

ILLINOIS INTERNATIONAL PORT DISTRICT

**INVITATION FOR BIDS (“IFB”) FOR:
TRANSIT SHED ROOF REPLACEMENT**

DUE: August 28, 2025

Required for use by:

**Illinois International Port District
(IIPD)**



All proposals and other communications must be addressed and returned to:

Erik Varela
Executive Director
Illinois International Port District
3600 E. 95th Street
95th and the Lakefront
Chicago, Illinois 60617-5193
iipd@iipd.com

BIDS MUST BE RECEIVED NO LATER THAN 3:00 P.M. August 28, 2025

**Ivan Solis
CHAIRMAN**

**Erik Varela
EXECUTIVE DIRECTOR**

**Illinois International Port District
Invitation for Bids (IFB)**

Project: TRANSIT SHED ROOF REPLACEMENT AT IIPD LAKE CALUMET TERMINAL
Section Number: 22-IIPD1-00-PT
State Job Number: C-91-040-23
Owner: ILLINOIS INTERNATIONAL PORT DISTRICT
Engineer / Architect: SINGH + ASSOCIATES; WIGHT & COMPANY
Construction Manager: BAXTER & WOODMAN, INC.

BACKGROUND ON THE IIPD

The Illinois International Port District (“IIPD” or “District” or “Port of Chicago”) is an Illinois municipal corporation created to promote the shipment of cargoes and commerce through its facilities. IIPD is the owner and master landlord controlling two port terminal areas in South Chicago: the Iroquois Landing Terminal, an open paved terminal with 3,000 linear feet of ship and barge berthing space located at the mouth of the Calumet River in the southwest corner of Lake Michigan; and the Lake Calumet Terminal (Senator Dan Dougherty Harbor) which encompasses approximately 1,600 acres of land area and currently is home to various harbor operations located at the junction of the Grand Calumet and Little Calumet Rivers, situated six miles inland from Lake Michigan. IIPD’s port and harbor terminals are served by rail facilities and are adjacent to three interstate highways and feature an abundance of warehouse facilities. IIPD currently leases facilities within its harbor areas to freight forwarders, export packaging, customs brokers, consolidators, shippers’ associations, forwarders and expeditors, specialists in fragile and perishable cargoes, and many other users.

The IIPD is a significant driver of freight movement and economic activity through the region serving as a link with downstate waterways and the Mississippi and Illinois Rivers. The IIPD’s harbor facilities accommodate movement of an estimated 26,000,000 cargo tons annually between shipping, barge, rail and trucking intermodal activity.

In addition to the IIPD’s harbor facilities, the IIPD’s Lake Calumet property is home to Harborside International Golf Facility, a world renowned 36 hole Championship links golf course. Lake Calumet is located immediately east of the recently designated National Historic Landmark of Pullman and immediately south of the forthcoming Obama Presidential Library and Center.

IFB HIGHLIGHTS

- ❖ The Illinois International Port District (“IIPD” or “District” or “Port of Chicago”) is hereby issuing this invitation for bid (“IFB”) seeking bids from qualified respondents interested in performing services for its Transit Shed Roof Replacement at IIPD Lake Calumet Terminal. The scope of the project is detailed with the associated plans and specifications documents provided herewith and generally consists removal and replacement of specific portions of roofing systems on the transit shed warehouses located at the District’s Lake Calumet port terminal, including all work incidental thereto.
- ❖ The Transit Shed Roof Replacement project sought under this IFB will be funded in part with grant funds awarded through the State of Illinois “Rebuild Illinois Port Facilities Capital Investment Grant Program” including, without limitation, state funds being administered by and through the State of Illinois, Department of Transportation. Respondents should anticipate compliance with relevant State of Illinois and Illinois

Department of Transportation policies and regulations concerning procurements, provision of services and administration of grant funding.

TARGET SCHEDULE

Event	Target Date
Pre-Bid Conference & Site Visit	August 11, 2025, at 9:30 am (CST)
Due Date for All Bids	August 28, by 3:00 p.m. (CST)
Commencement of Award	Anticipated - October 1, 2025

Respondents that download a copy of the IFB from the IIPD's website: <http://www.iipd.com>, instead of obtaining the hard copy paper from the IIPD's Central Office, are responsible for checking the IIPD's website for clarifications and/or addenda. Failure to obtain clarifications and/or addenda from the IIPD's website will not relieve the Respondent from being bound by any additional terms and/or conditions. For all information concerning this IFB, including questions from Respondent(s) and responses from IIPD, and any updates to this IFB, Respondent(s) are urged to frequently refer to IIPD's website at: <http://www.iipd.com>

CAUTION: DEADLINES AND PROCEDURES FOR SUBMITTING BIDS

To be assured of consideration, bids must be received by the Executive Director, at the immediately above-listed address, no later than 3:00 p.m. Central Standard Time on the date noted above. The Bid Form is included with the Bidding Documents. Additional copies may be obtained from the Owner.

All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. The original documents must be clearly marked as "ORIGINAL", and must bear the original signature of an authorized corporate agent on all documents requiring a signature. Respondent must enclose all documents in sealed envelopes or boxes. A Bid price shall be indicated for each unit price item listed therein. In the case of optional alternatives, the words "No Bid," "No Change," or "Not Applicable" may be entered.

Respondents shall note the type of firm submitting the bid whether individual, corporation, partnership, joint venture or other, and bid documents shall be duly executed in the name of the firm submitting by a duly authorized individual.

When responses are delivered by mail or messenger to the Executive Director, the Respondent is responsible for their delivery BEFORE the due date and time. If delivery is delayed beyond the date and hour set for the receipt, said responses so delayed will not be considered and will be returned unopened at the expense of the Respondent.

Any false statement(s) made by the Respondent(s) will void the response and eliminate the Respondent(s) from further consideration.

The Executive Director reserves the right to reject any submittal that deviates from the submittal requirements. No additional or missing documents will be accepted after the due date and time except as may be requested by the Executive Director.

CONFIDENTIALITY / PROPRIETARY INFORMATION.

Respondents are hereby advised that the IIPD is subject to the Illinois State Freedom of Information Act, ("FOIA"), (5 ILCS 140/1, et seq.). Confidential information will be treated as such to the extent consistent with the Port District's legal obligations under FOIA and other applicable laws, regulation or legal process and the provisions of any Confidentiality

Agreement between IIPD and Respondent(s).

Respondents may designate those portions of the Proposal which contain trade secrets or other proprietary data that must remain confidential. If a Respondent includes data that is not to be disclosed to the public for any purpose or used by the IIPD except for evaluation purposes, the Respondent must Mark the title page as follows: "This Proposal includes trade secrets or other proprietary data ("data") that may not be disclosed outside the IIPD and may not be duplicated, used or disclosed in whole or in part for any purpose other than to evaluate this Proposal. The data subject to this restriction are contained in sheets (insert page numbers or other identification)."

The IIPD, for purposes of this provision, will include any consultants assisting in the evaluation of Proposals. If, however, a contract is awarded to this Respondent as a result of or in connection with the submission of this data, the IIPD has the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the IIPD's right to use information contained in the data if it is obtained from another source without restriction.

Mark each sheet or data to be restricted with the following legend: "Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this Proposal."

COMMUNICATION DURING THE IFB PROCESS

All questions or requests for clarification shall be in writing and must be sent by email to iipd@iipd.com, and directed to the attention of Erik Varela, Executive Director. Emails must clearly indicate "Questions and Requests for Clarification" in the subject line and must refer to "INVITATION FOR BIDS - TRANSIT SHED ROOF REPLACEMENT AT IIPD LAKE CALUMET TERMINAL."

Respondent(s)s must not communicate directly or indirectly with any IIPD Trustee, officer, employee, or other representative of IIPD or its advisors or customer or their advisors on matters related to this IFB other than the contact person specified above or his designee.

Answers to questions of general interest, updates and addenda will be posted on the IIPD website: <http://www.iipd.com>.

The Port District will review all properly submitted bids and if necessary, may request additional information (in writing and/or through presentations or interviews) or written clarification.

M/WBE PARTICIPATION / HIRING PRACTICES

IIPD seeks to reach goals of (26%) Minority Business Enterprise ("MBE") participation and (6%) Women Business Enterprise ("WBE") participation in goods and/or services relating to contracting matters. Where it is practicable for any portion of the awarded contract to be subcontracted to other suppliers, respondents are encouraged to offer such business to minority and/or women-owned businesses. Respondent shall indicate all plans to address the IIPD's MBE and WBE goals.

The Respondent shall agree to comply with the constitution of the United States, the Civil Rights Act of 1964 (42 U.S.C. sec. 1971 et seq.), Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. sec. 794), the Americans With Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) the

Constitution of the State of Illinois, the Illinois Human Rights Act (Ill. Comp. Stat. 1992, Ch. 775, Sec. 5/1-101 et seq.), the Cook County Human Rights Ordinance.

IIPD'S RIGHTS TO REJECT PROPOSALS

IIPD, acting through its Executive Director, reserves the right to accept or reject any and all Bids. IIPD further reserves the right to award in part or in whole, to one or more vendors, or to reject any or all bids, whichever is deemed to be in its best interest of the IIPD.

The IIPD reserves the right to modify, terminate, or restart the process at any time, without giving any reason. The receipt of responses in no way obligates the IIPD to enter into any contract with any party.

The IIPD reserves the right to amend the solicitation, reject any or all Bids and waive minor defects. This competitive process may require that Respondents provide additional information and otherwise cooperate with the IIPD. The IIPD may request a clarification, interview staff, request a presentation, or otherwise verify the contents of a Bid, including information concerning subconsultants and suppliers.

The IIPD will make all decisions on compliance, evaluation, and terms and conditions, and shall make decisions in the best interests of the IIPD and in accordance with its policies and applicable statutes and regulations.

The IIPD is not responsible for costs or damages incurred by Respondents, member(s), partners, subconsultants or other interested parties in connection with the IFB process, including but not limited to costs associated with preparing the Bid and of participating in any conferences, site visits, product/system demonstrations, oral presentations or negotiations.

MISCELLANEOUS

Respondent(s) are urged to refer frequently to IIPD's website. IIPD will post questions from Respondent(s) and IIPD's responses as well as corrections, addenda and updates to this IFB, if any. IIPD's website is: www.iipd.com.




Illinois International Port District - Shed Roof Replacement

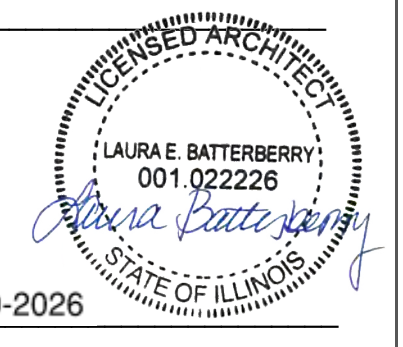
Calumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633

10/11/2024

ARCHITECT

SIGNATURE: 


DATE SIGNED: 11/15/2024



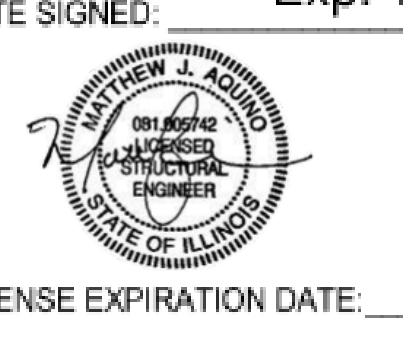
LICENSE EXPIRATION DATE: Exp. 11-30-2026

WIGHT & COMPANY

STRUCTURAL ENGINEER

SIGNATURE: 

DATE SIGNED: Exp. 11-07-2024




LICENSE EXPIRATION DATE: Exp. 11-30-2026

WIGHT & COMPANY

For a Municipal Project

Submitted/Approved/Passed

Signature & Date

 5/20/25

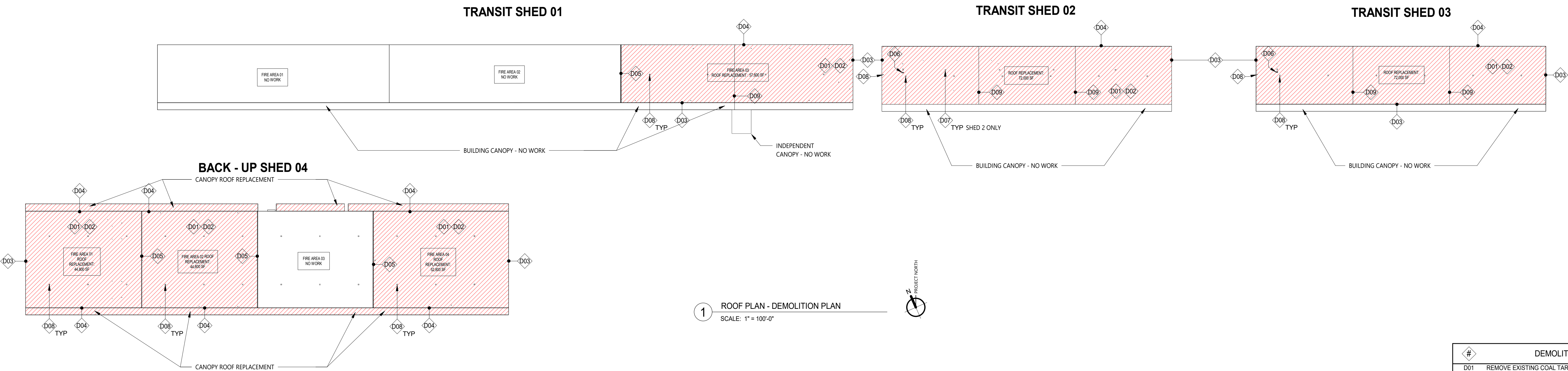
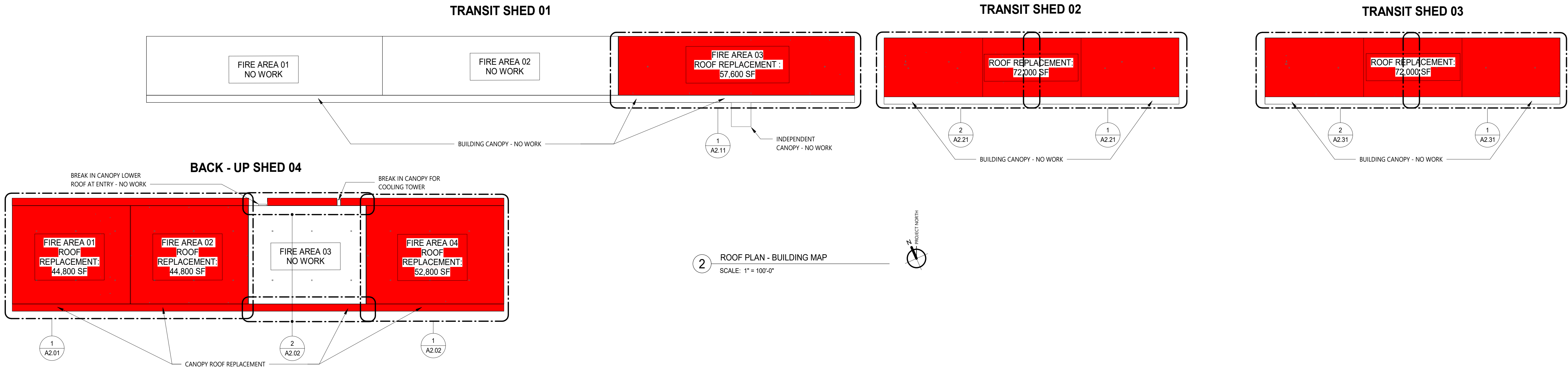
Official Title

Executive Director

SECTION NUMBER: 22-IIPD1-00-PT
STATE JOB NUMBER: C-91-040-23

DRAWING INDEX	PROJECT TEAM	ABBREVIATIONS
<div><div>GENERAL</div><div>G0.00 COVER SHEET</div><div>ARCHITECTURAL</div><div>A0.01 BUILDING MAP AND DEMOLITION PLAN</div><div>A2.01 ROOF PLAN - SHED 4 (FIRE AREA 1 & 2)</div><div>A2.02 ROOF PLAN - SHED 4 (FIRE AREA 4)</div><div>A2.11 ROOF PLAN - SHED 1 (FIRE AREA 3)</div><div>A2.21 ROOF PLAN - SHED 2</div><div>A2.31 ROOF PLAN - SHED 3</div><div>A5.01 ROOF DETAILS</div><div>A5.02 ROOF DETAILS - CANOPY</div><div>STRUCTURAL</div><div>S0.01 GENERAL NOTES, STATEMENT OF SPECIAL INSPECTIONS & TYPICAL DETAILS</div><div>S2.01 ROOF FRAMING PLAN - SHED 4 (FIRE AREA 1 & 2)</div><div>S2.02 ROOF FRAMING PLAN - SHED 4 (FIRE AREA 4)</div><div>S2.11 ROOF FRAMING PLAN - SHED 1 (FIRE AREA 3)</div><div>S2.21 ROOF FRAMING PLAN - SHED 2</div><div>S2.31 ROOF FRAMING PLAN - SHED 3</div></div>	<div><div>PRIME CONSULTANT</div><div>SINGH + Associates</div><div>230 W. Monroe Street, Suite 1400</div><div>Chicago, IL, 60606</div><div>312-629-0240</div><div>Contact: Huu T. Ly, PE, Project Manager</div><div>ARCHITECT</div><div>WIGHT & COMPANY</div><div>2500 NORTH FRONTAGE ROAD</div><div>DARIEN, IL 60561</div><div>PHONE: (630)969-7000</div><div>CONTACT: 312-262-5715</div></div>	<div><div>ACCESS.</div><div>ACI.</div><div>ACOUST.</div><div>ACT</div><div>ADA</div><div>A.F.F.</div><div>ALT.</div><div>ALUM./AL</div><div>APPROX.</div><div>ARCH.</div><div>ASTM.</div><div>@</div><div>AV</div><div>BD.</div><div>BLDG.</div><div>BM</div><div>B/O</div><div>BK.</div><div>CAB</div><div>CC</div><div>C</div><div>CJ</div><div>CMU</div><div>COL.</div><div>CLG</div><div>CLR.</div><div>CONC.</div><div>CONT.</div><div>CONTR.</div><div>CORR.</div><div>CPT</div><div>CR.</div><div>DEM.</div><div>DIA.</div><div>DIMS.</div><div>DN.</div><div>DR.</div><div>DS</div><div>DWGS.</div><div>EA.</div><div>EFS</div><div>EL.</div><div>ELEV.</div><div>E.J.</div><div>E.Q.</div><div>EQUIP.</div><div>W/C</div><div>EXP</div><div>EXT</div><div>EXIST.</div><div>ETR</div><div>FD</div><div>FEC</div><div>FF</div><div>FIN.</div><div>FL/FLR</div><div>FOUND.</div><div>FT.</div><div>FTG.</div><div>GA.</div><div>GALV.</div><div>GW/B</div><div>GYP. BD.</div><div>HD</div><div>HM</div><div>HOR</div><div>HP</div><div>HT/HGT.</div><div>HVAC</div><div>IN.</div><div>INSUL.</div><div>INT</div><div>JT.</div><div>LAV</div><div>LNO.</div><div>LBS.</div><div>LP</div><div>LVL</div><div>M</div><div>MAT.</div><div>MAX.</div></div> <div><div>ACCESSIBLE</div><div>AMERICAN CONCRETE</div><div>INSTITUTE</div><div>ACOUSTICAL</div><div>ACOUSTICAL CEILING TILE</div><div>AMERICANS WITH</div><div>DISABILITIES ACT</div><div>ABOVE FINISHED FLOOR</div><div>ALTERNATE</div><div>ALUMINUM</div><div>APPROXIMATE</div><div>ARCHITECTURAL</div><div>AMERICAN SOCIETY FOR</div><div>TESTING AND MATERIALS</div><div>AT</div><div>AUDIO VISUAL</div><div>BOARD</div><div>BUILDING</div><div>BEAM</div><div>BOTTOM OF</div><div>BREAK</div><div>CABINET</div><div>CENTER TO CENTER</div><div>CENTERLINE</div><div>CONTROL JOINT</div><div>CONCRETE MASONRY</div><div>UNITS</div><div>COLUMN</div><div>CEILING</div><div>CLEAR</div><div>CONCRETE</div><div>CONTINUOUS</div><div>CONTRACTOR</div><div>CORRIDOR</div><div>CARPET</div><div>ACCESS CARD READER</div><div>CERAMIC TILE</div><div>DEMOLITION</div><div>DIAMETER</div><div>DIMENSIONS</div><div>DOWN</div><div>DOOR</div><div>DOWN SPOUT</div><div>DRAWINGS</div><div>EACH</div><div>EXTERIOR INSULATED</div><div>FINISH SYSTEM</div><div>ELEVATION</div><div>ELECTRICAL</div><div>ELEVATOR</div><div>EXPANSION JOINT</div><div>EQUAL</div><div>EQUIPMENT</div><div>ELECTRIC WATER COOLER</div><div>EXPANSION</div><div>EXTERIOR</div><div>EXISTING</div><div>EXISTING TO REMAIN</div><div>FLOOR DRAIN</div><div>FIRE EXTINGUISHER</div><div>CABINET</div><div>FACTORY FINISH</div><div>FINISHED</div><div>FLOOR</div><div>FOUNDATION</div><div>FOOT/FEET</div><div>TEXTURED PAINT</div><div>TYP.</div><div>GAUGE</div><div>UNDERSIDE OF ROOF DECK</div><div>UNITED STATES GEOLOGICAL</div><div>SURVEY</div><div>VINYL BASE</div><div>VCT.</div><div>VERT.</div><div>VERT. IN FIELD</div><div>VINYL WALL COVERING</div><div>WATER CLOSET</div><div>WOOD</div><div>WOMENS</div><div>WITH</div><div>WITHOUT</div><div>WELDED WIRE FABRIC</div></div> <div><div>MAS.</div><div>MFR./MAN</div><div>UP/MANF.</div><div>MDF</div><div>MIL</div><div>MIN.</div><div>MISC.</div><div>MAGNETIC HOLD OPEN</div><div>MASONRY OPENING</div><div>MTL.</div><div>NECESSARY</div><div>NOT IN CONTRACT</div><div>NUMBER</div><div>NOT TO SCALE</div><div>ON CENTER</div><div>OUTSIDE DIAMETER</div><div>OVERFLOW ROOF DRAIN</div><div>P.B.</div><div>PIPE BOLLARD</div><div>PERSON</div><div>PLATE</div><div>PLASTIC LAMINATE</div><div>PLYWOOD</div><div>DOOR ACTUATOR PUSH</div><div>PLATE</div><div>POUNDS PER SQUARE FEET</div><div>POUNDS PER SQUARE INCH</div><div>PAINT(ED)</div><div>PRESSURE TREATED</div><div>RADIUS</div><div>REFLECTED CEILING PLAN</div><div>ROOF DRAIN</div><div>RESTROOM</div><div>ROOM</div><div>ROUGH OPENING</div><div>ROOF TOP UNIT</div><div>SOUND ATTENUATION FIBER</div><div>BATT INSULATION</div><div>SEALED CONCRETE</div><div>SCHEDULE</div><div>SC.</div><div>SCHD./SC</div><div>HED.</div><div>SD</div><div>SF.</div><div>SQFT.</div><div>SHT.</div><div>SIM.</div><div>S.J.</div><div>S.M.</div><div>SPA.</div><div>SPEC.</div><div>ST.</div><div>STC</div><div>STB.</div><div>STL.</div><div>S</div><div>ST.</div><div>STL/SS</div><div>STOR.</div><div>STRUCT.</div><div>SV</div><div>SYNTHETIC</div><div>TOP OF</div><div>TOP OF FOOTING</div><div>TEXTURED PAINT</div><div>TYP.</div><div>UNLESS NOTED OTHERWISE</div><div>UNDERSIDE OF ROOF DECK</div><div>UNITED STATES GEOLOGICAL</div><div>SURVEY</div><div>VINYL BASE</div><div>VCT.</div><div>VERT.</div><div>VERT. IN FIELD</div><div>VINYL WALL COVERING</div><div>WATER CLOSET</div><div>WOOD</div><div>WOMENS</div><div>WITH</div><div>WITHOUT</div><div>WELDED WIRE FABRIC</div></div>

BASE BID	ALTERNATE BID 1	ALTERNATE BID 2	ALTERNATE BID 3		ROOF AREA (SF)	CANOPY AREA (SF)	FIRE WALL PARAPET (SF)
X				SHED 4 - FIRE AREA 1	44800	6720	600
				SHED 4 - FIRE AREA 2	44800	6720	1200
				SHED 4 - FIRE AREA 3	0	6720	0
				SHED 4 - FIRE AREA 4	52800	7920	600
	X			SHED 1 - FIRE AREA 3	57600	NIC	360
		X		SHED 2	72000	NIC	0
			X	SHED 3	72000	NIC	0



#	DEMOLITION KEY NOTES
D01	REMOVE EXISTING COAL TAR AND GRAVEL ROOF SYSTEM DOWN TO THE METAL DECK.
D02	REPLACE / OVERLAY ANY CORRUGATED METAL ROOF DECK AREAS WHICH ARE DETERIORATED, PITTED, OR OTHERWISE NOT SERVICEABLE TO THE ROOF SYSTEM.
D03	REMOVE EXISTING GRAVEL STOP.
D04	REMOVE EXISTING BREAK METAL GUTTER AND RAIN LEADERS. SOME RAIN LEADERS HAVE RECENTLY BEEN REPLACED AND SHOULD REMAIN.
D05	REMOVE FIREWALL COPING WHERE FIRE WALL PENETRATES THE ROOFING SYSTEM.
D06	REMOVE EXISTING ROOF ACCESS HATCH. MAINTAIN OPENING FOR NEW ACCESS HATCH.
D07	EXISTING SKYLIGHTS TO REMAIN.
D08	REMOVE ALL ABANDONED OR DERELICT EQUIPMENT, FLUES, ACCESSORIES, PIPE VENT JACKETS AND PITCHROTS.
D09	REMOVE EXISTING EXPANSION JOINT COVER. MAINTAIN JOINT FOR FUTURE EXPANSION JOINT COVER.

