USED IN CALCULATIONS ARE BASED ON EQUIPMENT DATA SHEETS ATTACHED. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS. THIS SET OF CALCULATIONS IS BASED ON THE LOADS AND ASSUMPTIONS STATED WITHIN THIS SUBMITTAL. CONTRACTOR PROCEEDS AT THEIR OWN FABRICATION/INSTALLATION RISK PRIOR TO FINAL APPROVED SUBMITTAL. IF THE LOADS AND ASSUMPTIONS ARE NOT CORRECT THIS SUBMITTAL SHALL BE REVISED. FOR ANY SPECIAL INSPECTIONS REQUIRED REFER TO ISAT DRAWINGS/DETAILS AND BASIS FOR DESIGN FOR APPLICABLE ESR REPORT(S).

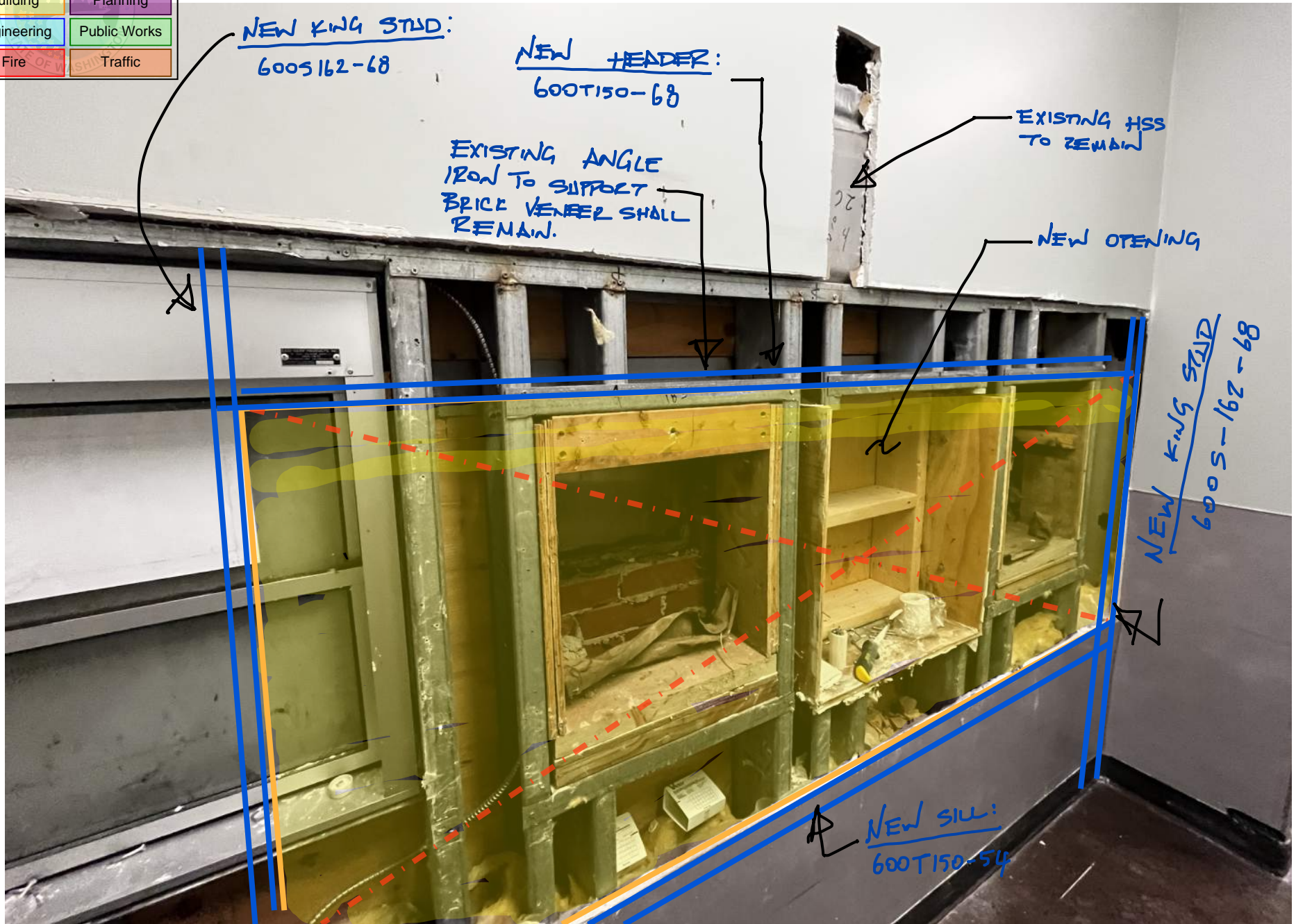
ALL STRUCTURAL STEEL AND ANCHORS EXPOSED TO WEATHER, MOIST CONDITIONS OR CHEMICAL ATTACK SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL OR TREATED FOR CORROSION RESISTANCE PER PROJECT SPECIFICATIONS. FASTENER HOLES SHALL BE MAXIMUM 1/16" DIA. LARGER THAN BOLT DIAMETER. DOES NOT APPLY TO VERTICAL ONLY SUPPORTS, USE WASHERS AS NECESSARY FOR OVERSIZED HOLES. IF HOLES ARE OVERSIZED, THE FASTENERS OR ANCHORS CAN BE MODIFIED BY WELDING A 1/4" THICK 1 5/8" SQUARE WASHER TO THE MOUNTING HOLE WITH A 3/16" FILLET WELD APPLIED TO A MINIMUM OF (2) SIDES OF THE WASHER, BY FILLING VOID WITH EPOXY OR JB WELD PART NUMBER 8265S PRIOR TO PLACEMENT OF WASHER OR BY USE OF NEOPRENE GROMMETS. WHERE EQUIPMENT IS ANCHORED TO A HOUSE KEEPING PAD, ATTACHMENT OF PAD TO SLAB TO BE ADDRESSED BY OTHERS. WHERE ANCHORS ARE INSTALLED IN HKP TOTAL CONCRETE THICKNESS INCLUDES EXISTING SLAB THICKNESS.





Details

City of Puyallup Development & Permitting Services ISSUED PERMIT	
Building	Planning
Engineering	Public Works
Fire	Traffic



NEW KING STUD:
 600S162-68

NEW HEADER:
 600T150-68

EXISTING ANGLE
 IRON TO SUPPORT
 BRICK VENEER SHALL
 REMAIN.

EXISTING HSS
 TO REMAIN

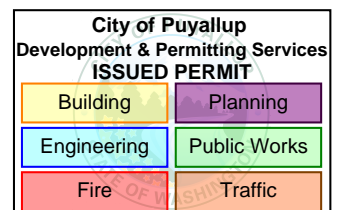
NEW OPENING

NEW KING STUD
 600S-162-68
 89-291-5009

NEW SILL:
 600T150-54



Calculations



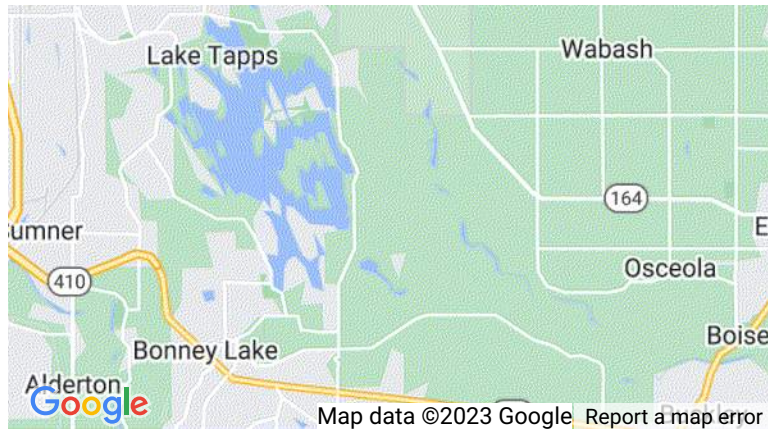
⚠ This is a beta release of the new ATC Hazards by Location website. Please [contact us](#) with feedback.

i The ATC Hazards by Location website will not be updated to support ASCE 7-22. [Find out why.](#)

