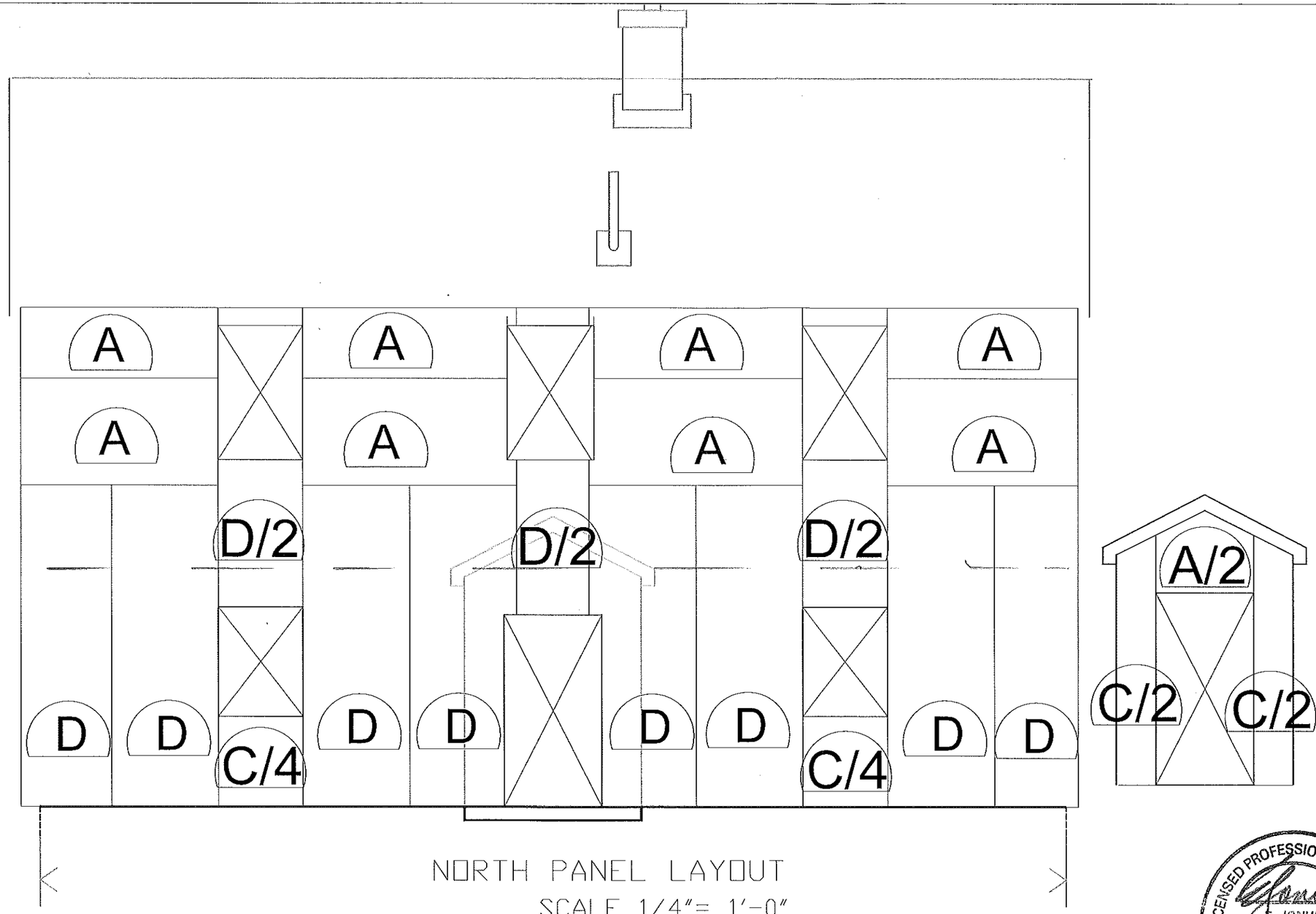

NORTH PANEL LAYOUT

SCALE 1/4"= 1'-0"

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HD WF FRAME TO DIVISION B, 9.23
COLUMN FRAME TO DIVISION B, 9.23

NAIL BASE PANELS

A 4X8X6"
B 4X9X6"
C 4X10X6"
D 4X12X6"
D/2 D PANEL CRAFTED TO FIT (TYPICAL)

See installation details AB3 to NB2 inclusive in Thermapan Installation Manual NailBase Section

