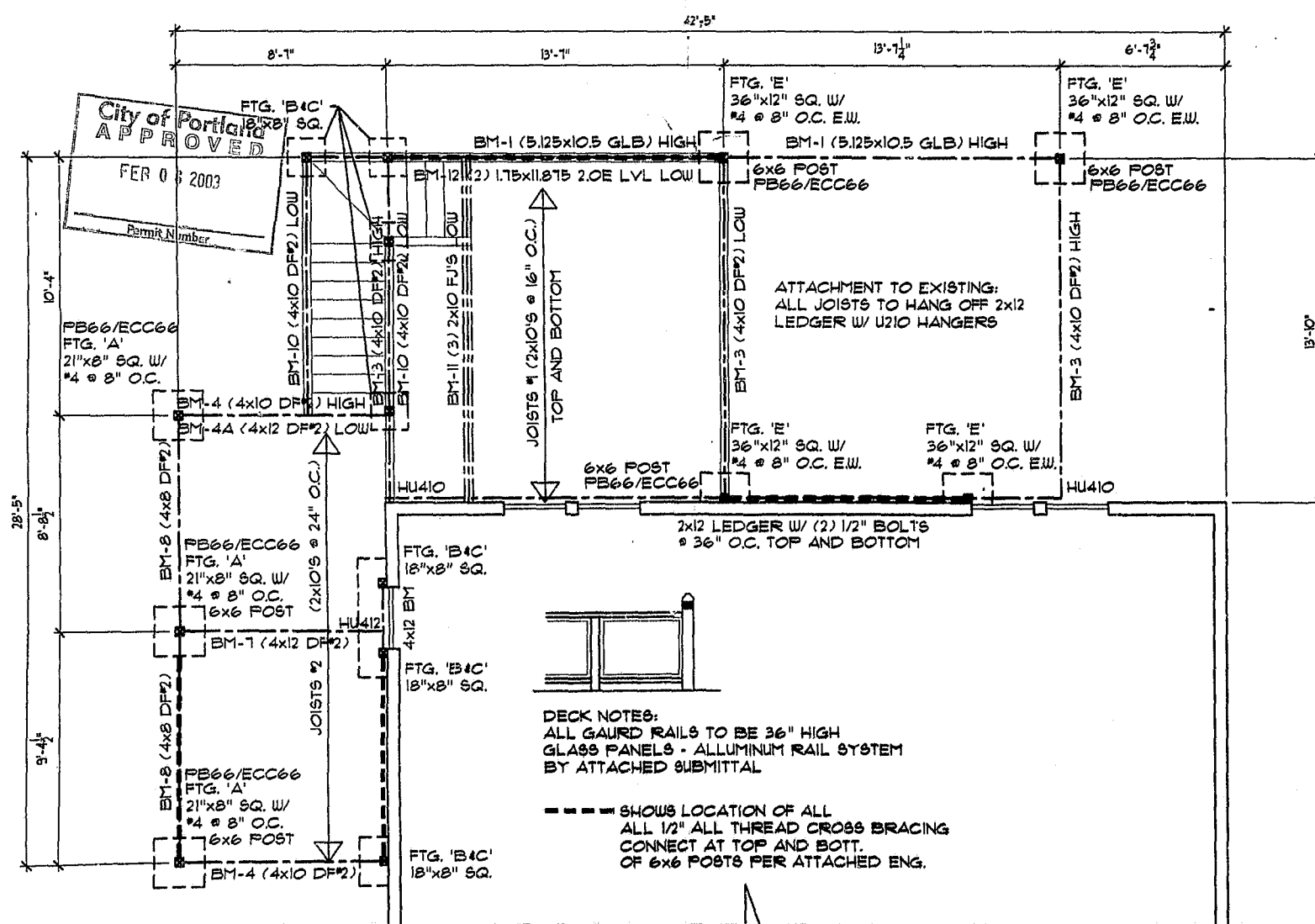


2950 SW BENNINGTON DR. DFS-01 RS03-103110

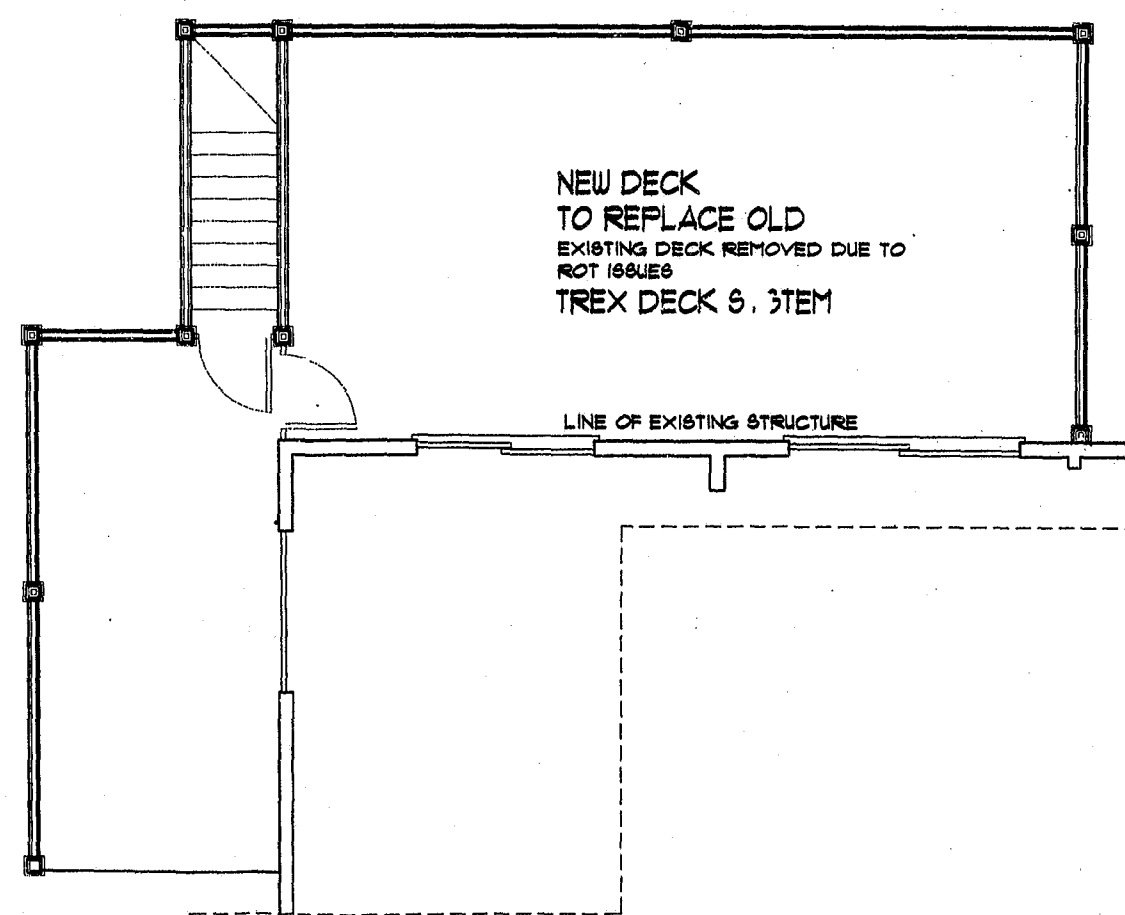
30



Architectural drawing showing the back elevation of a deck structure, including the new deck addition. The drawing includes structural details and annotations:

- GLASS PANES**: Labeled on the new deck railing and the existing deck railing.
- 36"**: Dimension indicating the height of the new deck railing.
- 48"**: Dimension indicating the height of the existing deck railing.
- KNEE BRACING AS SHOWN W/ 4x6 MEMBERS**: Annotation pointing to the structural bracing on the left side.
- PROVIDE ALL THREAD TIES AT ALL CROSS BRACING (TYP.) AS SHOWN - SEE LAYOUTS PER ATTACHED ENGINEERING**: Annotation pointing to the structural bracing in the center.
- BACK ELEVATION WITH NEW DECK**: Title at the bottom right.

BACK ELEVATION WITH NEW DECK



NEW UPPER DECK LAYOUT

Street Smart Neighborhoods

Residential | Multi-Family | Stock Plans
8117 SW Seneca St., Tualatin, OR 97062 503.692.0808

8117 SW Seneca St., Tualatin, OR 97062 503.692.0808
03-103110-DF-S-01-PS

A-1

RS.03. 10 3110 DFS. 01.

R

FEB 10 2003