Wight & Company
wightco.com
2500 North Frontage Road
Darien, IL 60561
P 630.969.7000
F 630.969.7979

ISSUE FOR BID
REV DESCRIPTION
10/11/2024
DATE

**ILLINOIS INT. PORT
DIST. - SHED ROOF
REPLACEMENT**

Calumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633

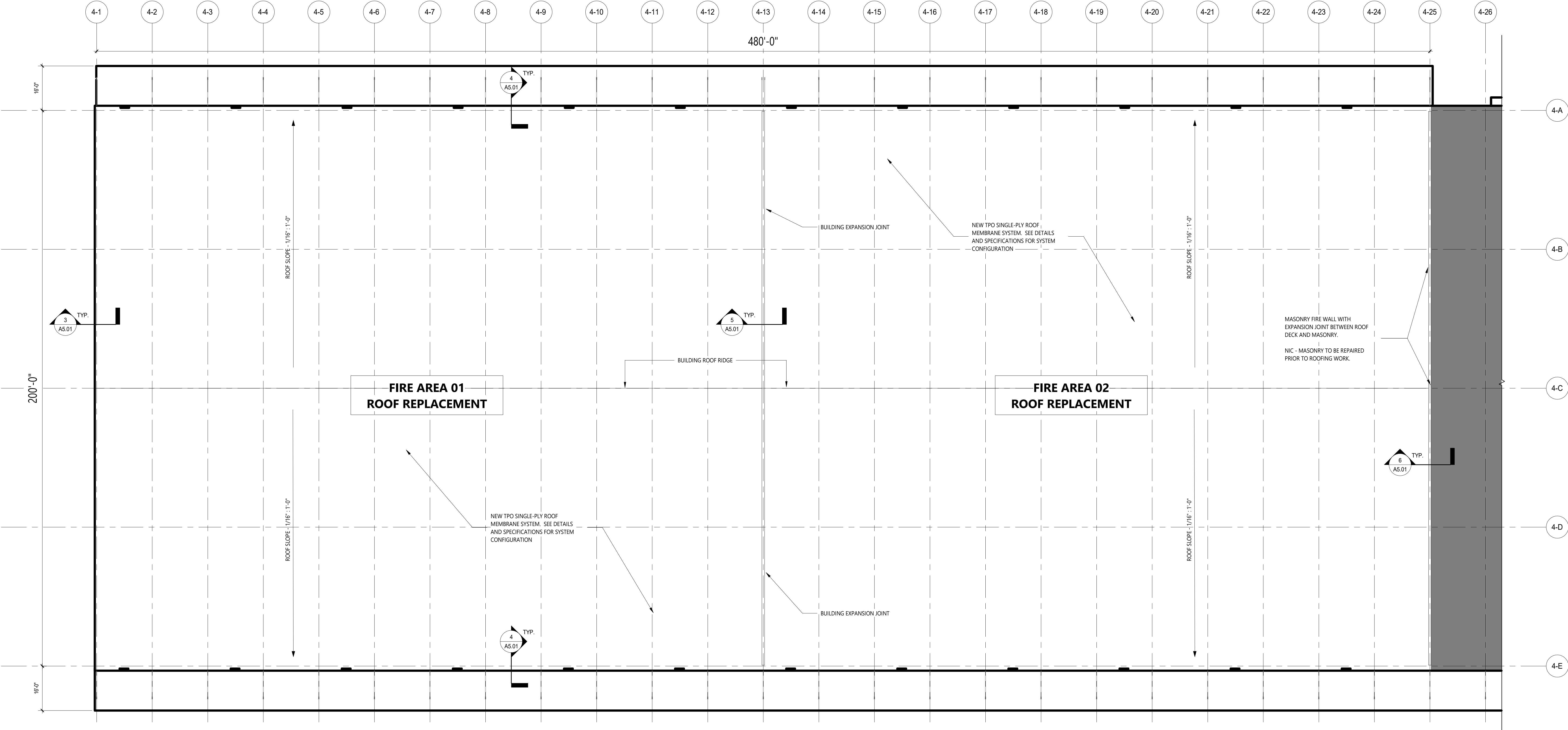
**BUILDING MAP AND
DEMOLITION PLAN**

Project Number:
240036
Drawn By:
JK
Sheet:

A0.01

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BASE BID	ALTERNATE BID 1	ALTERNATE BID 2	ALTERNATE BID 3		ROOF AREA (SF)	CANOPY AREA (SF)	FIRE WALL PARAPET (SF)
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		X		SHED 2	72000	NIC	0
			X	SHED 3	72000	NIC	0



1 ROOF PLAN - SHED 4 FIRE AREA 1 & 2
SCALE: 1/16" = 1'-0"

GENERAL NOTES	
1.	THE CONSTRUCTION DOCUMENTS INDICATE THE OVERALL AREAS OF WORK. INCIDENTAL WORK ASSOCIATED BUT NOT SHOWN ON THE CONSTRUCTION DOCUMENTS MAY BE REQUIRED OUTSIDE THE PROJECT AREAS. THIS WORK IS PART OF THE CONSTRUCTION CONTRACT AND IS TO BE COMPLETED IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.
2.	WHEN THE REMOVAL OF EXISTING SURFACE MATERIAL IS REQUIRED TO COMPLETE CONTRACT WORK AND A NEW FINISH IS NOT SCHEDULED, PATCH/REPAIR AND PRIME THE AFFECTED SURFACE TO RECEIVE NEW FINISH.

Wight & Company
wightco.com
2500 North Frontage Road
Darien, IL 60561
P 630.969.7000
F 630.969.7979

ISSUE FOR BID	10/11/2024
REV DESCRIPTION	DATE

ILLINOIS INT. PORT DIST. - SHED ROOF REPLACEMENT

Calumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633

ROOF PLAN - SHED 4 (FIRE AREA 1 & 2)

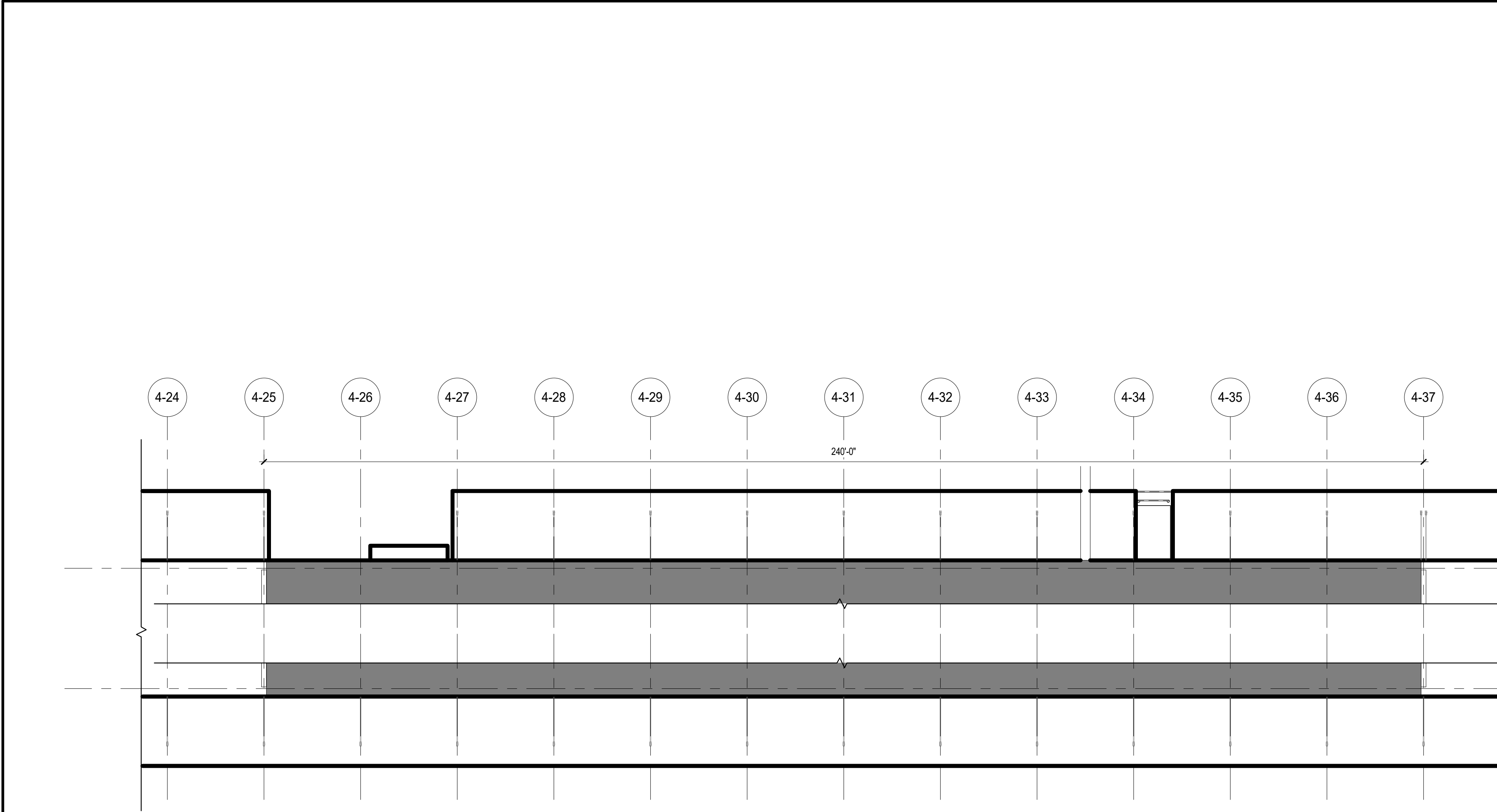
Project Number:
240036

Drawn By:
JK

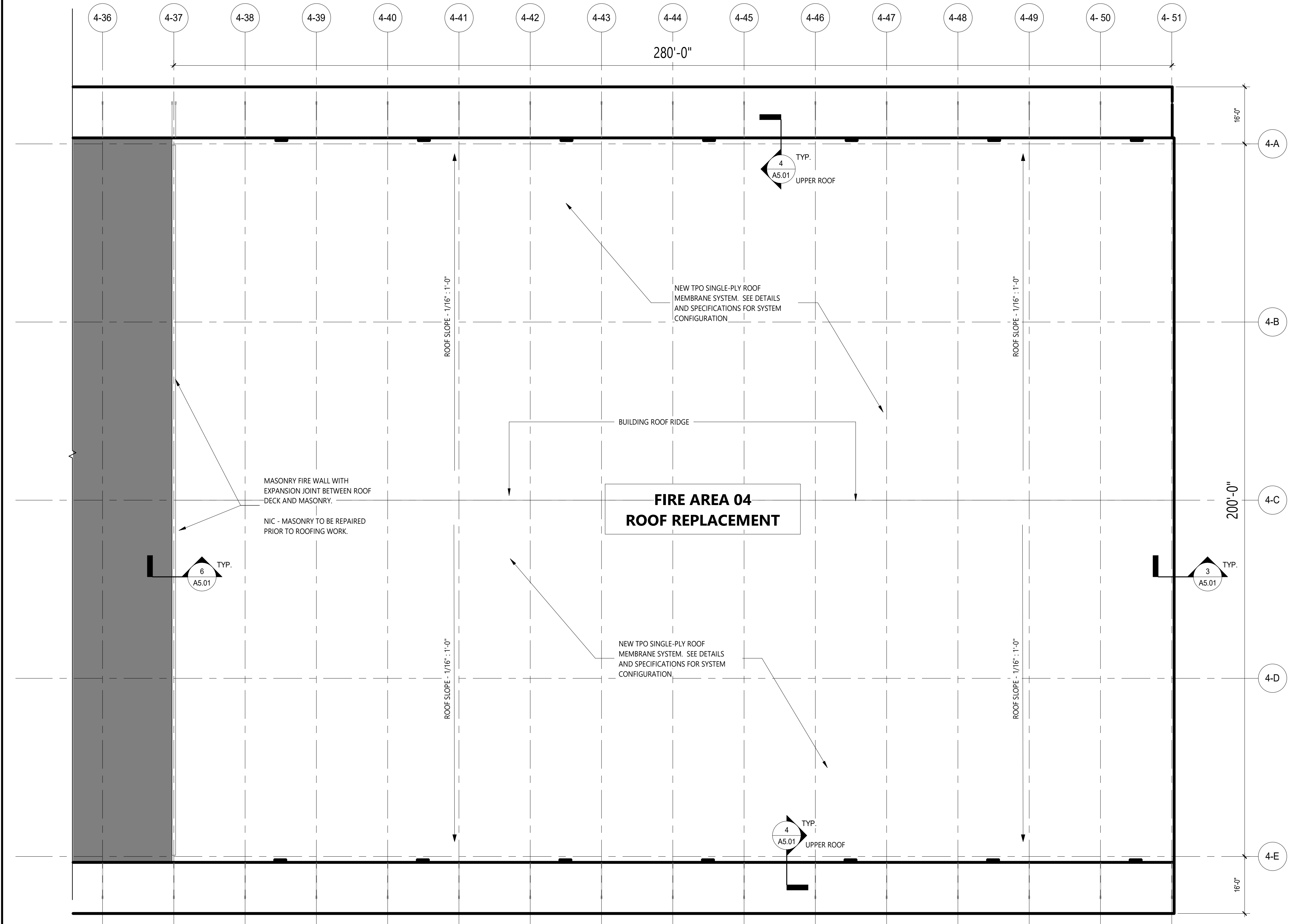
Sheet:

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10/10/2024 9:59:49 AM
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2 ROOF PLAN - SHED 4 N & S CANOPY FIRE AREA 3
SCALE: 1/16" = 1'-0"



1 ROOF PLAN - SHED 4 FIRE AREA 4
SCALE: 1/16" = 1'-0"

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SINGH

Wight

Wight & Company

wightco.com

2500 North Frontage Road

Darien, IL 60561

P 630.969.7000

F 630.969.7979

ISSUE FOR BID

REV DESCRIPTION

10/11/2024

DATE

ILLINOIS INT. PORT

DIST. - SHED ROOF

REPLACEMENT

Calumet River Terminal Facility

12700 S. Butler Drive

Chicago, IL 60633

ROOF PLAN - SHED 4

(FIRE AREA 4)

Project Number:

240036

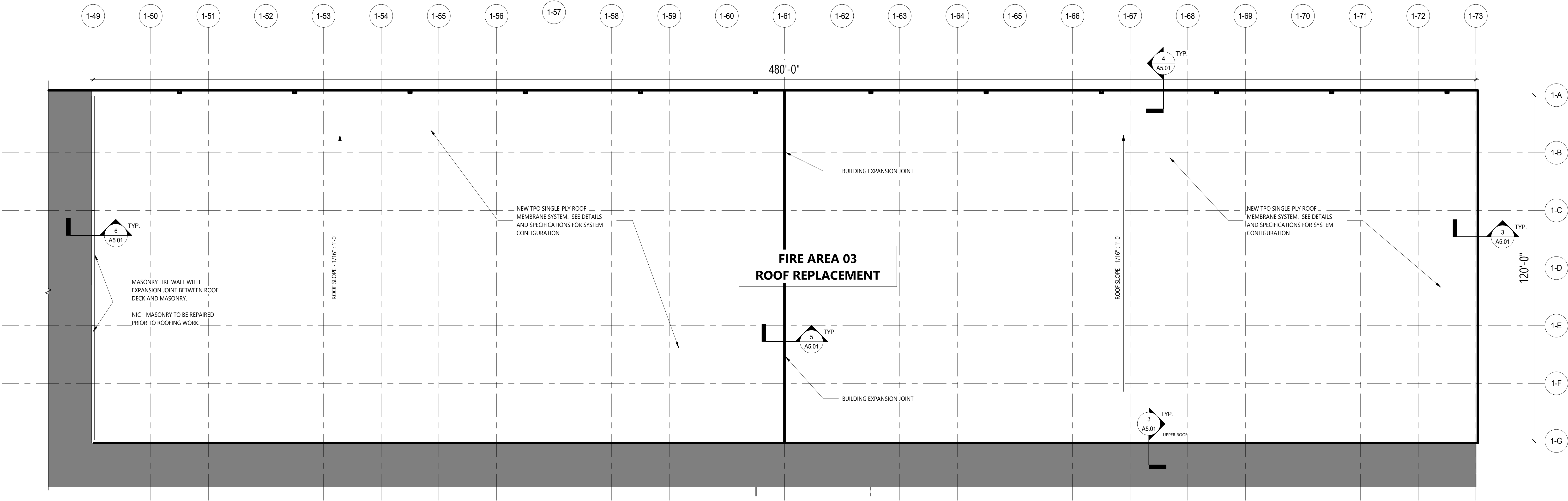
Drawn By:

JK

Sheet:

A2.02

BASE BID	ALTERNATE BID 1	ALTERNATE BID 2	ALTERNATE BID 3		ROOF AREA (SF)	CANOPY AREA (SF)	FIRE WALL PARAPET (SF)
X				SHED 4 - FIRE AREA 1	44800	6720	600
				SHED 4 - FIRE AREA 2	44800	6720	1200
				SHED 4 - FIRE AREA 3	0	6720	0
				SHED 4 - FIRE AREA 4	52800	7920	600
	X			SHED 1 - FIRE AREA 3	57600	NIC	360
		X		SHED 2	72000	NIC	0
			X	SHED 3	72000	NIC	0



1 ROOF PLAN - SHED 1 FIRE AREA 3
SCALE: 1/16" = 1'-0"

GENERAL NOTES	
1.	THE CONSTRUCTION DOCUMENTS INDICATE THE OVERALL AREAS OF WORK. INCIDENTAL WORK ASSOCIATED BUT NOT SHOWN ON THE CONSTRUCTION DOCUMENTS MAY BE REQUIRED OUTSIDE THE PROJECT AREAS. THIS WORK IS PART OF THE CONSTRUCTION CONTRACT AND IS TO BE COMPLETED IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.
2.	WHEN THE REMOVAL OF EXISTING SURFACE MATERIAL IS REQUIRED TO COMPLETE CONTRACT WORK AND A NEW FINISH IS NOT SCHEDULED, PATCH/REPAIR AND PRIME THE AFFECTED SURFACE TO RECEIVE NEW FINISH.

ISSUE FOR BID	10/11/2024
REV DESCRIPTION DATE	

ILLINOIS INT. PORT
DIST. - SHED ROOF
REPLACEMENT

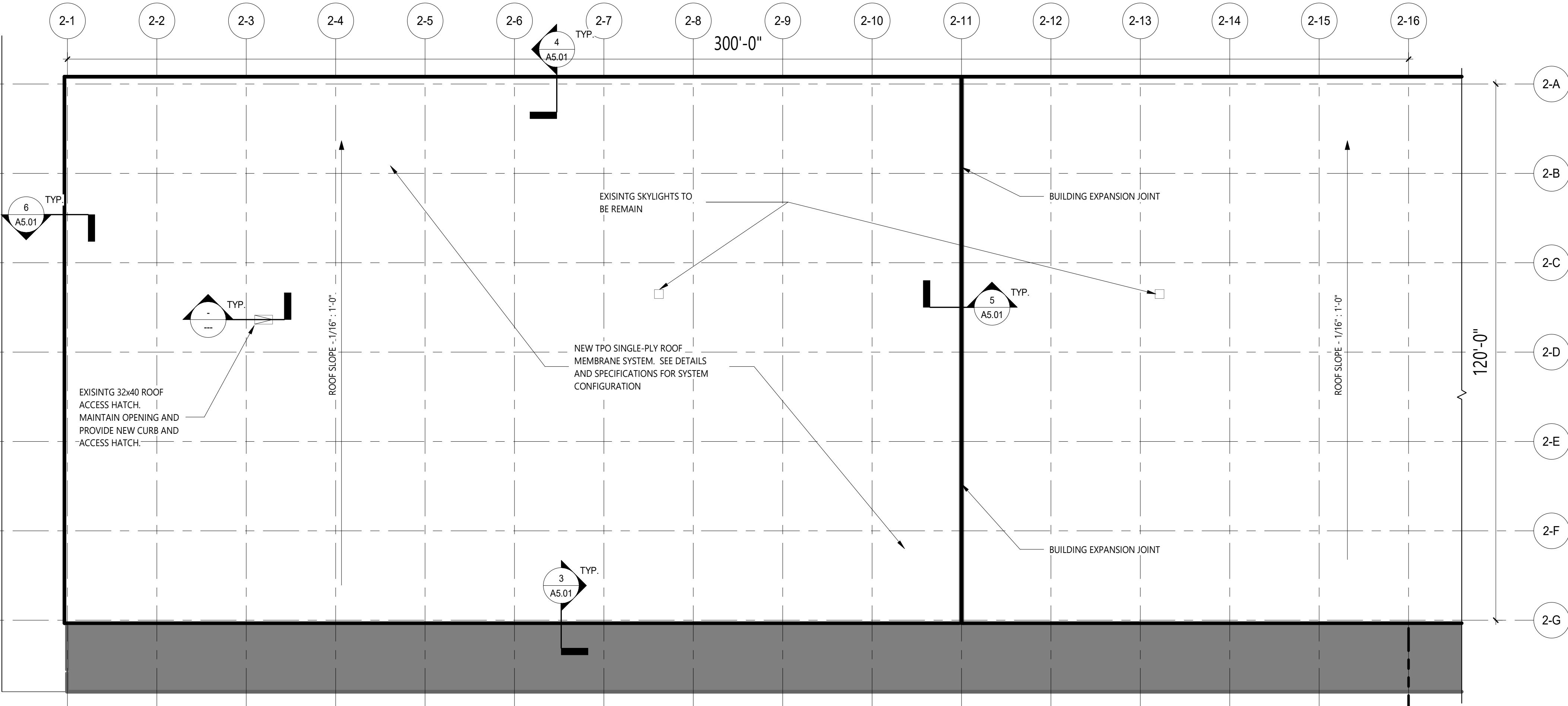
Calumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633

ROOF PLAN - SHED 1
(FIRE AREA 3)

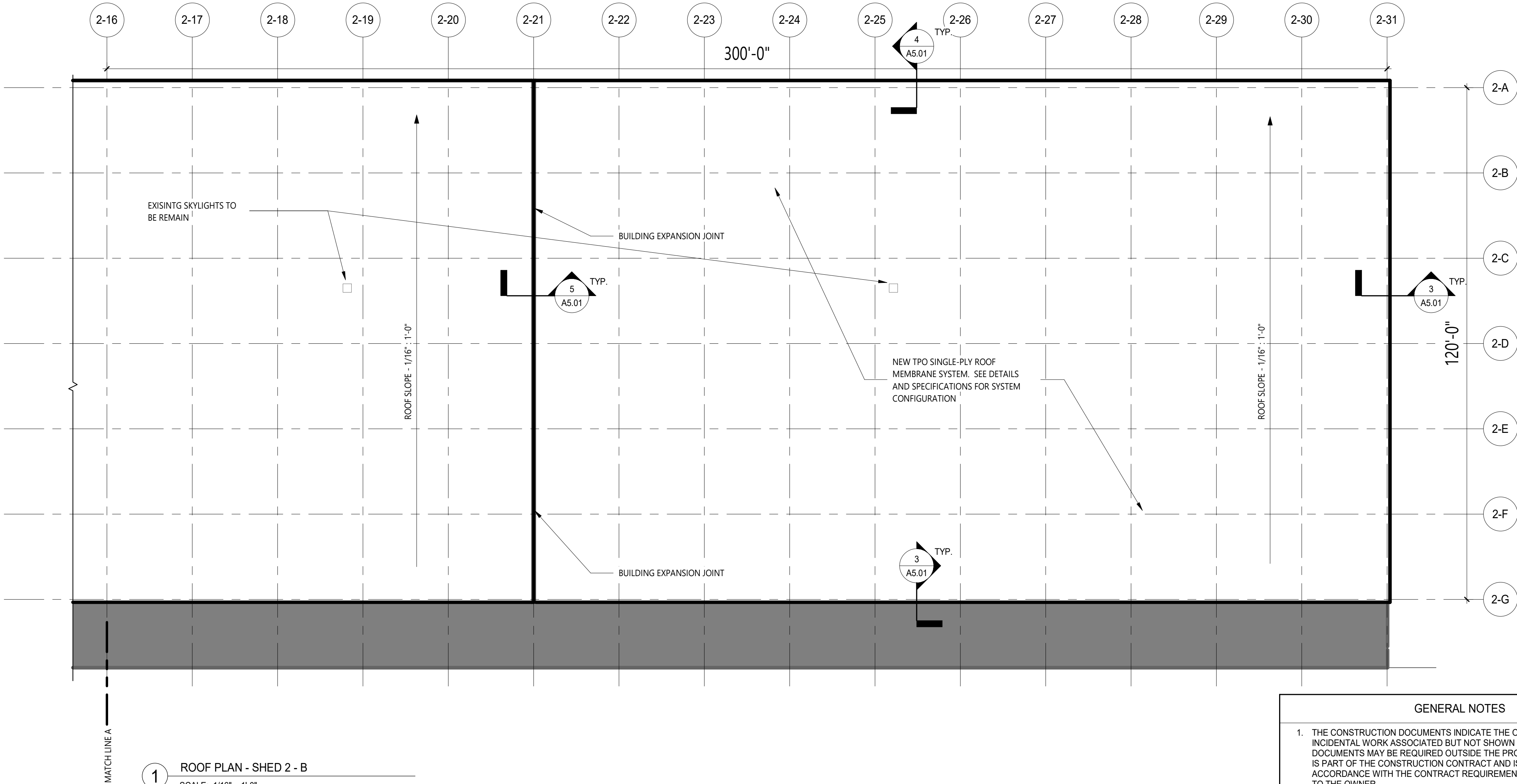
Project Number:	240036
Drawn By:	JK
Sheet:	

A2.11

BASE BID	ALTERNATE BID 1	ALTERNATE BID 2	ALTERNATE BID 3		ROOF AREA (SF)	CANOPY AREA (SF)	FIRE WALL PARAPET (SF)
X				SHED 4 - FIRE AREA 1	44800	6720	600
				SHED 4 - FIRE AREA 2	44800	6720	1200
				SHED 4 - FIRE AREA 3	0	6720	0
				SHED 4 - FIRE AREA 4	52800	7920	600
	X			SHED 1 - FIRE AREA 3	57600	NIC	360
		X		SHED 2	72000	NIC	0
			X	SHED 3	72000	NIC	0



2 ROOF PLAN - SHED 2 - A
SCALE: 1/16" = 1'-0"



1 ROOF PLAN - SHED 2 - B
SCALE: 1/16" = 1'-0"

- GENERAL NOTES
- THE CONSTRUCTION DOCUMENTS INDICATE THE OVERALL AREAS OF WORK. INCIDENTAL WORK ASSOCIATED BUT NOT SHOWN ON THE CONSTRUCTION DOCUMENTS MAY BE REQUIRED OUTSIDE THE PROJECT AREAS. THIS WORK IS PART OF THE CONSTRUCTION CONTRACT AND IS TO BE COMPLETED IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.
 - WHEN THE REMOVAL OF EXISTING SURFACE MATERIAL IS REQUIRED TO COMPLETE CONTRACT WORK AND A NEW FINISH IS NOT SCHEDULED, PATCH/REPAIR AND PRIME THE AFFECTED SURFACE TO RECEIVE NEW FINISH.

