DOW GARDENS

CONSTRUCTION MANAGER'S PROJECT MANUAL

Dow Gardens New Welcome Center

BID PACKAGE #3

ADDENDUM #3

February 3, 2025

SPENCE BROTHERS

CONSTRUCTION MANAGER
SPENCE BROTHERS

203 S. Washington Avenue, Suite 360
Saginaw, MI 48607
(989) 752-0400

WTA ARCHITECTS

ARCHITECT
WTA ARCHITECTS

100 S. Jefferson Avenue, Suite 601
Saginaw, Michigan 48607
(989) 752-8107

Project Manual Revisions

Issued as Addendum NO.3

For

The New Dow Welcome Center

Bid Pack #3

The following clarifications, modifications and / or revisions to the above project shall be considered a part of the original drawings and specifications.

It shall be the responsibility of the contractor to notify their subcontractors and/or suppliers of the clarifications, modifications, and / or revisions included herein.

1. The bid date remains Wednesday February 5, 2025 @ 2:00 P.M.
2. Refer to **BC 307 General Trades.** The following clarifications apply to this bid category:
    a. See sheet A8.13 – Include all work and materials to complete the planter details. Electrical, plumbing, and tile will be by others.
    b. Section 09 7200 Wall Coverings is removed from BC 307 and will be included in BC 313
    c. Roof sheathing is not to be included by BC 307 it is to be included by BC 308
    d. Item 33 furnishing expansion control devices has been removed from BC 307.
    e. BC 307 is responsible for all roof Nailers and framing behind the copper facia.
    f. Item 31 The low voltage wiring is not required for the roller shades and will not need to be provided by BC 307
3. Refer to **BC 309 Metal Panels**. The following clarifications apply to this bid category:
    a. BC 309 is responsible for the gate in detail 3 / A1.10
4. Refer to **BC 311 Drywall, Acoustical, and Framing**. The following clarifications apply to this bid category:
    a. **Cement Board will be supplied and installed by BC 311** not BC 312
    b. Include all expansion control devices

5. Refer to **BC 312 Flooring Hard Tile & Base**. The following clarifications apply to this bid category:
    a. All cement board behind tiled areas has been removed from this bid category. BC 311 will supply and install all cement board
6. Refer to **BC 313 Painting**. The following clarifications apply to this bid category:
    a. Include section 09 7200 wall coverings with BC 313 pricing
7. Refer to **BC 318 Standing Seam Roofing.** The following clarifications apply to this bid category:
    a. All copper facia materials and labor are to be included in BC 318
    b. All copper elements are to be field patinated. Provide samples of patinated copper for review and approval.
    c. 20” wide panels are acceptable. Install so the joints are vertical. The standing seam roof and vertical facia shall be the same width.

Spence Brothers

Printed on Mon Feb 3, 2025 at 04:27 pm EST

Job #: 23-325 Dow Gardens Welcome Center
1809 Eastman Avenue
Midland, Michigan 48640

RFI LOG

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
006	Dumpster Enclosure Height	Closed	Pumford Construction	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	01/30/2025	Jeremy Huntoon	02/03/2025	01/31/25			Yes (Unknown)	Yes (Unknown)

Shayne Hohisel Sent Thu Jan 30, 2025 at 02:04 pm EST

Working from page 2.01

Q: Looking for T.O.W.H. (Top of Wall Height) inside the Dumpster Enclosure.

I remember from the past something about leave the base layer? 8" ?

A: Rebekah Burns (WTA Architects) Responded Fri Jan 31, 2025 at 02:07 pm EST
Response attached for review.
RFI 006 - WTA Reply.pdf

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
005	Bolt sizes shown on Drawings AB1 issued 12/27 v AB1 issued 12/31	Closed	Pumford Construction	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	01/13/2025	Jeremy Huntoon	01/16/2025	01/27/25			Yes (Unknown)	Yes (Unknown)

Shayne Hohisel Sent Wed Jan 8, 2025 at 11:00 am EST
Q: (1). We have added 3/4" bolts cast in place for (4) columns according to drawings issued 12/27 on line 11. P, Q, R, S. They have an embedment of 1'7".

(2). The newest issued set dated 12/31 is calling for bolts on line 11 @ 1". There is a difference between the two sets of drawings on this column line. Please advise on which detail we are following?

(3). We could core out the old 3/4" rod and add the new 1".

A: Rebekah Burns (WTA Architects) Responded Mon Jan 27, 2025 at 02:59 pm EST
Please see attached for response.
RFI 5 - MAI Response.pdf

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
004	Change to Winter conditions for Concrete strength	Closed	Pumford Construction	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	01/07/2025	Jeremy Huntoon	01/08/2025	01/09/25			No	Yes (Unknown)

Shayne Hohisel Sent Mon Jan 6, 2025 at 03:46 pm EST
Q: After our weekly meeting a walk thru took place in order to acknowledge any potential issues and monitor work progress.

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	It has been determined between Pumford, Spence, and WTA that the concrete additive be boosted up to the winter conditions standard. 3500 psi is recommended. The additional cost is minimal and will be part of the winter conditions budget that is set up. Please confirm it is ok to proceed with the 3500 PSI concrete.											
	A: Rebekah Burns (WTA Architects) Responded Thu Jan 9, 2025 at 11:14 am EST Please see attached. 004 - Change to Concrete Winter Conditions, MAI Reply.pdf											
	A: Jeremy Huntoon (Spence Brothers) Responded Tue Jan 7, 2025 at 03:03 pm EST Attached is the mix we will be using. 033000 Cold Weather CIP Concrete Foundation Mix Design Submittal For File & Record 01.07.25.pdf											
	A: Jeremy Huntoon (Spence Brothers) Responded Tue Jan 7, 2025 at 11:43 am EST We are planning to use a 4000 # mix design. Please confirm this is approved. 4000# Footings, Walls & Piers – Straight Cement Including Mid-Range Without Air Entrainment 4000# Footings, Walls & Piers – Straight Cement Including Mid-Range With Air Entrainment 4000# Footings, Walls & Piers – Straight Cement Including Mid-Range Without Air Entrainment – Including 1% Non-Chloride Accelerator 4000# Footings, Walls & Piers – Straight Cement Including Mid-Range With Air Entrainment – Including 1% Non-Chloride Accelerator											
003	Light Gauge Framing Anchors	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/17/2024	Sam Struble	12/24/2024	12/18/24			TBD	Yes (Unknown)
	Q: Sam Struble Sent Tue Dec 17, 2024 at 02:34 pm EST Refer to sheet S5.01 and details showing light gauge framing in exterior walls. Are 'J' bolts required for anchoring the walls as shown in the details? Spacing?											
	A: Rebekah Burns (WTA Architects) Responded Wed Dec 18, 2024 at 10:39 am EST Please see response attached. RFI 003.pdf											
002	Exterior C5 Column Anchor Bolt Layout	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/10/2024	Sam Struble	12/19/2024	02/02/25			TBD	Yes (Unknown)
	Q: Sam Struble Sent Tue Dec 10, 2024 at 03:41 pm EST For exterior columns shown as C5, please confirm the anchor bolt layout. Are these to be singular or three columns?											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 02:14 pm EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 02:11 pm EST Please see attached for record and review. RFI 002 Exterior C5 Column Anchor Bolt Layout - WTA Reply.pdf											

Spence Brothers

Printed on Mon Feb 3, 2025 at 04:27 pm EST

Job #: 23-325 Dow Gardens Welcome Center
1809 Eastman Avenue
Midland, Michigan 48640

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
001	Storm Drain Removal	Closed	Pat's Gradall Ser...	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	12/09/2024	Sam Struble	12/18/2024	12/11/24			TBD	Yes (Unknown)

Q: Shayne Hohisel Sent Fri Nov 22, 2024 at 10:23 am EST
We have a conflict between the Storm Drain line in the NW corner and the proposed new concrete footing installation.

Please give direction as how to proceed.
L1_ DEMOLITION PLAN Rev.0 markup.pdf

A: Wayne Moerdyk (WTA Architects) Responded Mon Dec 9, 2024 at 02:11 pm EST
See attachment for WTA response.
RFI 001 Storm Drain Removal - WTA Reply.pdf

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
0.106	Metal Roofs	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	02/03/2025	Jeremy Huntoon	02/04/2025	02/03/25			TBD	TBD

Q: Jeremy Huntoon Sent Mon Feb 3, 2025 at 10:51 am EST
1.Is there a specific manufacturer to be used for the standing seam roof?
2. 24" side panels isn't possible can a smaller size be used? 20"?
3. What shade for the Verdigris? Green or blue?

A: Wayne Moerdyk (WTA Architects) Responded Mon Feb 3, 2025 at 04:02 pm EST
1. The standing seem roof is to be a copper custom made roof. There is not specific manufacturer desired.
2. 20" panels are acceptable, install so that joints are vertical. For standing seam roofs, the standing seam roof and vertical fascia shall be the same width.
3. All copper elements are to be field patinated. Provide samples of patinated copper for review and approval.
Be advised that:
4. The detail 5/A7.12 has been revised per addendum 2.
RFI 106; WTA Reply.pdf

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
0.105	Corridor 103 Benches / planters	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	02/03/2025	Jeremy Huntoon	02/04/2025	02/03/25			TBD	TBD

Q: Jeremy Huntoon Sent Mon Feb 3, 2025 at 10:46 am EST

- What material should the Corridor 103 Benches be? QC-1 or QC-2?
- What material should the lobby planters be? QC-1? QC-2? Nothing is called out besides “quartz”.
- What quartz is used for Nursing room 113?

Bench 1.png
Bench.png

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	A: Wayne Moerdyk (WTA Architects) Responded Mon Feb 3, 2025 at 04:03 pm EST 1. Material for corridor 103 benches is to be QC 2. 2. For Material for all the panters see pages A8.12 and A8.13. For detail 5/A8.13 use QC-1 for edge detail. 3. All countertops are to be QC-1. 0.105 Corridor 103 Benches and Planters - WTA Reply.pdf											
0.104	Size of the exterior lettering	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	02/03/2025	Jeremy Huntoon	02/04/2025	02/03/25			TBD	TBD
	Q: Jeremy Huntoon Sent Mon Feb 3, 2025 at 08:39 am EST What is the size of the exterior letting on the North and East entrances?											
	A: Wayne Moerdyk (WTA Architects) Responded Mon Feb 3, 2025 at 09:48 am EST This was answered in a previous RFI. See Dimensional Metal Signage Legend, Key 'I'.											
0.103	SP1 Mirrors	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	02/02/2025	Jeremy Huntoon	02/03/2025	02/03/25			TBD	TBD
	Q: Jeremy Huntoon Sent Sun Feb 2, 2025 at 06:58 am EST Are the SP1 Mirrors unframed?											
	A: Wayne Moerdyk (WTA Architects) Responded Mon Feb 3, 2025 at 09:50 am EST For SP-01 these are to be unframed.											
0.102	Roofing Questions	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	02/02/2025	Jeremy Huntoon	02/03/2025	02/03/25			TBD	TBD
	Q: Jeremy Huntoon Sent Sun Feb 2, 2025 at 06:49 am EST Please see the attached for the roofing questions and clarifications that are needed. RFI 2 Dow Gardens 2-1-25.pdf RFI 1Dow Gardens 1-31-25.pdf											
	A: Wayne Moerdyk (WTA Architects) Responded Mon Feb 3, 2025 at 12:50 pm EST Clarification on these roof questions will be provided in addendum 3. RFI 102 - WTA Reply.pdf											
0.101	Metal Panel questiosn	Closed	Spence Brothers	Moerdyk, Wayne (W... Burns, Rebekah (W... Johnston, Jordan ...	01/30/2025	Jeremy Huntoon	01/31/2025	02/03/25			TBD	TBD
	Q: Jeremy Huntoon Sent Thu Jan 30, 2025 at 01:29 pm EST											

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact

1. See spec section 074213, 2.2, B, 1 says 1/4" and that is what the drawings show, but 2.2, B, 2, a says 18-gauge, where is this thickness required?
2. See 3/A1.10 this gate has weathered steel tubes and corrugated panels, which bid category is responsible for this scope of work?
3. See Bid Category 309 Metal Panels, item #5 says "weather-tight system", but the Thermax system is the weather tight part of the wall, our system will be just a rainscreen?
4. See Bid Category 309 Metal Panels, item #9 says Weathering steel plate and Corten metal panels. I only see Weathering Steel Plates called out on the drawings and in the specs, where are the Corten metal panels located?
5. See detail 9 & 10 / A3.10 which bid category is responsible for these plate panels? Which bid category is responsible for the 1/2" Reveal Moldings?
6. See 3/A7.10 it calls out plate panels to be MT-1, but on the finish legend on A3.00 MT-1 does not exist, only MP-1?
7. See detail 12/A7.11 it appears the plate panel turns 90 degrees to cover the bottom of the wood blocking, could this be a 22ga. flashing in lieu of the 1/4" plate panel?
8. See 14/A7.10, it calls out the bottom of the beam to be 1/4" weathering steel metal panel, but A9.01 calls out this material to be faux wood?
9. See 13/A3.22, they call out the plate tabs to be MTL-3, but MTL-3 does not exist on the finish legend on A3.00? Are the plate tabs shown in detail 13 the same angles as those shown in detail 16, if so should the vertical leg of these angles be longer in detail 16?
10. See door number 103.4 & 110, both of these openings call out 9/A3.10 for the head (painted steel plates) and 10/A3.10 for the jambs (weathered steel plates), are the two different finishes correct?

A: Jeremy Huntoon (Spence Brothers) Responded Mon Feb 3, 2025 at 12:06 pm EST

- 1 - ¼ “ thickness
- 2 – BC30 9
- Yes correct
- 4- There are a few archways inside getting this detail and also the metal Interior/exterior sills per detail
- 5- Bid category 306 will handle the p late steel and reveal molding
- Items 6 – 10 are p art of addendum 2

A: Wayne Moerdyk (WTA Architects) Responded Fri Jan 31, 2025 at 04:33 pm EST
1. 1/4" is the thickness. WM
2. To be answered by Spence Brothers
3. To be answered by Spence Brothers
4. To be answered by Spence Brothers, weathering steel and corten are the same thing.
5. To be answered by Spence Brothers.
6. MP-1, this was fixed in Addendum 2.
7. thru 10. where all fixed in Addendum 2.

RFI 101 - WTA Reply.pdf

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
0.100	General Trades - Door questions	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	01/30/2025	Jeremy Huntoon	01/31/2025	02/01/25			TBD	TBD

Q: Jeremy Huntoon Sent Thu Jan 30, 2025 at 01:26 pm EST
Door 125.1 has no information on it in the door schedule however it shows up requiring hardware set 07 in the specifications.
Door 130.2 calls for hardware set 09 on the door schedule but calls for set 08 in the specifications.
Door 129A.1 calls for hardware set 13 on the door schedule but it isn’t found in the specifications and set 13 is for a double door set while this door is a single.
Door 128.2 calls for hardware set 12 on the door schedule but when you look at Set 12 in the specifications it lists Door 125.2 which does not exist on the schedule.

A: Wayne Moerdyk (WTA Architects) Responded Fri Jan 31, 2025 at 04:27 pm EST
These items were addressed in Addendum 2. WM

RFI 100 - WTA Reply.pdf

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
0.099	Glass and door questions	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah	01/30/2025	Jeremy Huntoon	01/31/2025	02/02/25			TBD	TBD

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
				(W... Moerdyk, Wayne (W...								

Jeremy Huntoon Sent Thu Jan 30, 2025 at 01:05 pm EST

Q:

1. The door schedule on A3.10 does not match spec sec 087100, which is correct?
2. Regarding the frosted film, door schedule on A3.10 lists door 119.2 with film, this door is in frame W27, is there any film required for the frame?
3. Regarding frames W1 & W2, they call for impact resistant film, the door schedule on A3.10 does not list any film, is film required for the doors
4. Is frosted film required for door 120.1 (similar to door 119.1)?
5. Is frosted film required for door 120.2 with frame W28 (similar to door 119.2 & frame W27)?
6. Clarify door type D4, see A3.10, there are two type D4 doors shown, what is correct?

A:

Wayne Moerdyk (WTA Architects) Responded Fri Jan 31, 2025 at 04:24 pm EST
1. See Addendum 2.
2. Fixed in Addendum 2.
3. Film locations are per the spec, door schedule, and frame elevations.
4. Yes
5. Only the door requires film.
6. Fixed in Addendum 2.
RFI 99 - WTA Reply.pdf

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
0.098	Spec section 095113 Questions	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	01/29/2025	Jeremy Huntoon	01/30/2025	02/01/25			TBD	TBD

Jeremy Huntoon Sent Wed Jan 29, 2025 at 03:52 pm EST

Q:

Please refer to spec section 095113, 2.4 Metal Suspension System, A and C. The spec lists both a standard 15/16" grid at A, but also calls out Donn Identitee DXI at C. Please clarify what type of ceiling grid it to be use.

Please refer to spec section 095113, 2.3 Acoustical Panels, C, AG-1. The specs call for a 1" fiberglass infill panel to be used with the Acoustibuilt system. Please clarify how this infill panel is to be incorporated within the system. There are no details showing how this is to be constructed.

A:

Wayne Moerdyk (WTA Architects) Responded Fri Jan 31, 2025 at 04:18 pm EST
See attached.
RFI 98 - WTA Reply.pdf

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
0.097	General Trades Questions	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	01/28/2025	Jeremy Huntoon	01/29/2025	02/01/25			TBD	TBD

Jeremy Huntoon Sent Tue Jan 28, 2025 at 06:04 pm EST

Q:

1. There are some sign letters at the main entry however they are not dimensioned anywhere. Can you tell us what they should be?
2. There is a section 117300 specification for Patient Care Equipment however it cannot be found on the plans.

A: Wayne Moerdyk (WTA Architects) Responded Fri Jan 31, 2025 at 04:11 pm EST

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	Item 1: Refer to signage plan Exterior Dimensional Signage. WM Item 2: See ceiling plan note C1 and detail 6/A9.10. WM RFI 97 - WTA Reply.pdf											
0.096	Tile trim selection question	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	01/28/2025	Jeremy Huntoon	01/29/2025	02/03/25			TBD	TBD
	Q: Jeremy Huntoon Sent Tue Jan 28, 2025 at 06:03 pm EST If I understand the spec's correctly, we would be using Schluter Quadec's for wall tile corner trim. These Quadec's would meet up with Dilex cove trim at the floor. These two trim pieces are not compatible. The Dilex out corners are rounded and the Quadec's are square. I would like to suggest we change the Quadec's to Rondec's. I've attached pictures of these trims here for you. I would be happy to drop my sample pieces off to you at the trailer if the pictures are unclear. 20250128_134347.jpg 20250128_134408.jpg											
	A: Wayne Moerdyk (WTA Architects) Responded Mon Feb 3, 2025 at 12:47 pm EST Use the quadec. RFI 96 - WTA Reply.pdf											
0.095	Wall type 5.3 questions	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	01/28/2025	Jeremy Huntoon	01/29/2025	02/01/25			TBD	TBD
	Q: Jeremy Huntoon Sent Tue Jan 28, 2025 at 06:01 pm EST Please see attached Dow Gardens RFI#4.pdf A0.01-PROJECT-INFORMATION-Rev.5.pdf A2.12-FIRST-FLOOR-NOTATION-PLAN-Rev.3.pdf A2.41-PLAN-DETAILS-Rev.3.pdf A7.12-SECTION-DETAILS-Rev.1.pdf											
	A: Wayne Moerdyk (WTA Architects) Responded Fri Jan 31, 2025 at 04:00 pm EST Refer to Addendum 2. RFI 95 - WTA Reply.pdf											
0.094	Electrical questions	Open	Spence Brothers	Moerdyk, Wayne (W... Burns, Rebekah (W... Johnston, Jordan ...	01/28/2025	Jeremy Huntoon	01/29/2025		Moerdyk, Wayne (W... Burns, Rebekah (W... Johnston, Jordan ...		TBD	TBD
	Q: Jeremy Huntoon Sent Tue Jan 28, 2025 at 05:51 pm EST RFI #1: HH Boxes- Details needed size Part number? RFI #2:											

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	Duct Bank- Where is this to be located and who is responsible to carry the costs on the install. RFI #3: Generator- Spec sheet/ Model number/ Brand Recommended. RFI #4: Is Div. 26 supposed to carry all security cameras, door controls and wiring? IF YES Security Company- Do they have a preferred vendor to use for costs? RFI #5: Is Div.26 supposed to carry all low volt wiring/ WAP, POS equipment labor and installation? IF YES Do they have a preferred Vendor to use for costs?											
0.093	Wall type exhibit 116	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	01/28/2025	Jeremy Huntoon	01/29/2025	02/01/25			TBD	TBD
	Q: Jeremy Huntoon Sent Tue Jan 28, 2025 at 05:49 pm EST Please see attached. Dow Gardens RFI#5.pdf A2.41-PLAN-DETAILS-Rev.3.pdf A2.12-FIRST-FLOOR-NOTATION-PLAN-Rev.3.pdf											
	A: Wayne Moerdyk (WTA Architects) Responded Fri Jan 31, 2025 at 03:56 pm EST See attached. RFI 93 - WTA Reply.pdf											
0.092	BC 301 Questions	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	01/28/2025	Jeremy Huntoon	01/29/2025	02/03/25			TBD	TBD
	Q: Jeremy Huntoon Sent Tue Jan 28, 2025 at 05:45 pm EST Please see attached questions. Dow Gardens BP3 Fisher RFIs_01.28.25.pdf											
	A: Wayne Moerdyk (WTA Architects) Responded Mon Feb 3, 2025 at 04:15 pm EST See attached for responses from WTA, BPA, and Rowe. RFI 92 - WTA, PBA, Rowe; Reply.pdf											
	A: Jeremy Huntoon (Spence Brothers) Responded Wed Jan 29, 2025 at 08:33 am EST WTA please answer questions 3, 8, 12, 15, 16, 19, 23, 24, 26, 28, and 30.											
0.091	Track and Tape Lighting questions	Open	Spence Brothers	Moerdyk, Wayne (W... Burns, Rebekah	01/28/2025	Jeremy Huntoon	01/29/2025		Moerdyk, Wayne (W... Burns, Rebekah		TBD	TBD

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
				(W... Johnston, Jordan ...					(W... Johnston, Jordan ...			
	Q: Jeremy Huntoon Sent Tue Jan 28, 2025 at 05:41 pm EST Please see the attached RFI. RFI, Track & Tape Lighting, Dow Gardens Welcome Center, 1-28-25.pdf											
0.090	Exterior Dimensional Letters	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	01/28/2025	Jeremy Huntoon	01/29/2025	02/01/25			No	No
	Q: Jeremy Huntoon Sent Tue Jan 28, 2025 at 01:24 pm EST Please confirm the sizes for these letters. We are not able to locate this information in the elevations, specifications, or sections.											
	A: Wayne Moerdyk (WTA Architects) Responded Fri Jan 31, 2025 at 03:40 pm EST See attached. RFI 90 - WTA Reply.pdf											
0.089	Masonry Detail Questions	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	01/28/2025	Jeremy Huntoon	01/29/2025	02/01/25			TBD	TBD
	Q: Jeremy Huntoon Sent Tue Jan 28, 2025 at 12:25 pm EST 1. At the dumpster location the drawings have conflicting information. 6/A1.10 shows a 8” wall with full bed veneer stone. Detail 1/A1.10 calls out the wall type of 5.1. When I reference A0.01 5.1 wall type appears to be 8” wall with full bed veneer on the outside of the wall and thin veneer on the inside. On A2.12 where the dumpster wall meets with Mechanical room 131 you will see 15/A2.41. This detail also shows thin veneer stone on the inside of the wall. Please clarify if thin veneer stone is expected on the inside of the wall. 2. The interior pattern for the stone starts with a 1’-0” tall piece. The exterior walls have the base course is shown as two 7 5/8” tall pieces (2/A7.10). The specifications call out the ST-3 stones at a unit height of 7 5/8”. I think maybe a sketch of the exterior stone pattern would be very helpful.											
	A: Wayne Moerdyk (WTA Architects) Responded Fri Jan 31, 2025 at 03:29 pm EST See attached. RFI 89 - WTA Reply.pdf											
0.088	Cold-Formed Framing question	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	01/28/2025	Jeremy Huntoon	01/29/2025	01/28/25			TBD	TBD
	Q: Jeremy Huntoon Sent Tue Jan 28, 2025 at 11:42 am EST See attached specification. Can the CFMF be screwed instead of welded as specified? doc00539520250128113210.pdf											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 28, 2025 at 05:10 pm EST Please see attached response.											

