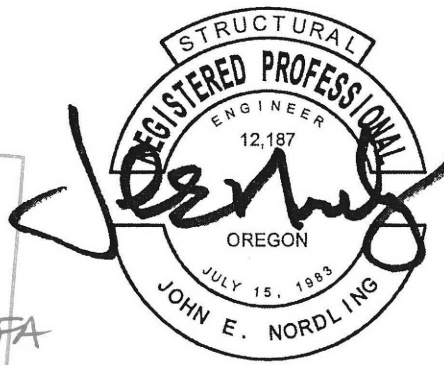
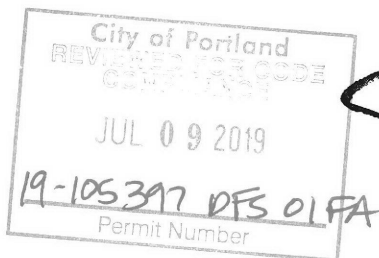


STRUCTURAL CALCULATIONS

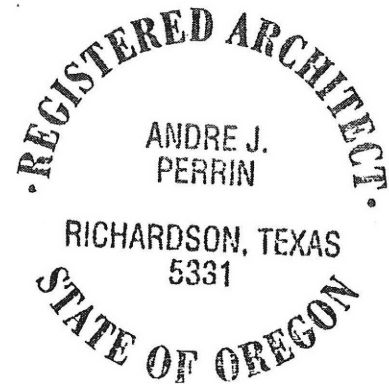
FOR

MARCUS & MILLICHAP
111 SW 5TH AVE, SUITE 1950
PORTLAND, OR 97204

-- FOLDING PARTITION WALL --



EXPIRES: 12 / 31 / 20



Andre J. Perrin

17 April 2019

(E) DUCT CONFLICT RESOLUTION
REVISED SUMMARY S1
REVISED PLAN D1
ADDED CALCULATIONS G6 & G7

Contact Person: John E Nordling, PE

Contents

Summary	S1
Details A - C	D1 - D3
Gravity Calculations	G1 - G7
Lateral Calculations	L1



**NORDLING
STRUCTURAL
ENGINEERS, LLC**

6775 SW 111th, Suite 200 • Beaverton OR, 97008

Proj. No.: 19-01

MARCUS & MILLICHAP
PARTITION WALL

INTERIOR TECHNOLOGY

Date: FEB 2019 By: JEN Sheet No.: 01

19-105397-01 FA

SUMMARY

2014 Oregon Structural Specialty Code

Seismic Occupancy Category II
Site Class - D
Seismic Design Category - D
 $S_s = 0.983$ $S_1 = 0.423$
 $S_{Ds} = 0.725$ $S_{D1} = 0.445$

There is one new ceiling supported folding partition wall.

OP-01

weight 8 psf
Installation width 19'-4"
Installation height 8'-5.5"
stack depth 1'-11"

Connections to existing composite concrete slab.

1. Detailing, fabrication and erection shall conform to the Steel Construction Manual of AISC.
2. All structural to be A36.
3. Bolts to be A307 unless noted otherwise.

1 UNISTRUT "P1000" TRANSVERSE BRACE.

2 UNISTRUT "P1000" LONGITUDINAL BRACE, 45° MAX ANGLE.



AT EACH END OF BRACE: UNISTRUT "SPF200-50", or UNISTRUT "P1843" U-HINGE, or UNISTRUT "P1546" or SIM BENT @ EACH END.

3 UNISTRUT "P1000". CONNECT TO (E) WF BEAM W/ UNISTRUT "P2785" EACH SIDE.



4 CONNECT TO BEAM PER NOTE #3. ALTERNATIVELY, CONNECT TO (E) DECK PER DETAIL (C).

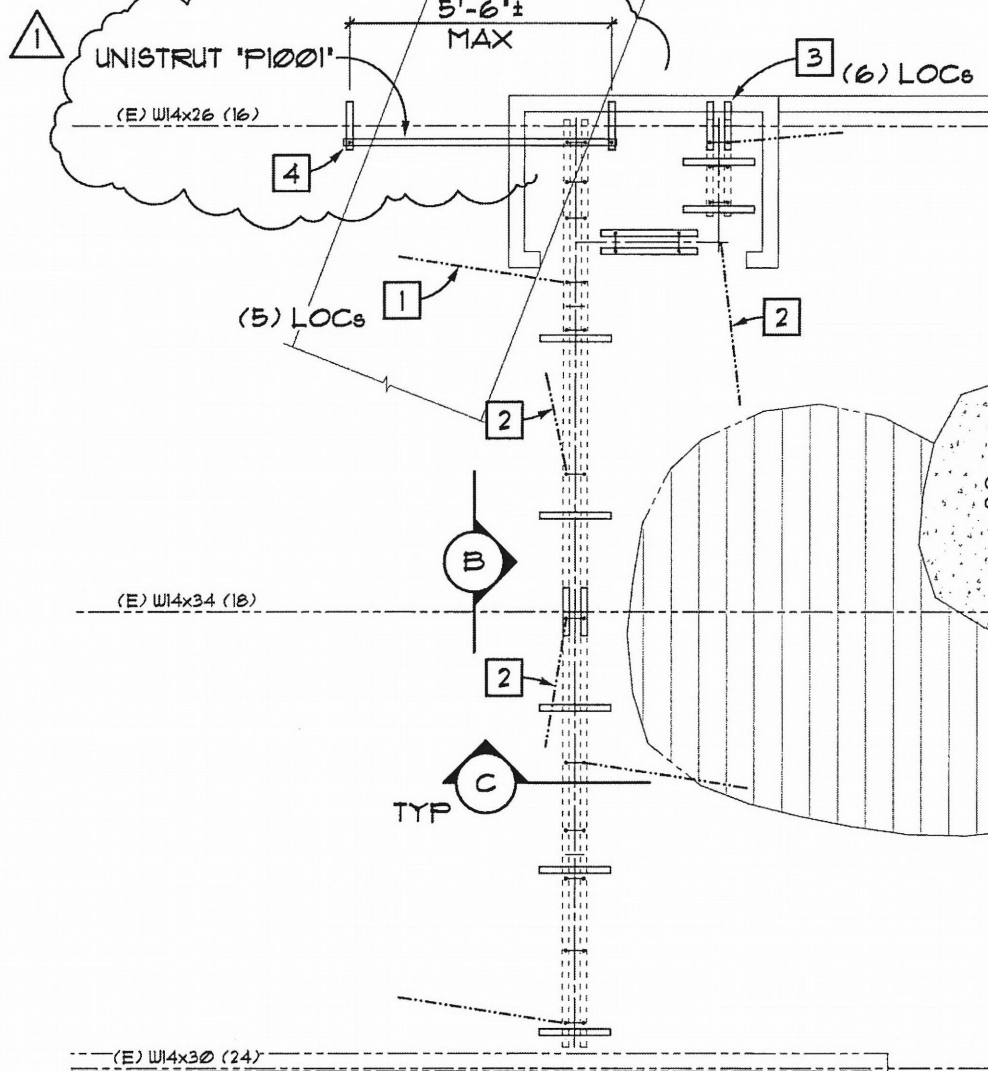


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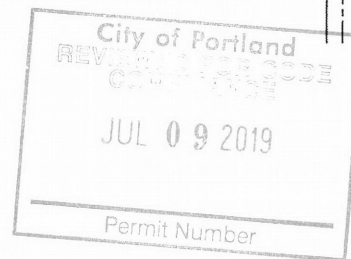
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Proj. No.: 19-046
MARCUS & MILLICHAP
PARTITION WALL
INTERIOR TECHNOLOGY