CAP PLATE HOUSE FEET
CAP PLATE GARAGE FEET
SIP SCREWS TO BE

Date Revision/Issue

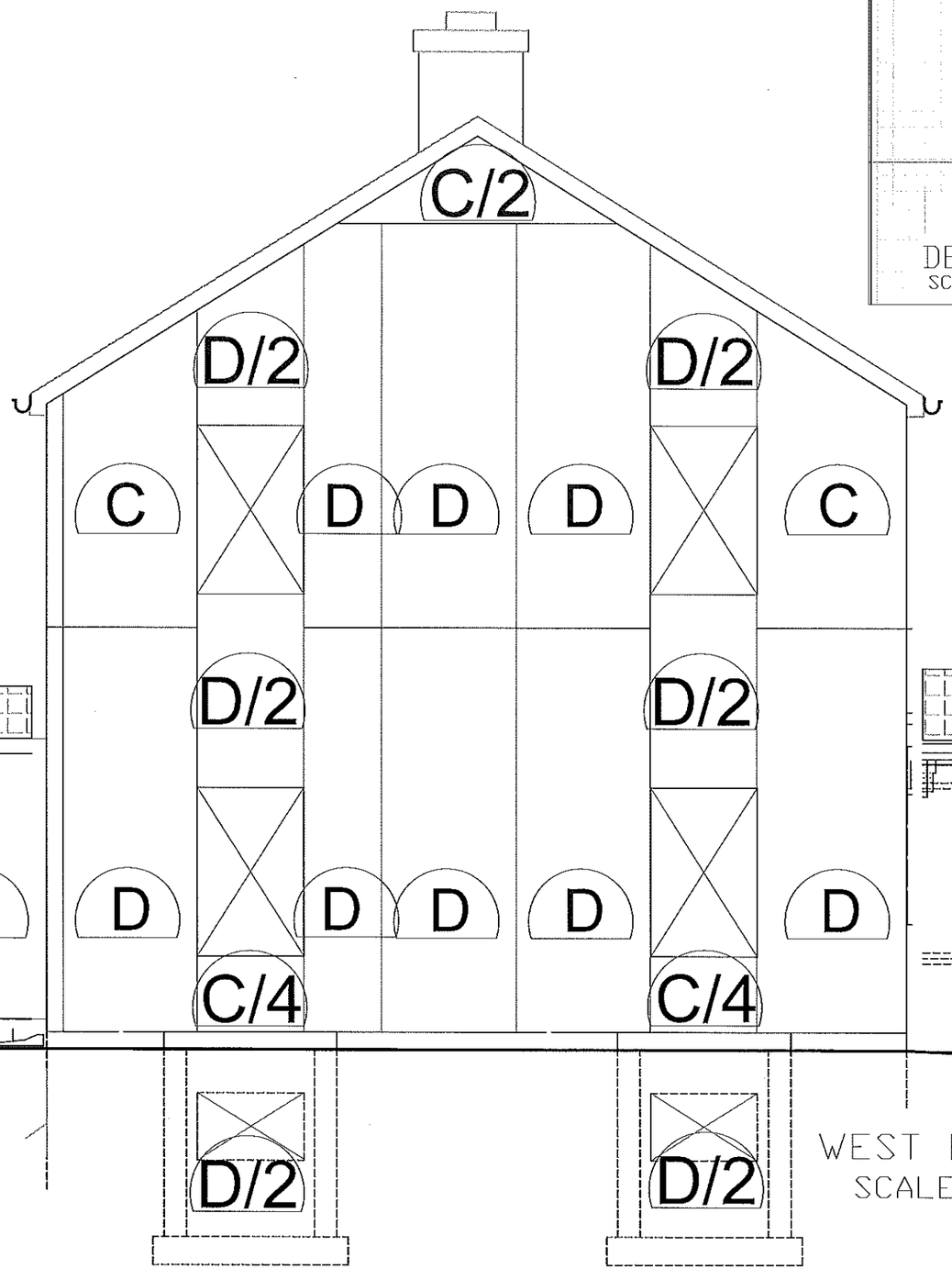
LICENSED PROFESSIONAL ENGINEER
E. JONUS
22557011
May 6/20
PROVINCE OF ONTARIO

Thermapan
Structural Insulated Panels
1380 Commerce Parkway
Fort Erie, On L2A 5M4
905 994 7399