ATC Hazards by Location

Search Information

Address: 324 S Meridian, Puyallup, WA 98371, USA
Coordinates: 47.1895629, -122.2954369
Elevation: 47 ft
Timestamp: 2023-03-07T19:39:33.202Z
Hazard Type: Seismic
Reference Document: ASCE7-16
Risk Category: II
Site Class: D-default



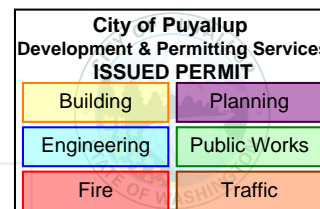
Basic Parameters

Name	Value	Description
S _S	1.272	MCE _R ground motion (period=0.2s)
S ₁	0.438	MCE _R ground motion (period=1.0s)
S _{MS}	1.526	Site-modified spectral acceleration value
S _{M1}	* null	Site-modified spectral acceleration value
S _{DS}	1.018	Numeric seismic design value at 0.2s SA
S _{D1}	* null	Numeric seismic design value at 1.0s SA

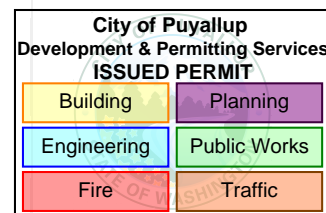
* See Section 11.4.8

Additional Information

Name	Value	Description
SDC	* null	Seismic design category
F _a	1.2	Site amplification factor at 0.2s



F_v	* null	Site amplification factor at 1.0s
CR_S	0.914	Coefficient of risk (0.2s)
CR_1	0.898	Coefficient of risk (1.0s)
PGA	0.5	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	0.6	Site modified peak ground acceleration
T_L	6	Long-period transition period (s)
SsRT	1.272	Probabilistic risk-targeted ground motion (0.2s)
SsUH	1.392	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.438	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.487	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)



* See Section 11.4.8

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Please note that the ATC Hazards by Location website will not be updated to support ASCE 7-22. [Find out why.](#)

Disclaimer

Hazard loads are provided by the U.S. Geological Survey [Seismic Design Web Services](#).

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ASCE 7-16 (IBC 2018) WIND: BUILDING DATA:

Basic Wind Speed = 115 MPH
Exposure = B
Building Roof Height H = 30 ft
Component Shape = Square
Component Height h = 18 ft
Component Width W = 8 ft
Component Depth D = 8 ft

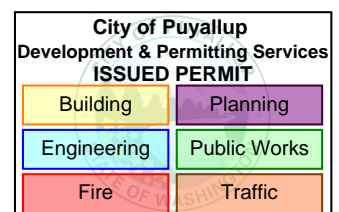
WIND CHECK

Design Wind Load on Other Components

$F = q_z G C_f A_f$
 $q_z = .00256 K_z K_{zt} K_d V^2$
Ht. z at the centroid of area $A_f = 4$ ft
Exposure coefficient $K_z = 0.7$
Topography factor $K_{zt} = 1.00$ 26.8.1
Directionality factor $K_d = 0.85$
 $q_z = 20.14$ psf
Gust Effect factor $G = 0.85$
 $h/D = 2.25$
Force coeff $C_f = 1.321$ Table 29.5-1
Design wind pressure, $F/A_f = 22.62$ psf

x0.6 for ASD
Design wind pressure, $F/A_f = 13.57$ psf

USE 20PSF IN
CALCULATIONS



SEISMIC

$$F_p = \frac{0.4 \times S_{DS} \times \alpha_p}{R_p / I_p} \times \left(1 + 2 \frac{z}{h}\right) \times w_p$$

$$S_{DS} = 1.02 \quad \alpha_p = 1.0 \quad R_p = 2.5$$

$$z/h = 0 \quad I_p = 1.0$$

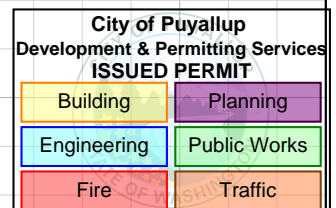
$$F_p = \frac{0.4 \times 1.02 \times 1.0}{2.5 / 1.0} \times (1 + 2 \times 0) = 0.163 \times w_p$$

$$F_{p_{wind}} = 0.3 \times S_{DS} \times I_p \times w_p$$

$$F_{p_{wind}} = 0.3 \times 1.02 \times 1.0 \times w_p = 0.31 w_p \leftarrow \underline{\text{GOVERNS}}$$

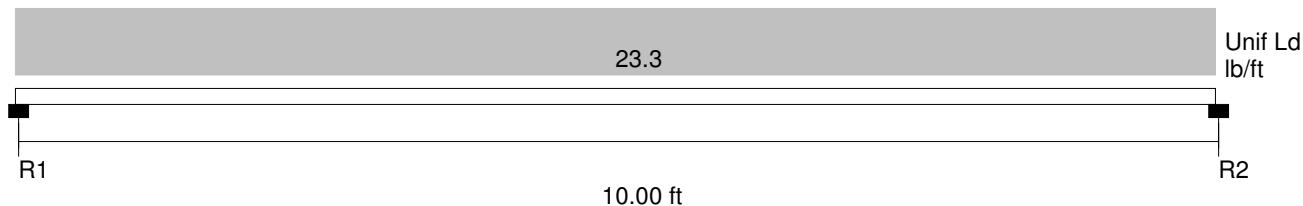
$$F_p = 400 \times 0.31 = 124 \text{ LBS}$$

WIND GOVERNS.





Project: CFS Standards
Model: Header Type 2



Section : 600T150-54 Built-Up (X-X Axis)

Maxo = 1519.8 Ft-Lb

Moment of Inertia, I = 2.400 in⁴

Fy = 50.0 ksi

Va = 2728.3 lb

Loads have not been modified for strength checks

Loads have not been modified for deflection calculations

Flexural and Deflection Check

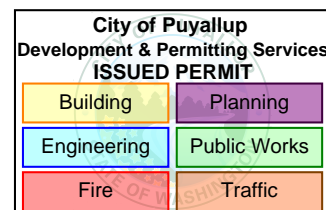
Span	Mmax Ft-Lb	Mmax/ Maxo	Mpos Ft-Lb	Bracing (in)	Ma(Brc) Ft-Lb	Mpos/ Ma(Brc)	Deflection (in)	Ratio
Center Span	291.7	0.192	291.7	None	333.6	0.874	0.074	L/1618

Combined Bending and Web Crippling

Reaction or Pt Load	Load P(lb)	Brng (in)	Pa (lb)	Mmax (Ft-Lb)	Intr. Value	Stiffen Req'd ?
R1	116.7	1.00	443.4	0.0	0.32	No
R2	116.7	1.00	443.4	0.0	0.32	No

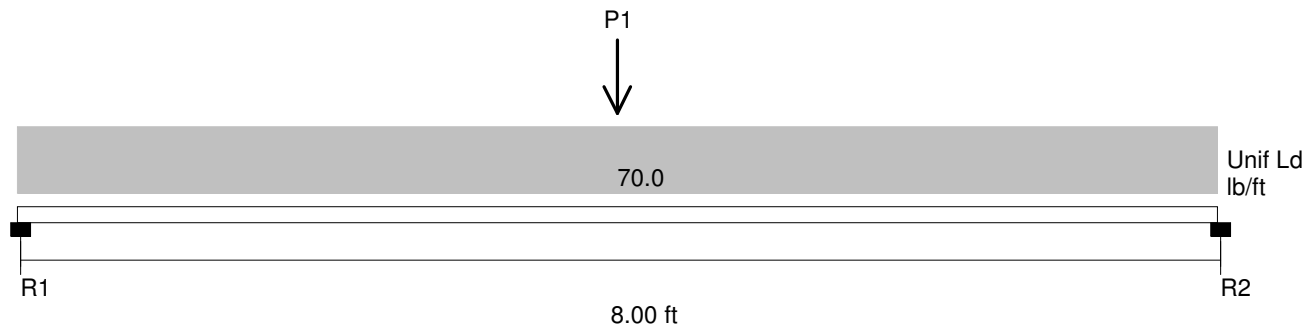
Combined Bending and Shear

Reaction or Pt Load	Vmax (lb)	Mmax (Ft-Lb)	Va Factor	V/Va	M/Ma	Intr. Unstiffen	Intr. Stiffen
R1	116.7	0.0	1.00	0.04	0.00	0.00	NA
R2	116.7	0.0	1.00	0.04	0.00	0.00	NA