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	RFI 88.pdf											
0.087	Cafe Terrace Area	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	01/28/2025	Jeremy Huntoon	01/29/2025	01/29/25			TBD	TBD
	Q: Jeremy Huntoon Sent Tue Jan 28, 2025 at 09:54 am EST Sheet s2.04 is missing from the title sheet. Is this because it is part of bid pack 4? Dow Gardens RFI#3.pdf S2.04-CAFE-TERRACE-FOUNDATION-AND-ROOF-FRAMING-PLANS-Rev.1.pdf											
	A: Rebekah Burns (WTA Architects) Responded Wed Jan 29, 2025 at 05:22 pm EST Please see attached response. RFI 87 - WTA Reply.pdf											
0.086	Food Service	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	01/28/2025	Jeremy Huntoon	01/29/2025	02/01/25			TBD	TBD
	Q: Jeremy Huntoon Sent Tue Jan 28, 2025 at 06:12 am EST 1. The 3 compartment sink ITEM#C shows the sink bowls at one size but the written specifications are listed differently. If the written specs are correct the dish machine will not fit under the left end FYI. And NO SHELF will be able to fit under this unit at any location 2. Item G No BIN LISTED for the ice maker. 3. Item D Work table list one on drawing and identifying D is only one but it looks like it should be (2) please confirm. 4. Item J Hand Sink is listed as 7-PS-20. This is a (2) hole faucet. Did you want a 7-PS-71?? I don't see that a EC 1301 TMV is available from T&S. There is a EC 3101 TMV available. Is this what you want? 5. Item Q Disposer. Please confirm VOLTAGE. I don't believe this unit is available with a CORD AND PLUG per the Equipment Schedule. Please confirm. 6. Substitution Request ATTACHED for Item#V 1467_001.pdf											
	A: Wayne Moerdyk (WTA Architects) Responded Fri Jan 31, 2025 at 04:07 pm EST Items 1 through 5 are addressed in addendum 2. Item 6, substitution request. Request is Approved. WM RFI 86 - WTA Reply.pdf											
0.085	Roofing details	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	01/27/2025	Jeremy Huntoon	01/29/2025	01/28/25			TBD	TBD
	Q: Jeremy Huntoon Sent Mon Jan 27, 2025 at 03:18 pm EST 074113 standing seam metal roof panels 2.1,B,1,c verdigris Which shade of green or blue are they looking for? 2,1,B,3 24" o.c. , is a 20" panel width acceptable? 077200 sheet metal flashing and trim											

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	2.2,C, detail 15/A7.11 On the sloped rake fascia, are the panel joints vertical or perpendicular to the roof slope? Detail 5/A7.12 With the amount of rain/snow & ice at this valley, is this detail correct ?											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 28, 2025 at 05:08 pm EST Please see attached response. RFI 85 - WTA Reply.pdf											
0.084	Scope clarification BC 308	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	01/27/2025	Jeremy Huntoon	01/29/2025	01/28/25			No	No
	Q: Jeremy Huntoon Sent Mon Jan 27, 2025 at 11:22 am EST See the attached RFI clarification Dow Gardens RFI#2.doc											
	A: Jeremy Huntoon (Spence Brothers) Responded Mon Jan 27, 2025 at 11:23 am EST BC 308 will be responsible for the Install of R-30 insulation and the 1/2" plywood, and water shield at all sloped roof locations where metal roof panels will be installed.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 28, 2025 at 05:07 pm EST Please see attached response RFI 84 - WTA Reply.pdf											
0.083	Food Service Equipment	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	01/24/2025	Jeremy Huntoon	01/24/2025	01/28/25			Yes (Unknown)	Yes (Unknown)
	Q: Jeremy Huntoon Sent Fri Jan 24, 2025 at 03:49 pm EST I noticed some discrepancies between the spec and kitchen equipment schedule on plan A2.21. See below questions. 1. Item C is listed as custom fabricated in the spec but by Advance Tabco on the equipment schedule per plan A2.21. Can you confirm if this item should be quoted as being by Advance Tabco? 2. Item D, E, & F are listed as being by Advance Tabco in the spec but custom fabricated on equipment schedule per plan A2.21. Can you confirm if these are to be custom or by Advance Tabco? 3. Item U is listed as custom millwork shelving per details on the drawing. Per spec section 064023, millwork items are to be by this division including miscellaneous items like the floating shelves shown as item U on plan A2.21. It would be the most cost effective to have millwork provide these, as the finishes are the same as the counters being provided by millwork. Can you confirm these will be provided and installed by the millwork contractor? 4. Item W is listed as Wire Wall Shelving by Metro in the spec but custom S/S shelving on the equipment schedule per plan A2.21. Please confirm whether this item should be Wire Wall Shelving or S/S wall shelving?											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 28, 2025 at 05:08 pm EST Please see attached response. RFI 83 - WTA Reply.pdf											
0.082	Masonry Questions	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	01/24/2025	Jeremy Huntoon	01/24/2025	01/28/25			Yes (Unknown)	Yes (Unknown)

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	Q: Jeremy Huntoon Sent Fri Jan 24, 2025 at 03:24 pm EST See the attached for the masonry questions. Dow Gardens RFI #1.pdf Dow Gardens RFI#2.pdf Dow Gardens RFI #2 Drawing Markup.pdf e1b17805-867b-41b8-bda2-78ac602dd8f8.rtf DATA-04431316-US-TCAMVA-TCU-24-0613.pdf											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 28, 2025 at 05:08 pm EST Please see attached response. RFI 82 - WTA Reply.pdf											
0.081	Building Sections	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	01/23/2025	Jeremy Huntoon	01/24/2025	01/28/25			Yes (Unknown)	Yes (Unknown)
	Q: Jeremy Huntoon Sent Thu Jan 23, 2025 at 03:26 pm EST Please refer to building sections 2, 4 & 6/A5.11 and provide a wall section to clarify how the exterior walls are to be constructed, specifically at the top of wall. Are we to assume 6/A7.10 at these locations as well?											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 28, 2025 at 05:09 pm EST Please see attached response. RFI 81 - WTA Reply.pdf											
0.080	Inverter Specification	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	01/23/2025	Jeremy Huntoon	01/24/2025	01/28/25			No	No
	Q: Jeremy Huntoon Sent Thu Jan 23, 2025 at 02:49 pm EST On drawing E5.01 it tells us to provide a 2.8KVA inverter with (6) 20A/1P breakers. On drawing E6.01 it tells us to provide a 5KVA inverter with (12) 20A/1P breakers. Please confirm which one is correct?											
	A: Rebekah Burns (WTA Architects) Responded Mon Jan 27, 2025 at 05:10 pm EST Response attached. Pre-BID RFI 80 - Inverter Specification.pdf											
0.079	CT-1B tile walls	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	01/23/2025	Jeremy Huntoon	01/24/2025	01/27/25			No	No
	Q: Jeremy Huntoon Sent Thu Jan 23, 2025 at 02:47 pm EST Please refer to sheet A3.01 and provide a detail to clarify the extent of tile at CT-1B walls. Are these full height tile walls?											
	A: Rebekah Burns (WTA Architects) Responded Mon Jan 27, 2025 at 08:58 am EST Refer to Wall section details for extents of tile as indicated in Addendum 1.											
0.078	Z Girts with weeps	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne	01/23/2025	Jeremy Huntoon	01/24/2025	01/28/25			No	No

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
				(W... Burns, Rebekah (W...								
	Q:	Jeremy Huntoon Sent Thu Jan 23, 2025 at 02:45 pm EST Please refer to detail 9/A7.12. Who is responsible for the "z-girts w/ weeps"? Please provide a spec for this material.										
	A:	Rebekah Burns (WTA Architects) Responded Tue Jan 28, 2025 at 05:09 pm EST Please see attached response. RFI 78 - WTA Reply.pdf										
0.077	Copper Facia Detail - prebid	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	01/23/2025	Jeremy Huntoon	01/24/2025	01/28/25			No	Yes (Unknown)
	Q:	Jeremy Huntoon Sent Thu Jan 23, 2025 at 11:34 am EST Facia questions: - Is the material a standing seam, flush, or flat panel - Do the seams for the facia run vertical to match the siding seams or do they run perpendicular to the roof seams? I think the seams running vertical like the siding seams looks best. 20250123092709364.pdf										
	A:	Rebekah Burns (WTA Architects) Responded Tue Jan 28, 2025 at 05:09 pm EST Please see attached response. RFI 77 - WTA Reply.pdf										
0.076	Illuminated mirrors - prebid	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	01/23/2025	Jeremy Huntoon	01/24/2025	01/29/25			No	No
	Q:	Jeremy Huntoon Sent Thu Jan 23, 2025 at 11:25 am EST • There are two types of illuminated mirrors (M1 & M2) that are shown on the light fixture schedule as well as a cutsheet for both with-in the specifications at the end of our electrical spec's. It is noted on these cutsheets to confirm mirror sizes from the architectural sections/details. On these architectural drawings it is then noted in the toilet accessories schedule that the mirrors are to be provided and installed by the G.C. Please confirm who tradewise is to provide and who is to install these mirrors?										
	A:	Rebekah Burns (WTA Architects) Responded Wed Jan 29, 2025 at 05:21 pm EST Please see attached. 76 - WTA Reply.pdf										
0.075	BP #3 - E5.02	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/27/2024	Sam Struble	01/03/2025	02/03/25			TBD	TBD
	Q:	Sam Struble Sent Fri Dec 27, 2024 at 03:20 pm EST In the write-up for Addendum #1, it calls out E5.02 as being reissued but there is no E5.02 drawing in the addendum.										

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	Please reissue this drawing if needed.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:27 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.074	BP #3 - Ticket Desk ISO View	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/18/2024	Sam Struble	12/27/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Wed Dec 18, 2024 at 08:48 am EST On sheet A8.10 there is what appears to be a window shown in the ISO view (see attached snippet), but this window is not shown on the architectural plans. Please advise.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:27 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.073	BP #3 - Ticket Desk Tile	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/18/2024	Sam Struble	12/27/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Wed Dec 18, 2024 at 08:45 am EST On sheet A3.01 the Ticket Desk calls for WFT-1 on the walls. Where is WFT-1 intended to be installed in this area?											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:27 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.072	BP #3 - Tile in Men's/Women's Restroom	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/18/2024	Sam Struble	12/27/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Wed Dec 18, 2024 at 08:43 am EST In Women's Restroom 111 and Men's Restroom 112, it calls for WFT-2 on all walls besides the vanity wall which receives WFT-3. Is the WFT-2 tile intended to be floor to ceiling on all walls other than the vanity wall?											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:27 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.071	BP #3 - 0.071	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/18/2024	Sam Struble	12/27/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Wed Dec 18, 2024 at 08:37 am EST On sheet A3.01, there is a note that reads 'CT-9 ON FACE OF WALL ABOVE. SEE ELEVATION ON A8.04' but there is no sheet A8.04. See attached snippet of the drawings. Please advise. A3.01 Snippet.png											

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:27 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.070	BP #3 - Architectural Woodwork	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/13/2024	Sam Struble	12/20/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Fri Dec 13, 2024 at 12:04 pm EST Please provide additional details or specification for the 1/4" removable acrylic panel inserts used in the Gift Shop.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:27 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.069	BP #3 - LED Video Wall	Closed	Spence Brothers	Moerdyk, Wayne (W... Johnston, Jordan ... Burns, Rebekah (W...	12/13/2024	Sam Struble	12/20/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Fri Dec 13, 2024 at 09:41 am EST Drawings show LED Video Wall (LVW) (ID #EQ-04) to be furnished and installed by the contractor. Included in the write-up for Bid Category #307 (10-1463), is the Electronic Message Signage (EMS), but no reference for the LVW. The dimensions shown for the LVW are 68”x 89” and dimensions for the EMS (per specs) are 70”x 96”. Are these the same thing?											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:26 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:26 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.068	BP #3 - BC 307 Item #38	Closed	Spence Brothers	Struble, Sam (Spe...	12/13/2024	Sam Struble	12/20/2024	12/13/24			TBD	TBD
	Q: Sam Struble Sent Fri Dec 13, 2024 at 09:27 am EST Item #38 on the write-up for BC 307 says "benches." Please provide specification for these benches and indicate where they can be found in the drawings.											
	A: Sam Struble (Spence Brothers) Responded Fri Dec 13, 2024 at 09:37 am EST The intention of this is to capture the quartz bench top (and sealant) and FRT plywood substrate.											
0.067	BP #3 - SEG Banners	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/13/2024	Sam Struble	12/20/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Fri Dec 13, 2024 at 09:24 am EST The interior elevations and Furniture/Equipment Plan (A2.31) show SEG Banners (SP-02) that are FBO and installed by contractor, but there are no reference in the work scopes. Please specify which bid category is responsible for these. Please provide additional data (material, weight, attachment method, etc.) for these banners for bidding purposes.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:28 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	A: Sam Struble (Spence Brothers) Responded Fri Dec 13, 2024 at 09:24 am EST BC 307 General Trades responsible for installation.											
0.66	BP #3 - WFT-5	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/09/2024	Sam Struble	12/18/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Mon Dec 9, 2024 at 11:02 am EST WFT-5 shows ST-1 above an ST-2. ST-2 is a thin veneer where ST-1 is a full bed product. Please advise if this is correct.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:25 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.65	BP #3 - Top of Masonry Heights	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/09/2024	Sam Struble	12/18/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Mon Dec 9, 2024 at 10:58 am EST Please provide top of masonry heights on exterior elevations.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:25 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.64	BP #3 - Details	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/09/2024	Sam Struble	12/18/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Mon Dec 9, 2024 at 10:56 am EST On A5.01 and A5.02 there are sections bubbled where sections/elevations are to be blown up but there is no elevation or section called out. Please advise.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:15 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.63	BP #3 - Weather Barrier	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/09/2024	Sam Struble	12/18/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Mon Dec 9, 2024 at 10:53 am EST Details show a weather barrier on the outside of the Thermax wall system. Please advise where weather barrier is to be installed.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:15 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.62	BP #3 - AMC-1	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W...	12/09/2024	Sam Struble	12/18/2024	02/03/25			TBD	TBD

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
				Burns, Rebekah (W...								
	Q: Sam Struble Sent Mon Dec 9, 2024 at 10:51 am EST Please provide additional details for the metal ceiling.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:14 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.61	BP #3 - Tile Backer Board	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/09/2024	Sam Struble	12/18/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Mon Dec 9, 2024 at 10:48 am EST Please specify a tile backer board product to be used on this project.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:13 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.60	BP #3 - Acoustical Gyp Board	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/09/2024	Sam Struble	12/18/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Mon Dec 9, 2024 at 10:47 am EST Please provide further detail showing the extent of the Acoustibuilt system.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:13 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.59	BP #3 - Dumpster/Chiller Enclosure	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/09/2024	Sam Struble	12/18/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Mon Dec 9, 2024 at 09:34 am EST • Is there a stone cap on the top of this wall? Metal coping? • Wall type 5.2 shows only “11-5/8 CMU.” Should a split-faced or smooth faced CMU be used here? Will this wall be painted? Its recommended to use Split/Smooth faced CMU with IWR since this is on the exterior. Please advise. • Wall Type 5.1 shows 8” CMU w/stone veneer. Is the exposed CMU painted or grey here? Its recommended to use a smooth face w/IWR on the exposed exterior. Please advise. • Masonry spec section for exposed CMU (Masonry SPEC 2.2- 4a-2) states standard color and texture approved by architect. Which color should be used? Please advise.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:13 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.58	BP #3 - HH Box	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah	12/09/2024	Sam Struble	12/18/2024	02/03/25			TBD	TBD

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
				(W...								
	Q: Sam Struble Sent Mon Dec 9, 2024 at 09:18 am EST Please provide a spec and requirements on these ground boxes.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:13 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.57	BP #3 - Ductbank	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/09/2024	Sam Struble	12/18/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Mon Dec 9, 2024 at 09:17 am EST Why is there a duct bank detail on sheet E7.03? Is there a duct bank that is to be installed on this project?											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 08:13 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.56	BP #3 - Low Voltage	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	12/09/2024	Sam Struble	12/18/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Mon Dec 9, 2024 at 09:14 am EST What location does all of the data run to? Who is to provide the low voltage patch panel? Who is to provide the WAP?											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 09:26 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.55	BP #3 - Knight Watch	Closed	Spence Brothers	Moerdyk, Wayne (W... Johnston, Jordan ... Burns, Rebekah (W...	12/04/2024	Sam Struble	12/20/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Wed Dec 4, 2024 at 08:41 am EST Is Knight Watch an acceptable temperature controls contractor?											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 09:26 am EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
0.54	BP #3 - Trench Drains	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/27/2024	Sam Struble	12/02/2024	12/04/24			TBD	TBD

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	Q: Sam Struble Sent Wed Nov 27, 2024 at 08:50 am EST Sheet M2.00 shows keynote 12 in Toilet Rooms 121 and 122 but no keynote on the drawing. I assume this is the trench drain note? If so, please provide details for the trench drains including concrete reinforcing.											
	A: Rebekah Burns (WTA Architects) Responded Mon Dec 2, 2024 at 02:00 pm EST Please see attached. DOW GARDENS RFI 54 PBA REPSONSE.pdf											
0.53	BP #3 - Concrete Collars	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/27/2024	Sam Struble	12/02/2024	12/03/24			TBD	TBD
	Q: Sam Struble Sent Wed Nov 27, 2024 at 08:19 am EST For storm structures, are pre-cast concrete collars to be utilized and CIP around the risers from the detention system?											
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:58 pm EST RFI response attached. RFI 53_ROWE Response.pdf											
0.52	BP #3 - Curb and Gutter Height	Closed	Spence Brothers	Struble, Sam (Spe...	11/27/2024	Sam Struble	12/02/2024	11/27/24			TBD	TBD
	Q: Sam Struble Sent Wed Nov 27, 2024 at 08:12 am EST The curb and gutter details are also an unusual height (required for City of Midland), however, on the property (in the parking lot) may a standard height curb and gutter be utilized?											
	A: Sam Struble (Spence Brothers) Responded Wed Nov 27, 2024 at 08:12 am EST No, please bid per plans and specifications.											
0.51	BP #3 - Retention Basin	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/27/2024	Sam Struble	12/02/2024	12/03/24			TBD	TBD
	Q: Sam Struble Sent Wed Nov 27, 2024 at 07:58 am EST On sheet 7 on C1.05, it calls out 'suitable foundation' for the Landmax retention basins. Please specify the intent of this.											
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:58 pm EST RFI response attached. RFI 51_ROWE Response.pdf											
0.50	BP #3 - Topsoil for Proposed Islands	Closed	Spence Brothers	Struble, Sam (Spe...	11/26/2024	Sam Struble	12/02/2024	11/26/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 12:47 pm EST Whose responsibility is it to provide topsoil for proposed islands?											
	A: Sam Struble (Spence Brothers) Responded Tue Nov 26, 2024 at 12:47 pm EST BC 301 Excavation & Site Utilities.											

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
0.49	BP #3 - AWI Standards	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/03/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 12:43 pm EST Spec 064023 does not reference AWI requirements under section 1.4 Quality Assurance, however, there are references to AWI quality standard throughout the spec. To confirm, is AWI certification required, and if so, can it be waived for this project if the subcontractor/fabricator follows the guidelines for AWI fabrication?											
	A: Rebekah Burns (WTA Architects) Responded Mon Dec 2, 2024 at 03:19 pm EST RFI attached for response. RFI 49 - WTA Reply.pdf											
0.48	BP #3 - CAD File Availability	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/03/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 12:41 pm EST Please confirm that CAD files will be available for the parking lot grading plan.											
	A: Rebekah Burns (WTA Architects) Responded Mon Dec 2, 2024 at 03:23 pm EST RFI attached for response. RFI 48 - WTA Reply.pdf											
0.47	BP #3 - Perforated Pipe Around Foundation	Closed	Spence Brothers	Struble, Sam (Spe...	11/26/2024	Sam Struble	12/02/2024	11/27/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 12:34 pm EST Who is responsible for the 6" perforated pipe in sheet A1.10 around the proposed foundation?											
	A: Sam Struble (Spence Brothers) Responded Tue Nov 26, 2024 at 12:34 pm EST This is by BC 101.											
0.46	BP #3 - Parking Lot Building Permit	Closed	Spence Brothers	Struble, Sam (Spe...	11/26/2024	Sam Struble	12/02/2024	11/26/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 12:32 pm EST Who is responsible for the Building Permit for the new parking lot?											
	A: Sam Struble (Spence Brothers) Responded Tue Nov 26, 2024 at 12:32 pm EST This is to be procured and paid for by the CM.											
0.45	BP #3 - Site Concrete Curb and Gutter	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/04/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 12:05 pm EST Please confirm that the flow curb and gutter are to be the standard curb and gutter detail and will apply everywhere the spill is not indicated.											

