

ADDENDUM NO. 2

Price-Martin Facility Hardening

Located at 220 North 11th Street in the City of Palatka (Putnam County), Florida

Monday, February 10, 2025

Architect of Record: Passero Associates, LLC

4730 Casa Cola Way, Suite 200

St. Augustine, FL 32095

(904) 224-7082

Christopher Nardone, AIA cnardone@passero.com



Florida Commerce Agreement No. 10146

Passero Associates Project No. 20213160.0006

ADDENDUM NO. 2

Price-Martin Facility Hardening
City of Palatka

Monday, February 10, 2025

The following items are clarifications, corrections, or additions to the contract documents. **THIS ADDENDUM TAKES PRECEDENCE OVER THE ORIGINAL PARTS OF THE CONTRACT DOCUMENTS.**

All the parts of the contract documents, not specifically modified by this or other addenda, remain in full force and effect.

Bidders shall thoroughly familiarize themselves with the contents of this Addendum before submitting bid proposals. IT SHALL BE THE BIDDER'S RESPONSIBILITY TO INFORM THE SUBCONTRACTORS, SUPPLIERS, MANUFACTURERS AND OTHER PARTIES PARTICIPATING IN THE WORK OF APPLICABLE REQUIREMENTS IN THIS ADDENDUM.

Bidders shall acknowledge receipt of this addendum, identified by number and date, on the Addenda Receipt form included in the Proposal Section of the Contract Documents and submitted as part of their Proposal. Failure to acknowledge receipt of Addendum may be grounds for rejection of the bid proposal.

Items amended to the Contract Documents are as follows:

BID FORMS

DRAWINGS – ARCHITECTURAL

NOTE the addition of information clarifying the removal of the lower roof and the existing slope of the lower roof on ADDENDUM NO. 2 AD-101

NOTE the identification of an existing gutter and downspout to be removed on drawing sheet ADDENDUM NO. 2 AD-200

NOTE the graphic depiction of crickets to be provided in new construction and the clarification of the new slope on both the upper and lower roofs on drawing sheet ADDENDUM NO. 2 A-101

NOTE the addition of a new gutter and downspout to be provided in new construction as well as clarification regarding incorporating tapered insulation into the wall with no parapet on drawing sheet ADDENDUM NO. 2 A-200

NOTE the clarification regarding incorporating tapered insulation into the wall with no parapet in detail 2 on drawing sheet ADDENDUM NO. 2 A-310

DRAWINGS – STRUCTURAL

DRAWINGS – MEP

BIDDERS QUESTIONS AND ANSWERS

Q1: See attached for substitution request.

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A1: The architect has reviewed the substitution request for the roofing materials and finds it to be in alignment with the project's requirements and design intent.

Q2: The modified bitumen section states finished roof slope shall be [1/4]" per foot minimum for roof drainage. Sheet A-102 shows a roof slope of 1/8" on the main roof. Is this slope in the deck or the finished roof slope?

A2: The existing roof slope is 1/8." However, according to the 2023 Florida Building code, the minimum slope for a modified bitumen membrane is $\frac{1}{2}$ " slope. Therefore, the slope should be $\frac{1}{2}$ " per 12", or 2%. See revised drawing sheet ADDENDUM NO. 2 A-101.

Q3: The modified bitumen section states Total Thermal Resistance R Value, continuous insulation (ci) above deck: R-[15]. Sheet A-102 states the minimum insulation to be R25.

A3: According to specification section 01 40 00 – QUALITY REQUIREMENTS, if conflicting requirements occur throughout the bid documents, the more stringent requirements should be followed. Therefore, provide R-25 per sheet A-102.

Q4: There are no crickets shown between the scuppers, are they required?

A4: Yes, provide crickets between scuppers to allow for drainage and avoid ponding. See revised drawing sheet ADDENDUM NO. 2 A-101.

Q5: How are we to incorporate the tapered insulation on the left wall (2/A-310)?

A5: Provide one to four 2x8 P.T. wood plates staggered as required and fastened to the existing concrete tie beam. Provide rigid insulation as required to achieve $\frac{1}{4}$ "/12" slope over staggered plates. See revised detail on drawing sheet ADDENDUM NO. 2 A-310.

Q6: The smaller area on the bottom of Sheet A-102 has no slope shown. Is there slope in the deck or is tapered required?

A6: The lower roof should also meet the $\frac{1}{4}$ " per 12" slope code requirement laid out in the 2023 Florida Building Code. Tapered insulation is required. The existing roof is at $\frac{1}{8}$ " per 12" slope. See revised drawing sheet ADDENDUM NO. 2 A-101.

ADDITIONAL DOCUMENTS INCLUDED

ADDENDUM NO. 2 AD-101

ADDENDUM NO. 2 AD-200

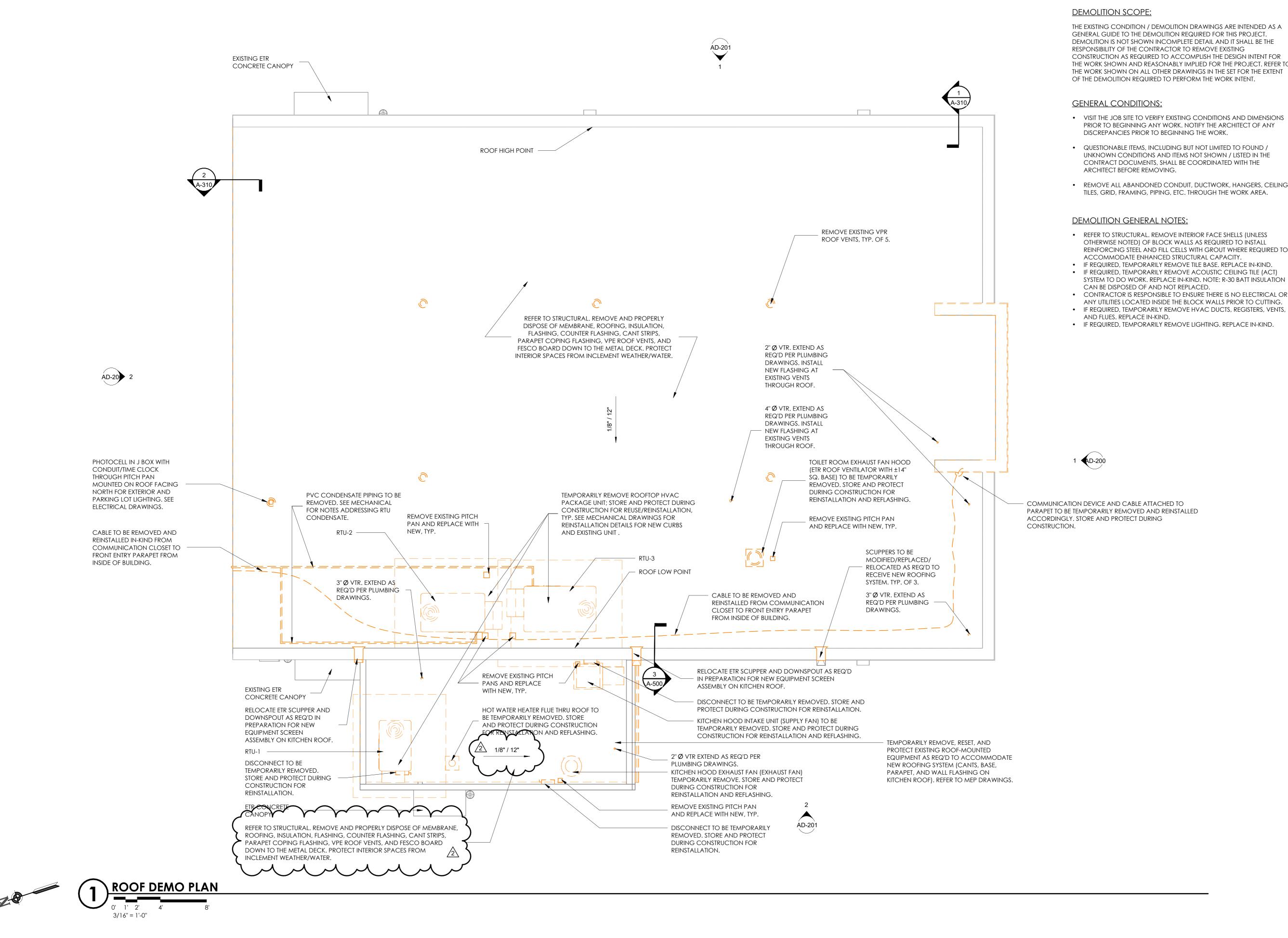
ADDENDUM NO. 2 A-101

ADDENDUM NO. 2 A-200

ADDENDUM NO. 2 A-310

Roofing Materials Substitution Request – Johns Manville

END OF ADDENDUM NO. 2



THE EXISTING CONDITION / DEMOLITION DRAWINGS ARE INTENDED AS A GENERAL GUIDE TO THE DEMOLITION REQUIRED FOR THIS PROJECT. DEMOLITION IS NOT SHOWN INCOMPLETE DETAIL AND IT SHALL BE THE CONSTRUCTION AS REQUIRED TO ACCOMPLISH THE DESIGN INTENT FOR THE WORK SHOWN AND REASONABLY IMPLIED FOR THE PROJECT. REFER TO THE WORK SHOWN ON ALL OTHER DRAWINGS IN THE SET FOR THE EXTENT OF THE DEMOLITION REQUIRED TO PERFORM THE WORK INTENT.

- VISIT THE JOB SITE TO VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING ANY WORK. NOTIFY THE ARCHITECT OF ANY
- QUESTIONABLE ITEMS, INCLUDING BUT NOT LIMITED TO FOUND / UNKNOWN CONDITIONS AND ITEMS NOT SHOWN / LISTED IN THE CONTRACT DOCUMENTS, SHALL BE COORDINATED WITH THE
- REMOVE ALL ABANDONED CONDUIT, DUCTWORK, HANGERS, CEILING
- OTHERWISE NOTED) OF BLOCK WALLS AS REQUIRED TO INSTALL REINFORCING STEEL AND FILL CELLS WITH GROUT WHERE REQUIRED TO
- IF REQUIRED, TEMPORARILY REMOVE ACOUSTIC CEILING TILE (ACT) SYSTEM TO DO WORK. REPLACE IN-KIND. NOTE: R-30 BATT INSULATION
- CONTRACTOR IS RESPONSIBLE TO ENSURE THERE IS NO ELECTRICAL OR ANY UTILITIES LOCATED INSIDE THE BLOCK WALLS PRIOR TO CUTTING.
- **BID SET**

PASSERO ASSOCIATES

engineering architecture

201 N 2ND STREET

PALATKA, FL 32177



Passero Associates

4730 CASA COLA WAY, SUITE 200 (904) 757-6106 ST. AUGUSTINE, FL 32095

PROJECT MANAGER Christopher Nardone, AIA Katie Kmiecik, Assoc. AIA DESIGNER

NO. DATE BY DESCRIPTION 2/10/25 KK Addendum No. 2

NAUTHORIZED USE OF THESE DRAWINGS IS IN VIOLATION OF FLORIDA ADMINISTRATIVE CODE 61G15-27-001 AND FLORIDA STATUES 471.033(1). THESE PLANS ARE COPYRIGHT PROTECTED