Project: CFS Standards
Model: 20PSF Lateral Load - 10ft Opening



Point Loads **P1**
Load(lb) 400
X-Dist.(ft) 4.00

Section : 600S162-68 Single C Stud (X-X Axis)
Maxo = 3288.8 Ft-Lb **Moment of Inertia, I =** 3.525 in⁴

Fy = 50.0 ksi
Va = 5350.3 lb

Loads have not been modified for strength checks
Loads have not been modified for deflection calculations

Flexural and Deflection Check

Span	Mmax Ft-Lb	Mmax/ Maxo	Mpos Ft-Lb	Bracing (in)	Ma(Brc) Ft-Lb	Mpos/ Ma(Brc)	Deflection (in)	Ratio
Center Span	1360.0	0.414	1360.0	72	1958.9	0.694	0.133	L/722

Combined Bending and Web Crippling

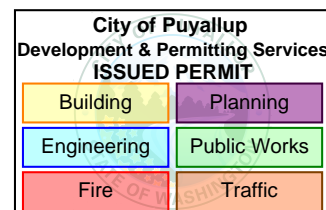
Reaction or Pt Load	Load P(lb)	Brng (in)	Pa (lb)	Mmax (Ft-Lb)	Intr. Value	Stiffen Req'd ?
R1	480.0	1.50	1031.0	0.0	0.56	No
R2	480.0	1.50	1031.0	0.0	0.56	No
P1	400.0	3.50	2596.0	1360.0	0.60	No

Combined Bending and Shear

Reaction or Pt Load	Vmax (lb)	Mmax (Ft-Lb)	Va Factor	V/Va	M/Ma	Intr. Unstiffen	Intr. Stiffen
R1	480.0	0.0	1.00	0.09	0.00	0.01	NA
R2	480.0	0.0	1.00	0.09	0.00	0.01	NA
P1	200.6	1360.0	1.00	0.04	0.41	0.17	NA

Combined Bending and Axial Load

Span	Axial Ld (lb)	Bracing (in) KyLy	KtLt	Max KL/r	Allow Ld (lb)	P/Pa	Intr. Value
Center Span	476.0 (c)	None	None	171	2699.1 (c)	0.18	0.88





Appendix

City of Puyallup Development & Permitting Services ISSUED PERMIT	
Building	Planning
Engineering	Public Works
Fire	Traffic

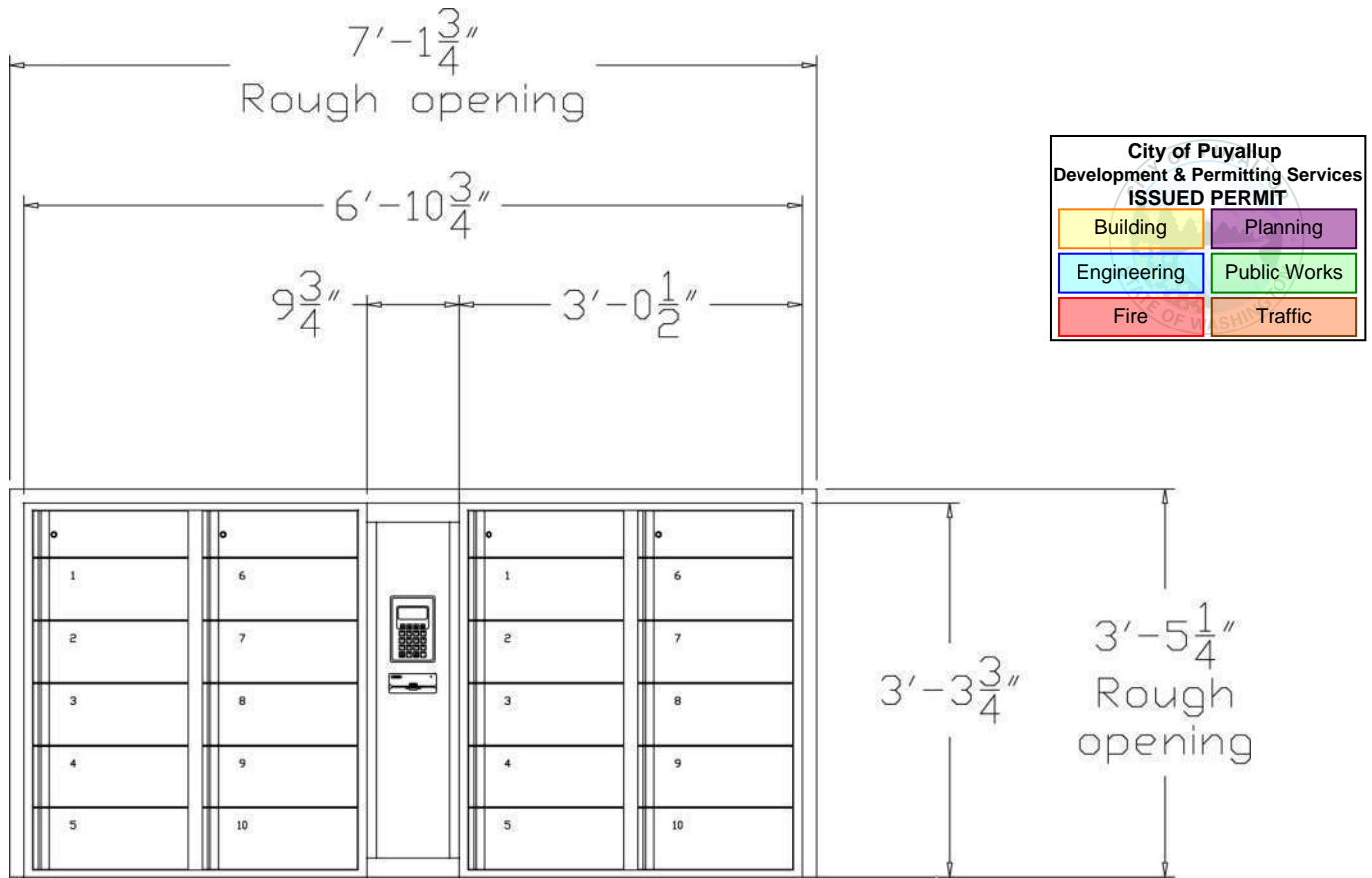
Configuration and System Drawings:

Based on the current solicitation the following equipment and services will be provided.

System Design and Dimensions: 20-Door System Graphic

- 1 wirelessly accessed, web enabled controller with LCD interface w/ card reader in the computer kiosk
- 2 [LKR-10D-MD] 10 Door Medium Passthrough Lockers
- 1 wireless router
- 1 barcode reader