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:58 pm EST RFI response attached. RFI 45_ROWE Response.pdf											
0.44	BP #3 - Architectural Grading Plan/Radii	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/04/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 10:16 am EST Sheets C-3.03 through Sheets C-3.05 reference the Architectural Grading Plan for grades and Radii, however, the Architectural drawing set does not contain a grading plan, they however do have A-1.01 that is an overall site plan (but does not contain grading or radii). Please advise.											
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:57 pm EST RFI response attached. RFI 44_ROWE Response.pdf											
0.43	BP #3 - Curb and Gutter Size	Closed	Spence Brothers	Struble, Sam (Spe...	11/26/2024	Sam Struble	12/02/2024	11/27/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 10:11 am EST The curb and gutters details on Sheet C-1.01 indicate that they are 2’-0”. Is it acceptable to use an 18” curb and gutter instead to save costs?											
	A: Sam Struble (Spence Brothers) Responded Wed Nov 27, 2024 at 03:03 pm EST Refer to Addendum #1.											
0.42	BP #3 - Custom Kitchen Items	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/20/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 09:55 am EST Are there elevations for the back kitchen area? The front kitchen area has architectural elevations but the back kitchen does not. Please provide dimensioned elevations.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 02:14 pm EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:57 pm EST RFI response attached. RFI 42 - WTA Reply.pdf											
	A: Sam Struble (Spence Brothers) Responded Fri Dec 13, 2024 at 09:08 am EST Please provide elevations for the back kitchen area.											
0.41	BP #3 - Benches	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/04/24			TBD	TBD

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	Q: Sam Struble Sent Tue Nov 26, 2024 at 09:40 am EST Please provide additional details and specifications for the benches shown throughout.											
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:57 pm EST RFI response attached. RFI 41 - WTA Reply.pdf											
0.40	BP #3 - Sliding Window	Closed	Spence Brothers	Struble, Sam (Spe...	11/26/2024	Sam Struble	12/02/2024	11/27/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 09:37 am EST Item #28 on the write-up for BC 307 calls out a sliding window. Please locate this on the drawings.											
	A: Sam Struble (Spence Brothers) Responded Tue Nov 26, 2024 at 09:38 am EST This was intended to be the pass-through door detail on A8.10. Pass-Through Door to be by BC 307.											
0.39	BP #3 - Knox Box	Closed	Spence Brothers	Struble, Sam (Spe...	11/26/2024	Sam Struble	12/05/2024	12/13/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 09:28 am EST Which bid category is responsible for furnishing and installing the Knox Box?											
	A: Sam Struble (Spence Brothers) Responded Tue Nov 26, 2024 at 09:28 am EST BC 307 General Trades.											
0.38	BP #3 - A7.01 & A7.02	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/20/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 09:24 am EST Details on A7.01 and A7.02 appears to be incomplete. Please provide a revised detail.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 02:15 pm EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:57 pm EST RFI response attached. RFI 38 - WTA Reply.pdf											
	A: Sam Struble (Spence Brothers) Responded Fri Dec 13, 2024 at 09:12 am EST Reopening this RFI for tracking purposes. Please provide revised wall sections.											
0.37	BP #3 - Louvers and Grilles	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/04/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 09:19 am EST Addendum #1 clarifies that furnishing and installation of the louvers, louver sills, and grilles are the responsibility of the General Trades Contractor and refers to a note on sheet A2.12. Please provide a specification for these items.											

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:57 pm EST RFI response attached. RFI 37 - WTA Reply.pdf											
0.36	BP #3 - Specialties	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/04/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 09:18 am EST Interior elevations and Furniture/Equipment Plan (A2.31) show “other” specialties that are not shown in specs or write-up for Bid Category #307. Please provide specifications for 6’-0”x 3’-0” Mirror (SP-01), Clothing Hook (SP-03), and Privacy Screen (SP-04). BC #307 is responsible to furnish and install.											
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:56 pm EST RFI response attached. RFI 36 - WTA Reply.pdf											
0.35	BP #3 - FEC	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/04/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 09:16 am EST There are only (3) Recessed FE Cabinets (FEC) and (1) Semi-Recessed FE Cabinet shown on the Life Safety Plan (LS-1) and First Floor Notation Plan (A2.12), and no wall-hung fire extinguishers (FE) anywhere on the job. This does not seem like enough FE for this size of building to satisfy the code requirements. Also, there is no FE shown in the kitchens or mechanical rooms. Please confirm the fire extinguisher and cabinet quantities and locations, per the drawings.											
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:56 pm EST RFI response attached. RFI 35 - WTA Reply.pdf											
0.34	BP #3 - Gate Hardware for Enclosures	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/20/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 09:13 am EST Please provide a specification for the weatherized panic hardware and keyed deadbolt for the Cafe Terrace Enclosure and Mechanical Enclosure that are shown on A1.10.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 02:15 pm EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:56 pm EST RFI response attached. RFI 34 - WTA Reply.pdf											

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	A: Sam Struble (Spence Brothers) Responded Fri Dec 13, 2024 at 08:30 am EST Please provide a specification for these items.											
0.33	BP #3 - Lobby Signage	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/20/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 09:11 am EST A8.01 shows a 2'-0" x 8'-0" acrylic sign in the Lobby (2/A8.01). This sign is not shown on A2.50 or A2.51 and is not included in the specifications for Signage (10-1400). This is to be provided by BC 307. Please provide additional information on this sign for pricing.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 02:15 pm EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:47 pm EST RFI response attached. RFI 33 - WTA Reply.pdf											
	A: Sam Struble (Spence Brothers) Responded Fri Dec 13, 2024 at 08:37 am EST I see that this sign was clarified in Addendum #3 and added to the sign schedule, but please provide a specification.											
0.32	BP #3 - AED Recessed Cabinets	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/20/2024	02/03/25			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 09:08 am EST There are (2) AED fully recessed cabinets shown on the Life Safety Plan (LS-1) and First Floor Notation Plan A2.12, but they are not shown anywhere in the Project Manual. Please provide a make, model and dimensions or specification for the cabinet.											
	A: Rebekah Burns (WTA Architects) Responded Tue Jan 21, 2025 at 02:13 pm EST This question was addressed in Bid Pack 3 documents dated 1/9/2025											
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:46 pm EST RFI response attached. RFI 32 - WTA Reply.pdf											
	A: Sam Struble (Spence Brothers) Responded Fri Dec 13, 2024 at 08:19 am EST Please provide make/model or specification for bidding purposes.											
0.31	BP #3 - Access Doors	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/04/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 08:58 am EST Please provide a specification for access doors.											

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:46 pm EST RFI response attached. RFI 31 - WTA Reply.pdf											
0.30	BP #3 - Concrete Admixtures	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/04/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 08:55 am EST Is MVRA required for Polished Concrete (PC-1) & Sealed Concrete (SC) floor areas? Is MVRA required for Resinous Floor (RF-1 & RF-2) areas? Is MVRA required for Ceramic Tile (CT-7) floor areas? If MVRA is required, please provide a specific admixture product for pricing (i.e. VaporLok 20/20, etc).											
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:46 pm EST RFI response attached. RFI 30 - WTA Reply.pdf											
0.29	BP #3 - Asphalt Top Course & Concrete	Closed	Spence Brothers	Struble, Sam (Spe...	11/26/2024	Sam Struble	12/02/2024	12/03/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 08:52 am EST For top course of asphalt, will multiple mobs be needed or can this be completed all at once?											
	A: Sam Struble (Spence Brothers) Responded Wed Nov 27, 2024 at 02:58 pm EST Top course of asphalt will be completed at one time.											
0.28	BP #3 - Parking Lot Phasing	Closed	Spence Brothers	Struble, Sam (Spe...	11/26/2024	Sam Struble	12/02/2024	11/27/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 08:49 am EST Due to the phasing plan and gap between phases, will the south lot need temp striping? Single line or double line like the standard?											
	A: Sam Struble (Spence Brothers) Responded Wed Nov 27, 2024 at 02:59 pm EST Temp striping will be required in the south portion of the lot prior to topcoat the following year.											
0.27	BP #3 - Library Lot	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/04/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 08:47 am EST Please confirm the only work in the library lot is the added area on the west side of the parking lot and provide details for scope of work.											
	A: Rebekah Burns (WTA Architects) Responded Mon Dec 2, 2024 at 01:41 pm EST RFI response attached for review. RFI 27 - WTA Reply.pdf											
0.26	BP #3 - Parking Lot Signage	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne	11/26/2024	Sam Struble	12/02/2024	12/09/24			TBD	TBD

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
				(W... Burns, Rebekah (W...								
	Q: Sam Struble Sent Tue Nov 26, 2024 at 08:45 am EST Please provide details and requirements for parking lot signage.											
	A: Rebekah Burns (WTA Architects) Responded Wed Dec 4, 2024 at 12:06 pm EST Please see attached response. RFI 26 - WTA Reply.pdf											
0.25	BP #3 - Operable Partition	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/04/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 08:29 am EST Are pocket doors required? There is no detail but mentioned in spec section 10 2226 2.6 – B. Same section, the #14 suspension called out is typically used on the taller/longer partition systems. The supplier would like to recommend #17 track instead. It can handle up to 1,000 lb panels. Please advise.											
	A: Rebekah Burns (WTA Architects) Responded Tue Dec 3, 2024 at 02:45 pm EST RFI response attached. RFI 25 - WTA Reply.pdf											
0.24	BP #3 - Door Schedule (Door Types)	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/09/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 08:25 am EST Most of the door types are not listed on the door schedule. Please provide clarification. Refer to sheet A3.10.											
	A: Rebekah Burns (WTA Architects) Responded Wed Dec 4, 2024 at 12:06 pm EST Please see attached response. RFI 24 - WTA Reply.pdf											
0.23	BP #3 - Wall Type A4.2	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/09/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 08:19 am EST Please refer to sheet A2.12. There are walls tagged as 4.2 but that wall type is not provided on A0.01. Please provide.											
	A: Rebekah Burns (WTA Architects) Responded Wed Dec 4, 2024 at 12:05 pm EST Please see attached response. RFI 23 - WTA Reply.pdf											
0.22	BP #3 - Door Schedule	Closed	Spence Brothers	Johnston, Jordan ...	11/26/2024	Sam Struble	12/02/2024	12/09/24			TBD	TBD

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
				Moerdyk, Wayne (W... Burns, Rebekah (W...								
	Q: Sam Struble Sent Tue Nov 26, 2024 at 08:14 am EST 1. Door 117.1 is on the door schedule as HW Set 23. The hardware schedule has door openings listed and does not list 117.1 for Set 23. Set 23 shows 117A.2 and 120.16 2. Door 120.2 is listed as HW set 27 on the door schedule. The hardware schedule has 120.2 listed on hardware set 08 and 27. 3. Door 129A.1 has no hardware set listed on the door schedule, but lists set 13 on the hardware schedule. 4. Door 130.2 has no hardware set listed on the door schedule, but lists set 03 on the hardware schedule.											
	A: Rebekah Burns (WTA Architects) Responded Wed Dec 4, 2024 at 12:05 pm EST Please see attached response. RFI 22 - WTA Reply.pdf											
0.21	BP #3 - Wall Protection	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/26/2024	Sam Struble	12/02/2024	12/09/24			TBD	TBD
	Q: Sam Struble Sent Tue Nov 26, 2024 at 08:11 am EST Specification Section 10-2600 (Wall Protection) refers to plastic wall-protection units and installation of resilient products. Please clarify that the General Trades contractor is ONLY responsible for furnishing and installation of Stainless-Steel Corner Guards (CG-1) and Stainless Steel Wall Protection (WFT-7) in kitchen per the architectural drawings. Also, please provide further specifications for the stainless steel material (gauge, finish and SS grade) and angle dimension for CG-1 and typical panel width for WFT-7.											
	A: Rebekah Burns (WTA Architects) Responded Wed Dec 4, 2024 at 12:04 pm EST Please see attached response. RFI 21 - WTA Reply.pdf											
0.20	BP #3 - Food Service Substitution	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	11/22/2024	Sam Struble	12/03/2024	11/26/24			TBD	TBD
	Q: Sam Struble Sent Fri Nov 22, 2024 at 10:23 am EST Is Custom Stainless Steel Fabricators an acceptable substitution to the list of approved? Can Advance Tabco, Titan Stainless, and Stafford Smith be added as approved fabricators?											
	A: Wayne Moerdyk (WTA Architects) Responded Mon Nov 25, 2024 at 08:54 am EST See attached. Response. 23-325-Dow_Gardens_Welcome_Center-0.20-BP_3-Food_Service_Substitution-2024-11-22 - WTA Response.pdf											
0.19	BP #3 - Food Service Equipment	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne	11/22/2024	Sam Struble	10/29/2024	11/26/24			TBD	TBD

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
				(W...								
	Q: Sam Struble Sent Fri Nov 22, 2024 at 10:20 am EST Can tables E,F,G, be multiple tables to fill the space or are these certain sizes? Do they have undershelves, drawers? Wall shelves X – What is the depth for them? One looks like 18" but the other is about 24” on the drawings. Standard above a worktable is 15” depth. Please advise.											
	A: Wayne Moerdyk (WTA Architects) Responded Mon Nov 25, 2024 at 10:01 am EST See attached. 23-325-Dow_Gardens_Welcome_Center-0.19-BP_3-Food_Service_Equipment-2024-11-22 - WTA Reply.pdf											
0.18	BP #3 - Spray Applied Fire Proofing	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	11/21/2024	Sam Struble	12/02/2024	11/26/24			TBD	TBD
	Q: Sam Struble Sent Thu Nov 21, 2024 at 09:18 am EST Please advise where this is located on the project.											
	A: Wayne Moerdyk (WTA Architects) Responded Fri Nov 22, 2024 at 02:35 pm EST See attached. 23-325-Dow_Gardens_Welcome_Center-0.18-BP_3-Spray_Applied_Fire_Proofing-2024-11-22 - WTA Reply.pdf											
0.17	BP #3 - Room Finish Schedule	Closed	Spence Brothers	Johnston, Jordan ... Burns, Rebekah (W... Moerdyk, Wayne (W...	11/21/2024	Sam Struble	11/26/2024	11/26/24			TBD	TBD
	Q: Sam Struble Sent Thu Nov 21, 2024 at 09:16 am EST Can a room finish schedule be provided?											
	A: Wayne Moerdyk (WTA Architects) Responded Fri Nov 22, 2024 at 02:34 pm EST See attached. 23-325-Dow_Gardens_Welcome_Center-0.17-BP_3-Room_Finish_Schedule-2024-11-22 - WTA Reply.pdf											
0.16	BP #3 - Copper Fascia/Panel	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/14/2024	Sam Struble	11/20/2024	11/21/24			TBD	TBD
	Q: Sam Struble Sent Thu Nov 14, 2024 at 09:49 am EST In the attached detail, the copper fascia shown in the detail appears to be thicker than typical fascia metal. Is this a flush panel? Dow Gardens RFI #2.pdf											
	A: Rebekah Burns (WTA Architects) Responded Thu Nov 14, 2024 at 04:49 pm EST											

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
	Response attached, please review. RFI 16 - WTA Reply.pdf											
0.15	BP #3 - Copper Fascia	Closed	Spence Brothers	Struble, Sam (Spe...	11/14/2024	Sam Struble	11/25/2024	11/21/24			TBD	TBD
	Q: Sam Struble Sent Thu Nov 14, 2024 at 09:21 am EST Who installs the hat channel in the attached detail? Dow Gardens RFI #2.pdf											
	A: Sam Struble (Spence Brothers) Responded Thu Nov 21, 2024 at 09:08 am EST BC 311 Acoustical											
0.14	BP #3 - Plumbing Equipment	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/14/2024	Sam Struble	11/20/2024	11/21/24			TBD	TBD
	Q: Sam Struble Sent Thu Nov 14, 2024 at 09:17 am EST There are several instances where the plumbing equipment is labelled differently between drawings M2.00 and M2.10. For instance, in room #115, the lav is labelled LAV-1 on drawing M2.0 but is labelled LAV-4 on drawing M2.10. Please advise.											
	A: Rebekah Burns (WTA Architects) Responded Thu Nov 14, 2024 at 04:49 pm EST Response attached, please review. DOW GARDENS RFI 14 PBA REPSONSE.pdf											
0.13	BP #3 - Sump Piping Detail	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/14/2024	Sam Struble	11/20/2024	11/21/24			TBD	TBD
	Q: Sam Struble Sent Thu Nov 14, 2024 at 09:15 am EST Can you please provide a more detailed version of the sump piping on drawing M2.00? It reads that there is information in the civil drawings, but we are unable to find where it is clearly indicated.											
	A: Rebekah Burns (WTA Architects) Responded Thu Nov 14, 2024 at 04:48 pm EST Response attached, please review. DOW GARDENS RFI 13 PBA RESPONSE.pdf											
0.12	BP #3 - Roof Conductor Piping	Closed	Spence Brothers	Johnston, Jordan ... Moerdyk, Wayne (W... Burns, Rebekah (W...	11/14/2024	Sam Struble	11/20/2024	11/21/24			TBD	TBD
	Q: Sam Struble Sent Thu Nov 14, 2024 at 09:13 am EST On drawing M2.10, room #131 has the roof conductor piping drawn but no overflow piping shown. Please indicate the routing.											
	A: Rebekah Burns (WTA Architects) Responded Thu Nov 14, 2024 at 04:48 pm EST Response attached, please review. DOW GARDENS RFI 12 PBA RESPONSE.pdf											
0.11	BP #3 - Above Ground Vent Piping	Closed	Spence Brothers	Johnston, Jordan ...	11/14/2024	Sam Struble	11/20/2024	11/21/24			TBD	TBD

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
				Moerdyk, Wayne (W... Burns, Rebekah (W...								
	Q: Sam Struble Sent Thu Nov 14, 2024 at 09:12 am EST On Drawing M2.10, the bridal group area and bathrooms east of the lobby do not have the above ground venting indicated on the drawings. Please indicate the piping.											
	A: Rebekah Burns (WTA Architects) Responded Thu Nov 14, 2024 at 04:48 pm EST Response attached, please review. DOW GARDENS RFI 11 PBA RESPONSE.pdf											
0.10	BP #1 - AISC Certification/IAS	Closed	Spence Brothers	Johnston, Jordan ...	07/24/2024	Sam Struble	08/02/2024	10/09/24			No	Yes (Unknown)
	Q: Sam Struble Sent Wed Jul 24, 2024 at 02:06 pm EDT Can these requirements be waived if the contractor follows the guidelines for fabrication and installation?											
	A: Jordan Johnston (WTA Architects) Responded Thu Aug 15, 2024 at 10:56 am EDT The steel fabricators do not need to be certified by AISC, but do need to abide by an equivalent quality control and inspection program. For reference, the section of the spec in question is below. "A.Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD, or is accredited by the IAS Fabricator Inspection Program for Structural Steel (AC 172)." - Adam Kuczynski RFI - PC RFI 10-mai response.pdf											
0.08	BP #1 - Foundation Fill Material	Closed	Spence Brothers	Johnston, Jordan ...	07/23/2024	Sam Struble	08/01/2024	10/09/24			Yes (Unknown)	Yes (Unknown)
	Q: Sam Struble Sent Tue Jul 23, 2024 at 08:30 am EDT Spec 312000 does not specify what Satisfactory Soils for Foundations are. Section 2.1 says to refer to other specs which don't appear to be provided. Please define what Satisfactory Soils are for Foundation backfill.											
	A: Jordan Johnston (WTA Architects) Responded Sun Sep 15, 2024 at 04:12 pm EDT Contractor to Review Geo-technical Report. 0.08-Foundation_Fill_WTA Response.pdf											
0.07	BP #1 - Top of Steel Height	Closed	Spence Brothers	Struble, Sam (Spe...	07/22/2024	Sam Struble	07/31/2024	07/23/24			Yes (Unknown)	Yes (Unknown)
	Q: Sam Struble Sent Mon Jul 22, 2024 at 02:14 pm EDT Please provide top of steel dimension.											
	A: Sam Struble (Spence Brothers) Responded Tue Jul 23, 2024 at 08:23 am EDT Assume TOS is 16'-0".											
0.06	BP #1 - Soil Erosion Maintenance	Closed	Spence Brothers	Johnston, Jordan ...	07/22/2024	Sam Struble	07/31/2024	07/23/24			Yes (Unknown)	Yes (Unknown)
	Q: Sam Struble Sent Mon Jul 22, 2024 at 02:12 pm EDT BC 101 is responsible for maintenance of SESC permit. Please define required soil erosion measures.											
	A: Sam Struble (Spence Brothers) Responded Tue Jul 23, 2024 at 08:13 am EDT Refer to section 01 2100 - Allowances included in Addendum #1.											

Spence Brothers

Printed on Mon Feb 3, 2025 at 04:27 pm EST

Job #: 23-325 Dow Gardens Welcome Center
1809 Eastman Avenue
Midland, Michigan 48640

#	Subject	Status	Responsible Contractor	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Impact
0.05	BP #1 - Concrete Foundation Layout	Closed	Spence Brothers	Struble, Sam (Spe...	07/22/2024	Sam Struble	07/31/2024	07/23/24			Yes (Unknown)	Yes (Unknown)
	Q: Sam Struble Sent Mon Jul 22, 2024 at 01:59 pm EDT Please confirm who is responsible for foundation layout.											
	A: Sam Struble (Spence Brothers) Responded Tue Jul 23, 2024 at 08:22 am EDT BC 102 Concrete is responsible for foundation layout.											
0.04	BP #1 - Temporary Striping/Parking	Closed	Spence Brothers	Struble, Sam (Spe...	07/22/2024	Sam Struble	07/31/2024	07/23/24			Yes (Unknown)	Yes (Unknown)
	Q: Sam Struble Sent Mon Jul 22, 2024 at 01:58 pm EDT Who is responsible for the temporary striping and parking shown on L1?											
	A: Sam Struble (Spence Brothers) Responded Tue Jul 23, 2024 at 08:21 am EDT CM is responsible for temporary striping shown on L1.											
0.03	BP #1 - Site Electrical	Closed	Spence Brothers	Struble, Sam (Spe...	07/22/2024	Sam Struble	07/31/2024	07/23/24			Yes (Unknown)	Yes (Unknown)
	Q: Sam Struble Sent Mon Jul 22, 2024 at 01:56 pm EDT Is BC 101 responsible for deenergizing of light fixtures/poles within the vicinity of proposed demolition?											
	A: Sam Struble (Spence Brothers) Responded Tue Jul 23, 2024 at 08:20 am EDT No, deenergizing will be by others.											
0.02	BP #1 - Footing Drain	Closed	Spence Brothers	Johnston, Jordan ...	07/22/2024	Sam Struble	07/31/2024	07/23/24			Yes (Unknown)	Yes (Unknown)
	Q: Sam Struble Sent Mon Jul 22, 2024 at 12:55 pm EDT Please advise if there are to be foundation drains around the footings. If so, where would these connect to the existing storm system?											
	A: Sam Struble (Spence Brothers) Responded Tue Jul 23, 2024 at 08:19 am EDT Assume no perimeter footing drain tile for bidding purposes.											
0.01	BP #1 - Tree Removal	Closed	Spence Brothers	Struble, Sam (Spe...	07/22/2024	Sam Struble	07/31/2024	07/23/24			TBD	Yes (Unknown)
	Q: Sam Struble Sent Mon Jul 22, 2024 at 12:53 pm EDT At the pre-bid walk through, it was stated that tree removal is by owner. Please verify.											
	A: Sam Struble (Spence Brothers) Responded Tue Jul 23, 2024 at 08:14 am EDT Tree removal shown in the documents is by BC 101 - Excavation & Site Utilities.											

WTA ARCHITECTS

100 S Jefferson Ave, Suite 601
Saginaw, Michigan 48607
989 752 8107 : p
989 752 3125 : f
WTAARCH.COM

ADDENDUM NO. 3

DOW GARDENS WELCOME CENTER
MIDLAND, MICHIGAN
WTA Project No. 2022022
February 3, 2025

The following clarifications, modifications and/or revisions to the above project shall be considered a part of the original drawings and specifications.

It shall be the responsibility of the contractor to notify their subcontractors and/or suppliers of the clarifications, modifications, and/or revisions included herein.

GENERAL

ARCHITECTURAL

Item G1: Refer to 074113 Standing-Seam Metal Roof Panels (re-issued)
- a. Revisions as indicated by highlighted sections.