ROOF DEMOLITION PLAN

CITY OF PALATKA PRICE-MARTIN **COMMUNITY CENTER**

Price-Martin Facility Hardening TOWN/CITY: PALATKA

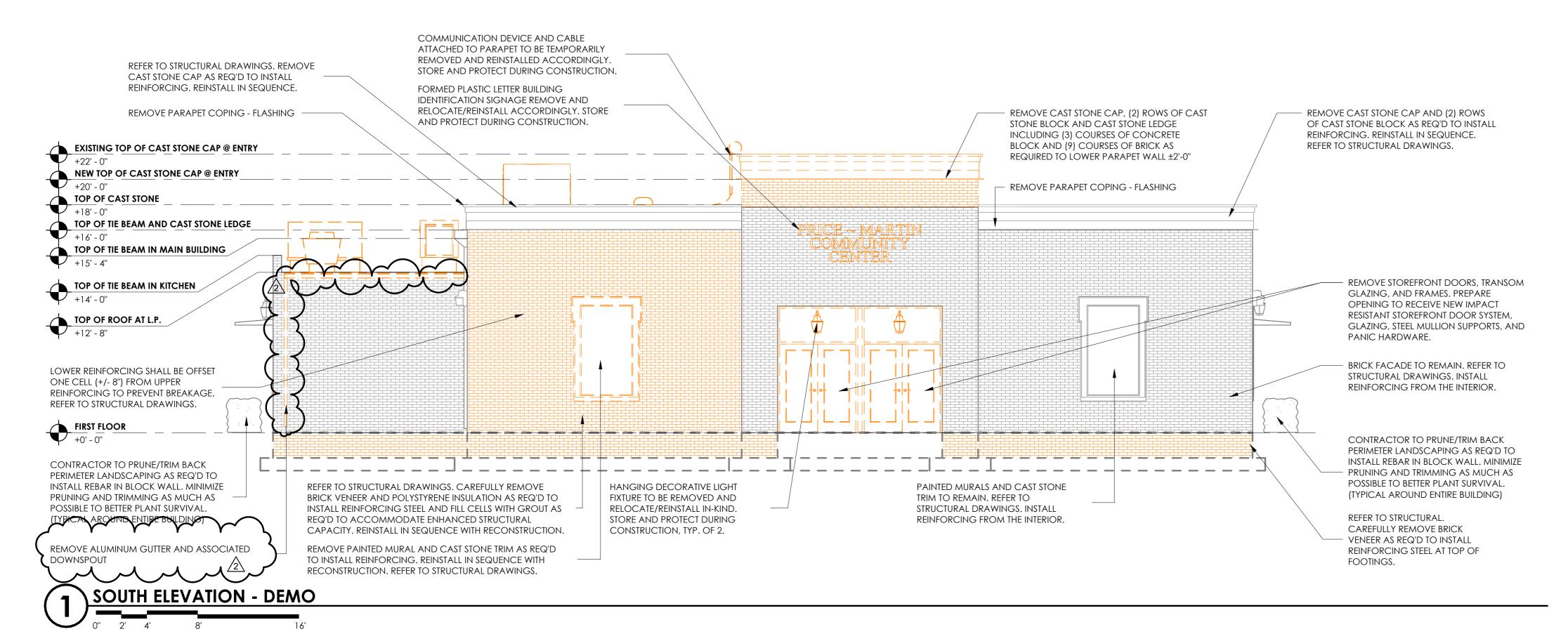
COUNTY: PUTNAM

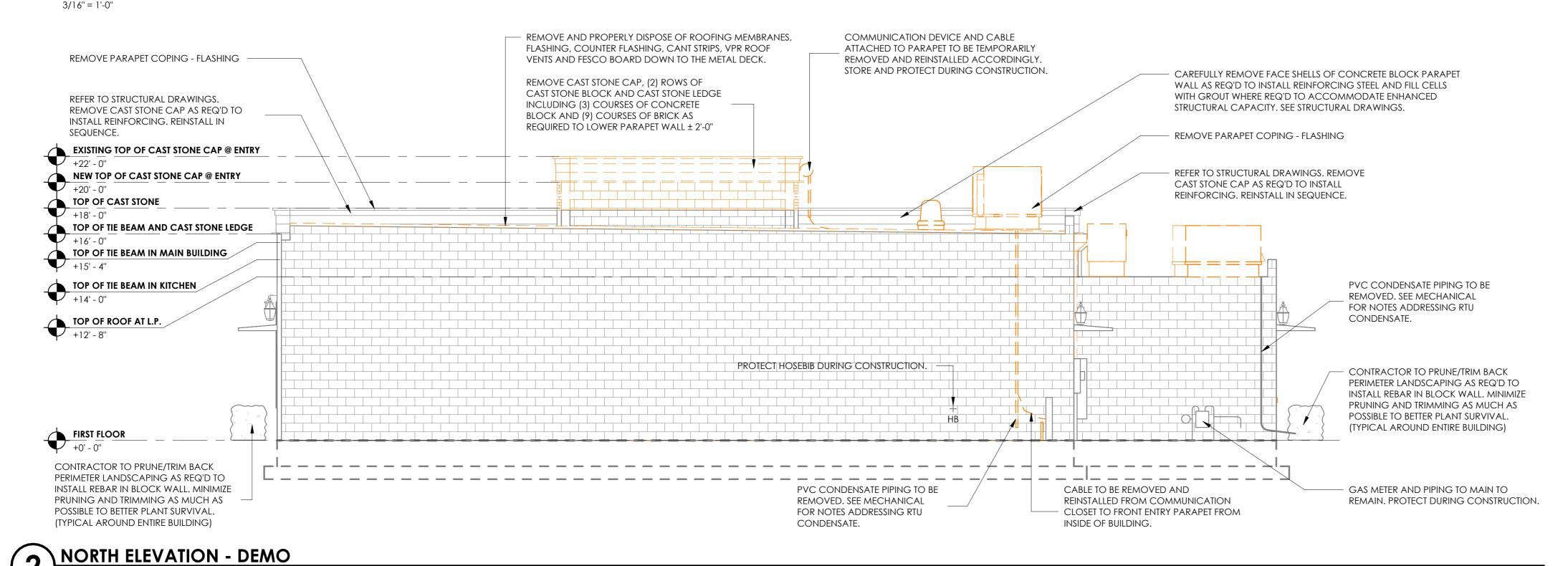
20213160.0006

STATE: FL

AD-101

JANUARY 14, 2025





3/16" = 1'-0"

DEMOLITION SCOPE:

THE EXISTING CONDITION / DEMOLITION DRAWINGS ARE INTENDED AS A GENERAL GUIDE TO THE DEMOLITION REQUIRED FOR THIS PROJECT. DEMOLITION IS NOT SHOWN INCOMPLETE DETAIL AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE EXISTING CONSTRUCTION AS REQUIRED TO ACCOMPLISH THE DESIGN INTENT FOR THE WORK SHOWN AND REASONABLY IMPLIED FOR THE PROJECT. REFER TO THE WORK SHOWN ON ALL OTHER DRAWINGS IN THE SET FOR THE EXTENT OF THE DEMOLITION REQUIRED TO PERFORM THE WORK INTENT.

GENERAL CONDITIONS:

- VISIT THE JOB SITE TO VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING ANY WORK. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO BEGINNING THE WORK.
- QUESTIONABLE ITEMS, INCLUDING BUT NOT LIMITED TO FOUND / UNKNOWN CONDITIONS AND ITEMS NOT SHOWN / LISTED IN THE CONTRACT DOCUMENTS, SHALL BE COORDINATED WITH THE ARCHITECT BEFORE REMOVING.
- REMOVE ALL ABANDONED CONDUIT, DUCTWORK, HANGERS, CEILING TILES, GRID, FRAMING, PIPING, ETC. THROUGH THE WORK AREA.

DEMOLITION GENERAL NOTES:

- REFER TO STRUCTURAL. REMOVE INTERIOR FACE SHELLS (UNLESS OTHERWISE NOTED) OF BLOCK WALLS AS REQUIRED TO INSTALL REINFORCING STEEL AND FILL CELLS WITH GROUT WHERE REQUIRED TO ACCOMMODATE ENHANCED STRUCTURAL CAPACITY.
- IF REQUIRED, TEMPORARILY REMOVE TILE BASE. REPLACE IN-KIND.
 IF REQUIRED, TEMPORARILY REMOVE ACOUSTIC CEILING TILE (ACT) SYSTEM TO DO WORK. REPLACE IN-KIND. NOTE: R-30 BATT INSULATION
- CAN BE DISPOSED OF AND NOT REPLACED.
 CONTRACTOR IS RESPONSIBLE TO ENSURE THERE IS NO ELECTRICAL OR ANY UTILITIES LOCATED INSIDE THE BLOCK WALLS PRIOR TO CUTTING.
- IF REQUIRED, TEMPORARILY REMOVE HVAC DUCTS, REGISTERS, VENTS, AND FLUES. REPLACE IN-KIND.
- IF REQUIRED, TEMPORARILY REMOVE LIGHTING. REPLACE IN-KIND.

PASSERO ASSOCIATES engineering architecture



BID SET

ГАМР:

CLIENT: 201 N 2ND STREET PALATKA, FL 32177



Passero Associates

Christopher Nardone, AIA Katie Kmiecik, Assoc. AIA

4730 CASA COLA WAY, SUITE 200 ST. AUGUSTINE, FL 32095

PROJECT MANAGER
PROJECT ARCHITECT
DESIGNER

NO. DATE BY DESCRIPTION
2 2/10/25 KK Addendum No. 2

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NORTH/SOUTH DEMOLITION ELEVATIONS

CITY OF PALATKA
PRICE-MARTIN
COMMUNITY CENTER

Price-Martin Facility Hardening
TOWN/CITY: PALATKA

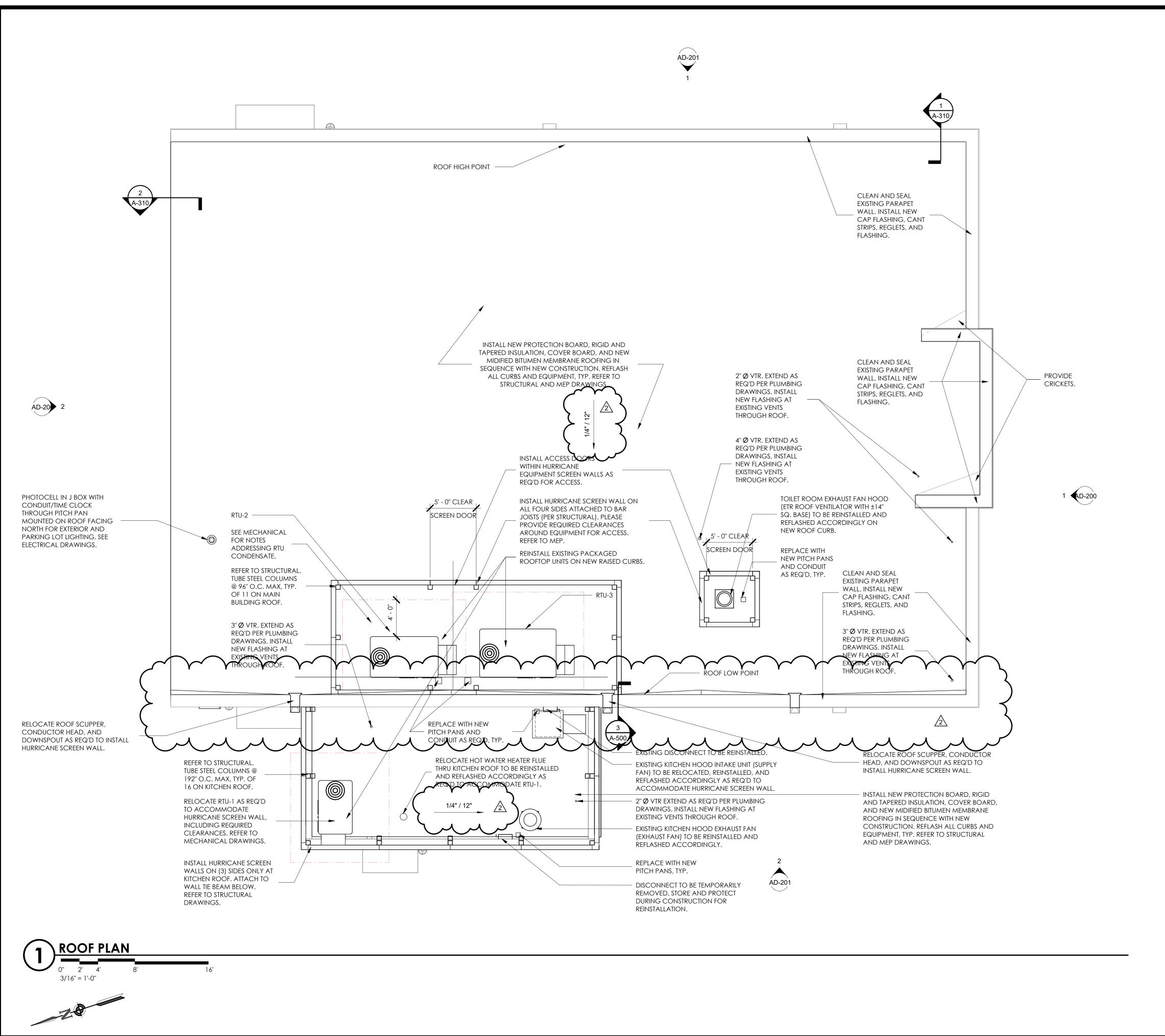
COUNTY: PUTNAM

20213160.0006

STATE: FI

AD-200

JANUARY 14, 2025



FLOOR PLAN GENERAL NOTES:

- REGROUT EXTERIOR WALLS SMOOTH AS REQ'D WHERE CMU BLOCK FACE SHELLS ARE REMOVED FOR INSTALLATION OF REINFORCING.
- PATCH, PRIME, AND PAINT INTERIOR WALLS AS REQ'D TO MATCH EXISTING.
- REINSTALL ACOUSTIC CEILING TILE IN-KIND WHERE AFFECTED.
- REFER TO SHEET A-602 FOR DETAILS AND SCHEDULES OF REPLACEMENT EXTERIOR DOORS AND WINDOWS.