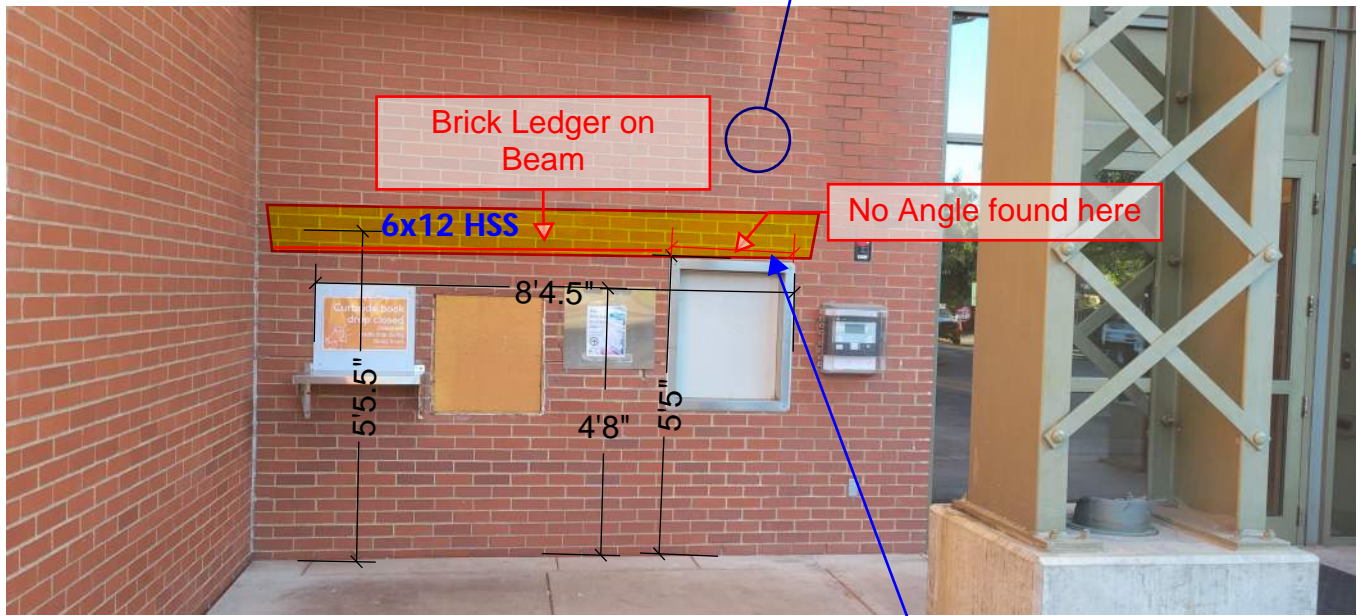
Freight – local / common carrier (inside delivery)



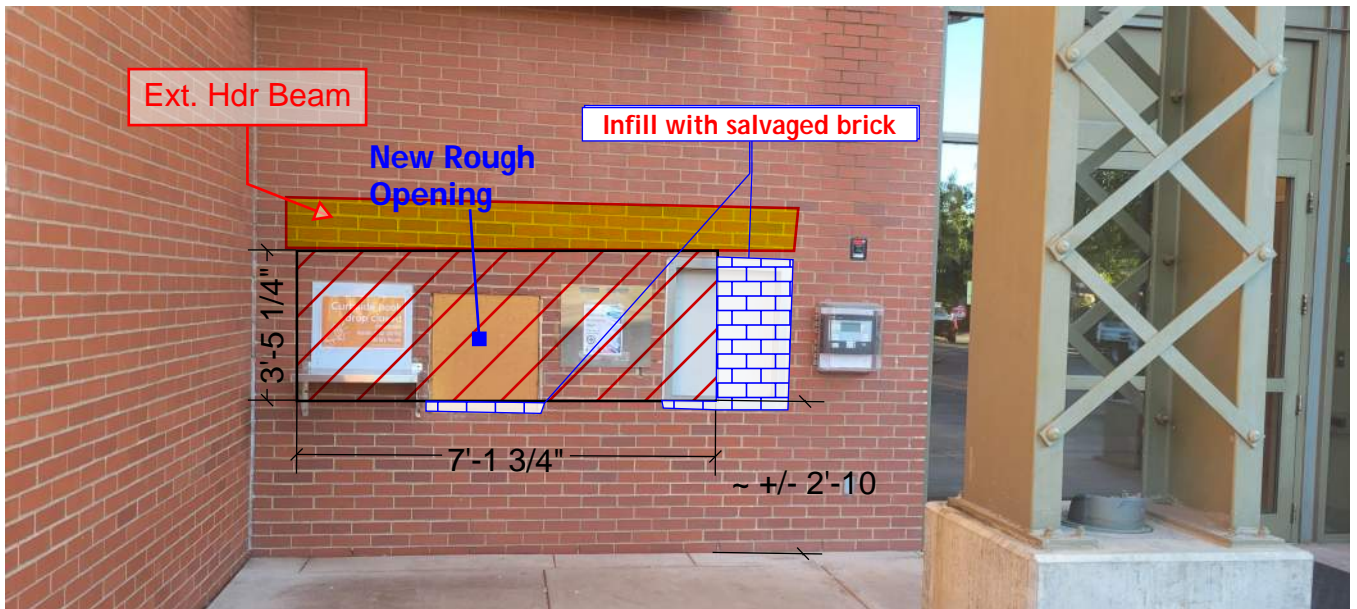
The 2-10-door modules, computer kiosk and pedestals extend 17.5 inches from the back to the front

2' - 0"

No signs of settling



Possible solution:
Weld angle to header where missing
prior to brick in-fill if necessary



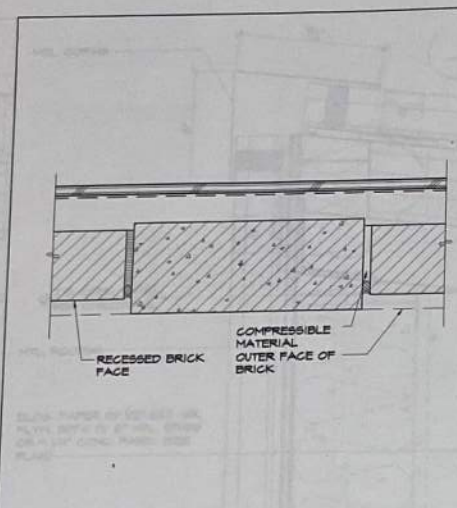
City of Puyallup Development & Permitting Services ISSUED PERMIT	
Building	Planning
Engineering	Public Works
Fire	Traffic

Drawn By: _____
Checked: _____
Approved: _____

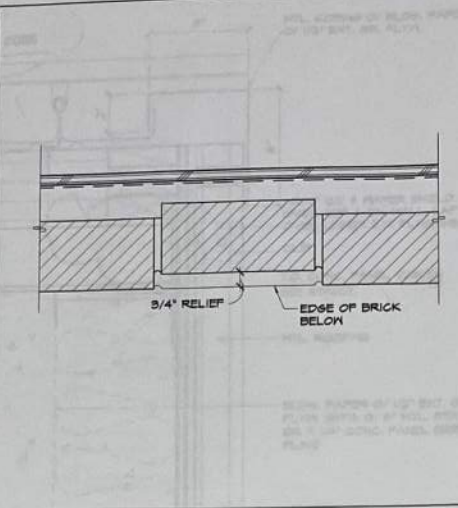
3589 REGISTERED ARCHITECT
ROSS D. JAMIESON
STATE OF WASHINGTON

**City of Puyallup
Development & Permitting Services
ISSUED PERMIT**

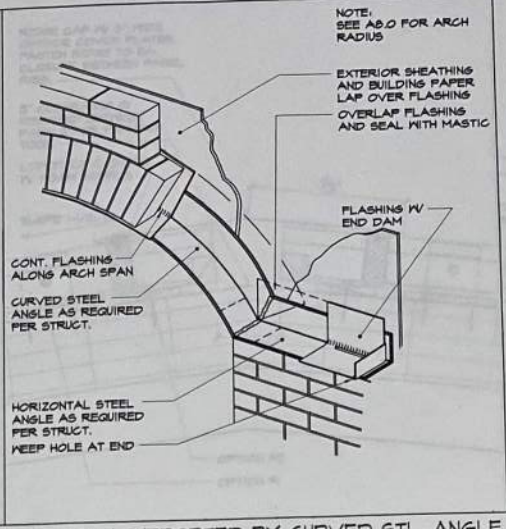
Building	Planning
Engineering	Public Works
Fire	Traffic



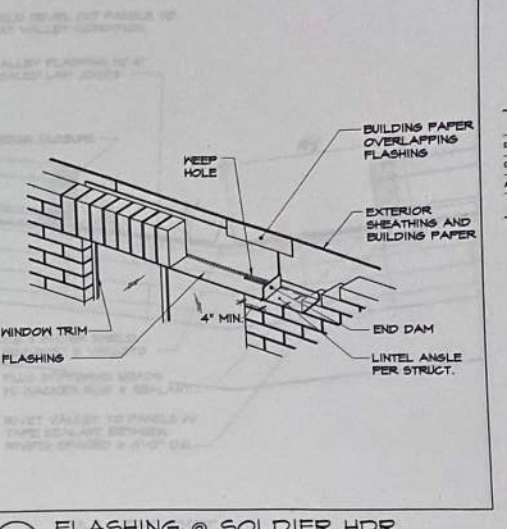
4 PRECAST PILASTER STRIP
SCALE: 3"=1'-0"
D-EX-22