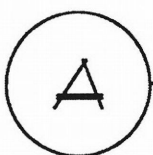
Date: FEB 2019 By: JEN Sheet No.: S1



REGISTERED ARCHITECT.
 ANDRE J. PERRIN
 RICHARDSON, TEXAS 5331
 STATE OF OREGON



EXPIRES: 12 / 31 / 20



FRAMING PLAN

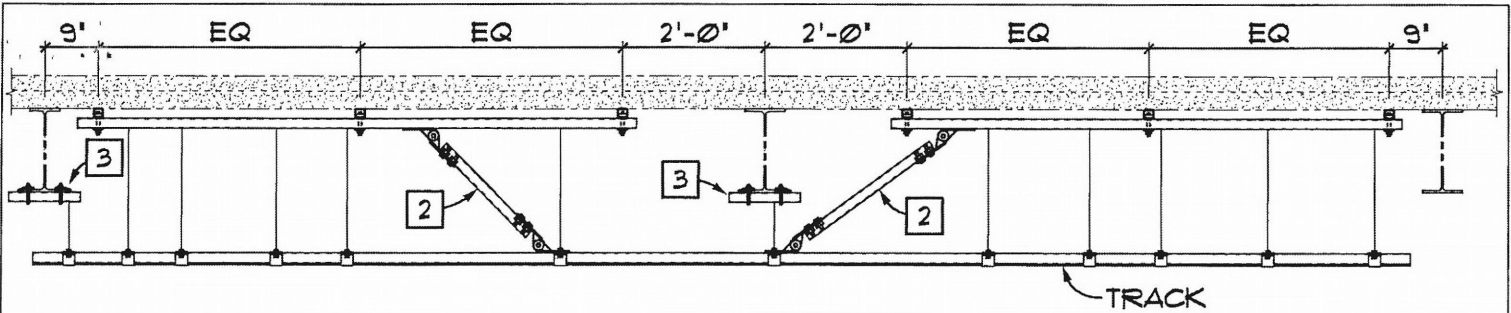


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Proj. No.: 19-046
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 PARTITION WALL
 INTERIOR TECHNOLOGY

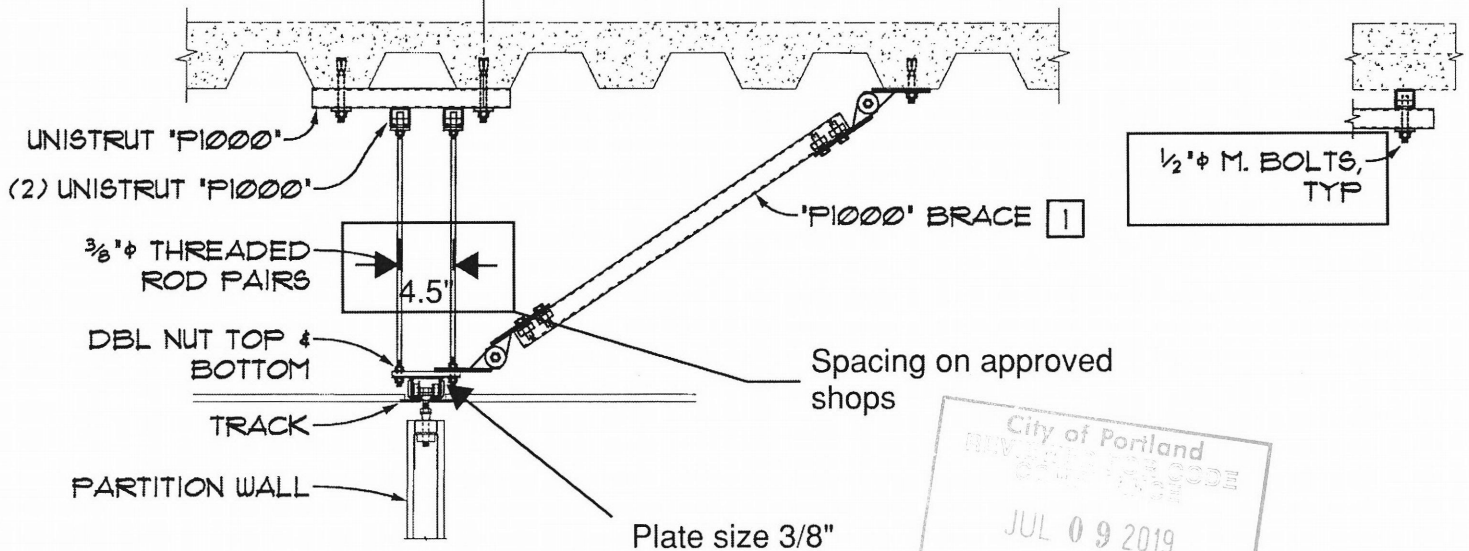
Date: FEB 2019 By: JEN Sheet No.: D1



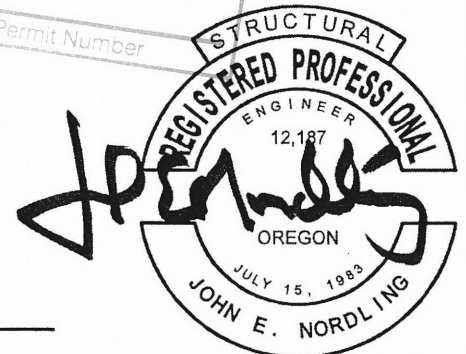
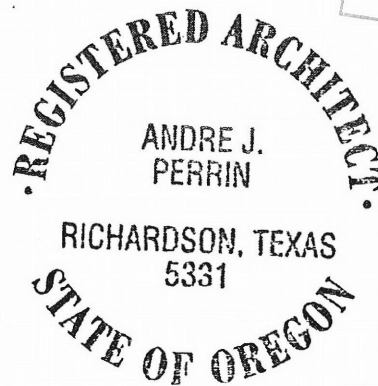
B ELEVATION

SPECIAL INSPECTIONS REQ'D

1/2" ϕ POWERS 'POWER-STUD+SDI'
(2 1/2" EMBED) AT CENTER OF (E) FLUTE,
TYPICAL. (2) MINIMUM EACH 'P1000'



C DETAIL



EXPIRES: 12/31/20



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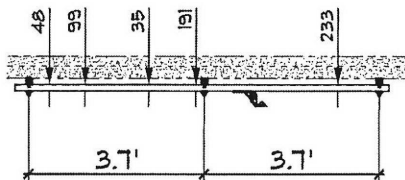
Proj. No.: 19-046
MARCUS & MILLICHAP
PARTITION WALL
INTERIOR TECHNOLOGY

Date: FEB 2019 By: JEN Sheet No.: D2

A UNISTRUT PAIRS



Andre J. Perrin



Unistrut "P1000"

Ix 0.185 Iy 0.236
Sx 0.202 Sy 0.290
E 29,000 ksi Lu = 83%

	R1	R2	R3
R DL	0	0	0
LL	51	178	74
TL	51	178	74

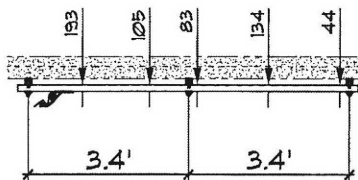
V MAX	135 lbs
M MAX	65 ft-lbs

fb	3,833	<	20,958	psi
----	-------	---	--------	-----

	S1	S2
Δ DL	0.00	0.00
Δ LL	-0.01	-0.01
L / +999	L / +999	
Δ TL	-0.01	-0.01
L / +999	L / +999	

(2) UNISTRUT "P1000"

B UNISTRUT PAIRS



Unistrut "P1000"

Ix 0.185 Iy 0.236
Sx 0.202 Sy 0.290
E 29,000 ksi Lu = 83%

	R1	R2	R3
R DL	0	0	0
LL	58	185	37
TL	58	185	37

V MAX	94 lbs
M MAX	65 ft-lbs

fb	3,877	<	20,958	psi
----	-------	---	--------	-----

	S1	S2
Δ DL	0.00	0.00
Δ LL	-0.02	-0.01
L / +999	L / +999	
Δ TL	-0.02	-0.01
L / +999	L / +999	

(2) UNISTRUT "P1000"

CAUCS

C CONNECTION

P_{MAX} 233 lbs

1/2"Ø Powers "Power-Bolt+SD1" (2" Embedment)			
TALL	1,039	lbs	Edge 8 1/2 in
VALL	1,049	lbs	End 7 1/4 in