MICROFILMED

36



CITY OF
PORTLAND, OREGON
OFFICE OF PLANNING AND DEVELOPMENT REVIEW
1900 SW 4th Ave, Suite 5000
Portland, OR 97201



RESIDENTIAL 1 & 2 FAMILY PERMIT

03-103110-DFS-01-RS

Site Address: 2950 SW BENNINGTON DR
2950 BENNINGTON DR

Issued: 2/6/03

PROJECT INFORMATION		Occ. Group	Const. Type
Decks, Fences, Retaining Walls	Alteration	R3	V-N
Project Description: DFS FOR GUARDRAIL SYSTEM AND LATERAL BRACING FOR DECK.			

APPLICANT	MERIDIAN CONSTRUCTION LLP *DENNIS TRIBBLE*	Phone	(360) 834-9836
PROPERTY OWNER	ELIZABETH V ROBERT'S	Phone	
CONTRACTOR	MERIDIAN CONSTRUCTION LLP *DENNIS TRIBBLE*	Phone	

Project Details	Project Details
Code Edition (Year) 2000	Zoning Enforcement Agency Portland
PAID FEB - 6 2003 CITY OF PORTLAND	

This permit expires if, at any time, 180 days pass without an approved inspection. If you are not able to obtain an inspection approval within 180 days, you may request a one-time only extension of 180 days by calling 503-823-7388.

**BEFORE
YOU DIG**

ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the center. (Note: the telephone number for the Oregon Utility Notification Center is 1-800-332-2344).