Item G2: Refer to 075419 Polyvinyl-Chloride (PVC) Roofing (re-issued)
- a. Revisions as indicated by highlighted sections.

ARCHITECTURAL

Item A1: Sheet A0.01 (re-issued)
- a. Revised Roof Types.
  - i. R1, R2, R3

Item A2: Sheet A6.01 (Re-issued)
- a. Revised Roof Plan.

Item A3: Sheet A7.10 (re-issued)
- a. Revised Detail.
  - i. 6/A7.10

Item A4: Sheet A7.11 (re-issued)
- a. Revised Details
  - i. 1/A7.11
  - ii. 2/A7.11

WIGEN
TINCKNELL
ASSOCIATES
ARCHITECTS
SPACE SOLVED.

Item A5: Sheet A7.12 (re-issued)
- a. Revised Detail.
  - i. 8/A7.12
  - ii. 9/A7.12
- b. New Detail
  - i. 11/A7.12
  - ii. 12/A7.12

MECHANICAL

MD-1 Refer to Sheet M3.00 (Re Issued)
1. Revise underground in floor piping as shown on drawing
2. Add in floor zone distribution boxes as shown on drawing

MD-2 Refer to Sheet M7.08 (Re Issued)
1. Revise in floor zone pump schedule as shown on drawing

END OF ADDENDUM NO. 3

WTA Architects

2025.02.03 16:06:41-05'00'

JORDAN JOHNSTON

Cc: JEREMY HUNTOON (SPENCE BROTHERS)
MEGAN THOMAS (WTA)
PAUL HASELHUHN (WTA)
WAYNE MOERDYK (WTA)
KATHY WEBER (DOW GARDENS)
ELIZABETH LUMBERT (DOW GARDENS)
FRANCINE PADGETT (THE HERBER H. AND GRACE A. DOW FOUNDATION)
JENÉE VELASQUEZ (THE HERBER H. AND GRACE A. DOW FOUNDATION)
RONALD CHAPDELAINE (PBA)

SECTION 074113 - STANDING-SEAM METAL ROOF PANELS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Standing-seam metal roof panels.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

   1. Meet with Owner, Architect, Owner's insurer if applicable, metal panel Installer, metal panel manufacturer's representative, structural-support Installer, and installers whose work interfaces with or affects metal panels, including installers of roof accessories and roof-mounted equipment.
   2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   3. Review methods and procedures related to metal panel installation, including manufacturer's written instructions.
   4. Examine support conditions for compliance with requirements, including alignment between and attachment to structural members.
   5. Review structural loading limitations of deck during and after roofing.
   6. Review flashings, special details, drainage, penetrations, equipment curbs, and condition of other construction that affect metal panels.
   7. Review governing regulations and requirements for insurance, certificates, and tests and inspections if applicable.
   8. Review temporary protection requirements for metal panel systems during and after installation.
   9. Review procedures for repair of metal panels damaged after installation.
   10. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.3 ACTION SUBMITTALS

A. Product Data: For standing-seam metal roof panels. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.

B. Shop Drawings:

   1. Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.

2. Accessories: Include details of the flashing, trim, and anchorage systems, at a scale of not less than 1-1/2 inches per 12 inches (1:10).

C. Samples for Initial Selection: For each type of metal panel indicated with factory-applied color finishes.

1. Include similar Samples of trim and accessories involving color selection.

D. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.

1. Metal Panels: 12 inches (305 mm) long by actual panel width. Include clips, fasteners, closures, and other metal panel accessories.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Test Reports: For standing-seam metal roof panels, for tests performed by a qualified testing agency.

C. Field quality-control reports.

D. Sample Warranties: For special warranties.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For metal panels to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. UL-Certified, Portable Roll-Forming Equipment: UL-certified, portable roll-forming equipment capable of producing metal panels warranted by manufacturer to be the same as factory-formed products. Maintain UL certification of portable roll-forming equipment for duration of work.

1.7 MOCKUPS

A. Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

1. Build mockup of typical roof area and eave, including fascia, and soffit as shown on Drawings; approximately 12 feet (3.5 m) square by full thickness, including attachments, underlayment, and accessories.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.

B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.

C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.

D. Retain strippable protective covering on metal panels during installation.

E. Copper Panels: Wear gloves when handling to prevent fingerprints and soiling of surface.

1.9 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed according to manufacturers' written instructions and warranty requirements.

1.10 COORDINATION

A. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.

B. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.11 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including rupturing, cracking, or puncturing.
b. Deterioration of metals and other materials beyond normal weathering.

2. Warranty Period: Two years from date of Substantial Completion.

3. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 STANDING-SEAM METAL ROOF PANELS

A. Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.

B. Vertical-Rib, Snap-Joint, Standing-Seam Metal Roof Panels: Formed with vertical ribs at panel edges and intermediate stiffening ribs symmetrically spaced between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels, engaging opposite edge of adjacent panels, and snapping panels together.

1. Copper Sheet: ASTM B370, cold-rolled copper sheet, H00 temper.

a. Thickness: 20 oz./sq. ft. (0.68 mm thick).

b. Copper Finish: Field-Patinaed, Verdigris.

2. Clips: Two-piece floating to accommodate thermal movement.
a. 0.0625-inch- (1.587-mm-) thick, stainless steel sheet.

3. Panel Coverage: 20 inches (610 mm).
4. Panel Height: 1.5 inches (38 mm).

2.2 UNDERLAYMENT MATERIALS

A. Self-Adhering, High-Temperature Sheet: Minimum 30 mils (0.76 mm) thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS-modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer according to written recommendations of underlayment manufacturer.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Carlisle Coatings & Waterproofing Inc.
b. Carlisle Residential; a division of Carlisle Construction Materials.
c. Grace Construction Products; W.R. Grace & Co. -- Conn.
d. Henry Company.
e. Substitutions: See Section 012500 – Substitution Procedures.

2. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F (116 deg C) or higher.
3. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F (29 deg C) or lower.

2.3 MISCELLANEOUS MATERIALS

A. Miscellaneous Metal Subframing and Furring: ASTM C645; cold-formed, metallic-coated steel sheet, ASTM A653/A653M, G90 (Z275) hot-dip galvanized coating designation or ASTM A792/A792M, Class AZ50 (Class AZM150) coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.

B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal panels.
2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.

C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.

D. Gutters: Formed from same material as roof panels, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 96-inch- (2400-mm-) long sections, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual." Furnish gutter supports spaced a maximum of 36 inches (914 mm) o.c., fabricated from same metal as gutters. Provide wire ball strainers of compatible metal at outlets. Finish gutters to match roof fascia and rake trim.

E. Downspouts: Formed from same material as roof panels. Fabricate in 10-foot- (3-m-) long sections, complete with formed elbows and offsets, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual." Finish downspouts to match gutters.

F. Roof Curbs: Fabricated from same material as roof panels, 0.048-inch (1.2-mm) nominal thickness; with bottom of skirt profiled to match roof panel profiles and with welded top box and integral full-length cricket. Fabricate curb subframing of 0.060-inch- (1.52-mm-) nominal thickness, angle-, C-, or Z-shaped steel sheet. Fabricate

curb and subframing to withstand indicated loads of size and height indicated. Finish roof curbs to match metal roof panels.

1. Insulate roof curb with 1-inch- (25-mm-) thick, rigid insulation.

G. Panel Fasteners: Self-tapping screws designed to withstand design loads.

H. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.

1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
2. Joint Sealant: ASTM C920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended in writing by metal panel manufacturer.
3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C1311.

2.4 FABRICATION

A. Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.

C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

D. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.

E. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
2. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.

3. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
4. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.
5. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
6. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.

    a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal panel manufacturer for application, but not less than thickness of metal being secured.

2.5 FINISHES

A. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are unacceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

B. Copper Panels and Accessories:

1. Prepatination: Factory prepatinate according to ASTM B882 to convert the copper surface to an inorganic crystalline structure with the appearance and durability of naturally formed patina.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.

1. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal roof panel manufacturer.
2. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal roof panel manufacturer.

    a. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.

B. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C754 and metal panel manufacturer's written recommendations.

3.3 INSTALLATION OF UNDERLAYMENT

A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply at locations indicated below, wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches (152 mm) staggered 24 inches (610 mm) between courses. Overlap side edges not less than 3-1/2 inches (90 mm). Extend underlayment into gutter trough. Roll laps with roller. Cover underlayment within 14 days.

1. Apply over the entire roof surface.

B. Felt Underlayment: Apply at locations indicated below, in shingle fashion to shed water, and with lapped joints of not less than 2 inches (50 mm).

1. Apply over the entire roof surface.

C. Flashings: Install flashings to cover underlayment to comply with requirements specified in Section 076200 "Sheet Metal Flashing and Trim."

3.4 INSTALLATION OF STANDING-SEAM METAL ROOF PANELS

A. Install metal panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.

1. Shim or otherwise plumb substrates receiving metal panels.
2. Flash and seal metal panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal panels are installed.
3. Install screw fasteners in predrilled holes.
4. Locate and space fastenings in uniform vertical and horizontal alignment.
5. Install flashing and trim as metal panel work proceeds.
6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.

7. Align bottoms of metal panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
8. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.

B. Fasteners:
1. Copper Panels: Use copper, stainless steel, or hardware-bronze fasteners.

C. Anchor Clips: Anchor metal roof panels and other components of the Work securely in place, using manufacturer's approved fasteners according to manufacturers' written instructions.

D. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.

E. Standing-Seam Metal Roof Panel Installation: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended in writing by manufacturer.

1. Install clips to supports with self-tapping fasteners.
2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
3. Watertight Installation:

a. Apply a continuous ribbon of sealant or tape to seal joints of metal panels, using sealant or tape as recommend in writing by manufacturer as needed to make panels watertight.
b. Provide sealant or tape between panels and protruding equipment, vents, and accessories.
c. At panel splices, nest panels with minimum 6-inch (152-mm) end lap, sealed with sealant and fastened together by interlocking clamping plates.

F. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete metal panel system including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by metal roof panel manufacturers; or, if not indicated, types recommended by metal roof panel manufacturer.

G. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

1. Install exposed flashing and trim that is without buckling and tool marks, and that is true to line and levels indicated, with exposed edges folded back to

form hems. Install sheet metal flashing and trim to fit substrates and achieve waterproof and weather-resistant performance.

2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (610 mm) of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).

H. Gutters: Join sections with riveted and soldered or lapped and sealed joints. Attach gutters to eave with gutter hangers spaced not more than 36 inches (914 mm) o.c. using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.

I. Downspouts: Join sections with telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch (25 mm) away from walls; locate fasteners at top and bottom and at approximately 60 inches (1524 mm) o.c. in between.

1. Provide elbows at base of downspouts to direct water away from building.
2. Connect downspouts to underground drainage system indicated.

J. Roof Curbs: Install flashing around bases where they meet metal roof panels.

K. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to metal roof panels as recommended by manufacturer.

3.5 ERECTION TOLERANCES

A. Installation Tolerances: Shim and align metal panel units within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines as indicated and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

3.6 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect metal roof panel installation, including accessories. Report results in writing.

B. Remove and replace applications of metal roof panels where tests and inspections indicate that they do not comply with specified requirements.

C. Additional tests and inspections, at Contractor's expense, are performed to determine compliance of replaced or additional work with specified requirements.

D. Prepare test and inspection reports.

3.7 CLEANING AND PROTECTION

A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.

B. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 074113

SECTION 075419 - POLYVINYL-CHLORIDE (PVC) ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Mechanically fastened, polyvinyl chloride (PVC) roofing system.
   2. Roof insulation.
   3. Walkways.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. For insulation and roof system component fasteners, include copy of FM Approvals' RoofNav listing.

B. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:
   1. Layout and thickness of insulation.
   2. Base flashings and membrane terminations.
   3. Flashing details at penetrations.
   4. Tapered insulation thickness and slopes.
   5. Roof plan showing orientation of steel roof deck and orientation of roof membrane, fastening spacings, and patterns for mechanically fastened roofing system.
   6. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
   7. Tie-in with air barrier.

C. Samples: For the following products:
   1. Roof membrane and flashing, of color required.
   2. Walkway pads or rolls, of color required.

D. Wind Uplift Resistance Submittal: For roofing system, indicating compliance with wind uplift performance requirements.

1.4 INFORMATIONAL SUBMITTALS

A. Manufacturer Certificates:
   1. Performance Requirement Certificate: Signed by roof membrane manufacturer, certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
      a. Submit evidence of compliance with performance requirements.
   2. Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.

B. Product Test Reports: For roof membrane and insulation, tests performed by independent qualified testing agency indicating compliance with specified requirements.

C. Research reports.

D. Field Test Reports:
   1. Concrete internal relative humidity test reports.
   2. Fastener-pullout test results and manufacturer's revised requirements for fastener patterns.
E. Field quality-control reports.
F. Sample warranties.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.
B. Certified statement from existing roof membrane manufacturer stating that existing roof warranty has not been affected by Work performed under this Section.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.7 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
   1. Warranty Period: 20 years from date of Substantial Completion.
B. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this section, signed by installer, covering Work of this Sections, including all components of roofing system such as roofing pavers, and walkway products, for the following warranty period.
   1. Warranty period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Accelerated Weathering: Roof membrane shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
B. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D 3746, ASTM D 4272/D 4272M, or the "Resistance to Foot Traffic Test" in FM Approvals 4470.
C. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.
D. FM Approvals' RoofNav Listing: Roof membrane, base flashings, and component materials shall comply with requirements in FM Approvals 4450 or FM Approvals 4470 as part of a roofing system, and shall be listed in FM Approvals' RoofNav for Class 1 or noncombustible construction, as applicable. Identify materials with FM Approvals Certification markings.
E. Solar Reflectance Index: Not less than 78 when calculated according to ASTM E 1980, based on testing identical products by a qualified testing agency.
F. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

2.2 POLYVINYL CHLORIDE (PVC) ROOFING

A. PVC Sheet: ASTM D 4434/D 4434M, Type III, fabric reinforced.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. Carlisle SynTec Incorporated.
      b. Duro-Last Roofing, Inc.
      c. Flex Membrane International Corp.
      d. GAF.
      e. Johns Manville; a Berkshire Hathaway company.
      f. Substitutions: See Section 012500 – Substitution Procedures.
   2. Membrane Thickness: 60 mils (1.5 mm).
   3. Exposed Face Color: White.

2.3 AUXILIARY ROOFING MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.
   1. Adhesives and sealants shall comply with the following limits for VOC content:
      a. Plastic Foam Adhesives: 50 g/L.
      b. Gypsum Board and Panel Adhesives: 50 g/L.
      c. Multipurpose Construction Adhesives: 70 g/L.
      d. Fiberglass Adhesives: 80 g/L.
      e. Contact Adhesives: 80 g/L.
      f. PVC Welding Compounds: 510 g/L.
      g. Other Adhesives: 250 g/L.
      h. Single-Ply Roof Membrane Sealants: 450 g/L.
      i. Nonmembrane Roof Sealants: 300 g/L.
      j. Sealant Primers for Nonporous Substrates: 250 g/L.
      k. Sealant Primers for Porous Substrates: 775 g/L.
B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as PVC sheet.
C. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.
D. Water-Based, Fabric-Backed Membrane Adhesive: Roofing system manufacturer's standard water-based, cold-applied adhesive formulated for compatibility and use with fabric-backed membrane roofing.
E. Metal Termination Bars: Manufacturer's standard, predrilled stainless steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.
F. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roofing components to substrate, and acceptable to roofing system manufacturer.
G. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.4 SUBSTRATE BOARDS

A. Substrate Board: UL 790, reinforced gypsum panel with moisture resistant core and coated glass mat facers.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. Georgia-Pacific Gypsum LLC.
      b. Substitutions: See Section 012500 – Substitution Procedures.

2. Thickness: 1/2 inch (19 mm).

2.5 Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening substrate board to roof deck.

2.6 ROOF INSULATION

A. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.
B. Tapered Insulation: Provide factory-tapered insulation boards.
   1. Material: Match roof insulation.
   2. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.7 INSULATION ACCESSORIES

A. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation and cover boards to substrate, and acceptable to roofing system manufacturer.
B. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:
   1. Modified asphaltic, asbestos-free, cold-applied adhesive.
   2. Bead-applied, low-rise, one-component or multicomponent urethane adhesive.
   3. Full-spread, spray-applied, low-rise, two-component urethane adhesive.
   4. Adhesives and sealants shall comply with the following limits for VOC content:
      a. Plastic Foam Adhesives: 50 g/L.
      b. Gypsum Board and Panel Adhesives: 50 g/L.
      c. Multipurpose Construction Adhesives: 70 g/L.
      d. Fiberglass Adhesives: 80 g/L.
      e. Contact Adhesives: 80 g/L.
      f. PVC Welding Compounds: 510 g/L.
      g. Other Adhesives: 250 g/L.
      h. Single-Ply Roof Membrane Sealants: 450 g/L.
      i. Nonmembrane Roof Sealants: 300 g/L.
      j. Sealant Primers for Nonporous Substrates: 250 g/L.
      k. Sealant Primers for Porous Substrates: 775 g/L.

2.8 VAPOR BARRIER

A. Vapor Barrier: ASTM D5147, Air and Vapor Barrier used for direct application over metal decks.
   1. Basis of design: Carlisle Syntec Systems, VapAir Seal MD
      a. Substitutions: See Section 012500 – Substitution Procedures.
      b. Tensile Strength: 250 psi, ASTM D412
      c. Elongation: 330%, ASTM D1970
      d. Air Permeance: 0.000 L*m^2@75 Pa, ASTM E2178
      e. Peel Adhesion: 14lb, ASTM D903
      f. Water Vapor Permeability: .03 perms, ASTM E96 D1970

g. Puncture Resistance: 54.6 lb, ASTM D5602

2.9 WALKWAYS

A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway rolls,
   1. Products: Subject to compliance, provide Plastex; Crossgrip PVC two layer walkway matting.
      a. Height: 9/16 inch (14 mm) thick.
      b. Width: 36 inches (914 mm).
      c. Color: Light grey.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
   1. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Section 053100 "Steel Decking."

3.2 PREPARATION

A. Perform fastener-pullout tests according to roof system manufacturer's written instructions.
   1. Submit test result within 24 hours of performing tests.
      a. Include manufacturer's requirements for any revision to previously submitted fastener patterns required to achieve specified wind uplift requirements.

3.3 ROOFING INSTALLATION, GENERAL

A. Install roofing system according to roofing system manufacturer's written instructions, FM Approvals' RoofNav assembly requirements, and FM Global Property Loss Prevention Data Sheet 1-29.
B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.4 INSULATION INSTALLATION

A. Coordinate installing roofing system components, so insulation is not exposed to precipitation or left exposed at end of workday.
B. Comply with roofing system and insulation manufacturer's written instructions for installing roof insulation.
C. Installation Over Metal Decking:
   1. Install base layer of insulation with joints staggered not less than 24 inches (610 mm) in adjacent rows, end joints staggered not less than 12 inches (305 mm) in adjacent rows, and with long joints continuous at right angle to flutes of decking.
      a. Locate end joints over crests of decking.

b. Where installing composite and noncomposite insulation in two or more layers, install noncomposite board insulation for bottom layer and intermediate layers, if applicable, and install composite board insulation for top layer.
c. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
d. Make joints between adjacent insulation boards not more than 1/4 inch (6 mm) in width.
e. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches (610 mm).
    1) Trim insulation so that water flow is unrestricted.
f. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
g. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
h. Loosely lay base layer of insulation units over substrate.
i. Mechanically attach base layer of insulation using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to metal decks.
    1) Fasten insulation according to requirements in FM Approvals' RoofNav for specified Windstorm Resistance Classification.
    2) Fasten insulation to resist specified uplift pressure at corners, perimeter, and field of roof.

2. Install upper layers of insulation and tapered insulation with joints of each layer offset not less than 12 inches (305 mm) from previous layer of insulation.
    a. Staggered end joints within each layer not less than 24 inches (610 mm) in adjacent rows.
    b. Install with long joints continuous and with end joints staggered not less than 12 inches (305 mm) in adjacent rows.
    c. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
    d. Make joints between adjacent insulation boards not more than 1/4 inch (6 mm) in width.
    e. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches (610 mm).
    f. Trim insulation so that water flow is unrestricted.
    g. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
    h. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
    i. Loosely lay each layer of insulation units over substrate.
    j. Adhere each layer of insulation to substrate using adhesive according to FM Approvals' RoofNav assembly requirements and FM Global Property Loss Prevention Data Sheet 1-29 for specified Windstorm Resistance Classification, as follows:

        1) Set each layer of insulation in a solid mopping of hot roofing asphalt, applied within plus or minus 25 deg F (14 deg C) of equi-viscous temperature.
        2) Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.

3) Set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

3.5 MECHANICALLY FASTENED ROOFING INSTALLATION

A. Mechanically fasten roof membrane over area to receive roofing according to roofing system manufacturer's written instructions.
B. Unroll roof membrane and allow to relax before installing.
C. For in-splice attachment, install roof membrane with long dimension perpendicular to steel roof deck flutes.
D. Start installation of roofing in presence of roofing system manufacturer's technical personnel.
E. Accurately align roof membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
F. Mechanically fasten or adhere roof membrane securely at terminations, penetrations, and perimeter of roofing.
G. Apply roof membrane with side laps shingled with slope of roof deck where possible.
H. In-Seam Attachment: Secure one edge of PVC sheet using fastening plates or metal battens centered within seam, and mechanically fasten PVC sheet to roof deck.
I. Seams: Clean seam areas, overlap roof membrane, and hot-air weld side and end laps of roof membrane and sheet flashings to ensure a watertight seam installation.
    1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roof membrane and sheet flashings.
    2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
    3. Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.
J. Spread sealant bed over deck-drain flange at roof drains, and securely seal roof membrane in place with clamping ring.

3.6 BASE FLASHING INSTALLATION

A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to roofing system manufacturer's written instructions.
B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.
C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.7 WALKWAY INSTALLATION

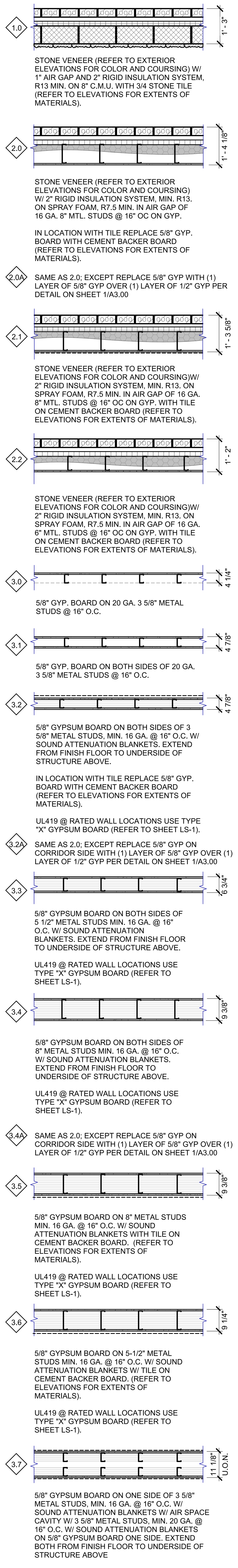
A. Flexible Walkways: Install walkway products according to manufacturer's written instructions.
    1. Install flexible walkways at the following locations:
        a. Locations indicated on Drawings.