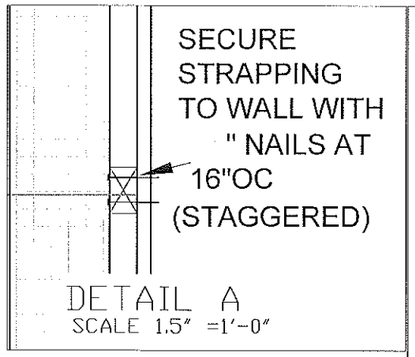
Customer

Project HOUSE 20
ONTARIO TECH UNIVERSITY
OSHAWA ONTARIO

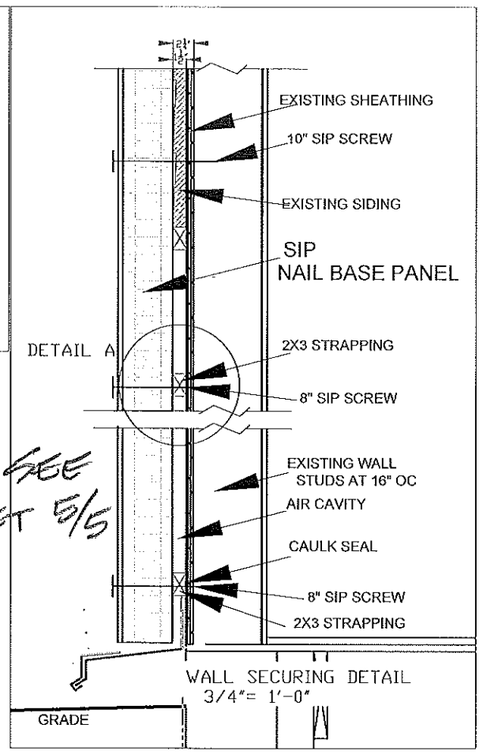
Date 03/31/20
Scale AS NOTED on 11x17 sheets
Project 5513
Sheet 1/5



WEST PANEL LAYOUT
SCALE 1/4"= 1'-0"



DETAIL A
SCALE 1.5" =1'-0"



WALL SECURING DETAIL
3/4"= 1'-0"

ALSO SEE SHEET 5/5

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COLUMN	FRAME TO DIVISION B, 9.23

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CAP PLATE HOUSE FEET
CAP PLATE GARAGE FEET
SIP SCREWS TO BE

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REVISED 05/6/20

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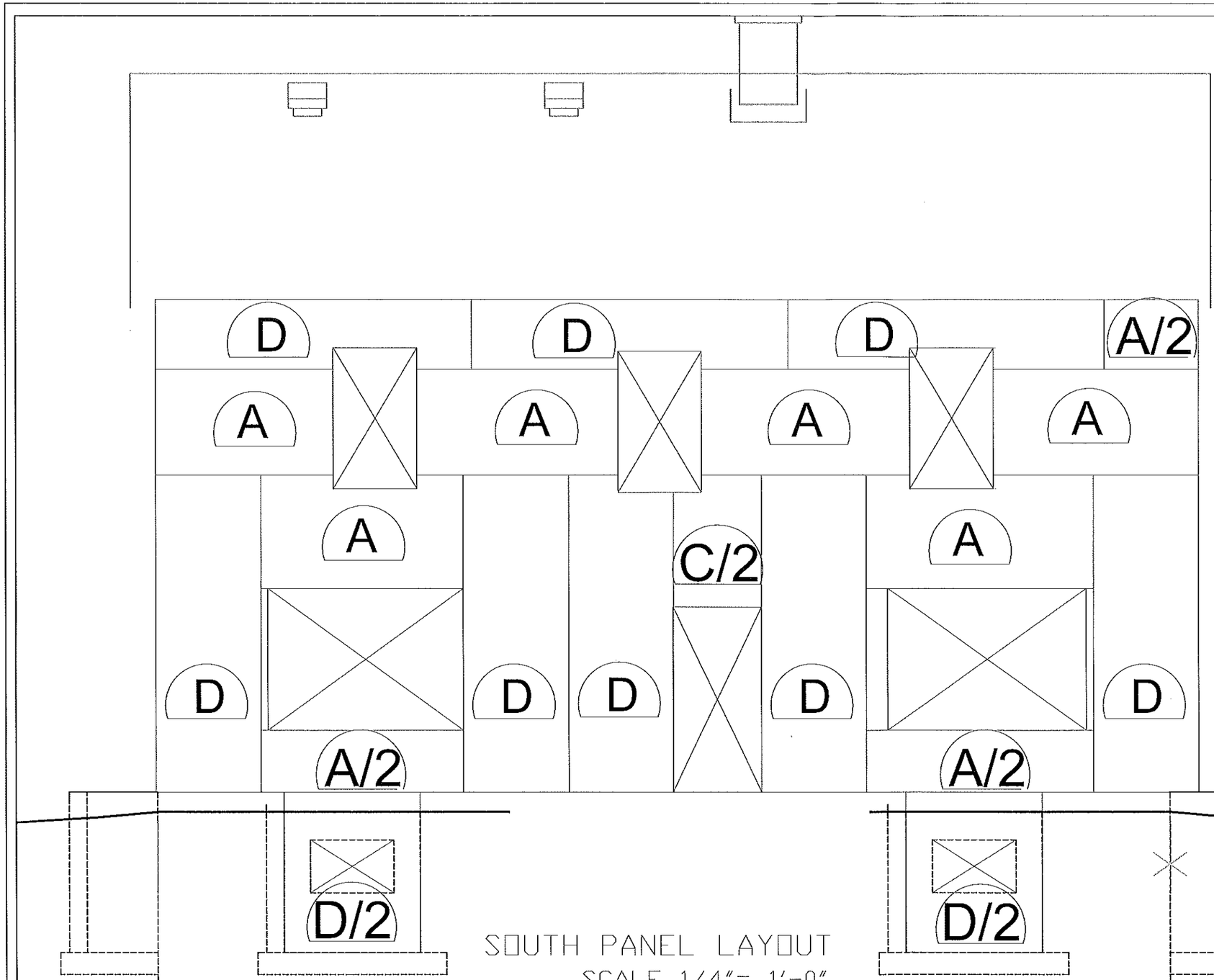
OSHAWA ONTARIO