CLIENT: 201 N 2ND STREET PALATKA, FL 32177



Passero Associates

4730 CASA COLA WAY, SUITE 200 (904) 757-6106 ST. AUGUSTINE, FL 32095

PROJECT MANAGER PROJECT ARCHITECT

Christopher Nardone, AIA Katie Kmiecik, Assoc. AIA

DESIGNER NO. DATE BY DESCRIPTION 2/10/25 KK Addendum No. 2

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ROOF PLAN

CITY OF PALATKA PRICE-MARTIN COMMUNITY CENTER

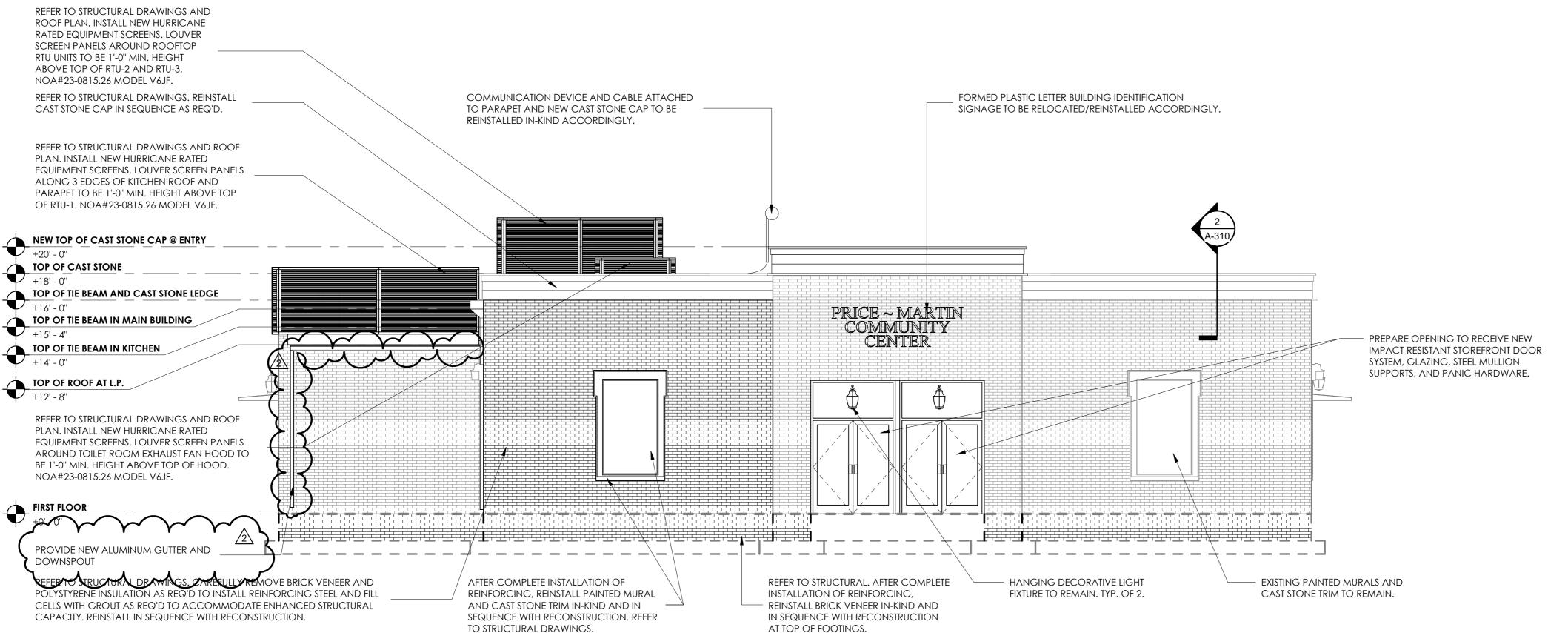
Price-Martin Facility Hardening TOWN/CITY: PALATKA

COUNTY: PUTNAM STATE: FL

20213160.0006

A-102

JANUARY 14, 2025



EXTERIOR ELEVATION GENERAL NOTES:

- REGROUT EXTERIOR WALLS AS REQ'D WHERE CMU BLOCK FACE SHELLS
- ARE REMOVED FOR INSTALLATION OF REINFORCING. REFER TO SHEET A-602 FOR DETAILS AND SCHEDULES OF REPLACEMENT
- EXTERIOR DOORS AND WINDOWS. FOR HURRICANE RATED EQUIPMENT SCREENS, TOP OF ROOF TO BASE OF
- LOUVER SCREEN PANEL AT 0'-8" MAX. CLEARANCE. FOR HURRICANE RATED EQUIPMENT SCREENS, MAX. WIDTH OF LOUVER SCREEN PANEL AT 8'-0" (192").



PASSERO ASSOCIATES

engineering architecture

BID SET

CLIENT: 201 N 2ND STREET PALATKA, FL 32177



Passero Associates

4730 CASA COLA WAY, SUITE 200 ST. AUGUSTINE, FL 32095

PROJECT MANAGER PROJECT ARCHITECT

Christopher Nardone, AIA Katie Kmiecik, Assoc. AIA DESIGNER

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> NORTH/SOUTH **EXTERIOR ELEVATIONS**

CITY OF PALATKA PRICE-MARTIN

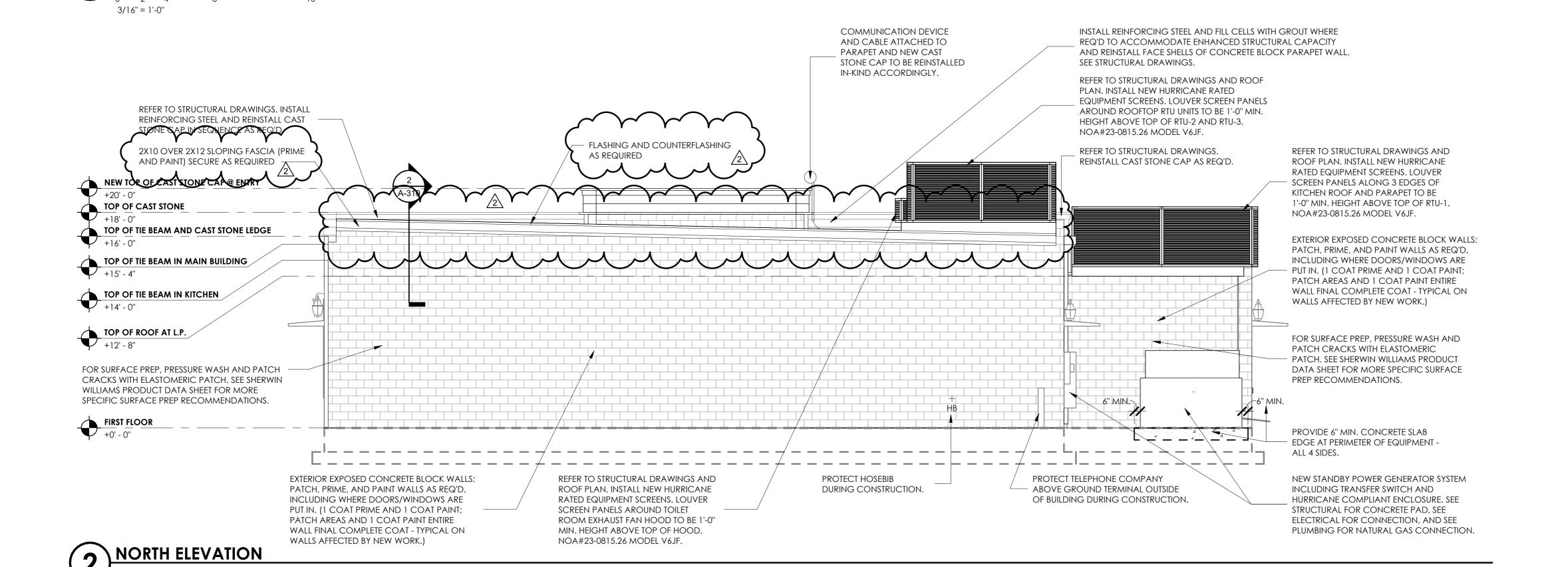
COMMUNITY CENTER Price-Martin Facility Hardening

TOWN/CITY: PALATKA COUNTY: PUTNAM STATE: FI

20213160.0006

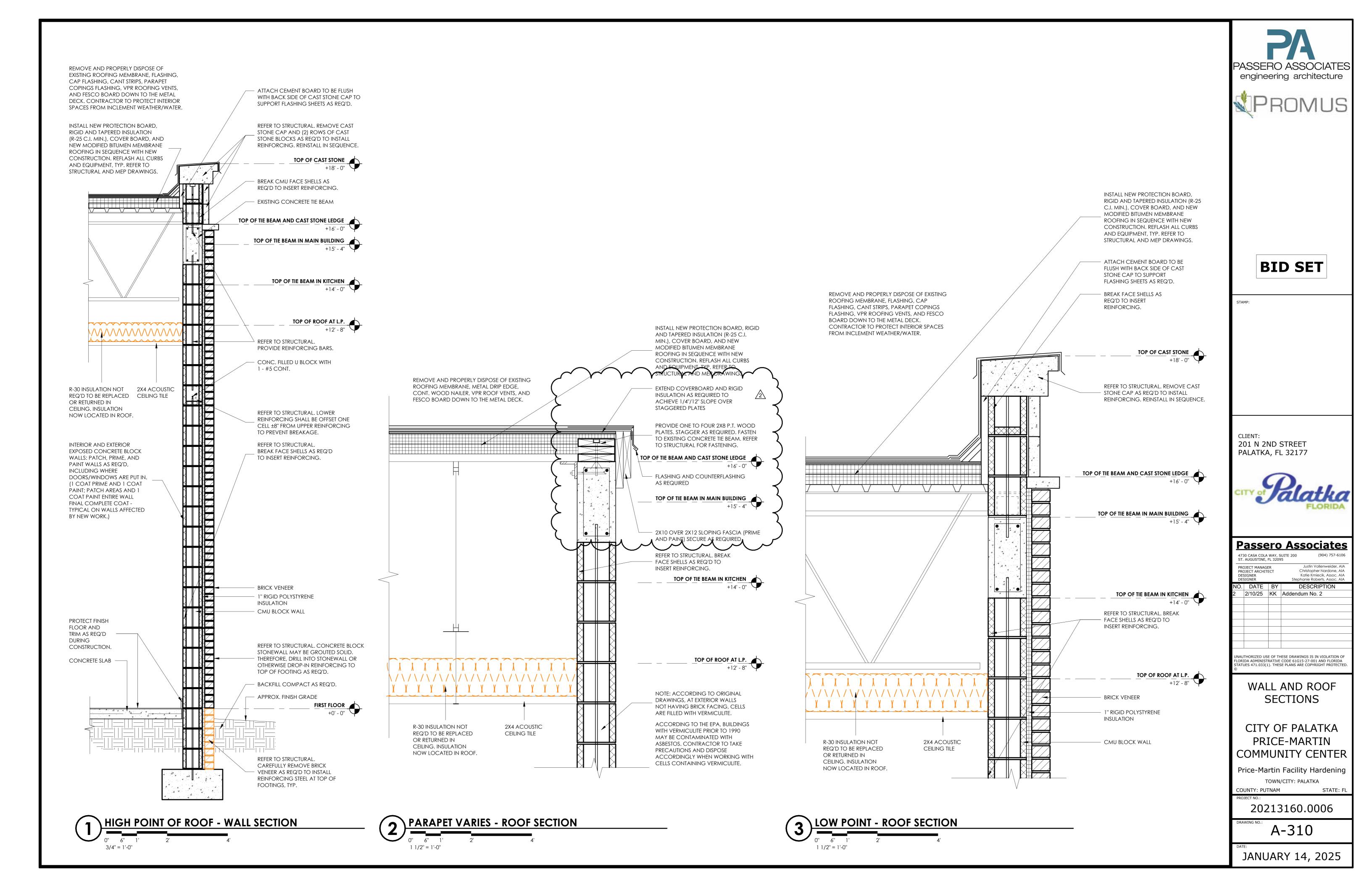
A-200

JANUARY 14, 2025



SOUTH ELEVATION

3/16" = 1'-0"





Specifier Services

10100 W. Ute Ave. Littleton, CO 80127 303.978.5200 RSSpecServices@jm.com www.jm.com

City of Palatka 201 N. 2nd St Palatka, FL 32177 1/22/2025

Re: Price-Martin Facility

To Whom It May Concern:

Johns Manville (a Berkshire Hathaway Company) has been a Roofing Systems solution provider for over 160 years and we take pride in the systems and products that we offer to the market.