CITY CONTACT

E-Mail:

Phone:

Fax: (503) 823-4172

**INSPECTION REQUEST
PHONE NUMBERS**

Building/Trade Inspections - Call Before 6:00 AM:

(503) 823-7000

TDD: (503) 823-6868

**IVR Inspection Request
Number:**

2274752

E&L Civil Engineering

24 Jan 2003

Hansen Architectural System
5500 SE Alexander ST
Hillsboro, OR 97123

SUBJ: HANSEN ARCHITECTURAL SYSTEMS GUARDRAIL
ANCHORAGE TO WOOD FRAME CONSTRUCTION

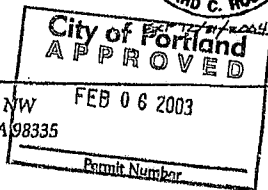
Hansen Architectural Systems standard detail for surface mount installations to wood utilizes four lag screws 3/8 inch diameter by 4" long with 3" effective embed depth to the wood. The wood must be of adequate size and species so as to develop the required strength of the lag screw (minimum 6 inch nominal wood member depth). This detail is adequate for up to 36 inch high railing installed in a type R-3 occupancy (residential) with a maximum post spacing of 6 feet on center and all posts connected together by the top rail. This may be used for picket rail, glass rail or cable rail installations. Calculated anchor loads are based on a 200 lb point load perpendicular and horizontal to the top rail (controlling load case) with load sharing to 2 posts which is the minimum that will occur in any installation.

anchor load = $[200\# / 2 * (36\text{ in} / (3.75\text{ in}))] / 2\text{ bolts} = 480\text{ lbs tension/bolt}$
allowable load withdrawal per NDS Table 9.2A = 243 lbs/inch
minimum for 3/8" bolt into Hem-Fir or denser wood.
Total withdrawal strength = $3\text{ in} * 243\text{ lbs/in} * 0.75 = 545\text{ lbs}$
0.75 adjustment for Wet Service Factors, C_M

The anchor strength in this detail is adequate to meet the loading and strength requirements of the 1997 Uniform Building Code and the 2000 International Residential Code.

If you have any questions please call me at 253-858-0855.

Edward Robison, P.E., S.E.



4508 Park Lane NW
Gig Harbor, WA 98335

253-858-0855



Pacific North West Engineering

Residential | Commercial Plans & Engineering

4242 Silver Falls Dr. N., Silverton, OR. 97381

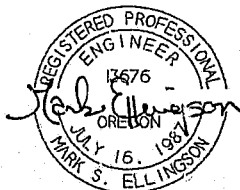
Ph. 503.873.3184 Fax. 503.873.3907

Lateral Calculations

Robinson Residence

Address: _____

Portland, Oregon



EXP. 12-31-03

Engineer of Record

Design Criteria:

Wind:	Exposure B
	80 mph Wind
Seismic:	Zone 3
Snow Load:	25 psf
Soil Bearing:	1500 psf

Pacific Northwest Engineering, Inc.

Mark S. Ellingson, P.E.

4242 Silver Falls Dr. N.

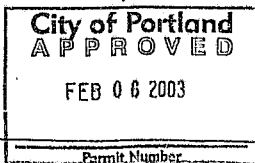
Silverton, OR 97381

Ph. 503.873.3184

Fax. 503.873.3907

Job #03-071

02-03-2003

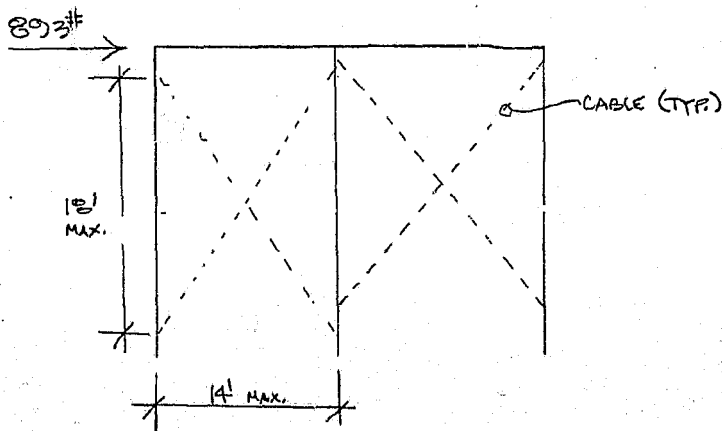


2/4

WIND FORCE @ DECK (SIDE-SIDE)

$$\text{AREA} = 62.5 \text{ } \text{ft}^2$$

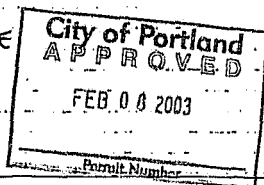
$$\text{FORCE} = (62.5)(14.284) = 893 \text{ #}$$



FORCE @ CABLE

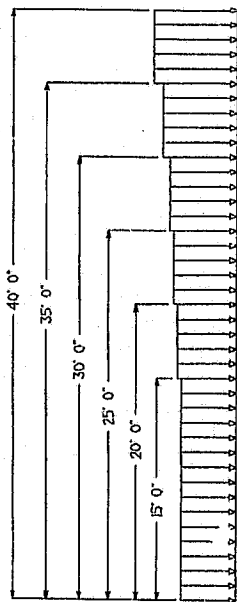
$$\frac{(893)(0.5)}{14} (\sqrt{18^2 + 14^2}) = 727$$