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ISSUE FOR BID
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ILLINOIS INT. PORT
DIST. - SHED ROOF
REPLACEMENT

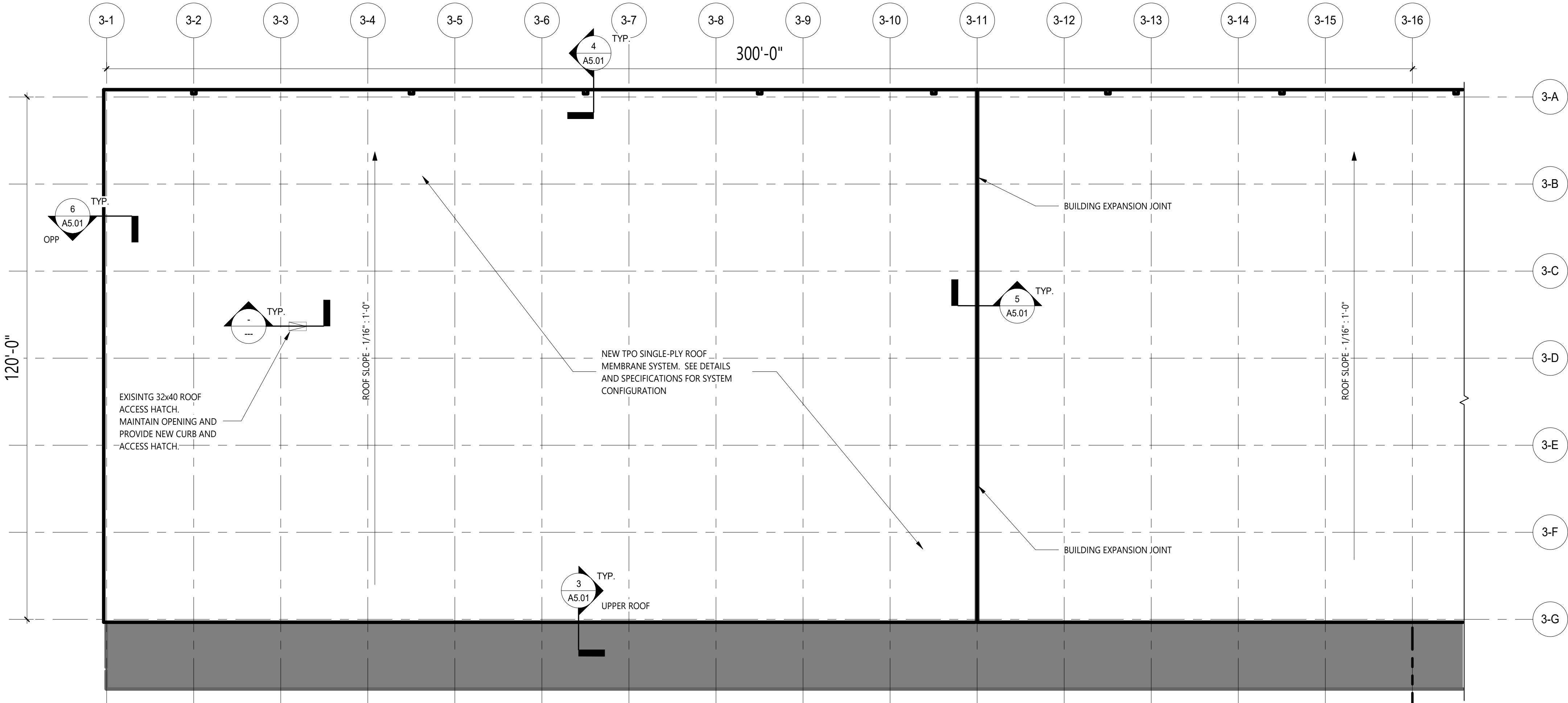
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12700 S. Butler Drive
Chicago, IL 60633

ROOF PLAN - SHED 2

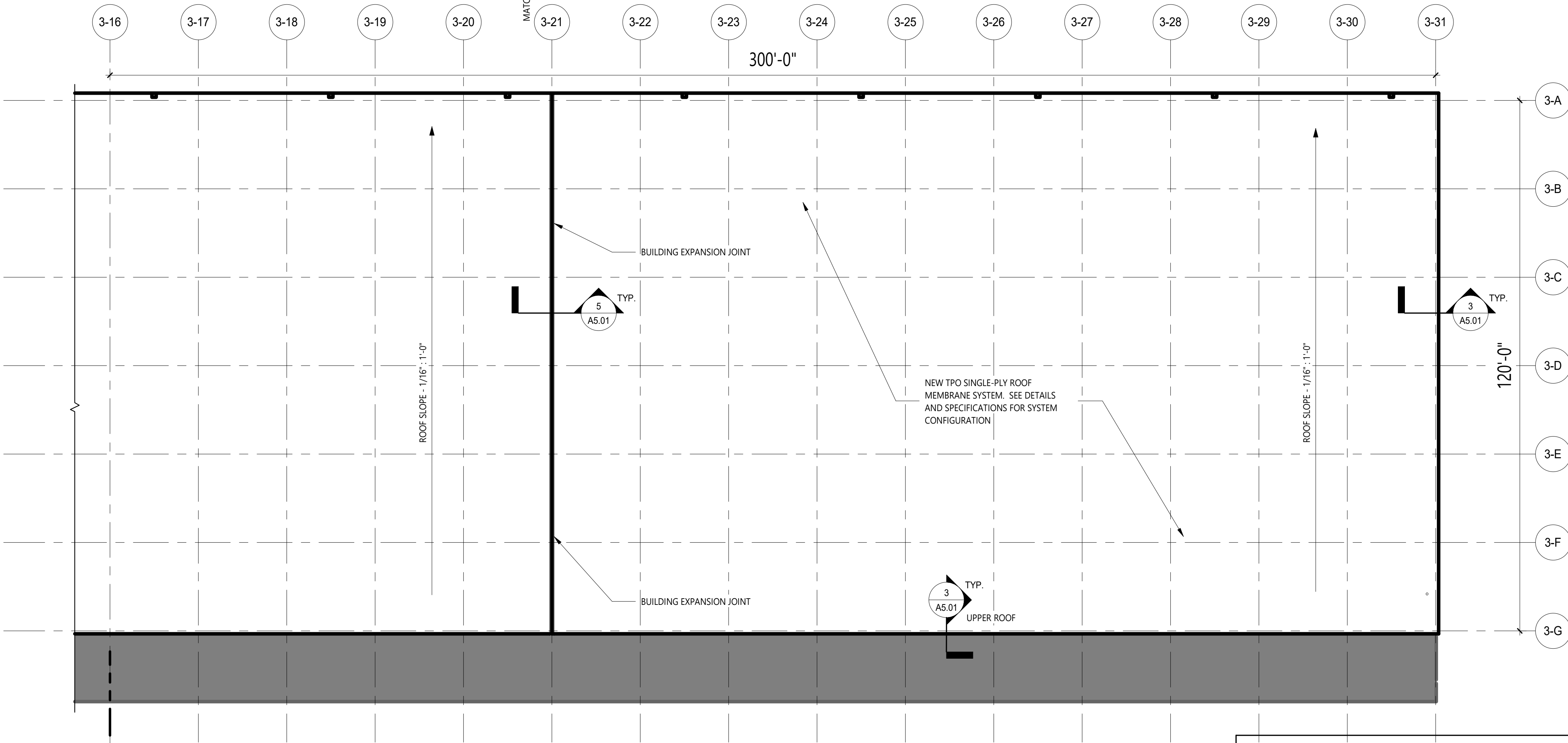
Project Number:
240036
Drawn By:
JK
Sheet:

A2.21

BASE BID	ALTERNATE BID 1	ALTERNATE BID 2	ALTERNATE BID 3		ROOF AREA (SF)	CANOPY AREA (SF)	FIRE WALL PARAPET (SF)
X				SHED 4 - FIRE AREA 1	44800	6720	600
				SHED 4 - FIRE AREA 2	44800	6720	1200
				SHED 4 - FIRE AREA 3	0	6720	0
				SHED 4 - FIRE AREA 4	52800	7920	600
	X			SHED 1 - FIRE AREA 3	57600	NIC	360
		X		SHED 2	72000	NIC	0
			X	SHED 3	72000	NIC	0



2 ROOF PLAN - SHED 3 - A
SCALE: 1/16" = 1'-0"



1 ROOF PLAN - SHED 3 - B
SCALE: 1/16" = 1'-0"

- GENERAL NOTES
1.

THE CONSTRUCTION DOCUMENTS INDICATE THE OVERALL AREAS OF WORK. INCIDENTAL WORK ASSOCIATED BUT NOT SHOWN ON THE CONSTRUCTION DOCUMENTS MAY BE REQUIRED OUTSIDE THE PROJECT AREAS. THIS WORK IS PART OF THE CONSTRUCTION CONTRACT AND IS TO BE COMPLETED IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.
2.

WHEN THE REMOVAL OF EXISTING SURFACE MATERIAL IS REQUIRED TO COMPLETE CONTRACT WORK AND A NEW FINISH IS NOT SCHEDULED, PATCH/REPAIR AND PRIME THE AFFECTED SURFACE TO RECEIVE NEW FINISH.

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ILLINOIS INT. PORT
DIST. - SHED ROOF
REPLACEMENT

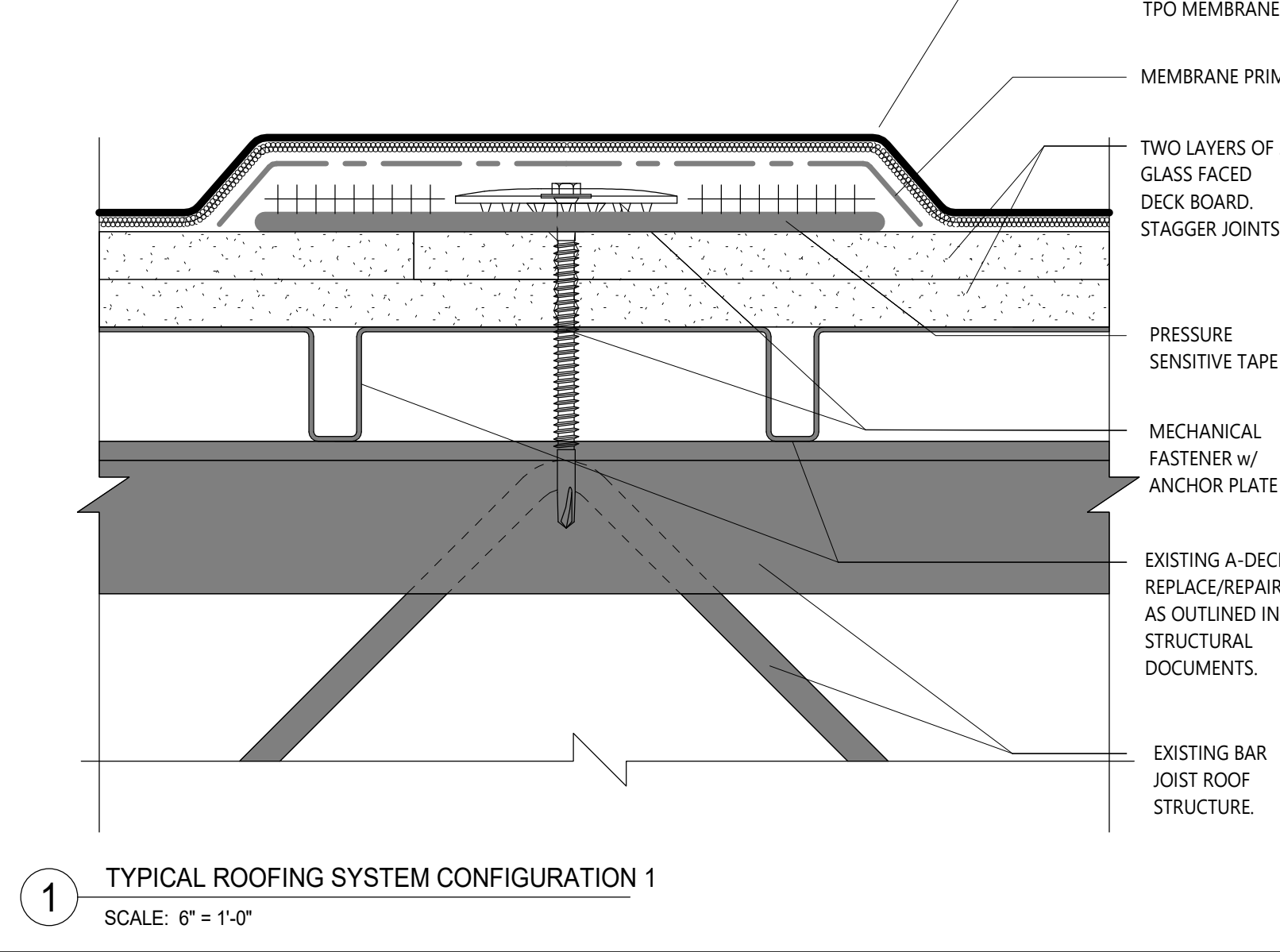
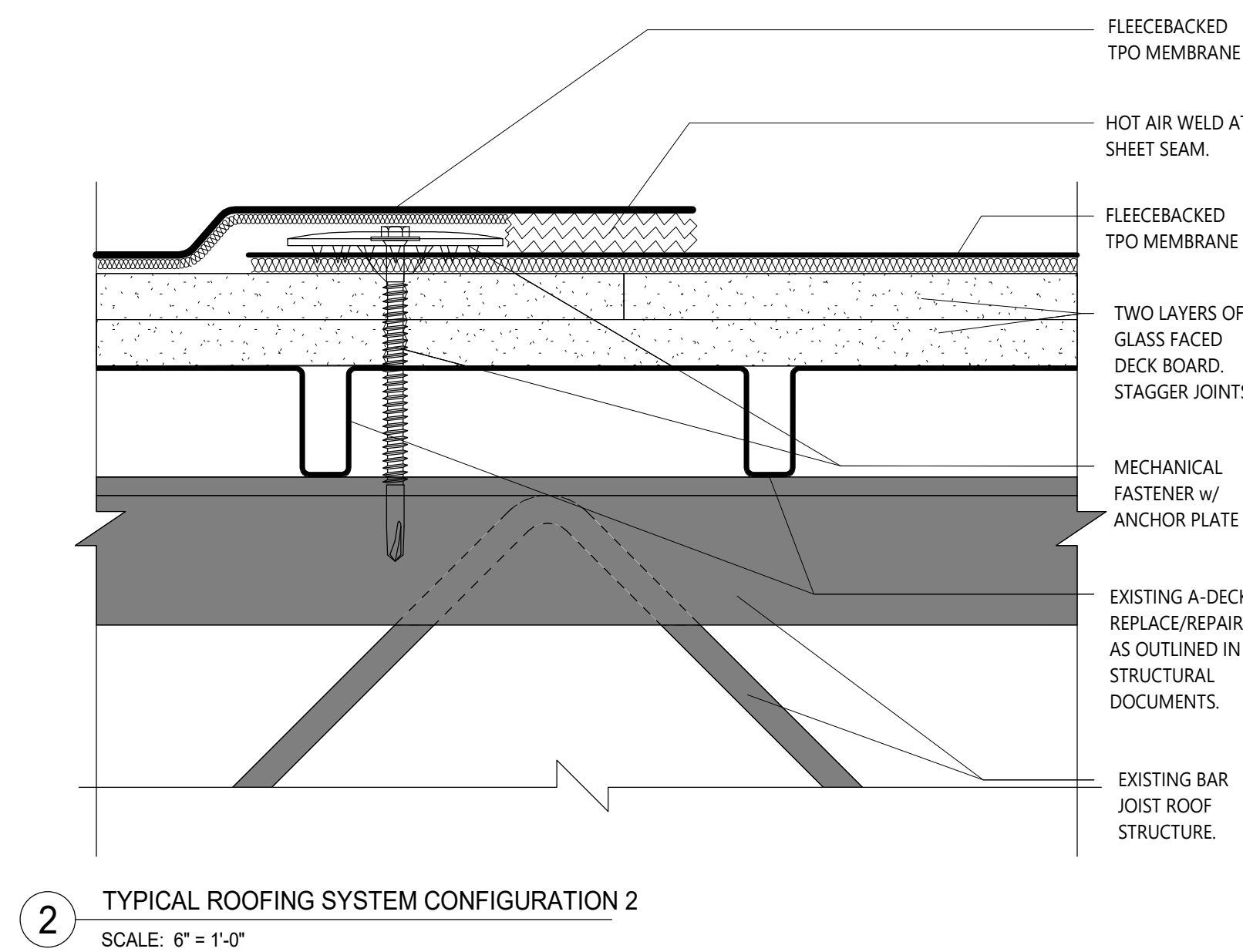
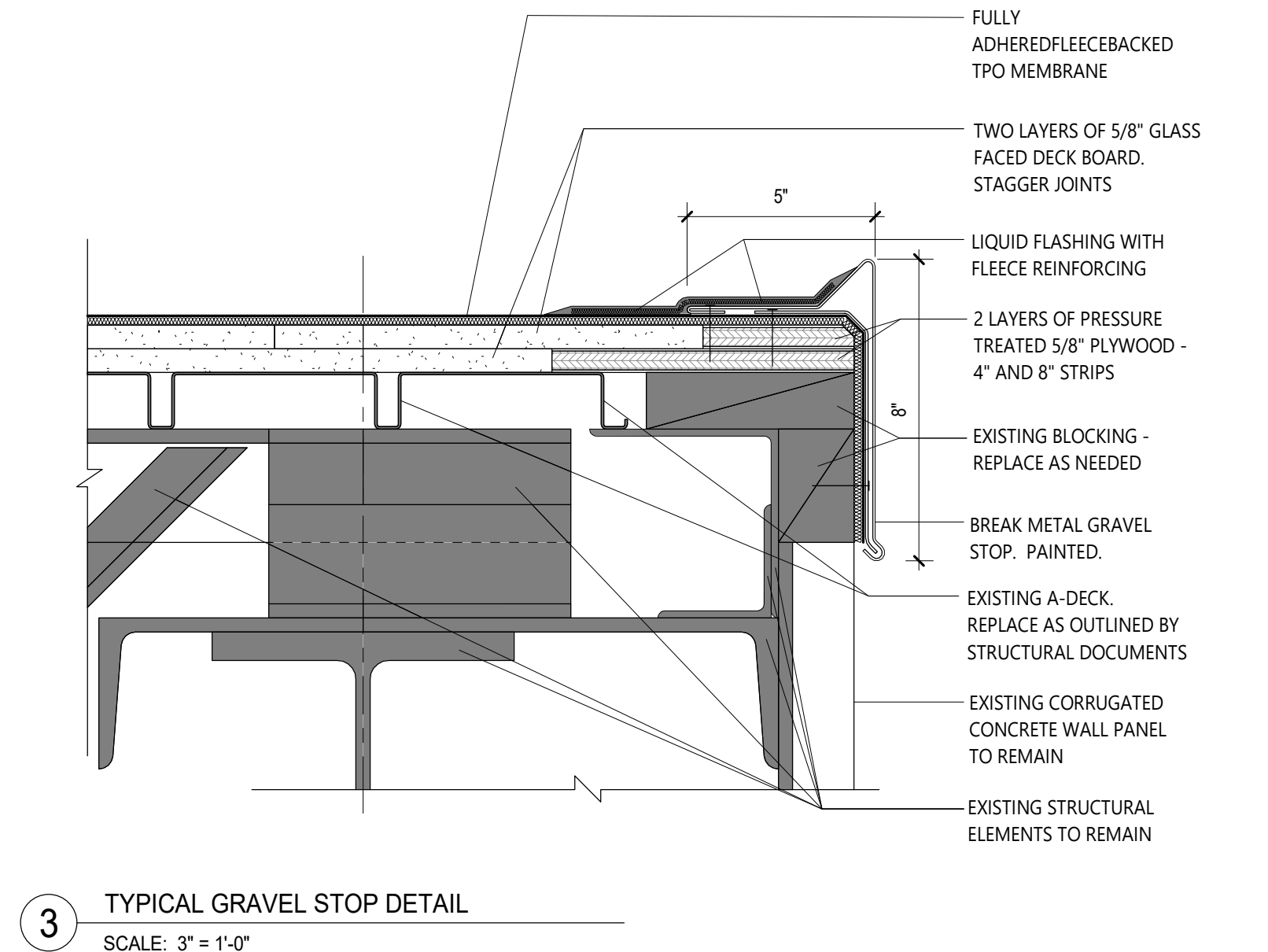
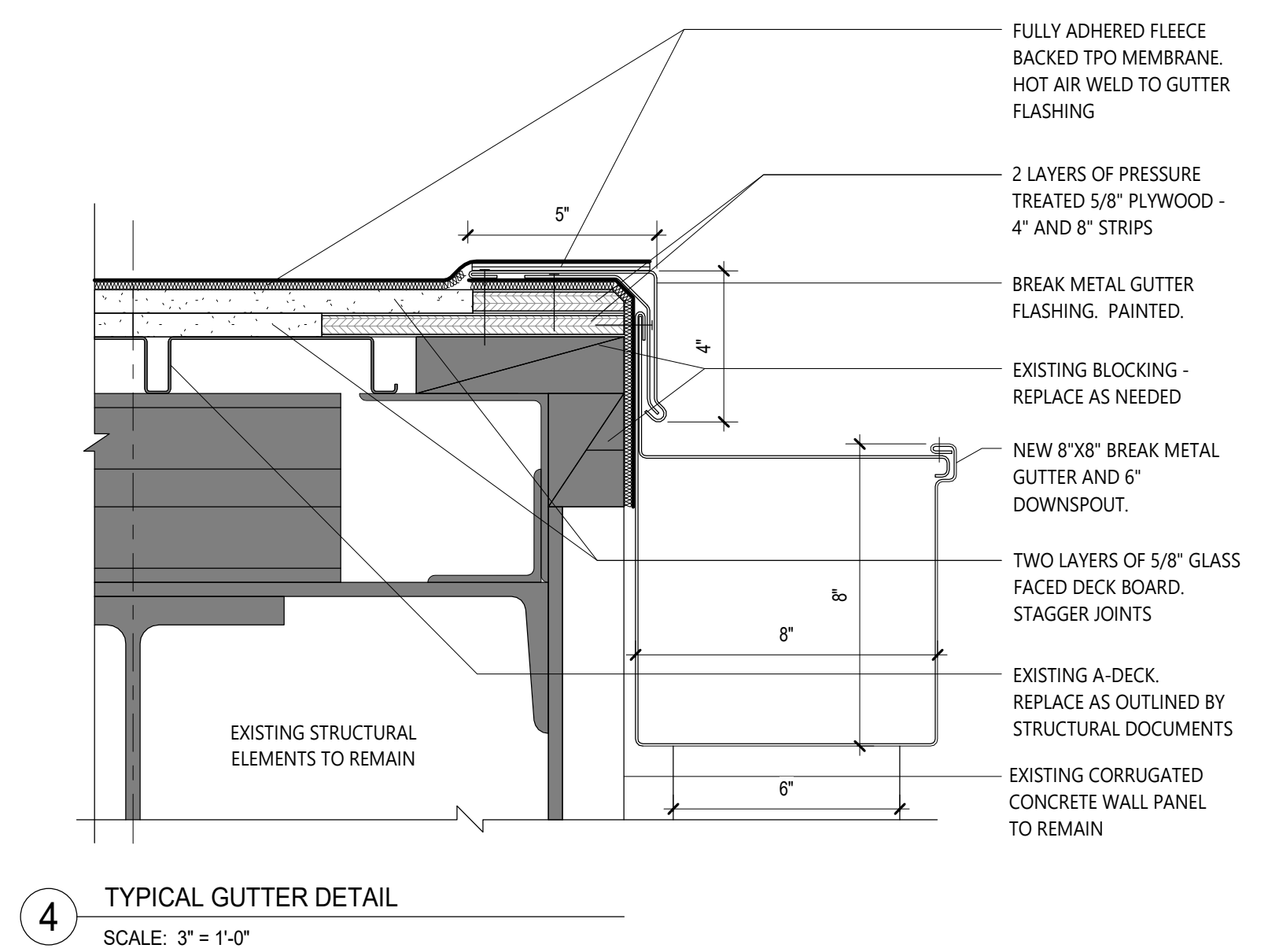
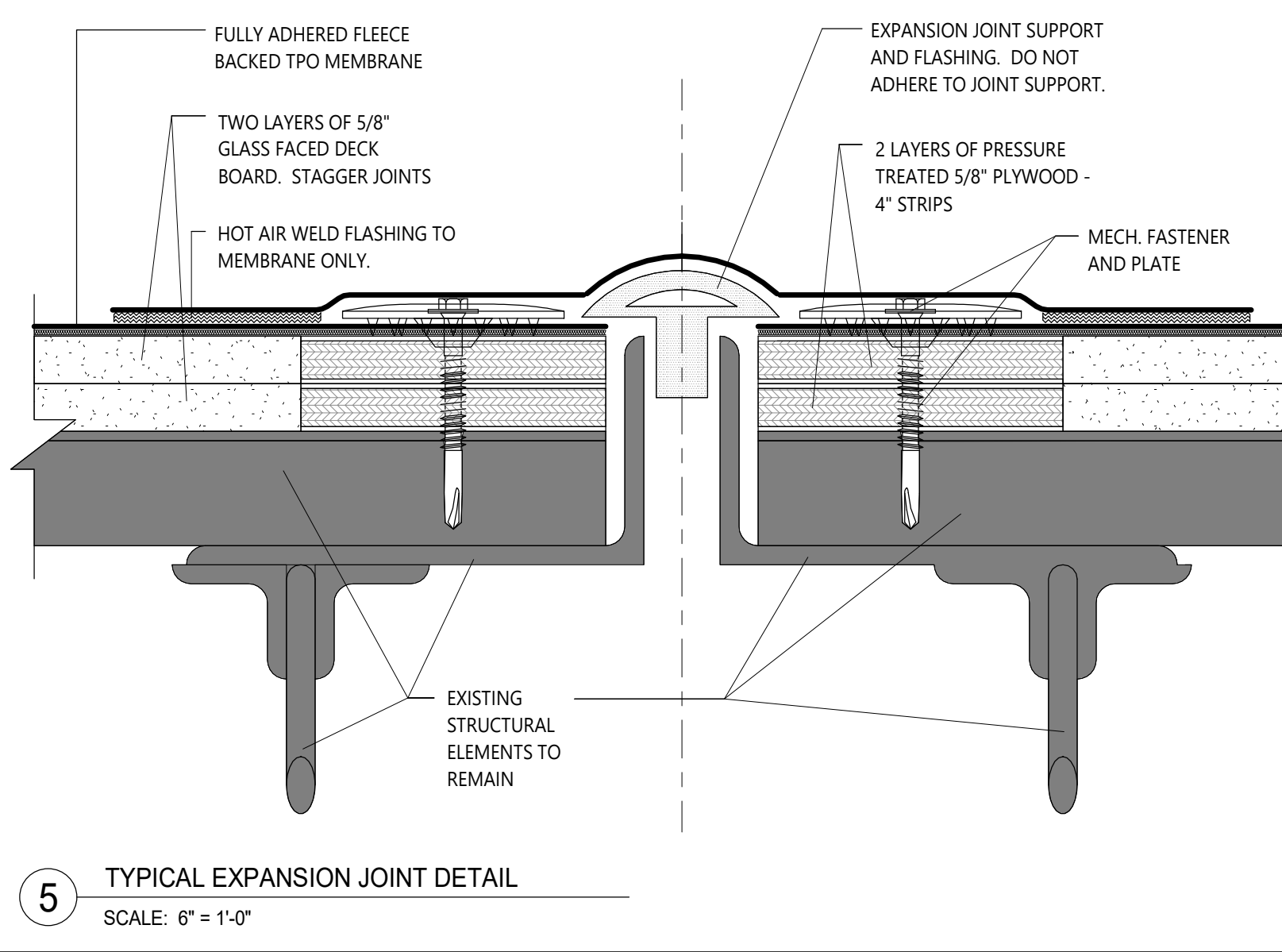
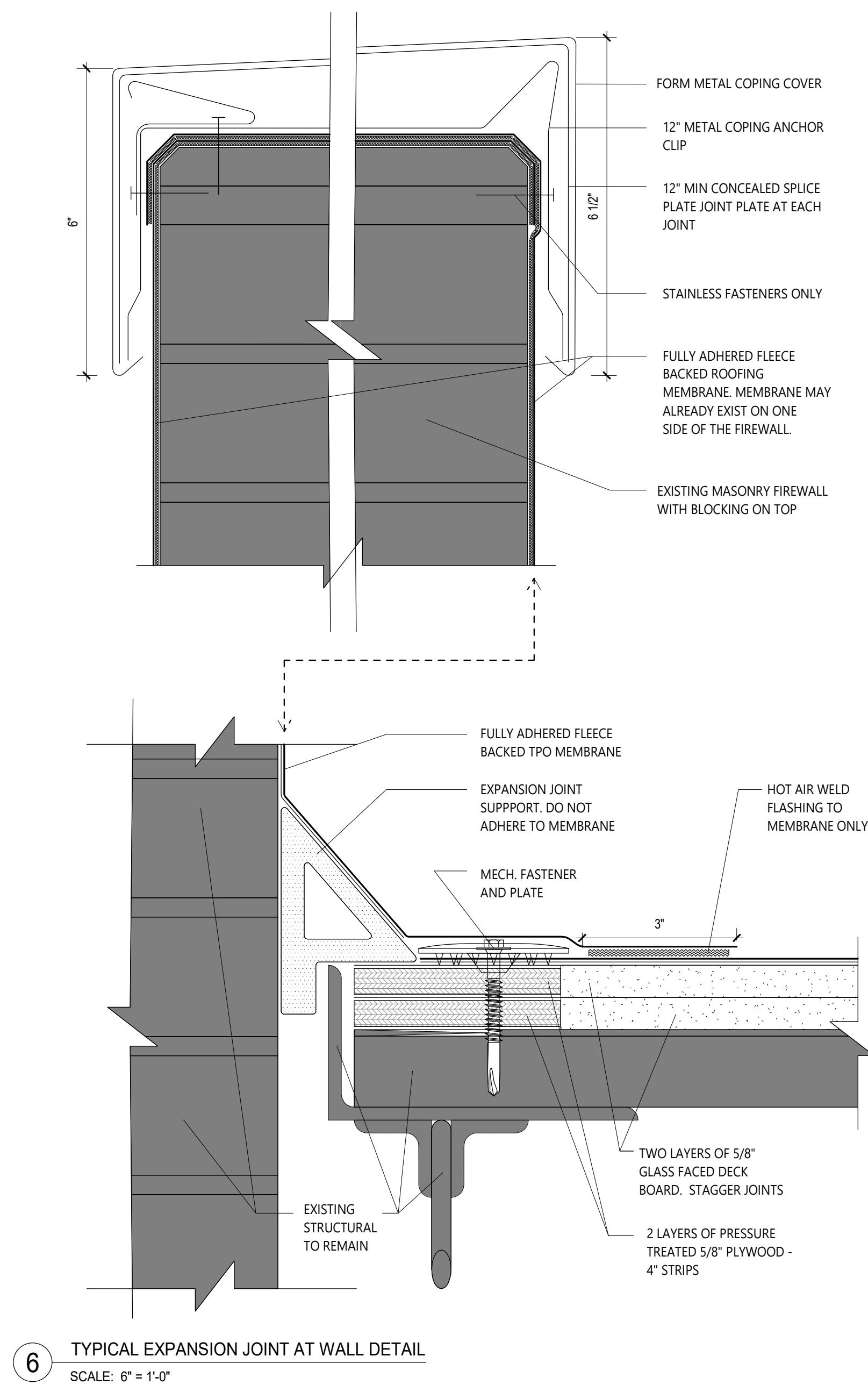
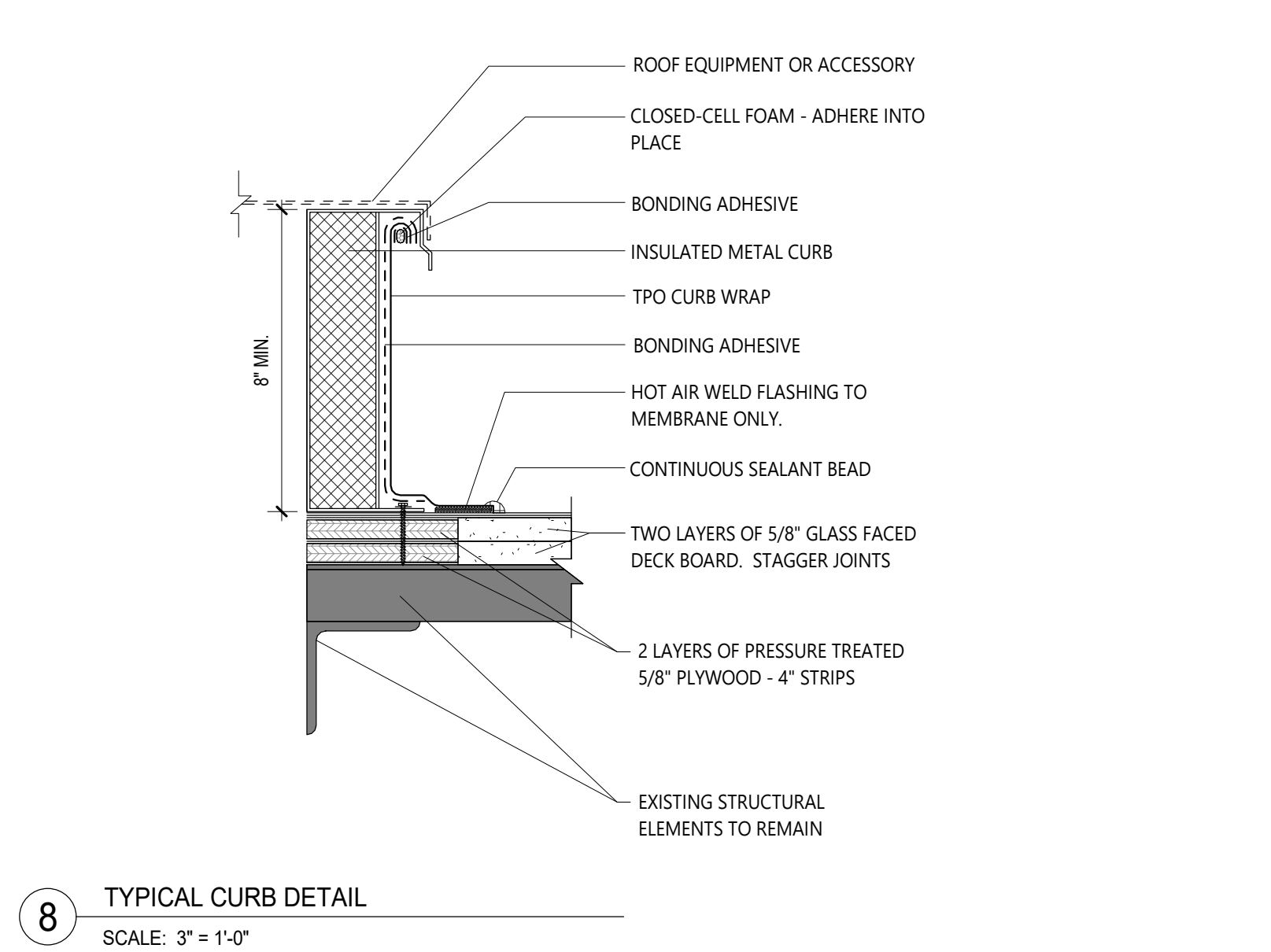
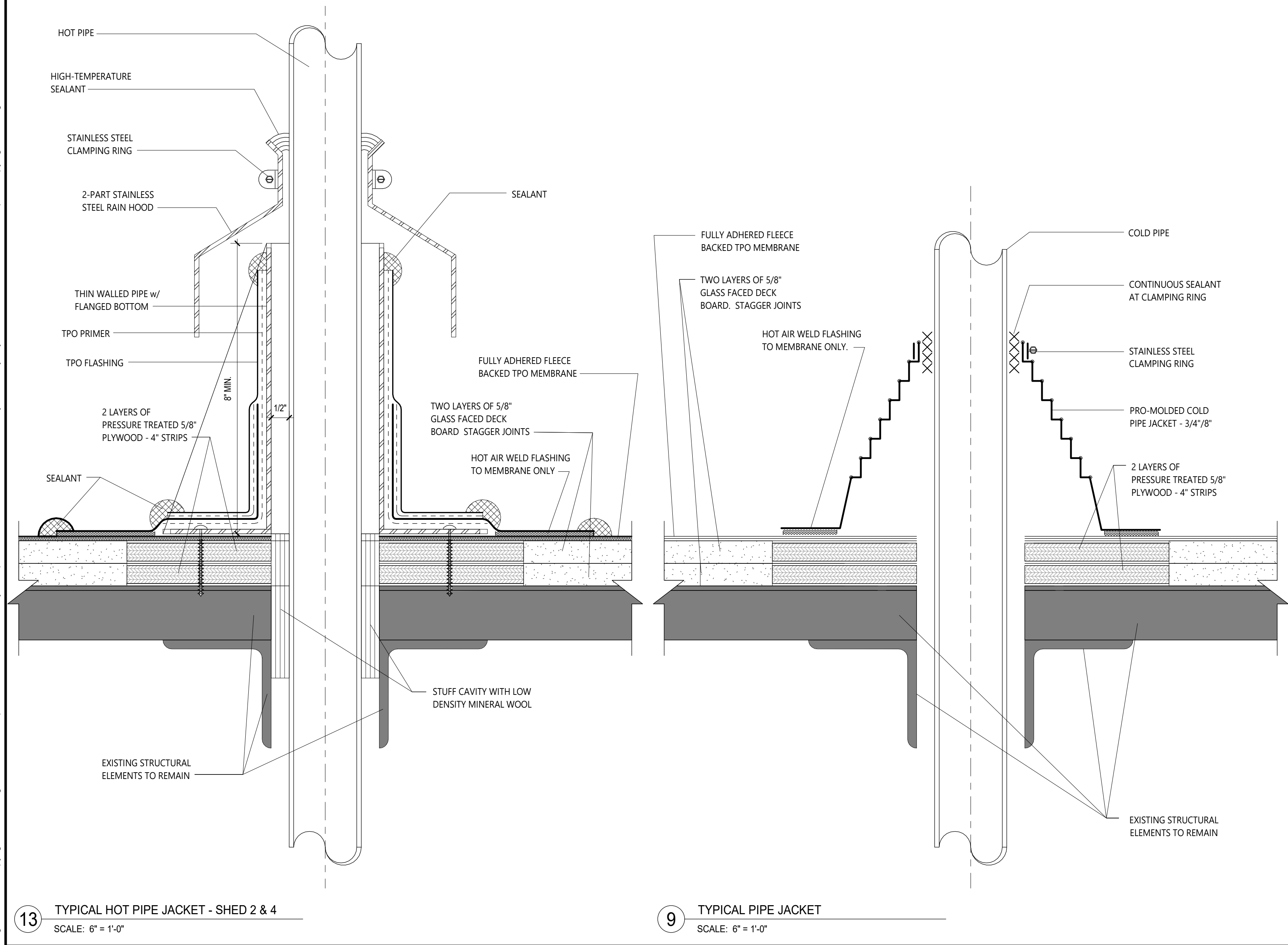
Calumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633

