City Addendem No. 1 – February 26th, 2021

Re: Plymouth Ice Center – Roof Replacement Project
Plymouth Ice (PIC)
3650 Plymouth Blvd.
Plymouth, MN 55446

To: All Plan Holders

From: Erik Halverson

This Addendum provides information and updated forms for the proposed project "Plymouth Ice Center – Roof Replacement Project" from the original Bidding Documents that were dated February 18th, 2021 Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum constists of the following items:

- HJS Architectual Addendum No. 1 – February 25, 2021
- HJS Revised Architectural Drawings
- Plymouth Ice Center Roof Assessment
- Plymouth Ice Center Follow-up Questions
- Plymouth Ice Center Roof Replacement – Revised Contract
- Plymouth Ice Center Roof Meeting Sign-in

Addendum documents will be emailed to listed contractors and available on the City of Plymouth Web Site at www.plymouthmn.gov/bids.

As a reminder, sealed bids will be received at Plymouth City Hall, 3400 Plymouth Blvd., Plymouth MN 55447 until 10:00 am, March 5th at which time bids will be publicly opened and reviewed, and read aloud. Envelopes containing bids must be sealed, marked Plymouth Ice Center Roof Replacement Project. The name and address of the Bidder must be shown on the envelop as well.

The City of Plymouth reserves the right to reject any or all bids, to wavie irregularities and informalities therein and to award the contract in the best interest of the City.

Erik Halverson
Plymouth Ice Center Manager

HjS Architecture
1304 University Avenue NE, Suite #305
Minneapolis, Minnesota 55413

ARCHITECTURAL ADDENDUM NO. 1 - FEBRUARY 25, 2021

RE: Plymouth Ice Center – Roof Replacement
Plymouth Ice Center (PIC)
3650 Plymouth Blvd
Plymouth, MN 55446

To: All Plan Holders

From: HjS Architecture

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated February 9, 2021. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of four (3) pages and the following attachments:

- Revised Architectural Addendum #1 Drawing Sheets: T100, AD100, A100, A101 and A201. See below for specific detail revisions.
- See owner-provided portion of addendum 1 for additional notes, information and attachments.

I. GENERAL ADDENDUM COMMENTS AND CLARIFICATIONS

1. Revise the description and area of Alternate #1 per the following revised architectural drawing details. The approximate area of revised Alternate #1 is 27,150 SF.

2. Delete the demolition and replacement of clerestory windows (storefront assembly) from the scope of the project per the following revised architectural drawing details.

II. ARCHITECTURAL DRAWING SHEETS CORRECTION ITEMS

T100 – TITLE SHEET

3. Per revised addendum 1 drawing sheet T/100, revise Alternate #1 under the DESCRIPTIONS OF ALTERNATE S to read:

   ALTERNATE #1 - EXPANDED RINK C SCOPE OF WORK
   INCLUDE THE ROOF REPLACEMNT WORK IDENTIFIED WITHIN THE ALTERNATE AREA AS INDICATED ON ARCHITECTURAL DRAWING 1 /T100 (APPROX. 27,150 SF TOTAL). LADDER REPLACEMENT IS NOT INCLUDED IN THIS ALTERNATE; ALL IDENTIFIED LADDERS ARE IN THE BASE BID. SEE PROJECT DRAWINGS FOR FULL EXTENT OF WORK AT THESE AREAS.

4. Revise the area of Alternate #1 shown on drawing detail 1/T100 per revised addendum 1 drawing detail 1/T100.

AD100 – DEMOLITION ROOF PLAN

1. Revise the area of Alternate #1 shown on detail 1/AD100 per revised addendum 1 drawing detail 1/AD100.

A100 – ROOF PLAN

1. Revise the description of Alternate #1 under ALTERNATES located within the sheet notes per revised addendum 1 drawing detail 1/A100.

2. Revise the area of Alternate #1 shown on detail 1/A100 per revised addendum 1 drawing detail 1/A100.
    a. This revision includes clarification on a length of wall located along grid C.
    b. This revision clarifies the inclusion of architectural detail 25/A200 within Alternate #1.

3. Revise detail 1/A100 to indicate overall reference dimensions per revised addendum 1 drawing detail 1/A100.

A101 – ENLARGED ROOF PLAN

1. Revise the description of Alternate #1 under ALTERNATES located within the sheet notes per revised addendum 1 drawing detail 1/A101.

4. Revise the area of Alternate #1 shown on detail 1/A101 per revised addendum 1 drawing detail 1/A101.

A201 – WINDOW AND LADDER DETAILS

1. Revise architectural detail 4/201 per revised addendum 1 drawing detail 4/A201.

2. Revise architectural detail 5/201 per revised addendum 1 drawing detail 5/A201.

3. Revise architectural detail 6/201 per revised addendum 1 drawing detail 6/A201.

4. Revise architectural detail 7/201 per revised addendum 1 drawing detail 7/A201.

5. Revise architectural detail 8/201 per revised addendum 1 drawing detail 8/A201.

6. Delete architectural detail 9/201.

7. Delete architectural detail 10/201.

HjS Architecture
1304 University Avenue NE, Suite #305
Minneapolis, Minnesota 55413

III. ARCHITECTURAL SPECIFICATION CORRECTION ITEMS

SPECIFICATION SECTION 07 5300 – ELASTOMERIC MEMBRANE ROOFING

1. Revise 07 5300, 2.02, D, 3 revise the word “sheathing” to “coverboard”.
2. Revise 07 5300, 2.03, A, 1 to delete the words “externally reinforced with fabric;”

End of Response.

Ryan Grunklee, Architect
Phone: 612.325.4234
Email: ryan@HJSarchitecture.com

Plymouth Ice Center - Roof Replacement

Plymouth, MN

CONTACTS

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PLYMOUTH, MN 55447
CONTACT: AMY HANSON
PHONE: 515-570-5307
EMAIL: aehanson@plymouthmn.gov

ARCHITECT
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1304 UNIVERSITY AVENUE NE, #305
MINNEAPOLIS, MN 55413
CONTACT: RYAN GRUNKLEE, AIA
PHONE: 612-325-4234
EMAIL: ryan@hjsarchitecture.com

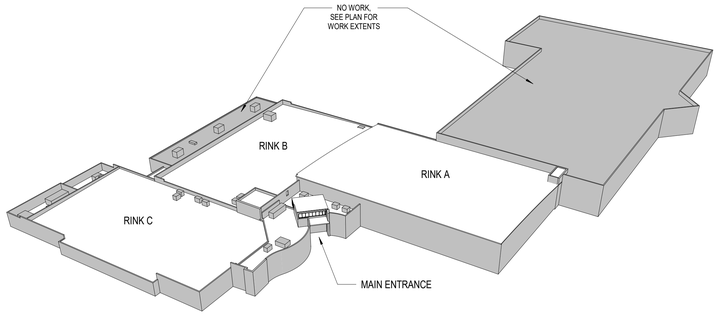
MEP
MECHANICAL, ELECTRICAL AND PLUMBING IS DESIGN-BUILD

DRAWING INDEX

DESCRIPTIONS OF ALTERNATES

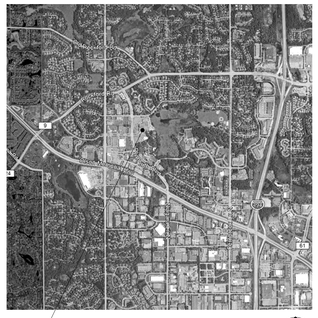
ALTERNATE #1 - EXPANDED RINK C SCOPE OF WORK
INCLUDE THE ROOF REPLACEMNT WORK IDENTIFIED WITHIN THE ALTERNATE AREA AS INDICATED ON ARCHITECTURAL DRAWING 1 /T100 (APPROX. 27,150 SF TOTAL). LADDER REPLACEMENT IS NOT INCLUDED IN THIS ALTERNATE. ALL IDENTIFIED LADDERS ARE IN THE BASE BID. SEE PROJECT DRAWINGS FOR FULL EXTENT OF WORK AT THESE AREAS.

ALTERNATE #2 - OMIT DECKBOARD AT CONCRETE SUBSTRATES
UPON REMOVAL OF EXIST. ROOFING, THE CONTRACTOR SHALL REVIEW WITH ARCHITECT AND MANUF. REP THE FEASIBILITY OF OMITTING THE BOTTOM DECK BOARD LAYER AT CONCRETE SUBSTRATE AND ADHERING ROOF VAPOR BARRIER DIRECTLY TO SUBSTRATE. SEE ARCHITECTURAL DRAWING 1/T100 PROJECT DRAWINGS FOR FULL EXTENT OF WORK AT THESE AREAS.



2 / T100 ROOF PERSPECTIVE (REFERENCE ONLY)

LOCATION MAP



SITE MAP

GENERAL CONSTRUCTION NOTES

1. THE GENERAL CONTRACTOR, ASSOCIATED SUBCONTRACTORS, AND ALL OF THEIR SUBORDINATES (REGARDLESS OF THE TRADE INVOLVED) SHALL FAMILIARIZE THEMSELVES WITH ALL INFORMATION LOCATED WITHIN THE COMPLETE CONSTRUCTION DOCUMENT SET.

2. CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD, NOTIFY OWNER/ARCHITECT OF ALL DISCREPANCIES.

3. DO NOT SCALE DRAWINGS FOR BUILDING PURPOSES. USE PLAN INFORMATION, DIMENSIONS, DETAILS, SHOP DRAWINGS & FIELD VERIFICATION.

4. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL LOCAL, STATE, & NATIONAL BUILDING CODES, ORDINANCES AND ACCESSIBILITY CODE.

5. THE CONTRACTOR SHALL AT ALL TIMES KEEP THE PREMISES FREE FROM WASTE MATERIAL AND RUBBISH CAUSED BY THE WORK. THE CONTRACTOR SHALL WASH CLEAN ALL SURFACES & LEAVE THE JOB SITE IN A CLEAN CONDITION.

6. ALL MECHANICAL, ELECTRICAL, PLUMBING, FIREPROTECTION AND AV WORK IS DESIGN-BUILD. COORDINATION WITH THE ARCHITECTURAL DRAWINGS WILL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

7. ALL GLAZING SHALL BE SAFETY GLAZING, UNLESS NOTED OTHERWISE.

8. EXISTING CONSTRUCTION THAT HAS BEEN DAMAGED AS A RESULT OF THE WORK SHALL BE REPAIRED TO AN EXTENT AND AS REQUIRED TO MATCH ADJACENT.

9. GENERAL CONTRACTOR SHALL PROVIDE ALL BLOCKING/STRAPPING AS REQUIRED FOR ANCHORING WALL AND CEILING MOUNTED ITEMS INCLUDING, BUT NOT LIMITED TO, MILLWORK, CASEWORK, SHELVING, EQUIPMENT, SYSTEMS, FURNITURE, ETC. ALL BLOCKING SHALL BE ANCHORED SECURELY TO WALL OR FLOOR/CEILING CONSTRUCTION AS REQUIRED.

10. PROVIDE TEMPORARY CONSTRUCTION PARTITIONS AS REQUIRED TO PROTECT THE PUBLIC, MAINTAIN EGRESS AND LIMIT DISTURBANCES FROM NOISE, SMELLS, AND DIRT.

11. ALL NEW AND EXISTING GYPSUM BOARD SURFACES WITHIN THE CONSTRUCTION LIMITS TO RECEIVE PAINT UNLESS NOTED OTHERWISE.

12. GRAY (NO WORK) HATCH INDICATES AREAS OUTSIDE OF THE PROJECT SCOPE. UTILITY CONNECTIONS MAY BE REQUIRED IN THESE AREAS; COORDINATE AS REQUIRED TO ACCOMMODATE SCHEDULED CONSTRUCTION.

13. THE REMOVAL OF HAZARDOUS MATERIALS IS OUTSIDE THE SCOPE OF THIS WORK. THE GC TO CONFIRM AND COORDINATE WITH OWNER'S ABATEMENT CONTRACTOR (IF OCCURS) PROVIDING ANY ABATEMENT SERVICES PRIOR TO THIS WORK. IF ADDITIONAL HAZARDOUS MATERIALS ARE DISCOVERED DURING DEMOLITION OR CONSTRUCTION WITHIN THIS SCOPE OF WORK, STOP WORK AND NOTIFY ARCHITECT AND OWNER IMMEDIATELY; HAZARDOUS MATERIALS INCLUDE, BUT ARE NOT LIMITED TO: REGULATED ASBESTOS CONTAINING MATERIALS, LEAD, PCB'S, AND MERCURY.

14. THE ENTIRE AREA WITHIN AND AROUND THE LIMITS OF CONSTRUCTION IS SPRINKLERED; THE CONTRACTOR SHALL COORDINATE MODIFICATIONS TO EXISTING SPRINKLER SYSTEM AS REQUIRED TO ACCOMMODATE SCHEDULED CONSTRUCTION.

15. MATERIALS COMMON TO SEVERAL DRAWINGS MAY BE NOTED ON ONLY ONE.

ABBREVIATIONS

ACT	ACOUSTIC CEILING TILE	LAV	LAVATORY
ADJ	ADJACENT	LF	LINEAR FEET
AFF	ABOVE FINISHED FLOOR		
AHU	AIR HANDLING UNIT	MAX	MAXIMUM
ALT	ALTERNATE	MECH	MECHANICAL
ALUM	ALUMINUM	MTL	METAL
AP	ACCESS PANEL	MEZZ	MEZZANINE
APPROX	APPROXIMATE	MFR	MANUFACTURER
ARCH	ARCHITECTURAL	MIN	MINIMUM
		MISC	MISCELLANEOUS
BD	BOARD	MO	MASONRY OPENING
BLDG	BUILDING		
BLK	BLOCK	NA	NOT APPLICABLE
BLKG	BLOCKING	NIC	NOT IN CONTRACT
B.O.	BOTTOM OF	NTS	NOT TO SCALE
BRG	BEARING		
		OD	OUTSIDE DIAMETER
CAB	CABINET	OFF	OFFICE
CJ	CONTROL JOINT	OPNG	OPENING
CT	CERAMIC TILE	OH	OVERHEAD
CL	CENTERLINE		
CLG	CEILING	PERF	PERFORATED
CMU	CONCRETE MASONRY UNIT	PLAM	PLASTIC LAMINATE
CONC	CONCRETE	PLYWD	PLYWOOD
CONT	CONTINUOUS	PREFIN	PREFINISHED
CP	CARPET	PT	PAINT
CPT	CARPET TILE	PTD	PAPER TOWER DISPENSER
CUH	CABINET UNIT HEATER		
		QT	QUARRY TILE
DEMO	DEMOLITION		
DET	DETAIL	RAD	RADIUS
DF	DRINKING FOUNTAIN	RB	RESILIENT BASE
DIA	DIAMETER	RD	ROOF DRAIN
DIM	DIMENSION	REC	RECESSED
DN	DOWN	REF	REFRIGERATOR
DR	DOOR	REINF	REINFORCED
DS	DOWN SPOUT	REQD	REQUIRED
DW	DISHWASHER	RM	ROOM
		RO	ROUGH OPENING
EA	EACH		
EFIS	EXTERIOR FINISH	RO	ROUGH OPENING
	INSULATION SYSTEM	SCHED	SCHEDULE
EJ	EXPANSION JOINT	SD	SOAP DISPENSER
ELEC	ELECTRICAL	SHTHG	SHEATHING
ELEV	ELEVATION	SIM	SIMILAR
ENCL	ENCLOSURE	SPEC	SPECIFICATION
EQ	EQUAL	SQ FT	SQUARE FOOT
EXP	EXPOSED	SS	STAINLESS STEEL
EXIST	EXISTING	SS COUNTER	SOLID SURFACE COUNTER
		STL	STEEL
FD	FLOOR DRAIN	STOR	STORAGE
FE	FIRE EXTINGUISHER	STRUCT	STRUCTURAL
FIN	FINISH	SUSP	SUSPENDED
FLR	FLOOR		
FP	FIRE PROOFING	TEMP	TEMPORARY
FT	FOOT	T&G	TONGUE AND GROOVE
FWC	FABRIC WALL COVERING	T.O.	TOP OF
		TPD	TOILET PAPER DISPENSER
GA	GAUGE	TYP	TYPICAL
GALV	GALVANIZED		
GL	GLASS	UNO	UNLESS NOTED OTHERWISE
GLU LAM	GLUE LAMINATED WOOD	VCT	VINYL COMPOSITION TILE
GYP	GYPSUM	VER	VERIFY
		VERT	VERTICAL
HRDWR	HARDWARE	VIF	VERIFY IN FIELD
HM	HOLLOW METAL		
HORZ	HORIZONTAL	W/	WITH
HT	HEIGHT	WC	WATER CLOSET
		WD	WOOD
ID	INSIDE DIAMETER	WDW	WINDOW
INSUL	INSULATION	WH	WATER HEATER
		WRB	WEATHER BARRIER
JC	JANITOR'S CLOSET		

CODE SUMMARY ANALYSIS

PROJECT SCOPE:
THIS PROJECT CONSISTS OF 100,000± SF ROOF REPLACEMENT AT THE PLYMOUTH ICE CENTER (PIC) AND THE REPLACEMENT OF CLERESTORY WINDOWS AT THE MAIN ENTRANCE. THE EXTERIOR SHELL AND STRUCTURAL ELEMENTS ARE EXISTING AND OUTSIDE THE SCOPE OF THIS WORK. ANY ASSOCIATED MEP-RELATED WORK RESULTING FROM THIS WORK IS DESIGN-BUILD.