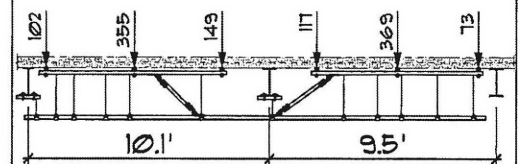
$$LCI = \frac{0}{1 * 1,039} + \frac{416}{1 * 1,049}$$

$$= 0.241 < 1.00$$

DESIGN LOADS:

TYPICAL OFFICE:

3" METAL DECK + 2-1/2" R.M. FILL	51 PSF
MECH., CEILING & MISC.	7 PSF
PARTITIONS	20 PSF
TOTAL DL (INCL. FINISHING)	78 PSF
LL (RED.)	30 PSF



Span 10.0 ft
Spacing 4.0
trusses 1

M 848 ft-lbs
W plf 67.8 plf
W psf 17.0 psf

VERCO W3, 20 ga, 10'-0" Span

W ALL	216 psf
W D+L	158 psf
FW	17 psf
TL	175 psf



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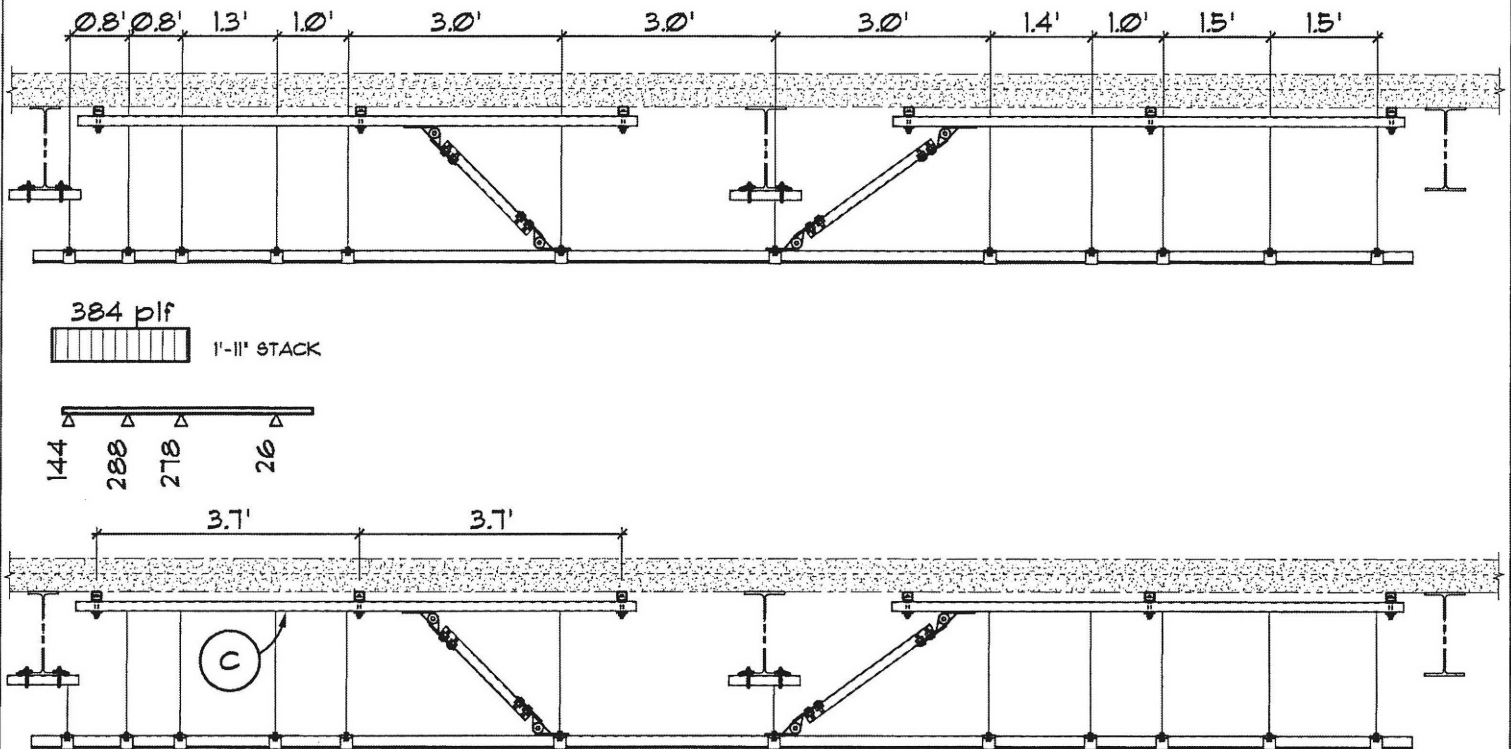
Proj. No.: 19-046

MARCUS & MILLICHAP
PARTITION WALL

INTERIOR TECHNOLOGY

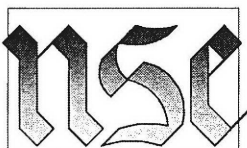
Date: FEB 2019 By: JEN Sheet No.: G2

OP-01	Installation Width	Height	Weight	Line Load	Total Weight
	19'-4"	8'-5.5"	9 psf	76 plf	1,472 lbs
	Stack Depth	1'-11"			
	# Stack Rails	2	Stack Line Load		384 plf
	Support Spacing	6"	Support Load		192 lbs



REGISTERED ARCHITECT
 ANDRE J. PERRIN
 RICHARDSON, TEXAS 75081
 STATE OF OREGON

Andre J Perrin



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Proj. No.: 19-046
 MARCUS & MILLICHAP
 PARTITION WALL
 INTERIOR TECHNOLOGY

Date: FEB 2019 By: JEN Sheet No.: G3

C

UNISTRUT PAIRS

STACKED

D

CONNECTION

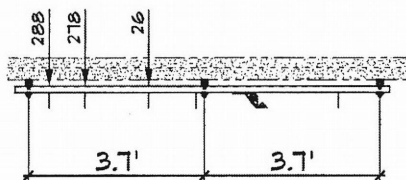
P_{MAX} 288 lbs

1/2"Ø Powers "Power-Bolt+SD1" (2" Embedment)

TALL	1,039 lbs	Edge	8 1/2 in
VALL	1,049 lbs	End	7 1/4 in

$$LC1 = \frac{0}{1 * 1,039} + \frac{416}{1 * 1,049}$$

$$= 0.289 < 1.00$$



Unistrut "P1000"

I _x	0.185	I _y	0.236
S _x	0.202	S _y	0.290
E	29,000 ksi	Lu = 83%	

	R1	R2	R3
R _{DL}	0	0	0
LL	212	99	-15
TL	212	99	-15

V	MAX	212 lbs
M	MAX	139 ft-lbs

fb 8,253 < 20,958 psi

	S1	S2
Δ DL	0.00	0.00
Δ LL	-0.05	0.02
L/986	L/+999	
Δ TL	-0.05	0.02
L/986	L/+999	

(2) UNISTRUT "P1000"

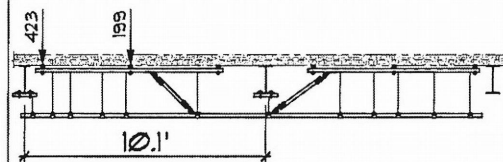
(E) DECK

STACKED

DESIGN LOADS:

TYPICAL OFFICE:

3" METAL DECK + 2-1/2" A.H. FILL	51 PSF
MECH., CEILING & MISC.	7 PSF
PARTITIONS	20 PSF
TOTAL DL (EXCL. FRAMING)	78 PSF
LL (RED.)	80 PSF



Span	10.0 ft
Spacing	4.0
# trusses	1

M	552 ft-lbs
W plf	44.2 plf
W psf	11.0 psf

VERCO W3, 20 ga, 10'-0" Span

W _{ALL}	216 psf
W _{D+L}	158 psf
FW	11 psf
TL	169 psf

REGISTERED ARCHITECT
ANDRE J. PERRIN
RICHARDSON, TEXAS
5331
STATE OF OREGON



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Proj. No.: 19-046

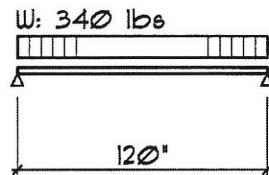
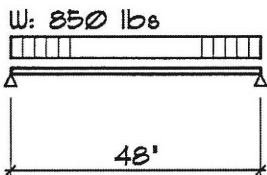
MARCUS & MILLICHAP
PARTITION WALL