USE 1/4" Ø CABLE



3/4

80 MPH WINDS EXPOSURE "B"

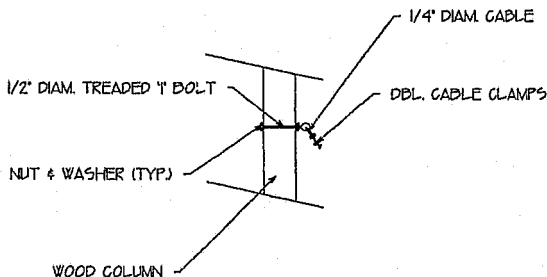

 $P = G_c G_q G_1$
0' - 15'
 $P = (0.62)(1.3)(0.64)(1.0)$
 $P = 13.218 \text{ \#/SQ. FT.}$
15' - 20'
 $P = (0.67)(1.3)(0.64)(1.0)$
 $P = 14.284 \text{ \#/SQ. FT.}$
20' - 25'
 $P = (0.72)(1.3)(0.64)(1.0)$
 $P = 15.350 \text{ \#/SQ. FT.}$
25' - 30'
 $P = (0.76)(1.3)(0.64)(1.0)$
 $P = 16.203 \text{ \#/SQ. FT.}$
30' - 40'
 $P = (0.84)(1.3)(0.64)(1.0)$
 $P = 17.909 \text{ \#/SQ. FT.}$
40' - 60'
 $P = (0.95)(1.3)(0.64)(1.0)$
 $P = 20.752 \text{ \#/SQ. FT.}$

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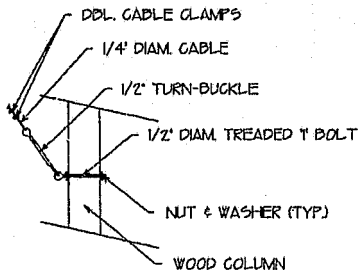
Permit Number

4/4

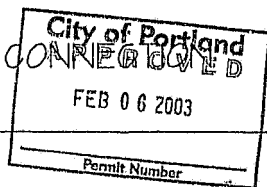


UPPER CONNECTION

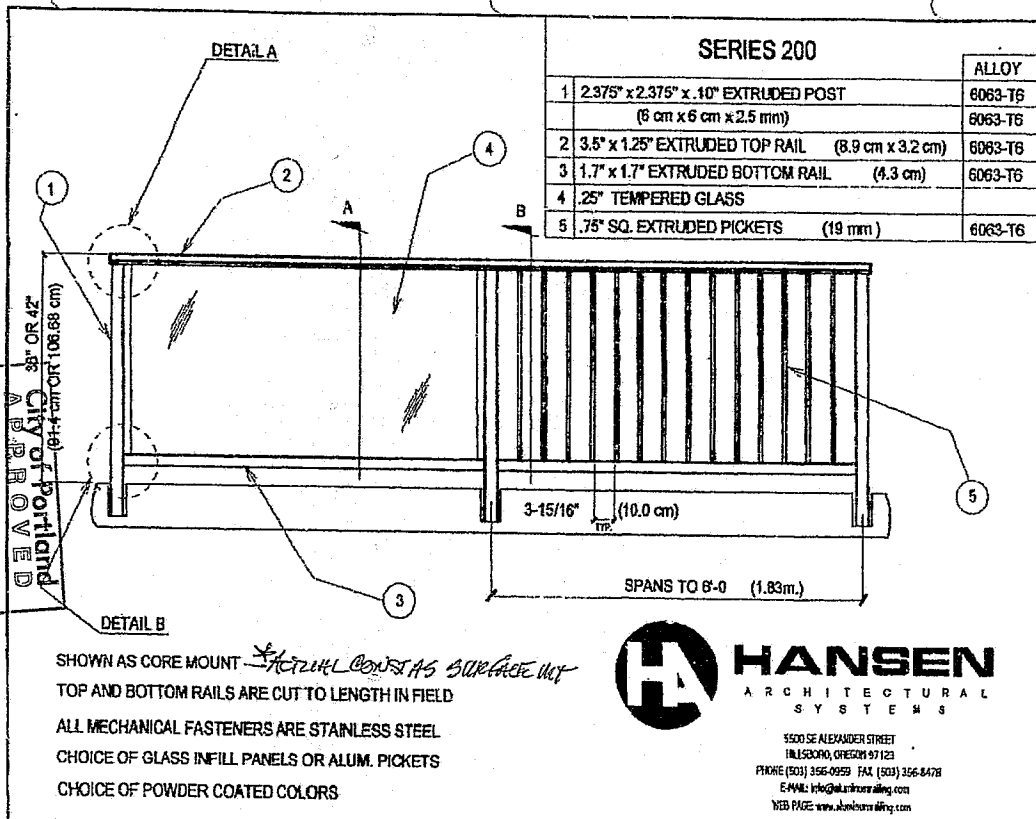
THE CONNECTION IS TO BE MADE WITHIN 24" OF THE END OF THE COLUMN. IN THE CASE OF THE CENTER COLUMN, THERE IS TO BE A MIN. OF 6" BETWEEN THE LOCATION OF THE T BOLTS. THE HOLE FOR THE T BOLTS IS TO BE A 5/8" DIAM. THRU THE COLUMN (MAX).