ROOF PLAN - SHED 3

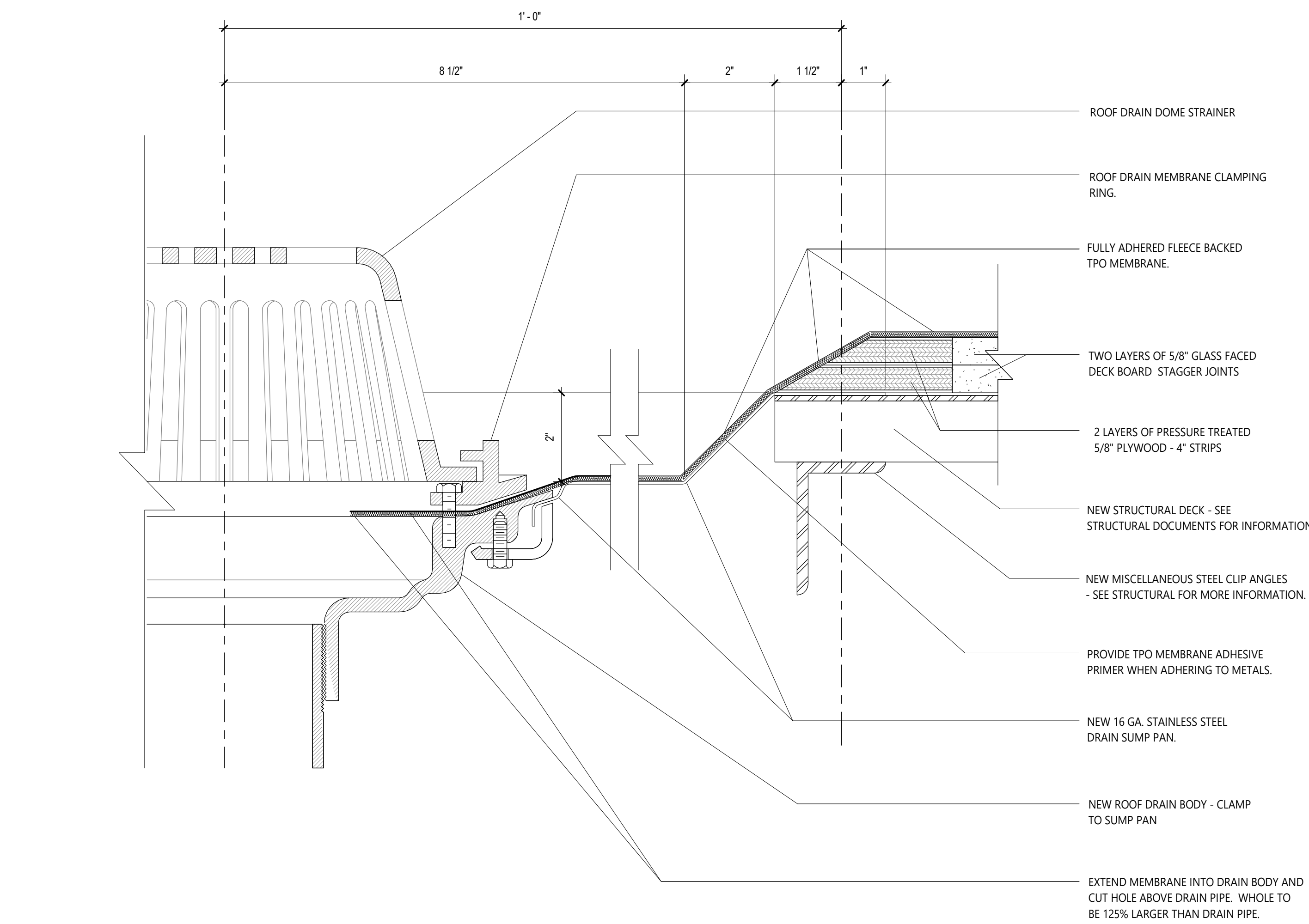
Project Number:
240036
Drawn By:
JK
Sheet:

A2.31

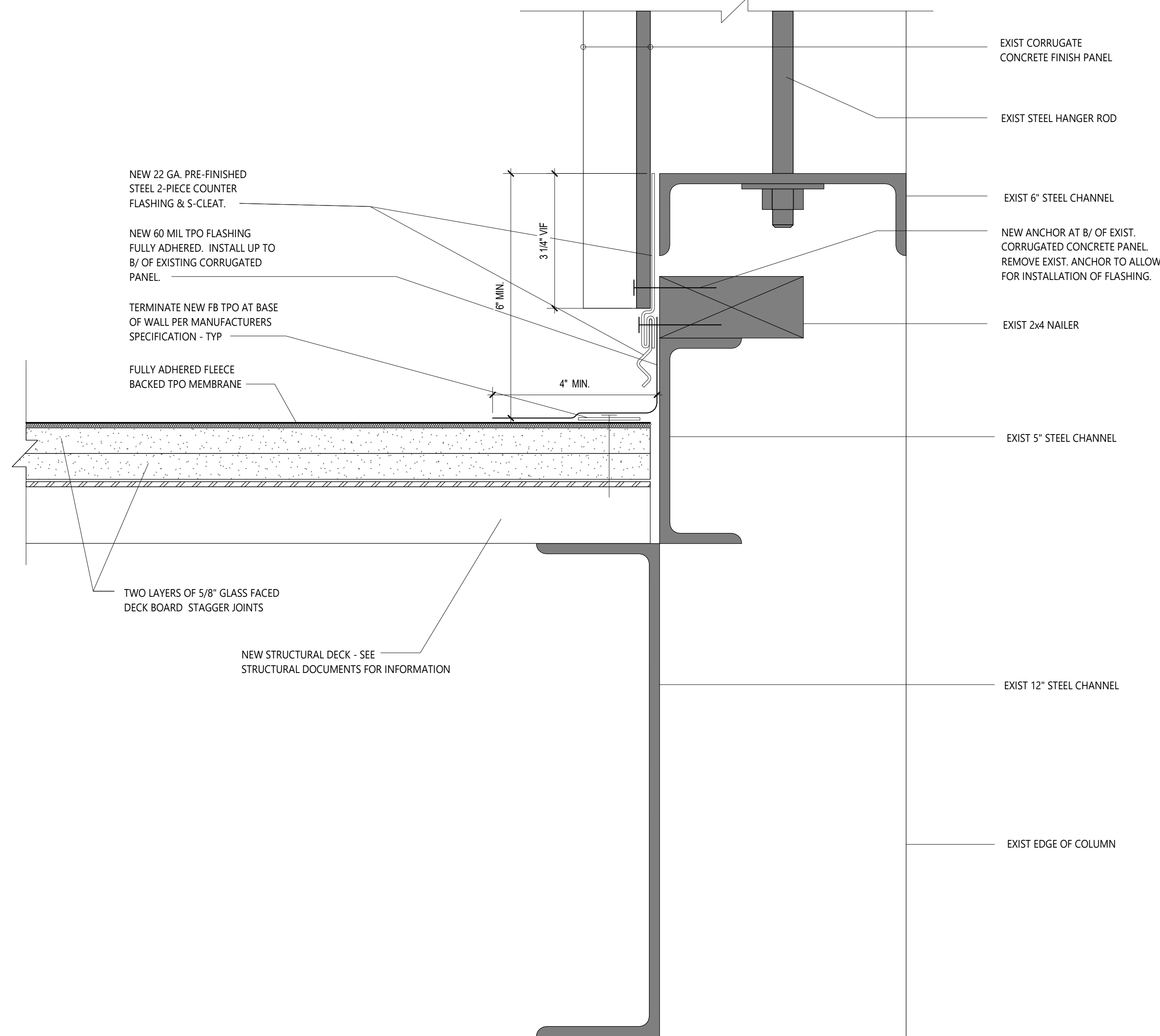
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13 TYPICAL CANOPY ROOF DRAIN - SHED 4
SCALE: 6" = 1'-0"



5 TYPICAL CANOPY TERMINATION @ BUILDING - SHED 4
SCALE: 6" = 1'-0"

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REV	DESCRIPTION	DATE
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ILLINOIS INT. PORT DIST. - SHED ROOF REPLACEMENT

Calumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633

ROOF DETAILS - CANOPY

Project Number:
240036
Drawn By:
JK
Sheet:

A5.02

1. GENERAL BUILDING CODE: 2019 CHICAGO BUILDING CODE WITH LATEST SUPPLEMENT
2. DESIGN LIVE LOADS:
 - A. ROOFS:
 - ORDINARY 20 PSF OR 300 LBS. CONCENTRATED LOAD
 - CANOPIES 20 PSF
 - B. DESIGN LIVE LOADS HAVE BEEN REDUCED ACCORDING TO INDICATED GENERAL BUILDING CODE.
3. WIND DESIGN DATA:
 - A. BASIC WIND SPEED (3-SECOND GUST): 107 MPH
 - B. RISK CATEGORY: II
 - C. WIND EXPOSURE: D
 - D. INTERNAL PRESSURE COEFFICIENT (C_{pi}): +/- 0.18
 - E. SEE DIVISION 05 SPECIFICATIONS - NRCA WIND PRESSURE REPORT FOR ROOF SYSTEM PROJECT SPECIFICATIONS.
4. EARTHQUAKE DESIGN DATA:
 - A. IMPORTANCE FACTOR (I_e): II
 - B. RISK CATEGORY:
 - S_s: 0.120 g S₁: 0.066 g
 - S_{ds}: 0.128 g SD₁: 0.105 g
 - C. SITE CLASS: D
 - D. SEISMIC DESIGN CATEGORY: B
5. SNOW DESIGN DATA:
 - A. GROUND SNOW LOAD (P_g): 25 PSF
 - B. FLAT ROOF SNOW LOAD (P_f): 20 PSF
 - C. EXPOSURE FACTOR (C_e): 0.9
 - D. IMPORTANCE FACTOR (I_s): 1.2
 - E. THERMAL FACTOR (C_t): 1.2
6. REFERENCES TO STANDARDS ARE TO EDITIONS INDICATED IN SPECIFICATIONS AND APPLICABLE BUILDING CODE
7. PRINCIPAL OPENINGS ARE INDICATED ON THE DRAWINGS. SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SLEEVES, BLOCKOUTS, CURBS AND INSERTS.
8. THE STRUCTURAL DRAWINGS REPRESENT THE COMPLETED STRUCTURE AND NOT INDICATE CONSTRUCTION AND METHODS, SEQUENCES, PROCEDURES, TEMPORARY CONDITIONS, OR TEMPORARY SHORING AND BRACING.
9. SUBMIT SHOP DRAWINGS FOR STRUCTURAL STEEL AND STEEL ROOF DECK.

1. COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) STANDARDS.
2. STRUCTURAL STEEL MATERIAL REQUIREMENTS:
 - A. WIDE FLANGED AND TEE SHAPES SHALL CONFORM TO ASTM A992.
 - B. PLATES, ANGLES AND CHANNELS SHALL CONFORM TO ASTM A36.
 - C. ROUNDED HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A500, GRADE C (Fy = 46 KSI).
 - D. SQUARE AND RECTANGULAR HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A500, GRADE C (Fy = 50 KSI).
3. STRUCTURAL STEEL CONNECTION REQUIREMENTS:
 - A. STRUCTURAL STEEL DETAILS AND CONNECTIONS SHALL CONFORM TO THE STANDARDS OF THE AISC.
 - B. WELDING OF STRUCTURAL STEEL MEMBERS WHERE NOT INDICATED IS PROHIBITED.
 - C. WELDING OF STRUCTURAL STEEL SHALL CONFORM TO AWS D1.1. USE E70XX ELECTRODES FOR FIELD AND SHOP WELDS. USE ONLY LOW-HYDROGEN ELECTRODES ON ASTM A242, A514, A572 AND A588 STEEL.
4. TOUCH UP FIELD WELDS AND CONNECTIONS OF PAINTED STRUCTURAL STEEL WITH SAME PAINT AS USED IN SHOP.
5. UNLESS NOTED OTHERWISE, GALVANIZE STRUCTURAL STEEL MEMBERS AND EMBEDS EXPOSED TO ELEMENTS AND WHERE INDICATED ON DRAWINGS. GALVANIZING SHALL CONFORM TO ASTM A123. SEAL WELD CONNECTIONS PRIOR TO GALVANIZING. TOUCH UP FIELD WELDS ON GALVANIZED ITEMS WITH PAINT CONFORMING TO TTP-641.

1. COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE AMERICAN NATIONAL STANDARDS INSTITUTE / STEEL DECK INSTITUTE (SDI) STANDARDS.

2. ROOF STEEL DECK SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 KSI

3. WHERE INDICATED ON DRAWINGS, PROVIDE STEEL ROOF DECK OF 1/2" DEEP x 18 GAGE, NARROW RIB GALVALUM DECK WITH SUPPORT FASTENERS AND SIDELAP FASTENING AS INDICATED IN DRAWINGS. DO NOT EXCEED 36" ON HALF OF DECK SPAN FOR SIDELAP FASTENER SPACING.

4. SEE DIVISION 01 SPECIFICATIONS FOR ALLOWANCES AND UNIT COSTS.

5. DECK REPAIR/REPLACEMENT CRITERIA:
CORROSION DAMAGED EXISTING DECK, THAT IS NOT SOUND STRUCTURALLY OR IS CORRODED TO THE EXTENT IT IS NOT SUITABLE FOR ATTACHING OF ROOFING SUBSTRATES (AS DETERMINED BY ROOFING MANUFACTURER AND INSPECTOR) SHALL BE REMOVED & REPLACED AS NOTED BELOW:
WHERE DECK BY PROTECTIVE COATING IS IDENTIFIED AS CORRODED, REMOVE EXISTING DECK PROFILE, WHERE LOCALIZED CORROSION DAMAGE EXISTS TO THE EXTENTS INDICATED IN DETAIL 3, THIS SHEET.

6. WHERE EXISTING DECK CORROSION DAMAGE IS WIDE SPREAD, AREA OF WHICH EXCEEDS PARAMETERS ESTABLISHED IN THE TYPICAL, REMOVE EXISTING DECK ENTIRELY AND REPLACE WITH NEW DECK SPANNING OVER EXISTING JOIST/BEAM SUPPORTS, PER TYPICAL DETAIL 4, THIS C.

7. WHERE DECK DAMAGE AREA OCCURS OVER EXISTING JOIST/BEAM WITH MORE THAN A 10" LENGTH ALONG AN ENTIRE BEAM OR DECK WIDTH AND IS STRUCTURALLY COMPROMISED, REMOVE DECK ENTIRELY AND REPLACE WITH NEW DECK IN SPANS ON EACH SIDE OF JOIST/BEAM, SEE DETAIL 4, THIS SHEET.

1. PROVIDE SPECIAL INSPECTION BY AN APPROVED TESTING AGENCY ACCORDING TO THE PROJECT SPECIFICATION AND THE GENERAL BUILDING CODE. PROVIDE SPECIAL INSPECTION FOR MATERIALS, INSTALLATION, FABRICATION, ERECTION, AND PLACEMENT OF COMPONENTS AND CONNECTIONS FOR COMPLIANCE WITH THE PROJECT DOCUMENTS AND REFERENCED STANDARDS.
2. THE OWNER OR OWNER'S REPRESENTATIVE SHALL HIRE THE APPROVED TESTING AGENCY TO PERFORM THE SPECIAL INSPECTION. TESTING AGENCY SHALL BE INDEPENDENT FROM THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER.
3. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON, EMPLOYED BY THE INDEPENDENT TESTING AGENCY TO PERFORM DEMONSTRATION OF COMPETENCY AND INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION TO THE SATISFACTION OF THE BUILDING OFFICIAL AND REGISTERED DESIGN PROFESSIONAL.
4. THE SPECIAL INSPECTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL INDICATING THEIR COMPETENCE, RELEVANT EXPERIENCE AND TRAINING.
5. THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER IS RESPONSIBLE FOR COORDINATING TESTING AND INSPECTION AS WELL AS NOTIFYING THE REGISTERED DESIGN PROFESSIONAL AND SPECIAL INSPECTORS OF THE SCHEDULE FOR INSPECTION. THE GENERAL CONTRACTOR SHALL PROVIDE ACCESS TO AND MEANS FOR PROPER INSPECTION OF SUCH WORK.
6. SPECIAL INSPECTORS ARE RESPONSIBLE FOR VERIFYING THAT THE DESIGNATED WORK HAS BEEN PERFORMED COMPLIANCE WITH THE PROJECT DOCUMENTS AND WITH THE REQUIREMENTS AND STANDARDS OF THE GENERAL BUILDING CODE. THE INSPECTOR MAY NOT ALTER, MODIFY OR WAIVE ANY OF THE REQUIREMENTS OF THE PROJECT DOCUMENTS.
7. PERFORM SPECIAL INSPECTION OF FABRICATORS ACCORDING TO THE PROJECT DOCUMENTS AND GENERAL BUILDING CODE, UNLESS THE FABRICATOR IS REGISTERED AND APPROVED TO PERFORM WORK WITHOUT SPECIAL INSPECTION.
8. THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE OWNER, THE BUILDING OFFICIAL, THE REGISTERED DESIGN PROFESSIONAL AND THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER STATING THAT THE WORK WAS PERFORMED ACCORDING TO THE PROJECT DOCUMENTS.
9. SPECIAL INSPECTORS SHALL BRING NONCOMPLIANT ITEMS TO THE IMMEDIATE ATTENTION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER AND THE REGISTERED DESIGN PROFESSIONAL.
10. SPECIAL INSPECTORS SHALL SUBMIT A WEEKLY FIELD REPORT ADDRESSING OUTSTANDING DISCREPANCIES TO THE BUILDING OFFICIAL, THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER AND THE REGISTERED DESIGN PROFESSIONAL UNTIL CORRECTIONS HAVE BEEN COMPLETED.
11. EACH SPECIAL INSPECTOR IS RESPONSIBLE TO PREPARE, SIGN, AND SUBMIT TO THE OWNER, THE BUILDING OFFICIAL, THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER AND REGISTERED DESIGN PROFESSIONAL A REPORTING THAT PROVIDES AN ACCURATE AND COMPLETE RECORD OF THE SPECIAL INSPECTION. TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE PROJECT DOCUMENTS AND THE PROVISIONS OF THE GENERAL BUILDING CODE.
12. WHERE SPECIAL INSPECTION REQUIREMENTS DUPLICATE THE REQUIREMENTS OF OTHER SPECIFIED TESTING, THE MORE STRINGENT OF THE TWO IS REQUIRED.
13. PROVIDE SPECIAL INSPECTION AND TESTING PER THE FOLLOWING TABLES LISTED ON THIS SHEET.
14. STRUCTURAL OBSERVATION FOR SEISMIC RESISTANCE OR WIND REQUIREMENTS, AS DEFINED BY CHAPTER 17 OF THE BUILDING CODE, IS NOT REQUIRED.
15. STRUCTURAL OBSERVATION IS A VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM BY A REGISTERED DESIGN PROFESSIONAL, FOR THE SOLE PURPOSE OF DETERMINING IF THE WORK IS PROCEEDING IN GENERAL ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND IS NOT INTENDED TO BE A COMPREHENSIVE REVIEW OF THE QUALITY AND/OR QUANTITY OF WORK.

AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	F-F	FACE TO FACE	OC	ON CENTER
ALT	ALTERATE	F.F	FAR FACE	OD	OUTSIDE DIAMETER
APPROX	APPROXIMATE	FG	FIGURE	OPNG	OPENING
ARCH	ARCHITECTURAL	FN	FINISH	OPP	OPPOSITE
ASSN	ASSOCIATION	FN DIM	FINISH DIMENSION	OPPH	OPPOSITE HAND
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	FL GR	FLOOR GRADE	PART.	PARTITION
		FLNG	FLOOR FLANGE	%	PERCENT
		FT	FEET	PERP	PERPENDICULAR
				R	PLATE
B/	BOTTOM OF	>	GREATER THAN	PROJ.	PROJECTION
BLDG	BUILDING	GA	GAUGE	P1	POINT
BM	BEAM	GALV	GALVANIZED		
BIS	BOTTOM OF STEEL	GEN	GENERAL	RAD	RADIUS
B.S.	BOTH SIDES	GRD	GRADE	RC	REINFORCED CONCRETE
B.W.	BOTH WAYS	GRND	GROUND	REF	REFERENCE
				REQD	REQUIRED
C	CHANNEL	HCR	HANGER	REV	REVISED, REVISION
CC	CENTER TO CENTER	HT/HTG	HEIGHT	RH	RIGHT HAND
CEN	CENTER TO CENTER	HOR. H.	HORIZONTAL		
CF	CENTER FACE	HSH	HIGH-PITCH		
CIR	CIRCULAR	HSS	HOLLOW STRUCTURAL SECTION	SC	STUB COLUMN
CL	CENTERLINE			SCHD	SCHEDULE
CLG	CEILING			SECT	SECTION
CLR	CLEAR			SHT	SHEET
CMU	CONCRETE MASONRY UNIT	ID	INSIDE DIAMETER	SOL	SUPPOSED DEAD LOAD
COL	COLUMN	IN	INCHES	SPEC	SPECIFICATIONS
COMP	COMPOSITE			SQ	SQUARE
CONC	CONCRETE	INSUL	INSULATION	STD	STANDARD
CONSTR	CONSTRUCTION	INT	INTERIOR	STL	STEEL
C.J.	CONSTRUCTION JOINT	ISO	ISOMETRIC	SS	STAINLESS STEEL
CONT	CONTINUOUS			STL PL	STEEL PLATE
CONT	CONTINUOUS	JT	JOINT	STRUC	STRUCTURE
CNTS	CENTERS			SYM	SIMILAR
CYL	CUBIC	K	KIPS	SYS	SYSTEM
CYL	CYLINDER				
DBL	DOUBLE	<	LESS THAN	T/	TOP OF
DEG	DEGREE	L	LENGTH	T/	TOP OF STEEL
DET	DETAIL	LL	LIVE LOAD	T&B	TOP AND BOTTOM
DIA Ø	DIAMETER	LLB	LONG LEG BACK TO BACK	TEMP	TEMPERATURE
DIAG	DIAGONAL	LLH	LONG LEG HORIZONTAL	THK	THICK
DIMS	DIMENSIONS	LLV	LONG LEG VERTICAL	TR	COLUMN TRANSFER
DIST	DISTANCE	LP	LOW POINT	TR	STRUCTURE TUBE
DL	DEAD LOAD	LT	LIGHT	TRY	TYPICAL
DN	DOWN	LTWT	LIGHTWEIGHT	UNO	UNLESS NOTED OTHERWISE
DO	DITTO				
DWG	DRAWINGS	MAT	MATERIAL		
DWL	DOWEL	MAX	MAXIMUM	VERT. V.	VERTICAL
		MECH	MECHANICAL		VERIFY IN FIELD
EA	EACH	MEZZ	MEZZANINE		
E.F	EACH FACE	MIN	MINIMUM	W/	WITH
EL	ELEVATION	MISC	MISCELLANEOUS	W/	WIDE FLANGE BEAM
ENG	ENGINEERING			W/	WIDE FLANGE TEE
EQU	EQUAL	N/A	NOT APPLICABLE	WT	WORK POINT
EOS	EDGE OF SLAB	N.F.	NEAR FACE	WL	WIND LOAD
E-W	EAST-WEST	NIC	NOT IN CONTRACT	WWR	WELDED WIRE REINF
E-W	EACH WAY	NWT	NORTH-SOUTH	WWM	WELDED WIRE MESH
EXT/EXIST	EXISTING	N	NUMBER		
EXP	EXPANSION	NOM	NOMINAL		
EXP	EXPANSION JOINT	N-S	NORTH-SOUTH		
EXT	EXTERIOR	NTS	NOT TO SCALE		

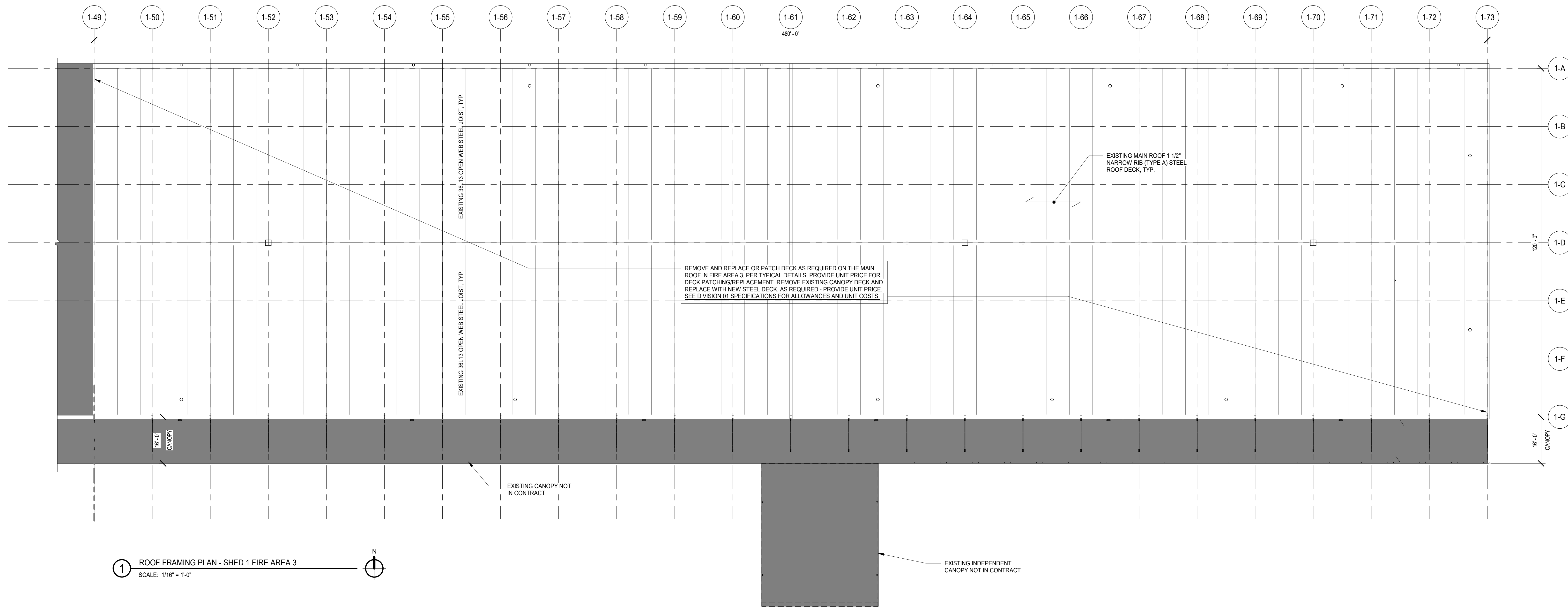
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<input type="checkbox"/>	COLD-FORMED STEEL FRAMING
<input type="checkbox"/>	SPRAY-APPLIED FIRE RESISTANT MATERIALS
<input type="checkbox"/>	SPECIAL CASES

NOTE: THE INSPECTORS AND TESTING AGENCIES SHALL BE ENGAGED BY THE OWNER OR THE OWNER'S AGENT, AND NOT BY THE CONTRACTOR OR SUBCONTRACTOR WHOSE WORK IS TO BE INSPECTED OR TESTED. ANY CONFLICT OF INTEREST MUST BE DISCLOSED TO THE BUILDING OFFICIAL, PRIOR TO COMMENCING WORK.

ITEM		AGENCY # (QUALIF.)	SCOPE	FREQUENCY
1. FABRICATOR CERTIFICATION/ QUALITY CONTROL PROCEDURES		AWS-CWI or ICC-SWSI and ICC-SSBI	REVIEW SHOP FABRICATION AND QUALITY CONTROL PROCEDURES.	PERIODIC
2. MATERIAL CERTIFICATION		AWS-CWI or ICC-SWSI and ICC-SSBI	REVIEW CERTIFIED MILL TEST REPORTS AND IDENTIFICATION MARKINGS ON WIDE-FLANGED SHAPES, HIGH-STRENGTH BOLTS, NUTS, AND WELDING ELECTRODES.	PERIODIC
3. WELDING		AWS-CWI or ICC-SWSI	VISUALLY INSPECT ALL WELDS. INSPECT PRE-HEAT, POST-HEAT AND SURFACE PREPARATION BETWEEN PASSES. VERIFY SIZE AND LENGTH OF FILLET WELDS.	CONTINUOUS
4. STRUCTURAL DETAILS		AWS-CWI or ICC-SWSI and ICC-SSBI	INSPECT STEEL FRAME FOR COMPLIANCE WITH STRUCTURAL DRAWINGS, INCLUDING BRACING, MEMBER CONFIGURATION AND CONNECTION DETAILS. INSPECT STEEL BEAMS FOR PROPER CAMBER CONFIGURATION, WITH SPECIFIED CAMBER AND NATURAL CAMBER FACING UPWARD.	CONTINUOUS
5. METAL DECK		AWS-CWI or ICC-SWSI	INSPECT WELDING AND SIDE-LAP FASTENING OF METAL ROOF AND FLOOR DECK INSPECT CONDITIONS OF EXISTING DECK, EXISTING SIDE-LAP FASTENING, EXISTING CONNECTIONS TO SUPPORTING ROOF JOISTS/BEAMS, AND SUITABILITY OF EXISTING DECK TO RECEIVE NEW ROOFING.	PERIODIC CONTINUOUS

AWS-CWI CERTIFIED WELDING INSPECTOR
AWS/AISC-SSI CERTIFIED STRUCTURAL STEEL INSPECTOR
ICC-SWSI STRUCTURAL STEEL AND WELDING SPECIAL INSPECTOR
ICC-SSBI STRUCTURAL STEEL BOLTING INSPECTOR





PLAN NOTES

- SEE S0.01 SERIES DRAWINGS FOR GENERAL NOTES, STATEMENT OF SPECIAL INSPECTIONS AND TYPICAL DETAILS.
- NEW REPAIR ROOF DECK SHALL BE 1 1/2" DEEP x 18 GAGE, NARROW RIB, GALVANIZED STEEL DECK. TYPICAL UNLESS NOTED OTHERWISE. SEE GENERAL STEEL DECK NOTES AND TYPICAL DETAILS ON S0.01 FOR DECK REPAIR (PATCH OR REPLACEMENT) CRITERIA.
- SHADED REGION INDICATES AREA NOT IN CONTRACT.
- SEE DIVISION 01 SPECIFICATIONS FOR ALLOWANCES AND UNIT COSTS.



Exp. 11-30-2026

ISSUE FOR BID
REV DESCRIPTION10/11/2024
DATEILLINOIS INT. PORT
DIST. - SHED ROOF
REPLACEMENTCalumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633ROOF FRAMING PLAN -
SHED 1 (FIRE AREA 3)

Project Number:

240036

Drawn By:

L.B.

Sheet:

S2.11

ILLINOIS INT. PORT
DIST. - SHED ROOF
REPLACEMENTCalumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633ROOF FRAMING PLAN -
SHED 3

Project Number:

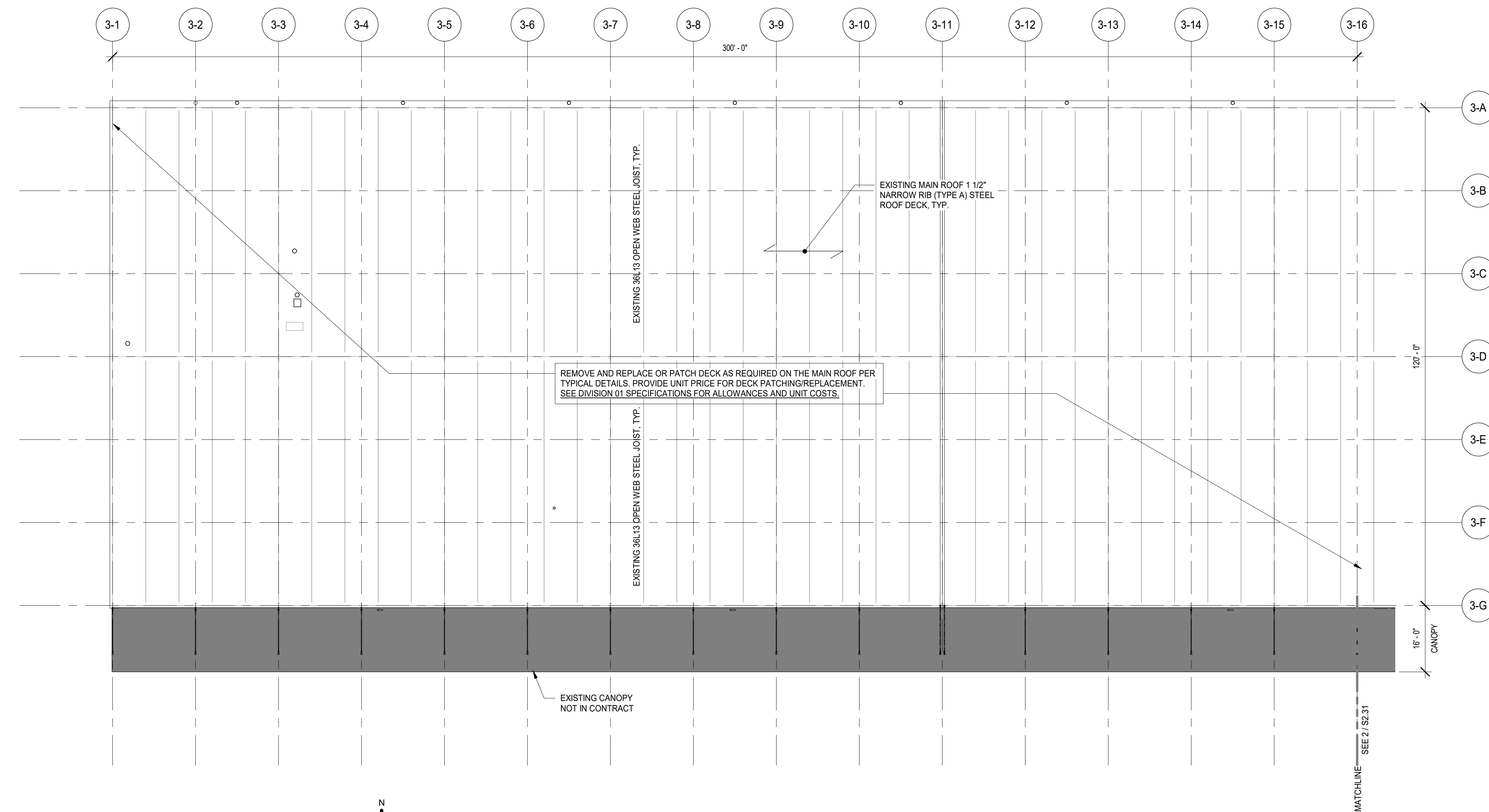
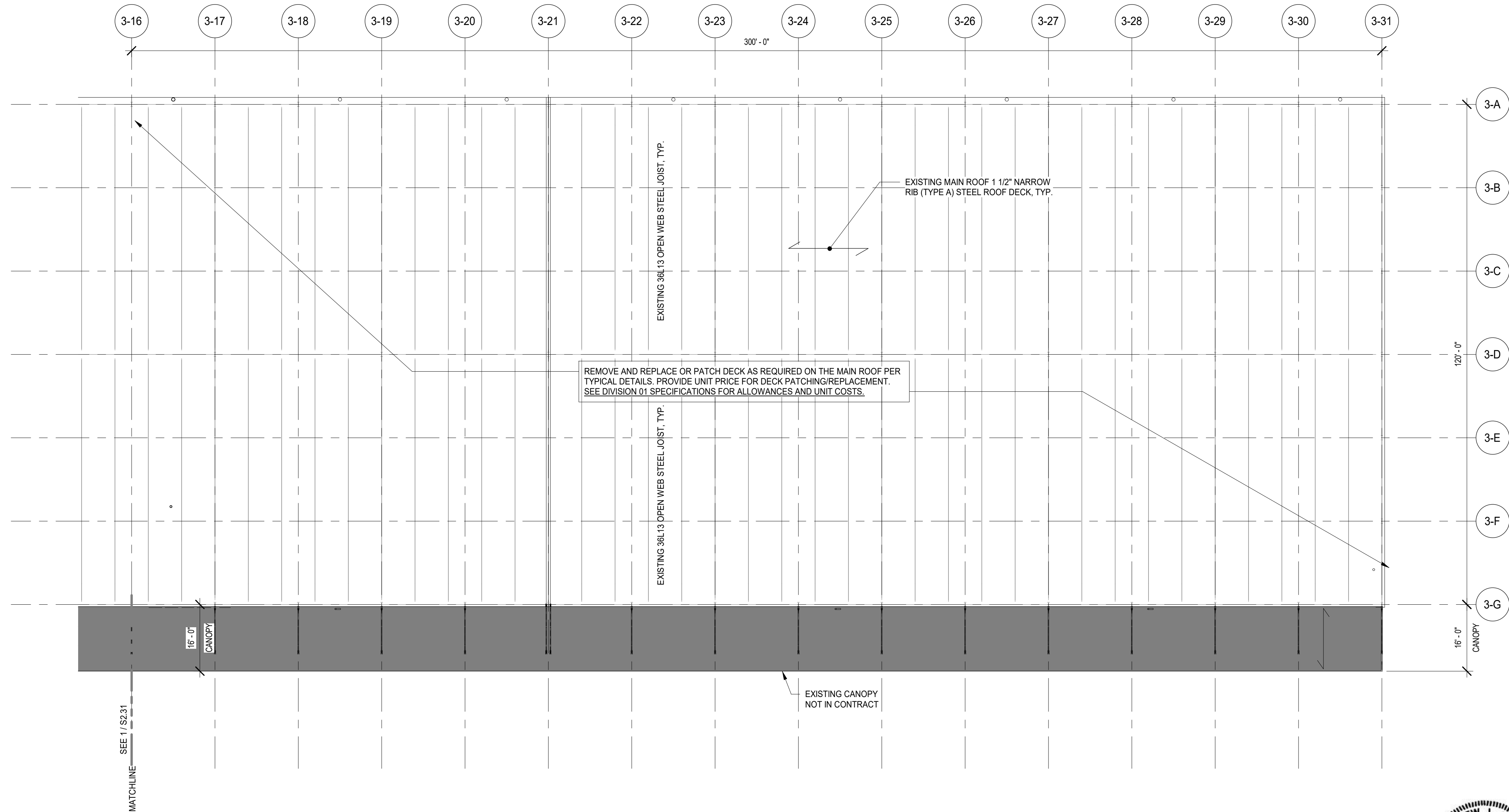
240036

Drawn By:

L.B.