INTERIOR TECHNOLOGY

Date: FEB 2019 By: JEN Sheet No.: G4

BEAM LOADING – P1000

Span In	Max Allowable Uniform Load Lbs	Defl. at Uniform Load In	Uniform Loading at Deflection		
			Span/180 Lbs	Span/240 Lbs	Span/360 Lbs
24	1,690	0.06	1,690	1,690	1,690
36	1,130	0.13	1,130	1,130	900
48	850	0.22	850	760	510
60	680	0.35	650	490	320
72	560	0.50	450	340	220
84	480	0.68	330	250	170
96	420	0.89	250	190	130
108	380	1.13	200	150	100
120	340	1.40	160	120	80
144	280	2.01	110	80	60
168	240	2.74	80	60	40
192	210	3.57	60	50	NR
216	190	4.52	50	40	NR
240	170	5.58	40	NR	NR



P1000

I _x	0.185	I _y	0.236
S _x	0.202	S _y	0.290
E	29,000	ksi	

R DL	0	0
LL	426	426
TL	426	426

Shear	426	
lbs		426

Moment	426	
ft-lbs	0	2.00'

Δ DL	0.00	0.000	0.00
Δ LL	0.00	-0.229	0.00
in	0.00	-0.229	0.00

fb	25,307	
psi	0	0

P1000

I _x	0.185	I _y	0.236
S _x	0.202	S _y	0.290
E	29,000	ksi	

R DL	0	0
LL	170	170
TL	170	170

Shear	170	
lbs		170

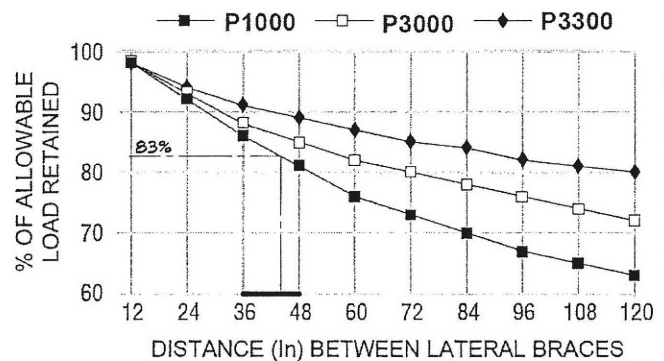
Moment	425	
ft-lbs	0	5.00'

Δ DL	0.00	0.000	0.00
Δ LL	0.00	-1.426	0.00
in	0.00	-1.426	0.00

fb	25,248	
psi	0	0

ELEMENTS OF SECTION P1000/P1001

Parameter	P1000	P1001
Area of Section	0.556 in ²	1.112 in ²
Axis 1-1		
Moment of Inertia (I)	0.185 in ⁴	0.930 in ⁴
Section Modulus (S)	0.202 in ³	0.572 in ³
Radius of Gyration (r)	0.577 in	0.915 in
Axis 2-2		
Moment of Inertia (I)	0.236 in ⁴	0.472 in ⁴
Section Modulus (S)	0.290 in ³	0.580 in ³
Radius of Gyration (r)	0.651 in	0.651 in



$$F_b = 25,200 \text{ psi}$$



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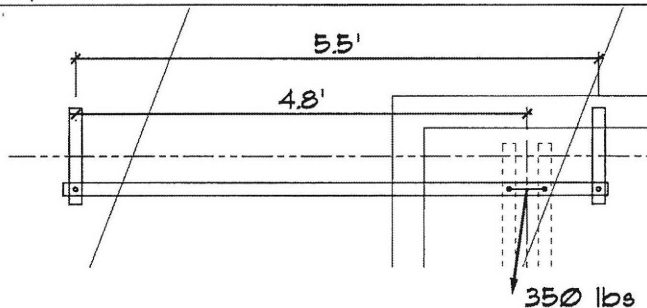
6775 SW 111th, Suite 200 • Beaverton OR, 97008

Proj. No.: 19-046

MARCUS & MILLICHAP
PARTITION WALL

INTERIOR TECHNOLOGY

Date: FEB 2019 By: JEN Sheet No.: G5



Unistrut "P1001"

Ix 0.930 Iy 0.472
 Sx 0.572 Sy 0.580
 E 29,000 ksi Lu = 88%

	R1	R2
R DL	0	0
LL	45	305
TL	45	305

V	MAX	305	lbs
M	MAX	211	ft-lbs

fb	4,420	<	22,154	psi
----	-------	---	--------	-----

	S1
Δ DL	0.00
Δ LL	-0.03
L / +999	
Δ TL	-0.03
L / +999	



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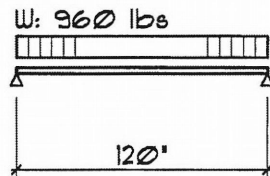
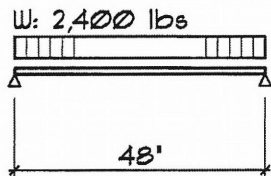
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Proj. No.: 19-046
 MARCUS & MILLICHAP
 PARTITION WALL
 INTERIOR TECHNOLOGY
 Date: FEB 2019 By: JEN Sheet No.: G6

BEAM LOADING – P1001

Span In	Max Allowable Uniform Load Lbs	Defl. at Uniform Load In	Uniform Loading at Deflection		
			Span/180 Lbs	Span/240 Lbs	Span/360 Lbs
24	3,130 *	0.03	3,130 *	3,130 *	3,130 *
36	3,130 *	0.07	3,130 *	3,130 *	3,130 *
48	2,400	0.13	2,400	2,400	2,400
60	1,920	0.20	1,920	1,920	1,630
72	1,600	0.28	1,600	1,600	1,130
84	1,370	0.39	1,370	1,240	830
96	1,200	0.50	1,200	950	640
108	1,070	0.64	1,000	750	500
120	960	0.79	810	610	410
144	800	1.13	560	420	280
168	690	1.54	410	310	210
192	600	2.01	320	240	160
216	530	2.55	250	190	130
240	480	3.15	200	150	100



P1001

I_x 0.93 I_y 0.472
 S_x 0.572 S_y 0.58
 E 29,000 ksi

R DL	0	0
LL	1,200	1,200
TL	1,200	1,200

Shear	1,200	1,200
lbs		

Moment	1,200	0
ft-lbs	0	2.00'

Δ DL	0.00	0.000	0.00
Δ LL	0.00	-0.128	0.00
in	0.00	-0.128	0.00

fb	25,175	0
psi	0	0

P1001

I_x 0.930 I_y 0.472
 S_x 0.572 S_y 0.580
 E 29,000 ksi

R DL	0	0
LL	480	480
TL	480	480

Shear	480	480
lbs		

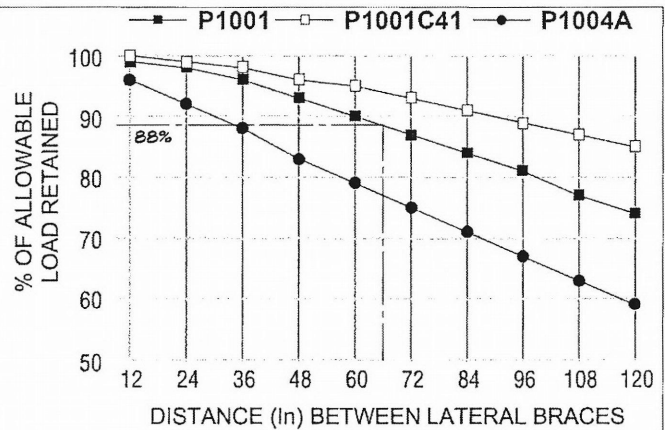
Moment	1,200	0
ft-lbs	0	5.00'