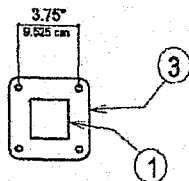
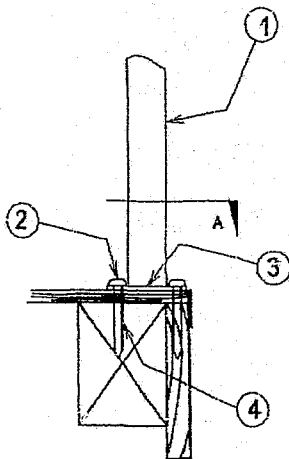
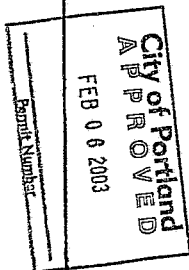


LOWER CONNECTION



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SECTION A

SURFACE MOUNT (WOOD)

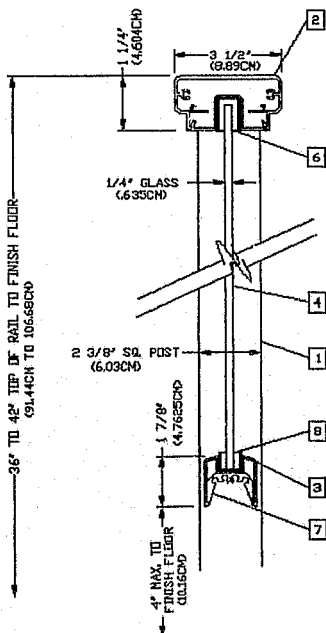
	ALLOY
1 2.375" x 2.375" x .100" POST 6.0325 cm x 6.0325 cm x 2.54 mm POST	6063-T6
2 SS. WASHER AND VINYL GAP	
3 25" x 5" x 5" ALUM. PLATE 6.35 mm x 12.7 cm X 12.7 cm PLATE	2025-T5
4 3/75" x 4" HEX LAG SCREWS (4 REQ.) 9.525" mm x 10.16 cm LAG SCREWS	SS



5500 SE ALEXANDER STREET
HILLSBORO, OREGON 97123
PHONE (503) 356-0959 FAX (503) 356-8478
E-MAIL: info@hansenarch.com
WEB PAGE: www.hansenarch.com

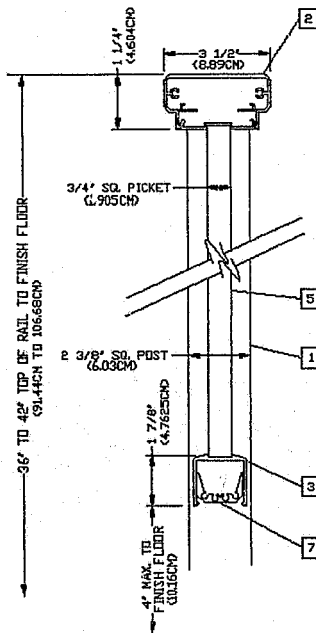
SERIES 200 SECTIONS & DETAIL

1	2-3/8"x2-3/8"x1/8" EXTRUDED POST (6.03CMx6.03CMx3.175CM)	
2	3-1/2"x1-13/16" EXTRUDED TOP RAIL (8.89CMx4.604CM)	
3	1-7/8"x1-7/8" EXTRUDED BOTTOM RAIL (4.7625CMx4.7625CM)	
4	1/4" TEMPERED GLASS INFILL (6.35CM)	
5	3/4" SQUARE EXTRUDED PICKETS (1.905CM)	
6	TOP GLASS VINYL	
7	EXTRUDED RAIL CONNECTING BLOCK	
8	BOTTOM GLASS VINYL	