PROJECT ADDRESS:
PLYMOUTH ICE CENTER
3650 PLYMOUTH BLVD
PLYMOUTH, MN 55446

APPLICABLE CODES:
2020 MINNESOTA STATE BUILDING CODE
2018 INTERNATIONAL BUILDING CODE (W/ MN AMENDMENTS) (IBC)
2020 MINNESOTA ACCESSIBILITY CODE (MNACC)
2020 MINNESOTA CONSERVATION CODE FOR EXISTING BUILDINGS (MNCCEB)
2020 MINNESOTA ENERGY CODE (MNEC)

INTERNATIONAL EXISTING BUILDING CODE (IEBC):
A. CLASSIFICATION OF WORK (IEBC CHAPTER 6):
I. THIS PROJECT CONSTITUTES A LEVEL 1 ALTERATION (602)

B. ALTERATIONS - LEVEL 1 (IEBC CHAPTER 7):
I. NEW WORK SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 7 INCLUDING, BUT NOT LIMITED TO, SECTION 705 - REROOFING
II. NEW WORK SHALL COMPLY WITH THE MATERIALS AND METHODS REQUIREMENTS IN THE IBC, IECC, INTERNATIONAL MECHANICAL CODE AND INTERNATIONAL PLUMBING CODE, AS APPLICABLE, THAT SPECIFY MATERIAL STANDARDS, DETAIL OF INSTALLATION AND CONNECTION, JOINTS, PENETRATIONS AND CONTINUITY OF ANY ELEMENT, COMPONENT OR SYSTEM IN THE BUILDING. (IEBC 702.6)
II. MATERIALS AND METHODS OF APPLICATION USED FOR RECOVERING OR REPLACING AN EXISTING ROOF COVERING SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 15 OF THE IBC. (IEBC 705.1) WITH THE FOLLOWING EXCEPTIONS: 1) THE ROOF REPLACEMENT IS NOT REQUIRED TO MEET THE MIN. SLOPE REQUIREMENT OF 1/4" PER FT; AND 2) THE ROOF REPLACEMENT IS NOT REQUIRED TO MEET THE REQUIREMENT FOR SECONDARY DRAINS AND SCUPPERS. EXIST. SECONDARY DRAINAGE DEVISES CANNOT BE REMOVED.
III. ROOF REPLACEMENT SHALL INCLUDE THE REMOVAL OF ALL EXIST. LAYERS OF ROOF COVERING DOWN TO THE ROOF DECK.
IV. FLASHINGS SHALL BE RECONSTRUCTED IN ACCORDANCE WITH APPROVED MANUFACTURER'S INSTALLATION INSTRUCTIONS. METAL FLASHING TO WHICH BITUMINOUS MATERIALS ARE TO BE ADHERED SHALL BE PRIMED PRIOR TO INSTALLATION.
VII. ALTERATIONS SHALL CONFORM TO THE ENERGY REQUIREMENTS OF THE IEBC AS THEY RELATE TO NEW CONSTRUCTION ONLY (MN ENERGY CODE 1323.0100)

MINNESOTA ENERGY CODE (MNEC):
A. COMMERCIAL ENERGY EFFICIENCY (MN CHAPTER 4):
I. ROOF REPLACEMENT ON AN EXISTING BUILDING WHERE THE INSULATION IS ENTIRELY ABOVE THE DECK AND WHERE THE ROOF SLOPE IS LESS THAN 2/12 SHALL CONFORM TO THE ENERGY CONSERVATION REQUIREMENTS SPECIFIED IN TABLES C402.1.3 & C402.1.4 UNLESS ACCOMMODATION OF THE REQUIRED THICKNESS OF INSULATION IS TECHNICALLY INFEASIBLE DUE TO LIMITED HEIGHT OF EXISTING CONDITIONS (C 402.2.1.2).
II. REQUIRED ROOF INSULATION R-VALUE FOR COMMERCIAL BUILDING WITH ROOF INSULATION ENTIRELY ABOVE DECK IS R30. (C402.1.3)

INTERNATIONAL BUILDING CODE (IBC):
A. USE AND OCCUPANCY CLASSIFICATION (IBC CHAPTER 3)
I. EXISTING OCCUPANCY GROUP: ASSEMBLY A-4; ARENAS (IBC 303)
II. NO CHANGE OF USE

B. SPECIAL REQUIREMENTS (IBC CHAPTER 4)
I. NO SPECIAL REQUIREMENT AREAS

C. GENERAL BUILDING HEIGHTS AND AREAS (IBC CHAPTER 5)
I. NO CHANGE TO EXISTING BUILDING AREA AND HEIGHT:
- EXISTING TWO (2) STORY ABOVE GRADE
- EXISTING 188,500 SF BUILDING FOOTPRINT

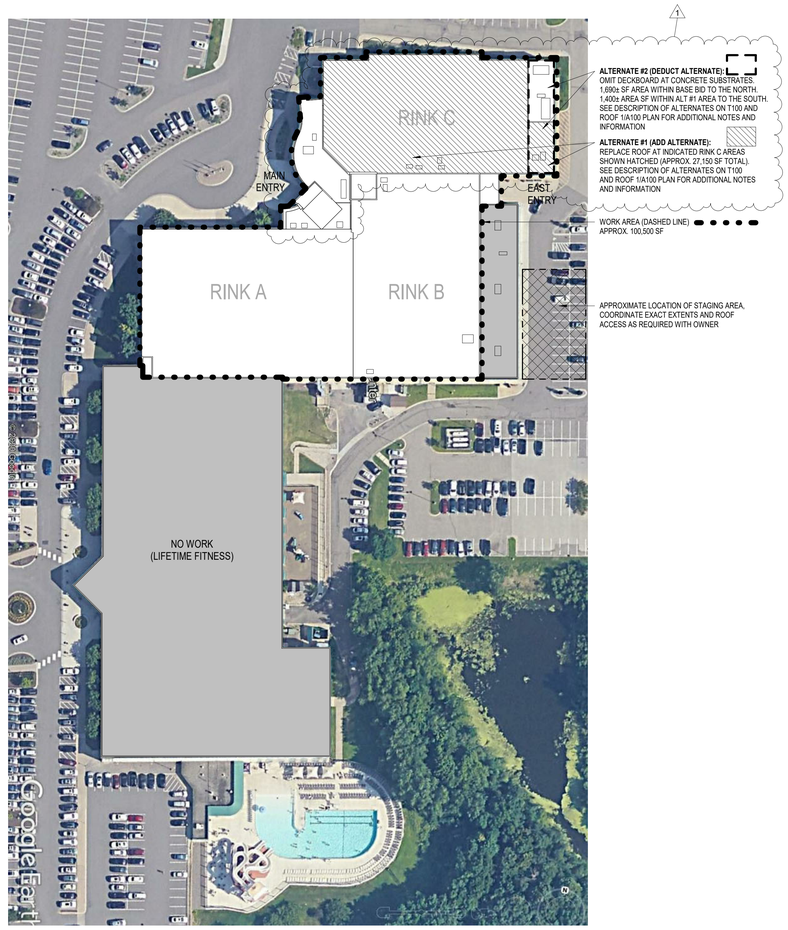
III. NO WORK AT INCIDENTAL USE AREAS (IBC TABLE 509)

D. CONSTRUCTION TYPE (IBC CHAPTER 6)
I. EXISTING II (1-HR)*; NO CHANGE TO FIRE-RESISTANT BUILDING ELEMENTS.
II. EXISTING ASSEMBLIES OF FIRE-RESISTANT ELEMENTS TO BE MAINTAINED.
- EXISTING 1-HR ROOF CONSTRUCTION

F. FIRE PROTECTION SYSTEMS (CHAPTER 9)
I. THE BUILDING IS CURRENTLY SPRINKLED AND ANY MODIFICATIONS WILL BE IN ACCORDANCE WITH IBC CHAPTER 9, THE INTERNATIONAL FIRE CODE, AND STATE REQUIREMENTS.

G. MEANS OF EGRESS (CHAPTER 10)
I. THE MEANS OF EGRESS IS EXISTING AND NOT MODIFIED UNLESS NOTED OTHERWISE.

H. ACCESSIBILITY (CHAPTER 11 - MN ACCESSIBILITY CODE)
I. THE WORK AREA IS LIMITED TO AN UNINHABITED ROOF AND WILL BE ACCESSED BY STAFF ONLY FOR BUILDING MAINTENANCE PURPOSES ONLY.



1 / T100 REFERENCE ROOF PLAN
1/64" = 1'-0"

PROJECT NORTH

I thereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Architect under the laws of the State of Minnesota.

Ryan Grunklee, AIA
License Number: 48490
9 February, 2021
Date

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City of Plymouth

Plymouth Ice Center -
Roof Replacement
3650 PLYMOUTH BLVD
PLYMOUTH, MN 55446

Checked By: HjS
Drawn By: RRG

Project number: HjSII

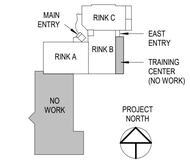
Revision:	Date:	Description:
00	2/9/21	BID/PERMIT SET
1	2/25/21	ARCH ADDENDUM 1

T100
TITLE SHEET

2/25/2021 4:09:57 PM

1 AD100 ROOF DEMOLITION PLAN
1/16" = 1'-0"

KEY PLAN



DEMOLITION PLAN NOTES

1. REMOVE EXISTING BALLESTED ROOF ASSEMBLY DOWN TO EXIST. STRUCTURAL DECK; REMOVE RELATED COPINGS, FLASHINGS AND DRAIN BOWLS AS REQUIRED TO ACCOMMODATE SCHEDULED ROOFING CONSTRUCTION, UNLESS NOTED OTHERWISE. SALVAGE ALL UNBROKEN PAVERS FOR REINSTALLATION.
2. COPING (SHOWN GRAY) TO REMAIN, PROTECT FROM DAMAGE.
3. REMOVE FIXED ROOF LADDER ASSEMBLY, PROTECT ADJACENT CONSTRUCTION AND BUILDING MOUNT LOCATIONS FROM DAMAGE.
4. REMOVE BOTTOM COURSE OF METAL PANEL SIDING AS REQUIRED TO ACCOMMODATE SCHEDULED ROOFING (COUNTER-FLASHING AND SIDING BASE FLASHING ARE INTEGRATED AS ONE PIECE). SEE ROOFING DETAILS FOR MEMBRANE UPTURN REQUIREMENTS AT EXISTING SIDE WALL. SALVAGE SIDING FOR REINSTALLATION. SEE GENERAL DEMOLITION NOTES FOR ADDITIONAL INFORMATION.

GENERAL DEMOLITION NOTES

1.SEE GENERAL PROJECT CONSTRUCTION NOTES ON TITLE PAGE FOR ADDITIONAL NOTES AND INFORMATION.

2. EXISTING CONSTRUCTION SCHEDULED TO REMAIN THAT HAS BEEN DAMAGED AS A RESULT OF THE WORK SHALL BE REPAIRED TO THE EXTENT AS REQUIRED TO MATCH ADJACENT EXISTING UNDAMAGED CONSTRUCTION.

3. SHADED "NO WORK" ON ARCHITECTURAL DRAWINGS ARE FOR REFERENCE PURPOSES ONLY. UTILITY CONNECTIONS MAY BE REQUIRED AT THESE AREAS - GC TO COORDINATE ALL DEMOLITION WORK WITH DESIGN-BUILD PLUMBING, MECHANICAL, ELECTRICAL AND FIRE PROTECTION DRAWINGS.

4. UNLESS NOTED OTHERWISE, EXISTING STRUCTURAL ELEMENTS TO REMAIN, PROTECT FROM DAMAGE.

4. UNLESS NOTED OTHERWISE, EXISTING MEP ELEMENTS TO REMAIN, PROTECT FROM DAMAGE.

6. AT DEMOLISHED SURFACES OR SURFACES SCHEDULED TO RECEIVE NEW FINISHES REMOVE AND DISCARD ALL SURFACE-MOUNTED ITEMS AS REQUIRED. CONFIRM AND COORDINATE REQUIRED SALVAGE AND REINSTALLATION OF ITEMS PRIOR TO COMMENCING WITH DEMOLITION.

7. ALL CUTTING AND / OR PATCHING WORK REQUIRED BY PLUMBING, ELECTRICAL & MECHANICAL SCOPE THAT IS NOT SHOWN ON THE ARCHITECTURAL DRAWINGS SHALL BE PERFORMED BY THE AFFECTED TRADE.

8. DESIGN-BUILD PLUMBING, MECHANICAL AND ELECTRICAL AND FIRE PROTECTION CONTRACTORS TO PROPERLY REMOVE AND / OR ABANDON RESPECTIVE SYSTEMS AND DEVICES. PROPER REMOVAL IS THE STANDARD PROCEDURE - ABANDONMENT OF SYSTEMS/DEVISES IS ONLY ALLOWABLE WITH EXPLICIT APPROVAL BY OWNER.

10. EXISTING CONSTRUCTION TYPES DIFFERENTIATED FOR REFERENCE PURPOSES ONLY ON ARCHITECTURAL DRAWINGS. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND NOTIFY ARCHITECT OF ANY CONFLICT AND/OR DISCREPANCIES PRIOR TO COMMENCING WORK.

11. INDICATED LOCATIONS ON THE DEMOLITION PLAN WILL REQUIRE THE REMOVAL OF EXIST. METAL PANEL SIDING TO INSTALL REPLACEMENT ROOF COUNTER FLASHINGS. UNLESS NOTED OTHERWISE, IT APPEARS EXIST. COUNTERFLASHINGS AT METAL PANEL WALLS CAN BE REMOVED WITHOUT REMOVAL OF SIDING, FIELD VERIFY. UPON DISCOVERY THAT COUNTER FLASHINGS ARE INTEGRATED INTO EXISTING METAL WALL PANEL AND ARCHITECT WILL CLARIFY/PROVIDE REQUIRED DETAILING OF THE CONDITION.

12. DISCONNECT AND REMOVE ANY UTILITIES / WIRING FROM PARAPET SIDE WALLS TO RECEIVE MEMBRANE INSTALL. COORD. REINSTALL AT INTERIOR - SIDE OF NEW COPINGS.

ROOF PLAN SYMBOLS AND NOTES

SC — SCUPPER, SEE DETAIL 14 / A200

RD — INTERNAL ROOF DRAIN, VIF, SEE GENERAL PLAN NOTES AND DETAIL 9 / A200

FIXED ROOF LADDER, SEE FIXED LADDER SCHEDULE 3 / A201

EXIST. UTILITY LINE, PROTECT FROM DAMAGE. SEE DETAIL 3 / A200

EXIST. VENT STACK, VIF SEE DETAILS 2, 6, 7 / A200

RTU — EXIST. MECH ROOF TOP UNIT., CURB CONDITIONS VARY, VIF. SEE DETAIL 2 / A200

EXIST. STRUCT. SLOPE (VIF), ARROW DIRECTION INDICATES SLOPE DOWN

SL — TAPERED INSULATION SLOPE, ARROW DIRECTION INDICATES SLOPE DOWN

I thereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Architect under the laws of the State of Minnesota.