3.8 PROTECTING AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing system for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 075419

WALL TYPES
1/2" = 1'-0"



1.0 — STONE VENEER (REFER TO EXTERIOR ELEVATIONS FOR COLOR AND COURSING) W/ 1" AIR GAP AND 2" RIGID INSULATION SYSTEM, R13 MIN. ON 8" C.M.U. WITH 3/4 STONE TILE (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS). (1' - 3")

2.0 — STONE VENEER (REFER TO EXTERIOR ELEVATIONS FOR COLOR AND COURSING) W/ 2" RIGID INSULATION SYSTEM, MIN. R13. ON SPRAY FOAM, R7.5 MIN. IN AIR GAP OF 16 GA. 8" MTL. STUDS @ 16" OC ON GYP. (1' - 4 1/8")

IN LOCATION WITH TILE REPLACE 5/8" GYP. BOARD WITH CEMENT BACKER BOARD (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS).

2.0A — SAME AS 2.0; EXCEPT REPLACE 5/8" GYP WITH (1) LAYER OF 5/8" GYP OVER (1) LAYER OF 1/2" GYP PER DETAIL ON SHEET 1/A3.00

2.1 — STONE VENEER (REFER TO EXTERIOR ELEVATIONS FOR COLOR AND COURSING)W/ 2" RIGID INSULATION SYSTEM, MIN. R13. ON SPRAY FOAM, R7.5 MIN. IN AIR GAP OF 16 GA. 8" MTL. STUDS @ 16" OC ON GYP. WITH TILE ON CEMENT BACKER BOARD (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS). (1' - 3 5/8")

2.2 — STONE VENEER (REFER TO EXTERIOR ELEVATIONS FOR COLOR AND COURSING)W/ 2" RIGID INSULATION SYSTEM, MIN. R13. ON SPRAY FOAM, R7.5 MIN. IN AIR GAP OF 16 GA. 6" MTL. STUDS @ 16" OC ON GYP. WITH TILE ON CEMENT BACKER BOARD (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS). (1' - 2")

3.0 — 5/8" GYP. BOARD ON 20 GA. 3 5/8" METAL STUDS @ 16" O.C. (4 1/4")

3.1 — 5/8" GYP. BOARD ON BOTH SIDES OF 20 GA. 3 5/8" METAL STUDS @ 16" O.C. (4 7/8")

3.2 — 5/8" GYPSUM BOARD ON BOTH SIDES OF 3 5/8" METAL STUDS, MIN. 16 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS. EXTEND FROM FINISH FLOOR TO UNDERSIDE OF STRUCTURE ABOVE. (4 7/8")

IN LOCATION WITH TILE REPLACE 5/8" GYP. BOARD WITH CEMENT BACKER BOARD (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS).

UL419 @ RATED WALL LOCATIONS USE TYPE "X" GYPSUM BOARD (REFER TO SHEET LS-1).

3.2A — SAME AS 2.0; EXCEPT REPLACE 5/8" GYP ON CORRIDOR SIDE WITH (1) LAYER OF 5/8" GYP OVER (1) LAYER OF 1/2" GYP PER DETAIL ON SHEET 1/A3.00

3.3 — 5/8" GYPSUM BOARD ON BOTH SIDES OF 5 1/2" METAL STUDS MIN. 16 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS. EXTEND FROM FINISH FLOOR TO UNDERSIDE OF STRUCTURE ABOVE. (6 3/4")

UL419 @ RATED WALL LOCATIONS USE TYPE "X" GYPSUM BOARD (REFER TO SHEET LS-1).

3.4 — 5/8" GYPSUM BOARD ON BOTH SIDES OF 8" METAL STUDS MIN. 16 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS. EXTEND FROM FINISH FLOOR TO UNDERSIDE OF STRUCTURE ABOVE. (9 3/8")

UL419 @ RATED WALL LOCATIONS USE TYPE "X" GYPSUM BOARD (REFER TO SHEET LS-1).

3.4A — SAME AS 2.0; EXCEPT REPLACE 5/8" GYP ON CORRIDOR SIDE WITH (1) LAYER OF 5/8" GYP OVER (1) LAYER OF 1/2" GYP PER DETAIL ON SHEET 1/A3.00

3.5 — 5/8" GYPSUM BOARD ON 8" METAL STUDS MIN. 16 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS WITH TILE ON CEMENT BACKER BOARD. (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS). (9 3/8")

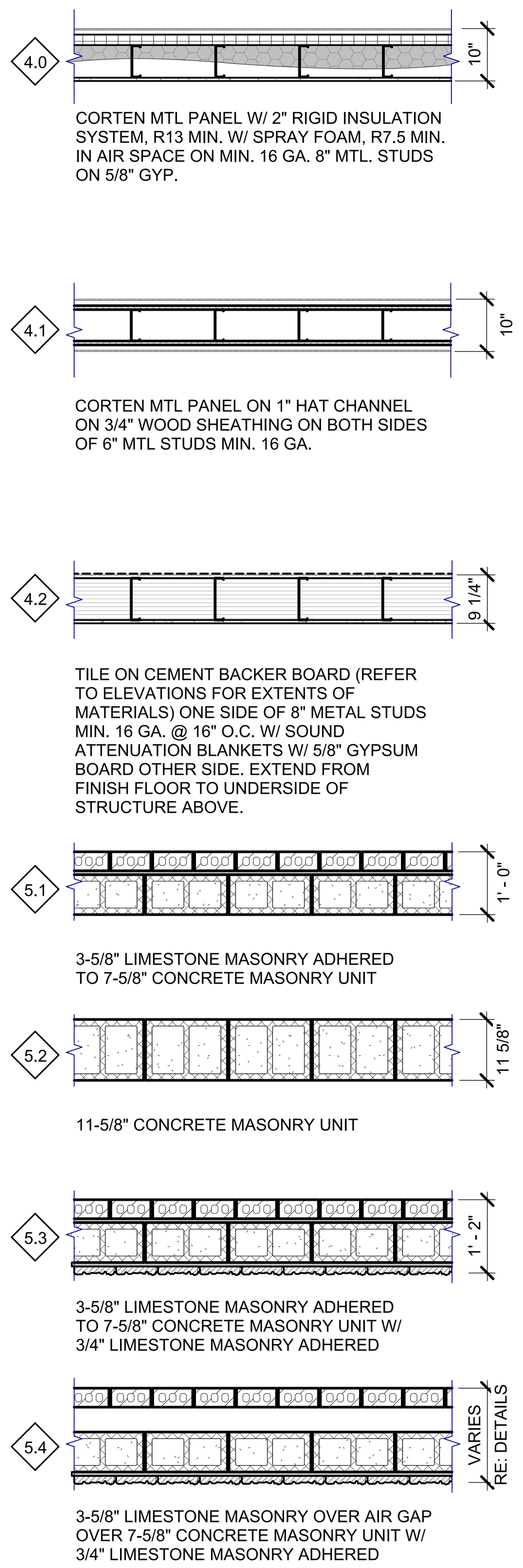
UL419 @ RATED WALL LOCATIONS USE TYPE "X" GYPSUM BOARD (REFER TO SHEET LS-1).

3.6 — 5/8" GYPSUM BOARD ON 5-1/2" METAL STUDS MIN. 16 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS W/ TILE ON CEMENT BACKER BOARD. (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS). (9 1/4")

UL419 @ RATED WALL LOCATIONS USE TYPE "X" GYPSUM BOARD (REFER TO SHEET LS-1).

3.7 — 5/8" GYPSUM BOARD ON ONE SIDE OF 3 5/8" METAL STUDS, MIN. 16 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS W/ AIR SPACE CAVITY W/ 3 5/8" METAL STUDS, MIN. 20 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS ON 5/8" GYPSUM BOARD ONE SIDE. EXTEND BOTH FROM FINISH FLOOR TO UNDERSIDE OF STRUCTURE ABOVE (11 1/8" U.O.N.)

IN LOCATION WITH TILE REPLACE 5/8" GYP. BOARD WITH CEMENT BACKER BOARD (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS).



4.0 — CORTEN MTL PANEL W/ 2" RIGID INSULATION SYSTEM, R13 MIN. W/ SPRAY FOAM, R7.5 MIN. IN AIR SPACE ON MIN. 16 GA. 8" MTL. STUDS ON 5/8" GYP. (10")

4.1 — CORTEN MTL PANEL ON 1" HAT CHANNEL ON 3/4" WOOD SHEATHING ON BOTH SIDES OF 6" MTL STUDS MIN. 16 GA. (10")

4.2 — TILE ON CEMENT BACKER BOARD (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS) ONE SIDE OF 8" METAL STUDS MIN. 16 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS W/ 5/8" GYPSUM BOARD OTHER SIDE. EXTEND FROM FINISH FLOOR TO UNDERSIDE OF STRUCTURE ABOVE. (9 1/4")

5.1 — 3-5/8" LIMESTONE MASONRY ADHERED TO 7-5/8" CONCRETE MASONRY UNIT (1' - 0")

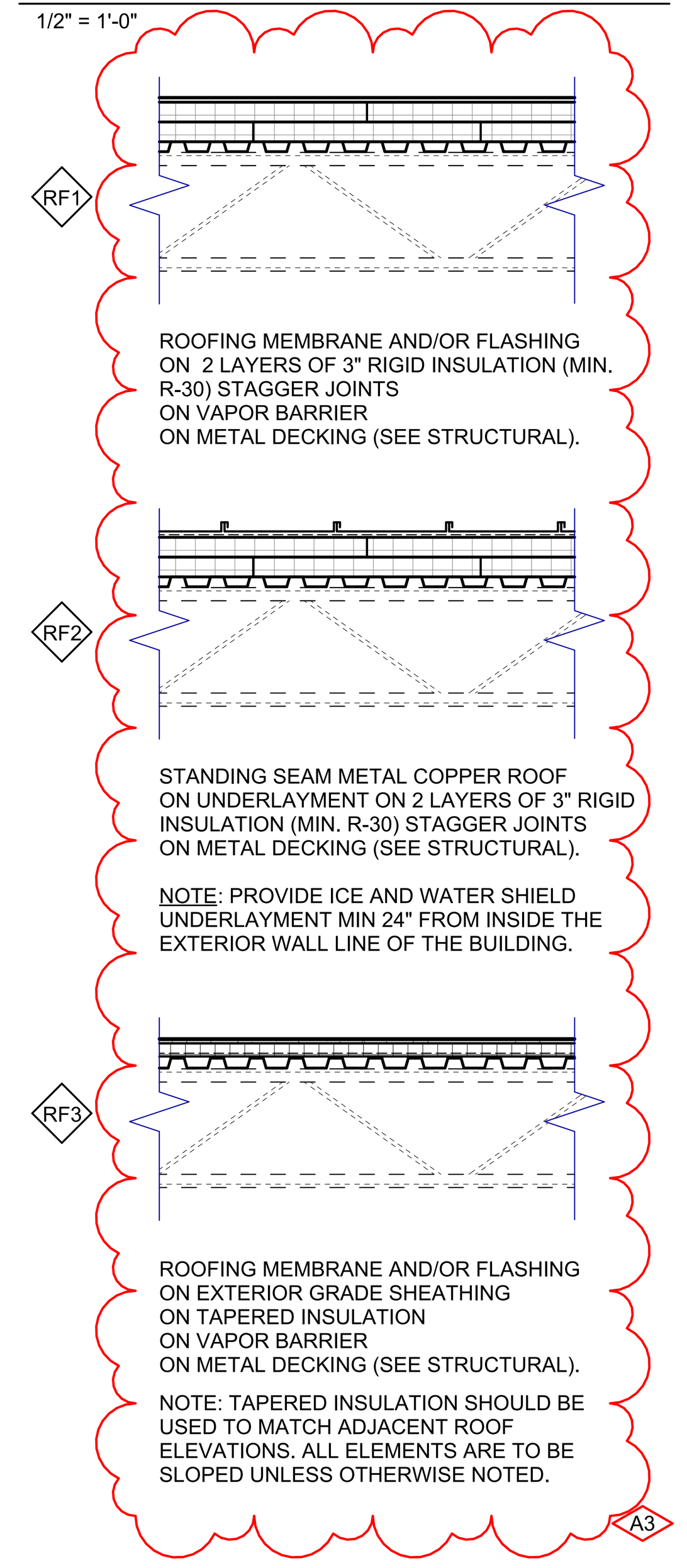
5.2 — 11-5/8" CONCRETE MASONRY UNIT (11 5/8")

5.3 — 3-5/8" LIMESTONE MASONRY ADHERED TO 7-5/8" CONCRETE MASONRY UNIT W/ 3/4" LIMESTONE MASONRY ADHERED (1' - 2")

5.4 — 3-5/8" LIMESTONE MASONRY OVER AIR GAP OVER 7-5/8" CONCRETE MASONRY UNIT W/ 3/4" LIMESTONE MASONRY ADHERED (VARIES RE: DETAILS)

WIDTH OF AIR GAP TO ALLOW FOR ALIGNMENT OF WING WALL MASONRY TO ADJACENT MASONRY EXTERIOR WALL

ROOF TYPES
1/2" = 1'-0"



RF1 — ROOFING MEMBRANE AND/OR FLASHING ON 2 LAYERS OF 3" RIGID INSULATION (MIN. R-30) STAGGER JOINTS ON VAPOR BARRIER ON METAL DECKING (SEE STRUCTURAL).

RF2 — STANDING SEAM METAL COPPER ROOF ON UNDERLAYMENT ON 2 LAYERS OF 3" RIGID INSULATION (MIN. R-30) STAGGER JOINTS ON METAL DECKING (SEE STRUCTURAL).

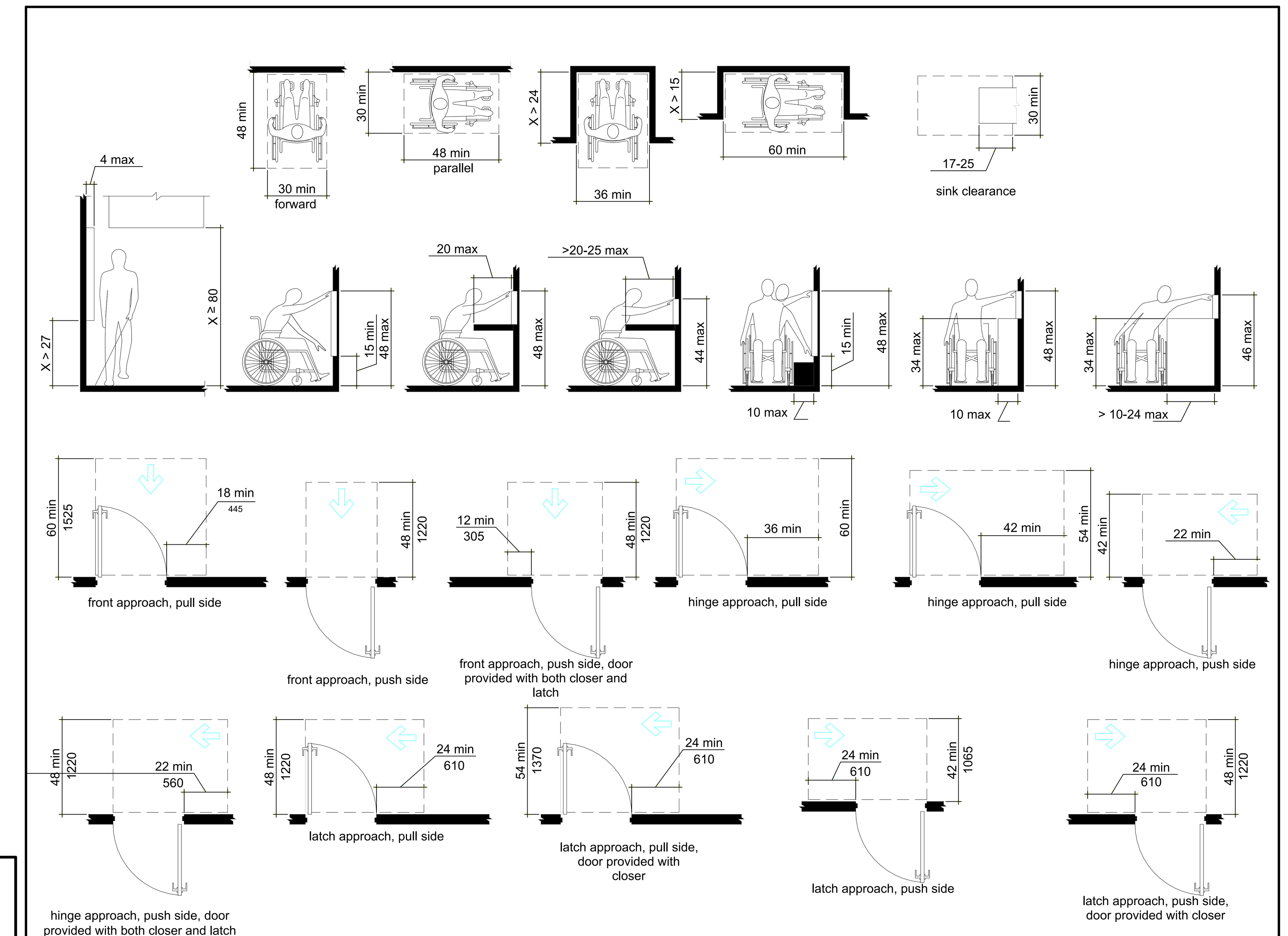
NOTE: PROVIDE ICE AND WATER SHIELD UNDERLAYMENT MIN 24" FROM INSIDE THE EXTERIOR WALL LINE OF THE BUILDING.

RF3 — ROOFING MEMBRANE AND/OR FLASHING ON EXTERIOR GRADE SHEATHING ON TAPERED INSULATION ON VAPOR BARRIER ON METAL DECKING (SEE STRUCTURAL).

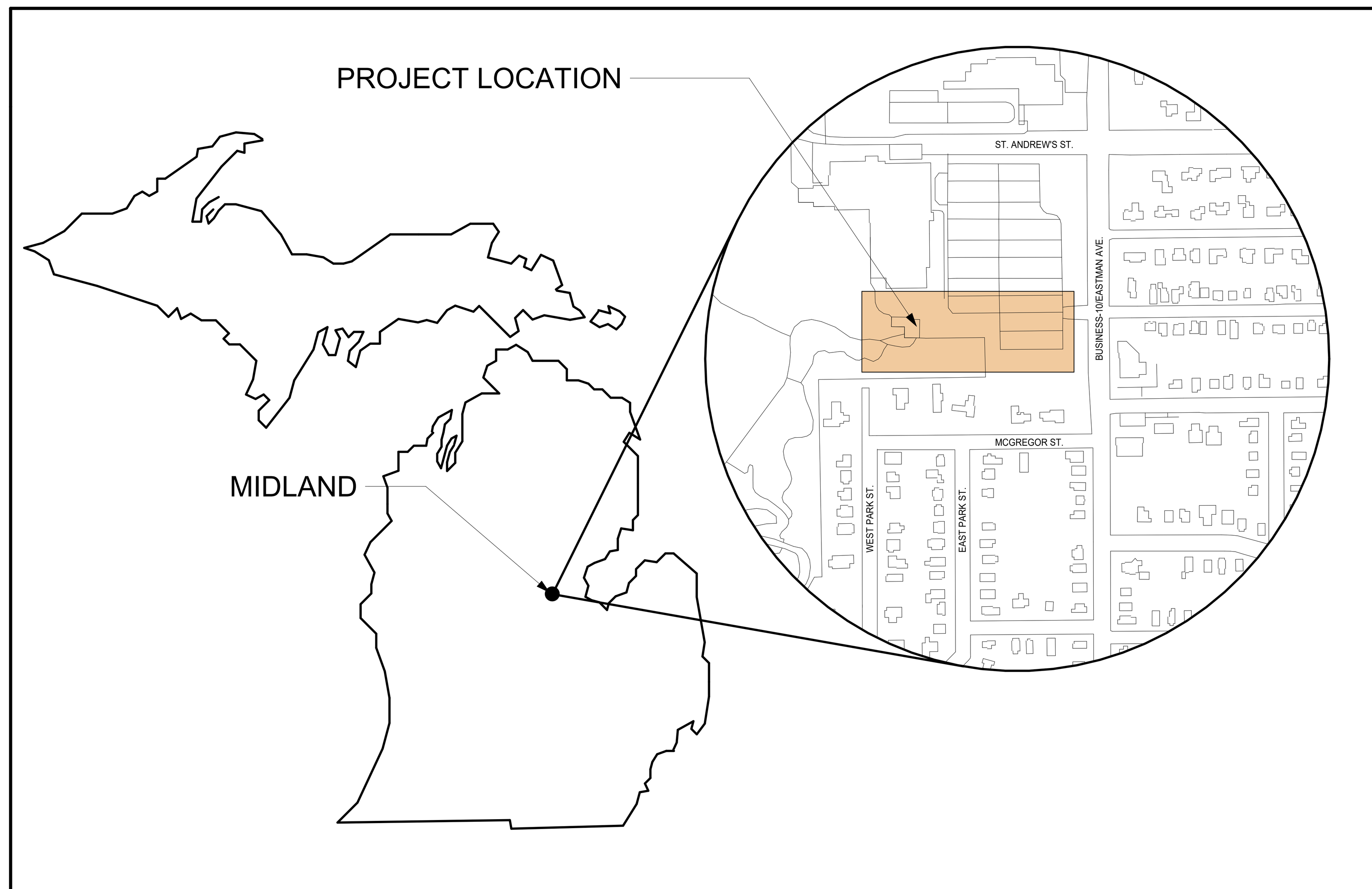
NOTE: TAPERED INSULATION SHOULD BE USED TO MATCH ADJACENT ROOF ELEVATIONS. ALL ELEMENTS ARE TO BE SLOPED UNLESS OTHERWISE NOTED.