We are submitting a pre-bid system approval request for roofing materials tailored to the above referenced project. At Johns Manville, we realize your time is valuable and sincerely thank you for taking the time to review our submission.

Addressing Product Offering

- Johns Manville is proposing the following SBS roofing system that meets the criteria and intention of the specified roofing assembly:
- The roof assembly shall be composed of the following JM components:
 - Cap Ply: DynaWeld Cap 180 FR, torch applied
 - Base Ply: DynaWeld 180 S, torch applied
 - o Cover Board: DensDeck Prime Roof Board, fastened with UltraFast Fasteners and Plates
 - o Insulation: ENRGY 3, preliminary attachment
 - o Deck: steel
 - Flashings: DynaWeld Cap 180 FR, DynaWeld 180 S
 - Wind uplift and coverage riders meet the requirements outlined in the specification
 - FL 17013-R24
 - S-AM-59
- This assembly will be eligible for a 20 year No Dollar Limit Johns Manville Peak Advantage® Guarantee once a Johns Manville Technical Representative inspects and approves the installed JM roofing system.

Company Stability

In 2001, Johns Manville was acquired by Berkshire Hathaway, providing additional financial strength coupled with the highest level of integrity and leadership. This provides the financial stability to weather economic storms and allows JM to continue to be a leader in the roofing industry you can continue to count on.

Johns Manville Specifier Services

Johns Manville offers a number of resources for specification services to accurately assess and develop the proper roofing assembly including system selection, technical assistance, and specification review.

We look forward to your favorable review and approval of this substitution request. If you should have any further questions, please do not hesitate to contact me at 303-978-2159.

Best Regards,

Dustin Rommel

Specifier Services Representative, Johns Manville

Cc: Matt Fox, Johns Manville

Att: Product Comparison Table

Data Sheets Sample Warranty

									SB	S Phy	/si	cal	Pro	perty	Со	mp	aris	on										
Product data taken	ı from manufacture's website January		Us	e			olication ethod			Roofing	Sol	ool Roo utions (Aged)	3 Year	Weight	Re	einforcer	nent	Size	Thickness		isile th @ 0°	Tear S	trength	Elongati	on @ 0°F	Elonga 73	ation @ 8°F	Low Temp. Flexibility
Manufacturer	ASTM Standard/Product Name	Base	Сар	Interply	shing	Hot Asphait Cold Adhesive	Torch Self Adhered	Mechanically Attached	M C 1	Emissivity (ASTM C 1371) Solar Reflectance Index - SRI	2 TO 65 CO.	Emissivity (ASTM C 1371)	Solar Reflectance Index - SRI	Weight in lbs. (kgs)	Composite	Fiberglass Polyester	Glass Grid	Size in squares (square meters)	mis (mm)	Machine Direction Ibf/in	Cross Machine Direction Ibf/in	Machine Direction Ibf	Cross Machine Direction lbf	Machine Direction	Cross Machine Direction	Machine Direction	Cross Machine Direction	*Fahrenheit
	ASTM D 6164 Type I, Grade S																											
	DynaWeld 180 S						•							86(39)				.958(8.9)	118 (3.0)	110	90	125	90	35.0%	40.0%	55.0%	60.0%	-20
Soprema	Sopralene Flam 180						•							81 (36.7)				.979 (9.1)	118 (3.0)	115	90	125	85	35.0%	40.0%	55.0%	60.0%	-15
	ASTM D 6164 Type I, Grade G																											
	DynaWeld Cap 180 FR						•	:	26 0.		.27	.84	25	105(47.6)				.958(8.9)	157 (4.0)	110	90	125	90	35.0%	40.0%	55.0%	60.0%	-10
Soprema	Sopralene Flam 180 FR GR SG						•		0.66	0.91 81	0.6	0.91	75	118 (53.5)				.979 (9.1)	157 (4.0)	115	90	125	85	35.0%	40.0%	55.0%	60.0%	-15



DynaWeld[™]Cap 180 FR

Fire-Retardant, Glass Scrim/Polyester-Reinforced, SBS Mineral-Surfaced Cap or Flashing Sheet

Meets the requirements of ASTM D 6164, Type I, Grade G

Features and Components

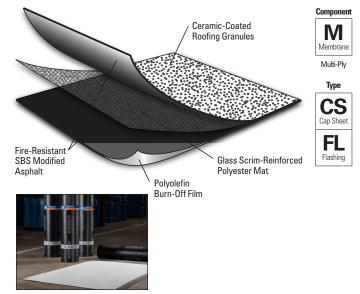
DynaWeld Cap 180 FR is used as a polyester-reinforced mineralsurfaced cap or flashing sheet in a variety of multi-ply roofing systems.

Ceramic-Coated Roofing Granules: Specifically engineered for optimal embedment in the SBS-blend sheet. The ceramic coating promotes excellent long-term adhesion.

High-Quality SBS Rubber and Asphalt Blend: Lends elasticity and flexibility to the sheet. The elongation and recovery properties allow the product to easily accommodate the continual expansion and contraction experienced on all roofs. The FR blend contains additional fire-retardant additives.

Polyester Reinforcement Mat: Polyester mat with glass-scrim reinforcement offers robust tear strength and puncture resistance, allowing for high wind performance and an excellent hail rating. The sheet also exhibits strong dimensional stability and enhanced elongation.

Polyolefin Burn-Off Film: Promotes ease of heat welding.



Colors: White, Black, Tan & Brown (Black and Tan may require extended lead times.)

System Compatibility This product may be used as a component in the following systems. Please reference product application for specific installation methods and information.

≥	BUR	Al	PP	SBS							
Multi-	HA	CA	HW	HA	CA	HW	SA	MF			
ž		Compati	ible with t	he select	ed multi-µ	oly systen	is above				

MF AD SA IW MF AD IW MF AD BA

Compatible with the selected single ply systems above

Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened IW = Induction Weld BA = Ballasted AD = Adhered

Energy and the Environment

Test	Initial	3-Year Aged		
Reflectivity* (ASTM C 1549)	0.28	0.25		
Emissivity* (ASTM C 1371)	0.89	0.92		
Solar Reflectance Index* (SRI) - E 1980	29	26		
Pre-Consumer Recycled Content	0%			
Post-Consumer Recycled Content	0%			

^{*}Standard White Granule only

Peak Advantage® Guarantee Information

Systems	Guarantee Term
When used in most 2-5 ply JM SBS systems.*	Up to 30 years

 $[\]hbox{*Contact JM Technical Services for specific system requirements or guarantee terms.}$

Codes and Approvals







Product Application



Heat We

- · Must be installed using heat-welding techniques
- Refer to JM SBS modified bitumen specifications and detail drawings for application and slope information

Roll Coverage*		95.8 ft ² (8.9 m ²)					
Roll Length	32' 10" (10 m)						
Roll Width	39 ¾" (1 m)						
Roll Weight	105 lb (47.6 kg)						
Rolls per Pallet		20					
Pallet Weight	2,230 lb (1,012 kg)						
Pallets per Truck**	22						
Producing Locations	South Gate, CA	Macon, GA	Plattsburgh, NY				

^{*}Assumes a 4" side lap **Assumes 48' flatbed truck.



DynaWeld[™]Cap 180 FR

Fire-Retardant, Glass Scrim/Polyester-Reinforced, SBS Mineral-Surfaced Cap or Flashing Sheet

Meets the requirements of ASTM D 6164, Type I, Grade G

Tested Physical Properties

			ASTM	Standard for ASTM D 6164,	DynaWeld	Cap 180 FR		
Phy	sical Properties		Test Method	Type I, Grade G (Min.)	MD*	XMD**		
Æ	Tensile Tear		D 5147	55 lbf (245 N)	125 lbf (556 N)	90 lbf (400 N)		
Strength	Peak Load at 0°F (-18°C)		D 5147	70 lbf/in (12.3 kN/m)	110 lbf/in (19.3 kN/m)	90 lbf/in (15.8 kN/m)		
S	Peak Load at 77°F (23°C)		D 5147	50 lbf/in (8.8 kN/m)	80 lbf/in (14.0 kN/m)	60 lbf/in (10.5 kN/m)		
	Low Town Floribility	Unconditioned	D 5147	0°F (-18°C)	-10°F (-23°C)		
	Low Temp. Flexibility	90-Day Heat Conditioned	D 5147	0°F (-18°C)	-10°F (-23°C)		
	Compound Stability		D 5147	215°F (102°C)	250°F (121°C)		
.₹	Granule Loss		D 4977	2 g (0.07 oz)	0.7 g (0).02 oz)		
Longevity	Thickness		D 5147	130 mil (3.3 mm)	157 mil (4.0 mm)		
2	Selvage Edge Thickness		D 5147	N/A	110 mil (2.8 mm)		
	Elongation at Peak Load at 0°F	- (-18°C)	D 5147	20%	35%	40%		
	Elongation at Peak Load at 73.	4°F (23°C)	D 5147	35%	55%	60%		
	Ultimate Elongation at 77°F		D 5147	38%	70%	80%		
e	90-Day Heat-Conditioned Peal	k Load at 0°F (-18°C)	D 5147	70 lbf/in (12.3 kN/m)	110 lbf/in (19.3 kN/m)	90 lbf/in (15.8 kN/m)		
manc	90-Day Heat-Conditioned Elonga	ation at Peak Load at 0°F (-18°C)	D 5147	20%	25%	25%		
Aged Performance	90-Day Heat-Conditioned Peal	k Load at 73.4°F (23°C)	D 5147	50 lbf/in (8.8 kN/m)	85 lbf/in (14.9 kN/m)	65 lbf/in (11.4 kN/m)		
Jed P	90-Day Heat-Conditioned Elonga	ation at Peak Load at 73.4°F (23°C)	D 5147	35%	35%	45%		
Ä	90-Day Heat-Conditioned Ultin	nate Elongation at 73.4°F (23°C)	D 5147	38%	45%	45%		
ion	Dimensional Stability		D 5147	1.0%	0.2%	0.1%		
Installation	Net Mass per Unit Area		D 146	75 lb/100 ft² (34 kg/9.29 m²)	100 lb/100 ft² (45.4 kg/9.29 m²)			
lust	Roll Weight		D 146	N/A	105 lb (4	47.6 kg)		

^{*}MD = Machine Direction

Note: Material tested in accordance with ASTM D 5147 Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Materials.

Supplemental Testing

Physical Properties		ASTM Test Method	DynaWeld Cap 180 FR Result
Cyclic Joint Dioplessment	Initial	D 5849	Pass at 500 cycles*
Cyclic Joint Displacement	After 90-Day Heat Conditioning per ASTM D 5147	D 5849	Pass at 200 cycles*
Coefficient of Friction	Static	D 1894	1.32
Coefficient of Friction	Kinetic	D 1894	0.89

^{*} In a min 2-ply system when adhered with any combination of cold applied, hot applied and or heat-weld that is approved by JM for application.