Ryan Grightmire, AIA — License Number: 48490

9 February, 2021 — Date

HjS Architecture
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Web: www.hjsarchitecture.com

City of Plymouth

Plymouth Ice Center - Roof Replacement
3650 PLYMOUTH BLVD
PLYMOUTH, MN 55446

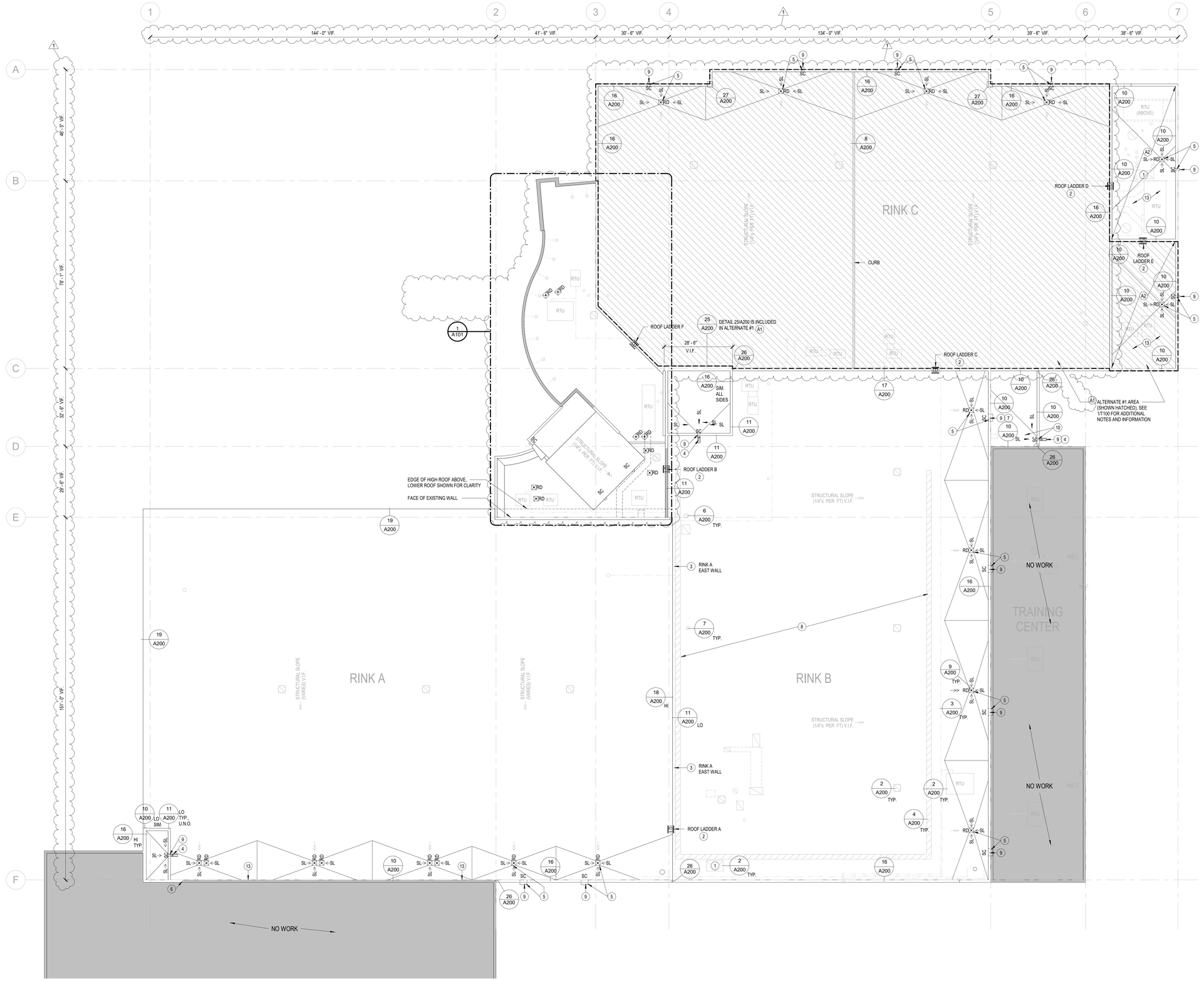
Checked By:	Drawn By:
HjS	RRG

Project number: HjS#

Revision:	Date:	Description:
00	2/9/21	BID/PERMIT SET
1	2/25/21	ARCH ADDENDUM 1

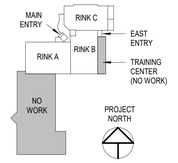
AD100
DEMOLITION ROOF PLAN

2/25/2021 4:08:51 PM



1 A100 ROOF PLAN
1/16" = 1'-0"

KEY PLAN



FLOOR PLAN KEYNOTES

1. EXIST. ROOF ACCESS HATCH TO REMAIN. COORDINATE ACCESS TO ROOF WITH OWNER AS REQUIRED.
2. FIXED ROOF LADDER. SEE ROOF LADDER SCHEDULE FOR ADDITIONAL NOTES AND INFORMATION.
3. REINSTALL BOTTOM COURSE OF METAL PANEL SIDING TO MATCH ORIGINAL CONFIGURATION AND ANCHOR POINTS. REPLACE EXIST. REPLACE EXIST. FASTENERS WITH MATCHING FASTENERS. CAULK SEAMS AND FASTERNER HEADS TO MATCH EXIST.ING.
4. PREFINISHED OPEN MTL. DOWNSPOUT AND SPLASHBLOCK. EXTEND LOWER DISCHARGE ELBOW TO 18" MAX. ABOVE LOWER ROOF.
5. COORDINATE HEIGHT OF REPLACEMENT DRAIN BOWL WITH EXISTING OVERFLOW SCUPPER ELEVATION. SEE GENERAL PLAN NOTES FOR ADDITIONAL NOTES AND INFORMATION.
6. REPLACE CAP FLASING TO NEXT EXISTING SEAM, V.I.F.. MATCH EXISTING PROFILE AND FINISH.
7. PROVIDE SPLASH PAVERS AT LOWER ROOF BENEATH SCUPPER. SEE DETAIL 4/A200
8. REPLACE SALVAGED PAVERS IN PREVIOUS CONFIGURATION. APPROXIMATE LOCATION SHOWN. SEE DETAIL 4/A200.
9. EXISTING SCUPPER LOCATION, V.I.F., CONDITIONS MAY VARY. PROVIDE REPLACEMENT SCUPPER PER DETAIL 14/A200
10. COORDINATE SLOPE OF TAPERED INSULATION TO ACCOMMODATE EXISTING SCUPPER ELEVATION.
11. PREVIOUS ENTRY ROOF WAS UNINSULATED. ROOFING CONTRACTOR TO REVIEW EXISTING CLEARANCES AND COORDINATE WITH CLERESTORY SILL ELEVATION. PROVIDE ADDITIONAL BLOCKING AND EXTENDED PREFINISHED EDGE FLASING AS REQUIRED TO ACCOMMODATE DEPTH OF ROOF REPLACEMENT INSULATION. EXTEND HEIGHT OF EXIST. SCUPPER ACCORDINGLY. MATCH ALL FLASHING FINISHES TO EXIST. ADJACENT METAL PANEL SIDING.
12. PROVIDE SLOPED BLOCKING (SLOPE DOWN TOWARDS INTERIOR) AT TOP OF ASSYMETRICAL PARAPET AND AND LAP ROOF MEMBRANE UP AND OVER. SEE DETAIL FOR ROOF EDGE TERMINATION AT EXTERIOR FACE.
13. REPLACE ALL VERTICAL BACKER ROD AND SEALANT JOINTS AT INTERIOR-SIDE OF PRECAST PANEL TO REMAIN EXPOSED ABOVE TERMINATED ROOFING.

ALTERNATES

A1 ALTERNATE #1:- EXPANDED RINK C SCOPE OF WORK REPLACE ROOF AT INDICATED RINK C AREAS SHOWN HATCHED (APPROX. 27,150 SF TOTAL). SEE DESCRIPTION OF ALTERNATES ON T100 AND ROOF PLAN 1/A100 FOR ADDITIONAL NOTES AND INFORMATION.

A2 ALTERNATE #2 - OMIT DECKBOARD AT CONCRETE SUBSTRATES UPON REMOVAL OF EXIST. ROOFING, THE CONTRACTOR SHALL REVIEW WITH ARCHITECT AND MANUF. REP THE FEASIBILITY OF OMITTING THE BOTTOM DECK BOARD LAYER AT CONCRETE SUBSTRATE AND ADHERING ROOF VAPOR BARRIER DIRECTLY TO SUBSTRATE. SEE ARCHITECTURAL DRAWING 1/T100 PROJECT DRAWINGS FOR FULL EXTENT OF WORK AT THESE AREAS.

GENERAL ROOF PLAN NOTES

1.SEE GENERAL PROJECT CONSTRUCTION NOTES ON TITLE PAGE FOR ADDITIONAL NOTES AND INFORMATION.

2. ALL ROOF DRAIN AND SCUPPERS LOCATIONS SHOWN ON DRAWINGS ARE EXISTING AND APPROXIMATE- CONTRACTOR TO FIELD VERIFY EXACT LOCATIONS. ALL ROOF DRAIN BOWLS ARE TO BE REPLACED PER DETAIL 9/A200 AND THE FOLLOWING:
a. WHERE SECONDARY OVERFLOW SCUPPERS OCCUR, SET REPLACEMENT PRIMARY ROOF DRAINS 2" BELOW EXISTING SCUPPER ELEVATIONS AND CONFIGURE CRICKETS ACCORDINGLY OR REVIEW/COORDINATE CODE FEASIBILITY OF RAISING BOTTOMS OF SCUPPERS TO ALIGN WITH REPLACEMENT ROOF ASSEMBLY THICKNESS.
b. WHERE SECONDARY OVERFLOWS ARE INTERNAL, SET NEW SECONDARY ROOF DRAIN OVERFLOWS 2" ABOVE PRIMARIES.

3. PROVIDE 8" MIN. CLEARANCE AT ROOF MEMBRANE UPTURN AT ALL CURBS FOR EXIST. MECHANICAL EQUIPMENT. NOTIFY ARCHITECT AND OWNER IMMEDIATELY UPON DISCOVERY OF EXIST. EQUIPMENT REQUIRING MODIFICATION TO ACCOMMODATE REQUIRED MINIMUM CLEARANCES.

4. PROVIDE SHOP-FABRICATED PREFINISHED METAL CORNER COPING PIECE WITH MITER AT ALL OUTSIDE AND INSIDE CORNERS.

5. ROOF CRICKETS SHOWN ARE SCHEMATIC AND FOR REFERENCE PURPOSES ONLY. REQUIRED MINOR CRICKETS AT MECH. CURBS AND OTHER IS NOT SHOWN. CONTRACTOR TO PROVIDE ROOF INSULATION LAYOUT PER THE PROJECT DRAWINGS AND SPECIFICATIONS.

6. REINSTALL ANY DISCONNECTED AND REMOVED UTILITIES / WIRING PREVIOUSLY AT PARAPET SIDE WALLS TO INTERIOR-SIDE OF NEW COPINGS.

7. UNLESS NOTED OTHERWISE, ALL ROOF RELATED BLOCKING SHALL BE TREATED AND PLYWOOD SHALL BE EXTERIOR RATED. USE STAINLESS STEEL FASTENERS FOR USE WITH ALL ROOF RELATED WOOD BLOCKING AND PLYWOOD. SEE SPECIFICATIONS FOR ADDITIONAL NOTES AND INFORMATION.

ROOF PLAN SYMBOLS AND NOTES

SC — SCUPPER, SEE DETAIL 14 / A200

RD — INTERNAL ROOF DRAIN, VIF, SEE GENERAL PLAN NOTES AND DETAIL 9 / A200

FIXED ROOF LADDER, SEE FIXED LADDER SCHEDULE 3 / A201

EXIST. UTILITY LINE, PROTECT FROM DAMAGE. SEE DETAIL 3 / A200

EXIST. VENT STACK, VIF SEE DETAILS 2, 6, 7 / A200

RTU — EXIST. MECH ROOF TOP UNIT., CURB CONDITIONS VARY, VIF. SEE DETAIL 2 / A200

EXIST. STRUCT. SLOPE (VIF), ARROW DIRECTION INDICATES SLOPE DOWN

SL — TAPERED INSULATION SLOPE, ARROW DIRECTION INDICATES SLOPE DOWN

I thereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Architect under the laws of the State of Minnesota.

Ryan Gilchrist, AIA — License Number: 48490

9 February, 2021 — Date

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City of Plymouth

Plymouth Ice Center - Roof Replacement
3650 PLYMOUTH BLVD
PLYMOUTH, MN 55446

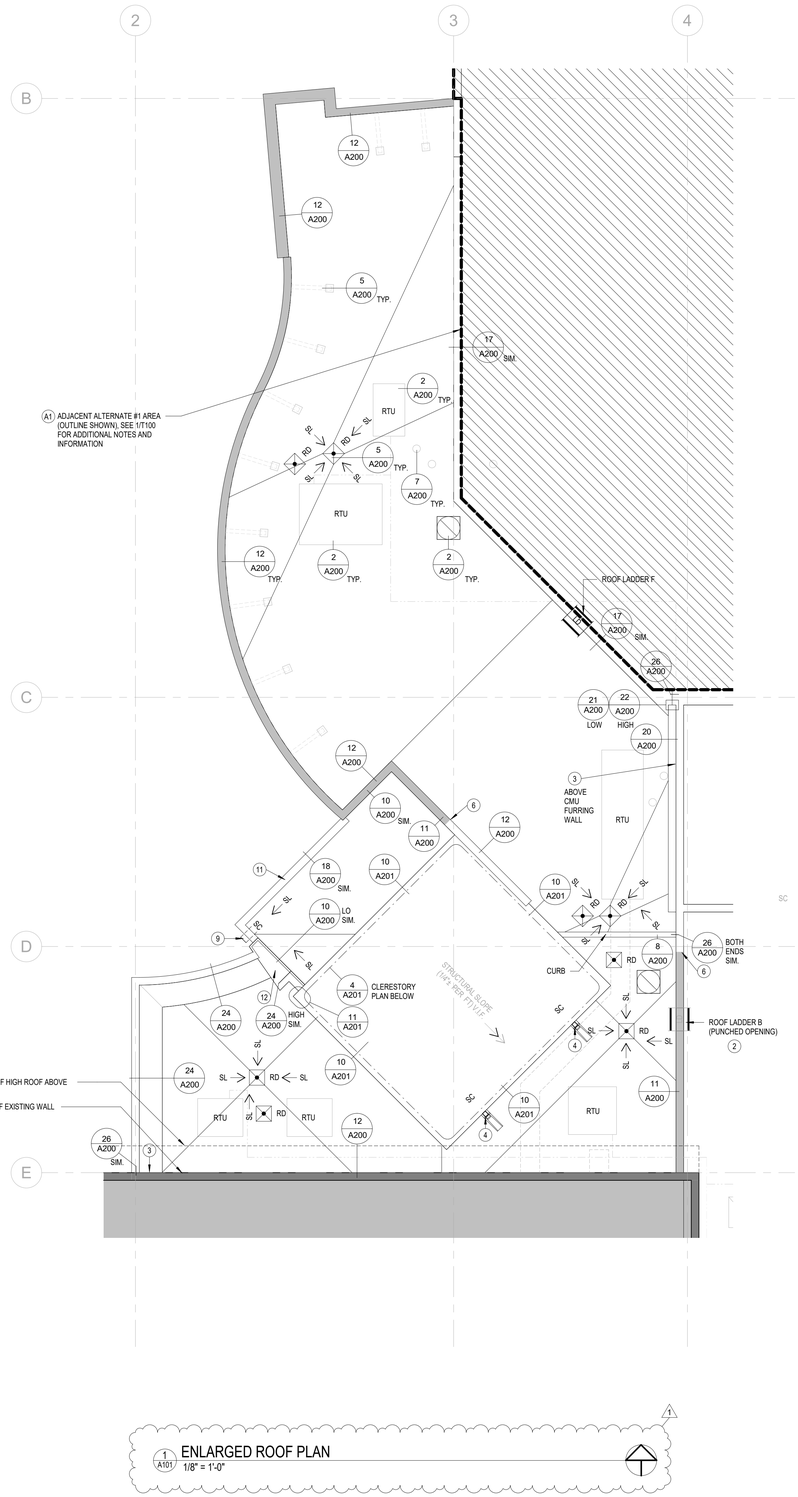
Checked By: HjS — Drawn By: KRG

Project number: HjS#

Revision:	Date:	Description:
00	2/9/21	BID/PERMIT SET
1	2/25/21	ARCH ADDENDUM 1

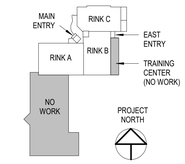
A100
ROOF PLAN

2/25/2021 4:09:48 PM



1 A101 ENLARGED ROOF PLAN
1/8" = 1'-0"

KEY PLAN



FLOOR PLAN KEYNOTES

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EXIST. UTILITY LINE, PROTECT FROM DAMAGE. SEE DETAIL 3 / A200

EXIST. VENT STACK, VIF SEE DETAILS 2, 6, 7 / A200

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EXIST. STRUCT. SLOPE (VIF), ARROW DIRECTION INDICATES SLOPE DOWN

SL — TAPERED INSULATION SLOPE, ARROW DIRECTION INDICATES SLOPE DOWN

I thereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Architect under the laws of the State of Minnesota.