A3

ACCESSIBILITY STANDARDS PER ANSI 117.1



PROJECT LOCATION



LOCATION NUMBER GRID

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

ARCHITECTURAL MATERIAL LEGEND

- BRICK MASONRY
- CAST STONE
- STONE
- STUD WALL
- BATT INSULATION
- SOUND ATTENUATION BLANKETS/SPRAYED INSUL.
- RIGID INSULATION & RIGID INSULATION BOARD
- DIMENSIONAL LUMBER
- FINISH LUMBER
- STEEL
- SUSPENDED CEILING TILE
- TILE ON MORTAR BED
- GROUT
- GYPSUM BOARD (CEILING/ELEVATION)
- GYPSUM BOARD (SECTION)
- BACKER BOARD
- PARTICLE BOARD & PLYWOOD
- SOLID SURFACE
- CONCRETE
- CONCRETE WALK (PLAN)
- GRAVEL OR STONE AS INDICATED
- COMPACTED SAND FILL
- MORTAR NET
- QUARTZ

LEGEND OF ABBREVIATIONS

ABBV.	ABBREVIATIONS	F.R.P./FRP	FIBER REINFORCED POLYESTER	RAD.	RADIUS		
A.F.F.	ABOVE FINISHED FLOOR			REFRIG.	REFRIDGERATOR		
AC.	ACOUSTIC(AL)	GA.	GAUGE	REINF.	REINFORCE(MENT)		
A.C.P.	ACOUSTIC CEILING PANEL	G. TILE/GT	GLASS TILE	REQ'D	REQUIRED		
A.C.T.	ACOUSTIC CEILING TILE	GL.	GLAZING	R.W.B./RWB	RESILIENT WALL BASE		
A.R.P.	ACRYLIC RESIN PANEL	G.B.	GRAB BAR	R.S.F./RSF	RESILIENT SHEET FLOORING		
ADD'L	ADDITIONAL	GYP. BD.	GYPSUM BOARD	R.T.F./RTF	RESILIENT TILE FLOORING		
ADJ.	ADJUSTABLE			R.O.	ROUGH OPENING		
ALT.	ALTERNATE	HWD.	HARDWOOD				
ALUM.	ALUMINUM	H.P.	HIGH POINT	S.A.T.	SUSPENDED ACOUSTICAL TILE		
ANOD.	ANODIZED	H.M./HM	HOLLOW METAL	SF.GL.	SAFETY GLAZING		
APPROX.	APPROXIMITE	HORIZ.	HORIZONTAL	S.N.DR.	SANITARY NAPKIN DISPENSER		
ARCH.	ARCHITECTURAL	H.B.	HOSE BIB	S.N.DL.	SANITARY NAPKIN DISPOSAL		
				S.O.	SASH OPENING		
BKR. BD.	BACKER BOARD	I.DIA./I.D.	INSIDE DIAMETER	SCHED.	SCHEDULE		
BR'G	BEARING	I.F.BL.	INSIDE FACE OF BLOCK	SNT.	SEALANT		
BIT.	BITUMINOUS	I.F.BR.	INSIDE FACE OF BRICK	SHT.	SHEET		
BLK('G)	BLOCKING	INSUL.	INSULATE(D)	SIM.	SIMILAR		
BD.	BOARD	INT.	INTERIOR	SM.F.	SMOOTH FACE		
BTM.	BOTTOM			SPEC.	SPECIFICATION(S)		
B.O.C.	BOTTOM OF CURB	JT.	JOINT	SP.F.	SPLIT FACE		
B.O.F.	BOTTOM OF FOOTING			SQ.FT.	SQUARE FEET		
BRK.	BRICK	LAM./LAM	LAMINATE(D)	S.STL./SS	STAINLESS STEEL		
BLDG.	BUILDING	LAV.	LAVATORY (SINK)	STD.	STANDARD		
		L.S.F./LSF	LINOLEUM SHEET FLOORING	STO./STOR.	STORAGE		
CPT.	CARPET	L.T.F./LTF	LINOLEUM TILE FLOORING	STRT.	STRAIGHT		
C.B.	CATCH BASIN	L.P.	LOW POINT	STRUC.	STRUCTURE		
CLG.	CEILING	L.V.T./LVT	LUXURY VINYL TILE	SUSP.	SUSPENDED		
C.M.TILE/CMT	CERAMIC MOSAIC TILE						
CT	CERAMIC TILE	MFR.	MANUFACTURE(R)	T.B.	TACKBOARD		
CHBD.	CHALKBOARD	M.B.	MARKERBOARD	TEL.	TELEPHONE		
CLR.	CLEAR	MAS.	MASONRY	T.V.	TELEVISION		
COL.	COLUMN	M.O.	MASONRY OPENING	TEMP.	TEMPER(ED)		
CONC.	CONCRETE	MAT'L	MATERIAL	THK.	THICK		
C.M.U./CMU	CONCRETE MASONRY UNIT	MAX.	MAXIMUM	T.P.D.	TOILET PAPER DISPENSER		
CONT.	CONTINUOUS	MECH.	MECHANICAL	T.O.M.	TOP OF MASONRY		
C.J.	CONTINUOUS JOINT	MTL.	METAL	TYP.	TYPICAL		
C'TOP.	COUNTER TOP	M.P./MP	METAL PANEL	U.N.O.	UNLESS NOTED OTHERWISE		
COVR'G	COVERING	M.D.O.T.	MICHIGAN DEPARTMENT OF TRANPORTATION	UR.	URINAL		
DEPT.	DEPARTMENT						
DIA.	DIAMETER	MIN.	MINIMUM	V.B.	VAPOR BARRIER		
D.O.	DOOR OPENING	MIR.	MIRROR	V.I.F.	VERIFY IN FIELD		
DBL.	DOUBLE	MISC.	MISCELLANEOUS	VERT.	VERTICAL		
DN.	DOWN			V.T.R.	VENT THROUGH ROOF		
D.T.	DRAIN TILE	NOM.	NOMINAL	VNL./VNL	VINYL		
DWG.	DRAWING	N.I.C.	NOT IN CONTRACT	V.C.T./VCT	VINYL COMPOSITION TILE		
D.F.	DRINKING FOUNTAIN	N.T.S.	NOT TO SCALE				
		NO.	NUMBER	W.C.	WATER CLOSET		
EA.	EACH			W.MAT/WOM	WALK-OFF MAT		
E.W.	EACH WAY	O.C.	ON CENTER	W.W.F.	WELDED WIRE FABRIC		
ELEC.	ELECTRIC(AL)	OPP.	OPPOSITE (HAND)	W.W.M.	WELDED WIRE MESH		
E.H.D.	ELECTRIC HAND DRYER	O.S.B.	ORIENTED STRAND BOARD	W.O.	WINDOW OPENING		
E.W.C.	ELECTRIC WATER COOLER	O.DIA./O.D.	OUTSIDE DIAMETER	w/	WITH		
EL.	ELEVATION	O.F.BL.	OUTSIDE FACE OF BLOCK	WD.	WOOD		
ELEV.	ELEVATOR	O.F.BR.	OUTSIDE FACE OF BRICK				
EQ.	EQUAL	O.F.C.	OUTSIDE FACE OF CONCRETE				
E.F.	EXHAUST FAN	O.F.M.	OUTSIDE FACE OF MASONRY				
EXIST./(E)	EXISTING	O.F.S.	OUTSIDE FACE OF STUDS				
EXP.	EXPOSED						
EXT.	EXTERIOR	PT./P	PAINT(ED)				
		PR.	PAIR				
FT.	FEET	P.T.D.	PAPER TOWEL DISPENSER				
F.F.	FINISHED FACE	PART. BD.	PARTICLE BOARD				
FIN.	FINISHED	PTN.	PARTITION				
F.O.	FINISHED OPENING	PLAS.	PLASTER				
F.E.	FIRE EXTINGUISHER	P.LAM./PL	PLASTIC LAMINATE				
F.E.C.	FIRE EXTINGUISHER CABINET	PLYWD.	PLYWOOD				
F.R.	FIRE RATED	P.O.N.C.	POINT OF NEW CONNECTION				
F.RT.	FIRE RETARDANT	P.TILE/PT	PORCELAIN TILE				
F.R.L./FRL	FIBER REINFORCED LAMINATE	PWR.	POWER				
FIXT.	FIXTURE	P.CONC.	PRECAST CONCRETE				
F.S.F./FSF	FLOCKED SHEET FLOORING	P.C./PC	POLISHED CONCRETE				
F.T.F./FTF	FLOCKED TILE FLOORING						
FLR.	FLOOR	Q.TILE/QT	QUARRY TILE				
F.D.	FLOOR DRAIN	QTZ./QTZ	QUARTZ				
FTG.	FOOTING						

ARCHITECTURAL SYMBOL LEGEND

ROOM IDENTIFIER:
ROOM NAME
A100A — OPTIONAL LETTER; ROOM NUMBER; GRADE CLUSTER; UNIT LETTER

DOOR IDENTIFIER:
A100.1 — DOOR NUMBER; ROOM NUMBER; GRADE CLUSTER; UNIT LETTER

KEYED NOTES:
- 2 — MATERIAL KEYNOTE (HEXAGON w/ NUMBER)
- A — PLUMBING OR EQUIPMENT (HEXAGON w/ LETTER)
- 1 — PLAN KEYNOTE (SQUARE w/ NUMBER)
- A — SITE PLAN KEYNOTE (SQUARE w/ LETTER)
- R1 — ROOF PLAN KEYNOTE (SQUARE w/ "R" AND NUMBER)
- 1 — PLAN DEMOLITION KEYNOTE (TRIANGLE w/ NUMBER)
- A — SITE DEMOLITION KEYNOTE (TRIANGLE w/ LETTER)
- TEXT-X — FLOORING/FINISH KEYNOTE (RECTANGLE w/ TEXT)

DEMOLITION IDENTIFIER:
ITEM TO BE REMOVED

ALTERATION CLOUD:
INDICATES A CHANGE TO THE CONSTRUCTION DOCUMENTS VIA ADDENDUM, BULLETIN, AND CHANGE ORDER

MATCH LINE:
MATCH LINE

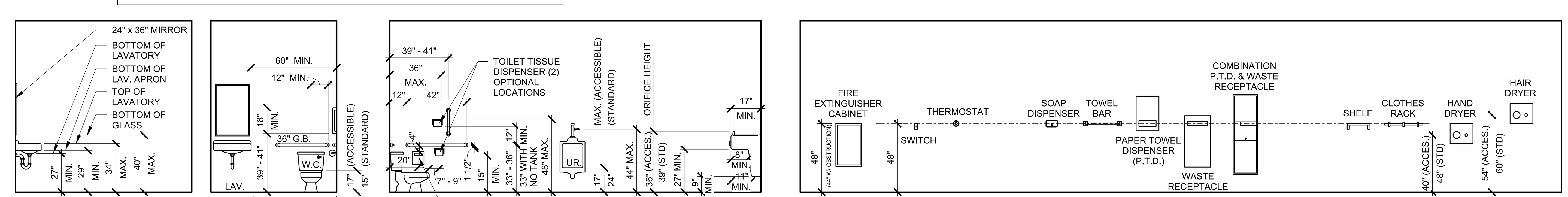
REFERENCE BUBBLES:
- 1 / A1.01 — LOCATION NUMBER; SHEET NUMBER
- 7 / A7.07 — DETAIL MARK
- 5 / A5.05 — BUILDING SECTION
- 2 / A2.02 — ENLARGED DETAIL OR PLAN

ADDITIONAL IDENTIFIERS:
- F2 — DOOR FRAME TYPE (OVAL w/ "F" AND NUMBER)
- D2 — DOOR TYPE (OVAL w/ "D" AND NUMBER)
- W2 — WINDOW TYPE (OVAL w/ "W" AND NUMBER)
- 2.1 — WALL TYPE (DIAMOND w/ NUMBER)
- # — ADDENDUM IDENTIFIER (RHOMBUS w/ NUMBER)
- # — BULLETIN IDENTIFIER (RHOMBUS w/ NUMBER)
- # — CHANGE ORDER IDENTIFIER (RHOMBUS w/ NUMBER)

INTERIOR ELEVATION IDENTIFIER:
8/A8.08 — SHEET NUMBER; LOCATION NUMBER

ALTERATION IDENTIFIER:
ALTERNATE NO. 2

NOTE:
FIXTURES DEPICTED WITHIN THIS SCHEDULE ARE SCHEMATIC ONLY. FOR EXACT FIXTURE TYPES AND QUANTITIES, REFER TO MECHANICAL DRAWINGS AS WELL AS THE SPECIFICATION MANUAL.



MNT HEIGHT DETAIL
3/A0.01 SCALE: 1/4" = 1'-0"

A3	ADDENDUM NO.3		02/03/25
A2	ADDENDUM NO.2		01/31/25
	ISSUED FOR BID		01/09/25
B1	BULLETIN NO.1		12/26/24
NO.	REVISION		DATE

WTAARCH.COM
WTA ARCHITECTS
100 S Jefferson Ave, Suite 601
Saginaw, Michigan 48607
989 752 8107

PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS WELCOME CENTER BID PACK NO.3
MIDLAND, MICHIGAN

SHEET TITLE
PROJECT INFORMATION

PROJECT NUMBER 2022022
SHEET NUMBER A0.01
PROJECT DATE JANUARY 09, 2025
CHECKED BY JMJ

Autho2/3/2025 1:18:11 PM C:\Users\jjohnston\Documents\Central-2022022-Dow Gardens Welcome Center-Building_V24_jjohnstonYUJQB.rvt

ROOF GENERAL NOTES:

1. PROVIDE ROOFING MANUFACTURER'S STANDARD FLASHING DETAILS FOR ALL ROOF PENETRATIONS. COORDINATE WITH ALL AFFECTED TRADES.
2. REFER TO MECHANICAL AND PLUMBING PLANS FOR LOCATIONS AND EXTENT OF EXPOSED PIPING ON ROOF.
3. REFER TO PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR MOUNTED EQUIPMENT AND PENETRATIONS. ALL EQUIPMENT PENETRATIONS MAY NOT BE SHOWN ON THE ROOF PLAN.
4. MAINTAIN ALL ROOF DRAINS CLEAN AND FREE-FLOWING DURING AND UPON COMPLETION OF CONSTRUCTION.

R# ROOF PLAN KEYNOTES

1 ROOF DRAIN. RE: MECHANICAL.
2 COPPER ROOF EDGE.
3 LINE OF EXTERIOR WALL BELOW.
4 ROOF DRAIN WITH PIPING DOWN THROUGH EXTERIOR WALL CAVITY TO OVERFLOW NOZZLE. SEE EXTERIOR ELEVATIONS.
5 FORMED BAFFLE SYSTEM SLOPED PER ARROW INDICATION ON PLAN.
6 4" COPPER SCUPPER.

ROOF LEGEND:

RF# — INDICATES ROOF TYPE, SEE ROOF TYPES, SHEET A0.01
INDICATES ROOF SLOPE
RD — INDICATES ROOF DRAIN (RD)
INDICATES TAPERED ROOF INSULATION
INDICATES ROOF SCUPPER

NO.	REVISION	DATE
A3	ADDENDUM NO.3	02/03/25
A1	ADDENDUM NO.1	01/24/25
	ISSUED FOR BID	01/09/25
B1	BULLETIN NO.1	12/26/24

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100 S Jefferson Ave, Suite 601
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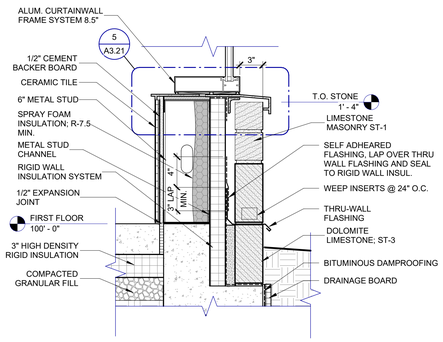
989 752 8107

PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS WELCOME CENTER
BID PACK NO.3
MIDLAND, MICHIGAN

SHEET TITLE
ROOF PLAN

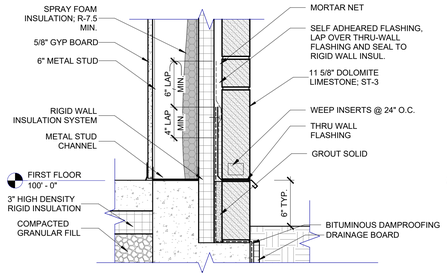
PROJECT NUMBER 2022022
PROJECT DATE JANUARY 09, 2025
CHECKED BY JMJ
SHEET NUMBER A6.01

NORTH
ROOF PLAN
SCALE: 1/8" = 1'-0"



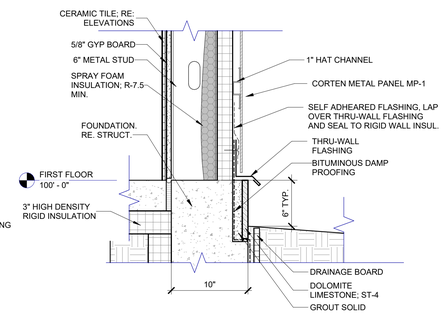
1 A7.10 WALL BASE W/ METAL SILL

SCALE: 1 1/2" = 1'-0"
REFERENCE: 2/ A7.01



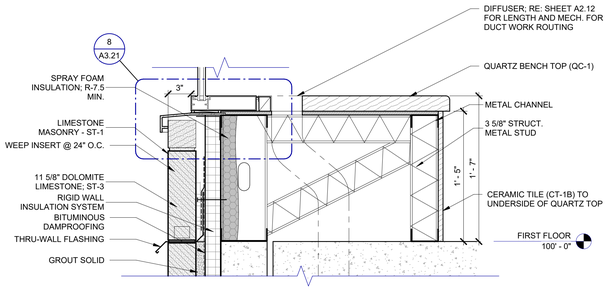
2 A7.10 TYP. WALL BASE @ MASONRY

SCALE: 1 1/2" = 1'-0"
REFERENCE: 2/ A5.11



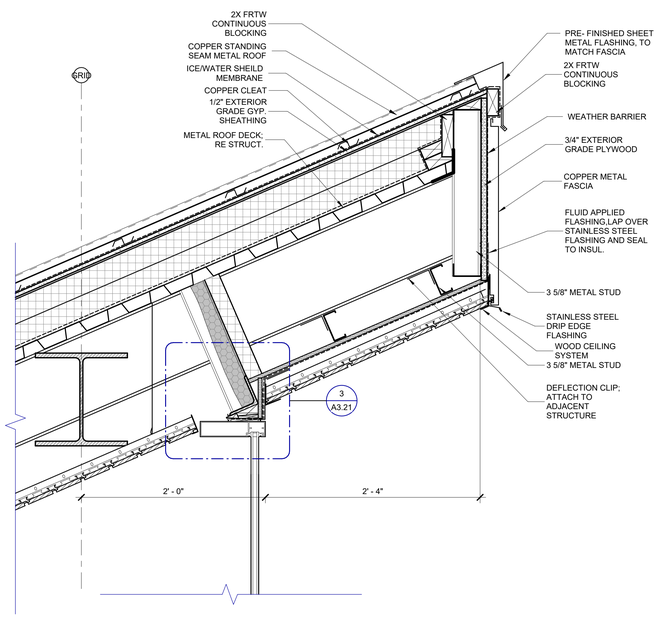
3 A7.10 TYP. WALL BASE @ MTL PANEL

SCALE: 1 1/2" = 1'-0"



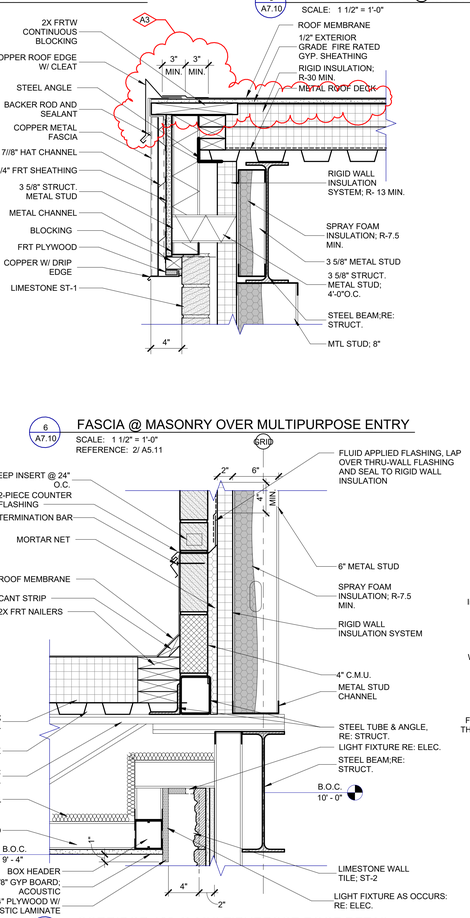
4 A7.10 WALL BASE W/ INTERIOR BENCH

SCALE: 1 1/2" = 1'-0"
REFERENCE: 3/ A7.02



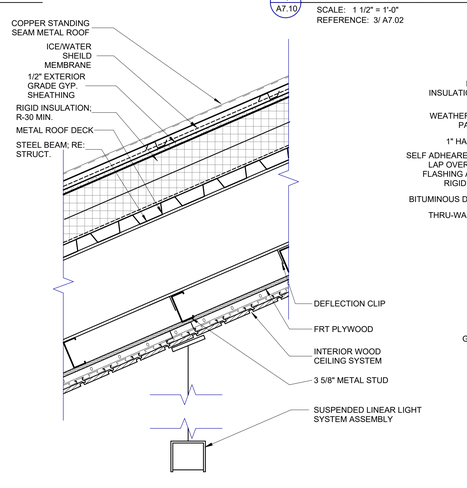
5 A7.10 CLERESTORY WINDOW HEAD AND HIGH ROOF

SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A6.01



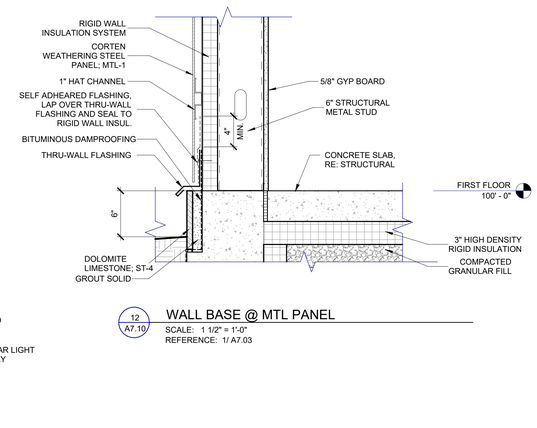
6 A7.10 FASCIA @ MASONRY OVER MULTIPURPOSE ENTRY

SCALE: 1 1/2" = 1'-0"
REFERENCE: 2/ A5.11



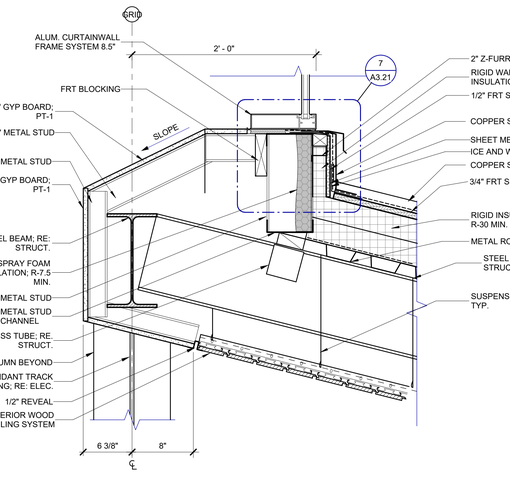
7 A7.10 HIGH ROOF SUSPENDED LINEAR LIGHT

SCALE: 1 1/2" = 1'-0"



12 A7.10 WALL BASE @ MTL PANEL

SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A7.03



9 A7.10 CLERESTORY WINDOW SILL AND HIGH ROOF

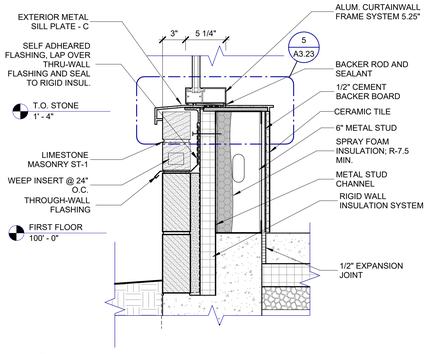
SCALE: 1 1/2" = 1'-0"
REFERENCE: 4/ A7.04