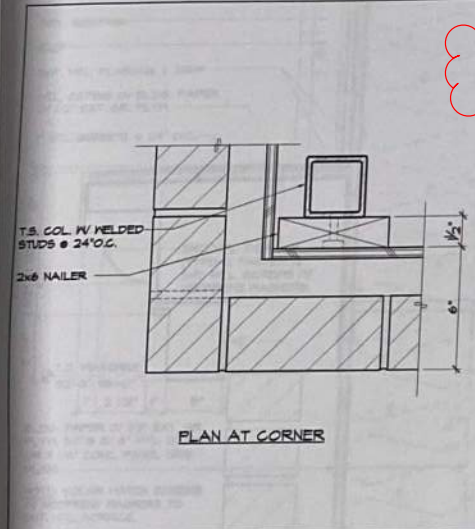
7 BRICK RELIEF @ CLOCK TOWER
SCALE: 3"=1'-0"
D-EX-24



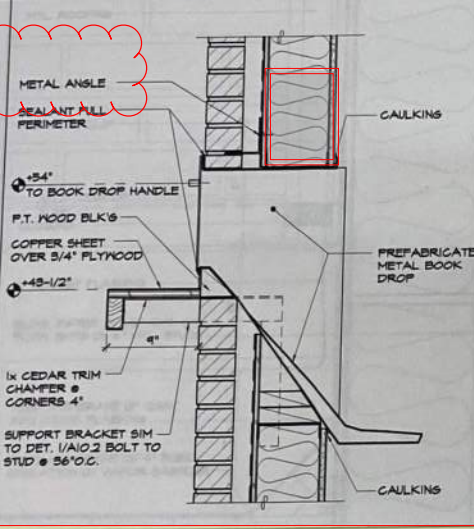
10 ARCH SUPPORTED BY CURVED STL. ANGLE
SCALE: N.T.S.
D-EX-21



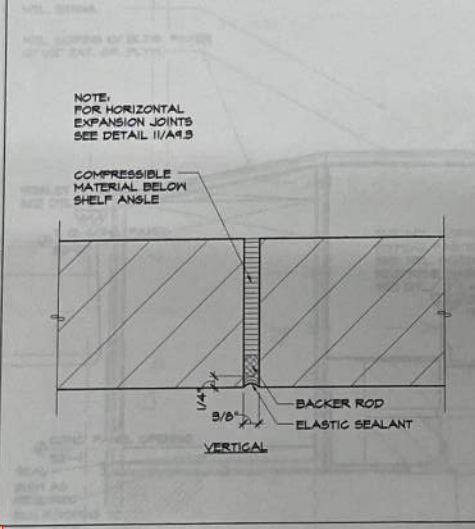
13 FLASHING @ SOLDIER HDR
SCALE: N.T.S.
D-EX-25



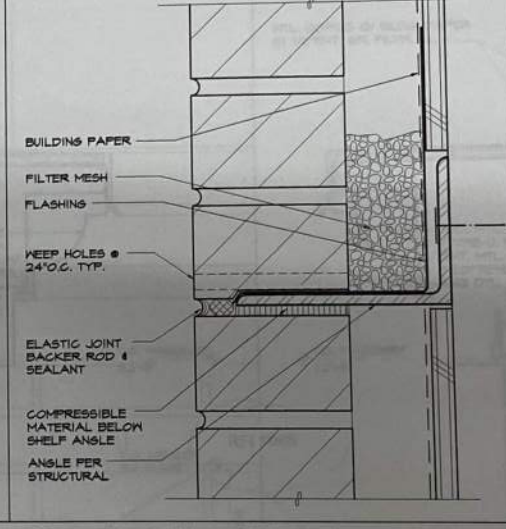
2 PLAN @ CORNER
SCALE: 3"=1'-0"
D-EX-24



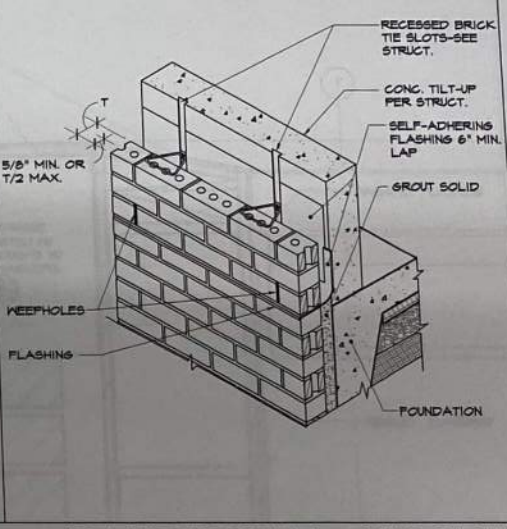
5 BOOK DROP DETAIL
SCALE: 1-1/2"=1'-0"
D-EX-23



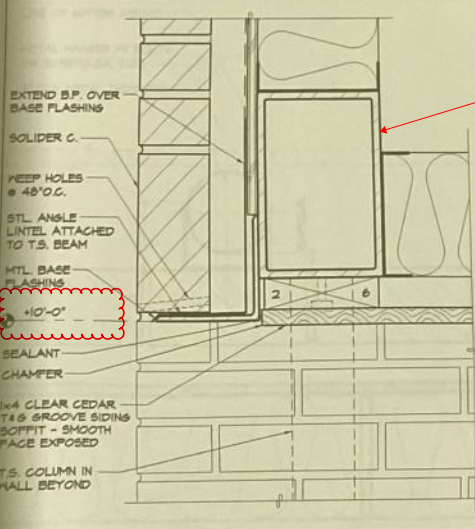
8 TYP. EXPANSION JOINT DETAIL
SCALE: N.T.S.
D-EX-21



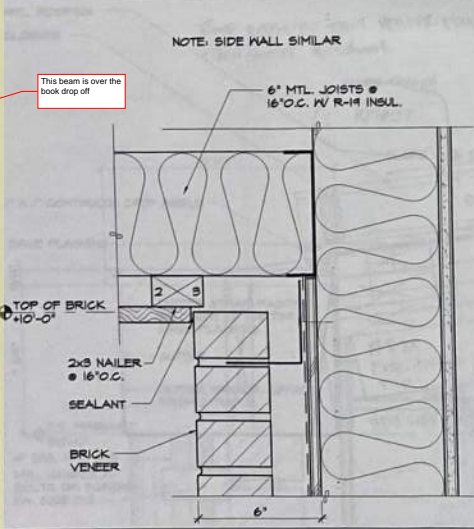
11 TYP. SHELF ANGLE/E.J. DETAIL
SCALE: N.T.S.
D-EX-20



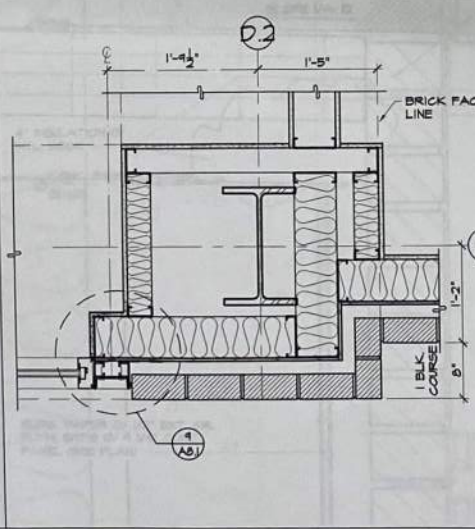
14 ADJ. UNIT TIE DETAILS @ CONC. BACKUP
SCALE: N.T.S.
D-EX-24



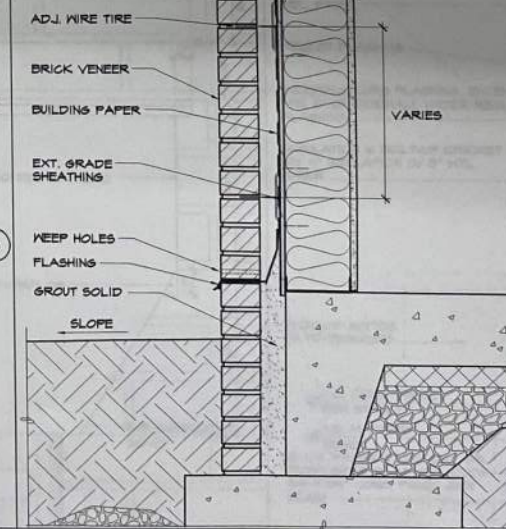
3 DETAIL @ SOFFIT EDGE
SCALE: 3"=1'-0"
D-EX-22