Ryan Grightee, AIA — License Number: 48490

9 February, 2021 — Date

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City of Plymouth

Plymouth Ice Center - Roof Replacement
3650 PLYMOUTH BLVD
PLYMOUTH, MN 55446

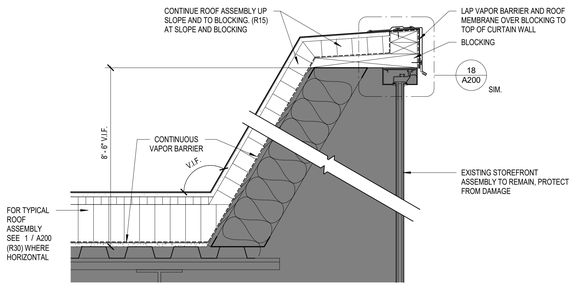
Checked By:	Drawn By:
HjS	RRG

Project number: HjS#

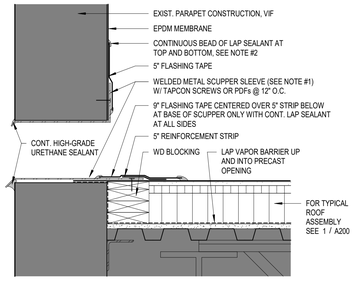
Revision:	Date:	Description:
00	2/9/21	BID/PERMIT SET
1	2/25/21	ARCH ADDENDUM 1

A101
ENLARGED ROOF PLAN

2/25/2021 4:09:49 PM

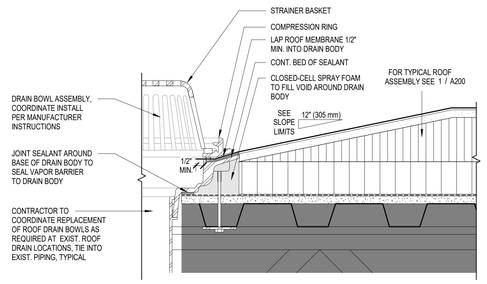


24 A200 SLOPED PARAPET DETAIL
1 1/2" = 1'-0"



NOTES:
1. SCUPPER MUST BE WELDED METAL SLEEVE. ROUND ALL SHEET METAL FLANGE CORNERS.
2. APPLY LAP SEALANT AROUND ENTIRE PERIMETER OF QUICKSEAM FLASHING. REFER TO LS-9 FOR SEAM EDGE TREATMENT.
3. WOOD NAILER MUST BE INSTALLED TO MEET APPLICABLE BUILDING CODES OR 200 LB PER LINEAL FOOT MINIMUM IN ANY GIVEN DIRECTION.
4. FLANGE OF METAL MUST BE FULLY SUPPORTED BY WOOD AND TERMINATED AT LEAST 1/2" (13 mm) FROM EDGE OF WOOD.
5. SEE MANUF. DETAILS S-1A & S-1B FOR DETAILED INSTALLATION INSTRUCTIONS.

14 A200 TERMINATION DETAIL WITH REGLET
1 1/2" = 1'-0"

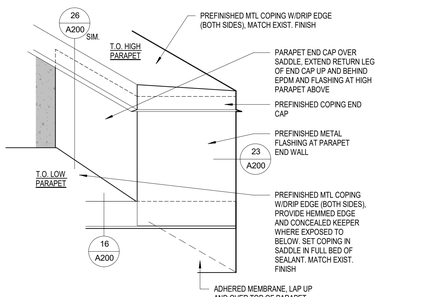


NOTES:
1. SEE ROOF PLAN FOR ADDITIONAL NOTES AND INFORMATION ON ROOF DRAIN INSTALL ELEVATIONS.
2. HOLE IN MEMBRANE SHOULD EXTEND A MINIMUM OF 1/2" (13 mm) BEYOND CLAMPING RING AND BE LARGER THAN THE DIAMETER OF THE LEADER PIPE.
3. INSULATION ADJACENT TO DRAIN TO BE APPROPRIATE FIRESTONE INSULATION WITH APPROPRIATE BONDING SURFACE.
4. FIRESTONE WATERBLOCK MINIMUM 1/2 OF 10 OZ (295 ml) TUBE PER 4" (102 mm) DRAIN. USE ADDITIONAL WATERBLOCK FOR LARGER DRAINS.
5. IN RE-ROOF APPLICATIONS:
-REMOVE EXISTING FLASHING DOWN TO METAL BOWL.
-REPAIR OR REPLACE BROKEN DRAIN COMPONENTS.
-DRILL AND TAP BROKEN DRAIN BOLTS AND REPLACE IF NECESSARY.

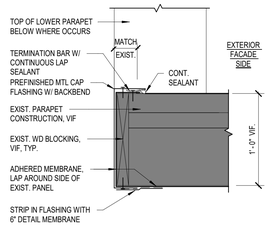
SUMP AREA FIELD REQUIREMENTS:
1) IF SEAM EDGE IS WITHIN 9" (229 mm) OF DRAIN COMPRESSION RING, EPDM TARGET PATCH REQUIRED.
2) IF SEAM EDGE IS WITHIN 9" (229 mm) TO 18" (457 mm) OF DRAIN COMPRESSION RING, INSTALL A LAYER OF 5" 127 mm) QUICKSEAM FLASHING CENTERED OVER SEAM EDGE. EXTEND 5" (127 mm) QUICKSEAM FLASHING 3" (76 mm) MIN. BEYOND EDGE OF SUMP.

MEMBRANE SLOPE LIMITS:
1) MAXIMUM SLOPE FOR REINFORCED MEMBRANE SHALL BE 2" (51 mm) TO 12" (305 mm). REFER TO FIRESTONE RUBBERGARD DETAIL D-4 WHEN SLOPE EXCEEDS LIMITATIONS.
2) MAX. SLOPE FOR STANDARD MEMBRANE SHALL BE 6" (152 mm) / 12" (305 mm).

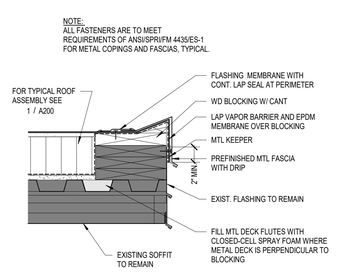
9 A200 ROOF DRAIN DETAIL
3" = 1'-0"



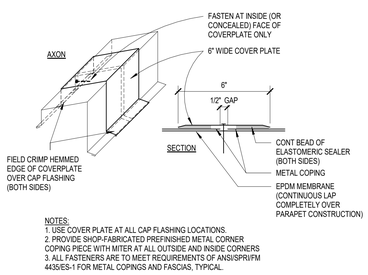
27 A200 COPING DIAGRAM
N.T.S.



23 A200 WALL PLAN DETAIL AT SIDE OF PANEL
1 1/2" = 1'-0"

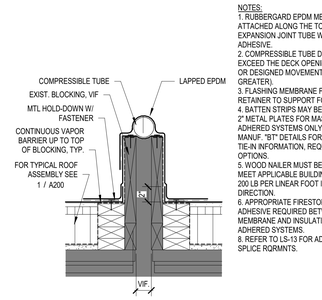


19 A200 ROOF EDGE AT OVERHANG
1 1/2" = 1'-0"



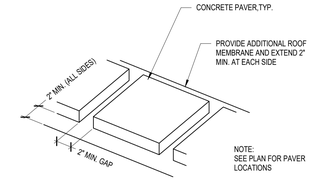
NOTES:
1. USE COVER PLATE AT ALL CAP FLASHING LOCATIONS.
2. PROVIDE SHOP-FABRICATED PREFINISHED METAL CORNER COPING PIECE WITH MITER AT ALL OUTSIDE AND INSIDE CORNERS
3. ALL FASTENERS ARE TO MEET REQUIREMENTS OF ANSI/SPRI/FM 4435/ES-1 FOR METAL COPINGS AND FASCIAS, TYPICAL.

13 A200 COPING SPLICE DIAGRAM
N.T.S.



NOTES:
1. RUBBERGARD EPDM MEMBRANE SPOT ATTACHED ALONG THE TOP OF EXPANSION JOINT TUBE WITH BONDING ADHESIVE.
2. COMPRESSIBLE TUBE DIAMETER MUST EXCEED THE DECK OPENING BY 50% MIN. OR DESIGNED MOVEMENT (WHICH EVER IS GREATER).
3. FLASHING MEMBRANE FORMED INTO RETAINER TO SUPPORT FOAM ROD.
4. BATTEN STRIPS MAY BE USED IN LIEU OF 2" METAL PLATES FOR MAS AND FULLY ADHERED SYSTEMS ONLY. REFER TO MANUF. "BT" DETAILS FOR SPECIFIC BASE TIE-IN INFORMATION, REQUIREMENTS AND OPTIONS.
5. WOOD NAILER MUST BE INSTALLED TO MEET APPLICABLE BUILDING CODES OR 200 LB PER LINEAR FOOT IN ANY GIVEN DIRECTION.
6. APPROPRIATE FIRESTONE BONDING ADHESIVE REQUIRED BETWEEN MEMBRANE AND INSULATION FOR FULLY ADHERED SYSTEMS.
8. REFER TO LS-13 FOR ADDITIONAL LAP SPLICE RQRMNTS.

8 A200 EXPANSION JOINT DETAIL
1 1/2" = 1'-0"



4 A200 PAVER DETAIL
1 1/2" = 1'-0"

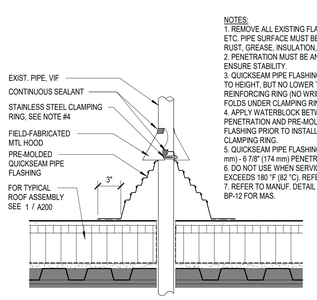
NOTE:
1) LAP FLEXIBLE FLASHING UP AT SIDE WALL AND FASTEN WITH TERM BAR
2) SET COPING IN SADDLE IN FULL BED OF SEALANT.

26 A200 COPING SADDLE DIAGRAM
N.T.S.

22 A200 WALL PLAN DETAIL AT BRICK VENEER (HIGH)
1 1/2" = 1'-0"

18 A200 ROOF EDGE AT MTL. PANEL WALL
1 1/2" = 1'-0"

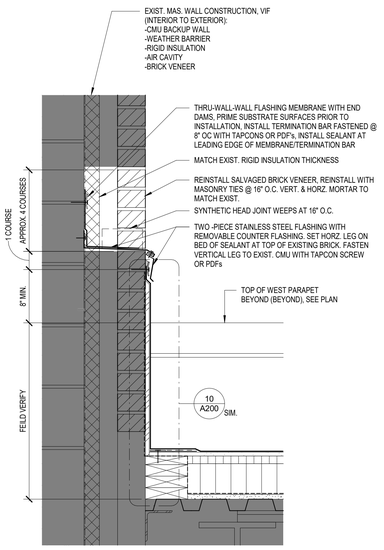
12 A200 TERMINATION AT MTL. PANEL WALL
1 1/2" = 1'-0"



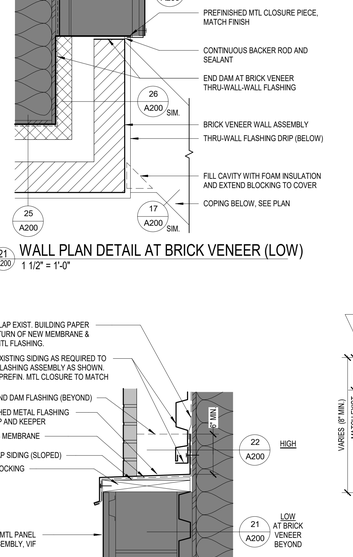
NOTES:
1. REMOVE ALL EXISTING FLASHING, LEAD, ETC. PIPE SURFACE MUST BE FREE OF ALL RUST, GREASE, INSULATION, ETC.
2. PENETRATION MUST BE ANCHORED TO ENSURE STABILITY.
3. QUICKSEAM PIPE FLASHING MAY BE CUT TO HEIGHT, BUT NO LOWER THAN REINFORCING RING (NO WRINKLES OR FOLDS UNDER CLAMPING RING).
4. APPLY WATERBLOCK BETWEEN PENETRATION AND PRE-MOLDED PIPE FLASHING PRIOR TO INSTALLATION OF CLAMPING RING.
5. QUICKSEAM PIPE FLASHING FITS 1" (25 mm) - 6 7/8" (174 mm) PENETRATION SIZES.
6. DO NOT USE WHEN SERVICE LINE TEMP. EXCEEDS 180 °F (82 °C). REFER TO P-4.
7. REFER TO MANUF. DETAIL P-10,P-11, & BP-12 FOR MAS.

7 A200 PIPE PENETRATION DETAIL
1 1/2" = 1'-0"

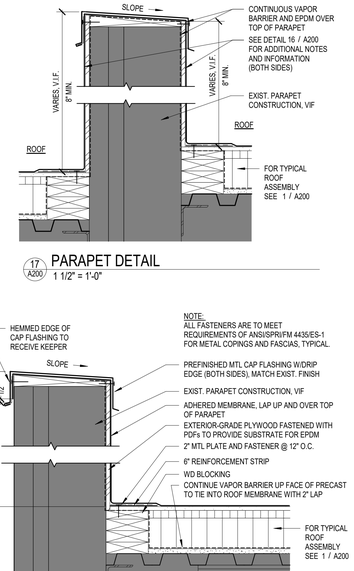
3 A200 ROOF PIPE SUPPORT DETAIL
1 1/2" = 1'-0"



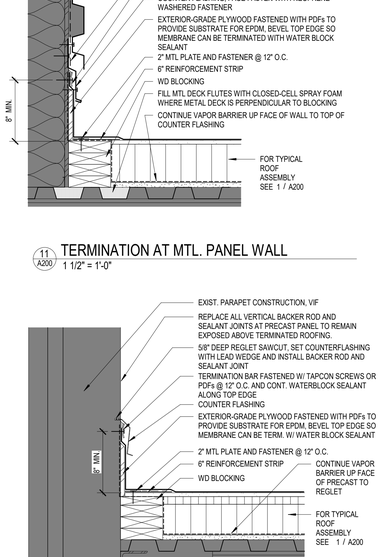
25 A200 TERM. DETAIL AT EXIST. FACEBRICK
1 1/2" = 1'-0"



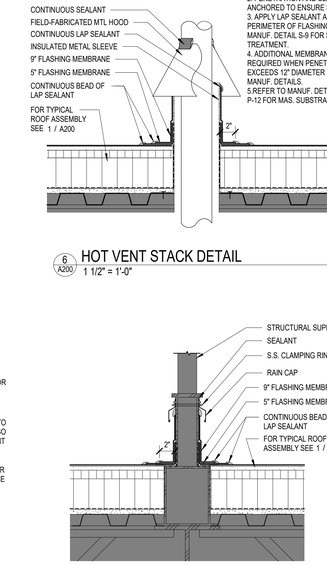
21 A200 WALL PLAN DETAIL AT BRICK VENEER (LOW)
1 1/2" = 1'-0"



17 A200 PARAPET DETAIL
1 1/2" = 1'-0"

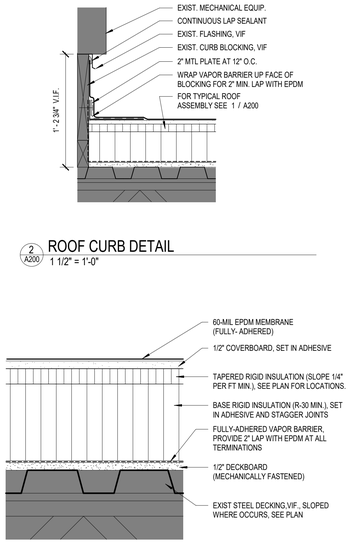


11 A200 TERMINATION AT MTL. PANEL WALL
1 1/2" = 1'-0"



NOTES:
1. REMOVE ALL EXISTING FLASHING, LEAD, ETC. PIPE SURFACE MUST BE FREE OF ALL RUST, GREASE, INSULATION, ETC.
2. PENETRATION AND SLEEVE MUST BE ANCHORED TO ENSURE STABILITY.
3. APPLY LAP SEALANT AROUND ENTIRE PERIMETER OF FLASHING. REFER TO MANUF. DETAIL S-9 FOR SEAM EDGE TREATMENT.
4. ADDITIONAL MEMBRANE SECUREMENT REQUIRED WHEN PENETRATION EXCEEDS 12" DIAMETER REFER TO MANUF. DETAILS.
5.REFER TO MANUF. DETAILS P-10, P-11, & P-12 FOR MAS. SUBSTRATE

6 A200 HOT VENT STACK DETAIL
1 1/2" = 1'-0"



2 A200 ROOF CURB DETAIL
1 1/2" = 1'-0"

20 A200 WALL DETAIL AT CMU FURRING
1 1/2" = 1'-0"

16 A200 PARAPET DETAIL
1 1/2" = 1'-0"

10 A200 TERMINATION DETAIL WITH REGLET
1 1/2" = 1'-0"

5 A200 STRUCTURAL SUPPORT ROOF DETAIL
1 1/2" = 1'-0"

1 A200 TYPICAL ROOFING ASSEMBLY
3" = 1'-0"

I thereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Architect under the laws of the State of Minnesota.