Δ DL	0.00	0.000	0.00
Δ LL	0.00	-0.801	0.00
in	0.00	-0.801	0.00

fb	25,175	0
psi	0	0

ELEMENTS OF SECTION P1000/P1001

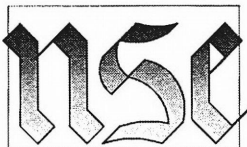
Parameter	P1000	P1001
Area of Section	0.556 in ²	1.112 in ²
Axis 1-1		
Moment of Inertia (I)	0.185 in ⁴	0.930 in ⁴
Section Modulus (S)	0.202 in ³	0.572 in ³
Radius of Gyration (r)	0.577 in	0.915 in
Axis 2-2		
Moment of Inertia (I)	0.236 in ⁴	0.472 in ⁴
Section Modulus (S)	0.290 in ³	0.580 in ³
Radius of Gyration (r)	0.651 in	0.651 in



$$F_b = 25,175 \text{ psi}$$



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Proj. No.: 19-046

MARCUS & MILLICHAP
PARTITION WALL

INTERIOR TECHNOLOGY

Date: FEB 2019 By: JEN Sheet No.: G7



Earthquake Hazards Program

ASCE 7-10 Standard

Location 45° 31' 19.87" N
122° 40' 34.65" W

Ss and S1 = Mapped Spectral Acceleration Values
111 SW 5th Ave, Portland, OR 97204

Ground Motion Ss 0.983 S1 0.423

Occupancy Category	II	Site Coefficients	Fa	1.11
Site Class	D		Fv	1.58
Importance Factor	1.00			
Height of Structure	375.0 ft	SMS	Fa * Ss	1.088
		SM1	Fv * S1	0.667
Design Category (SDC)	D			
		SDS	(2/3) SMS	0.725
		SD1	(2/3) SM1	0.445

Interior Nonstructural Walls and Partitions

ap 1.00 Rp 1.50

$$F_p = \frac{0.4 \cdot a_p \cdot S_{DS} \cdot I_p}{R_p} \left(1 + 2 \cdot \frac{z}{h} \right) \cdot W_p$$

z = 375.0 ft ASD

Fp = 0.58 Wp -> * 0.7 0.406

z = 238.0 ft

Fp = 0.44 Wp -> * 0.7 0.307

MIN = 0.3 SDS Ip Wp

= 0.218 Wp -> * 0.7 0.152

MAX = 1.6 SDS Ip Wp

= 1.16 Wp -> * 0.7 0.812

$$Eq = 0.307W + 0.2 SDS W$$

$$= 0.307W + 0.20 * 0.725 W$$

$$= 0.307W + 0.145 W$$

W : Weight of Unit

Total Weight 5 lbs

$$V_{EQ} = 0.307 * 5 \text{ lbs} + 0.2 * 0.725 * 5 \text{ lbs}$$

$$= 2 \text{ lbs} + 1 \text{ lbs}$$

"Closed" Weight 7 plf

Brace Spacing 8'-0" o/c

Weight 56 lbs

$$V_{EQ} = 0.307 * 56 \text{ lbs} + 0.2 * 0.725 * 56 \text{ lbs}$$

$$= 17 \text{ lbs} + 8 \text{ lbs}$$



Andre J. Perrin

OP-01	Installation	Height	Weight	Line	Total
	Width			Load	Weight
	19'-4"	8'-5.5"	9 psf	76 plf	1,472 lbs
	Stack Depth	1'-11"			
	# Stack Rails	2	Stack Line Load		384 plf
	Support Spacing	6"	Support Load		192 lbs



**NORDLING
STRUCTURAL
ENGINEERS, LLC**

6775 SW 111th, Suite 200 • Beaverton OR, 97008

Proj. No.: 19-046

MARCUS & MILLICHAP
PARTITION WALL

INTERIOR TECHNOLOGY

Date: FEB 2019 By: JEN Sheet No.: L1

2525 McKinnon, Suite 800
Dallas, TX 75201

Project Marcus & Millichap

Location Portland

General Contractor HSW

General Contractor Reviewed

☒ Yes

☐ No

(If General Contractor has not reviewed, submittal is automatically rejected)

This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The contractor is responsible for dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the work with that of all other trades; and performing all work in a safe and satisfactory manner.

☒ Reviewed

☐ Reviewed – Additional Information Required

☐ Revise and Resubmit

☐ Not Reviewed – Received for Information Only

☐ Rejected

☐ Furnish as Corrected/Approved as Noted

Review does not authorize changes to contract sum unless stated in separate letter or change order.

Date: 4.22.19

By (Signature):



Printed Name: Monica Bates

19-105397 DCS 01 PA
B2



Howard S. Wright
a Balfour Beatty company

Marcus & Millichap

SUBMITTAL COVER SHEET

Submittal Date: 4/22/2019
Submittal Number: 023R3 **Revision No.** 0
Submittal Title: **Modernfold Folding Partition (Deferred Permit Engineering Package)**
Architect: DLR Group / Staffelbach
General Contractor: Howard S. Wright, a Balfour Beatty Company
 1455 NW Irving Street Suite 400
 Portland, Oregon 97209
Subcontractor: Interior Tech
Supplier: Nordling Structural Engineers, LLC
Manufacturer: Nordling Structural Engineers, LLC
Specification Reference: 10 00 00 Specialties
Reference No. 04

To:	Monica Bates	From:	Dan Stephens
	DLR Group Staffelbach 2525 Mckinnon Street, Suite 800 Dallas, TX 75201		Howard S. Wright 1455 NW Irving Street. Suite 400 Portland, Oregon 97209

We are transmitting the following submittal package 10 00 00 – Specialty item(s) for your review.

Please review and respond to Dan Stephens by 4/24/2019

- 1.) Modernfold Panel Layout OP-01 Large/Small Conference Rooms. Dwg # R77687-01-D1-D5
- 2.) Nordling Structural Engineers, LLC Marcus & Millichap folding Partition Wall Engineering Package.

- Summary S1
- Details A-C D1-D2
- Gravity Calculations G1-G7
- Lateral Calculations L1

 Howard S. Wright a Balfour Beatty company	BY Dan Stephens
HSW PROJECT NAME Marcus & Millichap	HSW PROJECT # 16239000
SPECIFICATION # 10 00 00	SUBMITTAL # 100000-04
OWNER / ARCHITECT REF #	DATE 4/22/19
HSW REMARKS	
This submittal REVIEW shall not be construed as a complete check and indicates only that information presented conforms generally with the Contract Documents. In no case is Subcontractor or Supplier relieved of responsibility for adherence to the Contract Documents and satisfactory construction of all work.	
HOWARD S. WRIGHT CCB# 164711	