SERIES 200 GLASS CROSS-SECTION

1.800.599.2965



SERIES 200 PICKET CROSS-SECTION

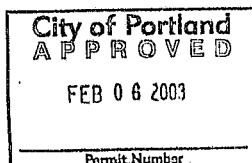
close window

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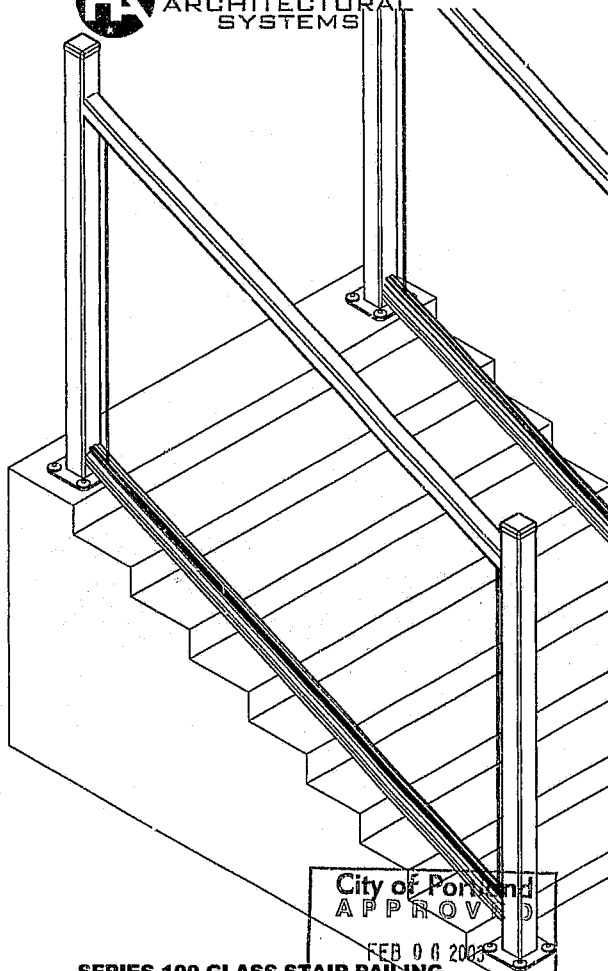
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SYSTEM 100 STAIRS



HANSEN
ARCHITECTURAL
SYSTEMS



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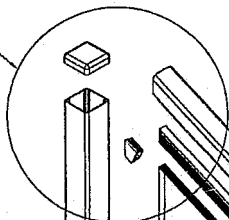
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SERIES 100 GLASS STAIR RAILING

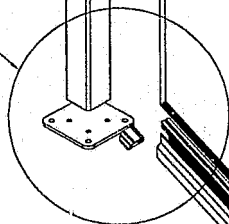
Permit Number



DETAIL 1



DETAIL 2



SERIES 100 GLASS STAIR RAILING

PAGE 1

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POST CAP

POST

RCB

RCB SCREW

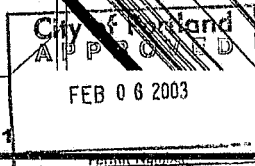
TR100

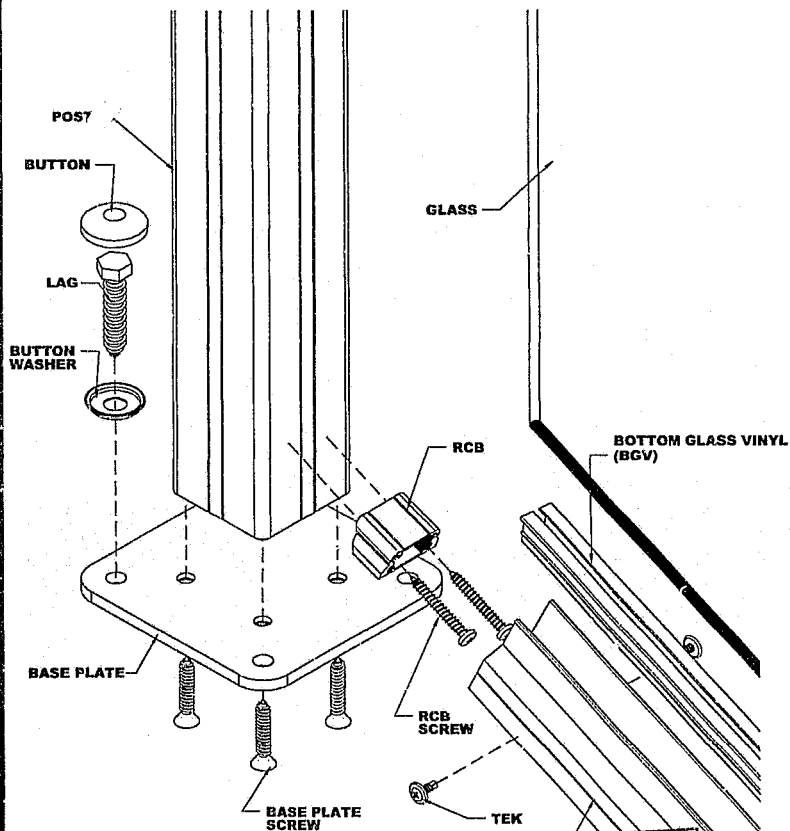
TEK

TOP GLASS VINYL
(TGV)