Sheet:

S2.31

1 ROOF FRAMING PLAN - SHED 3 - A
SCALE: 1/16\"/>2 ROOF FRAMING PLAN - SHED 3 - B
SCALE: 1/16\"/>

PLAN NOTES

- SEE S0.01 SERIES DRAWINGS FOR GENERAL NOTES, STATEMENT OF SPECIAL INSPECTIONS AND TYPICAL DETAILS.
- NEW REPAIR ROOF DECK SHALL BE 1 1/2\"/>
- SHADED REGION INDICATES AREA NOT IN CONTRACT.
- SEE DIVISION 01 SPECIFICATIONS FOR ALLOWANCES AND UNIT COSTS.



Exp. 11-30-2026

**ILLINOIS INT. PORT
DIST. - SHED ROOF
REPLACEMENT**Calumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633**ROOF FRAMING PLAN -
SHED 4 (FIRE AREA 1 & 2)**

Project Number:

240036

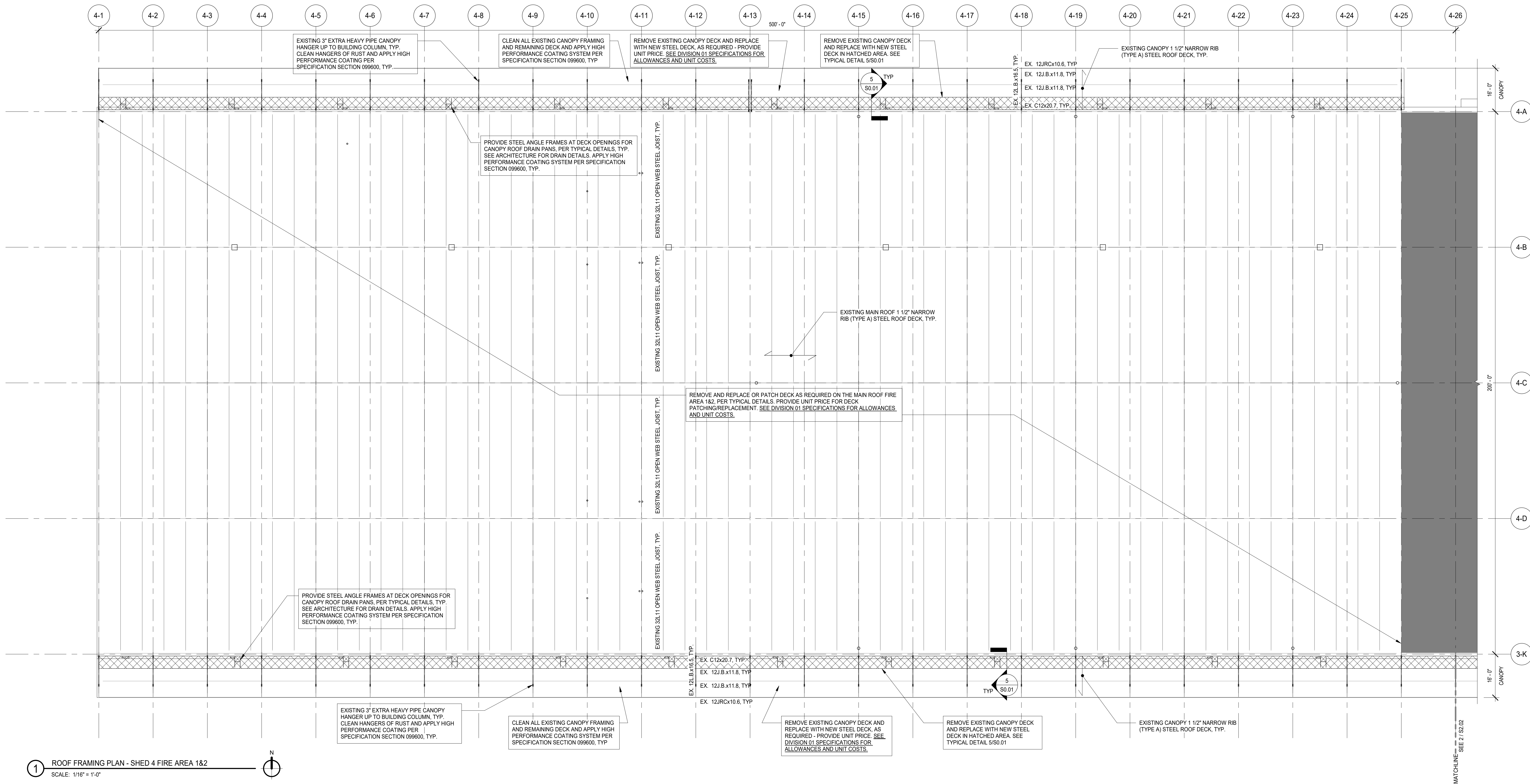
Drawn By:

L.B.

Sheet:

S2.01

Exp. 11-30-2026

**1 ROOF FRAMING PLAN - SHED 4 FIRE AREA 1&2**
SCALE: 1/16" = 1'-0"**PLAN NOTES**

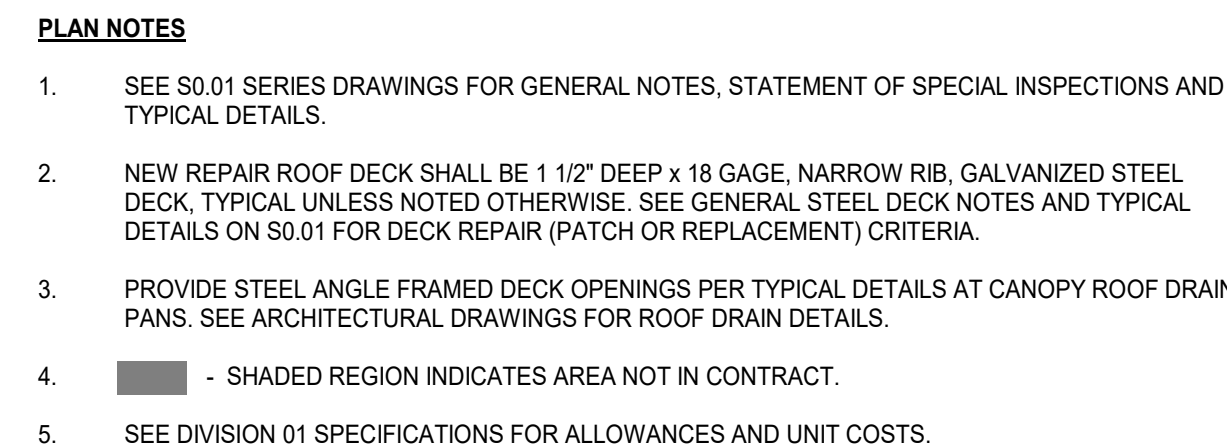
- SEE S0.01 SERIES DRAWINGS FOR GENERAL NOTES, STATEMENT OF SPECIAL INSPECTIONS AND TYPICAL DETAILS.
- NEW REPAIR ROOF DECK SHALL BE 1 1/2" DEEP x 18 GAGE, NARROW RIB, GALVANIZED STEEL DECK, TYPICAL UNLESS NOTED OTHERWISE. SEE GENERAL STEEL DECK NOTES AND TYPICAL DETAILS ON S0.01 FOR DECK REPAIR (PATCH OR REPLACEMENT) CRITERIA.
- PROVIDE STEEL ANGLE FRAMED DECK OPENINGS PER TYPICAL DETAILS AT CANOPY ROOF DRAIN PANS. SEE ARCHITECTURAL DRAWINGS FOR ROOF DRAIN DETAILS.
- SHADE REGION INDICATES AREA NOT IN CONTRACT.
- SEE DIVISION 01 SPECIFICATIONS FOR ALLOWANCES AND UNIT COSTS.

REV	DESCRIPTION	DATE
ISSUE FOR BID		10/11/20

Calumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633

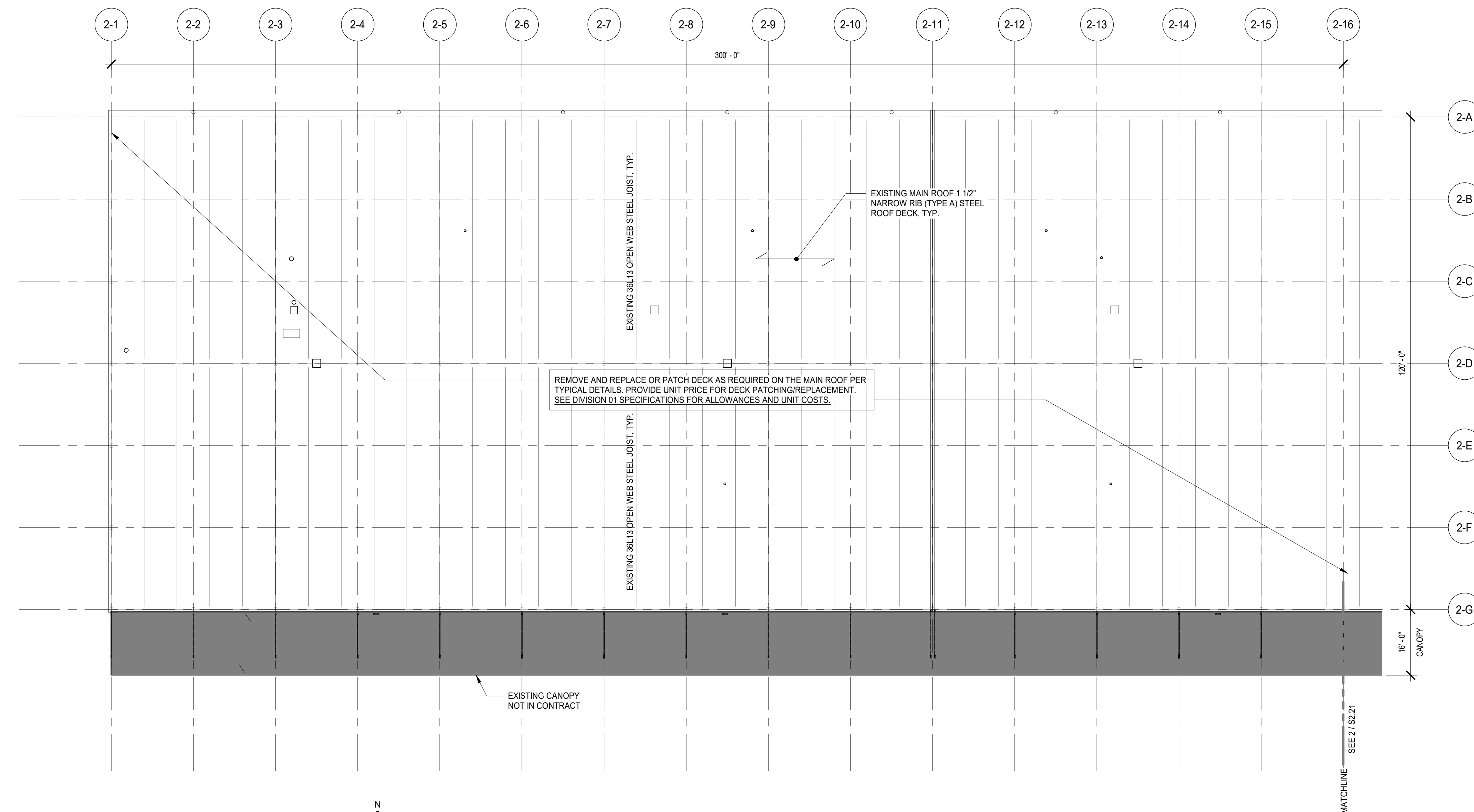
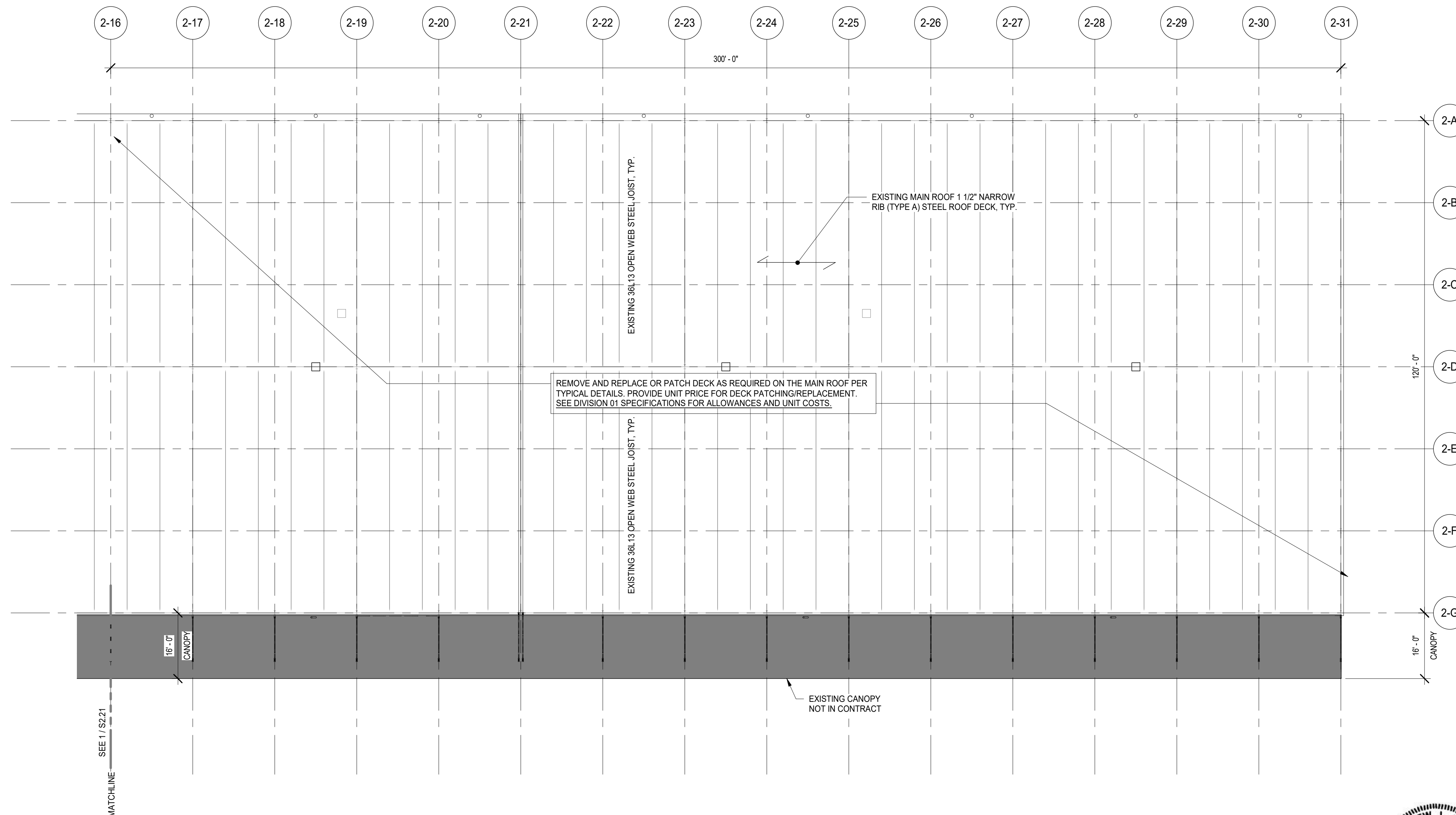
**ROOF FRAMING PLAN -
SHED 4 (FIRE AREA 4)**

S2.02



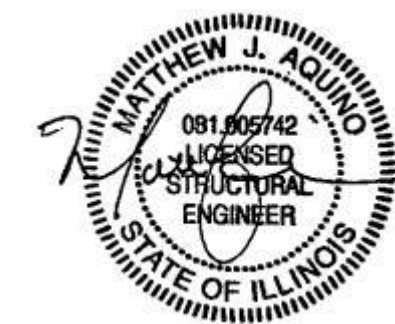
ILLINOIS INT. PORT
DIST. - SHED ROOF
REPLACEMENTCalumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633ROOF FRAMING PLAN -
SHED 2Project Number:
240036
Drawn By:
L.B.
Sheet:

S2.21

1 ROOF FRAMING PLAN - SHED 2 - A
SCALE: 1/16\"/>2 ROOF FRAMING PLAN - SHED 2 - B
SCALE: 1/16\"/>

PLAN NOTES

- SEE S0.01 SERIES DRAWINGS FOR GENERAL NOTES, STATEMENT OF SPECIAL INSPECTIONS AND TYPICAL DETAILS.
- NEW REPAIR ROOF DECK SHALL BE 1 1/2\"/>
- SHADED REGION INDICATES AREA NOT IN CONTRACT.
- SEE DIVISION 01 SPECIFICATIONS FOR ALLOWANCES AND UNIT COSTS.



Exp. 11-30-2026

Illinois International Port District

CONTRACTOR AGREEMENT FOR TRANSIT SHED ROOF REPLACEMENT AT IIPD LAKE CALUMET TERMINAL

TABLE OF ARTICLES

- 1. AGREEMENT**
- 2. SCOPE OF WORK**
- 3. SCHEDULE OF WORK**
- 4. CONTRACT PRICE**
- 5. PAYMENT**
- 6. CHANGES, CLAIMS AND DELAYS**
- 7. IIPD OBLIGATIONS**
- 8. CONTRACTOR'S OBLIGATIONS**
- 9. MISCELLANEOUS PROVISIONS**
- 10. RECOURSE BY IIPD**
- 11. LABOR RELATIONS**
- 12. INDEMNIFICATION**
- 13. INSURANCE**
- 14. [INTENTIONALLY OMITTED]**
- 15. CONTRACT INTERPRETATION**
- 16. SPECIAL PROVISIONS**

ARTICLE 1

CONTRACTOR AGREEMENT

This Contractor Agreement is made this ____ day of _____, _____ by and between the Illinois International Port District, an Illinois municipal corporation, (hereinafter called "IIPD" or "Owner"), with principal offices at 3600 E 95TH Street, Chicago, IL and [_____] , Contractor identified below, (hereinafter called "Contractor"), to perform work on the project identified below (the "Project"). The term "Agreement" as used herein shall include this agreement entered into on this date by IIPD and Contractor and any and all other addenda or amendments agreed to by IIPD and Contractor and adopted in accordance with the terms of this Agreement.

Project: TRANSIT SHED ROOF REPLACEMENT AT IIPD LAKE CALUMET TERMINAL
Section Number: 22-IIPD1-00-PT
State Job Number: C-91-040-23
Owner: ILLINOIS INTERNATIONAL PORT DISTRICT
Engineer / Architect: SINGH + ASSOCIATES; WIGHT & COMPANY
Construction Manager: BAXTER & WOODMAN, INC.
Contractor:
IIPD Rep:
Contractor Rep:

Prevailing Wage Requirement:

This contract calls for the construction of a "public work," within the meaning of the Illinois Prevailing Wage Act, 820 ILCS 130/.01 *et seq.* ("the Act"). The Act requires contractors and subcontractors to pay laborers, workers and mechanics performing services on public works projects no less than the "prevailing rate of wages" (hourly cash wages plus fringe benefits) in the county where the work is performed. For information regarding current prevailing wage rates, please refer to the Illinois Department of Labor's website at: <http://www.state.il.us/agency/idol/rates/rates.HTM>. All contractors and subcontractors rendering services under this contract must comply with all applicable requirements of the Act, *including but not limited to*, all applicable wage, notice and record keeping duties. Contractor will furnish certified payrolls for the project using the State of Illinois, Illinois Department of Labor Certified Transcript of Payroll forms.

Retainage: 10% of Contract (subject to payment terms hereinafter)
Bond Required: YES
Scope of Work: See **Exhibits B - E** (Attached)

IIPD employs Contractor as an independent contractor to perform the work as described hereinafter under the general direction of the IIPD Representative and in accordance with this Agreement and the Contract Documents, set forth in Article 16 hereof and to pay Contractor for the performance of this work, subject to the terms and conditions of this Agreement and the Contract Documents, an amount not to exceed:

[_____]

It is understood and agreed that the Work to be performed under the Agreement, including the terms and conditions thereof, is as described in Articles 1 through 16, together with any special provisions as contained in Article 16.

IN WITNESS WHEREOF, the parties, being duly authorized, have executed this Agreement under seal, the day and year first above written.

CONTRACTOR

Name: _____

By: _____

Its: _____

Employer I.D. # ____ - _____

() CORPORATION () INDIVIDUAL PROPRIETORSHIP
() PARTNERSHIP () OTHER

IIPD

By: _____

Its: _____

Approved as to form/authority o/b/o IIPD by:

By: _____

ARTICLE 2 – SCOPE OF WORK

2.1 **CONTRACTOR'S WORK.** The IIPD employs Contractor as an independent contractor to perform the work described in Article 16 and **Exhibits B - E**. Contractor shall perform such work (hereinafter called the "Contractor's Work" or the "Work") under the general direction of the IIPD and in accordance with this Agreement and the Contract Documents. IIPD's direction of the Work shall in no way relieve Contractor of its responsibility to control the Work and provide a safe worksite.

2.2 **CONTRACT DOCUMENTS.** The Contract Documents, which are binding on Contractor, are set forth in Article 16.1.

2.3 **CONFLICTS.** To the greatest extent possible, this Agreement and the Contract Documents should be read to be complimentary to one another. Notwithstanding, in the event of a conflict between terms within this Agreement and the Contract Documents, this Agreement shall govern.

ARTICLE 3 – SCHEDULE OF WORK

3.1 **TIME IS OF ESSENCE.** Time is of the essence for both parties, and they mutually agree to see to the performance of their respective work and the work of any Subcontractors so that the Project will be completed in accordance with the Contract Documents and the Schedule of Work. Contractor shall prepare the Schedule of Work and revise such schedule as the Work progresses, subject to approval by the IIPD.

3.2 **CONTROL OF WORK.** The Work is under the charge and care of Contractor until final completion and acceptance of the Work, unless otherwise stated in the Contract Documents.

3.3 **DUTY TO BE BOUND.** Both the IIPD and Contractor shall be bound by the Schedule of Work. Contractor shall provide the IIPD with any requested scheduling information for Contractor's Work. The Schedule of Work and all subsequent changes thereto shall be submitted to Contractor in advance of the required performance.

3.4 **SCHEDULE CHANGES.** Contractor recognizes that changes may be made in the Schedule of Work and agrees to comply with such changes subject to a reservation of rights arising hereunder.

3.5 **PRIORITY OF WORK.** The IIPD shall have the right to decide the time, order and priority in which the various portions of the Work shall be performed and all other matters relative to the timely and orderly conduct of Contractor's Work. IIPD's rights herein shall in no way

relieve Contractor of its responsibility to control and coordinate the Work and provide a safe worksite.

Contractor shall commence its work when notified to proceed by the IIPD and if such work is interrupted for any reason Contractor shall resume such work within two working days from the IIPD's notice to do so.

ARTICLE 4 – CONTRACT PRICE

The IIPD agrees to pay to Contractor for the satisfactory performance of Contractor's Work in accordance with Article 5, and subject to additions or deductions pursuant to Article 6 (the "Contract Price"). Unless otherwise stated herein, the Contract Price is the total dollar amount of the bid accepted by IIPD at the prices stated in Contractor's Bid, attached hereto as an **Exhibit E**, and includes all labor, equipment, materials, permits, licenses, fees, and taxes necessary to perform Contractor's Work.

ARTICLE 5 – PAYMENT

5.1 GENERAL PROVISIONS.

5.1.1 **PAYMENT PROCESSING.** Contractor acknowledges that the project may be funded, in whole or in part, with certain grant funds administered in conjunction with the State of Illinois "Rebuild Illinois Port Facilities Capital Investment Grant Program" including, without limitation, state funds being administered by and through the State of Illinois, Department of Transportation, and as such, Contractor shall conform its activities to maintain compliance and eligibility for the Project under all applicable rules, regulations and ordinances governing the State of Illinois, Department of Transportation's funding and/or programming, including, without limitation, matters applicable to Client's contractors and subcontractors as set forth in the Grant Agreement incorporated as **Exhibit F**. Of specific note, Contractor hereby agrees to certify and/or comply with the certifications and requirements in the following sections of the Grant Agreement incorporated as **Exhibit F**: Article VIII – Required Certifications (to the extent applicable to Contractor); Article X – Unlawful Discrimination; Article XI – Lobbying; Article XV – Audit Requirements; and Article XVII – Subcontracts/Subawards.