^{**}XMD = Cross-Machine Direction



DynaWeld™180 S

Glass Scrim/Polyester-Reinforced, SBS Base or Ply

Meets the requirements of ASTM D 6164, Type I, Grade S

Features and Components

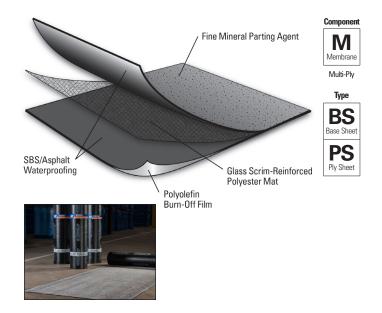
DynaWeld 180 S is used as a polyester-reinforced base or ply sheet in a variety of multi-ply roofing systems.

Fine Mineral Parting Agent: Nonblocking surface for use as a base sheet or ply sheet.

High-Quality SBS Rubber and Asphalt Blend: Lends elasticity and flexibility to the sheet. The elongation and recovery properties allow the product to easily accommodate the continual expansion and contraction experienced on all roofs.

Polyester Reinforcement Mat: Polyester mat with bidirectional glass-scrim reinforcement offers robust tear strength and puncture resistance, allowing for high wind performance and an excellent hail rating. The sheet also exhibits strong dimensional stability and enhanced elongation.

Surfacing: Fine mineral parting agent on the top side of the sheet. A polyolefin burn-off film on the bottom side enables the product to be applied using heat welding techniques.



System Compatibility This product may be used as a component in the following systems. Please reference product application for specific installation methods and information.

Ply	BUR	Al	PP			SBS		
¶ulti-F	HA	CA	HW	HA	CA	HW	SA	MF
ž			Compatib	le with a	ll multi-pl	y systems		

3	BUR	BUR APP SBS		SBS			APP			₹		TF	90			PVC			EPDM	
3	HA	CA H	W HA	CA	HW	SA	MF	gle	MF	AD	SA	IW	MF	AD	IW	MF	AD	BA		
ž		Compatible with all multi-ply systems						Sin		Com	patible	with the	selecto	ed singl	e ply sy	stems a	bove			
Ke	Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened IW = Induction Weld BA = Ballasted AD = Adhered																			

Energy and the Environment

Pre-Consumer Recycled Content	0%
Post-Consumer Recycled Content	0%

Peak Advantage® Guarantee Information

Systems	Guarantee Term
When used in most 2-5 ply JM SBS systems.*	Up to 30 years

^{*}Contact JM Technical Services for specific system requirements or guarantee terms.

Codes and Approvals







Product Application



- May be used as a backer-ply in two-ply flashing systems
- Must be installed using heat-welding techniques
- Refer to JM SBS modified bitumen specifications and detail drawings for application and slope information

Roll Coverage*	95.8 ft² (8.9 m²)
Roll Length	32' 10" (10 m)
Roll Width	39 %" (1 m)
Roll Weight	86 lb (39 kg)
Rolls per Pallet	20
Pallet Weight	1,900 lb (862 kg)
Pallets per Truck**	22
Producing Location	Macon, South Gate, Plattsburgh

^{*}Assumes a 4" side lap **Assumes 48' flatbed truck.



DynaWeld™180 S

Glass Scrim/Polyester-Reinforced, SBS Base or Ply

Meets the requirements of ASTM D 6164, Type I, Grade S

Tested Physical Properties

			ASTM	Standard for ASTM D 6164,	DynaWeld 180 S		
Phy	sical Properties		Test Method	Type I, Grade S (Min.)	MD*	XMD**	
Strength	Tensile Tear		D 5147	55 lbf (245 N)	125 lbf (556 N)	90 lbf (400 N)	
	Peak Load at 0°F (-18°C)	D 5147	70 lbf/in (12.3 kN/m)	110 lbf/in (19.3 kN/m)	90 lbf/in (15.8 kN/m)		
	Peak Load at 73.4°F (23°C)		D 5147	50 lbf/in (8.8 kN/m)	80 lbf/in (14.0 kN/m)	60 lbf/in (10.5 kN/m)	
	Low Town Floribility	Unconditioned	D 5147	0°F (-18°C)	-20°F (-29°C)	
	Low Temp. Flexibility	90-Day Heat Conditioned	D 5147	0°F (-18°C)	-20°F (-29°C)	
ı <u>₹</u>	Compound Stability		D 5147	215°F (102°C)	250°F (121°C)	
Longevity	Thickness	D 5147	85 mil. (2.2 mm)	118 mil (3.0 mm)			
2	Elongation at Peak Load at 0°F (-18°C)		D 5147	20%	35%	40%	
	Elongation at Peak Load at 73.4	D 5147	35%	55%	60%		
	Ultimate Elongation at 73.4°F (2	D 5147	38%	70%	80%		
e	90-Day Heat-Conditioned Peak	D 5147	70 lbf/in (12.3 kN/m)	110 lbf/in (19.3 kN/m)	80 lbf/in (14.0 kN/m)		
mano	90-Day Heat-Conditioned Elonga	D 5147	20%	25%	25%		
Aged Performance	90-Day Heat-Conditioned Peak	c Load at 73.4°F (23°C)	D 5147	50 lbf/in (8.8 kN/m)	85 lbf/in (14.9 kN/m)	65 lbf/in (11.4 kN/m)	
Jed P	90-Day Heat-Conditioned Elonga	ation at Peak Load at 73.4°F (23°C)	D 5147	35%	35%	45%	
Ą	90-Day Heat-Conditioned Ultim	D 5147	38%	45%	45%		
ion	Dimensional Stability		D 5147	1.0%	0.2%	0.1%	
Installation	Net Mass per Unit Area		D 146	54 lb/100 ft ² (24 kg/9.29 m ²)	80 lb/100 ft ² (36 kg/9.29 m ²)		
Inst	Roll Weight		D 146	N/A	86 lb (39 kg)	

^{*}MD = Machine Direction

Note: All data represents tested values.

Supplemental Testing

Physical Properties		ASTM Test Method	DynaWeld 180 S Result
	Initial	D 5849	Pass at 500 cycles*
Cyclic Joint Displacement	After 90-Day Heat Conditioning per ASTM D 5147	D 5849	Pass at 200 cycles*
	After 180-Day Heat Conditioning per ASTM D 5147	D 5849	Pass at 200 cycles**

^{*}In a min 2-ply system when adhered with any combination of cold applied, hot applied and or heat-weld that is approved by JM for application.

Technical specifications as shown in this literature are intended to be used as general guidelines only. Please refer to the Safety Data Sheet and product label prior to using this product. The Safety Data Sheet is available by calling (800) 922-5922 or on the web at www.jm.com/roofing. The physical and chemical properties of the product listed herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Check with the regional sales representative nearest you for current information.

All Johns Manville products are sold subject to Johns Manville's standard Terms and Conditions, which includes a Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville standard Terms and Conditions or for information on other Johns Manville roofing products and systems, visit www.jm.com/terms-conditions.

^{**}XMD = Cross-Machine Direction

^{**}When heat welded to DynaWeld Cap FR or DynaWeld Cap FR CR.



DensDeck® Prime Roof Board

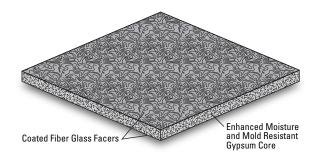
Enhanced Coated Glass Mat Faced Gypsum Cover Board

Meets the requirements of ASTM C 1177

Features and Components

Enhanced Face Mat: Coated fiberglass facer ideal for fully adhered systems provides a broader compatibility and higher performance with roofing adhesives.

Fire Performance: FM Class 1 for fire barrier requirements and UL Class A unlimited slope with excellent surface burning characteristics. 5/8" thickness meets the requirements of Type X per ASTM C 1177.





Multi-Ply Single Ply

Туре



System Compatibility This product may be used as a component in the following systems. Please reference product application for specific installation methods and information.

PI	Bl	JR	A	P		SI	38			
Multi-	HA	CA	CA	HW	HA	CA	HW	SA		
Ž	Compatible with all Multi-Ply systems									

TPO PVC EPDM

MF FA MF FA MF FA BA

Compatible with the selected Single Ply systems above

Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened FA = Fully Adhered BA = Ballasted

Peak Advantage® Guarantee Information

Systems	Guarantee Term*
When used in most multi-ply and single ply systems	10, 15, or 20 years

^{*} Contact JM Technical Services for specific systems or terms over 20 years.

Codes and Approvals







Installation/Application







Mechanically

Refer to the Application Guides and Detail Drawings for instructions.

Packaging and Dimensions

Size	4' x 4' (1.22 m x 1.22 m)					
Thickness, nom	1/4" (6.4 mm)	½" (12.7 mm)	5/8" (15.9mm)			
Weight/Board, nom	19 lb (8.6 kg)	32 lb (14.5 kg)	40 lb (18.2 kg)			
Coverage/Pallet	960 ft ² (89 m ²)	800 ft ² (74 m ²)	640 ft ² (59 m ²)			
Boards/Pallet	60	50	40			
Pallet Weight	1,140 lb (517 kg)	1,600 lb (726 kg)	1,600 (726 kg)			
Pallets per Truck*	40	29	27			
Size	4' x 8' (1.22 m x 2.44 m)					
Thickness, nom	1/4" (6.4 mm)	½" (12.7 mm)	%" (15.9 mm)			
Weight/Board, nom	38 lb (17.2 kg)	64 lb (29.0 kg)	80 lb (36.3 kg)			
Coverage/Pallet	1,344 ft ² (125 m ²)	960 ft ² (89 m ²)	960 ft ² (89 m ²)			
Boards/Pallet	42	30	30			
Pallet Weight	1,596 lb (724 kg)	1,920 lb (871 kg)	2,400 lb (1089 kg)			
Pallets per Truck*	28	24	18			

^{*} Assumes 48' flatbed truck. Number of units per truck may vary per shipping location and can be verified at time of order placement.

DensDeck® is registered trademark of Georgia-Pacific Gypsum LLC. DensDeck® is manufactured by Georgia-Pacific Gypsum LLC.



DensDeck® Prime Roof Board

Enhanced Coated Glass Mat Faced Gypsum Cover Board

Meets the requirements of ASTM C 1177

Typical Physical Properties

To	-	ASTM	DensDeck Prime Roof Board					
le	Test		1⁄4" (6.4 mm)	½" (12.7 mm)	%" (15.9 mm)			
ŧ	Compressive Strength, psi (kPa), nom	C 473		900 (6,205)				
Strength	Flexural Strength, lb, parallel, min	C 473	40	80	100			
₹	Bending Radius, ft (m), max	NA	4 (1.2)	6 (1.8)	8 (2.4)			
	Moisture Vapor Permeance, perms (ng/(Pa•s•m²), <i>min</i>	E 96	30 (1,710)	23 (1,300)	17 (970)			
Moisture	Water Absorption, % by wt, max	C 1177	5					
Moi	Surface Water Absorption, grams, nom	C 473 method B	1					
	Mold Resistance	D 3273		10				
Installation	Flute Span, in (cm), max E 66		2 % (6.7)	5 (12.7)	8 (20.3)			
Instal	Weight, lb/ft² (kg/m²), nom	NA	1.2 (5.9)	2.0 (9.8)	2.5 (12.2)			

Thermal Performance

Thickn	ess		Nominal R-Value (Resistance)			
in.	mm		(hr•ft²•°F)/BTU	m²•°C/W		
1/4	6.4		0.28	0.049		
1/2	1/2 12.7		0.56	0.099		
5/8	5% 15.9		0.67	0.118		
Test		ASTM	DensDeck Prim	e Roof Board		
Flame Spread		E 84	0			
Smoke Developed		E 84	0			
Non combustible in accordance with ASTM E 136						

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UltraFast® Fasteners

Case-Hardened Steel, Polymer-Coated Fasteners

Features and Components

The UltraFast Fastener is a #12, case-hardened steel, polymer-coated fastener with a buttress thread design that provides maximum pullout values and minimizes fastener backout. Available with either a #3 Phillips head or a 1/4" (6.35 mm) hex head. The drill point is designed for quick installation in new or re-roof applications, and provides exceptional drilling capability in higher tensile decks.

Use: Insulation

Fasteners - Case-Hardened Steel, Polymer-Coated Material:

Gauge:

Head: #3 Phillips Head or 1/4" (6.35 mm) Hex Head

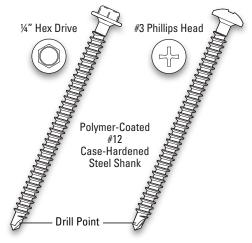
Color:

Deck Types: Wood or 18 - 24 gauge (1.25 mm - 0.51 mm) Metal

CR-10 corrosion resistant factory applied coating

passes the corrosion requirements of

FM 4470 and ETAG 006









System Compatibility This product may be used as a component in the following systems. Please reference product application for specific installation methods and information.