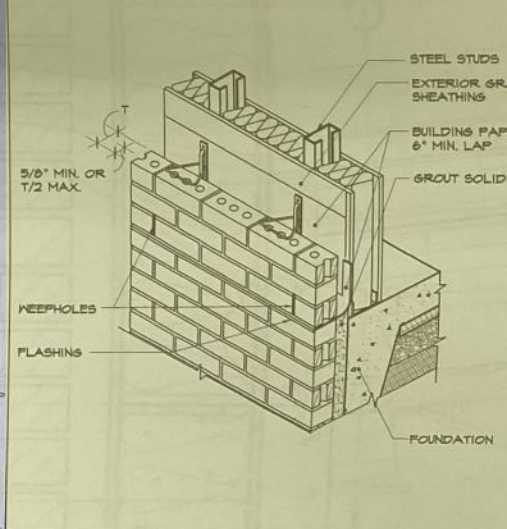
6 DETAIL @ BACK WALL
SCALE: 3"=1'-0"
D-EX-21



9 CORNER @ EAST ENTRY
SCALE: 1"=1'-0"
D-PA-05



12 BRICK VENEER FOUNDATION DETAIL
SCALE: 1-1/2"=1'-0"
D-EX-26



15 ADJ. UNIT TIE DETAILS @ STL. STUD
SCALE: N.T.S.
D-EX-26

Issue	Description	Date
1	PERMIT SET	4-20-2001
7	SD SET	5-15-2001

**PUYALLUP
PUBLIC LIBRARY**

CONSTRUCTION SET

Revision	Description	Date

**EXTERIOR
DETAILS**

DATE: AS SHOWN
PROJECT NO: 20003
DATE: 7-6-2001
C:\3\Estimator\Details\20003.dwg

A9.3

UNBALANCED CROSS

PLUG

TABLE 1: RFI

ADJUSTING RINGS

THE LEWIS ARCHITECTS
LEWIS CANNON JAMIESON
2800 Northrup Way
Suite 100
Bellevue, WA 98004
Phone (425) 827-5802
Fax (425) 822-5490

Drawn By: SCW
Checked: GT
Approved: JMD



DCI ENGINEERS
D'AMATO CONVERSANO INC.
2821 NORTHUP WAY - SUITE 200
BELLEVUE, WA 98004

PHONE: (425) 827-2238 - FAX: (425) 827-8934
WEBSITE: dci-engineers.com



Issue	Description	Date
DESIGN DEVELOPMENT		12-6-02
CONSTRUCTABILITY REVIEW		4-18-03
ISSUED FOR PERMIT		4-27-03
ISSUED FOR BID		5-14-03
ADDENDUM		5-20-03