8 A7.10 CORRIDOR 103 @ MULTIPURPOSE ROOF DETAIL

SCALE: 1 1/2" = 1'-0"
REFERENCE: 2/ A7.04

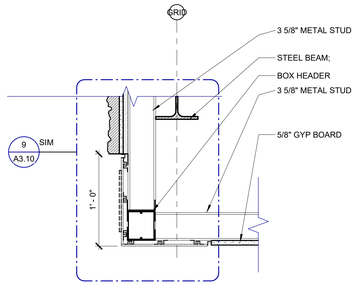
11 A7.10 WALL BASE @ MTL PANEL W/ INTERIOR BENCH

SCALE: 1 1/2" = 1'-0"
REFERENCE: 2/ A7.02



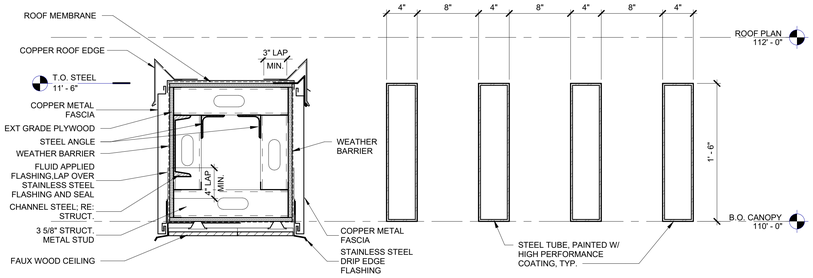
13 A7.10 WALL BASE W/ METAL SILL

SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A7.01



10 A7.10 CORRIDOR TO MULTI PURPOSE SPACE

SCALE: 1 1/2" = 1'-0"
REFERENCE: 2/ A7.04



14 A7.10 SECTION @ STEEL SUNSHADE DETAIL

SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A6.01

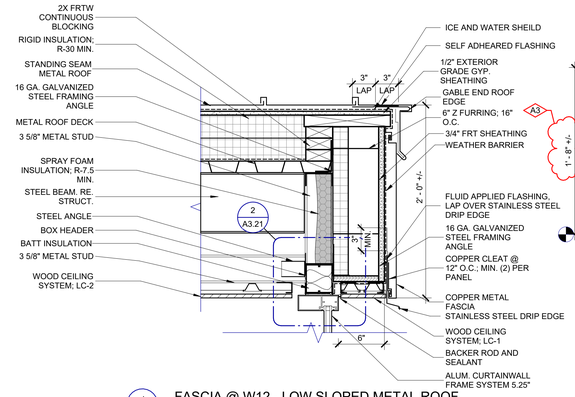
NO.	REVISION	DATE
A3	ADDENDUM NO.3	02/03/25
A2	ADDENDUM NO.2	01/31/25
A1	ADDENDUM NO.1	01/24/25
	ISSUED FOR BID	01/09/25

WTAARCH.COM
WTA ARCHITECTS
100 S Jefferson Ave, Suite 601
Saginaw, Michigan 48607
989 752 8107

PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS WELCOME CENTER
BID PACK NO.3
MIDLAND, MICHIGAN

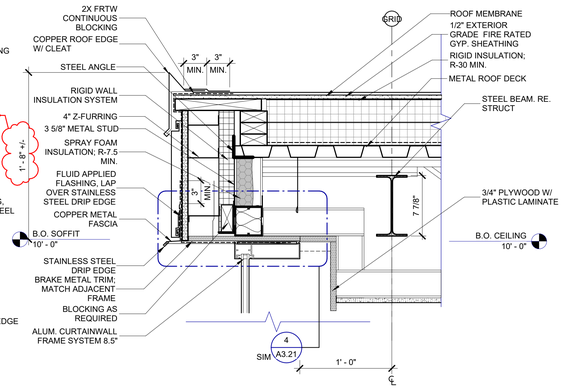
SHEET TITLE
SECTION DETAILS

PROJECT NUMBER 2022022
PROJECT DATE JANUARY 09, 2025
CHECKED BY JMJ
SHEET NUMBER A7.10



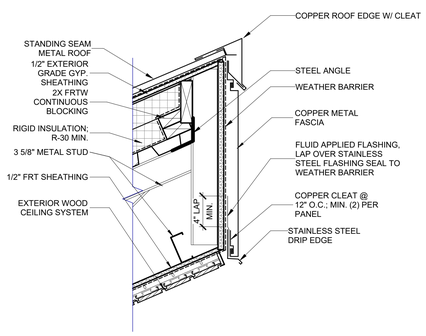
1 A7.11 FASCIA @ W12 - LOW SLOPED METAL ROOF

SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A7.05



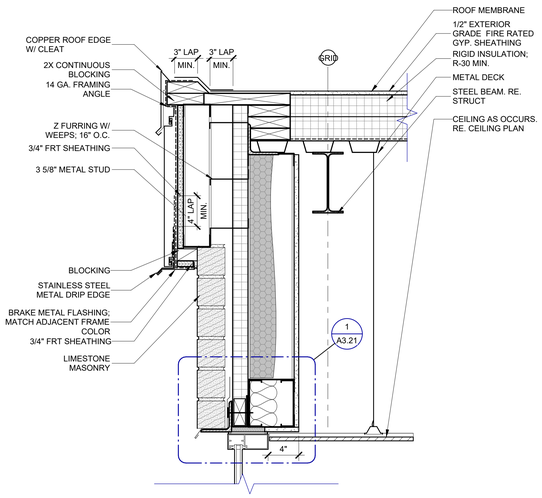
2 A7.11 FASCIA @ WINDOW HEAD

SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A6.01



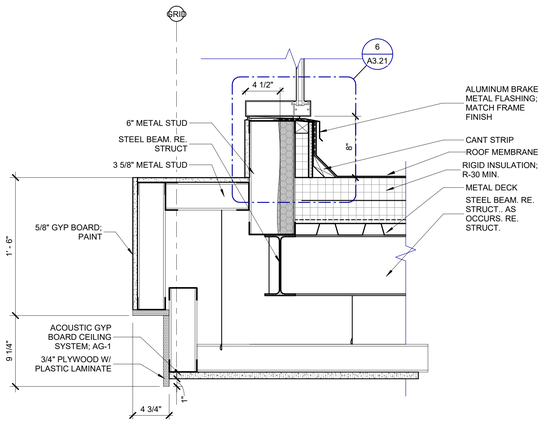
3 A7.11 HIGH ROOF FASCIA DETAIL

SCALE: 1 1/2" = 1'-0"



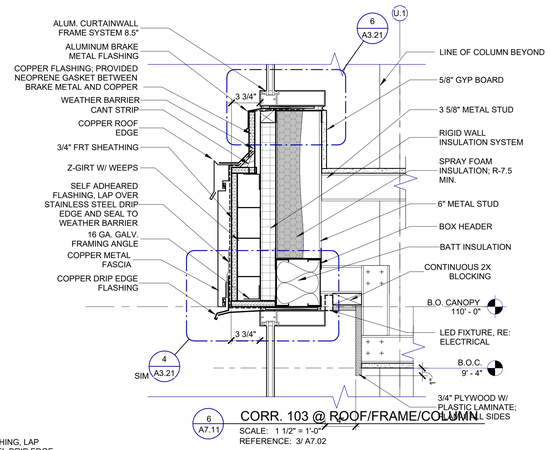
4 A7.11 FASCIA @ MASONRY

SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A6.01



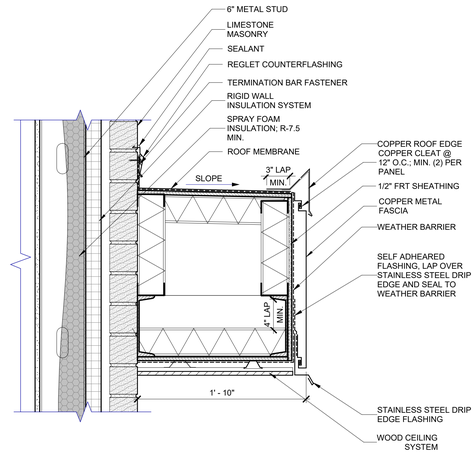
5 A7.11 CORR. 103 ROOF TO WINDOW SILL

SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A7.05



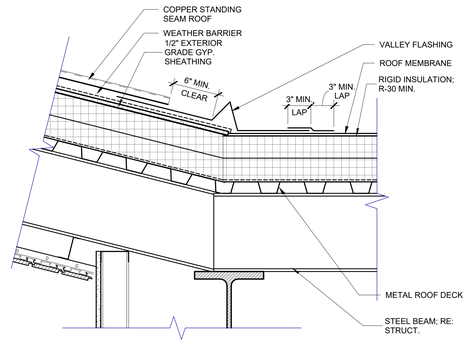
6 A7.11 CORR. 103 @ ROOF/FRAME/COLUMN

SCALE: 1 1/2" = 1'-0"
REFERENCE: 3/ A7.02



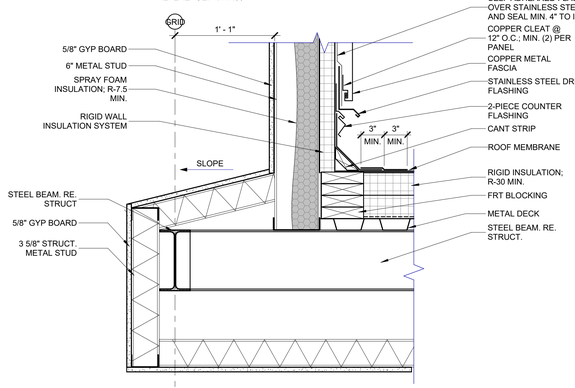
7 A7.11 ROOF LAP OVER STONE

SCALE: 1 1/2" = 1'-0"



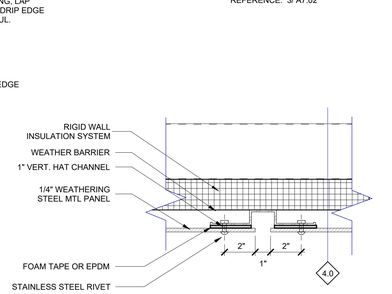
16 A7.11 VALLEY TRANSITION DETAIL

SCALE: 1 1/2" = 1'-0"
REFERENCE: 3/ A7.04



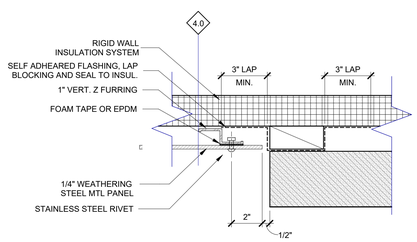
8 A7.11 COOR. 103 ROOF TO METAL PANEL

SCALE: 1 1/2" = 1'-0"



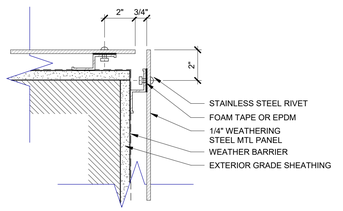
9 A7.11 METAL PANEL VERTICAL JOINT DETAIL

SCALE: 3" = 1'-0"



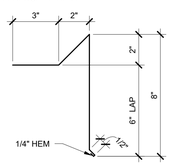
10 A7.11 METAL PANEL BUTT JOINT DETAIL

SCALE: 3" = 1'-0"
REFERENCE: 5/ A2.41



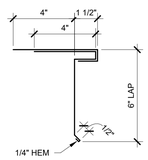
11 A7.11 TYP. METAL PANEL OUTSIDE CORNER DETAIL

SCALE: 3" = 1'-0"
REFERENCE: 7/ A2.41



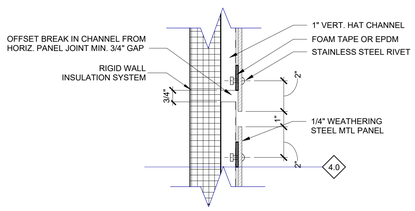
17 A7.11 COPPER ROOF EDGE PROFILE

SCALE: 3" = 1'-0"



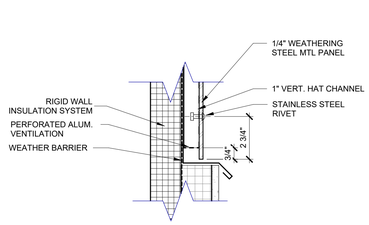
19 A7.11 COPPER GABLE END EDGE PROFILE

SCALE: 3" = 1'-0"



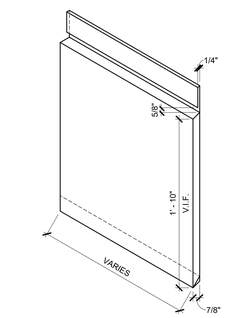
13 A7.11 METAL PANEL HORIZONTAL DETAIL

SCALE: 3" = 1'-0"



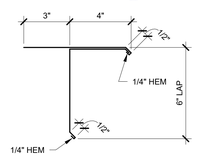
14 A7.11 METAL PANEL VERTICAL @ BASE DETAIL

SCALE: 3" = 1'-0"



15 A7.11 COPPER FASCIA PROFILE

SCALE: 1 1/2" = 1'-0"



18 A7.11 COPPER SCUPPER ROOF EDGE PROFILE

SCALE: 3" = 1'-0"

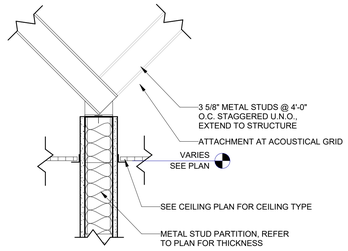
NO.	REVISION	DATE
A3	ADDENDUM NO.3	02/03/25
A2	ADDENDUM NO.2	01/31/25
	ISSUED FOR BID	01/09/25
B1	BULLETIN NO.1	12/26/24

WTAARCH.COM
WTA ARCHITECTS
100 S Jefferson Ave, Suite 601
Saginaw, Michigan 48607
989 752 8107

PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS WELCOME CENTER
BID PACK NO.3
MIDLAND, MICHIGAN

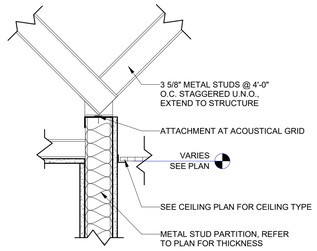
SHEET TITLE
SECTION DETAILS

PROJECT NUMBER 2022022
PROJECT DATE JANUARY 09, 2025
CHECKED BY JMJ
SHEET NUMBER A7.11



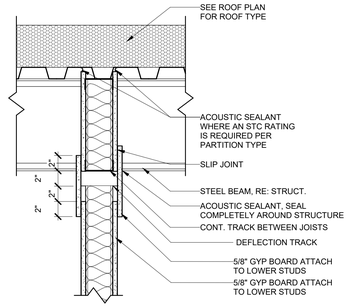
1 A7.12 TYP T.O.W. @ S.A.G. CEILING

SCALE: 1 1/2" = 1'-0"



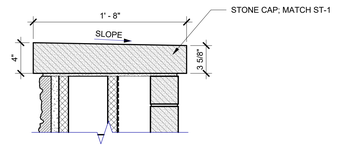
2 A7.12 TYP T.O.W. ABOVE FINISHED CEILING

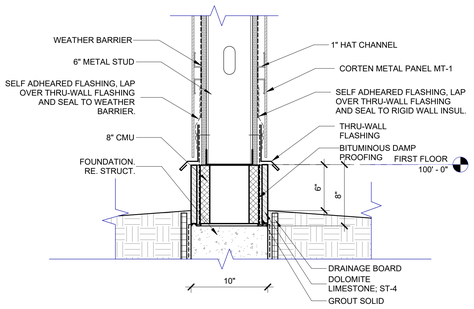
SCALE: 1 1/2" = 1'-0"



3 A7.12 TYP T.O.W. PERP. TO STRUCTURE

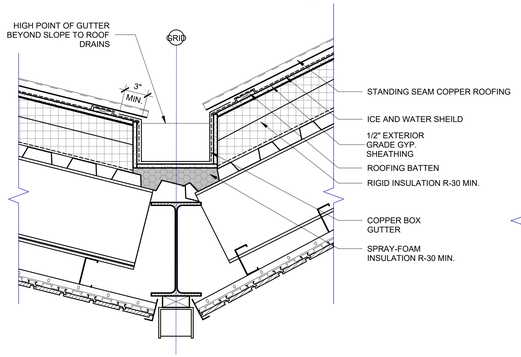
SCALE: 1 1/2" = 1'-0"





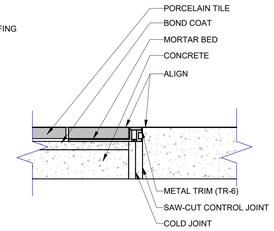
4 A7.12 TYP. WALL BASE @ MTL PANEL WING WALL

SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A2.12



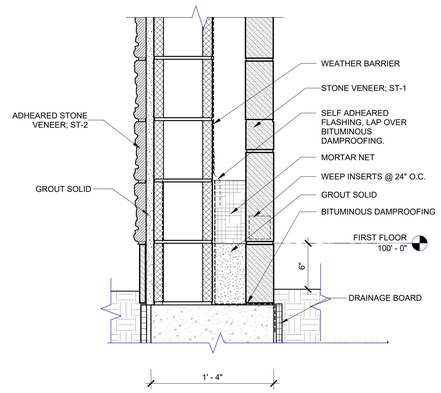
5 A7.12 HIGH ROOF VALLEY DETAIL

SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A6.01



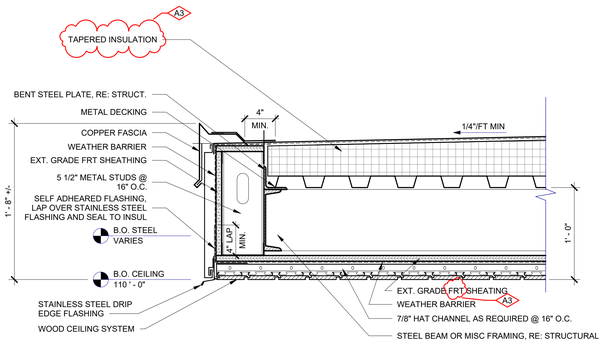
6 A7.12 CONSTRUCTION JOINT

SCALE: 12" = 1'-0"
REFERENCE: 1/ A2.21



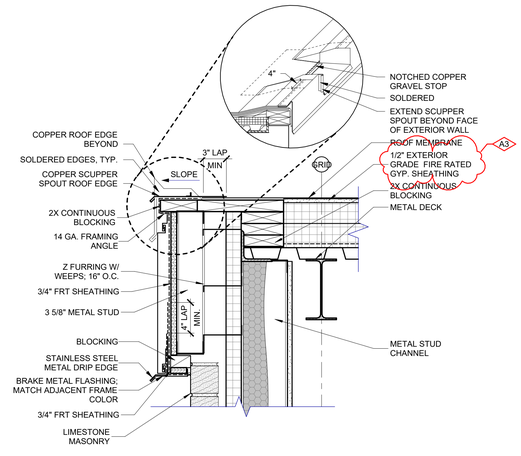
7 A7.12 TYP. WALL BASE @ MASONRY WING WALL

SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A2.12



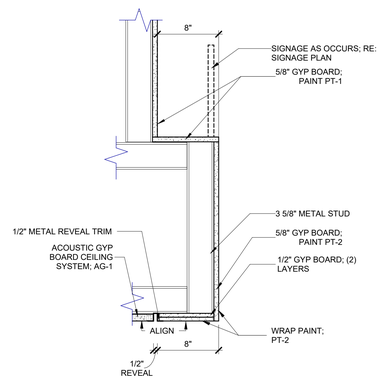
8 A7.12 CANOPY EDGE DETAIL

SCALE: 1 1/2" = 1'-0"
REFERENCE: 3/ A5.10



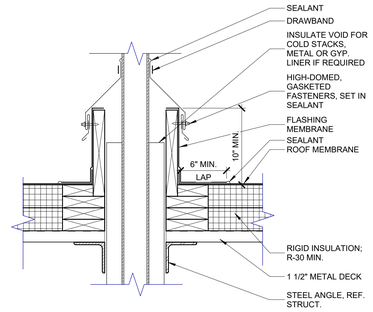
9 A7.12 TYP. SCUPPER FASCIA DETAIL

SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A6.01



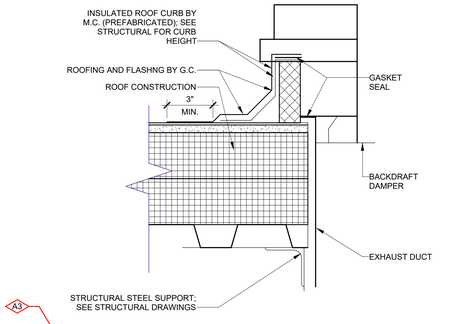
10 A7.12 BULKHEAD DETAIL

SCALE: 1 1/2" = 1'-0"



11 A7.12 A3 ROOF - STACK FLASHING

SCALE: 1 1/2" = 1'-0"



A3
12 A7.12 ROOF PENETRATION DETAIL

SCALE: 3" = 1'-0"

NO.	REVISION	DATE
A3	ADDENDUM NO.3	02/03/25
A2	ADDENDUM NO.2	01/31/25
	ISSUED FOR BID	01/09/25
B1	BULLETIN NO.1	12/26/24

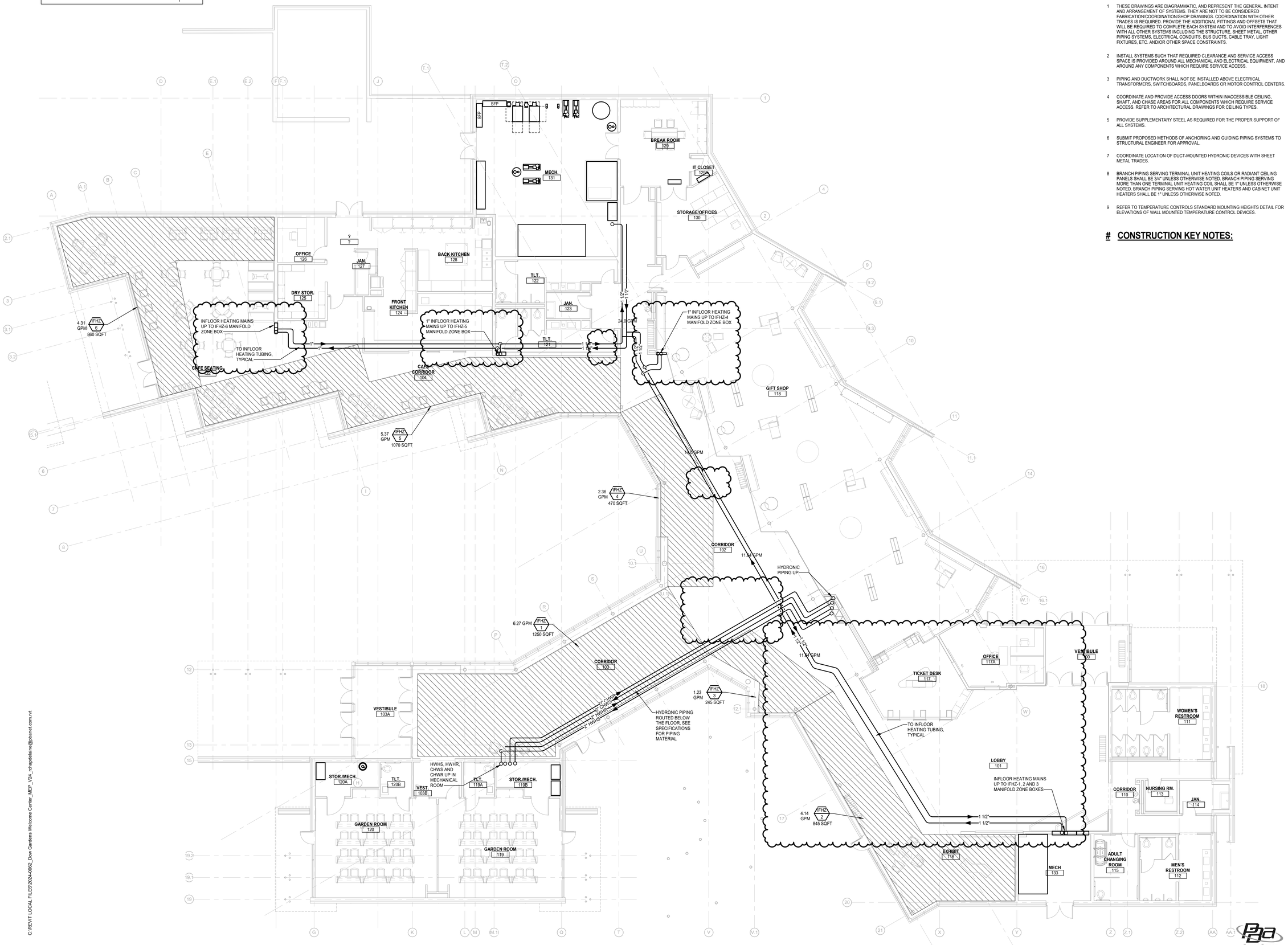
WTAARCH.COM
WTA ARCHITECTS
100 S Jefferson Ave, Suite 601
Saginaw, Michigan 48607
989 752 8107

PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS WELCOME CENTER
BID PACK NO.3
MIDLAND, MICHIGAN

SHEET TITLE
SECTION DETAILS

PROJECT NUMBER 2022022
PROJECT DATE JANUARY 09, 2025
CHECKED BY JMJ
SHEET NUMBER A7.12

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"



LOWER LEVEL HVAC PIPING PLAN
SCALE: 1/8" = 1'-0"

HVAC PIPING GENERAL NOTES:

1 THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.

2 INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.

3 PIPING AND DUCTWORK SHALL NOT BE INSTALLED ABOVE ELECTRICAL TRANSFORMERS, SWITCHBOARDS, PANELBOARDS OR MOTOR CONTROL CENTERS.