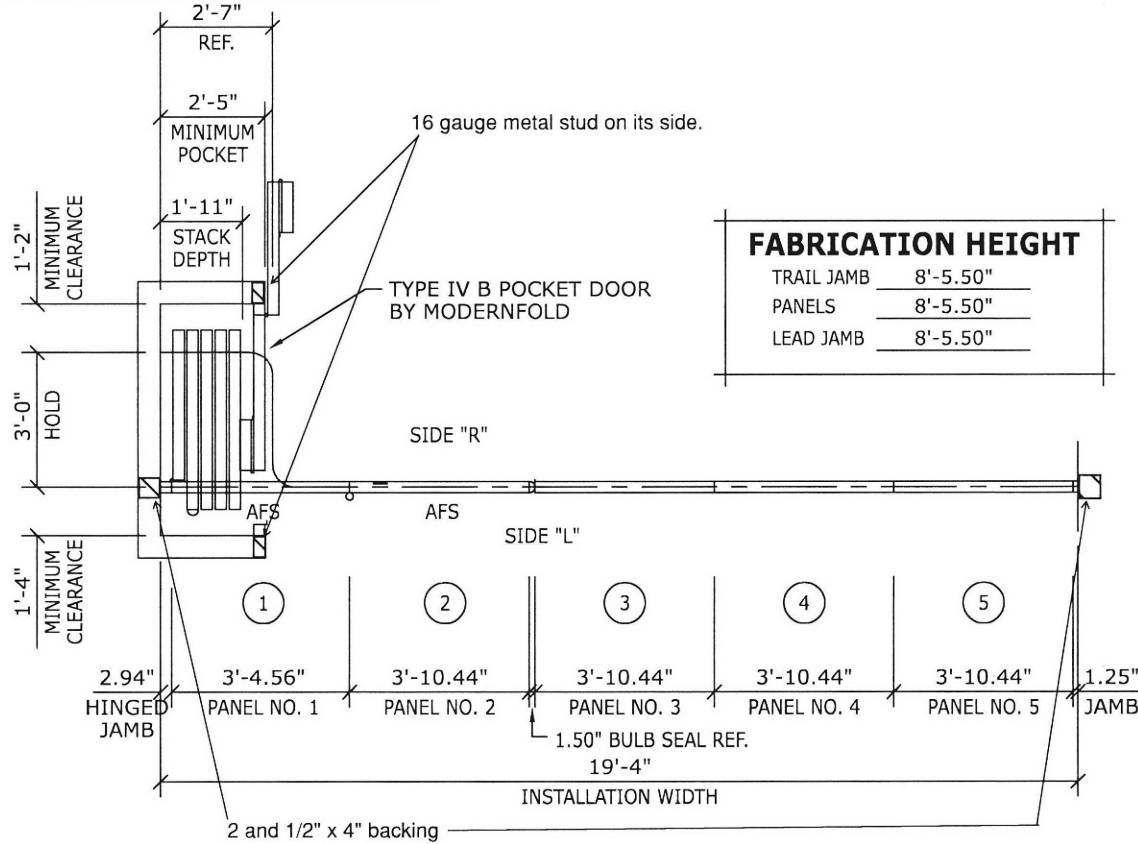
Sincerely,

Dan Stephens

Dan Stephens

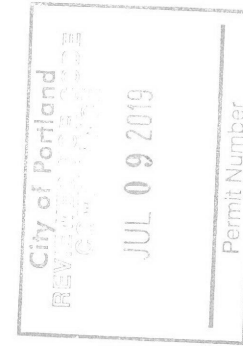
ARCHITECT / GENERAL CONTRACTOR NOTES

1. MINIMUM DIMENSIONS PROVIDE FOR CLEARANCE FROM ALL ADJACENT CONSTRUCTION/FIXTURES FOR ADJUSTMENT, OPERATION, AND SAFETY.
2. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL STRUCTURAL SUPPORT, ADJOINING CONSTRUCTION AND TRIM.
3. WALL CONSTRUCTION AT JAMBS MUST BE ADEQUATE FOR SECURING JAMBS, AND SUPPORTING THE WEIGHT OF THE HINGED PANEL.
4. AFS INDICATES ADJUSTABLE FIXED SEALS.
T INDICATES OPERABLE PANEL ACCESS HOLE.
▼ INDICATES BOTTOM SEAL OPERATOR HANDLE.
5. HINGE POINTS ARE SHOWN FOR DIAGRAMMATIC PURPOSES ONLY.



PANEL PLAN

PANEL SCHEDULE				
PANEL	WIDTH	SIDE R	SIDE L	PASSDOOR
1	3'-4.56"			
2	3'-10.44"			
3	3'-10.44"			
4	3'-10.44"			
5	3'-10.44"			

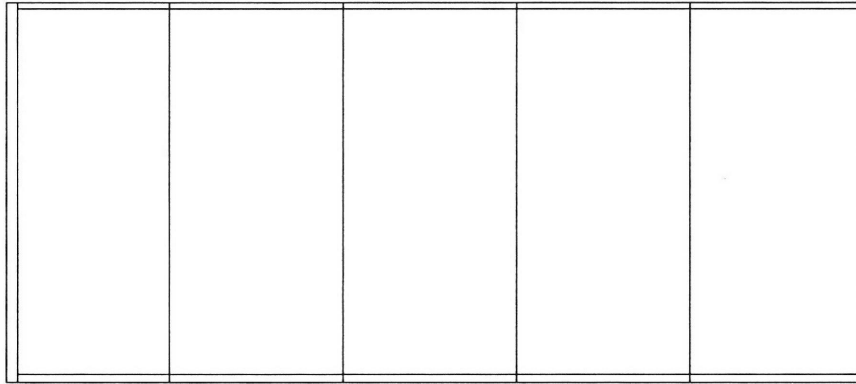


TYPICAL CARRIER SPACING			
TRAIL END	ON CENTER	LEAD END	NOM. PNL.
5.25"	3'-0"	5.19"	3'-10.44" INT

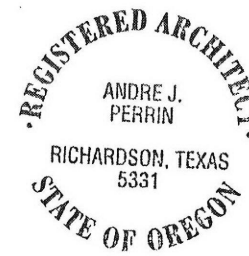
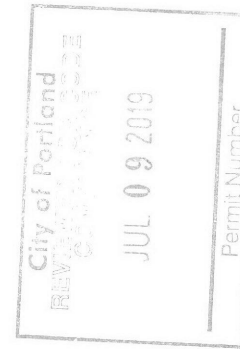
MODERNFOLD	
ACOUSTI-SEAL	931 BI-FOLD HINGED PANEL SEE HEIGHT SCHEDULE #17 STD BKT (PROGRAMMABLE) 2" (51MM) AUTOMATIC PANEL ACOUSTICAL RATING 50 STC 8 LBS./SQ. FT. HANGING WEIGHT PANEL SKIN/FACING HINGE/TRIM COLOR TO BE ADVISED/TO BE ADVISED VINYL: TO BE ADVISED
JOB NAME: US BANK TOWER-MARCUS & MILLICHAP	SUITE 1950
LOCATION: PORTLAND, OR	ARCHITECT: DLR GROUP /STAFFELBACH
ARCHITECT: HOWARD S WRIGHT CONSTRUCTORS	CONTRACTOR: INTERIOR TECHNOLOGY - OREGON
DISTRIBUTOR: INTERIOR TECHNOLOGY - OREGON	
DATE: 04/12/19	REV: 0
ISSUED FOR: APPROVAL	MPM
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PANEL LAYOUT OP-01 LARGE / SMALL CONF ROOMS

DRAWING NO.	R77687-01-D1
CAD REF NO.	
ORDER NO.	
SHEET NO.	1 OF 5



PANEL ELEVATION - SIDE "L"

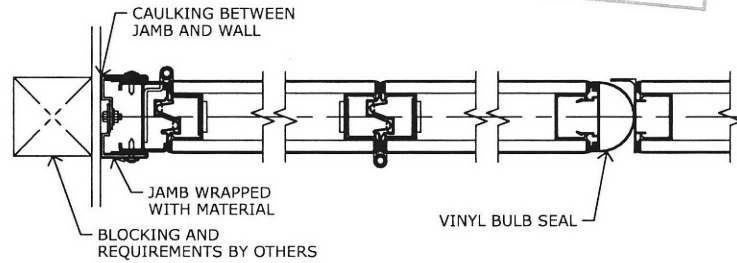
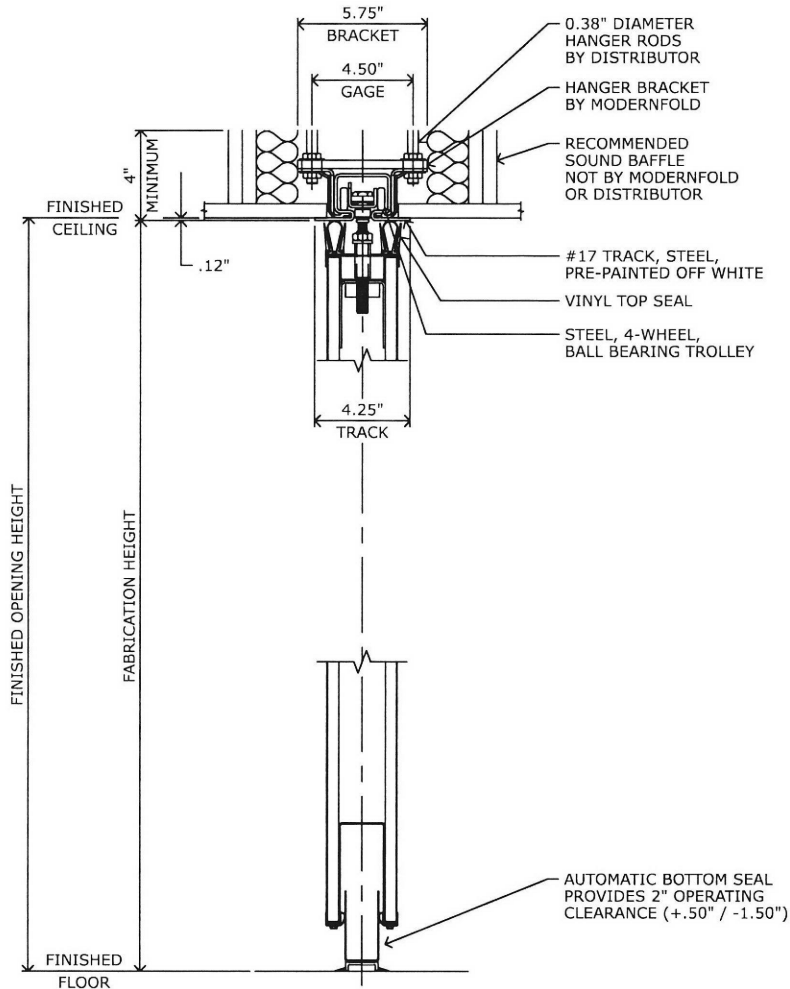