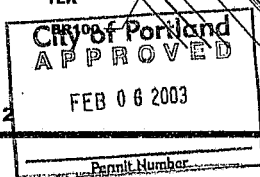
GLASS

DETAIL 1

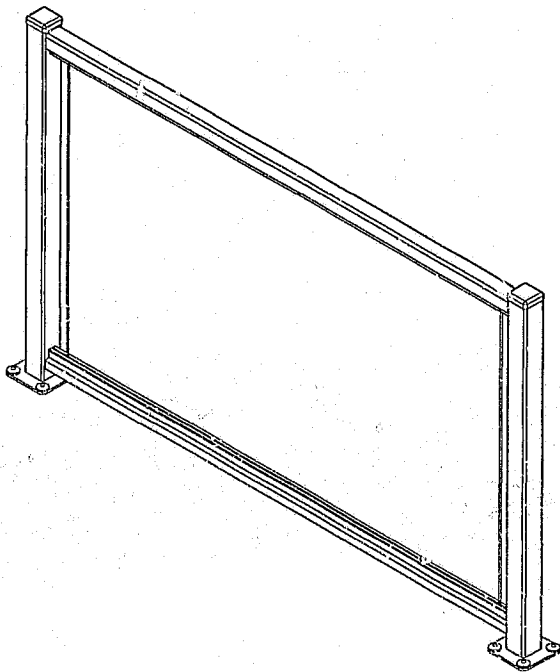




DETAIL 2



SYSTEM 100 HANDRAILS



SERIES 100 GLASS RAILING SYSTEM

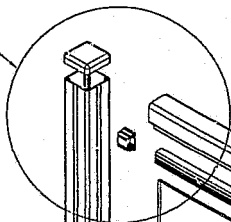
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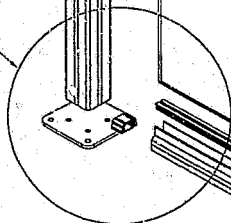
Permit Number



DETAIL 1



DETAIL 2



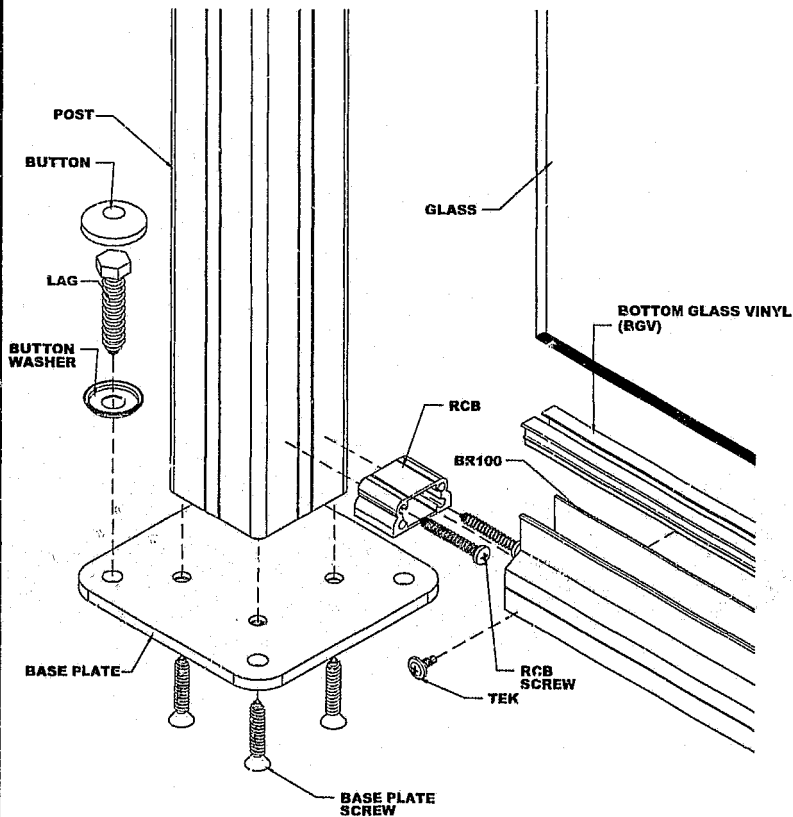
SERIES 100 GLASS RAILING SYSTEM

PAGE 1

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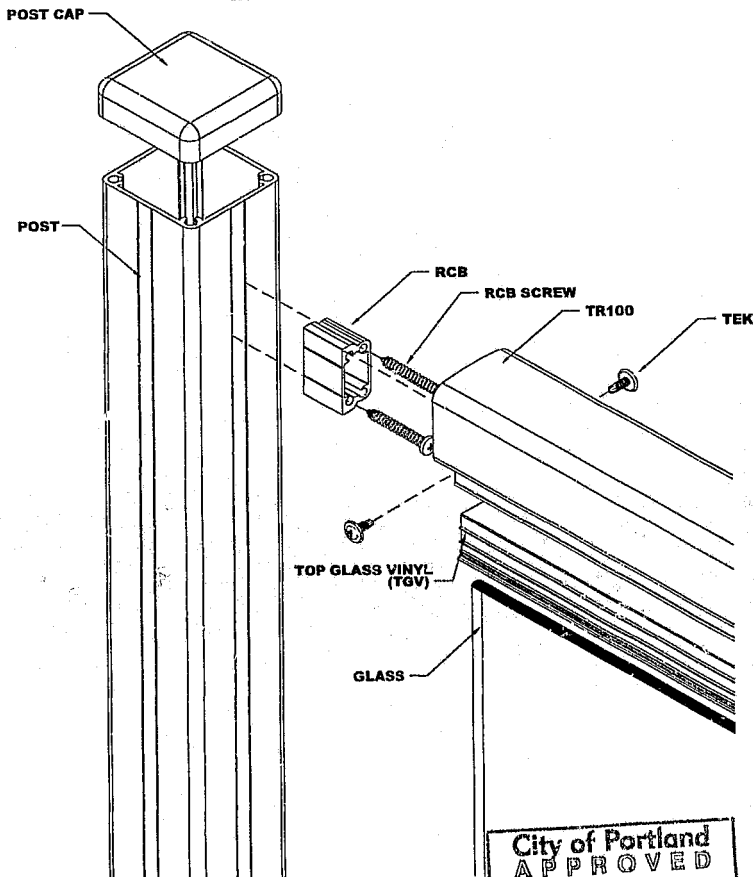