PUYALLUP PUBLIC LIBRARY

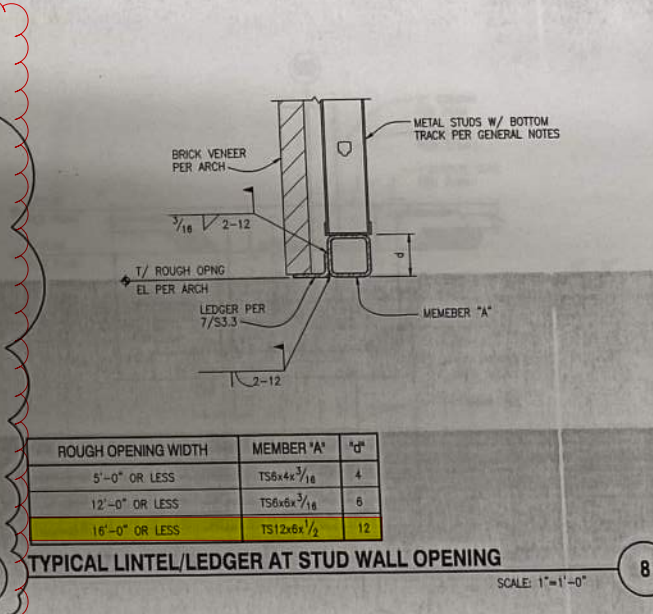
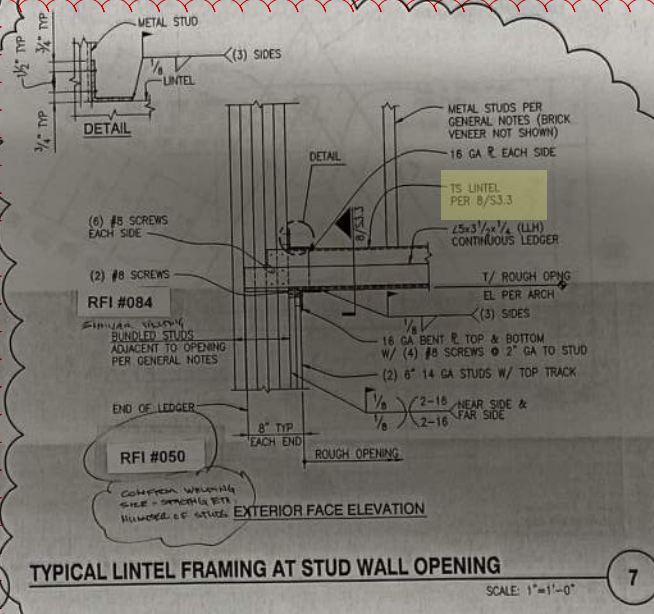
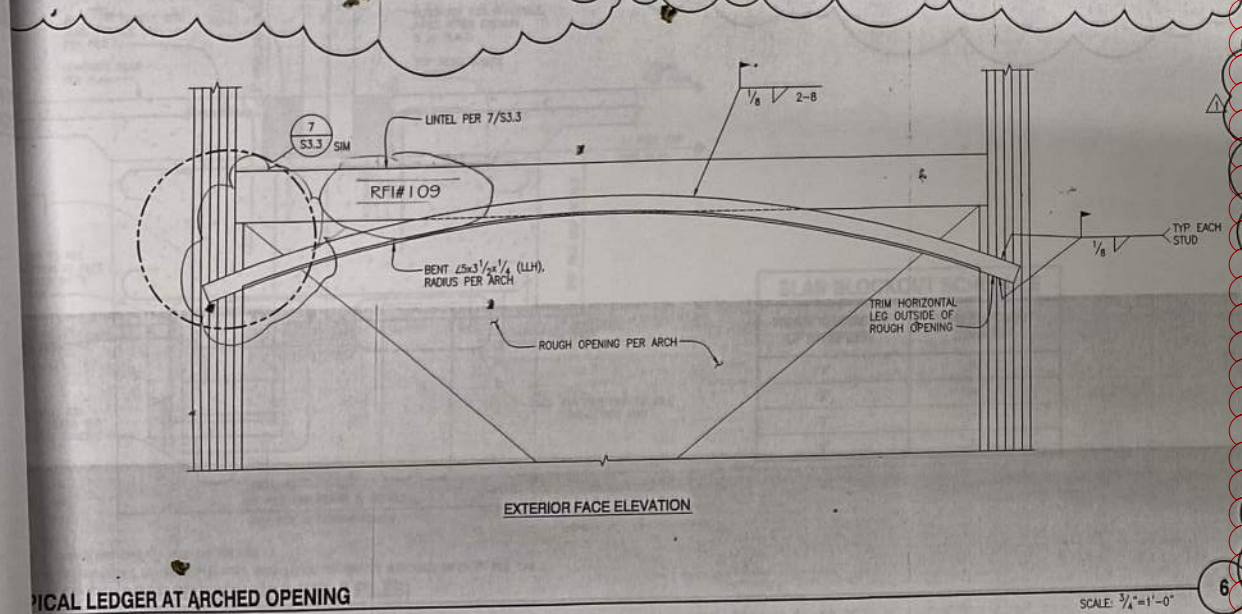
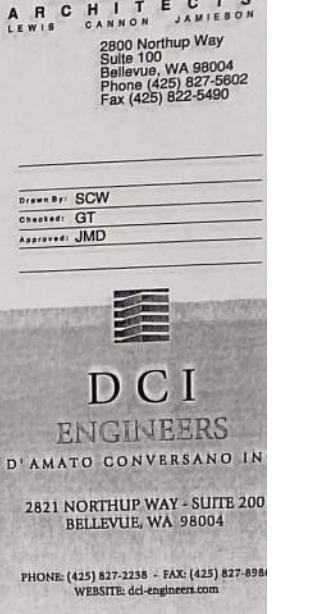
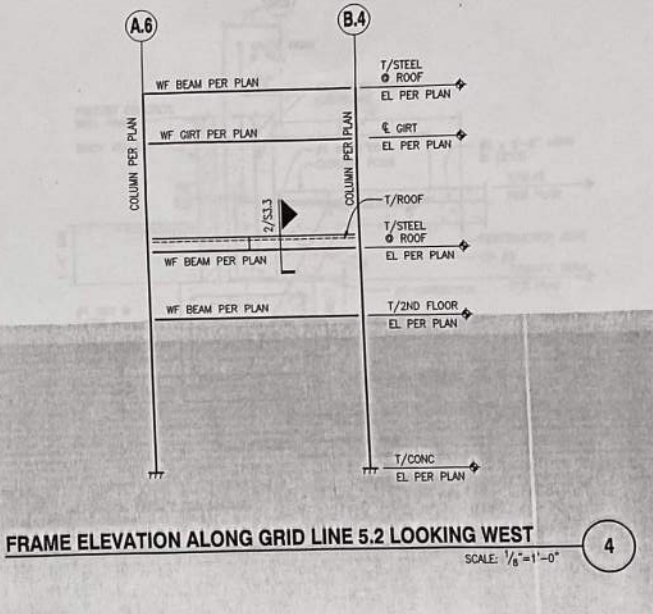
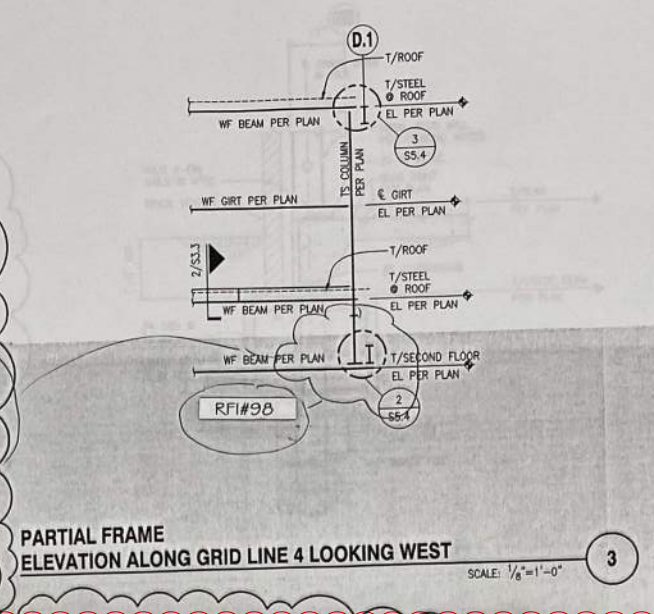
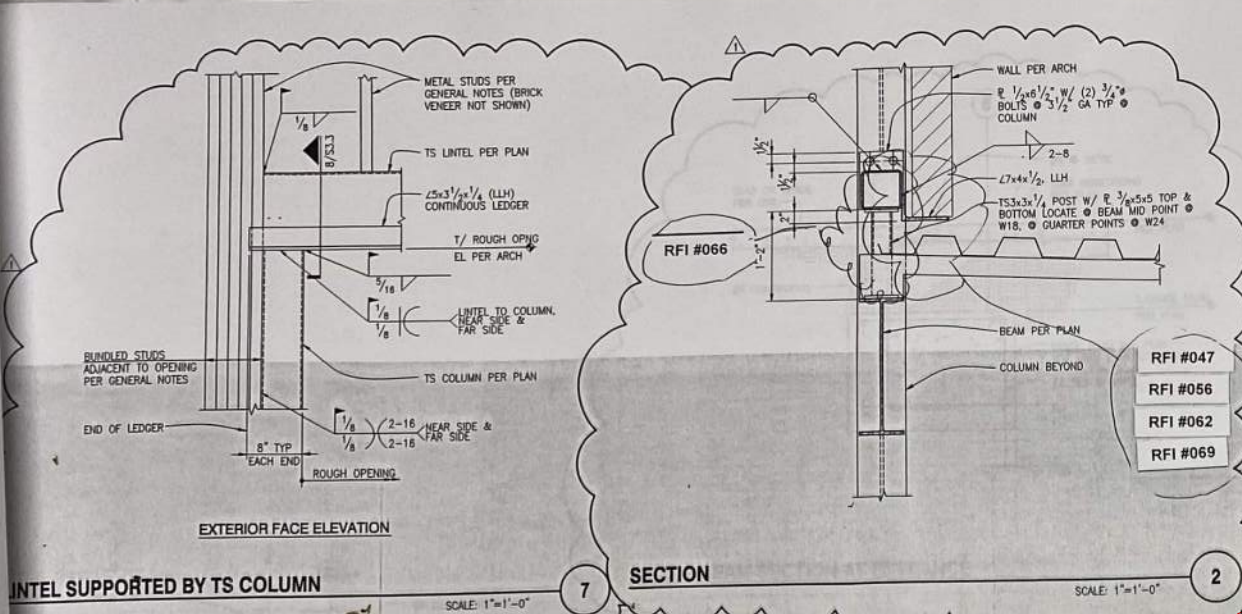
City of Puyallup Development & Permitting Services ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