Ryan Gilchrist, AIA — License Number: 48490
9 February, 2021 — Date

HjS Architecture
1304 University Avenue NE, #305
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City of Plymouth

Plymouth Ice Center - Roof Replacement
3650 PLYMOUTH BLVD
PLYMOUTH, MN 55446

Checked By: HjS — Drawn By: RRG

Project number: HjS#

Revision:	Date:	Description:
00	2/9/21	BID/PERMIT SET
1	2/25/21	ARCH ADDENDUM 1

A200
ROOF DETAILS

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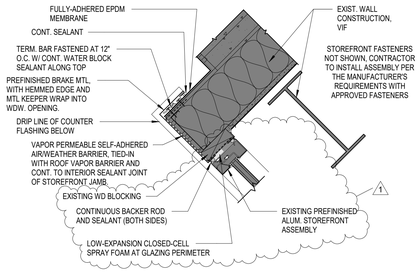
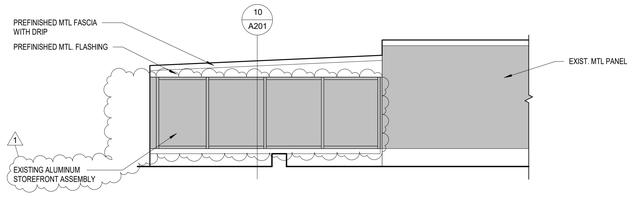
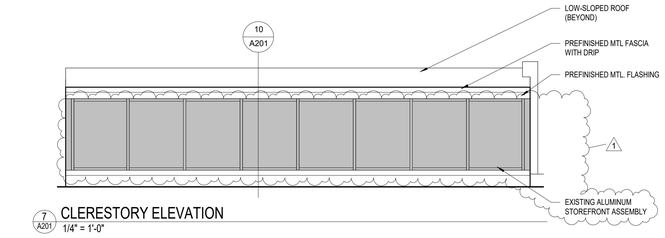


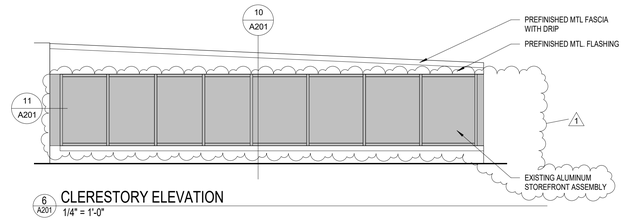
11 A201 CLERESTORY WINDOW JAMB DETAIL
1 1/2" = 1'-0"



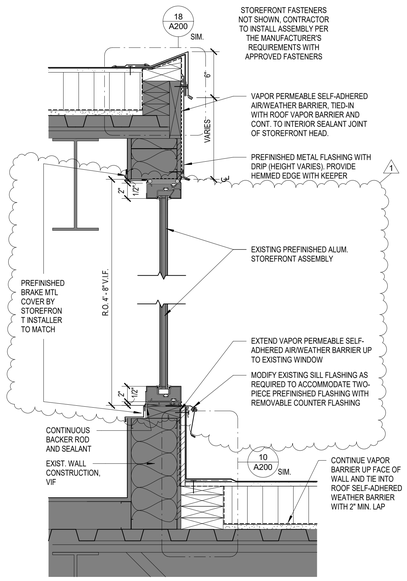
8 A201 R.O. VIF.
1/4" = 1'-0"



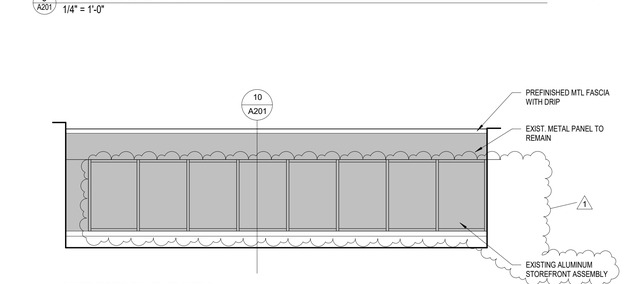
7 A201 CLERESTORY ELEVATION
1/4" = 1'-0"



6 A201 CLERESTORY ELEVATION
1/4" = 1'-0"

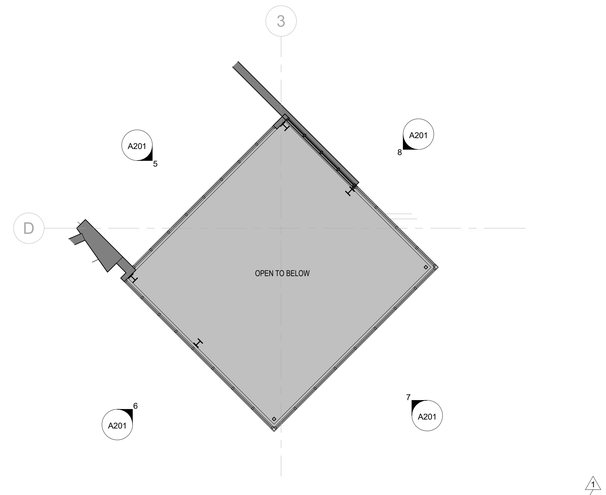


10 A201 CLERESTORY WINDOW HEAD/SILL DETAIL
1 1/2" = 1'-0"



5 A201 CLERESTORY ELEVATION
1/4" = 1'-0"

DETAIL 9/A201, CLERESTORY DEMO PLAN, IS DELETED

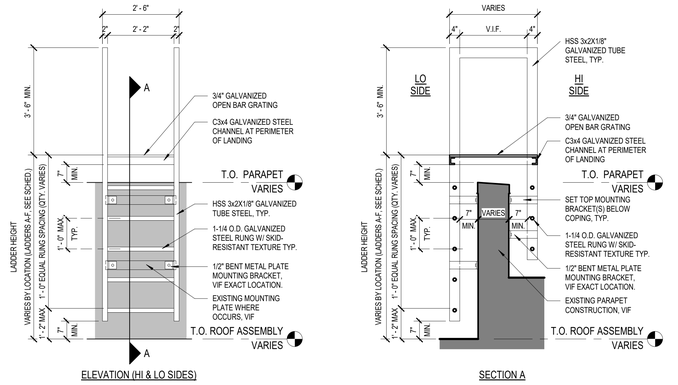


4 A201 ENLARGED CLERESTORY PLAN
1/8" = 1'-0"

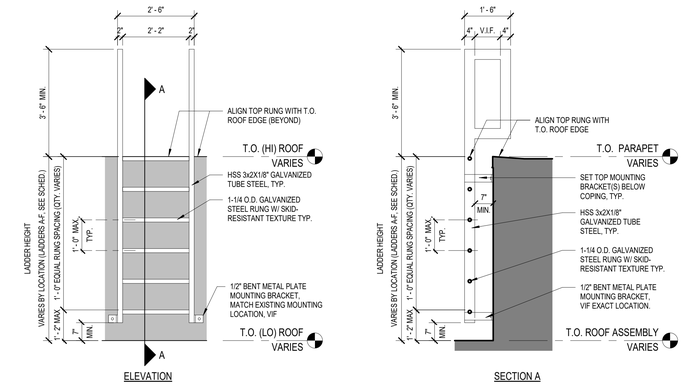
ROOF ACCESS LADDER SCHEDULE						
LADDER IDENTIFICATION (SEE PLAN)	LADDER TYPE	APPROXIMATE LADDER HEIGHT		EXIST. WALL / PARAPET CONSTRUCTION VIF	APPROX. PARAPET THICKNESS VIF	COMMENTS
		HI SIDE	LO SIDE			
LADDER A	1	8' - 6"	-	MTL FRAMED	-	NOTE #1
LADDER B	1	2' - 6"	-	MTL FRAMED	1' - 0"±	NOTE #1 & 2#
LADDER C	2	2' - 6"	2' - 6"	PRECAST	1' - 0"±	NOTE #1
LADDER D	2	12' - 0"	2' - 6"	PRECAST	1' - 0"±	NOTE #1
LADDER E	2	6' - 6"	1' - 6"	PRECAST	1' - 0"±	NOTE #1
LADDER F	2 SIM.	2' - 0"	2' - 0"	MTL FRAMED	1' - 0"±	NOTE #3

SCHEDULE NOTES:
1) EXIST. LADDER LOCATION, SEE DEMO. COORDINATE WITH EXISTING LADDER MOUNTING LOCATIONS, VIF
2) COORDINATE EXACT WIDTH AND MOUNTING OF LADDER WITH EXISTING PUNCHED WALL OPENING.
3) NOT FIXED AND SUPPORTED AT THE ROOF DECK. OMIT WALL SUPPORTS. PROVIDE 4" L 4x4 TREATED BLOCKING AND WEAR PADS BETWEEN LADDER AND ROOF MEMBRANE AT EACH SIDE.

3 A201 ROOF LADDER SCHEDULE
1/2" = 1'-0"



2 A201 ROOF LADDER (TYPE 2)
1/2" = 1'-0"



1 A201 ROOF LADDER (TYPE 1)
1/2" = 1'-0"

I thereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Architect under the laws of the State of Minnesota.

Ryan Grothaus, AIA — License Number: 48490
9 February, 2021 — Date

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City of Plymouth

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1	2/25/21	ARCH ADDENDUM 1

A201
WINDOW AND LADDER DETAILS

2/25/2021 4:09:51 PM

pie CONSULTING & ENGINEERING

7625 Golden Triangle Drive, Suite T | Eden Prairie, MN 55344
1-866-552-5246 | 612-284-7080 | **www.pieglobal.com**

Technical Memorandum

June 19, 2020

Hans J. Schmidt, AIA
Principal
HjS Architecture, LLC
1304 University Ave NE, Suite 305
Minneapolis, MN 55413

Project Number:	MN320106.00 (305)
Project Name:	Plymouth Ice Center – Re-Roof Assessment
Project Location:	3650 Plymouth Blvd Plymouth, MN 55446

Dear Mr. Schmidt:

In accordance with our agreement dated May 13, 2020, Pie Consulting & Engineering (Pie) observed the existing conditions and reviewed available information on the above-noted property. The results of our observation along with recommendations are presented herein.

HjS Architecture, LLC has been contracted by The City of Plymouth to provide design documents for an up-coming roof replacement project. The purpose of Pie's observations and this report is to identify existing enclosure conditions and deficiencies and provide recommendations as they relate to the roof replacement design.

Background Information

The roofs included in the scope of work were constructed at two different times. The original building, inclusive of Rinks A and B and the entrance was completed in 1997. The 2004 addition included Rink C, the mechanical rooms to the east of it, and the café north of the entrance.

Pie performed a preliminary roof assessment of the above-noted property on May 14, 2020. Ryan Grunklee of HjS Architecture, LLC and Erik Halverson, the manager of the facility, were present during the preliminary assessment. The purpose of the preliminary assessment was to discuss reported leaks with Mr. Halverson, observe existing conditions, and identify areas for destructive test openings.

Mr. Halverson pointed out several areas that experience water infiltration issues including:

- A periodic roof leak over the Women's bathroom that occurs during heavy rain events.
- Staining of ceiling tiles in the conference room along the shared wall between the conference room and Rink A.
- Periodic dripping from the roof along curved windows in café area. Not specifically rain related.

- Periodic leaks on the south wall of Rink A where large duct penetrations are located that occur during heavy rain events.
- Periodic leaks in the room west adjacent to the entrance that has resulted in stained ceiling tiles and water accumulation at the base of the glazing system.

Following the preliminary assessment, Pie prepared a test protocol document that identified five test opening locations and twelve roof sample cores. Berwald Roofing provided contractor's assistance in preparing the test openings and sample cores which Pie observed on June 4 and 5, 2020. Refer to Attachment A for the test protocol document with field notes from the sample cores of the individual roof assemblies.

Observations

Refer to Attachment B for representative photographs and Attachment C for aerial roof plan with color-coded roof perimeter conditions.

ROOF SYSTEMS

A. In general, the 1997 roofs consist of a ballasted EPDM system and the 2004 addition roofs consist of a gravel surfaced built-up system.

   1. Sample cores of the ballasted EPDM roofs were all similar with a polyethylene (poly) sheet vapor retarder loose laid on steel roof deck, 5 ¼ - 5 ½ inches of loose laid polyisocyanurate (polyiso) rigid insulation, and a 45-mil or 60-mil loose laid EPDM membrane with river rock ballast.

   2. All of the built-up roof sample cores were also similar with a 1-inch perlite deck board mechanically attached to the steel roof deck, a 2-ply built-up vapor retarder set in asphalt, 3 – 3 ¼ inches of polyiso set in asphalt, a ½-inch perlite cover board set in asphalt, and an aggregate surfaced 4-ply built-up membrane set in asphalt.

B. The polyiso insulation in the sample cores was found to be dry, except for the sample core on the lowest roof east of Rink C which was saturated.

C. Ponding water was present along the roof drains of Rink A. The primary roof drains appeared to be at a higher elevation than the low point of the roof. No tapered insulation was present between the primary roof drains, referred to as "crickets", to divert water to the drains.

D. Where the ballasted roofs interface with precast concrete walls, the EPDM membrane is upturned and adhered directly to the face of precast and fastened with a termination bar. Water block sealant is present on the leading edge of the membrane. No counterflashing is present.

E. The upturned roof membrane of the ballasted EPDM roofs has pulled away from the wall, referred to as "tenting", at several locations. At some occurrences, the pulling has resulted in holes in the membrane below the termination bar.

F. At the glazing system west of the entrance, the backside of the parapet consists of sloped or vertical plywood with EPDM membrane that has become unadhered. From the interior, kraft-faced batt insulation was observed in the stud cavities of the sloped framing. No vapor retarder was present, and staining was observed on the insulation.

G. Parapet and curb metal copings have little to no slope.

H. Where parapets and curbs interface with adjacent walls, the cap membrane flashings have no end dam onto the adjacent wall and most of the metal coping end dams are reliant on sealant to maintain water tightness.

EXTERIOR CLADDINGS RELATED TO ROOF SYSTEMS

A. There are several isolated areas where the roof membrane is upturned, sealed to the face of masonry veneer, and protected with reglet counterflashing. At these areas, no thru-wall flashings were observed. Efflorescence was observed on the north-facing masonry veneer below the Rink C roof.

B. Typical conditions observed at the precast concrete wall panels that extend past roof terminations included:

1. Failed vertical sealant joints.
2. Failed sealant joints at roof termination counterflashing reglets.
3. Large joints with excess sealant where panel corners and edges were damaged, likely during installation.
4. Hairline cracking in panels consistent throughout.
5. Larger isolated cracks at scupper penetrations and under Rink A clearstory translucent panels.
6. Isolated concrete spalls in panel surface.
7. Areas of discoloration indicating presence of moisture.

C. At the north end of the west-facing wall of Rink B, a partial height CMU wall is installed outboard of the corrugated metal paneling that is continuous behind it. The roof is upturned on the exterior face of the partial height CMU wall and concealed by flat-seamed metal panel. The top of the partial height CMU wall is covered with a metal coping that is sealed to the face of the corrugated metal panel above in a reverse shingle-lap configuration. The sealant between the corrugated metal panel and the leading edge of the metal coping has failed.