4 COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.

5 PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.

6 SUBMIT PROPOSED METHODS OF ANCHORING AND GUIDING PIPING SYSTEMS TO STRUCTURAL ENGINEER FOR APPROVAL.

7 COORDINATE LOCATION OF DUCT-MOUNTED HYDRONIC DEVICES WITH SHEET METAL TRADES.

8 BRANCH PIPING SERVING TERMINAL UNIT HEATING COILS OR RADIANT CEILING PANELS SHALL BE 3/4" UNLESS OTHERWISE NOTED. BRANCH PIPING SERVING MORE THAN ONE TERMINAL UNIT HEATING COIL SHALL BE 1" UNLESS OTHERWISE NOTED. BRANCH PIPING SERVING HOT WATER UNIT HEATERS AND CABINET UNIT HEATERS SHALL BE 1" UNLESS OTHERWISE NOTED.

9 REFER TO TEMPERATURE CONTROLS STANDARD MOUNTING HEIGHTS DETAIL FOR ELEVATIONS OF WALL MOUNTED TEMPERATURE CONTROL DEVICES.

CONSTRUCTION KEY NOTES:

NO.	REVISION	DATE
	ADDENDUM NO. 3	02/03/2025
	ISSUED FOR BID	01/09/25
B1	BULLETIN NO. 1	12/26/24

WTAARCH.COM
WTA ARCHITECTS
100 S Jefferson Ave, Suite 601
Saginaw, Michigan 48607
989 752 8107

PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS WELCOME CENTER
BID PACK NO.3
MIDLAND, MICHIGAN

SHEET TITLE
UNDERGROUND HYDRONIC PIPING PLAN

PROJECT NUMBER	SHEET NUMBER
2022022	M3.00
PROJECT DATE: JANUARY 09, 2025	
CHECKED BY: WEK	

Peter Basso Associates
CONSULTING ENGINEERS
5145 Livernois, Suite 100
Troy, Michigan 48098-3276
Tel: 248-879-5666
www.PeterBassoAssociates.com
PBA Project No.: 2024.0062

COMBINATION BALANCE VALVE AND FLOW MEASURING DEVICE SCHEDULE

MANUFACTURER	VALVE SIZE	FLOW RANGE		DIFFERENTIAL PRESSURE READING AT PRESSURE TAPS		VALVE PERMANENT PRESSURE LOSS (VALVE FULL OPEN)		MODEL NUMBER	KEYED NOTES
		GPM		INCHES W.G.		FT. HEAD			
		MINIMUM	MAXIMUM	AT MINIMUM GPM	AT MAXIMUM GPM	AT MINIMUM GPM	AT MAXIMUM GPM		
FLOW DESIGN ACCUSETTER	1/2	0.4	0.9	22	109	0.7	3.8	UA	
	3/4	0.9	2.4	23	148	0.5	2.9	UA	
	3/4	2.2	3.4	26	62	0.5	1.2	UA	
	1	3.4	6.6	40	150	0.8	2.8	UA	
	1 1/4	5.6	12	23	105	0.2	1.1	UA	
	1 1/2	9.5	20	22	95	0.6	2.7	UA	
	2	20	44	21	99	0.2	1	UA	
	2 1/2	40	80	25	77	0.2	0.6	250L	
	3	60	130	14	64	0.1	0.5	300L	
	4	120	260	16	75	0.2	0.8	400L	
PRO HYDRONIC SPECIALTIES	3/4	0.3	2.5	7	147	0.1	1.3	CBV075UL	
	1	2.5	5.5	10	145	0.1	1.2	CBV100	
	1 1/4	5.5	9	10	145	0.1	1.2	CBV125	
	1 1/2	9	16.5	11	147	0.1	1.3	CBV150	
	2	16.5	34.5	10	146	0.1	1.3	CBV200	
	2 1/2	35	57	12.5	139	0.1	1.2	CBVF250L	
	3	57	100	5.2	149	0.1	1.3	CBVF300L	
	4	100	220	5.1	147	0.1	1.3	CBVF400L	
NEXUS	1/2	0.4	1.5	2.6	36	0.2	2.3	XB	
	3/4	1.5	3.4	5.1	26	0.3	1.7	XB	
	1	2.9	7	4.3	25	0.1	0.7	XB	
HCI	1/2	0.5	0.5	5.4	8.1	0.3	0.4	TB-B VEN-4	
	3/4	0.5	1.5	3.2	26.7	0.1	0.7	TB-B VEN-6	
	3/4	1.5	2	8.8	16.3	0.4	0.7	TB-B VEN-7.5	
	1	2	3.9	5.3	20.8	0.2	0.7	TB-C VEN-10	
	1	3.9	5.5	5	10	0.2	0.3	TB-C VEN-14.5	
	1 1/4	5.5	17	2.7	25.3	0.1	0.6	TB-D VEN-19	
	2	17	31.4	8.9	30.4	0.3	0.7	TB-F VEN-25	
	2 1/2	31	57	17	57.5	0.1	0.3	TB-G LOW B-1.234	
	3	57	100	24.2	74.3	0.2	0.4	TB-H LOW B-1.533	
	4	100	220	4.6	21.9	0.1	0.2	TB-I B-3.015	
GRISWOLD	3/4L	0.4	0.8	5	32	0.1	2.4	QS2 (CV 0.8)	
	3/4L	0.7	1.9	5	45	0.1	2.9	QS2 (CV 1.7)	
	3/4L	1.3	3.8	5.2	45	0.1	2.8	QS2 (CV 3.5)	
	3/4L	2.6	8.4	5.2	54	0.1	2.9	QS2 (CV 7.5)	
	1	1.3	3.6	5.2	40	0.1	2.8	QS3 (CV 3.3)	
	1	2.6	6.6	5.2	34	0.1	2.1	QS3 (CV 7.0)	
	1	4.1	12.3	5.2	47	0.1	2.8	QS3 (CV 11.35)	
	1 1/4	3.4	6.9	5	19	0.1	1.4	QS4 (CV 9.0)	
	1 1/4	6.8	20	5	43	0.1	2.4	QS4 (CV 19.8)	
	1 1/2	6.8	20	5	43	0.1	2.6	QS5 (CV 19.2)	
	1 1/2	12.3	23	5	17	0.1	1	QS5 (CV 36)	
	1 1/2	12.3	29	5	28	0.1	0.8	QS5 (CV 45)	
	2	20.3	40	5	19	0.1	1	QS6 (CV 61)	
	2	20.3	44	5	23	0.1	0.8	QS6 (CV 75)	
	2 1/2	39	68	20	61	0.1	0.6	3QFM (CV 135)	
	3	66	117	20	40	0.1	0.8	3QFN (CV 201)	
	4	116	230	20	78	0.1	0.7	3QFP (CV 417)	
VICTAULIC	1/2	0.1	0.5	12	240	0.1	1.5	S/786	
	3/4	0.5	2.5	12	240	0.3	1.4	S/786	
	1	2.5	5.5	12	240	0.7	1.4	S/786	
	1 1/4	5.5	9	12	240	0.5	1.4	S/786	
	1 1/2	9	16.5	12	240	0.8	1.4	S/786	
	2	16.5	34.5	12	240	0.5	1.3	S/786	
	2 1/2	35	57	12	240	0.2	1.3	S/788	
	3	57	100	12	240	0.7	1.3	S/788	
	4	100	220	12	240	0.5	1.4	S/788	

GENERAL NOTES:
1. SELECTED VALVE SHALL MATCH PIPE SIZE UNLESS REQUIRED FLOW RATE IS BELOW THE FLOW RANGE FOR THAT SIZE VALVE. PROVIDE REDUCERS AS REQUIRED IF VALVE SIZE IS LESS THAN PIPE SIZE.
2. VALVE FLOW RANGES AND PRESSURE DROPS BASED ON WATER.

PUMP SCHEDULE

UNIT IDENTIFICATION	SYSTEM SERVED	LOCATION	TYPE	COUPLING TYPE	WATERFLOW GPM	FLUID TYPE	COLDEST SYSTEM OPERATING TEMP. °F FOR PUMP SELECTION	PUMP HEAD FT.	OVERLOAD GPM	MINIMUM EFFICIENCY %	MOTOR			MODULATION/ CONTROL TYPE	ELECTRICAL				MODEL NUMBER	KEYED NOTES
											BHP	HP	RPM		VOLTS	PHASE	SCCR KA (NOTE 4)	OPTIONS/ ACCESSORIES		
CP-B1	BOILER	MECH ROOM	IN-LINE	CLOSE	60	WATER	70 °F	20	NON-OVERLOADING	69.8	0.402	3/4	1800	AUTO	208	3		---	SERIES E-90 2AAC	PRIMARY
CP-B2	BOILER	MECH ROOM	IN-LINE	CLOSE	60	WATER	70 °F	20	NON-OVERLOADING	69.8	0.402	3/4	1800	AUTO	208	3		---	SERIES E-90 2AAC	PRIMARY
CP-1	HWHS	MECH ROOM	CENTRIFUGAL	FLEXIBLE	75	WATER	70 °F	45	NON-OVERLOADING	71.1	1.2	2	1800	VFC	208	3		---	SERIES 1510 2AD-ES	PRIMARY
CP-2	HWHS	MECH ROOM	CENTRIFUGAL	FLEXIBLE	75	WATER	70 °F	45	NON-OVERLOADING	71.1	1.2	2	1800	VFC	208	3		---	SERIES 1510 2AD-ES	BACKUP
CP-3	CHWS	MECH ROOM	CENTRIFUGAL	FLEXIBLE	175	30% P	42 °F	115	NON-OVERLOADING	62.3	8.37	15	1800	AUTO	208	3		---	SERIES 1510 2GB	PRIMARY
CP-4	CHWS	MECH ROOM	CENTRIFUGAL	FLEXIBLE	175	30% P	42 °F	115	NON-OVERLOADING	62.3	8.37	15	1800	AUTO	208	3		---	SERIES 1510 2GB	BACKUP
CP-5	DWH-1 HWR	MECH ROOM	IN-LINE	CLOSE	5	WATER	40 °F	15	---	---	---	1/12	2650	AUTO	120	1		---	PL-30B	DWH-1
CP-6	DWH-1 HWR	MECH ROOM	IN-LINE	CLOSE	2	WATER	40 °F	5	---	---	---	1/12	2650	AUTO	120	1		---	PL-30B	DWH-1

GENERAL NOTES:
1. REFER TO SCHEDULES GENERAL NOTES.
2. MODEL NUMBER ARE BELL & GOSSETT UNLESS OTHERWISE NOTED.
3. FLUID TYPE: W = WATER, PGXX = PROPYLENE GLYCOL SOLUTION XX PERCENTAGE OF GLYCOL, EGXX = ETHYLENE GLYCOL SOLUTION XX PERCENTAGE OF GLYCOL.
4. CONTROLLER (E.G. VARIABLE FREQUENCY CONTROLLER, MOTOR STARTER) FOR SPECIFIED EQUIPMENT SHALL BE MANUFACTURED AND MARKED PER NEC WITH A MINIMUM SHORT CIRCUIT CURRENT RATING AS INDICATED.

SNOW MELT HEATING SCHEDULE

AREA I.D.	ZONE #	MANIFOLD #	RADIANT LOAD (MBH)	HEATED SURFACE AREA	FLOW (GPM)	TUBE DIA.	# CIRCUITS.	MAXIMUM CIRCUIT LENGTH FT	TUBE SPACING	SUPPLY WATER TEMP	REMARKS
ENTRANCE	SM-1A	1A	193.2.	1171 SQFT	14.0	3/4"	6	300	9"	120 DEG F	NOTE 3
ENTRANCE	SM-1B	1B	240.5	1458 SQFT	17.4	3/4"	7	300	9"	120 DEG F	NOTE 3
ENTRANCE	SM-1C	1C	38.4	233 SQFT	2.8	3/4"	1	300	9"	120 DEG F	NOTE 3
ENTRANCE	SM-2A	2A	53.6	325 SQFT	3.9	3/4"	2	300	9"	120 DEG F	NOTE 3
ENTRANCE	SM-2B	2B	24.4	148 SQFT	1.8	3/4"	1	300	9"	120 DEG F	NOTE 3
ENTRANCE	SM-3A	3A	51.5	312 SQFT	3.73	3/4"	2	300	9"	120 DEG F	NOTE 3
ENTRANCE	SM-3B	3B	161.2	977 SQFT	11.7	3/4"	5	300	9"	120 DEG F	NOTE 3
ENTRANCE	SM-3C	3C	22.9	139 SQFT	1.65	3/4"	1	300	9"	120 DEG F	NOTE 3

NOTES:
1. HEATING CAPACITIES BASED ON 6" CONCRETE SIDEWALK.
2. RADIANT LOAD IS THE BTU/H/SF CARRIED BY THE RADIANT SYSTEM, INCLUDING DOWNWARD LOSSES BUT EXCLUDING ANY SUPPLEMENTAL HEAT.
3. TUBING SHALL HAVE FACTORY MANUFACTURED OXYGEN BARRIER AND MEET ASTM F876 STANDARDS.
4. PROVIDE COMPLETE BRASS MANIFOLD ASSEMBLY WITH BLEEDER AND FILL CONNECTIONS, FULL PORT BALL VALVES ON THE RETURN INLETS AND CIRCUIT BALANCING VALVES ON THE SUPPLY DISTRIBUTION CIRCUIT SIDE BY THE SAME MANUFACTURER.
5. PROVIDE COMPLETE CONTROL SYSTEM TO SENSE SIDEWALK SURFACE TEMPERATURE, CIRCUIT SUPPLY AND RETURN WATER TEMPERATURE.
6. CIRCUIT LENGTH ARE ESTIMATED, CONTRACTOR TO PROVIDE LENGTH REQUIRED IN THE FIELD TO FIT CONDITIONS
7. CAPACITIES BASED ON 40% PROPYLENE GLYCOL SOLUTION

RADIANT IN-FLOOR HEATING SCHEDULE

AREA I.D.	ZONE #	RADIANT LOAD (MBH)	HEATED SURFACE AREA	FLOW (GPM)	TUBE DIA.	# CIRCUITS.	MAXIMUM CIRCUIT LENGTH FT	TUBE SPACING	EWT F	LWT F	CONTROL VALVE
IFHZ-1	RF-1	31.2	1250 SQFT	6.26	5/8"	5	300	12"	119	109	3-WAY
IFHZ-2	RF-2	20.6	845 SQFT	4.14	5/8"	3	300	12"	119	109	3-WAY
IFHZ-3	RF-3	6.1	245 SQFT	1.23	5/8"	1	300	12"	119	109	3-WAY
IFHZ-4	RF-4	11.7	470 SQFT	2.36	5/8"	2	300	12"	119	109	3-WAY
IFHZ-5	RF-5	26.7	1070 SQFT	5.37	5/8"	4	300	12"	119	109	3-WAY
IFHZ-6	RF-6	21.5	860 SQFT	4.31	5/8"	3	300	12"	119	109	3-WAY

NOTES:
1. HEATING CAPACITIES BASED ON 6" CONCRETE FLOOR.
2. RADIANT LOAD IS THE BTU/H/SF CARRIED BY THE RADIANT SYSTEM, INCLUDING DOWNWARD LOSSES BUT EXCLUDING ANY SUPPLEMENTAL HEAT.
3. TUBING SHALL HAVE FACTORY MANUFACTURED OXYGEN BARRIER AND MEET ASTM F876 STANDARDS.
4. PROVIDE COMPLETE BRASS MANIFOLD ASSEMBLY WITH BLEEDER AND FILL CONNECTIONS, FULL PORT BALL VALVES ON THE RETURN INLETS AND CIRCUIT BALANCING VALVES ON THE SUPPLY DISTRIBUTION CIRCUIT SIDE BY THE SAME MANUFACTURER.
5. PROVIDE COMPLETE CONTROL SYSTEM TO SENSE FLOORING SURFACE TEMPERATURE, CIRCUIT SUPPLY AND RETURN WATER TEMPERATURE.
6. PROVIDE AND INSTALL WHERE PRACTICAL A REVERSE RETURN TUBING LAYOUT DESIGN TO DISTRIBUTE HEAT MORE EVENLY THROUGHOUT THE THERMAL MASS.
7. CIRCUIT LENGTH ARE ESTIMATED, CONTRACTOR TO PROVIDE LENGTH REQUIRED IN THE FIELD TO FIT CONDITIONS
8. CAPACITIES BASE ON WATER
9. PROVIDE RADIANT FLOOR MIXING STATION WITH ALL CONTROLS, PUMPS, SENSORS AND PIPING LOCATED IN BOILER ROOM, PRO PAK MODEL 1.5RFMM
10. PROVIDE INFLOOR ZONE VALVE BOX WITH CONTROL VALVE FOR EACH INFLOOR ZONE

PUMP SCHEDULE

UNIT IDENTIFICATION	SYSTEM SERVED	LOCATION	TYPE	COUPLING TYPE	WATERFLOW GPM	FLUID TYPE	COLDEST SYSTEM OPERATING TEMP. °F FOR PUMP SELECTION	PUMP HEAD FT.	OVERLOAD GPM	MINIMUM EFFICIENCY %	MOTOR			MODULATION/ CONTROL TYPE	ELECTRICAL				MODEL NUMBER	KEYED NOTES
											BHP	HP	RPM		VOLTS	PHASE	SCCR KA (NOTE 4)	OPTIONS/ ACCESSORIES		
IFCP-1	IN FLOOR HEATING	BOILER ROOM	INLINE	CLOSE	24.0	WATER	70 °F	32	NON-OVERLOADING		--	2/5	3250	AUTO	120	1		--	PL-55	1

GENERAL NOTES:
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3. FLUID TYPE: W = WATER, PGXX = PROPYLENE GLYCOL SOLUTION XX PERCENTAGE OF GLYCOL, EGXX = ETHYLENE GLYCOL SOLUTION XX PERCENTAGE OF GLYCOL.
4. CONTROLLER (E.G. VARIABLE FREQUENCY CONTROLLER, MOTOR STARTER) FOR SPECIFIED EQUIPMENT SHALL BE MANUFACTURED AND MARKED PER NEC WITH A MINIMUM SHORT CIRCUIT CURRENT RATING AS INDICATED.

KEYED NOTES:
1. PUMP PART OF INFLOOR HEATING MIXING STATION SEE SCHEDULE ABOVE AND PIPING DIAGRAM

HOT WATER PROPELLER FAN UNIT HEATER SCHEDULE

UNIT IDENTIFICATION	CAPACITY MBH	AIRFLOW CFM	LEAVING AIR TEMPERATURE °F	FAN		WATER					CONTROL VALVE W.P.D. FT. HEAD	MODULATION/ CONTROL TYPE	ELECTRICAL				MODEL NUMBER	KEYED NOTES
				HP	RPM	FLOW GPM	FLUID TYPE	E.W.T. °F	L.W.T. °F	MAXIMUM W.P.D. FT. HEAD			VOLTS	PHASE	SCCR KA	OPTIONS/ ACCESSORIES		
UH-133	52.8	2900	77.0	1/4	1075	2.6	W	130	90	0.1	5	AUTO	120	1		B	RH-165	1
UH-131A	52.8	2900	77.0	1/4	1075	2.6	W	130	90	0.1	5	AUTO	120	1		B	RH-165	1
UH-131B	52.8	2900	77.0	1/4	1075	2.6	W	130	90	0.1	5	AUTO	120	1		B	RH-165	1

GENERAL NOTES:
1. REFER TO SCHEDULES GENERAL NOTES.
2. MODEL NUMBERS ARE STERLING UNLESS OTHERWISE NOTED.
3. FLUID TYPE: W = WATER, PGXX = PROPYLENE GLYCOL SOLUTION XX PERCENTAGE OF GLYCOL, EGXX = ETHYLENE GLYCOL SOLUTION XX PERCENTAGE OF GLYCOL.

KEYED NOTES:
1. PROVIDE UNIT HEATER WITH WALL MOUNTED VARIABLE SPEED CONTROLLER

Peter Basso Associates
CONSULTING ENGINEERS
5145 Livernois, Suite 100
Troy, Michigan 48098-3276
Tel: 248-879-5666
www.PeterBassoAssociates.com
PBA Project No.: 2024.0062

NO.	REVISION	DATE
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	ISSUED FOR BID	01/09/25
B1	BULLETIN NO. 1	12/26/24

WTAARCH.COM
WTA ARCHITECTS
100 S Jefferson Ave, Suite 601
Saginaw, Michigan 48607
989 752 8107

PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS WELCOME CENTER
BID PACK NO.3
MIDLAND, MICHIGAN

SHEET TITLE
MECHANICAL SCHEDULES

PROJECT NUMBER 2022022
PROJECT DATE JANUARY 09, 2025
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