Ply	BUR	Al	PP			SBS			
Multi-	HA	CA	HW	HA	CA	HW	SA	MF	
ž	Use to fasten insulation in all multi-ply systems								

AD SA AD MF Use to fasten insulation in the selected single ply systems above Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened IW = Induction Weld BA = Ballasted AD = Adhered

Energy and the Environment

Recycled Content	This steel based product contains a minimum of 25% post consumer recycled materials by weight

Peak Advantage® Guarantee Information

Systems
Approved to use with any Peak Advantage Guarantee

Codes and Approvals*





^{*}Fastener approvals are based on system approvals

Installation/Application

TP0

Refer to the application instructions guidelines for proper utilization of this product.

Fastener Sizes	Quantity/Container
1%" to 8" (4.13 cm to 20.32 cm) (1) #3 Phillips bit in each pail (1) ¼" (6.35 mm) hex head bit per 3 pails	1,000/pail
Producing Locations*	Agawam, MA and Itasca, IL

^{*} The point of manufacture for fasteners and plates varies depending on the specific part. Call your local JM sales professional for assistance.



ULTRAFAST® PLATES

Galvalume® Metal and Locking Plastic Plates

Features and Components

UltraFast Locking Plastic Plates are 3" (7.62 cm) round, high strength polypropylene plates with a special locking feature.

UltraFast Metal Plates are 3" (7.62 mm) round or square, premium Galvalume®*-coated steel metal plates.

Use: Insulation

Plates - Galvalume-Coated Steel or Material:

High Strength Polypropylene

Gauge: 26 Gauge Steel

Plates: 3" (7.62 cm) Round Locking Plastic & Round or Square Metal

Colors: Grey (metal plates), Blue (plastic plates)

* Galvalume is a registered trademark of BIEC International, Inc. and some of its licensed producers.









Single Ply

UltraFast Square Metal Plate





System Compatibility This product may be used as a component in the following systems. Please reference product application for specific installation methods and information.

PI	BUR		Al	PP		SBS				
Multi-l	НА	CA	CA	HW	HA	CA	HW	CA	MF	
Ē	Use to fasten Insulation in all Multi-Ply systems									

줕	T I	20	P\	/C		EPDM		
ge	MF	FA	MF	FA	MF	FA	BA	
Sin	Use to fasten Insulation in the selected Single Ply systems above							

Key: HA = Hot Applied **CA** = Cold Applied **HW** = Heat Weldable

SA = Self Adhered

MF = Mechanically Fastened FA = Fully Adhered BA = Ballasted

Energy and the Environment

Recycled Content	This steel based product contains a minimum of 25% post consumer recycled materials by weight

Peak Advantage® Guarantee Information

Systems
Approved to use with any Peak Advantage Guarantee

Codes and Approvals*





^{*}Fastener approvals are based on system approvals

Installation/Application

Refer to the application instructions guidelines for proper utilization of this product.

Plate Sizes	Quantity/Container
3" Metal Round or Square, 1,000/pail 3" Plastic Round, 1,000/pail	1,000/pail
Producing Locations*	Agawam, MA and Itasca, IL

^{*} The point of manufacture for fasteners and plates varies depending on the specific part. Call your local JM sales professional for assistance.



Flat & Tapered ENRGY 3°

Polyisocyanurate Roof Insulation

Meets the requirements of ASTM C 1289, Type II, Class 1, **Grade 2 (20 psi)**

• ENRGY 3 / Tapered ENRGY 3

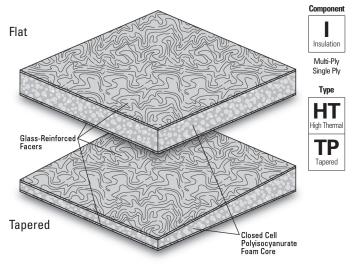
Grade 3 (25 psi)

• ENRGY 3 25 PSI / Tapered ENRGY 3 25 PSI

Features and Components

Glass-Reinforced Facers: Provides rigidity and resistance to indentation and crushing, and are compatible with BUR, modified bitumen and single ply membrane systems.

Closed Cell Polyisocyanurate Foam Core: Provides high R-value per inch in built-up, modified bitumen, metal roof and single ply roof systems, and approved for direct application to steel decks.



System Compatibility This product may be used as a component in the following systems. Please reference product application for specific installation methods and information.

Ply	BUR	APP		SBS					
Multi-	HA	CA	HW	HA	CA	HW	SA	MF	
ž	Compatible with the selected Multi-Ply systems above								

Compatible with all Single Ply systems

Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened IW = Induction Weld BA = Ballasted AD = Adhered

Energy and the Environment

Varies with thickness, see Product Data Recycled Content and Packaging table on next page.

Produced with a pentane blowing agent with zero ozone depletion and virtually no global warming potential.

Peak Advantage® Guarantee Information

Systems

For use in approved JM Peak Advantage Roofing Guarantees

Codes and Approvals









- FM® Standards 4450/4470 Approvals (refer to FM RoofNav[™])
- UL® Standard 790, 263 and 1256 (refer to UL Roofing Materials system directory)
- Meets the requirements of CAN/ULC S704, Type 2 & 3, Class 3
- · California Code of Regulations, Title 24, Insulation Quality Standard License #TI-1341
- Third-party certification with the PIMA Quality Mark[™] for Long-Term Thermal Resistance (LTTR) values

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Installation/Application









Urethane

Mechanically

Refer to the application instructions guidelines for proper utilization of this product.

Flute Span:

Width of Rib Opening: Up to 33/8" Up to 43/8" Up to 25/8" (6.67 cm) (8.57 cm) (11.11 cm) Insulation Thickness (min): 1.0" (2.54 cm) 1.2" (3.05 cm) ≥1.3" (3.30 cm)

Flat Sizes ¹	4' x 4' (1.22 m x 1.22	! m)	4' x 8' (1.22 m x 2.44 m)		
Tapered Size ²	4' x 4' (1.22 m x 1.22 m)				
Producing Locations		Cornwa Jacksor	ll, ONT ville, FL	Fernley, NV Hillsboro, TX	

- 1. For available thicknesses, see Product Data and Packaging table on page 2 of this data sheet. Other sizes available by special request, some sizes are not stocked but can be special ordered with minimum order quantities. Contact your JM Sales Representative for
- 2. Tapered ENRGY 3 and Tapered ENRGY 3 25 PSI are available in thicknesses of 1/2" to 4". Available profiles are shown on page 3 of this data sheet. In some regions extended panels are also available



Flat ENRGY 3®

Polyisocyanurate Roof Insulation

Typical Physical Properties

Te	st .	ASTM	Values
Æ	Tensile Strength	C 209	500 psf (24 kPa) <i>(min)</i> , 730 psf (35 kPa) <i>(nom)</i>
Strength	Compressive Resistance 10% Consolidation	D 1621	Grade 2: 20 psi (138 kPa), Grade 3: 25 psi (172 kPa) <i>(min)</i>
St	Dimensional Stability Change, (length & width)	D 2126	0.5% (nom), 2% (max)
Moisture	Moisture Vapor Permeance	E 96	<1 perm, 57.5 ng/(Pa•s•m²)
Mois	Water Absorption	C 209	1.0% <i>(max)</i>
ioi	Service Temperature	D 1623	-100°F – 250°F (-73°C – 121°C)
Insulation	Flame Spread, (foam core)	E 84	20 - 30 (nom), 75 (max)
lns	Smoke Developed, (foam core)	E 84	55 - 250 <i>(nom),</i> 450 <i>(max)</i>

Product Data and Packaging

	This Long-Term Thermal Recycled Content ² Boards Company Pallets								ote		
Thick	cness	Resistance (L		,	20 PSI / 25 PSI		per Pallet	Square Fee	t per Pallet	per Ti	
in.	mm	(hr•ft²•°F)/BTU	m²•°C/W	% Pre-Consumer	% Post-Consumer	% Total	4x4 and 4x8	4x4	4x8	4x4	4x8
1.0	25.4	5.7	1.00	5.3 / 5.2	31.8 / 29.9	37.1 / 35.1	48	768	1536		
1.1	27.9	6.3	1.10	5.2 / 5.2	30.0 / 28.1	35.3 / 33.3	41	656	1312		
1.2	30.5	6.8	1.20	5.2 / 5.2	28.4 / 26.6	33.6 / 31.76	38	608	1216		
1.25	31.8	7.1	1.25	5.2 / 5.2	27.7 / 25.8	32.9 / 31.0	35	560	1120		
1.3	33.0	7.4	1.30	5.3 / 5.3	27.0 / 25.2	32.3 / 30.4	35	560	1120		
1.4	35.6	8.0	1.41	5.3 / 5.2	25.7 / 23.9	31.0 / 29.2	32	512	1024		
1.5	38.1	8.6	1.51	5.2 / 5.2	24.5 / 22.8	29.8 /28.0	32	512	1024		
1.6	40.6	9.1	1.61	5.2 / 5.2	23.4 / 21.7	28.7 / 27.0	28	448	896		
1.7	43.2	9.7	1.71	5.2 / 5.2	22.4 / 20.8	27.7 / 26.0	27	432	864		
1.75	44.5	10.0	1.76	5.2 / 5.2	22.0 / 20.4	27.2 / 25.6	27	432	864		
1.8	45.7	10.3	1.81	5.2 / 5.2	21.5 / 19.9	26.7 / 25.1	25	400	800		
1.9	48.3	10.8	1.91	5.2 / 5.2	20.7 / 19.1	25.9 / 24.3	24	384	768		
2.0	50.8	11.4	2.01	5.2 / 5.2	19.9 / 18.4	25.1 / 23.6	24	384	768		
2.1	53.3	12.0	2.11	5.2 / 5.2	19.2 / 17.7	24.4 / 22.9	21	336	672		
2.2	55.9	12.6	2.22	5.2 / 5.2	18.5 / 17.1	23.7 / 22.3	21	336	672		
2.3	58.4	13.2	2.32	5.2 / 5.2	17.9 / 16.5	23.1 / 21.7	20	320	640		
2.4	61.0	13.8	2.43	5.2 / 5.2	17.3 / 16.0	22.5 / 21.1	19	304	608		
2.5	63.5	14.4	2.53	5.2 / 5.2	16.8 / 15.4	22.0 / 20.6	19	304	608		
2.6	66.0	15.0	2.64	5.2 / 5.1	16.3 / 15.0	21.4 / 20.1	18	288	576		
2.7	68.6	15.6	2.74	5.2 / 5.1	15.8 / 14.5	21.0 / 19.7	17	272	544	40	24
2.8	71.1	16.2	2.85	5.2 / 5.1	15.3 /14.1	20.5 / 19.2	16	256	512	48	24
2.9	73.7	16.8	2.96	5.2 / 5.1	14.9 / 13.7	20.1 / 18.8	16	256	512		
3.0	76.2	17.4	3.06	5.2 / 5.1	14.5 / 13.3	19.7 / 18.4	16	256	512		
3.1	78.7	18.0	3.17	5.1 / 5.1	14.1 / 12.9	19.3 / 18.1	14	224	448		
3.2	81.3	18.6	3.28	5.1 / 5.1	13.8 / 12.6	18.9 / 17.7	14	224	448		
3.25	82.6	18.9	3.33	5.1 / 5.1	13.6 / 12.4	18.7 / 17.6	14	224	448		
3.3	83.8	19.2	3.39	5.1 / 5.1	13.4 / 12.3	18.6 / 17.4	14	224	448		
3.4	86.4	19.9	3.50	5.1 / 5.1	13.1 / 12.0	18.2 / 17.1	13	208	416		
3.5	88.9	20.5	3.61	5.1 / 5.1	12.8 / 11.7	17.9 / 16.8	13	208	416		
3.6	91.4	21.1	3.72	5.1 / 5.1	12.5 / 11.4	17.6 / 16.5	12	192	384		
3.7	94.0	21.7	3.82	5.1 / 5.1	12.2 / 11.1	17.3 / 16.3	12	192	384		
3.75	95.3	22.0	3.88	5.1 / 5.1	12.0 / 11.0	17.2 / 16.1	12	192	384		
3.8	96.5	22.3	3.94	5.1 / 5.1	11.9 / 10.9	17.0 / 16.0	12	192	384		
3.9	99.1	23.0	4.05	5.1 / 5.1	11.7 / 10.7	16.8 / 15.8	12	192	384		
4.0	101.6	23.6	4.16	5.1 / 5.1	11.4 / 10.4	16.5 / 15.5	12	192	384		
4.1	104.0	24.2	4.26	5.1 / 5.1	11.2 / 10.2	16.3 / 15.3	11	176	352		
4.2	107.0	24.9	4.39	5.1 / 5.1	10.9 / 10.0	16.0 / 15.1	11	176	352		
4.3	109.0	25.5	4.49	5.1 / 5.1	10.7 / 9.8	15.8 / 14.9	11	176	352		
4.4	112.0	26.1	4.60	5.1 / 5.1	10.5 / 9.6	15.6 / 14.7	10	160	320		
4.5	114.0	26.8	4.72	5.1 / 5.1	10.3 / 9.4	15.4 / 14.5	10	160	320		

^{1.} The Long-Term Thermal Resistance (LTTR) values were determined in accordance with CAN/ULC S770 at 75°F (24°C). The ultimate R-Value of these products will depend on individual installation circumstances.