Date 03/31/20
Scale AS NOTED on 11x17 sheets
Project 5513
Sheet 2/5



SOUTH PANEL LAYOUT
SCALE 1/4"= 1'-0"

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CAP PLATE HOUSE FEET
CAP PLATE GARAGE FEET
.. SCREWS TO BE ..

Date Revision/Issue

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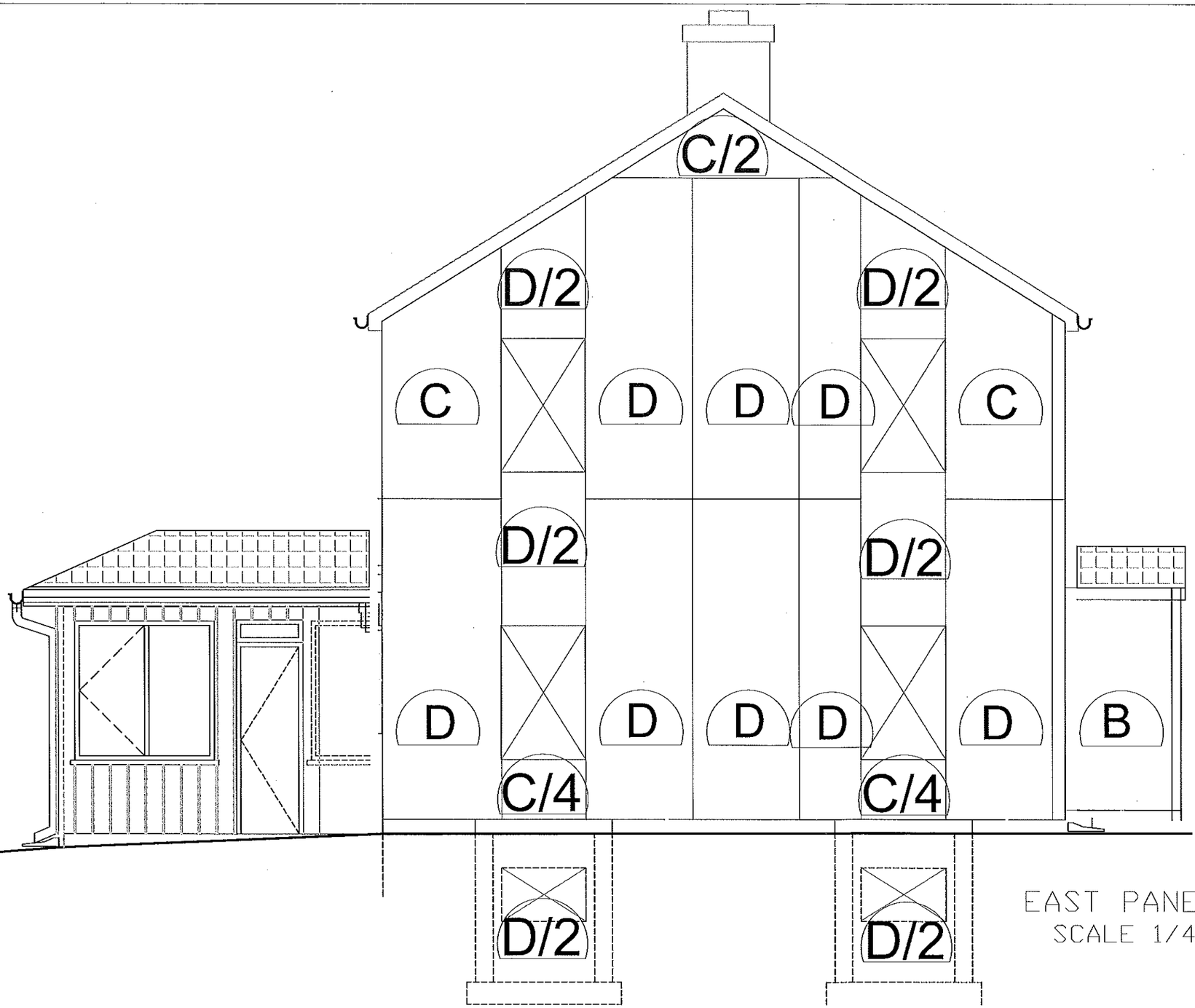
Date 03/31/20
Scale AS NOTED on 11x17 sheets
Project 5513
Sheet 3/5