Andre J. Perrin

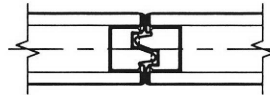
ACOUSTI-SEAL			
931			
CLOSURE METHOD	BI-FOLD HINGED PANEL		
FABRICATION HEIGHT	8'-5.50"		
TRACK SYSTEM	#17 STD BKT (PROGRAMMABLE)		
BOTTOM SEALS	2" (51MM) AUTOMATIC		
PANEL ACOUSTICAL RATING	50 STC		
HANGING WEIGHT	8 LBS/SQ.FT.		
PANEL SKIN/FACING	NON STEEL		
HINGE/TRIM COLOR	TO BE ADVISED/TO BE ADVISED		
PANEL FINISH SELECTION	VINYL: TO BE ADVISED		
JOB NAME: US BANK TOWER-MARCUS & MILLICHAP			
SUITE 1950			
LOCATION: PORTLAND, OR			
ARCHITECT: DLR GROUP /STAFFELBACH			
ARCHITECT:			
CONTRACTOR: HOWARD S WRIGHT CONSTRUCTORS			
DISTRIBUTOR: INTERIOR TECHNOLOGY - OREGON			
DATE	REV	ISSUED FOR	DRN
04/12/19	0	APPROVAL	MPM
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ELEVATION			
OP-01			
LARGE / SMALL CONF ROOMS			
DRAWING NO. R77687-01-D2			
CAD REF NO.			
ORDER NO.			
SHEET NO. 2 OF: 5			

ARCHITECT / GENERAL CONTRACTOR NOTES

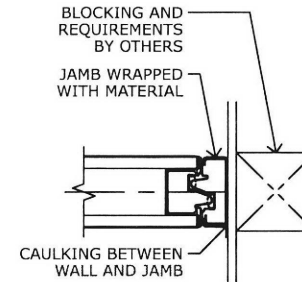
1. REFER TO MODERNFOLD ASCE7 DESIGN GUIDE FOR SEISMIC BRACING REQUIREMENTS



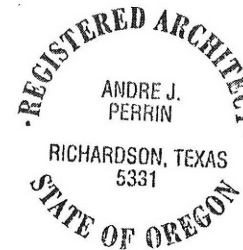
BI-FOLD HINGED PANEL



PANEL JOINT



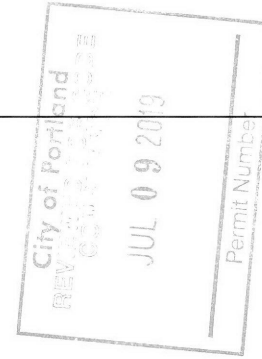
JAMB

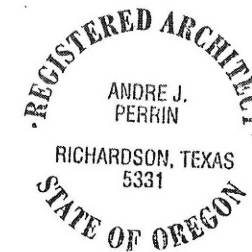
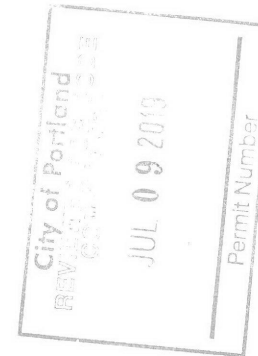
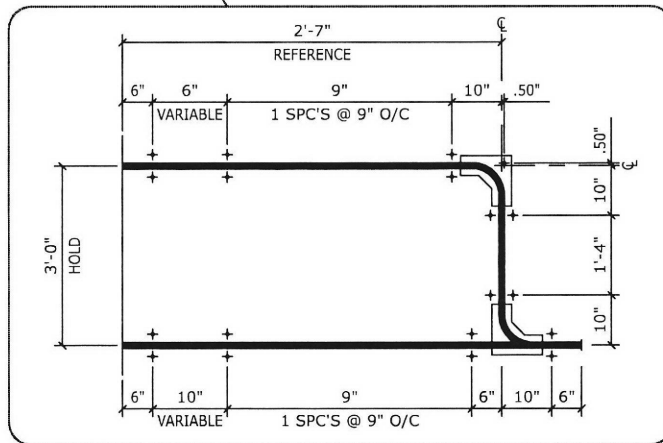
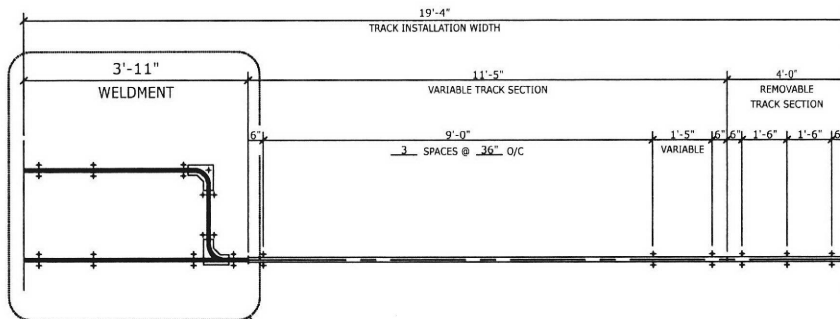


Andre J. Perrin



ACOUSTI-SEAL 931			
CLOSURE METHOD	BI-FOLD HINGED PANEL		
FABRICATION HEIGHT	8'-5.50"		
TRACK SYSTEM	#17 STD BKT (PROGRAMMABLE)		
BOTTOM SEALS	2" (51MM) AUTOMATTC		
PANEL ACOUSTICAL RATING	50 STC		
HANGING WEIGHT	8 LBS./SQ. FT.		
PANEL SKIN/FACING	NON STEEL		
HINGE/TRIM COLOR	TO BE ADVISED/TO BE ADVISED		
PANEL FINISH SELECTION	VINYL: TO BE ADVISED		
JOB NAME: US BANK TOWER-MARCUS & MILLICHAP			
SUITE 1950			
LOCATION: PORTLAND, OR			
ARCHITECT: DLR GROUP / STAFFELBACH			
CONTRACTOR: HOWARD S WRIGHT CONSTRUCTORS			
DISTRIBUTOR: INTERIOR TECHNOLOGY - OREGON			
DATE	REV	ISSUED FOR	DRN
04/12/19	0	APPROVAL	MPM
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DETAIL SHEET OP-01 LARGE / SMALL CONF ROOMS			
DRAWING NO. R77687-01-D3			
CAD REF NO.			
ORDER NO.			
SHEET NO. 3 OF: 5			





Andre J. Perrin

NOTES:

1. PUNCH OR DRILL .44" DIA. HOLES, 2.25" EACH SIDE OF CENTERLINE, 4.50" GAGE, AT ALL LOCATIONS, AS NOTED.
2. OMIT RODS AND NUTS