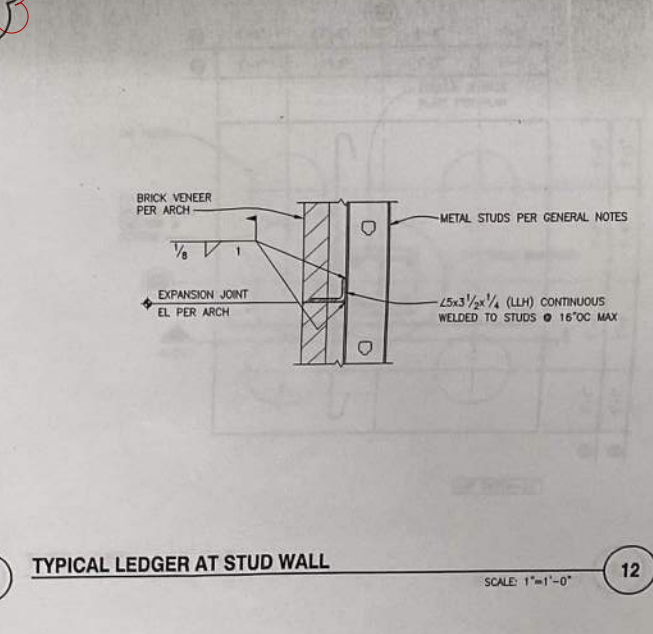
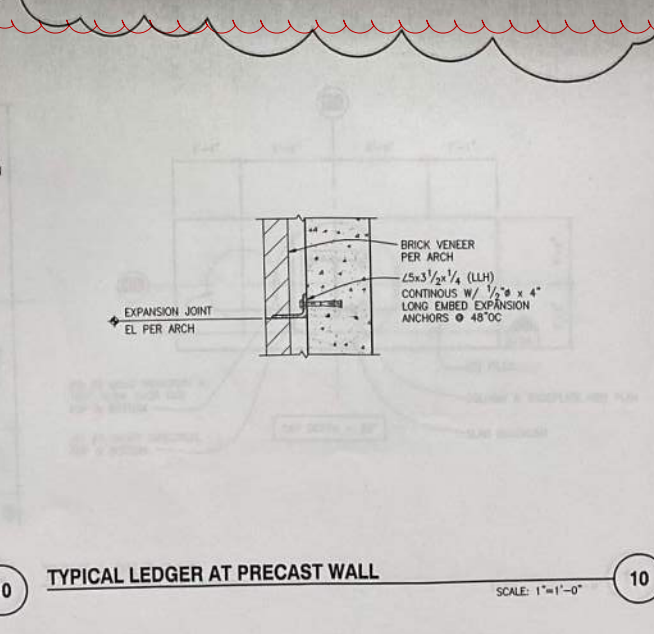
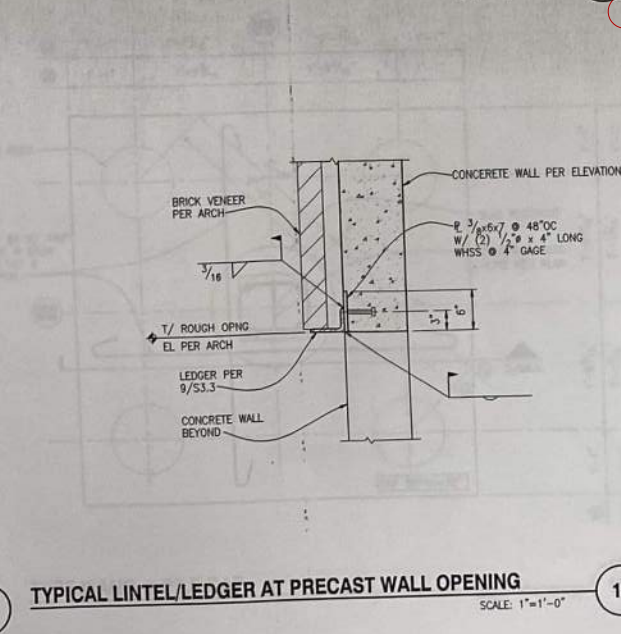
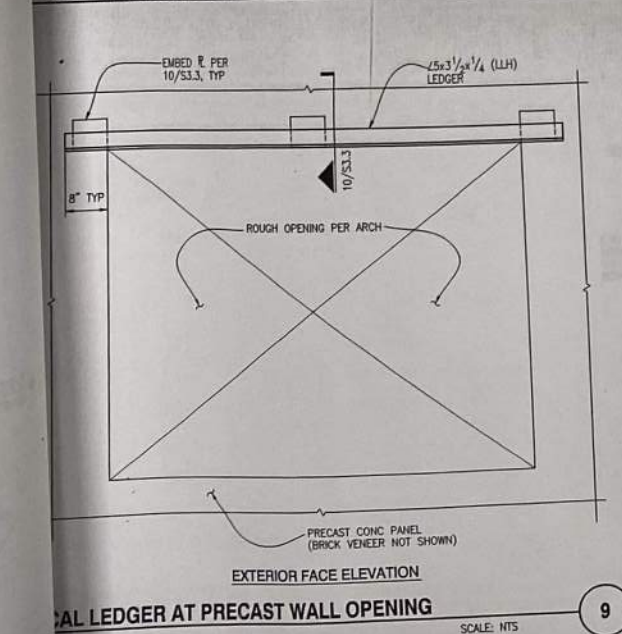
Structural ELEVATIONS, SECTIONS AND DETAILS

AS NOTED
Project No: 00-11-244
Date: 12-13-00

S3.3

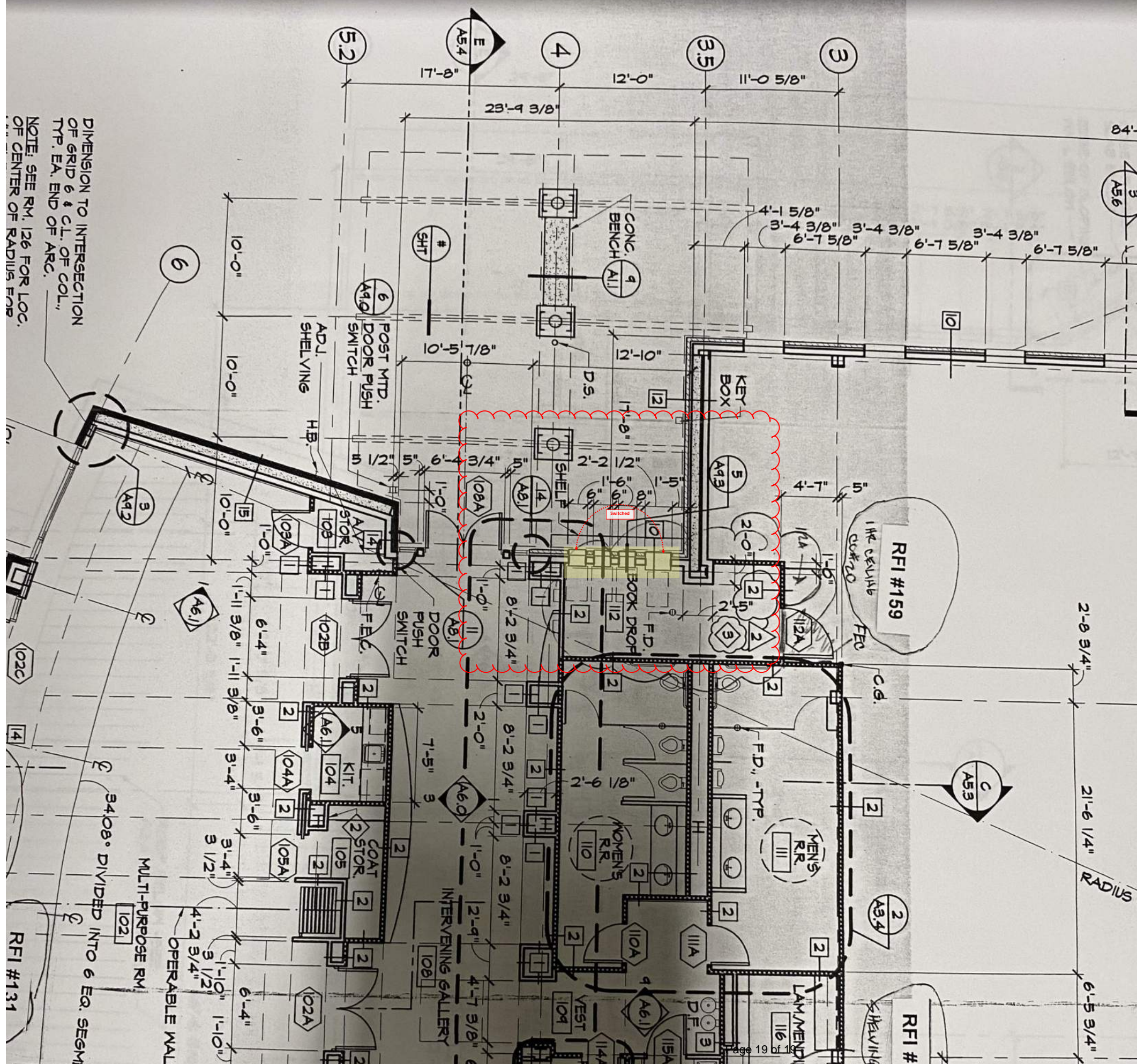


ROUGH OPENING WIDTH	MEMBER 'A'	'd'
5'-0" OR LESS	TS6x4x3/16	4
12'-0" OR LESS	TS6x6x3/16	6
16'-0" OR LESS	TS12x6x1/2	12



DIMENSION TO INTERSECTION OF GRID 6 & C.L. OF COL. TYP. EA. END OF ARC.

NOTE: SEE RM. 126 FOR LOC. OF CENTER OF RADIUS FOR



City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic