HDC-24-45 Historic District Certificate of Appropriateness Status: Active Submitted On: 12/17/2024

Town of Chapel Hill, NC

Primary Location

402 HILLSBOROUGH ST CHAPEL HILL, NC 27514

Owner

ROSE DAVID E 402 HILLSBOROUGH ST CHAPEL HILL, NC 27514 Applicant

- Leely Muscatell
- 🤳 916-495-7661
- keelymuscatell@gmail.com402 Hillsborough Street

Chapel Hill, NC 27514

Certificate of Appropriateness Form

Historic District

Franklin-Rosemary

Application Type Check all that apply

Minor Work is exterior work that does not involve any substantial alterations, and do not involve additions or removals that could impair the integrity of the property and/or the district as a whole. See Chapel Hill Historic Districts Design Principles & Standards ("Principles & Standards") (p. 9-11) for a list of minor works. Please contact Town Staff to confirm if you believe the project is classified as "minor work."

Historic District Commission Review includes all exterior changes to structures and features other than minor works

Maintenance or Repair Work	Minor Work (Defined by Design Standards)
Historic District Commission Review	COA Amendment

Written Description

Describe clearly and in detail the physical changes you are proposing to make. Identify the materials to be used (siding, windows, trim, roofing, pavements, decking, fencing, light fixtures, etc.), specify their dimensions, and provide names of manufacturers, model numbers, and specifications where applicable. Consider including additional materials to illustrate your project, such as: - Photos and specifications for proposed exterior materials such as siding, trim, roof, foundation materials, windows, etc. - Renderings of the proposed work - Spec sheets

This project will involve demolishing an existing wood deck on the back of the house, and adding a screened-in porch (13 feet by 15 feet, or approx 195 square feet), constructed of premium-treated lumber. The project will include stairs to the back yard on one side of the porch (stoop approx 16 square feet), and a small grilling deck (13 feet by 6 feet, or approx 76 square feet) off the opposite side. All finishes will match the house and are compatible with the architectural style and surrounding neighborhood homes in the Franklin-Rosemary Historic Distrcit, the majority of which also have screened porches. The entirety of the project will take place behind the house and none of it will be visible from the street.

Is this application for after-the-fact work?*

Is this application a request for review after a previous denial?*

No

No

Applicable HDC Design Standards

Page / Standard # 4.10.1	Topic 4. New Construction
Brief Description of the Applicable Aspects of Your P Deck will be located on the rear of the from public view from the street.	
Page / Standard # 4.10.4	Topic 4. New Construction
Brief Description of the Applicable Aspects of Your P New porch will replace an existing woo	od deck that is much larger than the
new porch will be, this limiting its size a	and scale and visual impact.
Page / Standard #	Торіс
4.10.5	4. New Construction

Brief Description of the Applicable Aspects of Your Proposal

Porch will be aligned with home's first floor.

Page / Standard #Topic4.10.74. New Construction

Brief Description of the Applicable Aspects of Your Proposal

Porch, stoop, and grilling deck will be constructed of wood.

Page / Standard #

Topic

4.10.8

4. New Construction

Brief Description of the Applicable Aspects of Your Proposal

Porch will be attached to rear of home but is self-supported to a live load of 60 lbs per square foot.

Page / Standard #

Topic

4.10.9

4. New Construction

Brief Description of the Applicable Aspects of Your Proposal

Lattice will be used between the stoop and the porch, and foundation plantings will cover the space between the ground and the porch floor.

Property Owner Information

Property Owner Name

David Rose

Property Owner Signature

David Emile Vatcher Rose
 Dec 16, 2024

Timeline

Label	Activated	Completed	Assignee	Due Date	Status
✓ COA Completeness Check	12/17/2024, 12:08:59 PM	12/17/2024, 2:11:05 PM	Anya Grahn- Federmack	-	Completed
S COA Fee	12/17/2024, 2:11:05 PM	12/17/2024, 2:47:20 PM	Keely Muscatell	-	Completed
✓ COA Approval Review	12/17/2024, 2:47:21 PM	-	Anya Grahn- Federmack	-	Active



Orange County North Carolina

272748 402 HILLSBOROUGH ST

JANUARY 1ST OWNER MAILING ADDRESS ROSE DAVID E, MUSCATELL KEELY A 402 HILLSBOROUGH ST CHAPEL HILL NC 27514

Total Assessed Value \$634,100

KEY INFORMATION

Tax Year	2024		
Parcel ID	9788590112	Township	7 - CHAPEL HILL
Land Size	0.27	Land Units	AC
Rate Code	22		
District Codes	G0 County, G2 Chapel Hill, CH CHSchoolDst.		
Property LUC	Residential- Improved		
Neighborhood	7172 - 7FRANKRSMRY		
Legal Description	1 MASON P THOMAS III ETAL P33/166		
Exempt Type	-		

APPRAISAL DETAILS

Total Land	\$380,000
Ag Credit	-
Land	\$380,000
Building	\$250,400
Yard Items	\$3,700
Market Total	\$634,100
Total Assessed	\$634,100

RESIDENTIAL

BUILDING (1)					
Туре	Single Fam	Total Value	\$250,400	Finished Sq Ft	2,740 sf
Style	-	Quality	Grade B+05	Condition	Average
Year Built	1922	Exterior Walls	Frame	Full Bath	2
Roof Cover	Shingle	Half Bath	0	HVAC	Combo H&A
Bedrooms	4		Garage Type	-	
Fireplace Count	1				



IMPROVEMENT TYPE	UNITS/SQ FT	EST YEAR BUILT	APPRAISED VALUE
Y030 - STG BLDG	192	1990	\$3,700

SALES

SALE DATE	SALE PRICE	DEED BOOK	DEED PAGE	INSTRUMENT TYPE	GRANTOR
05/19/2016	\$530,000	6124	127	-	BENSON
05/06/2004	\$552,500	3426	163	-	LAWSON
05/06/2004	\$552,500	3426	163	-	LAWSON ROBERT W
12/29/1993	\$150,000	1199	147	-	THOMAS
12/29/1993	\$150,000	1199	147	-	THOMAS PATRICIA R

YARD ITEMS

DESCRIPTION	TOTAL UNITS	YEAR BUILT	LENGTH	WIDTH	HEIGHT	
No items to display						

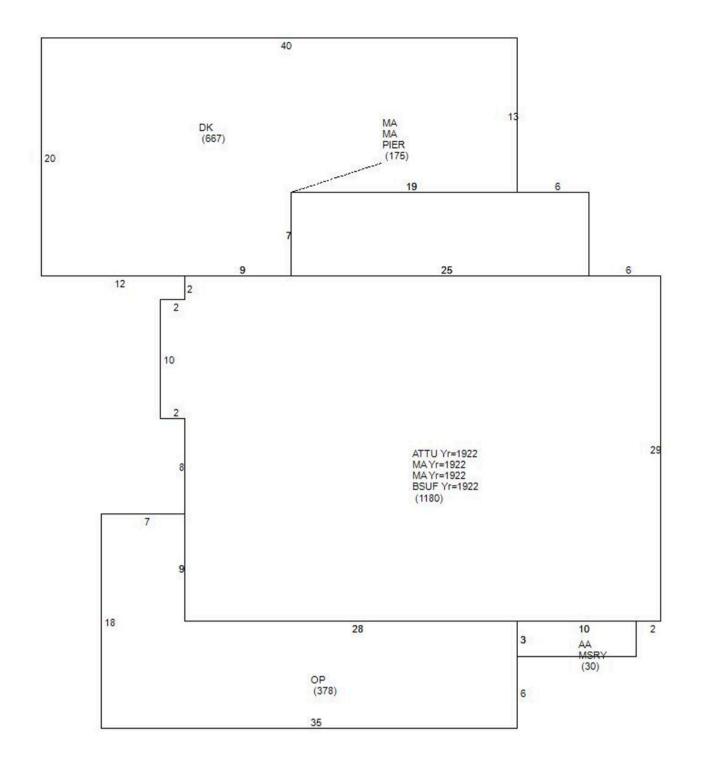
LAND

UNIT / SOIL TYPE	DESCRIPTION	USE CODE	ACRES / LOTS	VALUE
LOT	Lot	SITE	1.00	\$380,000

VALUE HISTORY

YEAR	TOTAL MARKET VALUE
2024	\$634,100
2023	\$634,100
2022	\$634,100
2021	\$634,100
2020	\$615,100
2019	\$615,100
2018	\$615,100
2017	\$615,100
2016	\$575,345
2015	\$575,345
2014	\$575,345





Disclaimer

Orange County Assessor's Office makes every effort to produce the most accurate information possible. **No warranties, expressed or implied, are provided for the data herein, its use or interpretation**.

United States Department of the Interior National Park Service

7

National Register of Historic Places Continuation Sheet

122

Section number

Page

Chapel Hill Historic District Boundary Increase and Additional Documentation Orange County, North Carolina

307 Hillsborough - Ward-Kyser House - c. 1840, c. 1995

Among the town's earliest residences, the house was constructed about 1840 as a one-story, sidegabled house with a gabled ell at the right rear (northwest). However, it has been significantly altered with the replacement of much original material and the construction of a large addition at the right (north) and rear of the house. The house has replacement weatherboards, six-over-six wood-sash windows, six-over-nine windows on the façade, and two interior stuccoed brick chimneys. The replacement fifteen-light French front door has four-light sidelights on beadboarded panels. It is sheltered by a near-full-width, hip-roofed porch supported by square columns. There is a shed-roofed wing at the left rear (southwest) and the double-pile, gabled rear ell has a shed-roofed porch on its left (south) elevation. The porch has a metal roof and has been enclosed with four-light casement windows. The house has been enlarged since 1992 with the construction of a gabled screened porch at the rear of the ell. A side-gabled hyphen extends from the right (north) elevation of the ell with a full basement and shed-roofed porch on the right elevation. From the hyphen extends a front-gabled wing with projecting bays in the front and rear gables.

The house was the 1920s-1930s residence of Edward Vernon Kyser, inventor of note and professor of pharmacology at UNC. A small, dirt-floored room in the basement is rumored to have been a part of the Underground Railroad. County tax records date the building to 1852 and the house appears on the 1915 Sanborn map, the earliest map to record this part of Hillsborough Street.

C-Building – Shed, c. 1900 – Front-gabled, frame shed with plain weatherboards, a four-light window on the east elevation, and a partially enclosed shed-roofed bay on the west elevation.

402 Hillsborough – House – c. 1922

This two-story, side-gabled, Colonial Revival-style house is three bays wide and double-pile with plain weatherboards, six-over-one wood-sash windows, a wide fascia, partial cornice returns, and an exterior brick chimney on the left (north) elevation. The house has a six-panel door with five-light sidelights centered on the façade. It is sheltered by a two-bay-wide, hip-roofed porch with replacement porch posts and railings that wraps around the left elevation. On the right (south) end of the façade, a one-story, canted bay projects under a gabled roof; windows on the bay are separated by wood pilasters. There is a two-story projecting bay on the left elevation and the house has boxed eaves and a single window in each gable. County tax records date the building to 1922 and the house appears on the 1925 Sanborn map.

NC-Building – Garage, c. 1980 – Front-gabled, frame garage with weatherboards and exposed trusses and screening the gables.

404 Hillsborough – House – 2000

Recently constructed, this two-story, front-gabled house fits the general scale of the neighborhood. It is four bays wide and double-pile with plain weatherboards, two-over-one wood-sash windows, and an exterior brick chimney on the left (north) elevation. A one-light-over-two-panel door on the right (south) end of the façade is located in a projecting square bay and has one-light-over-one-panel

C – Building

NC – Building

NC – Building

402 Hillsborough Street

HOUSE

c. 1922

This two-story, side-gabled, Colonial Revival-style house is three bays wide and double-pile with plain weatherboards, six-over-one wood-sash windows, a wide fascia, partial cornice returns, and an exterior brick chimney on the left (north) elevation. The house has a six-panel door with five-light sidelights centered on the façade. It is sheltered by a two-bay-wide, hip-roofed porch with replacement porch posts and railings that wraps around the left elevation. On the right (south) end of the façade, a one-story, canted bay projects under a gabled roof; windows on the bay are separated by wood pilasters. There is a two-story projecting bay on the left elevation and the house has boxed eaves and a single window in each gable. County tax records date the building to 1922 and the house appears on the 1925 Sanborn map.

In the 2015 survey, this was deemed a Contributing Building.

GARAGE

c. 1980

Front-gabled, frame garage with weatherboards and exposed trusses and screening the gables. In the 2015 survey, this was deemed a Noncontributing Building.

SOURCE: Heather Wagner Slane, National Register of Historic Places Nomination: Chapel Hill Historic District Boundary Increase and Additional Documentation, Orange County, OR1750 (Raleigh, NC: North Carolina State

402 Hillsborough Street | Historic Chapel Hill

Historic Preservation Office, 2015), courtesy of the North Carolina State Historic Preservation Office.

According to Orange County property data as of 2021: Plot size: 0.27 acres Building size: 2,740 sq. ft. Ratio: Building/Plot: 0.233 For link to this information: <u>https://property.spatialest.com/nc/orange/#/property/9788590112</u>

For link to 1925-1959 Sanborn maps and map data for this property: <u>https://unc.maps.arcgis.com/apps/webappviewer/index.html?</u> id=711a3b4017eb48c0acffc90cf2472f57&level=8¢er=-79.0503,35.91840

Cite this Page:

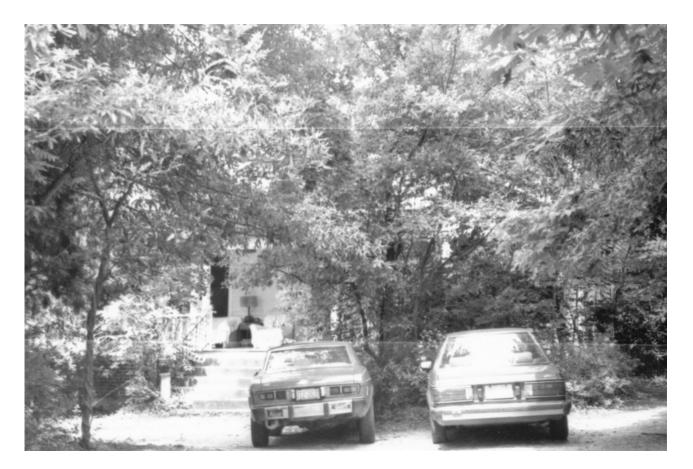
"402 Hillsborough Street," *Historic Chapel Hill*, accessed December 16, 2024, https://www.historicchapelhill.org/items/show/1739.

Published on Sep 14, 2020. Last updated on Jun 29, 2021.









402 Hillsborough Street Existing Structure













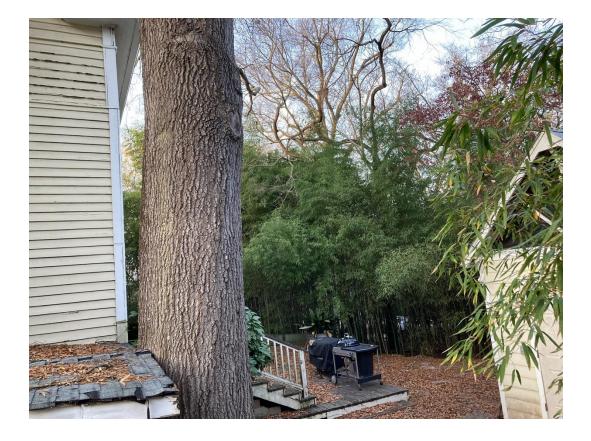




















Context, Other Screened Porches in the Neighborhood

401 North Street (two doors down from site)





217 Hillsborough Street

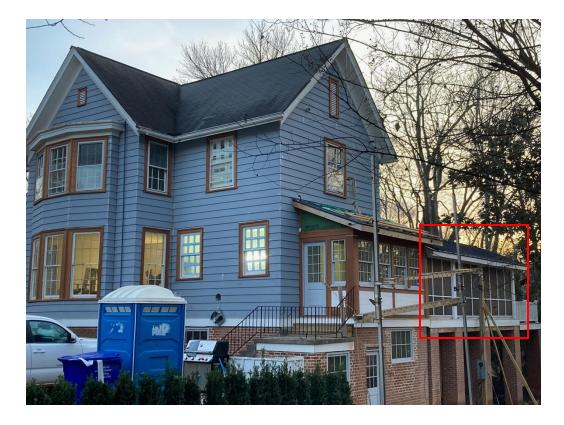


214 Hillsborough Street

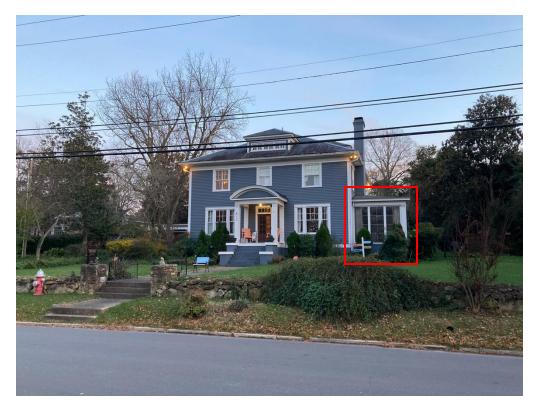


211 Hillsborough Street





506 E Rosemary St



512 E Rosemary Street



525 E Rosemary St



517 North St.



523 North St.



403 North St.



514 E Rosemary St



archadeck^{*} | outdoor living

Better Building by Design

project | specifications

Plan 4 - Screened Porch and Deck Addition

Project Description

- Demo existing deck and structure
- Build new screened porch structure and deck addition

Infrastructure

- Built to a live load of 60 pounds per square foot
- Deck columns 6"x 6" premium treated timber
- Joists spaced 16" on center using premium pressure treated southern yellow pine lumber

Decking and Trim

- Premium No.1-5/4"x 6" decking boards
- Top down fasteners (screws)
- Porch to be laid in a horizontal pattern
- Stoop and deck to be laid diagonally
- Premium solid-board skirting between porch and stairs

Deck & Stair Rail

- Archadeck Premium rail with black aluminum Deckorator balusters
- Rail posts- 4"x 4" premium pressure treated southern yellow pine

Stairs

- 48" Wide steps with (2) board treads
- Closed Riser

Roof

- Gable Roof with open gable end
- Enclosed rafters with plybead ceiling finish
- 5" Aluminum Gutters with downspouts
- Dimensional shingles to match home
- Two 2'x4' skylights

Walls

- 6"x 6" premium pressure treated porch columns
- ScreenEze aluminum frames with rolled fiberglass screening
- Premium porch rail with black aluminum Deckorator balusters
- PCA Aluminum screen door
- · Screen frames and door colored white (unless specified as other)

Electrical

• 1- ceiling fan (fixture to be supplied by homeowner)

September 17, 2024

CREATED FOR Muscatell, Keely & Dave 402 Hillsborough St Chapel Hill, NC 27514

Archadeck Difference

More than 130,000 projects built nationwide.

Needs assessment and site survey ensures we meet your functional, aesthetic and budgetary needs.

Professional drafting and design help you visualize the finished project.

Creative design solutions that meet or exceed your expectations.

Job Progress Methodology (JPM) ensures nothing is left to chance.

Experienced, skilled and polite carpenters.

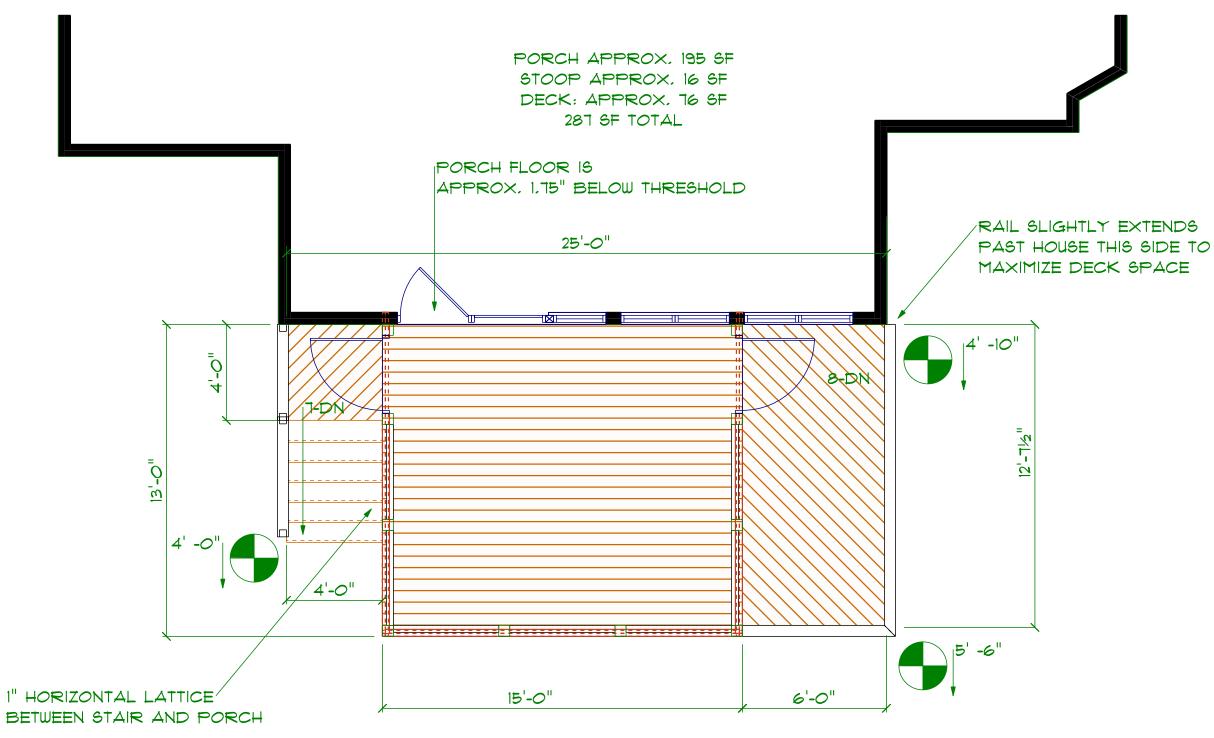
Standards meet or exceed all local building codes.

Warranty: 1 year on workmanship, 5 years on infrastructure.

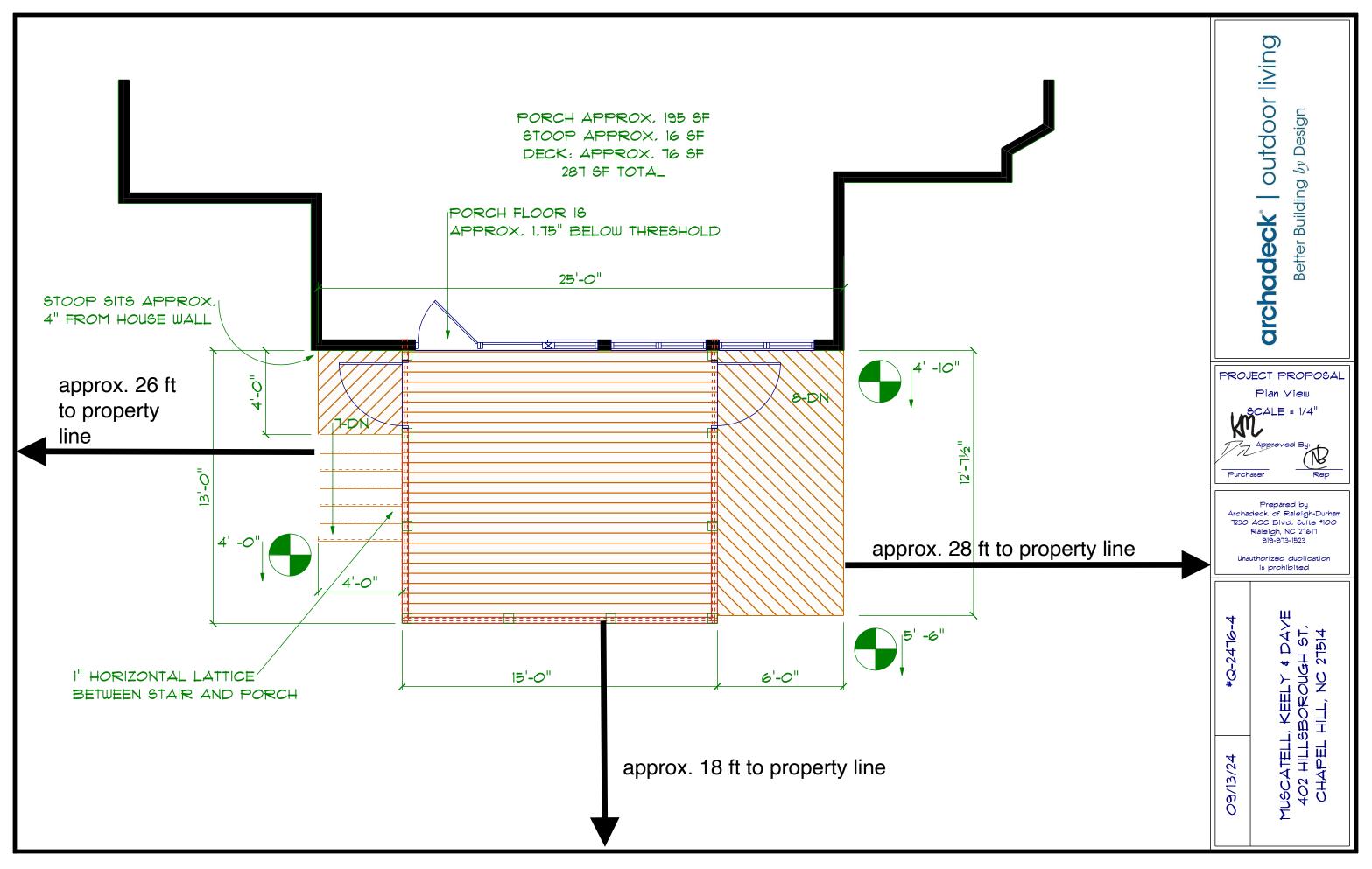
Consistently ranked one of the top national builders in the industry by Qualified Remodeler magazine.

Excellent vendor relations due to our combined buying power.

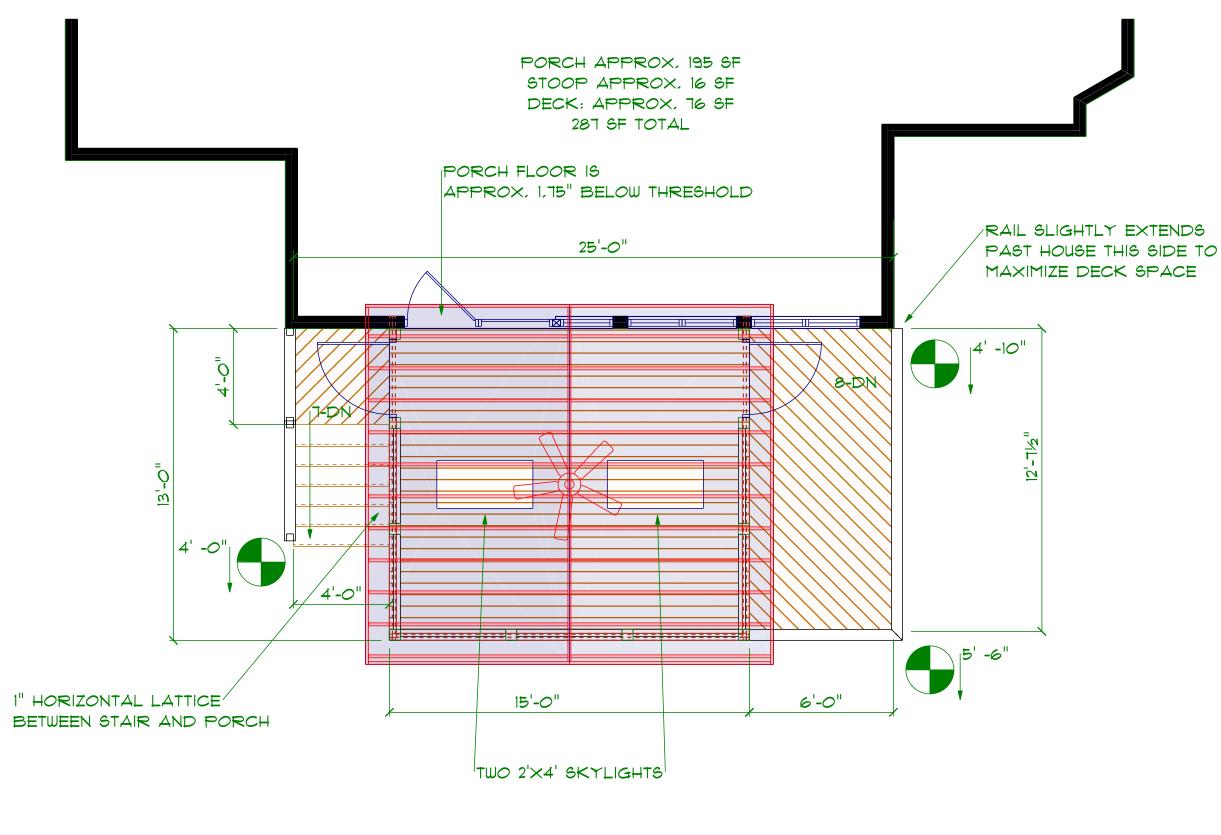
Guaranteed by National Guarantee Corporation.







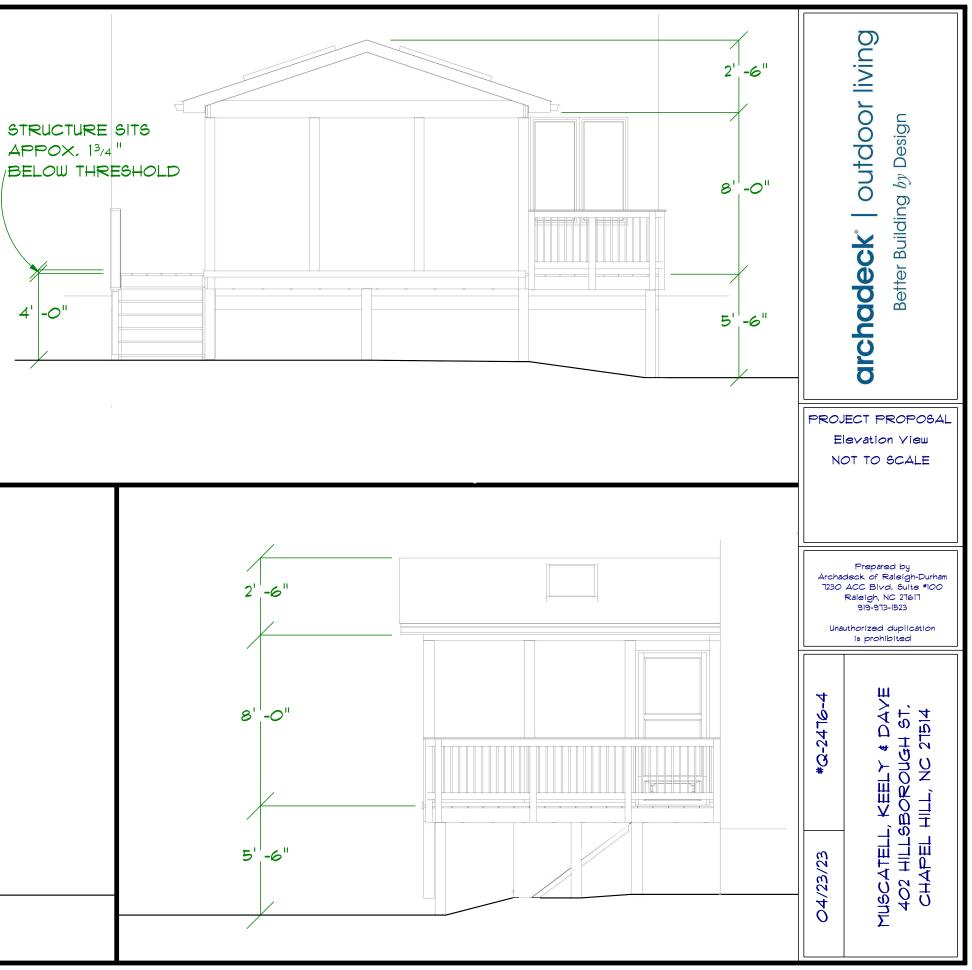
Doc ID: a5248480d2027860cc22618df302742b9a70990b

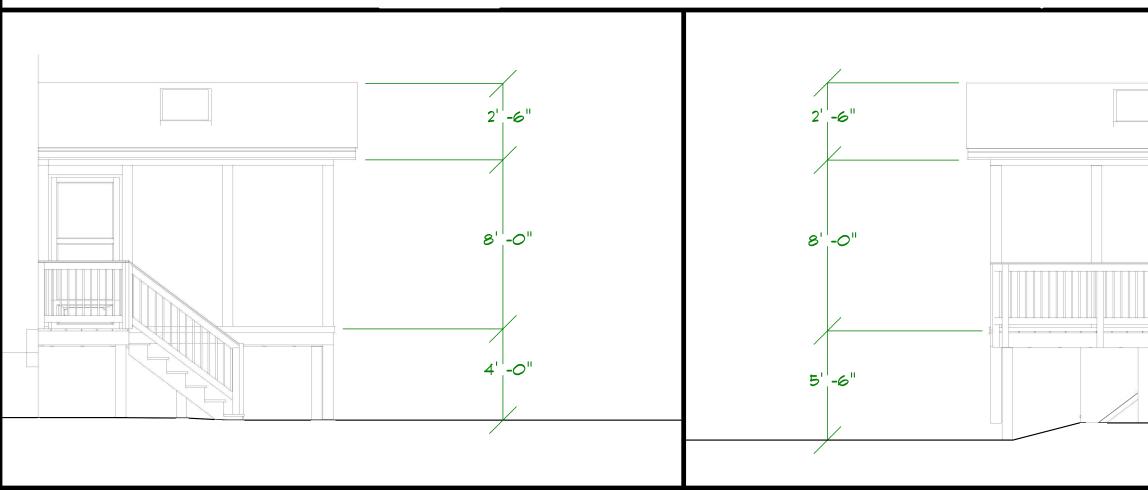


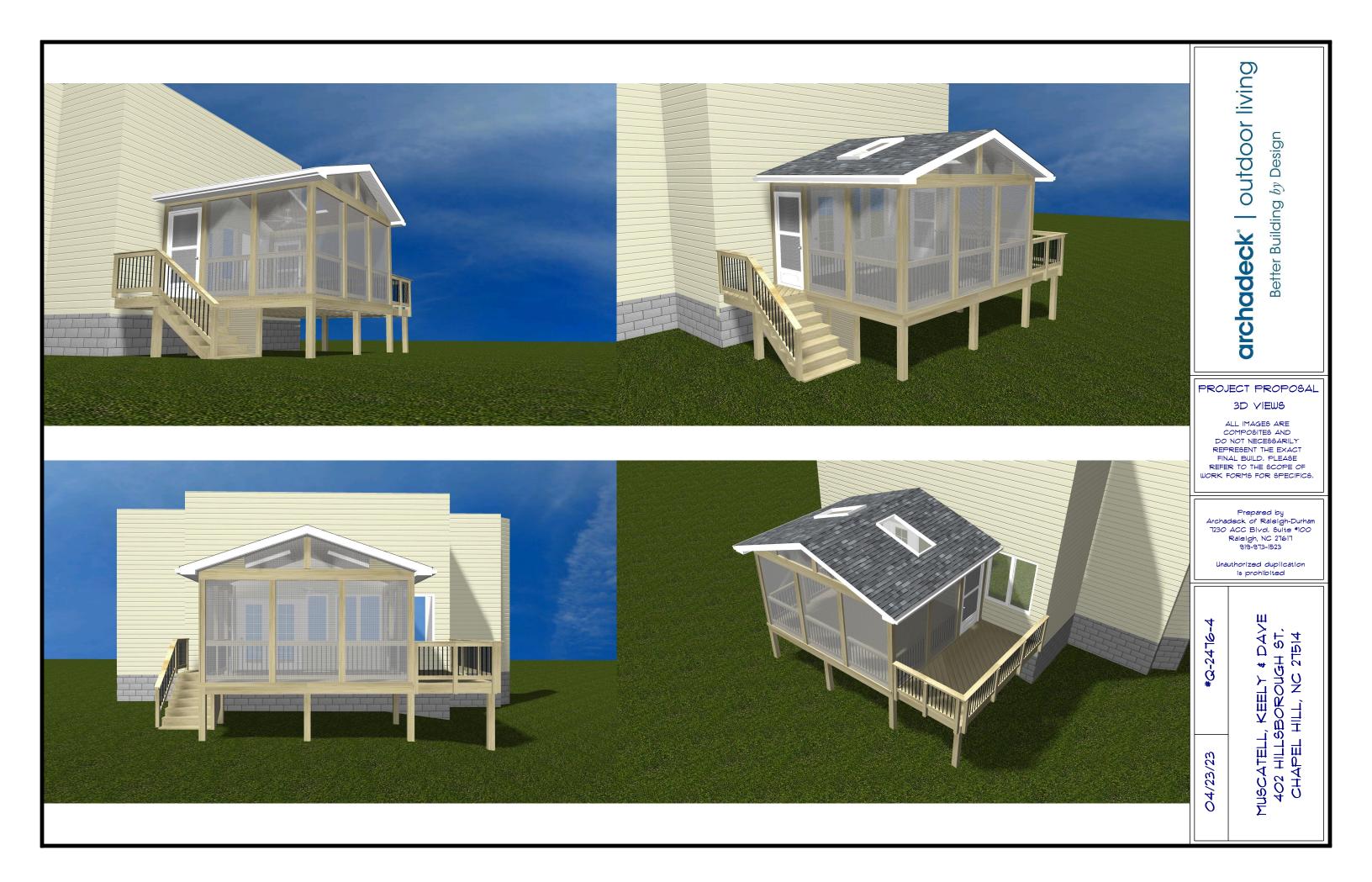


Porch Floor: Porch Railing: Decking: Deck Railing: Roof Type:	Premium Pressure Treated No.1 Decking Archadeck Rail-Deckorator Balusters Premium Pressure Treated No.1 Decking Archadeck Rail-Deckorator Balusters Gable
Ceiling Finish:	Premium Stain-Grade Beadboard
Wall Openings:	Aluminum ScreenEze w/Fiberglass Screen
Door:	PCA Aluminum Screen Door (A-110)
Electrical:	Ceiling Fan, Flood Light, 2 Recepticles
Skylights:	(2) Velux 2'x4' Fixed
Shingles:	Architectural Grade to Match Home
Porch:	Арргох, 195 SF
Stoop:	Approx. 16 SF
Deck:	Approx. 76 SF
Total SF:	Approx, 287

Silt Fence to be Installed Around Work Area to Protect Against Site Damage







SCOPE OF WORK CLARIFICATION FORM

Keely Muscatell & Dave Rose

DECK AND PORCH

CUSTOMER:

archadeck

outdoor living

PROJECT TYPE:			SEASON ROOM SUNRC	OM
APPROX. SIZE (SQ FEET) Porch: 195 SF, Deck: 76 SF, Stoor	o: 16 SF, Total: 287 SF		
DECK SURFACE DETAIL	S:			
	✓ 5/4" X 6" Premium No.1 pressure 5/4" X 6" "Composite: Collection:	T.T.	ZEK OTHER:	
	-	e Frame- Selection	erringbone Horizo Pic.Fra 75" below threshold	
	Deck Trim Standard Wood 1"x4"	Co Type/Color:	omposite PVC	_
DECKING FASTENERS:	Screws (standard on pressure tree Hidden "clip" fasteners (Some lo style screws)		y only allow for traditional	
FRAMING:	 Joist Spacing - 16" on center (state Joist Spacing - 12" on center (state Main Deck Frame Support Post 6 Freestanding - not tied to house Attached to house at houseband Additional spa support 	indard for diagonal decking <u>5"x 6</u> Oth	g, composite decking) Main ner:	
RAILING:	<u> </u>			
	None <u>Posts:</u> Material/Manufacturer: <u>4"x4</u> Color: <u>SYP</u> <u>Top/Bottom Rail</u> Material/Manufacturer: <u>2"x4</u> Color: <u>SYP</u>		Cap: <u>n/a</u> Cap: <u>5/4"x6" Prem. PT. N</u>	0.1
	Rail Infill/Balusters Material/Manufacturer: Alun Style: Round	ninum Deckorators	Color: Black	
STAIRS:	✓ 2-Board Tread 3-Bo	pard Treads		
	Stair Treads- Material:	Color:		🖌 Same as Deck
	Stair Risers- Material:	Color:		Same as Deck
		D	oc ID: a5248480dg02786002	2261801302342694709

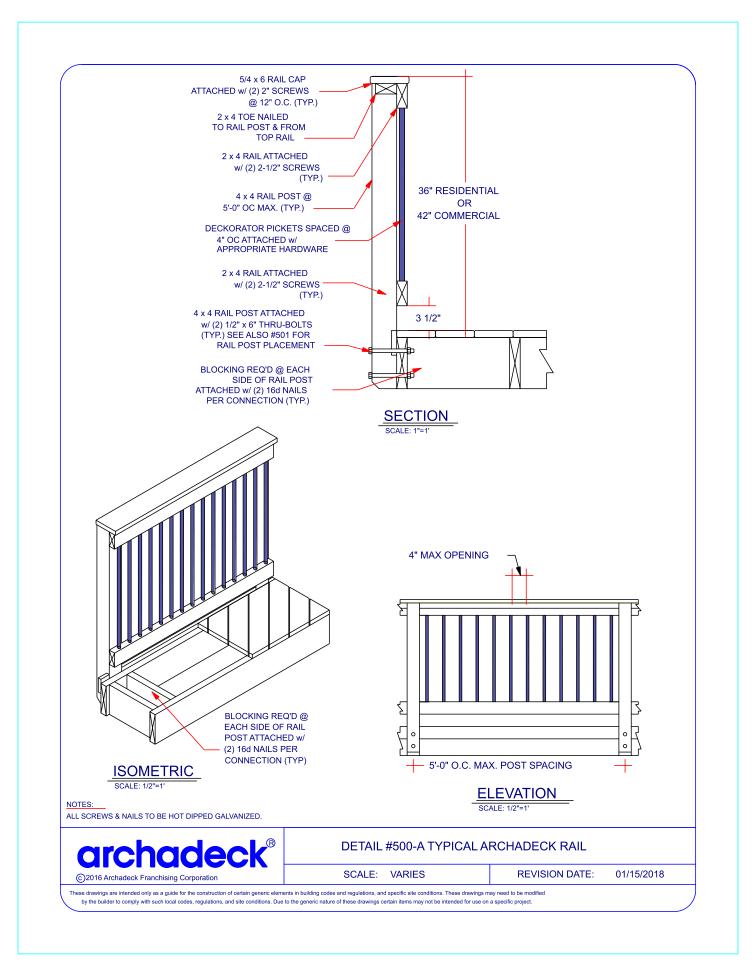
LOW VOLTAGE LIGHT			
	Timbertech Transformer		
	Post Cap Lights: Style/Manuf	Color:	Qty:
	Riser Lights: Style/Manuf	Color:	Qty:
	Accent Lights: Style/Manuf	Color:	Qty:
	Under Rail Lights: Style/Manuf		
	Other Light Option:		
OTHER FEATURES			
	Benches: Trim Selection:	Seat Surface Se	election
	Benches: Trim Selection: Planters: Trim Selection:	Side Color:	
SKIRTING	**Location indicated on plans**		
	1" Pressure treated lattice- horizontal and		
	Solid board skirting Material: Premium	PT Horizontal	Vertical
	Opening between level changes: betwee	n stairs and porch	
	Other, specify		
PORCH FLOORING	On level with house door 🖌 Below l	house door <u>1.75</u> inches	
	Same flooring as deck (outlined above)		
	Tongue and Groove treated flooring	Pre-Primed	Unprimed
	No change to existing floor structure or f	finish	
	Other: Decking in porch to be laid hor	izontally	
	Add screen below existing porch floor		
			Sama as Dask
WALL DETAILS	Porch Railing- Style/Manuf/Color: Archa	adeck Premium Porch Rail	
	Knee wall: HeightExt. Finish	Int.Finis	.h
	Open (No screen panels)		
	Fiberglass Screen		
	Screen-Eze Track Color: white		
	Eze-Breeze 4-Track: Frame Color:		
PORCH POSTS	Solid Treated Cox Lar	n	
	4x4 🖌 6x6	6x6 at corner	s only
	Sleeved (describe)		-
	Other		
	1		
DOOR	✓ PCA Aluminum Door: color White		
	A-100 A-500	A-110 Other:	
	Larson Storm Door: color		
	Full-View Screen	Away Premier Petvi	ew Petdoor (add \$170)
CEILING FINISH	✓ Cathedral Ceiling Flat Cei	ling	
		Enclosed	
	Ceiling Materials:	Enclosed	
	Beadboard Spruce	T&GOther	
	Other Ceiling Details:		
ROOF FRAMING	Gable Roof Shed Ro	oof Hip Roof	
	Gable End - Exterior: 🖌 🖌 Open	Closed-N	/laterial:
	Gable End - Interior 🛛 🖌 Match	Ceiling Finish Other-M	aterial:
	Gable Details - Other		
	Roof Tie In:		
	Shingles - *best match*	s - other	
	Velux Fixed Skylights 2'x4'	3'x4' 4'x4'	Other:
			Rep Purchaser

Doc ID: a5248480d2027860cc22618df302742b9a70990b

	Gutters: None Match Existing (Does not include covers or guards)	
Electrical	 Ceiling fan (fixture and accessories provided by homeowner) Qty: 1 Flood light (fixture and accessories provided by homeowner) Qty: 1 Recessed can lights Qty: Outdoor electrical receptacles Qty: 2 Lighted Accent Tray (Rope light included) Back Door/ Coach Light Other: 	
FIREPLACE	Exterior Finish	ount
OTHER ITEMS NOT DOCUMENTED ABOVE	All lumber is premium ground contact No.1	









CONSIDER A HANDLE AND HARDWARE UPGRADE (ALL PARTS ARE RUST FREE)

(STANDARD)



EZ-Pull Handle Out-Swing Doors

Kephart Deadlock Specifically Add-on security designed for feature to the EZ-Pull handle

Tube Bracket in-swing doors

right In-Swing

Handle and Closer **Tasman Security** Locking Handle In-swing and out-swing doors

Step 5

CONSIDER PET DOOR OPTIONS



OPENING 6" X 8"





Medium: 20-50 lbs



OPENING 11" X 13"

OPENING 13" X 20"

Why PCA Doors Are The Most Durable Screen Doors **On The Market Today**



Frame withstands 740 lbs of pressure



Screens withstand up to 550 lbs of pressure











Thru-Lock System[™]

joints intersect for added strength.



Kick Plate System

features a clean look with no unsightly spline.

PCA Screen Doors Come With Everything You Need To Install

The Universal installation kit allows your door to be installed left or right, in-swing or out, adjustable in width and height, and includes:







Quiet Close Wool Pile Lined Z-Bar

Closure Tube

EZ-Pull Handle



Full-Length **Piano Hinge** Adjustable Expander

Adjustable **Bug Sweep**

All PCA doors come in one package, complete with:

• The Universal Installation Kit (parts shown above)

- 18/14 Standard Screen
- 8" Kick Plate
- All Installation Fasteners

For additional help visit www.pcaproducts.com/help

PCA SCREEN DOORS **HAVE A 99% SATISFACTION RATE, AND COME WITH** A LIFETIME WARRANTY.

> Ask your dealer how to buy your PCA screen door today!



HANDCRAFTED

www.pcaproducts.com









Powder Coated Finish hand-applied for a durable lasting finish. Available in 6 colors: White, Bronze, Ivory, Clay, Sandstone, Black.

Heavy Aluminum Frame

.065 heavy wall aluminum frame

will not rot, rust, twist, or warp.

Aluminum Corner Keys

will not blow out.

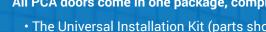
keeps the corners tight to prevent door sag.

Exclusive

doubles the wall thickness where















Exclusive Self-Locking Screen System[™] for screens that absolutely

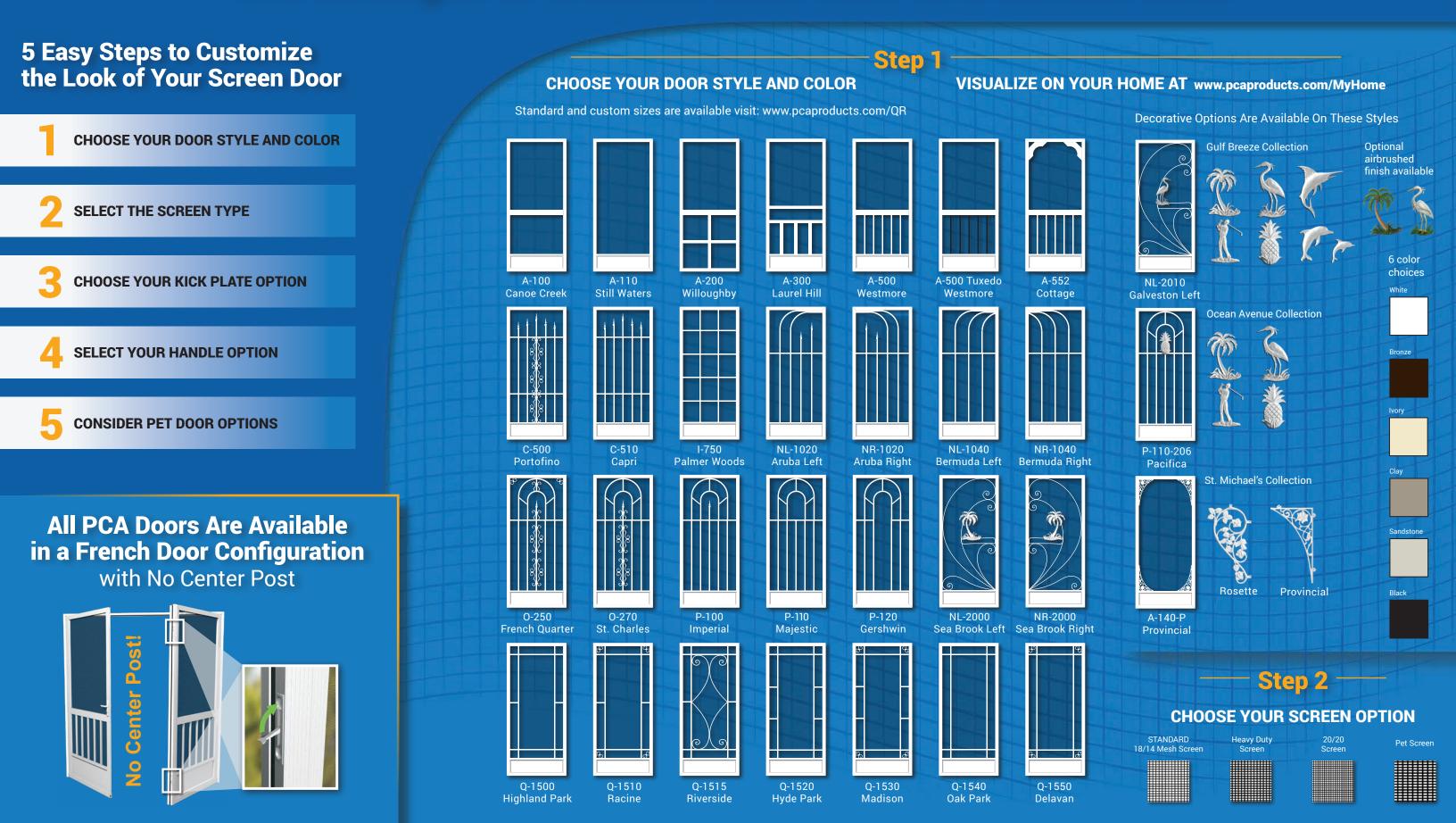


THE LAST SCREEN DOOR YOU'LL BUY



AND OPTIONS TO PERSONALIZE THE LOOK

Custom Handcrafted Aluminum Screen Doors The strength of a storm door now in a screen door





SCREENEZE® & SNAPTRACK PRODUCT SPECS

Aluminum Base Channel

- Solid 6061 aluminum alloy
 - Temper T5
- SCREENEZE[®] Baked on polyester paint
- SCREENEZE[®] ³/₄"x ³/₄" 0.062" thick 8' or 12' in length
 - **SNAPTRACK** Powder coated
 - SNAPTRACK 3/4" | 0.062" thick | 8' in length

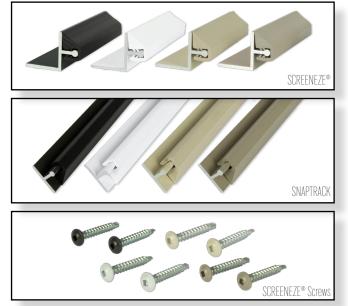
PVC Vinyl Cap

- Window grade, virgin vinyl with UV inhibitor
- SCREENEZE[®] ³/₈"x ¹/₂" 8' or 12' in length
 - SNAPTRACK 3/4" 8' in length

SCREENEZE® Screws

- High tensile strength carbon steel metal to wood fastener
 - #10 thread
 - 1¼" in length
 - #8 size head
 - Square drive #2 bit
 - Tech/drill design for easy penetration through metal
 - High thread for faster drilling
 - 1000 hour salt spray coating
 - Color coordinated with SCREENEZE®

BRONZE | WHITE | SAND | CLAY



SNAPTRACK Screws

- Countersunk flat head
 - #6 size head
 - 1¼" in length
 - Phillip drive
 - Wood screw
 - Stainless steel
- Hidden under vinyl cap when installed
 - 1000 hour salt spray coating

1,000 HOUR SILVER RUSPERT®

Our screws have a three-layer coating consisting of (1) a metallic zinc layer, topped with a (2) chemical conversion film layer, which is finally covered by a (3) baked ceramic surface coating. The finished parts have a dull silver color and will withstand a minimum of 1,000 hour Salt Spray test.





Fixed Deck Mount (FS) Unit Skylight - Guide Specification

For over 80 years, VELUX has been delivering energy efficient daylight to living spaces where people, live, work, and play. VELUX is the world leader in harnessing the benefits of the sun, providing energy efficient top lighting solutions, and recognized as one of the strongest brands in the global materials and home improvement industry.

VELUX FS skylights are designed for residential sloped roof applications. Daylighting provided through VELUX skylights improves the energy efficiency and visual comfort of these residential and commercial spaces. The VELUX FS skylight is a category leader with a maintenance free frame, structural seal, and durable thermal pane options with performance levels meeting project specifications. The thermal pane glazing options carry a 20 year warranty against seal failure, and have a specially formulated LoE³ – 366^{TM} coating. This coating, specifically designed for skylight applications, provides a high visible light transmission while reducing solar heat gain and UV penetration.

VELUX test facilities ensure that new products comply with regulations and market demands for technical performance. VELUX testing ensures that our products are able to withstand the most difficult climatic conditions to which VELUX products are typically exposed to in the markets where they are sold. Our test procedures include load capacity, air and water tightness in a test chamber and a weather simulator, mechanical tests, impact test results, durability tests, U-factor and solar heat gain tests, burn brand resistance and visual inspection of the surface quality.

Contact **VELUX America LLC**., Greenwood, SC 29648; <u>www.VELUXusa.com</u>; 800-888-3589, <u>specifications@veluxusa.com</u>.

VELUX $^{\circ}$ is a registered trademark of VKR Holding A/S This document is Copyright $^{\circ}$ 2022 by VELUX America, LLC.

SECTION 08 62 00 -UNIT SKYLIGHTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Fixed deck mount unit skylight with formed counter flashing for mounting on the roof deck, for low-slope and steep-slope roofing applications.

1.2 REFERENCE STANDARDS

Specifier: If retaining optional "References" article, edit to include standards cited in edited Section.

- A. General: Applicable edition of references cited in this Section is current edition published on date of issue of Project specifications, unless otherwise required by building code in force.
- B. American Architectural Manufacturers Association (<u>www.aama.net</u>), Window & Door Manufacturers Association (<u>www.wdma.com</u>), Canadian Standards Association (<u>www.csagroup.org/us/en/services</u>)
 - 1. AAMA/WDMA/CSA 101/I.S.2/A440 North American Fenestration Standard/ Specification for Windows, Doors, and Skylights (NAFS)
 - 2. CSA A440S1-19 Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440
 - 3. AAMA 2603 Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum and Panels
- C. ASTM International: <u>www.astm.org</u>:
 - 1. ASTM B 209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
 - 2. ASTM E 108 Standard Test Methods for Fire Tests of Roof Coverings
 - 3. ASTM E 283 Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
 - 4. ASTM E 331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
 - 5. ASTM E 408 Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques
 - 6. ASTM E 1886 Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials
 - 7. ASTM E 1996 Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes
- D. Code of Federal Regulations:
 - 1. 29 CFR 1910.29 (e) (1) Occupational Safety and Health Standards for Fall Protection Systems and Falling Object Protection Criteria and Practices.

- E. Illuminating Engineering Society of North America (IESNA): <u>www.ies.org</u>:
 - 1. IESNA The Lighting Handbook.
- F. National Fenestration Rating Council: <u>www.nfrccommunity.org</u>:
 - 1. NFRC 100 Procedure for Determining Fenestration Product U-factors
 - 2. NFRC 200 Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence
- 1.3 COORDINATION
 - A. Coordinate unit skylight interior termination locations with structural layout, ceiling grid layouts, and other ceiling-mounted items.
- 1.4 PREINSTALLATION MEETINGS
 - A. Preinstallation Conference: Conduct conference at Project site prior to delivery of unit skylight and installation of roof deck.
- 1.5 ACTION SUBMITTALS
 - A. Product Data: For unit skylights. Include standard construction details, product performance characteristics, and material descriptions, dimensions of individual components and profiles, and finishes.
 - 1. Include test reports of qualified independent testing agency or third party certificates verifying compliance with performance requirements.

Specifier: Retain "LEED Submittals" Paragraph when required for Project; this Paragraph stipulates documentation required from Contractor to support cited construction-phase credits.

Review design-phase credits available related to unit skylights, including contribution to IEQ Cr 6.1 Controllability of Systems, IEQ Cr 8.1. Daylighting, EA Cr 1 Energy Optimization, and ID Cr 1 Innovation in Design credits. Consult VELUX representative for detailed support data.

- B. LEED Submittals:
 - 1. Credit MR 4 Recycled Content: Documentation indicating the following:
 - a. Percentages by weight of post-consumer and pre-consumer recycled content.
 - b. Total weight of products provided.
 - c. Include statement indicating costs for each product having recycled content.
- C. Shop Drawings: For unit skylight work. Include plans, elevations, sections, details, and connections to supporting structure and other adjoining work.
 - 1. Lighting photometric study indicating compliance with performance requirements in accordance with IESNA. Include layout, spacing criteria and foot-candle report.
- 1.6 INFORMATIONAL SUBMITTALS

Specifier: Retain paragraphs below when Project requirements include compliance with Federal Buy American provisions. VELUX Fixed Deck Mount skylights complies with requirement.

- A. Florida State Product Approval Listing Number: Indicating that products comply with requirements of Florida State Building Code. www.floridabuilding.org/pr/pr_app_srch.aspx
- B. Warranty: Sample of special warranty.
- 1.7 CLOSEOUT SUBMITTALS
 - A. Operation and Maintenance Data.
- 1.8 QUALITY ASSURANCE

Specifier: VELUX America, LLC. has been producing skylights in the US for over 30 years and in Europe for an additional 30 years prior to that. VELUX has a reputation among architects and contractors as the most reliably performing skylight in the world.

A. Manufacturer Qualifications: A qualified manufacturer listed in this Section with minimum 30 years' experience in the US manufacturing similar products in

successful use on similar projects and able to provide unit skylights meeting requirements.

Specifier: Retain "Approval of Manufacturers and Comparable Products" Subparagraph if Owner will consider product substitutions.

- 1. Approval of Manufacturers and Comparable Products: Submit the following in accordance with project substitution requirements, within time allowed for substitution review:
 - a. Completed and signed Substitution Request form.
 - b. Product data, including photometric data and independent test data indicating compliance with requirements.
 - c. Sample product warranty.
- 1.9 WARRANTY
 - A. Manufacturer's Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of unit skylights that fail in materials or workmanship under normal use within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Deterioration of metals, metal finishes, dome, and other materials beyond normal weathering.
 - b. Breakage of glazing.
 - 2. Warranty Period:
 - a. Unit Skylight and Flashing Product Warranty: 10 years from date of purchase.
 - b. Unit Skylight and Flashing Installation "No Leak" Warranty: 10 years from date of purchase.
 - c. Hail Breakage Warranty for Skylight Glass: 10 years from the date of purchase on all insulated glass units using laminated glass.
 - d. Insulating Glass Seal Failure Warranty: 20 years from date of purchase.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide products of VELUX America LLC., Greenwood, SC 29648; <u>www.VELUXusa.com</u>; (800) 878-3589, <u>specifications@veluxusa.com</u>.

Specifier: Retain "Substitutions" Paragraph and select one of two options based upon Project requirements.

- B. Substitutions: [None allowed by Owner] [As permitted under Instructions to Bidders and Section 012500 "Substitution Procedures"].
- C. Source Limitations: Obtain unit skylights through single source from single manufacturer.

- 2.2 Fixed Deck Mounted (FS) Unit Skylights
 - A. System Description: Fixed deck mounted unit skylight consisting of the following main integrated components an interior condensation drainage gasket, pre-finished white wooden frame [Special order stain grade wooden frame available on request], exterior maintenance-free [aluminum] [copper] cladding/counter flashing, ASA corner keys, and an insulating thermal pane glass unit with two seals, warm edge spacer system, three coats of LoE³ silver to increase visible light transmittance while reducing solar heat, and a continuous deck seal mounting system with durable foam seal. FS skylights shall be suitable for installation on roof decks ranging from 14 degrees up to 85 degrees from horizontal.
 - 1. Basis of Design: VELUX America, LLC, Model FS Fixed Deck Mount Skylight.

Specifier: **FS** standard unit sizes are not available as a stocked product for all glazing options. Custom sizes not available..

- B. Wood: Kiln-dried, laminated Ponderosa Pine and Eastern White Pine prefinished white. Wood shall be Forest Stewardship Council (FSC) certified or have an FSC certified chain of custody certification.
- C. Maintenance free exterior cladding: [Roll formed 0.57 mm aluminum frame coverings with neutral gray Kynar[®] polyvinylidene fluoride resin finish,] [0.55 mm copper frame coverings,] production engineered, and fabricated to fit exterior exposed surfaces.
 - 1. Unit Sizes: [A06], [C01], [C04], [C06], [C08], [C12], [D26], [M02], [M04], [M06], [M08], [S01], [S06][as indicated on Drawings].
- D. Weather stripping: Factory applied neoprene and thermoplastic elastomeric weather stripping throughout entire frame, profiled to effect weather seal.
- E. Insulated Glass Unit: Factory assembled with low emissivity exterior pane and clear interior pane separated by a stainless steel spacer sealing the space between panes with 90% argon gas.
 - 1. Exterior Pane: 0.125 inch (3mm) thick tempered glass with Neat® exterior coating and interior surface coated with three layers of low emissivity silver (LoE³) coating LoE³ 366.

Specifier: Retain one of the three interior pane options below. VELUX product codes list the standard laminated pane as 04 with heat strengthened interior panes using a clear interlayer. VELUX offers an interior pane option for wind-borne debris regions. The wind-borne debris laminated interior pane with a thicker polyvinyl butyral interlayer is listed by VELUX as an impact 06 glazing for use in wind zone 3 regions requiring a class C missile level. A snow load laminated interior pane is offered with the laminated panes being tempered. Laminated panes are typically required by building codes when any portion of the glass is higher than 12 feet above finished floor. VELUX laminated panes are marketed as "Clean, Quiet and Safe" glass.

2. Interior Pane:

- a. [Standard [with i89 coating]: Laminated, Two clear 0.090 inch (2.3 mm) heat-strengthened panes with a 0.030 inch (0.76 mm) clear polyvinyl butyral interlayer sandwiched together.] [interior pane surface with Indium Tin Oxide (ITO) coating (LoE-i89[®] coating)]
- b. [Impact: Laminated for wind-borne debris regions, Two clear 0.090 inch (2.3 mm) heat-strengthened panes with a 0.090 inch (2.3 mm) clear polyvinyl butyral interlayer sandwiched together.]
- c. [Snow Load: Laminated, Two clear 0.12 inch (3 mm) tempered panes with a 0.030 inch (0.76 mm) clear polyvinyl butyral interlayer sandwiched together.]
- F. Structural Sealant: Factory applied Instant glaze sealant, clear color, bonding the glass pane to the aluminum frame and suitable for external exposure.
- G. Mounting System: Continuous corrosion resistant mounting system with a durable foam seal and rough opening alignment notches.

Specifier: FS skylight supplied 26 mounting fasteners.

- H. Mounting Fasteners: 10 gauge 1.25 inch (32 mm), ring shank nails provided with skylight. Ring shank nails are double hot dipped zinc coated. 26 field installed nails secure skylight to roof deck as indicated in manufacturer's installation instructions.
- 2.3 Flashings

Specifier: Type EDL step flashing designed for use with roofing material less than 0. 5 inch (13 mm) thick (typically asphalt shingles, cedar shingles and slate) and for use on roof slopes 14 degrees or greater and not more than 85 degrees. Type EDW high profile flashing designed for use with high profiled roofing materials (clay tile, concrete tile and cedar shakes) not greater than 4.75 inches (120 mm) in height, and for use on roof slopes 14 to 85 degrees. EDL or EDW flashing is required with skylight in order for VELUX 10 year "No Leak" warranty to be valid.

- A. Step Flashing: Roll formed aluminum, neutral grey finish, factory engineered and fabricated seams, consisting of head flashing, sill flashing, step flashing pieces and adhesive underlayment suitable for use on roof pitches 14 to 85 degrees from horizontal.
 - 1. Basis of Design: **VELUX America, LLC, EDL Step Flashing.**
 - 2. Size: As required for skylight sizes indicated.
 - 3. Material:
 - a. Head flashing 23 gauge (0.57 mm) thick aluminum with polyester lacquer finish.
 - b. Sill flashing 22 gauge (0.65 mm) thick aluminum with Kynar 500 finish.
 - c. Step pieces 27 gauge (0.42 mm) thick aluminum with polyester lacquer finish.
 - d. Adhesive underlayment: 9 inches (229 mm) wide x 21 feet (6.4 m) length x 0.03 inch (0.8 mm) thick, SBS modified bitumen with white polyethylene backing sheet.

- B. High Profile Flashing: Roll formed aluminum, neutral grey finish, factory engineered and fabricated seams, consisting of head flashing, sill flashing, side gutter pieces, counter flashing and adhesive underlayment suitable for use on roof pitches 14 to 85 degrees from horizontal.
 - 1. Basis of Design: VELUX America, LLC, EDW High Profile Flashing.
 - 2. Size: As required for skylight sizes indicated.
 - 3. Material:
 - a. Head flashing 23 gauge (0.57 mm) thick aluminum with polyester lacquer finish.
 - b. Sill flashing 22 gauge (0.65 mm) thick aluminum with polyester lacquer finish and 9 inch (229 mm) pleated apron.
 - c. Side gutter pieces 23 gauge (0.57 mm) thick aluminum with polyester lacquer finish.
 - d. Adhesive underlayment: 12 inches (305 mm) width x 21 feet (6.4 m) length x 0.03 inch (0.8 mm) thickness, SBS modified bitumen with white polyethylene backing sheet.

2.4 ACCESSORIES

- A. Pleated Blinds:
 - 1. Solar powered, [room darkening double pleated] [light filtering single pleated] fabric with [white] [beige] [special] color as indicated on drawings. 24 volt dc blinds operated via 2.4 GHz radio frequency [basic wall mounted remote control provided with blind].
- 2.5 PERFORMANCE REQUIREMENTS
 - A. The FS deck mounted skylight is independently tested in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 (NAFS-17) for compliance with International Building Code, International Energy Conservation Code and International Residential Code as follows:
 - 1. Water Test Pressure: No water penetration noted as measured in accordance with ASTM E 331 with a test pressure differential of 720 Pa (15.0 psf).
 - 2. Air Leakage Rate: Maximum of 0.11 CFM/ft² of total unit area, measured at a pressure of 75 Pa (1.57 psf) in accordance with ASTM E 283.
 - 3. Canadian Air Infiltration/Exfiltration Rating: Fixed. (0.5 L/s/m² maximum)
 - 4. Design Pressure (DP):
 - a. [[04 Standard Laminated Pane] [89 standard Laminated Pane with i89 Coating]: [S06 and S01 sizes design pressure = +330/-70 psf (+15.8/-3.35 kPa)] [and] [M08 and smaller sizes design pressure = +240/-105 psf (+11.5/-5.03 kPa)].]
 - b. [[06 Impact Pane: [S06 and S01 sizes design pressure = +180/-50 psf (+8.62/-2.39 kPa)] [and] [M08 and smaller sizes design pressure = +200/-90 psf (+9.58/-2.39 kPa)].]
 - c. [[10 Snow Load Pane: [S06 and S01 sizes design pressure = DP = +720/-65 psf (+34.5/-3.11 kPa)] [and] [M08 and smaller sizes design pressure = +640/-100 psf (+30.6/-4.79 kPa)] [and] [C06 and smaller sizes design pressure = +1350/-65 psf (+64.6/-3.11 kPa)].]
 - B. Daylighting: Provide daylighting photometric performance comparable to basis of design product at layout indicated, based upon daylighting profile of March

21, 9:00 am local time, at Project location by simulation in accordance with IESNA guidelines.

- C. [Windborne-Debris Resistance: Wind Zone 3 or Less: Provide unit skylights capable of resisting impact from windborne debris, based on the pass/fail criteria as determined from testing glazed representative of those specified, according to ASTM E 1886 and ASTM E 1996. Missile Level C, Wind Zone 3 requirements, and +50/-50 psf cycle pressure minimum.]
- D. Fire Ratings for Roof Assemblies with Fire Classifications: Unit skylight tested in accordance with ASTM E 108 and listed as passing Burning Brand test with target classification of Class B.
- E. Energy Performance ratings for any size venting deck mounted unit skylight with tempered exterior glass pane and interior pane as follows:

Specifier: Retain the appropriate option in the 3 paragraphs below that corresponds to the type of insulated glass unit used on Project.

- 1. Thermal Transmittance: NFRC 100 maximum U-factor:
 - a. [04 Standard Laminated: 0.44 Btu/hr*ft2*deg F (2.49 W/m2*deg C).]
 - b. [06 Impact Laminated: 0.41 Btu/hr*ft2*deg F (2.36 W/m2*deg C).]
 - c. [89 Standard Laminated with i89 Coating: 0.38 Btu/hr*ft2*deg F (2.16 W/m2*deg C).]
 - d. [10 Snow Load Laminated: 0.42 Btu/hr*ft2*deg F (2.4 W/m2*deg C).]
- 2. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum SHGC:
 - a. [04 Standard Laminated: 0.26]
 - b. [06 Impact Laminated: 0.26]
 - c. [89 Standard Laminated with i89 Coating: 0.25]
 - d. [10 Snow Load Laminated: 0.26]
- 3. Visible Transmittance (Vt): NFRC 200 maximum Vt:
 - a. [04 Standard Laminated: 0.60]
 - b. [06 Impact Laminated: 0.60]
 - c. [89 Standard Laminated with i89 Coating: 0.59]
 - d. [10 Snow Load Laminated: 0.59]
- F. Fall Protection Standard Compliance: 29 CFR 1910.29: Testing for all laminated venting deck mount unit skylights.
- 2.6 MATERIALS
 - A. Aluminum Sheet: Flat sheet complying with ASTM B 209/B 209M.
 - B. Joint Sealants: As specified in Section 079200 "Joint Sealants."
 - C. Mastic Sealants: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.

2.7 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with unit skylight installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install unit skylights in accordance with manufacturer's written instructions and approved shop drawings. Coordinate installation of units with installation of substrates, air and vapor retarders, roof insulation, roofing membrane, and flashing as required to ensure that each element of the Work performs properly and that finished installation is weather tight.
 - 1. Anchor unit skylights securely to supporting substrates.
 - 2. Install unit skylights on curbs specified in another section with tops of curbs parallel to finished roof slope.
- B. Where metal surfaces of unit skylights will contact incompatible metal or corrosive substrates, including preservative-treated wood, apply bituminous coating on concealed metal surfaces, or provide other permanent separation recommended in writing by unit skylight manufacturer.
- C. Additional testing and inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- D. Prepare test and inspection reports.

3.3 CLEANING AND PROTECTION

- A. Clean exposed unit skylight surfaces according to manufacturer's written instructions. Touch up damaged metal coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
- B. Replace glazing that has been damaged during construction period.
- C. Protect unit skylight surfaces from contact with contaminating substances resulting from construction operations.

END OF SECTION