EAST PANEL LAYOUT
SCALE 1/4"= 1'-0"

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SIP SCREWS TO BE 8" & 10"
Date Revision/Issue

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Sheet 4/5

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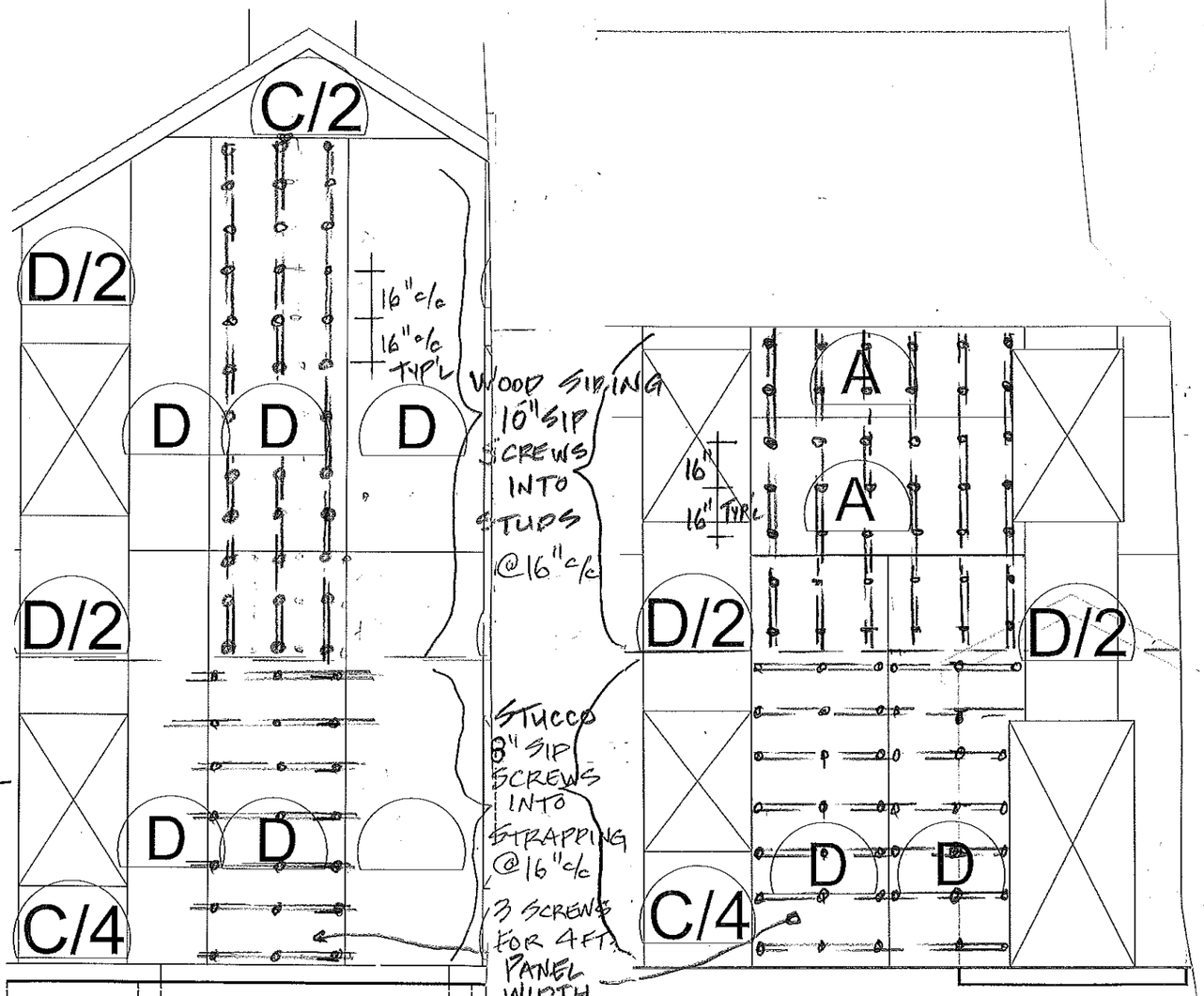
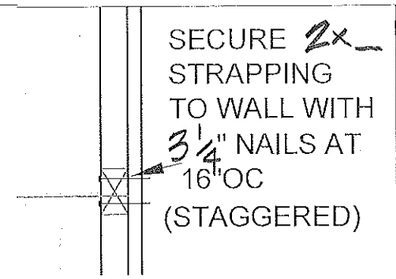


TYPICAL LAYOUTS.

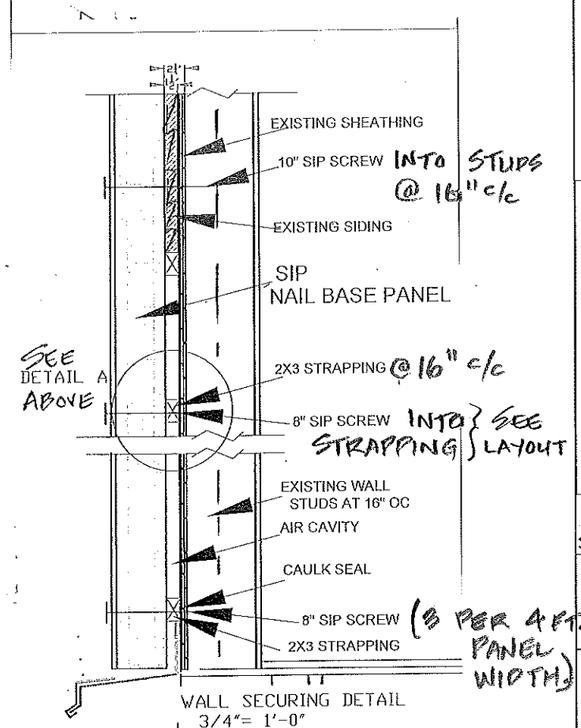
EAST & WEST PANELS.

SOUTH & NORTH PANELS



DETAIL A

SCALE 1.5" =1'-0"



WALL SECURING DETAIL

3/4"= 1'-0"

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See installation details AB3 to NB2 inclusive in Thermapan Installation Manual NailBase Section

SIP SCREWS TO BE 8" & 10 LONG

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OSHAWA ONTARIO

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5-6-20
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Date 05/6/20

Scale AS NOTED on 11x17 sheets

Project 5513

Sheet 5/5

jabacus Specified Wind Load Figure 4.1.7.6.-A (NBC 2015)

version 0.1.0
April 15, 2020

Project:

Designer:

Climatic Data

Location

Province: Ontario

Location:

Oshawa

Return Period: 50 year

Factors

Importance factor

I_w: Normal

Terrain: Open terrain

Reference height in meters above grade for C_e

height, h: 7 m

Reference height in meters above grade for C_{ei}

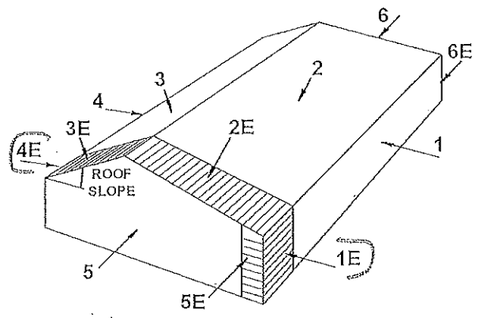
height, h_i: 7 m

Roof Pitch: 6 /12

C_t: 1.0 * optional

Internal pressure Category, C_{pi}:

Category 2: Cpi = -0.45 to 0.3



WIND PRESSURE SIDES

Factors

Location: Oshawa, Ontario
q_{50}: 0.48kPa
Importance Factor, ULS: I_w = 1.0 / SLS: I_w = 0.75
Roof slope = 26.6 degrees
$C_e = (h/10)^{0.2}$ = 0.93
$C_{ei} = (h/10)^{0.2}$ = 0.93
C_t = 1

External Wind Pressure

$p = I_w * q * C_e * C_t * C_g * C_p$

Load Case A: Winds generally perpendicular to ridge

Load Case B: Winds generally parallel to ridge

Side	Load Case A C_pC_g	Load Case A ULS p (kPa)	Load Case A SLS p (kPa)	Load Case B C_pC_g	Load Case B ULS p (kPa)	Load Case B SLS p (kPa)
1	1.03	0.46	0.35	-0.85	-0.38	-0.28
1E	1.37	0.61	0.46	-0.9	-0.4	-0.3
2	-0.18	-0.08	-0.06	-1.3	-0.58	-0.44
2E	-0.36	-0.16	-0.12	-2.0	-0.89	-0.67
3	-0.83	-0.37	-0.28	-0.7	-0.31	-0.23
3E	-1.1	-0.49	-0.37	-1.0	-0.45	-0.34
4	-0.73	-0.33	-0.25	-0.85	-0.38	-0.28
4E	-1	-0.45	-0.34	-0.9	-0.4	-0.3
5	n/a	n/a	n/a	0.75	0.34	0.25
5E	n/a	n/a	n/a	1.15	0.51	0.39
6	n/a	n/a	n/a	-0.55	-0.25	-0.18
6E	n/a	n/a	n/a	-0.8	-0.36	-0.27

Internal Wind Pressure

C_{gi} = 2 C_{pi} = -0.45 to 0.3

$p_i = I_w * q * C_{ei} * C_t * C_{gi} * C_{pi}$

ULS: p_i = -0.4kPa to 0.27kPa

SLS: p_i = -0.3kPa to 0.2kPa

OUTWARD PRESSURE (1E) = (0.61 + 0.27) KPa = 0.88 KPa
× 1.4 FACTOR = 1.23 KPa = 26 PSF

Fastener (SIP Screw) Factored Resistance Table(Canada)

SIP Screw Spacing inches	SIP Screw Spacing mm	Resistance (lbs/foot) Lateral (Shear)	Resistance (lbs/foot) Withdrawal (Pullout)	Resistance (kN/m) Lateral (Shear)	Resistance (kN/m) Withdrawal (Pullout)
24	600	200	200	2.9	2.9
20	500	250	250	3.6	3.6
16	400	300	300	4.4	4.4
12	300	400	400	5.8	5.8
10	250	480	480	6.9	6.9
8	200	600	600	8.7	8.7
6	150	800	800	11.6	11.6

1. BASED ON 20 PSF UPLIFT and 8 PSF OF DEAD LOAD
2. MINIMUM 1.5" FASTENER PENETRATION INTO SUPPORT
3. SIP SCREW FACTORED RESISTANCE
   400 lb. LATERAL (SHEAR), 400 lb. WITHDRAWAL (PULLOUT)

OUTWARD PRESSURE ON 4' × 12' PANEL:
= 48 ft² × 26 psf = 1248 LBS.
- 21 SIP SCREWS (400 LB. EACH)
PROVIDE MORE THAN SUFFICIENT RESISTANCE.

Thermapan Structural Insulated Panels
The better way to build.™
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NAILBASE PANELS

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5-6-20
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Project: HOUSE 20
Date: 5/6/20
Scale: VARIES on 11x17 sheets
Project Number: 5513
CD-8
Sheet: 6/