5.1.2 **PAYMENT USE RESTRICTION.** Any payment received by Contractor hereunder shall not be used to satisfy or secure any indebtedness other than that owed by Contractor to a person furnishing labor or materials for use in performing Contractor's Work.

5.1.3 [Intentionally omitted]

5.1.4 PARTIAL LIEN WAIVERS AND AFFIDAVITS. For all payment applications, Contractor shall provide, in a form satisfactory to the IIPD, partial lien or claim waivers and affidavits from Contractor, and its subcontractors and suppliers for the completed Contractor's Work.

5.1.5 CONTRACTOR PAYMENT FAILURE. In the event the IIPD has reason to believe that labor, material or other obligations incurred in the performance of Contractor's Work are not being paid, the IIPD shall give written notice of such claim or lien to Contractor and has the right to take any steps it deems necessary to insure that any progress payments to Contractor are utilized to pay such obligations. If upon receipt of said notice, Contractor does not:

- (a) supply evidence to the satisfaction of the IIPD that the monies owing to the claimant have paid; or
- (b) post a bond indemnifying the Owner, the IIPD, the IIPD's surety, if any, and the premises from such claim or lien; then the IIPD shall have the right to retain out of any payments due or to become due to Contractor a reasonable amount to protect the IIPD from any and all loss, damage or expense, including attorney's fees, arising out of or relating to any such claim or lien until the claim or lien has been satisfied by Contractor.

5.1.6 PAYMENT NOT ACCEPTANCE. The parties specifically stipulate and agree that payment to Contractor does not constitute or imply acceptance by the IIPD or the Owner of any portion of Contractor's Work.

5.2 PROGRESS PAYMENTS.

5.2.1 APPLICATION AND MBE/WBE UTILIZATION REPORTING. Contractor shall submit progress payment applications and all applicable MBE/WBE Utilization Reports, in a form satisfactory to the IIPD, for Work performed in the preceding payment period to the IIPD pursuant to the terms of this Agreement, and specifically Article 5, for approval by the IIPD, but in no event more frequently than monthly.

5.2.2 TIME OF APPLICATION. Contractor shall submit progress payment applications and MBE/WBE Utilization Reports to the IIPD indicating work completed and, to the extent allowed under Article 5.2.3, materials suitably stored during the preceding payment period. Forms AIA G702 and G703 (or similar forms subject to the approval of the IIPD) shall be used in submitting applications for both work completed and allowable stored materials. Applications received by the IIPD after the due date will be submitted by the IIPD in the following month's application for payment to the Owner.

5.2.3 STORED MATERIALS. Unless otherwise provided in the Contract Documents, and if approved in

advance by the IIPD, applications for payment may include materials and equipment not incorporated in Contractor's Work but delivered and suitably stored at the site or at some other location agreed upon in writing. Approval of such payment applications shall be conditioned upon submission by Contractor of bills of sale and applicable insurance or other such procedures satisfactory to the IIPD in order to establish that the Owner will obtain title to such materials and equipment upon payment to Contractor and otherwise protect the interest of the Owner and IIPD therein, including transportation to the site.

5.2.4 TIME OF PAYMENT. Progress payments to Contractor (which shall exclude retainage) for satisfactory performance of Contractor's Work shall be made not later than sixty (60) days after month end. Contractor understands, agrees and accepts that payment may be withheld from Contractor as necessary to protect the IIPD from loss, damage or expense, if IIPD, in the IIPD's discretion, determines that there is a defect in Contractor's Work, unless such defect was caused or contributed to by an act or omission of the Owner, or any third party for whom Owner is responsible.

5.2.5 [Intentionally Omitted].

5.2.6 PAYMENT OF CONTRACTOR'S MATERIALS AND OTHER COSTS. Contractor understands and accepts sole responsibility for all credit arrangements with suppliers and others for the purchase of materials and all other costs incurred or to be incurred in connection with the performance of Contractor's Work.

5.2.7 RETAINAGE. If after the Work provided for in the Contract shall have been fifty (50) percent completed, and performed to the satisfaction of IIPD, the retainage amount may be reduced to zero (0) percent on payments for the remaining Work. The reduction amount is determined at the sole discretion of IIPD, that Contractor is properly and continuously expediting the Work. IIPD shall have the right to reinstate the retainage in the event of a subsequent default by Contractor. If IIPD does not reduce the retainage to zero (0) percent, after Contractor has completed fifty (50) percent of the Work, IIPD shall release the retainage once Contractor receives its Certificate of Substantial Completion. The retainage may be reduced for Work that is incomplete, defective, not in accordance with the requirements of the Contract Documents, unsettled claims, and the costs of any third party to finish incomplete, incorrect or defective Work.

5.3 FINAL PAYMENT.

5.3.1 APPLICATION. The IIPD shall process Contractor's application for final payment without delay, upon acceptance of Contractor's Work by the IIPD, and the Architect, if necessary, and provided that Contractor

has furnished evidence of fulfillment of Contractor's obligations in accordance with the Contract Documents and Article 5.3.2, below.

5.3.2 REQUIREMENTS. Before the IIPD shall be required to make final payment, Contractor shall submit the following to the IIPD:

- (a) an affidavit that all payrolls, bills for materials and equipment and other indebtedness connected with Contractor's Work for which the Owner or his property or the IIPD or the IIPD's surety might in any way be liable, have been paid or otherwise satisfied;
- (b) consent of surety to final payment, if required;
- (c) certificate that Contractor's Work and materials conform to the Plans and Specifications;
- (d) satisfaction of required closeout procedures; and
- (e) other data if required by the IIPD such as receipts, releases and waivers of liens waiver of all claims by Contractor relating to Contractor's Work, delivery of as-built drawings and other Project record documents, to the extent and in such form as may be designated by IIPD. These requirements shall in no way relieve Contractor of liability for the obligations assumed under Article 9.10 hereof, or for faulty or defective work appearing after final payment.

5.3.3 TIME OF PAYMENT. Final payment of the balance due of the Contract Price shall be made to Contractor upon satisfaction of requirements in Section 5.3.2.

ARTICLE 6 – CHANGES, CLAIMS, DELAYS

6.1 CHANGES. When the IIPD so orders in writing, Contractor, without nullifying this Agreement, shall make any and all changes in the Work, which are within the general scope of this Agreement. Adjustments in the Contract Price or contract time, if any, resulting from such changes shall be set forth in a Contract Change Order pursuant to the Contract Documents. No such adjustment shall be made for any such changes performed by Contractor that have not been so ordered by the IIPD and a change order issued and signed by the IIPD representative.

6.2 CLAIMS RELATING TO IIPD. Unless otherwise stated, IIPD will be the final interpreter of the requirements of the Contract Documents and judge the acceptability of the Work with respect to any claim challenging a conclusion otherwise made by the Architect or IIPD Claims, disputes and other matters relating to the interpretation of the Contract Documents, as to the performance and finishing of the Work, in respect to extras or changes in the Contract Price, the amount of payment due Contractor, modifications to the Schedule of Work, or any disputes or claims surrounding

the Contract Documents or this Agreement shall be made to IIPD.

Contractor shall give the IIPD written notice of all claims within five (5) days of the beginning of the event for which claim is made; otherwise, such claims shall be deemed waived. The claim should generally include the amount of money and/or time extension sought by Contractor, and the contractual and factual basis for each; a general statement of the basis for the claim; the facts underlying the claim; references to the applicable Contract Document provisions; and all documentation that describes, relates to, and/or supports the claim. IIPD will issue a written decision on the claim as soon as possible, but in no event later than 35 days of receiving Contractor's claim. Subject to Contractor's rights stated in 5.2.5, Contractor shall continue to properly and timely perform and complete the Work in accordance with the Contract Documents and Schedule of Work.

6.3 DELAY. If the progress of Contractor's Work is substantially delayed without the fault or responsibility of Contractor, then the time for Contractor's Work shall be extended by Change Order to the extent obtained by the IIPD under the Contract Documents and the Schedule of Work shall be revised accordingly.

The IIPD shall not be liable to Contractor for any damages or additional compensation as a consequence of delays caused by any person not a party to this Agreement unless the IIPD has first recovered the same on behalf of Contractor from said person, it being understood and agreed by Contractor that, apart from recovery from said person, Contractor's sole and exclusive remedy for delay shall be an extension in the time for performance of Contractor's Work.

ARTICLE 7 IIPD'S OBLIGATIONS

7.1 AUTHORIZED REPRESENTATIVE. The IIPD shall designate one or more persons who shall be the IIPD' authorized representative(s). Such authorized representative(s) shall be the only person(s) Contractor shall look to for instructions, orders and/or directions, except in an emergency.

7.2 STORAGE ALLOCATION. The IIPD shall allocate adequate storage areas, if available, for Contractor's materials and equipment during the course of Contractor's Work.

7.3 TIMELY COMMUNICATIONS. The IIPD shall transmit, with reasonable promptness, all submittals, transmittals, and written approvals relating to Contractor's Work.

ARTICLE 8 – CONTRACTOR'S OBLIGATIONS

8.1 RESPONSIBILITIES. Contractor shall be responsible for the adequacy of all construction means, methods, techniques and procedures employed in the performance of the Work, and for coordinating all portions of the Work. Contractor shall furnish all of the labor, materials, equipment and services, including, but not limited to, competent supervision, shop drawings, samples, tools, and scaffolding, as are necessary for the proper performance of Contractor's Work. Contractor will obtain all necessary permits, licenses and/or governmental approvals for the Work. Contractor will include in its bid proposal the costs for obtaining and paying for all licenses and certificates of inspection required or necessary for the execution and completion of Work. Contractor shall provide a list of proposed subcontractors and suppliers, be responsible for taking field dimensions, providing tests, ordering materials and all other actions required to meet the Schedule of Work.

Contractor, upon receiving the approval of the IIPD of its proposed subcontractor, shall furnish to the IIPD an executed copy of the written agreement between Contractor and its subcontractor on the Project. Contractor is responsible for and liable to IIPD for any and all Work performed by any Subcontractor.

Contractor may not make any substitution for a Subcontractor that has been accepted by the IIPD, unless such substitution is acceptable to the IIPD. Contractor shall provide the IIPD with timely notice of any proposed substitution so as not to impede the progress of Contractor's Work. Notwithstanding the foregoing, there is no privity between IIPD and any Subcontractors. The Subcontractors have no rights as third-party beneficiaries under this Agreement. Contractor shall require the Subcontractors to communicate with IIPD through Contractor only.

All such agreements with Subcontractors shall contain provisions (i) that the Subcontractor performing the Work shall be bound to IIPD in the same manner as Contractor is bound to the IIPD under the Contract Documents, (ii) that such agreement shall be subject to, and conform with, all applicable federal, state and local laws, ordinances, statutes, rules and regulations, and (iii) that the Department of Commerce and Economic Opportunity, the Office of Inspector General and the Auditor General of the State of Illinois, or any of their duly authorized representatives, will have full access to, and the right to examine, any pertinent books and records relating to the Project of Contractor or any subcontractor (of any tier) engaged for the Project for a period of three (3) years from the date of final completion of the Work, or such longer period as may be further required by **Exhibit E**.

8.2 TEMPORARY SERVICES. Contractor shall furnish all temporary services and/or facilities necessary to perform its work, except as provided in Article 16.

8.3 COORDINATION. Contractor shall:

- (a) cooperate with the IIPD and all others whose work may interfere or interface with Contractor's work;
- (b) specifically note and immediately advise the IIPD of any such interference with Contractor's Work; and
- (c) participate in the preparation of coordination drawings and work schedules in areas of congestion.

8.4 AUTHORIZED REPRESENTATIVE. Contractor shall designate one or more persons who shall be the authorized Contractor's representative(s). Such authorized representative(s) shall be the primary person(s) to whom the IIPD shall issue instructions, orders or directions, except in an emergency. The person(s) so designated shall be named in Article 1, above.

8.5 PROVISION FOR INSPECTION. Contractor shall notify the IIPD when portions of Contractor's Work are ready for inspection. Contractor shall at all times furnish the IIPD and its representatives adequate facilities for inspecting materials at the site or any place where materials under this Agreement may be in the course of preparation, process, manufacture, storage or treatment. Contractor shall furnish to the IIPD in such detail, and as often as required, full reports of the progress of Contractor's Work.

8.5.1 CERTIFICATE OF COMPLETION. When Contractor considers that it has achieved Substantial Completion of the Project, it shall notify IIPD and request issuance of a Certificate of Completion, or such applicable equivalent thereof, from the applicable permitting body(s). Contractor acknowledges and understands that issuance of a Certificate of Completion, or such applicable equivalent thereof, may be a condition and/or requirement of permits, licenses, and/or approvals for the Work, including, without limitation, matters subject to the discretion of the City of Chicago, County of Cook, or State of Illinois. Upon request for issuance of a Certificate of Completion, or such applicable equivalent thereof, in the event that the City of Chicago (or otherwise responsible permitting body) determines that additional measures must be taken in order to obtain such certificate, Contractor agrees to begin the performance of such measures and/or punch list work promptly after receipt, and shall complete all such measures and/or punch list work within the period of time set forth in the punch list.

8.6 CLEANUP AND SAFETY. Contractor shall at all times keep its work areas clean and free from debris and unsafe conditions resulting from Contractor's Work, and shall confine all construction, restoration and repair work and equipment, the storage of materials and equipment and the operations of Services to those lands and areas specifically designated for same by IIPD, and shall not unreasonably encumber the Site with construction

equipment or other materials or equipment. Contractor shall assume full responsibility for and, shall promptly repair at Contractor's expense, any damage to any land or property of the IIPD and any occupant of the Site and any adjacent land or property, resulting from the Services or the performance of the Services hereunder, and shall restore such land or property to the condition in which same existed prior to such damage. If the IIPD incurs any fee or expense necessary to repair or restore the Site to its former condition, Contractor shall reimburse the IIPD for all such fees and expenses upon demand therefore, in addition to any other costs relating to such restoration work, including the IIPD's reasonable attorney's fees and administrative fees follow any special requirements for such as may be given by the Owner or the IIPD in addition to those stated hereinafter. but Contractor retains the entire responsibility for the safety of the Project, its employees, its Subcontractors, and the IIPD's employees and patrons.

8.6.1 Contractor shall have total responsibility for the clean-up, removal and proper disposal of all waste material, debris, and dirt clearly identifiable as resulting from Contractor's Work as follows:

- (a) Contractor shall at all times keep the Owner's premises, adjoining premises, streets and buildings free and clear of debris and dirt resulting from Contractor's Work or caused by Contractor's employees and any others hired to service Contractor's Work.
- (b) Contractor shall remove all such debris and dirt and dispose of it in a legal manner at its own expense, unless provided for otherwise in Article 16, hereof. Contractor, if using disposal container services furnished by the IIPD, shall pay prorated costs as determined by the IIPD, and shall bear the responsibility of legal disposal of Contractor's materials.
- (c) Contractor, whose Work has created debris and dirt, shall broom clean each work area to maintain acceptable cleanliness of the premises at such frequency as required by the Contract Documents, the Owner or the IIPD and upon final completion of Contractor's Work.

8.6.2 If Contractor fails to immediately comply with cleanup duties within 24 hours after receipt of written notice from the IIPD of noncompliance, the IIPD may implement such cleanup measures, without further notice, and deduct the cost thereof, plus reasonable overhead and handling fees, from any amounts due or become due Contractor.

8.6.3 Contractor shall observe and comply with the Safety Programs promulgated by both the Owner and the IIPD, and the performance of Contractor's Work shall be in strict conformity with all applicable Federal, State and local safety laws, regulations and ordinances. Contractor shall bear the sole responsibility for safety in

performing, supervising and controlling safe construction practices pursuant to the Contract Documents and the aforesaid laws, regulations and ordinances.

8.6.4 All labor, materials, and equipment supplied or utilized, including methods and procedures employed, in the performance of Contractor's Work shall conform to the provisions and requirements of all Federal, State and local laws, regulations and ordinances applicable to the Work. Contractor shall be responsible for notifying his employees, the IIPD and others at the jobsite concerning the presence and use of materials, which may be subject to disclosure, pursuant to such laws, regulations and ordinances, as being hazardous or potentially harmful or dangerous. Such notification shall include the furnishing, posting and publication of such information, including Material Safety Data Sheets, where required copies of which shall be provided to IIPD immediately upon commencement of Contractor's Work.

8.6.5 Contractor shall immediately notify the IIPD in writing of any and all accidents involving personal injury and/or property damage, and cooperate fully with the IIPD and other interested parties in investigations concerning such accidents.

8.6.6 Contractor shall immediately notify the IIPD in writing of any and all citations received for construction safety violations and take immediate remedial action on all such conditions as cited. If Contractor fails to immediately commence abatement of construction safety violations as have been cited by the Owner, the IIPD or inspectors having regulatory authority, the IIPD may suspend Contractor's Work until such safety violations are abated. If Contractor refuses to commence compliance, the IIPD, at its own discretion, may deem Contractor to be guilty of a material breach of a provision of the Agreement and invoke recourse as provided in Article 10 of this Agreement.

8.7 PROTECTION OF THE WORK. Contractor shall take necessary precautions to properly protect Contractor's Work and the work of others from damage caused by Contractor's operations. Should Contractor cause damage to the Work or property of the owner or IIPD, it shall be the responsibility of Contractor to examine the items so provided and thereupon handle, store and install the items with such skill and care as to ensure a satisfactory and proper installation. Loss or damage due to acts of Contractor shall be deducted from any amounts due or to become due Contractor.

8.8 ASSIGNMENT. Contractor shall not assign the Agreement nor its proceeds nor subcontract the whole nor any part of Contractor's Work without prior written approval of the IIPD. See Article 13.1 for requirements regarding subcontractor's insurance.

8.9 EQUAL OPPORTUNITY. Contractor shall not discriminate against any employee or applicant for

employment because of race, color, religion, gender, sexual orientation, age, national origin, or disability not affecting one's ability to perform and will ensure that that employees are treated during employment without regard to their race, color, religion, gender, sexual orientation, age, or national origin or disability.

Contractor, its employees and subcontractors under subcontract made pursuant to this Agreement, remain compliant with all applicable provisions of state and federal laws and regulations pertaining to nondiscrimination, sexual harassment and equal employment opportunity including, but not limited to, the following laws and regulations and all subsequent amendments thereto: The Illinois Human Rights Act (775 ILCS 5/1-101 *et seq.*), including, without limitation, 44 Ill. Admin. Code Part 750, which is incorporated herein; The Public Works Employment Discrimination Act (775 ILCS 10/1 *et seq.*); The United States Civil Rights Act of 1964 (as amended) (42 USC 2000a- and 2000h-6). (See also guidelines to Federal Financial Assistance Recipients Regarding Title VI Prohibition Against National Origin Discrimination Affecting Limited English Proficient Persons [Federal Register: February 18, 2002 (Volume 67, Number 13, Pages 2671-2685)]); Section 504 of the Rehabilitation Act of 1973 (29 USC 794); The Americans with Disabilities Act of 1990 (as amended) (42 USC 12101 *et seq.*); and The Age Discrimination Act (42 USC 6101 *et seq.*).

8.10 MBE/WBE/DBE UTILIZATION. Contractor shall make good faith efforts and shall cause its contractors and subcontractors to utilize good faith efforts to meet participation goals for MBEs and WBEs in the (26% for MBEs and 6% for WBEs) of the Project Work, including as described in Contractor's bid proposal attached as **Exhibit E**. Contractor is encouraged to utilize the available resources from the City of Chicago or the City of Chicago's Assist Agencies to aid in the identification of MBE and WBE certified businesses. Contractor shall maintain and make available to the IIPD upon request documentation regarding MBE/WBE utilization for subcontractors and material suppliers.

8.11 EMPLOYMENT OF ILLINOIS WORKERS. Contractor acknowledges it may become responsible for compliance with the requirements the Employment of Illinois Workers on Public Works Act (30 ILCS 570/0.01 *et seq.*), as same may be amended from time to time (the "Illinois Workers Act"), in the event unemployment levels in the State of Illinois exceed established thresholds, as determined by the Illinois Department of Labor.

8.12 Audits. Contractor must furnish to IIPD such information as may be requested relative to the progress, execution, and cost of Contractor's Work, including as may be required in accordance with **Exhibit F**. Contractor must maintain complete records showing actual time devoted and costs incurred. Contractor must

maintain its books, records, documents and other evidence (whether in hard copy, digital, or electronic form) and adopt accounting procedures and practices sufficient to record properly all costs of whatever nature claimed to have been incurred and anticipated to be incurred for or in connection with Contractor's Work for 3 years after final payment, or such longer period as may be required by **Exhibit F**. This system of accounting must be in accordance with generally accepted accounting principles and practices, consistently applies throughout. Contractor must make these records available at reasonable times to allow the IIPD to inspect such records. No provision in this Agreement, which allows IIPD right of access to the documents and records set forth in this section, is intended to impair, limit, or affect any right of access to such records and documents, which IIPD would have had in the absence of such provisions.

ARTICLE 9 – MISCELLANEOUS PROVISIONS

9.1 LAYOUT RESPONSIBILITY AND LEVELS. Contractor shall lay out and be strictly responsible for the accuracy of Contractor's Work and for any loss or damage to the IIPD or others by reason of Contractor's failure to set out or perform its work correctly. Contractor shall exercise prudence so that actual final conditions and details shall result in perfect alignment of finish surfaces.

9.2 WORKMANSHIP. Every part of Contractor's Work shall be executed in strict accordance with the Contract Documents in the most sound, workmanlike, and substantial manner. All workmanship shall be of the best of its several kinds, and all materials used in Contractor's Work shall be furnished in ample quantities to facilitate the proper and expeditious execution of the work, and shall be new except such materials as may be expressly provided in the Contract Documents to be otherwise.

9.3 MATERIALS FURNISHED BY OTHERS. In the event the scope of Contractor's Work includes installation of materials or equipment furnished by others, it shall be the responsibility of Contractor to examine the items so provided and thereupon handle, store and install the items with such skill and care as to ensure a satisfactory and proper installation. Loss or damage due to acts of Contractor shall be deducted from any amounts due or to become due Contractor.

9.3.1 Contractor, if utilizing labor, materials and/or services furnished by other subcontractors on the Project for the performance of Contractor's Work, shall treat such charges as having been contracted independently and shall pay such charges directly to the furnishing subcontractor. The arrangements and subsequent applications for payment and sworn statements shall list the amounts of such transactions due and paid to each subcontractor accordingly.

IIPD

9.4 **SUBSTITUTIONS.** No substitutions shall be made in Contractor's Work unless permitted in the Contract Documents and only then upon Contractor first receiving all approvals required under the Contract Documents for substitutions. Contractor shall indemnify the IIPD as a result of such substitutions, whether or not Contractor has obtained approval thereof.

9.5 **USE OF IIPD'S EQUIPMENT.** Contractor, its agents, employees, subcontractors or suppliers shall not use the IIPD's equipment without the express written permission of the IIPD's designated representative.

If Contractor or any of its agents, employees, suppliers or lower tier subcontractors utilize any machinery, equipment, tools, scaffolding, hoists, lifts or similar items owned, leased or under the control of the IIPD, Contractor shall be liable to the IIPD as provided in Article 12 for any loss or damage (including personal injury or death) which may arise from such use, except where such loss or damage shall be found to have been due solely to the negligence of the IIPD's employees operating such equipment.

9.6 **CONTRACT BOND REVIEW.** The IIPD's Payment Bond for the Project, if any, may be reviewed and copied by Contractor.

9.7 **IIPD ABILITY TO PAY.** Contractor shall have the right to receive from the IIPD reasonable information relative to its financial ability to pay for the Work.

9.8 **PRIVITY.** All work for this Project performed by Contractor shall be processed and handled exclusively by the IIPD.

9.9 **PAYMENT AND PERFORMANCE BOND.** If Article 1 requires a bond, Contractor shall provide a payment and performance bond in an amount equal to the full amount of the Contract Price from a surety acceptable to IIPD in its discretion. The payment and performance bond shall include an express acknowledgement that Contractor is subject to prevailing wage requirements under Illinois law.

9.10 **WARRANTY.** Contractor warrants its work against all deficiencies and defects in materials and/or workmanship and as called for in the Contract Documents, and agrees to repair or replace at its own expense all such defective Work arising within one (1) year following final completion of Contractor's Work. Contractor further agrees to execute any special guarantees or warranties that shall be required for Contractor's Work and assign to the IIPD all subcontractors' and manufacturers' warranties as required by the Contract Documents, prior to final payment.

ARTICLE 10 – RECOURSE BY

10.1 FAILURE OF PERFORMANCE.

10.1.1 **NOTICE TO CURE.** If Contractor refuses or fails to supply enough properly skilled workers, proper materials, or maintain the Schedule of Work, or it fails to make prompt payment for its workers, subcontractors or suppliers, disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise is guilty of a material breach of a provision of this Agreement, and fails within five (5) working days after receipt of written notice to commence and continue satisfactory correction of such default with diligence and promptness, then the IIPD, without prejudice to any rights or remedies, shall have the right to any or all of the following remedies:

- (a) supply such number of workers and quantity of materials, equipment and other facilities as the IIPD deems necessary for the completion of Contractor's Work, or any part thereof which Contractor has failed to complete or perform after the aforesaid notice, and charge the cost thereof to Contractor, who shall be liable for the payment of same including reasonable overhead, profit and attorney's fees.
- (b) withhold payment of any monies due Contractor pending corrective action to the extent required by and to the satisfaction of the IIPD and the Owner or the Owner's Agent; and
- (c) in the event of an emergency affecting the safety of persons or property, the IIPD may proceed as above without notice.