^{2.} Value represents average results (Grade 2/Grade 3). 3. Assumes 48' flatbed truck.



Tapered ENRGY 3®

Polyisocyanurate Roof Insulation

Johns Manville Tapered Polyiso Offerings Please refer to the previous page for typical physical properties.

Panel	Slope	Dime	nsion	LTTR* - Value	Pieces	Square Foot	Brd Ft	Slope Profiles
Desig.	оюре	Thin	Thick	Nominal	per Unit	per Unit	per Unit	Stope i formes
								1/16 in/ft (5.2 mm/m)
1A	1/16	0.5	0.75	3.6	70	1120	700	
1B	1/16	0.75	1	5.0	50	800	700	-
1	1/16	1	1.25	6.4	38	608	684	4
2	1/16	1.25	1.5	7.8	32	512	704	-
3	1/16 1/16	1.5 1.75	1.75	9.3	28 22	448 352	728 660	1A 1B
5	1/16	2	2.25	12.1	20	320	680	1A 1B 1 2 3 4 5 6 2.0" Filler
6	1/16	2.25	2.23	13.6	18	288	684	- All Panels Special Order
Ü	1/10	2.25	2.5	10.0	10	200	004	1/8 in/ft (10.4 mm/m)
AA	1/8	0.5	1	4.3	64	1024	768	
А	1/8	1	1.5	7.1	38	608	760	0.5" 1.0" 1.5" 2.0" 2.5" 3.0" 3.5" 4.0" 4.5" 5.0" 5.5"
В	1/8	1.5	2	10.0	26	416	728	AA A
С	1/8	2	2.5	12.9	20	320	720	2.0" Filler AA A
D**	1/8	2.5	3	15.9	16	256	704	4.0" Filler
E**	1/8	3	3.5	18.9	14	224	728	AA A B C D E F FF
F**	1/8	3.5	4	22.1	12	192	720	Extended and Special Order Panels: D, E, F, FF
FF**	1/8	4	4.5	25.3	10	160	680	0.75" 1.25" 1.75" 2.25" 2.75" 3.25" 3.75" 4.25" 4.75"
R	1/8	0.75	1.25	5.7	44	704	704	-
S	1/8	1.25	1.75	8.6	30	480	720	
T	1/8	1.75	2.25	11.4	22	352	704	R S
U	1/8	2.25	2.75	14.4	16	256	640	R S T U V W 3.0" Filler
V	1/8	2.75	3.25	17.4	14	224	672	All Panels Special Order
W	1/8	3.25	3.75	20.5	12	192	672	·
J	3/16	1	1.75	7.8	32	512	704	3/16 in/ft (15.6 mm/m)
K	3/16	1.75	2.5	12.1	20	320	680	-
1**	3/16	2.5	3.25	16.6	16	256	736	
M**	3/16	3.25	4	21.2	12	192	696	
JJ	3/16	0.5	1.25	5.0	52	832	728	
KK	3/16	1.25	2	9.3	28	448	728	J K J M 3.0" Filler JJ KK JJ MM 3.0" Filler
LL**	3/16	2	2.75	13.6	18	288	691	J K L M 3.0" Filler JJ KK LL MM 3.0" Filler All Panels Special Order All Panels Special Order
MM**	3/16	2.75	3.5	18.2	14	224	694	All raties Special Order All raties Special Order
								1/4 in/ft (20.8 mm/m)
G	1/4	1	2	8.6	32	512	768	0.5" 1.50" 2.5" 3.5" 4.5" 5.5" 6.5" 1.0" 2.0" 3.0" 4.0" 5.0" 6.0"
Н	1/4	2	3	14.4	18	288	720	0.5 1.50 2.5 0.5 4.5 5.5 0.5 1.6 2.6 0.6 4.6 5.6 0.6
I**	1/4	3	4	20.5	12	192	672	X Y 2.0" Filler
X	1/4	0.5	1.5	5.7	48	768	768	Z.U FINEL X Y
Υ	1/4	1.5	2.5	11.4	24	384	768	X Y Z ZZ 4.0" Filler G H I 3.0" Filler
Z** 7Z**	1/4 1/4	2.5	3.5 4.5	17.4	16 12	256 192	768 768	Extended and Special Order Panels: Z, ZZ All Panels Special Order
22	1/4	3.5	4.5	23.6	I IZ	192		
		I	I	I		I		3/8 in/ft (31.2 mm/m)
SS	3/8	0.5	2	7.1	36	576	720	0.5" 2.0" 3.5" 5.0" 6.5"
								SS TT
TT**	3/8	2	3.5	15.9	16	256	704	SS TT 3.0" Filler All Panels Special Order
								1/2 in/ft (41.6 mm/m)
0.	1/2	0.5	2.5	8.6	32	512	768	0.5" 2.5" 4.5" 6.5" 0.5" 2.5" 4.5" 1.0" 3.0" 5.0"
00**	1/2	2.5	4.5	20.5	12	192	672	0 XX
XX	1/2	1	3	11.4	22	352	704	Q QQ Fill Q Q ZO" XX ZX Extended and Special Order Panels: QQ Special Order
, , , , , , , , , , , , , , , , , , ,	1/2			11.7		002	,,,,	Extended and Special Order Famels, QQ Special Order

^{* (}hr•ft²•°F/Btu)

Tapered Recycle Content:

Recycled content is dependent upon average thickness. To calculate, match the average thickness of Tapered ENRGY 3 to the thickness of Flat ENRGY 3. Use the number from Flat ENRGY 3 as your recycled content.

All Johns Manville products are sold subject to Johns Manville's standard Terms and Conditions, which includes a Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville standard Terms and Conditions or for information on other Johns Manville roofing products and systems, visit www.jm.com/termsconditions.

^{**} Extended panels require less adhesive and less labor.



DYNATRED™ROOF WALKWAY

Ceramic Granule Surfaced, Roof Protection Pads

Features and Components

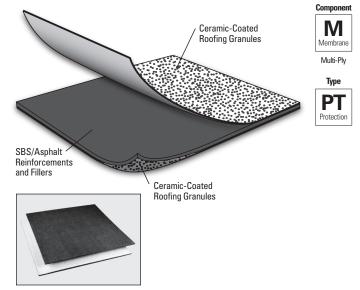
DynaTred™, DynaTred Plus®, and DynaTred Max™

Preformed, skid-resistant roof protection pads consisting of modified asphalt, reinforcements and fillers with a ceramic granule surface on both sides. They are durable, resilient and maintenance free.

DynaTred, DynaTred Plus and DynaTred Max can be installed over built-up and modified bitumen roofing systems to provide an integral, skid-resistant walkway for demanding service access needs.

Ceramic-Coated Roofing Granules: Specifically engineered for optimal embedment in the modified asphalt sheet. The ceramic coating promotes excellent long-term adhesion.

Easy Installation: Can be easily cut with a heavy-duty utility knife or circular saw with a carbide-tipped blade.



Colors: Available in either Black/White or White/White.

System Compatibility This product may be used as a component in the following systems. Please reference product application for specific installation methods and information.

PI	В	BUR APP		SBS					
¶ulti-F	HA	CA	CA HW		HA	CA	HW	SA	
Ž	Compatible with all Multi-Ply systems								

MF FA MF FA MF FA BA

Do not use with Single Ply systems

Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened FA = Fully Adhered BA = Ballasted

Energy and the Environment

Pre-Consumer Recycled Content	0%			
Post-Consumer Recycled Content	0%			

Typical Physical Properties

Property	Result
Thickness	
DynaTred	1⁄4" (6.35 mm)
DynaTred Plus	1/3" (8.47 mm)
DynaTred Max	½" (12.7 mm)
Water Absorption	<0.5%

Technical specifications as shown in this literature are intended to be used as general guidelines only. Please refer to the Safety Data Sheet and product label prior to using this product. The Safety Data Sheet is available by calling (800) 922-5922 or on the web at www.jm.com/roofing. The physical and chemical properties of the product listed herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Check with the regional sales representative nearest you for current information.

All Johns Manville products are sold subject to Johns Manville's standard Terms and Conditions, which includes a Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville standard Terms and Conditions or for information on other Johns Manville roofing products and systems, visit www.jm.com/terms-conditions.

Product Application





Hot Asphalt

Cold Applied

- Over smooth or mineral-surfaced roofs, or prior to graveling, install
 DynaTred, DynaTred Plus, and DynaTred Max in either a full bed of
 hot asphalt or MBR® Utility Cement. If installed in hot asphalt, use
 the same asphalt recommended for use with the BUR or modified
 bitumen membrane. All four corners of each piece should be fully
 and firmly set prior to walking on the board.
- Leave a minimum of 1" (2.54 cm) open space in all directions between walkway boards to provide for drainage of the roofing system.
- DynaTred, DynaTred Plus, and DynaTred Max are not recommended for use on slopes in excess of 2" per foot (167 mm/m).

Product	DynaTred, DynaTred Plus	DynaTred Max		
Pad Coverage	7.11 ft² (0.66 m²)			
Pad Length	32" (81.3 cm)			
Pad Width	32" (81.3 cm)			
Pads per Pallet	100	50		



Peak Advantage Guarantee

PEAK ADVANTAGE

Building Owner:

Name - SAMPLE Address - SAMPLE City, State Zip - SAMPLE Guarantee Number: Sample - not issued
Expiration Date: Sample - not issued
Job Name: Sample - not issued

Date of Completion: Sample - not issued

Building Name:

Name - SAMPLE Address - SAMPLE City, State Zip - SAMPLE

Approved Roofing Contractor:

Name - SAMPLE Address - SAMPLE City, State Zip - SAMPLE

Terms & Maximum Monetary Obligation to Maintain a Watertight Roofing System.

Years: XX Year \$ No Dollar Limit

Coverage:

The components of the Roofing System covered by this Guarantee are:

Total Squares: XXX

			Membrane	Membrane Insulation Type			
Sec.	Sqs.	Roof Type	Spec.	Layer 1	Layer 2	Layer 3	Cover Board
1	XXX	XXXX	XXXXX	XXX	XXX	XXX	XXX

Accessories:	Туре	Product Name	Quantity	
	Expand-O-Flash (1) Style:		0	lin. ft.
	Expand-O-Flash (2) Style:		0	lin. ft.
	Expand-O-Flash (3) Style:		0	lin. ft.
	Fascia Style:		0	lin. ft.
	Copings Style:		0	lin. ft.
	Gravel Stop Style:		0	lin. ft.
	Drains (1) Style:		0	ea.
	Drains (2) Style:		0	ea.
	Vents Style:		0	ea.
	Skylight System:		0	ea.
	Enrgy Anchor		0	ea.

These Johns Manville Guaranteed components are referred to above as the "Roofing System" and ALL OTHER NON-JM COMPONENTS OF THE OWNER'S BUILDING ARE EXCLUDED FROM THE TERMS OF THIS GUARANTEE, including any amendments thereto.