D. The corrugated metal panel-clad walls consist of an interior poly vapor retarder, steel stud framing with batt insulation, exterior gypsum sheathing, and felt paper behind the corrugated metal panel. Where a lower roof meets this type of wall, the membrane is upturned behind the metal panel and felt paper in a shingle-lap configuration. Staining was observed on the gypsum sheathing indicating the presence of moisture behind the felt paper.

E. The EPDM membrane adhered to the backside of the structurally supported parapet at the café addition has become unadhered in several locations.

WINDOWS RELATED TO ROOF SYSTEMS

A. The clearstory window units above the entrance have been wet-sealed, with sealant applied to the aluminum framing joints, glass to aluminum joints, and perimeter joints. Some areas of sealant appear to have multiple applications and most of the sealant has failed.

B. The glazing system west of the entrance has a sealant joint at the sill that is discontinuous at the bottom of vertical members and staining was observed on the curb below at these locations. Staining was also observed on the curb on the interior side of the glazing system. The system is continuous past the suspended ceiling up to the roof coping. The spandrel panels above the suspended ceiling are translucent, allowing daylight into the plenum space between the suspended ceiling and the roof.

Discussion and Recommendations

ROOF SYSTEMS

A. EPDM membranes naturally shrink over time and ballasted roofs provide no resistance to the shrinking because the membrane is loose laid. This has resulted in the observed “tenting” at the perimeter of the ballasted roofs. Due to the observed tenting and age of the ballasted EPDM roofs, Pie recommends they are removed and replaced with a new fully adhered EPDM roof system. A fully adhered system offers advantages to a ballasted system because it is not prone to the shrinking issue discussed and leaks are able to be localized and repaired more effectively.

B. The gravel surfaced built-up roofs were observed to be in overall good condition for the age of construction, except for the lowest roof to the east of Rink C where the insulation was saturated. Properly sloped built-up roofs have an expected service life of 30 years and the built-up roofs with dry insulation should be expected to last another 15 years with regular maintenance. However, some efficiencies could be realized if they are replaced at the same time as the ballasted EPDM roofs. This would also simplify maintenance schedules going forward. Regardless, Pie recommends that the lowest roof east of Rink C be removed and replaced with a new fully adhered EPDM roof system. Advantages of a fully adhered EDPM system compared to a built-up roof include reduced construction duration and labor costs as well as eliminating the need for a hot asphalt kettle and the odors associated with it.

C. The new fully adhered EPDM system should include a new self-adhered vapor retarder at the interior of the roof assembly, minimum R-30 insulation in accordance with the current energy code, and new drain bowl assemblies compatible with the new roof system. The new roofs should maintain ¼” per foot minimum slope and Rink A sloping should be re-configured such that primary roof drains are at the lowest elevation to minimize standing water. Tapered insulation installed between the roof drains would provide the positive drainage required to prevent the ponding conditions. Pie recommends that replacement of the parapet and curb metal copings is also included. New blocking should be installed to establish a slope to the roof side on all parapets. Where parapets and curbs interface with adjacent walls, new

membrane cap flashings should be continued on to the wall surface, forming a “saddle” to protect this critical interface. New metal copings should include end dams at adjacent walls with reglet counter flashings.

D. At the sloped backside of the glazing system west of the entrance, the kraft-faced batt insulation does not provide an air-seal to prevent interior air from reaching the underside of the plywood and there is no vapor retarder to stop vapor drive. During winter months, warm interior air can come in-contact with the underside of the cold plywood causing potential for condensation. Interior-to-exterior vapor drive will also occur as the plenum space is warmed up by the solar heat gain from the translucent spandrel panels causing potential for moisture accumulation at the underside of the EPDM membrane. The membrane becoming unadhered has likely been caused by a combination of these two mechanisms. Due to this, Pie recommends that the new fully adhered roof assembly is continued up the sloped and vertical plywood to the coping. The new vapor retarder on the top side of the plywood will prevent vapor drive and the new exterior insulation will keep the underside of the plywood warm.

EXTERIOR CLADDINGS RELATED TO ROOF SYSTEMS

A. Masonry veneer is a porous material and when used as a cladding is intended to take on water. The air cavity behind the masonry provides a drainage cavity for the cladding and a water-resistive barrier (WRB) on the back-up wall prevents moisture from entering the building enclosure. Thru-wall flashings integrated with the WRB collect moisture accumulated behind the veneer and direct it to the exterior. Where the roof is upturned and sealed to the face of masonry veneer with no thru-wall flashing above, water that accumulates in the masonry veneer cladding during wind-driven rain events is free to drain down past the roof to the building interior. Efflorescence observed on the north-facing masonry veneer below the Rink C roof is evidence of this occurring. Due to this, Pie recommends that new thru-wall flashings are installed at all locations where the roof is upturned and sealed to the masonry veneer.

B. The architectural precast concrete panels throughout the original construction and addition consist of interior and exterior wythes of concrete with an intermediate layer of rigid foam insulation, often referred to as sandwich panels. Terminating roof systems to the face of this type of wall system, even with reglet counterflashing, is problematic because it is reliant on the integrity of the vertical sealant joints and the concrete itself to prevent moisture from entering the wall assembly. The observed failed sealant joints and cracks and spalls in the concrete provide a path for moisture infiltration into the wall assembly, where it can drain down past the roof. Unlike the masonry veneer, precast sandwich panels are unable to be retro-fitted with thru-wall flashing mechanisms that divert moisture in the wall assembly to the exterior. To address this issue, Pie recommends extending the roof membrane up precast parapets and walls to cap flashings. Where precast is not clad with roof membrane, all sealant joints should be removed, and new backer rod and silicone sealant installed.

C. At the partial height CMU wall, the roof being upturned on the exterior face of the partial height CMU wall and the existing metal coping not providing adequate protection of the cavity between the metal panel and the CMU has created a path for water infiltration. Pie recommends installing new self-adhered membrane flashing and metal cap flashing that is

integrated behind the felt paper of the wall above and extends over and down the face of the flat-seam siding on the CMU wall.

D. The observed unadhered EPDM membrane on the backside of the tall curved parapet of the café addition suggests the presence of moisture in the wall assembly. The structural steel tube framing of the wall is a substantial thermal bridge. With it being directly exposed to the exterior it will be the same temperature as the outside air during the winter. Judging from the configuration of the parapet wall, it is likely that the stud framing is continuous past the roof and lacking an effective air stop. There is potential for interior air traveling up the wall framing and meeting the cold surface of the steel tube within the wall. During winter months, this would result in condensation and frost on the steel tube that would then melt and be absorbed by fiberglass batt insulation, causing potential for biological growth. When the wall is heated up by solar heat gain, interior-to-exterior vapor drive will occur causing potential for moisture accumulation on the underside of the EPDM membrane. The result is the EPDM on the backside of the parapet becoming unadhered.

The best approach to addressing this issue would be a comprehensive rehabilitation that includes a vapor retarder, exterior insulation, and new cladding on the backside of the parapet wall. Creating a thermally broken connection between the steel tube and the diagonal braces would also be recommended as part of the comprehensive rehabilitation. Another approach that would lessen the severity of the issue but not eliminate it would be to reduce the potential for interior air reaching the steel tube framing, by removing the existing batt insulation within the stud cavities and completely filling the cavity with closed-cell spray foam insulation. Drilling holes in the steel tube framing and filling it with additional closed-cell spray foam would also be recommended with this approach.

WINDOWS RELATED TO ROOF SYSTEMS

E. The clearstory window units above the entrance appear to be a store front type system. Store front systems are designed to direct any water that gets into the framing system to a continuous sill pan where it can drain to the exterior. No sill pan was installed and the windows have been wet-sealed with sealant applied to all aluminum framing joints, glass to aluminum joints, and perimeter joints with the intent of preventing any water from getting into the window framing. The issue with wet sealing is once the sealants begin to fail, as was observed, water that gets into the window system is stopped from draining to the exterior and instead drains to the interior. The result is the damaged interior finishes observed at the interior sill of the windows. Addressing this issue would require removing the window system entirely to install a new continuous sill pan. Based on the age and condition of the windows, Pie recommends that they are replaced with new as oppose to removing and re-installing.

F. The full-height glazing system west of the entrance appears to be a store front type system as well. Aluminum tubes have been attached to the interior of the verticals of the system to span the height of the space. No sill pan is present and most of the joint between the sill and the curb is sealed, except at the verticals. During heavy wind-driven rain events, the system takes on water and drains to the surface of the curb below the sill. If the amount of water is more than the openings in the sill joint can accommodate, water will accumulate and drain to the interior. The result is the reported water on the interior of the sill during rain

events and the observed damage to the interior finishes. Like the clearstory windows, addressing this issue would require removing the glazing system to install a new continuous sill pan. Pie recommends that the glazing system is replaced with a curtain wall type system that can accommodate the vertical spans as oppose to removing and re-installing the existing system.

The repair recommendations included herein should be utilized for conceptual and estimating purposes and not interpreted as a repair design for which Pie is the engineer-of-record. Any repairs should be conducted by a licensed and qualified general contractor in accordance with the requirements of the Authority Having Jurisdiction.

The determinations and results described in this report are based on information available at the time of the observation and preparation of this report. Should additional information or unknown conditions be uncovered or made available, Pie Consulting & Engineering retains the right to revise and supplement this report accordingly.

In addition, this report is a general summary of writings, recordings, photographs, and other information, which is available for review and placed within the job file. To the extent assumptions were made relating to the contents of this report, not all such assumptions are stated within this report or in our job file. A description of such assumptions can only be identified if specific questions are directed at discrete issues because many of such assumptions are incorporated in Pie Consulting & Engineering's experience, training, education, and judgment.

The professional determinations presented in this report have been developed using that degree of care and skill ordinarily exercised under similar circumstances by professional engineers practicing in this locality. Aside from this standard, no warranty, either expressed or implied, is made as to the professional determinations expressed in this report. It is understood that Pie Consulting & Engineering is not responsible or liable for the accuracy or adequacy of a design performed by others, and that the responsibility for the original design rests with the Owner of the structure, the General Contractor, and the design professional of record for the structure.

Sincerely,

Pie Consulting & Engineering

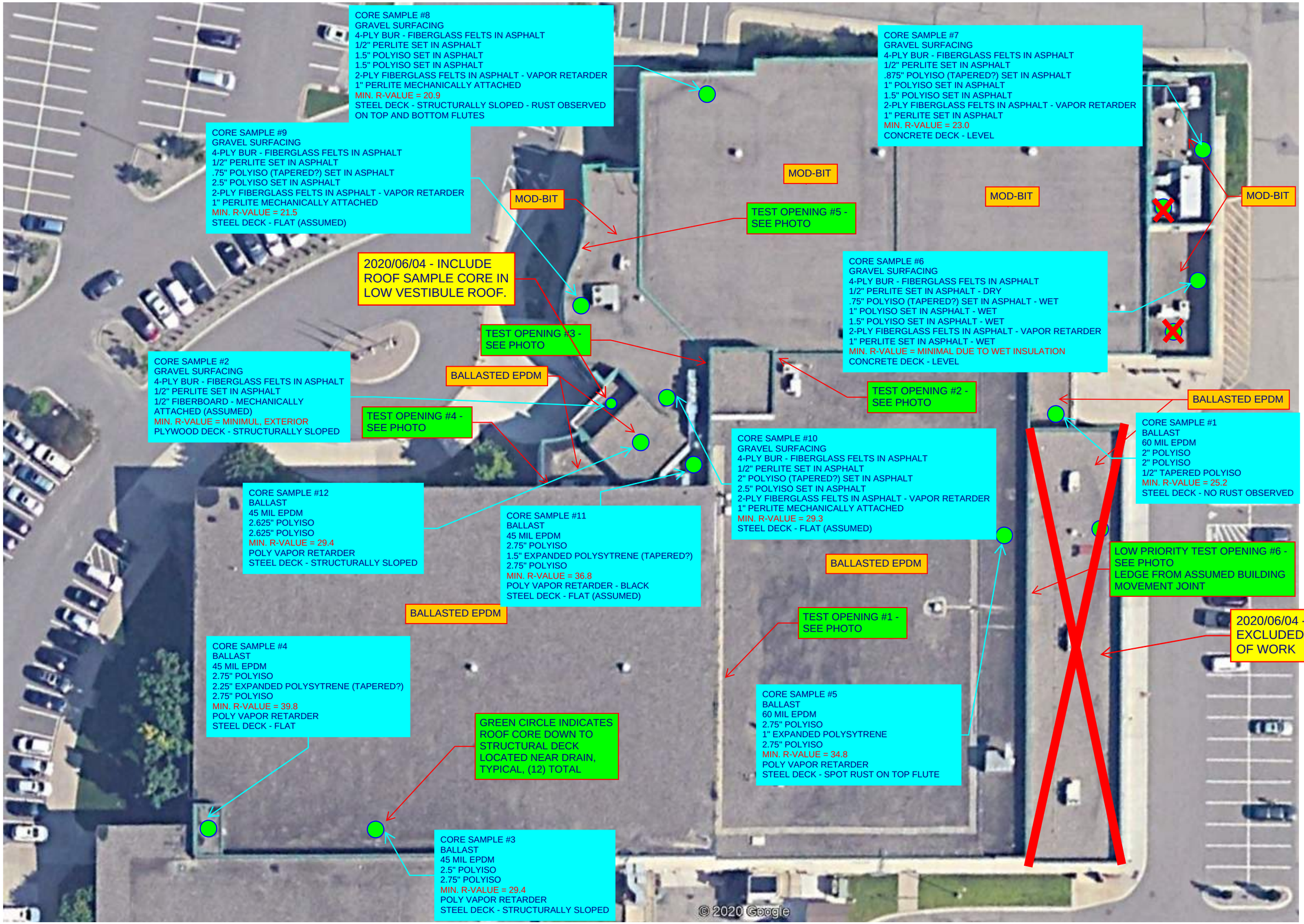
Observed and Prepared by:
Tor L. Oksnevad, P.E.
Senior Project Manager

TLO:RSJ:mp

Attachments: A: Test protocol document with field notes
B: Representative photographs
C: Aerial roof plan with color-coded perimeter conditions

K:\2020_MN\MN32010600\Phase 305 - Pre-Design\05_Rpts_Att_Submtls\2020-06-18 – Plymouth Ice Center Roof Assessment.docx

Attachment A –
Test Protocol Document with Field Notes



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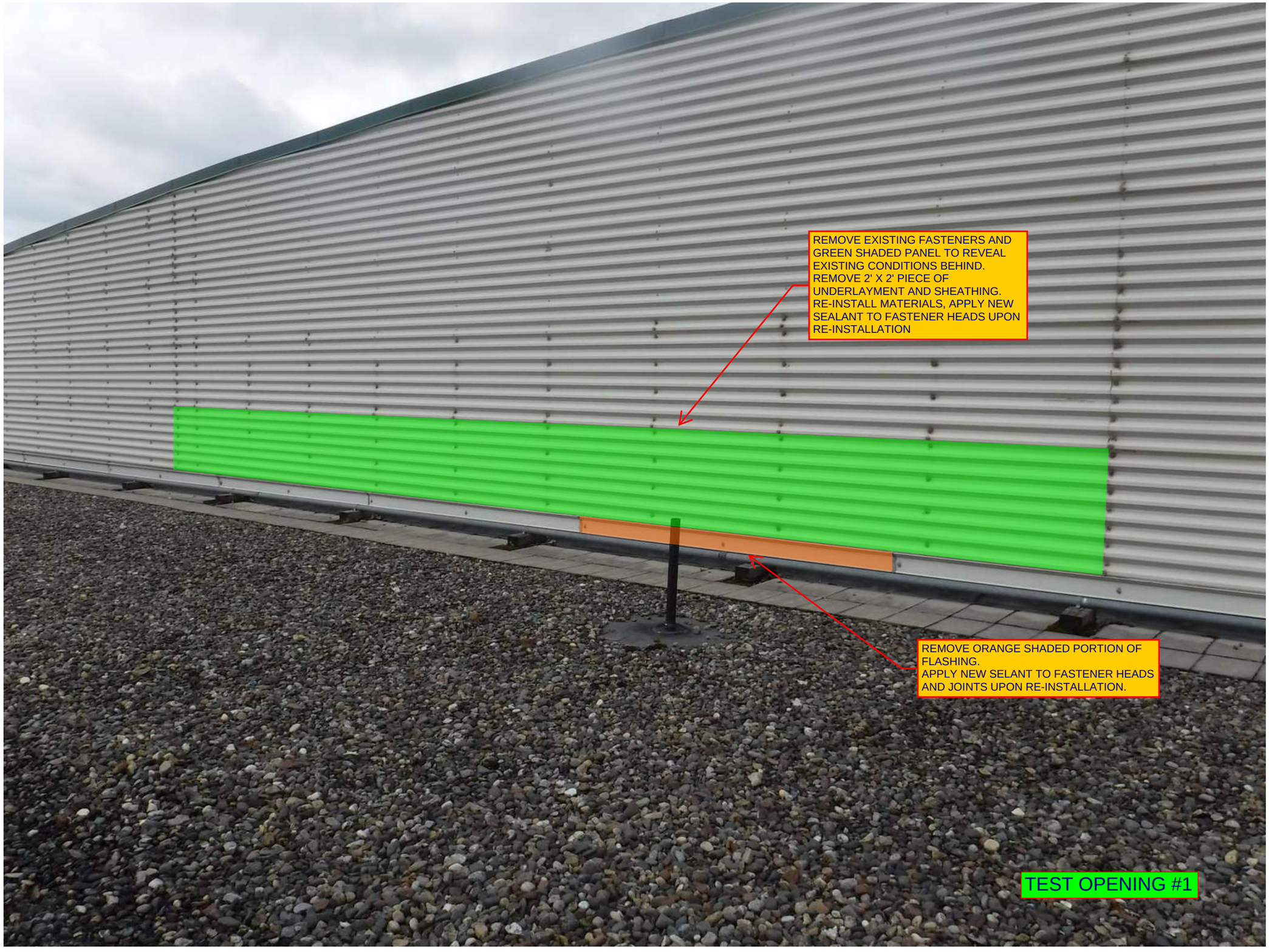
PLYMOUTH ICE CENTER

DESTRUCTIVE TEST OPENING PROTOCOL

3650 PLYMOUTH BLVD - PLYMOUTH, MN 55446

Job No:	MN320106.00 (305)
Issue Date:	5/21/2020
Date Observed:	5/14/2020
Observed By:	TLO
Drawn By:	TLO
Checked:	MOM



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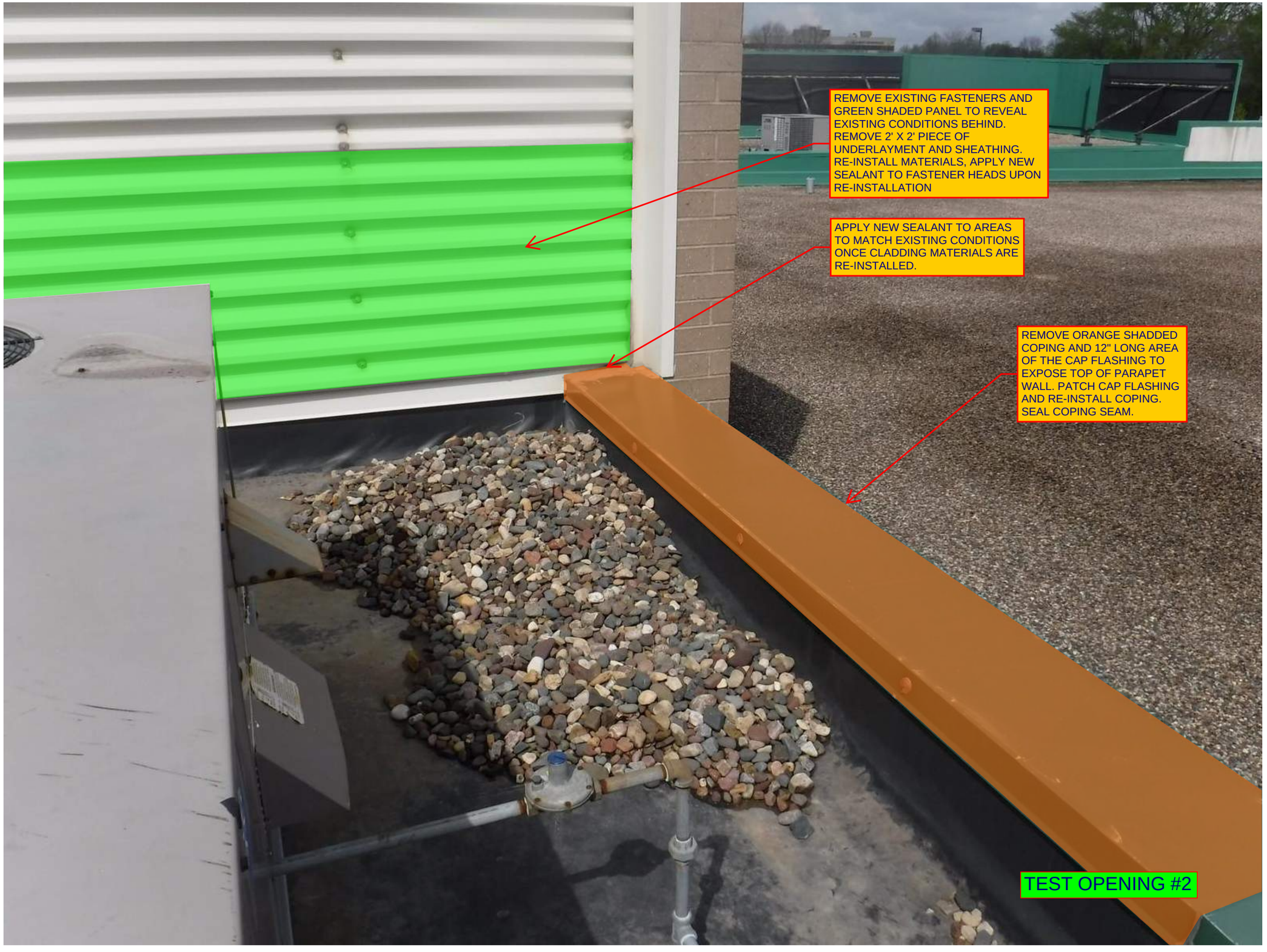
Drawn By:	TLO
Checked:	MOM



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www.pieglobal.com

PLYMOUTH ICE CENTER

DESTRUCTIVE TEST OPENING PROTOCOL

3650 PLYMOUTH BLVD - PLYMOUTH, MN 55446

Job No:	MN320106.00 (305)
Issue Date:	5/21/2020
Date Observed:	5/14/2020
Observed By:	TLO
Drawn By:	TLO
Checked:	MOM

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6

Attachment B –
Representative Photographs

Rink A roof looking west

Rink A roof looking northwest

Rink A roof looking north

Lower roofs north of Rink A

Entrance clearstory roof, café and Rink C roof beyond

Rink B penthouse and rink C roof beyond

Rink B roof looking east

Rink B roof looking southeast

Rink B roof looking south

Rink C roof looking northeast

Café addition roof

North lower roof east of Rink C

South lower roof east of Rink C, note sample core insulation was saturated

Vestibule roof east of Rink B roof

Main entrance vestibule roof

Location of reported leak in women’s restroom

Stained ceiling tiles along wall between conference room and Rink A

Ceiling plenum above stained ceiling tiles in previous photo

Ineffective vapor retarder on wall between conference room and Rink A, note discoloration on batt insulation

Sample core #2

Sample core #3

Sample core #5

Sample core #6

Sample core #6

Sample core #8

Sample core #8

Standing water on Rink A roof

Rink A primary roof drain at higher elevation than standing water

Typical “tenting” observed along ballasted roof perimeters

Typical holes in membrane below termination bar caused by “tenting”

Unadhered membrane at back of sloped parapet west of entrance

Sloped parapet west of entrance

Unadhered membrane at back of sloped parapet west of entrance

Unadhered membrane at back of sloped and vertical parapet west of entrance

Existing conditions underneath sloped parapet, note staining on kraft-faced batt insulation

Typical coping with little to no slope

Wide coping west of entrance with little to no slope

Coping termination to adjacent wall, note sealant applied in attempt to address leak

Test opening of previous photo, note membrane and metal does not extend onto adjacent wall at critical interface

Coping termination to adjacent masonry wall with little upturn and no thru-wall flashing above

Test opening of previous photo, note lack of upturn and void in membrane flashing

Coping termination to adjacent precast wall with no upturn of membrane or metal coping

Coping termination to adjacent precast wall, coping end dam is reliant on sealant for water-tightness

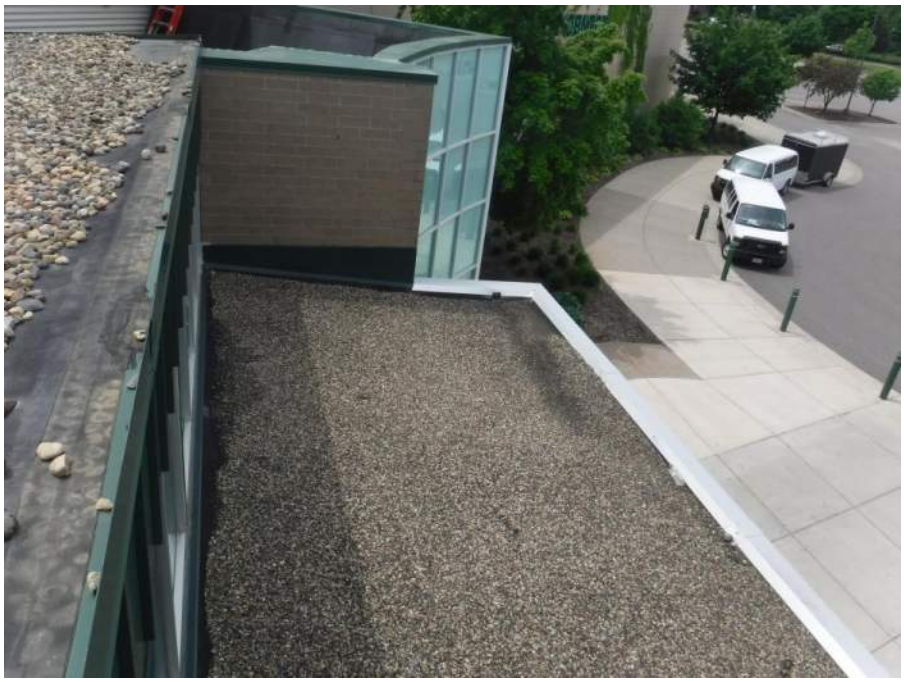
North-facing masonry wall of Rink B penthouse

Roof is upturned and sealed to face of masonry veneer and concealed by metal counterflashing with reglet into masonry, no masonry thru-wall flashing above the roof termination

Efflorescence observed on masonry veneer directly below previous photo is evidence of moisture within wall

Roof terminated to face of masonry veneer wall return at Rink A southwest penthouse

Close-up of previous photo, no masonry thru-wall flashing above the roof termination



Roof termination to masonry veneer wall at west edge of entrance roof with no thru-wall flashing above

Roof termination to masonry veneer wall at northeast edge of entrance roof with no thru-wall flashing above

Typical failed vertical sealant joint between precast panels and discoloration

Typical failed vertical sealant joint between precast panels

Failed sealant joint at precast outside corner

Excessive sealant applied to damaged precast corner and typical hairline cracks

Typical hairline cracks in precast panel

Diagonal cracks originating at corners of scupper penetration

Horizontal crack underneath Rink A clearstory translucent panel

Observed spall in precast, typically caused by presence of moisture and freeze-thaw cycling

Typical staining originates from beneath coping

Precast discoloration observed adjacent to cooling tower

Partial height CMU wall clad with flat-seam metal panel

Roof membrane is terminated to face of CMU wall

Coping removed from top of CMU wall, coping was sealed to face of corrugated metal panel

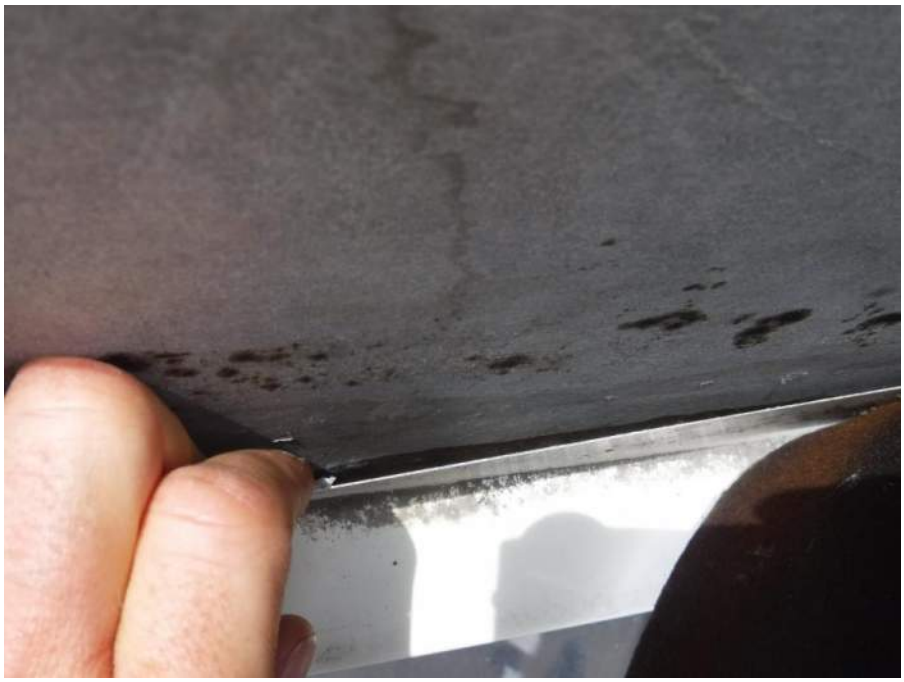
Coping was also sealed to face of adjacent sloped metal panel

Space between corrugated metal panel and CMU wall is a potential path for water infiltration

Corrugated metal panel on east wall of Rink A above Rink B

Removed metal panel on east wall of Rink A

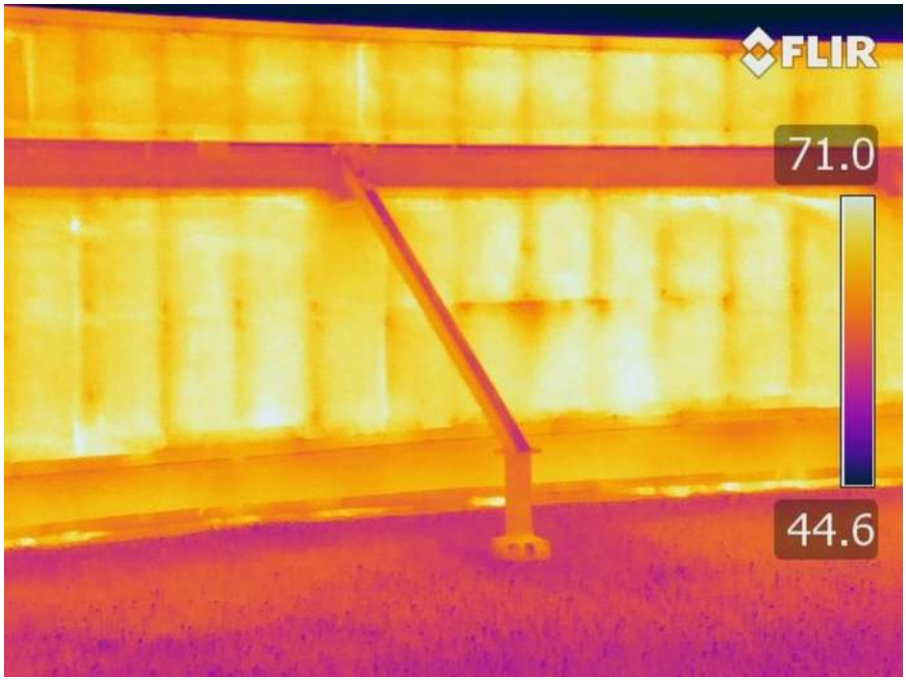
Roof membrane upturn is concealed behind metal flashing which felt paper shingle-laps onto, staining on gypsum sheathing indicates presence of moisture behind felt paper WRB



Upturned membrane behind metal flashing in previous photo

Adhered EPDM membrane cladding on backside of curved parapet of café addition with steel braces

Typical unadhered EPDM membrane



Infrared photo of backside of parapet

Test opening at base of EPDM clad parapet

Clearstory windows on northeast elevation of entrance roof

Clearstory windows on southwest elevation of entrance roof

Note different types of sealant applied to joint below sill

Close-up of window sill, note sealant at horizontal-to-vertical joint, majority of sealant has failed

Full-height glazing system in room west of entrance

Staining below ceiling observed on CMU wall adjacent to glazing

Existing conditions above ceiling, note standing water on ceiling tiles

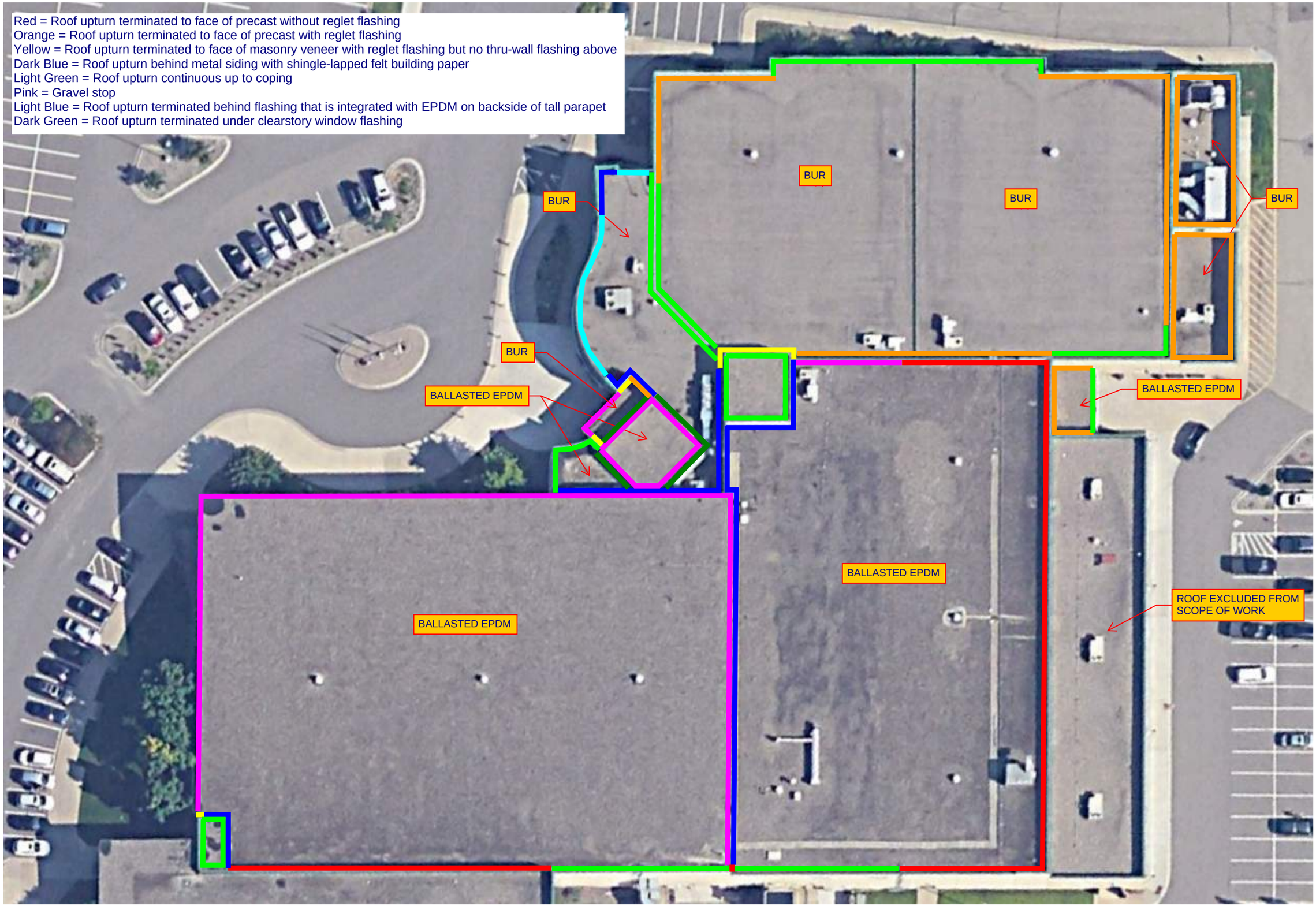
Staining at base of glazing system, note vertical aluminum tube providing reinforcement of store front verticals

Staining at base of glazing system

Exterior sill condition, note sealant joint between sill and curb is discontinuous at verticals and staining below verticals

Attachment C –
Aerial Roof Plan with Color-Coded Perimeter Conditions

Red = Roof upturn terminated to face of precast without reglet flashing
Orange = Roof upturn terminated to face of precast with reglet flashing
Yellow = Roof upturn terminated to face of masonry veneer with reglet flashing but no thru-wall flashing above
Dark Blue = Roof upturn behind metal siding with shingle-lapped felt building paper
Light Green = Roof upturn continuous up to coping
Pink = Gravel stop
Light Blue = Roof upturn terminated behind flashing that is integrated with EPDM on backside of tall parapet
Dark Green = Roof upturn terminated under clearstory window flashing



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PLYMOUTH ICE CENTER

AERIAL ROOF PLAN WITH COLOR-CODED PERIMETER CONDITIONS

3650 PLYMOUTH ROAD - PLYMOUTH, MN 55446

Job No: MN3201006.00 (305)

Issue Date:	6/18/2020
Date Observed:	6/4/2020
Observed By:	TLO
Drawn By:	TLO
Checked:	RSJ

C1

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Plymouth Ice Center Bid Walk-Through Questions

1. **What is the expected timeline for this project to be completed.**
   - Projected will be awarded on Friday, March 5th
   - Will seek council approval for acceptance of the bids on Tuesday, March 23rd at 7:00pm
   - Winning and accepted bid will need to be completed within the year of 2021 with an targeted start date of August 2nd, 2021 to avoid operational disruption. Scheduling to be discussed between city and awarded party.

2. **Who is responsible for Mechanical/Electrical Equipment?**
   - Roof Contractor is responsible.
   - Plymouth Ice Center uses Kidd Plumbing for HVAC and plumbing and Phasor Electric for Electrical work.
     i. Kidd Plumbing: 763-493-7878
     ii. Phasor Electric: 763-780-3401

3. **The facility will need to remain operational during the duration of the project.**
   - The city is working with the architect to amend the project for the roofing material to be installed with an adheisive rather then drilling into the roof decking. This should allow for a safer environment for the facility to remain open during the working hours of the replacement of the roof.

4. **Will all insulation need to be replaced?**
   - Please refer to HJS drawings

5. **Is a prevailing wage required?**
   - No, a prevailing wage is not required.

6. **What are the Permit Fees?**
   - Contractor will be required to submit for required permits. However the city does not charge a permit to self. Contractor will be require to pay the state fee.

7. **Please give more information on Detail #25, pg. 200.**
   - To be provide in the HJS documents

8. **What is needed for Bid/Performance Bonds?**
   - Both Bid bond and performance bonds are required. Bid Bond in the amount of 5% of the bid amount. Performance bonds in the amount of 10% of project cost.

9. **Are there hazardous materials in any of the existing roof assemblies?**
   - No testing has been done and not aware of hazardous materials.

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10. What are the existing roof assembly types and insulation thicknesses?

- Refer to the PIE Engenieering Roof Report.

11. Are there photographs of the roof assembly inspection test openings and of the roof areas without snow cover?

- Yes, will be uploaded to the Bid site under roof assessment.

12. Is it possible to obtain a cross section of Rink A (original plans) for dimensions of the barrel roof?

- Information to be added to HJS drawings

13. Are guard/safety rails required at the roof hatch or mechanical units located near a roof edge?

- At ladder areas, yes.

14. What is the new paver/walkway layout?

- Marked in the drawings with and labeled as number 8.

15. Are there underground storage tanks or other areas of concern in the staging areas?

- No.

16. Do any of the roof areas being considered for replacement have acoustical steel decking?

- No, there is not acoustical steel decking.

17. Can we stage along the west elevation of Rink A?

- The city will be flexible and can allow temporary staging in that area and blocking of parking spots when working in that area. We would not be able to block that area for the entirety of the project.

18. Is staging allowed in the SW corner near the front entrance for roof replacement?

- Yes, as long as fire lane is maintained.

19. If Rink C Alternate is accepted, will the construction schedule be extended?

- Yes, as long as the entire project is completed within 2021 and schedule can be negotiated with the city and winning contractor bidder.

20. Can we stage in the north parking lot for Rink C?

- Yes.

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21. If Alternate Rink C is not accepted, is staging allowed in the NW corner for reroofing of the front entrance?

- South of Rink B will be the main staging area. We may be able to find some smaller areas on the NW side of the parking lot but we are unable to block the main entrance along with the drive through of the parking lot from the Plymouth Ice Center to LifeTime. This can be discussed and negotiated with the winning contractor bid.

(PIC Facility Improvements - Roof Replacement) PROJECT CONTRACT AGREEMENT

AGREEMENT made this ___ day of _____2021, by and between the **CITY OF PLYMOUTH,** a Minnesota municipal corporation ("City") and _____("Contractor").

IN CONSIDERATION OF THEIR MUTUAL COVENANTS THE PARTIES AGREE AS FOLLOWS:

1. CONTRACT DOCUMENTS. The Contract consists of the following documents. In the event of conflict among the documents the conflict shall be resolved by the order in which they are listed with the document listed first having the first priority and the document listed last having the last priority: 1) this Project Agreement, 2) Contract Documents including Summary of Work & Supplementary Conditions, and 3) Contractor's bid.

2. SCOPE OF SERVICES. The City retains Contractor to furnish the services set forth on the attached Exhibits 1-3. The Contractor agrees to perform the services and act as installer to PIC Roof Replacement Project for the City at assigned location. Contractor shall provide all personnel, supervision, services, material, tools, equipment and supplies. The work shall be performed in accordance of this services agreement, Contractor has the proper and necessary qualification, experience and abilities to provide agreed upon services in Exhibit 1.

3. COMPENSATION. Contractor shall be paid by the City in accordance with the Contractor's bid. Contractor shall submit monthly invoices and the City shall pay the invoices within thirty-five (35) days of receipt. The fees shall not be adjusted if the estimated hours to perform a task or any other estimate or assumption are exceeded.

4. COMPLETION DATE. Contractor shall complete work within negotiated timeline established between City and Contractor. (Work to be performed and completed within the calendar year of 2021 with an allowable start date of August 2nd, 2021).

5. COMPLIANCE WITH LAWS AND REGULATIONS. In providing services hereunder, Contractor shall abide by all statutes, ordinances, rules and regulations pertaining to the provisions of services to be provided.

6. STANDARD OF CARE. Contractor will provide and install all needed equipment to outlined specification a good and workmanlike manner consistent with industry standards. City shall not be responsible for discovering deficiencies in the Contractor's services.

7. INDEMNIFICATION. The Contractor shall indemnify and hold harmless the City, its officers, agents, and employees, of and from any and all claims, demands, actions, causes of action, including costs and attorney's fees, arising out of or by reason of the execution or performance of the work or services provided for herein and further agrees to defend at its sole cost and expense any action or proceeding commenced for the purpose of asserting any claim of whatsoever character arising hereunder.

8. INSURANCE. Contractor shall secure and maintain such insurance as will protect Contractor from claims under the Worker's Compensation Acts, automobile liability, and from claims for bodily injury, death, or property damage which may arise from the performance of services under this Agreement. Such insurance shall be written for amounts not less than:

Commercial General Liability	$1,000,000 each occurrence/aggregate
Automobile Liability	$1,000,000 combined single limit

Workers' Compensation	Statutory requirement $500,000 Bodily Injury by Disease per employee $500,000 Bodily Injury by Disease aggregate $500,000 Bodily Injury by Accident
Excess/Umbrella Liability	$2,000,000 each occurrence/aggregate

The City shall be named as an additional insured on the general liability and umbrella policies.

Before commencing work the Contractor shall provide the City with a certificate of insurance evidencing the required insurance coverage in a form acceptable to City.

9. INDEPENDENT CONTRACTOR. The City hereby retains the Contractor as an independent contractor upon the terms and conditions set forth in this Agreement. The Contractor is not an employee of the City and is free to contract with other entities as provided herein. Contractor shall be responsible for selecting the means and methods of performing the work. Contractor shall furnish any and all supplies, equipment, and incidentals necessary for Contractor's performance under this Agreement. City and Contractor agree that Contractor shall not at any time or in any manner represent that Contractor or any of Contractor's agents or employees are in any manner agents or employees of the City. Contractor shall be exclusively responsible under this Agreement for Contractor's own FICA payments, workers compensation payments, unemployment compensation payments, withholding amounts, and/or self-employment taxes if any such payments, amounts, or taxes are required to be paid by law or regulation.

10. SUBCONTRACTORS. Contractor shall not enter into subcontracts for services provided under this Agreement without the express written consent of the City. Contractor shall comply with Minnesota Statute § 471.425. Contractor must pay subcontractor for all undisputed services provided by subcontractor within ten days of Contractor's receipt of payment from City. Contractor must pay interest of 1.5 percent per month or any part of a month to subcontractor on any undisputed amount not paid on time to subcontractor. The minimum monthly interest penalty payment for an unpaid balance of $100 or more is $10.

11. ASSIGNMENT. Neither party shall assign this Agreement, or any interest arising herein, without the written consent of the other party.

12. WAIVER. Any waiver by either party of a breach of any provisions of this Agreement shall not affect, in any respect, the validity of the remainder of this Agreement.

13. ENTIRE AGREEMENT. The entire agreement of the parties is contained herein. This Agreement supersedes all oral agreements and negotiations between the parties relating to the subject matter hereof as well as any previous agreements presently in effect between the parties relating to the subject matter hereof. Any alterations, amendments, deletions, or waivers of the provisions of this Agreement shall be valid only when expressed in writing and duly signed by the parties, unless otherwise provided herein.

14. CONTROLLING LAW. This Agreement shall be governed by and construed in accordance with the laws of the State of Minnesota. All proceedings relate to this Agreement shall be venued in Hennepin County, Minnesota.

15. RECORDS. The Contractor shall maintain complete and accurate records of time and expense involved in the performance of services.

16. MINNESOTA GOVERNMENT DATA PRACTICES ACT. Contractor must comply with the Minnesota Government Data Practices Act, Minnesota Statutes Chapter 13, as it applies to (1) all data provided by the City pursuant to this Agreement, and (2) all data, created, collected, received, stored, used, maintained,

or disseminated by the Contractor pursuant to this Agreement. Contractor is subject to all the provisions of the Minnesota Government Data Practices Act, including but not limited to the civil remedies of Minnesota Statutes Section 13.08, as if it were a government entity. In the event Contractor receives a request to release data, Contractor must immediately notify City. City will give Contractor instructions concerning the release of the data to the requesting party before the data is released. Contractor agrees to defend, indemnify, and hold City, its officials, officers, agents, employees, and volunteers harmless from any claims resulting from Contractor's officers', agents', city's, partners', employees', volunteers', assignees' or subcontractors' unlawful disclosure and/or use of protected data. The terms of this paragraph shall survive the cancellation or termination of this Agreement.

17. NONDISCRIMINATION. In the hiring of employees to perform work under this Agreement, the Contractor shall not discriminate against any person by reason of any characteristic or classification protected by state or federal law.

18. SAVINGS CLAUSE. If a court finds any portion of this Agreement to be contrary to law, invalid, or unenforceable, the remainder of the Agreement will remain in full force and effect.

BY:_____ Signature:_____
Name, Title

Dated:_____, 2021

Business Name and Address:_____

CITY OF PLYMOUTH

BY: _____ BY: _____
Jeff Wosje, Mayor Its_____

Dated: _____, 2021.

BY: _____
David Callister, City Manager

Dated: _____, 2021

PLYMOUTH the pic ICE CENTER

Roof Replacement Mandatory Meeting/Walk-Through

	Vendor(Company)	Representative	E-mail Address
1	HjS Architecture	Ryan Grunklee	ryan@hjsarchitecture.com
2	McPhillips Bros	Pat Peterson	pat@mcphillipsbros.com
3	Berwald Roofing	Collin Prochnow	collinp@berwaldroofing.com
4	John A Dalsin	Jim Dalsim	jimd@dalsin.com
5	Central Roofing	Matthew Olson	matto@centralroofing.com
6	4 Seasons Roofing	Chris Meehan	chris@4seasonsroofingmn.com
7	4 Seasons Roofing	Peter St. Germain	peter@4seasonsroofingmn.com
8	B&B Sheet Metal&Roofing	David Menzel	dmenzel@bbsheetmetalroofing.com
9	Signature Mechanical	Jim Froethe	jim@signaturemechanical.com
10	GSM	Andrew Forstner/Mike Kuck	andrewforstner@gsm1904.com
11	North Tech Construction	Chase Semmer	chases@northtechconstruction.com
12	North Construction	Ryan Mulrennan	ryan@northconstruction.com
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