BRACKET REQUIREMENTS (EXCEPT AS NOTED):
BRACKETS IN STACK: STANDARD
BRACKETS IN RUN: STANDARD

SHOP NOTE: FURNISH WELDMENT ONLY WITH ALL CAPTURED BRACKETS



ACOUSTI-SEAL 931

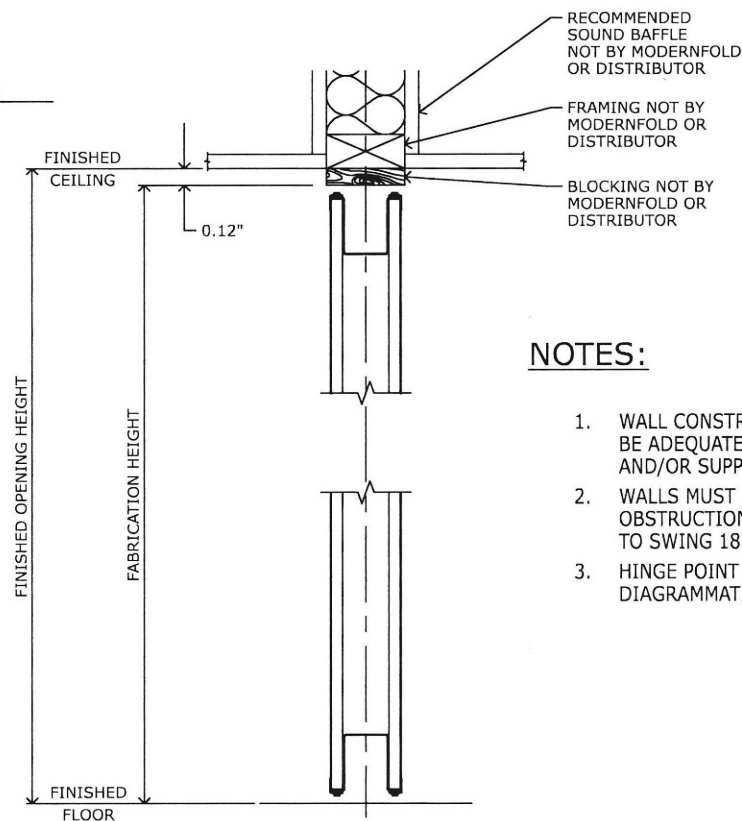
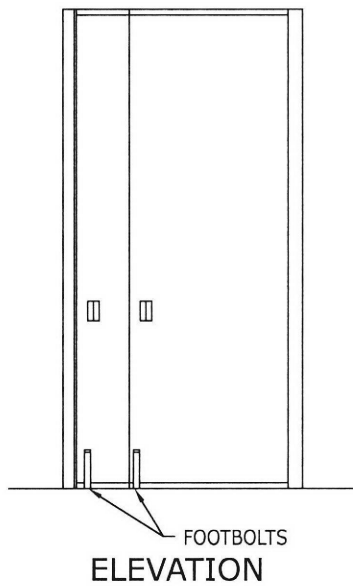
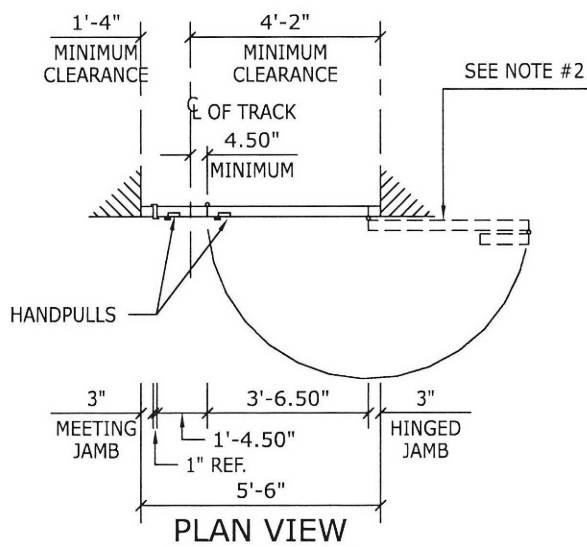
CLOSURE METHOD BI-FOLD HINGED PANEL
 FABRICATION HEIGHT 8'-5.50"
 TRACK SYSTEM #17 STD BKT (PROGRAMMABLE)
 BOTTOM SEALS 2" (51MM) AUTOMATIC
 PANEL ACOUSTICAL RATING 50 STC
 HANGING WEIGHT 8 LBS./SQ. FT.
 PANEL SKIN/FACING NON STEEL
 HINGE/TRIM COLOR TO BE ADVISED/TO BE ADVISED
 PANEL FINISH SELECTION VINYL: TO BE ADVISED

JOB NAME: US BANK TOWER-MARCUS & MILLICHAP
 SUITE 1950
 LOCATION: PORTLAND, OR
 ARCHITECT: DLR GROUP / STAFFELBACH
 ARCHITECT:
 CONTRACTOR: HOWARD S WRIGHT CONSTRUCTORS
 DISTRIBUTOR: INTERIOR TECHNOLOGY - OREGON

DATE	REV	ISSUED FOR	DRN.
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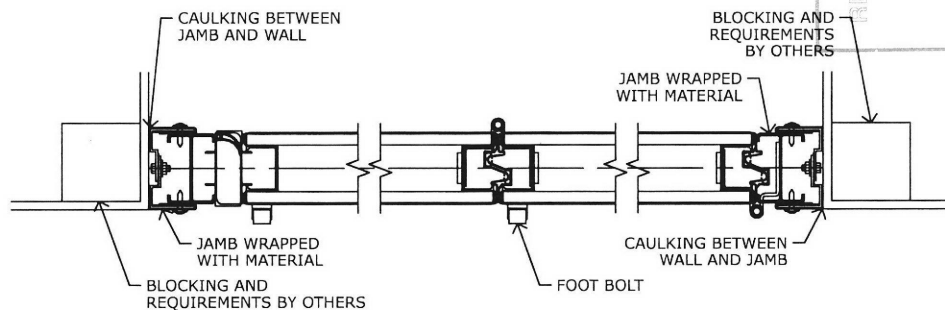
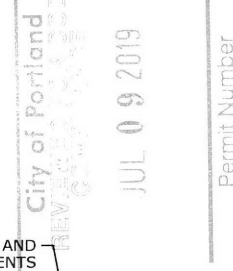
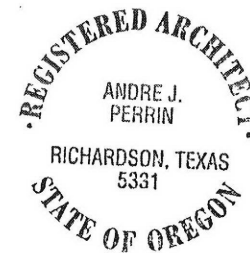
TRACK LAYOUT OP-01 LARGE / SMALL CONF ROOMS

DRAWING NO. R77687-01-D4
 CAD REF NO.
 ORDER NO.
 SHEET NO. 4 OF: 5



NOTES:

1. WALL CONSTRUCTION AT JAMBS MUST BE ADEQUATE FOR SECURING JAMBS AND/OR SUPPORT OF HINGED PANELS.
2. WALLS MUST BE FREE OF OBSTRUCTIONS TO PERMIT DOORS TO SWING 180°- TYP. BOTH DOORS
3. HINGE POINT IS SHOWN FOR DIAGRAMMATIC PURPOSE ONLY.



HINGED JAMB HINGED PANEL JOINT MEETING JAMB

MODERNFOLD			
POCKET DOOR TYPE IV B (BIFOLD UNEQUAL HALVES)			
JOB NAME: US BANK TOWER-MARCUS & MILLICHAP	SUITE 1950	LOCATION: PORTLAND, OR	ARCHITECT: DLR GROUP / STAFFELBACH
DATE: 04/12/19	REV: 0	ISSUED FOR: APPROVAL	DIR: MPM
CONTRACTOR: HOWARD S WRIGHT CONSTRUCTORS		DISTRIBUTOR: INTERIOR TECHNOLOGY - OREGON	
POCKET DOOR OP-01 LARGE / SMALL CONF ROOMS			
DRAWING NO. R77687-01-D5			
CAD REF NO.			
ORDER NO.			
SHEET NO. 5 OF: 5			