Johns Manville* guarantees to the original Building Owner that during the Term commencing with the Date of Completion (as defined above), JM will pay for the materials and labor reasonably required in Johns Manville's sole and absolute discretion to repair the Roofing System to return it to a watertight condition if leaks occur due to: ordinary wear and tear, or deficiencies in any or all of the Johns Manville component materials of the Roofing System, or workmanship deficiencies only to the extent they arise solely out of the application of the Roofing System. Non-leaking blisters are specifically excluded from coverage. Should any investigation or inspection reveal the cause of a reported leak to be outside the scope of coverage under this Guarantee, then all such investigation and inspection costs shall be borne solely by the Building Owner.

WHAT TO DO IF YOUR ROOF LEAKS

If you should have a roof leak please refer to directions on the Maintenance Program page within this document.

LIMITATIONS AND EXCLUSIONS

This Guarantee is not a maintenance agreement or an insurance policy; therefore, routine inspections and maintenance are the Building Owner's sole responsibility (see Maintenance Program page of this document). This Guarantee does not obligate JM to repair or replace the Roofing System, or any part of the Roofing System, for leaks or appearance issues resulting, in whole or in part, from one or more of the following (a) natural disasters including but not limited to the direct or indirect effect of lightning, flood, hail storm, earthquake, tornados, hurricanes or other extraordinary natural occurrences and/or wind speeds in excess of 55 miles per hour; (b) misuse, abuse, neglect or negligence; (c) Failure by the Building Owner to use reasonable care in maintaining the roofing system, said maintenance which is recommended to include those items listed on the Maintenance Program page of this Guarantee; (d) installation or material failures other than those involving the component materials expressly defined above as the Roofing System or exposure of the Roofing System components to damaging substances such as oil, fertilizers, or solvents or to damaging conditions such as vermin; (e) any and all (I) changes, alterations, repairs to the Roofing System, including, but not limited to, structures, penetrations, fixtures or utilities (including vegetative and solar overlays) based upon or through the Roofing System as well as any (II) changes to the Building's usage that are not pre-approved in writing by JM; (f) failure of the Building substrate (mechanical, structural, or otherwise and whether resulting from Building movement, design defects or other causes) or improper drainage; (g) defects in or faulty/improper design, specification construction or engineering of the Building or any area over which the Roofing System is installed; (h) defects in or faulty/improper architectural, engineering or design flaws of the Roofing System or Building, including, but not limited to, design issues arising out of improper climate or building code compliance; or (i) in instances of a recover project, Johns Manville is not responsible for the performance of pre-existing materials that predated the recover. Instead, Johns Manville's sole responsibility in recover systems where JM materials are adhered to existing materials is limited to the installed recover JM Roofing materials up to the wind speed listed herein. Guarantee coverage is limited to replacing recover JM Roofing materials only (and not the pre-existing materials – which is the Owner's responsibility) as required to return the roofing system to a watertight condition due to a claim covered under the terms and conditions herein. Johns Manville is not responsible for leaks, injuries or damages resulting from any water entry from any portion of the Building structure not a part of the Roofing System, including, but not limited to, deterioration of the roofing substrate, walls, mortar joints, HVAC units and all other non-Johns Manville materials and metal components. Moreover, the Building Owner is solely and absolutely responsible for any removal and/or replacement of any overburdens, super-strata or overlays, in any form whatsoever, as reasonably necessary to expose the Roofing System for inspection and/or repair.

This Guarantee becomes effective when (1) it is delivered to Owner; and (2) all bills for installation, materials, and services have been paid in full to the Approved Roofing contractor and to JM. Until that time, this Guarantee is not in force, has no effect – and JM is under no obligation whatsoever to perform any services/work.

The Parties agree that any controversy or claims relating to this Guarantee shall be first submitted to mediation under the Construction Industry Arbitration and Mediation Rules of the American Arbitration Association (Regular Track Procedures) or to such other mediation arrangement as the parties mutually agree. No court or other tribunal shall have jurisdiction until the mediation is completed. In any action or proceeding brought against the Building Owner to enforce this Guarantee or to collect costs due hereunder, Johns Manville shall be entitled to recover its reasonable costs, expenses and fees (including expert witness' fees) incurred in any such action or proceeding, including, without limitation, attorneys' fees and expenses, and the Building Owner shall pay it.

TO THE FULLEST EXTENT PERMITTED BY LAW, JM DISCLAIMS ANY IMPLIED WARRANTY, INCLUDING THE WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND LIMITS SUCH WARRANTY TO THE DURATION AND TO THE EXTENT OF THE EXPRESS WARRANTY CONTAINED IN THIS GUARANTEE.

THE EXCLUSIVE RESPONSIBILITY AND LIABILITY OF JM UNDER THIS GUARANTEE IS TO MAKE REPAIRS NECESSARY TO MAINTAIN THE ROOFING SYSTEM IN A WATERTIGHT CONDITION IN ACCORDANCE WITH THE OBLIGATIONS OF JM UNDER THIS GUARANTEE. JM AND ITS AFFILIATES WILL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES TO THE BUILDING STRUCTURE (UPON WHICH THE ROOFING SYSTEM IS AFFIXED) OR ITS CONTENTS AND OR OCCUPANTS, LOSS OF TIME OR PROFITS OR ANY INCONVENIENCE, INJURY. JM SHALL NOT BE LIABLE FOR ANY CLAIM MADE AGAINST THE BUILDING OWNER BY ANY THIRD PARTY AND THE BUILDING OWNER SHALL INDEMNIFY AND DEFEND JM AGAINST ANY CLAIM BROUGHT BY ANY THIRD PARTY AGAINST JM RELATING TO OR ARISING OUT OF THE ROOFING SYSTEM OR JM'S OBLIGATIONS UNDER THIS GUARANTEE. JM AND ITS AFFILIATES SHALL NOT BE LIABLE FOR ANY DAMAGES WHICH ARE BASED UPON NEGLIGENCE, BREACH OF WARRANTY, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY OTHER THAN THE EXCLUSIVE LIABILITY SET FORTH IN THIS GUARANTEE. THIS GUARANTEE DOES NOT COVER, AND EXPLICITLY EXCLUDES, ANY AND ALL INJURIES, CLAIMS AND/OR DAMAGES RESULTING, IN WHOLE OR IN PART, FROM ANY WATER ENTRY FROM ANY PORTION OF THE BUILDING STRUCTURE INCLUDING, BUT NOT LIMITED TO, THE ROOFING SYSTEM.

No one is authorized to change, alter, or modify the provision of this Guarantee other than the Regional Service Manager, or authorized delegate. JM's delay or failure in enforcing the terms and conditions contained in this Guarantee shall not operate as a waiver of such terms and conditions. This Guarantee is solely for the benefit of the Building Owner identified above and Building Owner's rights hereunder are not assignable. Upon sale or other transfer of the Building, Building Owner may request transfer of this Guarantee to the new owner, and JM will transfer this Guarantee, only after completing JM's transfer requirements including JM receiving satisfactory information and payment of a transfer fee, which must be paid no later than 30 days after the date of Building ownership transfer.

In the event JM pays for repairs which are required due to the acts or omissions of others, JM shall be subrogated to all rights of recovery of the Building Owner to the extent of the amount of the repairs.

Because JM does not practice Engineering or Architecture, neither the issuance of this Guarantee nor any review of the Building's construction or inspection of roof plans (or the Building's roof deck) by JM representatives shall constitute any warranty by JM of such plans, specifications, and construction or in any way constitute an extension of the terms and conditions of this Guarantee. Any roof inspections are solely for the benefit of JM.

JM does not supervise nor is it responsible for a roofing contractor's work except to the extent stated herein, and roofing contractors are not agents of JM.

*JOHNS MANVILLE ("JM") is a Delaware corporation.

SAMPLE ONLY – NOT ISSUED

By: Joseph Smith

Title: President Roofing Systems



Maintenance Program

The following Maintenance Program is recommended and should be implemented and followed:

- 1. Building Owner must notify JM's Owner Services Group (see below) immediately upon discovery of the leak and in no event later than thirty (30) days after initial discovery of the leak, time being of the essence. Failure of the Building Owner to provide timely notice to JM Guarantee Services of any leak is a material ground for termination of the Guarantee.
- 2. In response to timely notice, JM will arrange to inspect the Roofing System, and
 - (i) If, in JM's opinion, the leak(s) is/are the responsibility of JM under this Guarantee (see Limitations and Exclusions), then JM will take prompt appropriate action to return the Roofing system to a watertight condition, or
 - (ii) If, in JM's opinion, the leak(s) is/are not the responsibility of JM under this Guarantee, then JM will advise the Building Owner within a reasonable time of the minimum repairs that JM believes are required to return the Roofing System to a watertight condition. If the Building Owner, at his expense, promptly and timely makes such repairs to the Roofing System (time being of the essence) then this Guarantee will remain in effect for the unexpired portion of its Term. Failure to make any of these repairs in a timely and reasonable fashion will void any further obligation of JM under this Guarantee as to the damaged portion of the Roofing System as well as any other areas of the Roofing System impacted by such failure.
- 3. In the event an emergency condition exists which requires immediate repair to avoid damage to the Building, its contents or occupants, then Building Owner may make reasonable, essential temporary repairs. JM will reimburse Building Owner for those reasonable repair expenses only to the extent such expenses would have been the responsibility of JM under the Guarantee.

There are a number of items not covered by this Guarantee that are the sole, exclusive responsibility of the Building Owner. In order to ensure that your new roof will continue to perform its function and to continue JM's obligations under the Guarantee, you should examine and maintain the items below on a regular basis. All damage or leak investigation findings that are the direct result of non-covered maintenance items are the sole responsibility of the owner.

- Maintain a file for your records on this Roofing System, including, but not limited to, this Guarantee, invoices, and subsequent logs of all inspections performed and repairs that are made to the Roofing System.
- Inspect your Roofing System at least semi-annually. This is best done in the spring, after the Roofing System has been exposed to the harsh winter conditions, and, in the Fall after a long hot summer. It is also a good idea to examine the Roofing System for damage after severe weather conditions such as hailstorms, heavy rains, high winds, etc.
- Since these types of Roofing Systems typically have a low slope, they are easily examined. However, care must be taken to prevent falling and other accidents. JM expressly disclaims and assumes no liability for any inspections performed on the Roofing System.

When checking the Roofing System:

- Remove any debris such as leaves, small branches, dirt, rocks, etc. that have accumulated.
- Clean gutters, down spouts, drains and the surrounding areas. Make certain they allow water to flow off the Roofing System. Positive drainage is essential.
- Examine all metal flashings for rust and damage that may have been caused by wind or traffic on the Roofing System, and make certain they
 are well attached and sealed. Any damaged materials due to foot traffic or service work, loose clamps at penetrations, or poorly sealed
 materials at drains or penetrations pockets must be repaired by a JM Approved Roofing Contractor only.
- Examine the areas that abut the Roofing System. Damaged masonry, poorly mounted counter flashing, loose caulking, bad mortar joints, and any loose stone or tile coping can appear to be a membrane leak. Have these items repaired if found to be defective.
- Examine the edges of the Roofing System. Wind damage often occurs in these areas. Materials that have been lifted by the wind need to be corrected by a JM Approved Roofing Contractor.
- Examine any roof top equipment such as air conditioners, evaporative coolers, antennas, etc. Make certain they do not move excessively or cause a roof problem by leaking materials onto the Roofing System.
- Check the building exterior for settlement or movement. Structural movement can cause cracks and other problems which in turn may lead to leaks in your Roofing System.
- Examine protective coatings; any cracked, flaking, or blistered areas must be recoated.

Protecting your investment:

- Avoid unnecessary roof top traffic.
- If you allow equipment servicemen to go onto the Roofing System, advise them to be careful. Dropped tools, heavy equipment, etc. can damage the membrane. It is recommended to keep a log of all such trips to the Roofing System.
- Do not allow service personnel to make penetrations into the Roofing System; these are to be made only by a JM Approved Roofing Contractor.

All the terms and conditions of this Guarantee shall be construed under the internal law of the state of Colorado without regard to its conflicts of law principles. Invalidity or unenforceability of any provisions herein shall not affect the validity or enforceability of any other provision which shall remain in full force and effect to the extent the main intent of the document is preserved.

This form is not to be copied or reproduced in any manner. This Guarantee is valid only in the United States of America.

Owner Services Group

(800) 922-5922 E-mail: OwnerServices@jm.com www.jm.com/roofing