DETAIL 2

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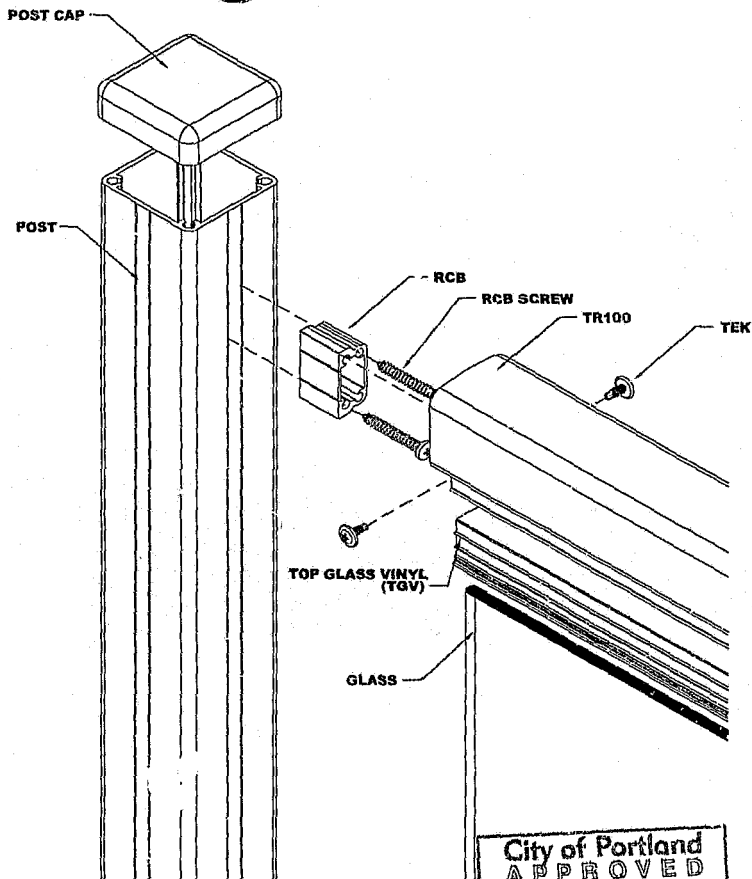


DETAIL 1

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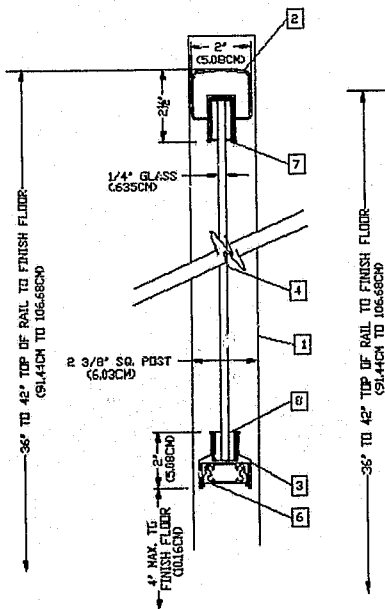
FEB 06 2003

Permit Number

SYSTEM 100 DETAILS

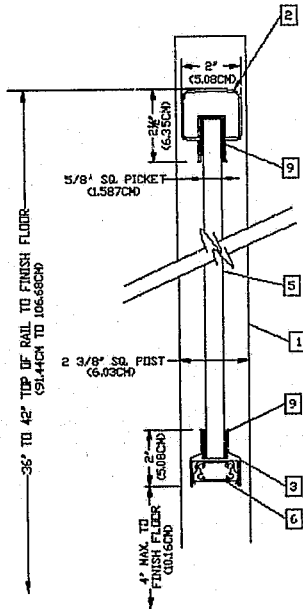
SERIES 100 SECTIONS & DETAILS

1	2 3/8" x 1/4" EXTRUDED POST (5.03CH)
2	2 1/2" x 1/2" EXTRUDED TOP RAIL (5.08CH x 6.35CH)
3	1 3/4" x 1/4" EXTRUDED BOTTOM RAIL (4.7625CH x 4.7625CH)
4	1/4" TEMPERED GLASS INFILL (6.35CH)
5	1/4" SQUARE EXTRUDED PICKETS (4.5275CH)
6	EXTRUDED RAIL CONNECTING PLUG
7	TOP GLASS VINYL
8	BOTTOM GLASS VINYL
9	PICKET VINYL



SERIES 100 GLASS CROSS-SECTION

1.800.599.2965



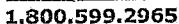
SERIES 100 PICKET CROSS-SECTION

close window

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Permit Number 2/4/2003



close window