10.1.2 **TERMINATION BY IIPD.** If Contractor fails to commence and satisfactorily continue correction of a default within five (5) working days after receipt by Contractor of the notice issued under Article 10.1.1, then the IIPD may, in lieu of or in addition to Article 10.1.1, issue a second written notice, by certified mail, to Contractor and its surety, if any. Such notice shall state that if Contractor fails to commence and continue within seven (7) working days after receipt by Contractor of the notice, the IIPD may terminate this Agreement and use any materials, implements, equipment, appliances or tools furnished by or belonging to Contractor to complete Contractor's Work. The IIPD also may furnish those materials, equipment and/or employ such workers or subcontractors, as the IIPD deems necessary to maintain the orderly progress of the Work. All of the costs incurred by the IIPD in so performing Contractor's Work, including reasonable overhead, and profit and reasonable attorney's fees, shall be deducted from any monies due or to become due Contractor. Contractor shall be liable for the payment of any amount by which such expense may exceed the unpaid balance of the subcontract price.

10.1.3 USE OF CONTRACTOR'S EQUIPMENT. If the IIPD performs work under this Article 10 or sublets such work to be so performed, the IIPD and/or the persons to whom work has been sublet shall have the right to take and use any materials, implements, equipment, appliances or tools furnished by, belonging or delivered to Contractor and located at the Project.

10.2 BANKRUPTCY. Upon the appointment of a receiver for Contractor or upon Contractor making an assignment for the benefit of creditors, the IIPD may terminate this Agreement upon giving three (3) working days written notice, by certified mail, to Contractor and its surety, if any. If an order for relief is entered under the bankruptcy code with respect to Contractor, the IIPD may terminate this Agreement by giving three (3) working days written notice by certified mail, to Contractor, its trustee, and its surety, if any, unless Contractor, the surety, or the trustee:

- (a) promptly cures all defaults;
- (b) provides adequate assurances of future performance;
- (c) compensates the IIPD for actual pecuniary loss resulting from such defaults;
- (d) assumes the obligations of Contractor within the statutory time limits.

10.3 INTERIM REMEDIES. If Contractor is not performing in accordance with the Schedule of Work at the time of entering an order for relief, or at any subsequent time, the IIPD, while awaiting the decision of Contractor or its trustee to reject or to accept this Agreement and provide adequate assurance of its ability to perform hereunder, may avail itself of such remedies under this Article as are reasonably necessary to maintain the Schedule of Work.

The IIPD may offset against any sums due or to become due Contractor all costs incurred in pursuing any of the remedies provided hereunder, including, but not limited to, reasonable overhead and profit and reasonable attorney's fees.

Contractor shall be liable for the payment of any amount by which such expense may exceed the unpaid balance of the Contract Price.

10.4 TERMINATION FOR CONVENIENCE. The IIPD may order Contractor in writing to suspend, delay or interrupt all or any part of Contractor's Work for such period of time as may be determined to be appropriate for the convenience of the IIPD. Contractor shall notify the IIPD in writing within ten (10) working days after receipt of the IIPD's order of the effect of such order upon Contractor's Work, and the Contract Price or contract time shall be adjusted by Subcontract Change Order for any increase in the time or cost of performance of this Agreement caused by such suspension, delay or

interruption. No claim under this Article shall be allowed for any costs incurred more than ten (10) working days prior to Contractor's notice to the IIPD.

Neither the Contract Price nor the contract time shall be adjusted under this Article for any suspension, delay or interruption to the extent that performance would have been so suspended, delayed, or interrupted by the fault or negligence of Contractor.

ARTICLE 11 - LABOR RELATIONS

11.1 LABOR HARMONY. Contractor shall maintain workable and harmonious relations among its employees, and between its employees and the employees of the IIPD, other Subcontractors and the Owner. Whenever Contractor has knowledge that any actual or potential labor dispute is delaying or threatening to delay the timely performance of the Work, Contractor shall immediately give notice thereof including all relevant information to the IIPD.

11.2 WORK STOPPAGES OR UNION DISPUTES. Contractor shall be responsible for any work stoppages or union jurisdictional disputes involving its employees and shall cooperate fully with the IIPD and other involved parties in resolving all such work stoppages and/or disputes, should they occur. In the event of a strike or stoppage of work resulting from a dispute involving or affecting the labor employed by Contractor or its Subcontractors, the IIPD may at its option terminate this agreement pursuant to Article 10, but the IIPD shall compensate Contractor for the value of the labor and material theretofore furnished or delivered to the construction site, proportioned upon the Contract Amount and pursuant to Article 5, but in such event, Contractor shall not be entitled to prospective profits on portions of the Project not performed or with respect to materials not furnished to the construction site.

ARTICLE 12 – INDEMNIFICATION

12.1 CONTRACTOR'S PERFORMANCE. To the fullest extent permitted by law, Contractor shall indemnify and hold harmless the Owner, the Architect (including their directors, officers, agents, employees affiliates, parents and subsidiaries) from and against all claims, damages, losses, suits, actions, judgments and expenses, including but not limited to attorney's fees, arising out of or resulting from the performance of the Work by Contractor or Contractor's suppliers, employees or agents, provided that:

- (a) any such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than Contractor's Work itself) including the loss of use resulting therefrom, to the extent caused or alleged to be caused in whole or in part by any negligent act or omission or willful

misconduct of Contractor, any Subcontractor (of any tier), any of their respective employees or agents or of any person or firm for whose actions Contractor may be liable, regardless of whether it is caused in part by a party indemnified hereunder.

- (b) such obligation shall not be construed to negate, or abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Article 12.

12.2 LIEN CLAIMS. Contractor shall indemnify, defend and hold harmless Owner and IIPD (including their directors, officers, agents, employees, affiliates, parents or subsidiaries) from and against any and all suits, claims, damages, losses, costs, settlements, arbitration awards and expenses, including attorney's fees suffered, incurred or arising from mechanics' or materialmen's liens and any other claims for payment asserted against Owner or IIPD, the Project, the Project Site and existing improvements thereon, or any part thereof, or against any funds intended to pay for the Project arising out of the Work, but only to the extent that Contractor has been paid all undisputed amounts that are due and payable and that such lien is from an agent or Subcontractor (including any lower-tier subcontractor or supplier) of Contractor.

12.3 NO LIMITATION UPON LIABILITY. In any and all claims against the Owner, the Architect, IIPD (including their directors, officers, agents, employees affiliates, parents or subsidiaries) and other contractors or Subcontractors, or any of their directors, officers, agents or employees, by any employee of Contractor, anyone directly or indirectly employed by the subcontractor or anyone for whose acts Contractor may be liable, the indemnification obligation under this Article 12 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor under worker's or workmen's compensation acts, disability benefit acts or other employee benefit acts.

12.4 ARCHITECT EXCLUSION. The obligations of Contractor under this Article 12 shall not extend to the liability of the Architect, if any, its agents or employees, arising out of:

- (a) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, design or specifications, or
- (b) the giving of or the failure to give directions or instructions by the Architect, its agents or employees provided such giving or failure to give is the primary cause of the injury or damage.

12.5 COMPLIANCE WITH LAWS. Contractor agrees to be bound by and, at its own cost, comply with all applicable Federal, State, and local laws, ordinances

and regulations (hereinafter collectively referred to as "Laws"), including, but not limited to, equal employment opportunity, minority business enterprise, women's business enterprise, and disadvantaged business enterprise laws, prevailing wage, anti-kickback and environmental laws. Contractor will be required to comply with all the Owner's operating and safety rules.

12.6 PREVAILING WAGE. This Agreement calls for the construction of a "public work," within the meaning of the Illinois Prevailing Wage Act, 820 ILCS 130/01 et seq. (the "Act"). The Act requires contractors and subcontractors to pay laborers, workers and mechanics performing services on public works projects no less than the "prevailing rate of wages" (hourly cash wages plus fringe benefits) in the county where the work is performed. For information regarding current prevailing wage rates, Contractor should refer to the Illinois Department of Labor. All Contractors and Subcontractors rendering services under this Agreement must comply with all requirements of the Act, including but not limited to, all wage, notice and record keeping duties. Contractor will furnish certified payrolls for the project using the State of Illinois, Illinois Department of Labor Certified Transcript of Payroll forms. Contractor shall require its Subcontractors to comply with the Illinois Prevailing Wage Act.

Contractor's liability to the IIPD and Owner for all loss, cost and expense attributable to any acts of commission or omission by Contractor, its employees and agents resulting from the failure to comply with the Laws, shall include but not be limited to, any fines, penalties or corrective measures.

12.7 PATENTS. Except as otherwise provided by the Contract Documents, Contractor shall pay all royalties and license fees, which may be due on Contractor's Work. Contractor shall defend all suits for claims for infringement of any patent rights arising out of Contractor's Work, which may be brought against IIPD or Owner, and shall be liable to the IIPD and Owner for all loss, including all costs, expenses, and attorney's fees.

ARTICLE 13 – INSURANCE

13.1 CONTRACTOR'S INSURANCE. Prior to the start of Contractor's Work, Contractor shall procure and maintain in force Worker's Compensation Insurance, Employer's Liability Insurance, Comprehensive or Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance, and all insurance policies shall be written by an insurance carrier rated no less than A VII by A.M. Best Company and authorized to do business in Illinois, all in accordance with the specific coverage limits and requirements further stated in **Exhibit A**. This insurance shall include contractual liability insurance covering Contractor's obligations

under Article 12. Contractor waives any and every claim or right of recovery against IIPD for any and all injuries and losses arising under this Agreement or in any way related to Contractor's Work. Contractor waives and agrees to cause all their insurers to waive their rights of subrogation against the IIPD.

This Article 13 has application, in its entirety, to Subcontractors who furnish labor and/or services or otherwise perform on the premises for Contractor's Work under an arrangement with Contractor. Contractor accepts the responsibility for each Subcontractor's compliance with all of the requirements hereof and indemnifies the IIPD against any and all liabilities arising from the utilization of such Subcontractors the same as provided in Article 12 hereof.

ARTICLE 14

[Intentionally omitted.]

ARTICLE 15 – CONTRACT INTERPRETATION

15.1 INCONSISTENCIES AND OMISSIONS. Contractor shall examine all specifications and drawings prior to commencing the Contract Work to determine if there are any inconsistencies or omissions. Should inconsistencies or omissions appear in the Contract Documents, it shall be the duty of Contractor to so notify the IIPD in writing within three (3) working days of Contractor's discovery thereof. Upon receipt of said notice, the IIPD shall instruct Contractor as to the measures to be taken and Contractor shall comply with the IIPD's instructions. Contractor shall cooperate with IIPD to resolve such inconsistencies and omissions in a cost effective manner.

15.2 SITE CONDITIONS. Contractor shall examine the Project site prior to commencing any Work. If Contractor encounters: (1) any conditions at the Project site which are materially different than the Contract Documents and could not have been known at the time Contractor submitted its bid, and such conditions will cause a material increase or decrease in the Contract Price, or (2) encounters any pre-existing unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, Contractor shall immediately notify IIPD in writing.

15.3 LAWS AND VENUE. The Agreement shall be governed by the laws of the State of Illinois. All judicial proceedings brought by or against Contractor with respect to this Agreement shall be brought in any state or federal court located in Cook County, Illinois. Contractor irrevocably waives any objection (including without limitation any objection on the basis of venue or *forum non conveniens*) which it may now or hereafter

have to bring any action or proceeding with respect to this Agreement in the jurisdiction stated herein.

15.4 SEVERABILITY AND WAIVER. The partial or complete invalidity of any one or more provisions of this Agreement shall not affect the validity or continuing force and effect of any other provision. The failure of either party hereto to insist, in any one or more instances, upon the performance of any of the terms, covenants or conditions of this Agreement, or to exercise any right herein, shall not be construed as a waiver or relinquishment of such term, covenant, condition or right as respects further performance.

15.5 ATTORNEY'S FEES. Should either party employ an attorney to institute suit or arbitration to enforce any of the provisions hereof, to protect its interest in any matter arising under this Agreement, or to collect damages for the breach of the Agreement, or to recover on a surety bond given by a party under this Agreement, the prevailing party shall be entitled to recover reasonable attorney's fees, costs, charges and expenses expended or incurred therein.

15.6 TITLES. The titles given to Articles and sections of this Agreement are for ease of reference only and shall not be relied upon or cited for any other purpose.

15.7 THIRD PARTY RIGHTS. Except as otherwise provided herein, the parties agree that this Agreement is solely for the benefit of the parties and nothing herein is intended to create any third party beneficiary rights for Subcontractors or any other third party.

15.8 ENTIRE AGREEMENT. This Agreement is solely for the benefit of the signatories hereto and represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral.

15.9 EXECUTION. This Agreement shall be executed by a person authorized to sign on behalf of Contractor and has been made with complete and full authority to commit Contractor to all terms and conditions of this Agreement, including each and every representation, certification, and warranty contained herein. Unless Contractor is a sole proprietorship, Contractor must provide satisfactory evidence that the execution of the Agreement is authorized in accordance with the business entity's rules and procedures.

ARTICLE 16 – SPECIAL PROVISIONS

16.1 SCOPE OF WORK. All work necessary or incidental to complete the Work for the Project, in strict accordance with the Contract Documents, which consist of the following documents:

This Agreement;

Exhibit A:	CMA-700 Standard General Conditions of the Construction Contract;
Exhibit B:	Special Provisions – Technical Specifications for the Project;
Exhibit C:	Special Provisions – Bid Drawings for the Project;
Exhibit D:	Invitation to Bid (Including all schedules, addenda, exhibits);
Exhibit E:	Contractor’s Bid Proposal (Including Bid Form, Qualification Statement, Subcontractor Qualification Statement(s), addenda, exhibits)
Exhibit F:	Grant Agreement No. C-91-040-23 between IDOT and IIPD
Exhibit G:	Performance Bond
Exhibit H:	Payment Bond

Addenda:

16.2 Project to be scheduled as least forty-eight (48) hours in advance through the IIPD’s designated representative.

16.3 Contractor retains the sole right to control and direct the manner in which the Work is performed. Notwithstanding the foregoing, the IIPD retains the right to inspect the Work, stop work, prescribe alterations, and monitor Contractor’s performance to ensure that the Work is performed in accordance and consistent with the following understanding: Contractor acknowledges that the IIPD’s primary business is the operation of a port and intermodal commerce facility and that one of the IIPD’s primary concerns is the safety of the people and operations at the IIPD, including both employees and visitors; Contractor further acknowledges that Contractor

will do nothing that will have an adverse impact on the IIPD’s mission.

16.4 Contractor hereby gives permission to the IIPD, its agents, successors, and assigns, to use Contractor’s image (still photo, audio, or video recordings) of any performance of Work for the IIPD in conjunction with any IIPD productions, advertisement, promotion, or for other similar purposes.

16.5 Contractor hereby assigns all rights, title, interest, copyright, and any renewal rights to the IIPD for any work produced or created by Contractor in performance of Work.

16.6 SITE ACCESS. In accordance with the IIPD’s policy and applicable federal regulations, all Contractors and vendors are required to have a valid Transportation Worker Identification Credential (TWIC) or will need to be placed on the gate list maintained by the IIPD the day before they are scheduled to arrive. To ensure there are no difficulties with admission to the site, Contractor/vendor should verify with appropriate IIPD staff that their name is on the gate list by 3:00 P.M. on the day preceding their arrival.

16.7 Notwithstanding anything stated to the contrary in this Agreement, in no event shall the IIPD or Contractor be responsible for any special, incidental, punitive, indirect, or consequential damages to the other, including without limitation lost profits and lost business opportunity, arising out of the Work, Project, or this Agreement, whether based in contract, tort, or otherwise, even if such party had been advised of the possibility of such damages; provided however, that nothing in this sentence shall be deemed to relieve Contractor of any obligation it may have otherwise hereunder to indemnify the IIPD for any such damages asserted by any unaffiliated third party.



NOTICE TO BIDDERS,
SPECIFICATIONS, CONTRACT
AND CONTRACT BOND
FOR ILLINOIS INTERNATIONAL PORT DISTRICT
County of Cook, Illinois

Ivan Solis
Board Chairman

Erik A. Varela
Executive Director

Letting: August 28, 2025

No Later Than 3 p.m.

Illinois International Port District - Transit Shed Roof Replacement
Calumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633
State Job Number: C-91-040-23
Section 22-IIPD1-00-PT

BOOK I – GENERAL TERMS AND CONDITIONS

NOTICE TO PROSPECTIVE BIDDERS

To obtain specifications and submit 1 original proposal go to:

iipd@iipd.com

Pre-Bid\Site Visit Meeting:

August 11, 2025 @ 9:30 a.m. at IIPD Security Entrance at 130th Street & Stony Island Avenue

All questions are due by August 18, 2025 no later than 3:00p.m. Chicago Time

Send all questions via e-mails to: iipd@iipd.com

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
- 1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
- 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the Owner, Contractor, Construction Manager, and Engineer, and designates the specific items that are Contract Documents.
- 3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Construction Manager, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
- 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
- 5. *Bidder*—An individual or entity that submits a Bid to Owner.
- 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
- 7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond, or other Bid security, if any, the Bid Form, and the Bid with any attachments.
- 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition,

deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.

- 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting a decision by Construction Manager, in consultation with Engineer, concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.

10. *Claim*

- a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting a decision rendered by Construction Manager, in consultation with Engineer, concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents, or regarding a Change Proposal; or seeking other relief with respect to the terms of the Contract.
- b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Construction Manager's decision, in consultation with Engineer, regarding a Change Proposal.
- c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.3, concerning disputes arising after Construction Manager has issued a recommendation of final payment.
- d. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Construction Manager*—The individual or entity named as Construction Manager in the Agreement. The Construction Manager provides construction management services to the Owner, as an advisor and representative, however, is not granted the authority to execute any documents unless specifically granted by resolution of the Owner's Board of Commissioners..
13. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
14. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
15. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
16. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
17. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
18. *Cost of the Work*—See Paragraph 13.01 for definition.
19. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
20. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
21. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
22. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.
23. *Engineer*—The individual or entity that had primary responsibility for preparing or furnishing the Drawings and Specifications and is named as Engineer in the Agreement.
24. *Field Order*—A written order issued by Construction Manager which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
25. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
 - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
 - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
 - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working

conditions at the Site, is not a Hazardous Environmental Condition.

26. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
27. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
28. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
29. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
30. *Notice to Proceed*—A written notice to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
31. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total undertaking to be accomplished for Owner by construction managers, engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals

and the time requirements for review of the submittals.

36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Construction Manager, or that is indicated as a Submittal in the Schedule of Submittals accepted by Construction Manager. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project

photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether approved or accepted by Construction Manager or Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.

42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion of such Work.
43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
46. [Intentionally Omitted]
47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
48. *Unit Price Work*—Work to be paid for based on unit prices.

49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

50. *Work Change Directive*—A written directive issued by Construction Manager to Contractor on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

51. *Owner’s Representative* – The individual designated or appointed by Owner, who assists the Owner in the daily management of the Project, and, when so directed by Owner, to act under the same authorities granted to the Construction Manager, however, is not granted the authority to execute any documents unless specifically granted by resolution of the Owner’s Board of Commissioners.

1.02 Terminology

A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives*—The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Construction Manager or Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Construction Manager or Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating

otherwise). The use of any such term or adjective is not intended to and will not be effective to assign to Construction Manager or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.

- C. *Day*—The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective*—The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - 1. does not conform to the Contract Documents;
 - 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - 3. has been damaged prior to Construction Manager’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).
- E. *Furnish, Install, Perform, Provide*
 - 1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 - 2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 - 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
 - 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and

install said services, materials, or equipment complete and ready for intended use.

- F. *Contract Price or Contract Times*—References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance*

- A. *Performance and Payment Bonds*—When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner bid security provided for in Contractor’s Bid Form, including, without limitation, the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor’s Insurance*—When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*—After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor one copy in electronic portable document format (PDF) and,

upon Contractor request, a printed copy of the Contract (including one fully signed counterpart of the Agreement). Additional printed copies will be furnished upon request at the cost of reproduction.

- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Construction Manager.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*—Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Construction Manager for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Construction Manager, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.

- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

- C. To the extent that Owner shall designate Owner's Representative to act on its behalf under the same authorities granted to the Construction Manager, Owner shall designate, in writing, such detail confirming the scope and extent of such Owner's Representative's authority.

2.05 *Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Construction Manager, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Construction Manager.
 - 1. The Progress Schedule will be acceptable to Construction Manager if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Construction Manager responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 - 2. Contractor's Schedule of Submittals will be acceptable to Construction Manager if it provides a workable arrangement for reviewing and processing the required submittals.
 - 3. Contractor's Schedule of Values will be acceptable to Construction Manager as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
 - 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Construction Manager, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Construction Manager, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

ARTICLE 3—CONTRACT DOCUMENTS—INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Construction Manager, in consultation with Engineer, will issue clarifications and interpretations of the Contract Documents as provided herein.

- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

G. Nothing in the Contract Documents creates:

- 1. any contractual relationship between Owner, Construction Manager, or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
- 2. any obligation on the part of Owner, Construction Manager, or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 *Reference Standards*

A. *Standards Specifications, Codes, Laws and Regulations*

- 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
- 2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, Construction Manager, or Engineer from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Construction Manager, or Engineer any duty or authority to supervise or direct the performance of

the Work, or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements*—Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Construction Manager any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Construction Manager, in consultation with Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents*—If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Construction Manager in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Construction Manager, in consultation with Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner, Construction Manager, or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Interpretation of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Construction Manager in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the performance or acceptability of the Work under the Contract Documents, as soon as possible after such matters arise.
- B. Construction Manager will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, and if appropriate initiate a change to the Contract Documents. Construction Manager's written clarification, interpretation, or decision (1) will be based, when applicable, on consultation with Engineer, and (2) will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants,

including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or

2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work may be done at the Site prior to such date.

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Construction Manager whenever any

reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 1. Contractor shall submit to Construction Manager for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Construction Manager, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are

responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:

1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 2. Abnormal weather conditions;
 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
 4. Acts of war or terrorism.
- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
 2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
 3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
1. The circumstances that form the basis for the requested adjustment;

2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
4. The number of days' increase in Contract Times claimed because of each such cause of delay, disruption, or interference; and
5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.

Contractor shall also furnish such additional supporting documentation as Owner or Construction Manager may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.

- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Notwithstanding the foregoing, Contractor acknowledges that the Site is located within an

operating maritime port terminal and facility and that the Transportation Worker Identification Credential ("TWIC"), is required by the Maritime Transportation Security Act for workers who need access to secure areas of the nation's maritime facilities. Requirements relating to TWIC compliance and access to the Site are further provided in Paragraph 14.1 hereinafter.

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

- 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
- 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall

(a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner, Construction Manager, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Construction Manager, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

- B. *Removal of Debris During Performance of the Work*—During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
- C. *Cleaning*—Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures*—Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent

structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. No known reports of explorations or tests of subsurface conditions at or immediately contiguous to the Site are known to the Owner or Engineer. Limited historical record drawings concerning the Site may exist which Owner may make available as needed. Contractor may not rely upon or make any claim against Owner, Construction Manager, or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
 3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
 4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor*—If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
1. is of such a nature as to establish that any Drawings on which Contractor is entitled to rely is materially inaccurate;
 2. is of such a nature as to require a change in the Drawings or Specifications;
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally

recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Construction Manager in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Construction Manager's Review*—After receipt of written notice as required by the preceding paragraph, Construction Manager, in consultation with Engineer, will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Construction Manager's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition*—After receipt of Owner's response and instructions regarding Construction Manager's written findings, conclusions, and recommendations, Construction Manager will issue a written statement to Contractor regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and informing Contractor of Construction Manager's written findings, conclusions, and recommendations, as revised based on Owner's response and instructions.

- D. *Early Resumption of Work*—If at any time Construction Manager, in consultation with Engineer, determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Construction Manager's review or Construction Manager's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then Construction Manager may instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
 - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
 2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
 - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
- c. Contractor failed to give the written notice required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions*—Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.
- 5.05 *Underground Facilities*
- A. *Contractor's Responsibilities*—Unless it is otherwise expressly provided in the Contract Documents, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 2. complying with applicable state and local utility damage prevention Laws and Regulations;
 3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during construction;
 4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.

B. **Notice by Contractor**—If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Construction Manager in writing regarding such Underground Facility.

C. *Construction Manager's Review*

1. Construction Manager will:

- a. promptly review the Underground Facility in consultation with Engineer, and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
- b. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary, issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
- c. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
- d. advise Owner and Engineer in writing of Construction Manager's findings, conclusions, and recommendations.

During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

D. *Construction Manager's Statement to Contractor Regarding Underground Facility*—After receipt of Owner's response to and recommendations regarding Construction Manager's written findings, conclusions, and recommendations, Construction Manager shall issue a written statement to Contractor regarding the Underground Facility in

question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and informing Contractor of Construction Manager's written findings, conclusions, and recommendations, as revised based on Owner's response and instructions.

E. *Early Resumption of Work*—If at any time Construction Manager, in consultation with Engineer, determines that Work in connection with the Underground Facility may resume prior to completion of Construction Manager's review or Construction Manager's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then Construction Manager may instruct Contractor to resume such Work.

F. *Possible Price and Times Adjustments*

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
 - c. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.

3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 Hazardous Environmental Conditions at Site

- A. *Reports and Drawings*— There are no known reports or drawings known to the Owner or Engineer relating to Hazardous Material Contamination at the Project Site. Contractor may not rely upon or make any claim against Owner, Construction Manager, or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.
- B. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is

expressly identified in the Contract Documents to be within the scope of the Work.

- C. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- D. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner, Construction Manager, and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Construction Manager and Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Construction Manager and Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition and impose a set-off against payments to account for the associated costs.
- E. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or

(2) specifying any special conditions under which such Work may be resumed safely.

- F. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- G. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- H. To the fullest extent permitted by Laws and Regulations, Owner shall hold harmless Contractor, Subcontractors, Construction Manager, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of construction managers, engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by

anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- I. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner, Construction Manager, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of construction managers, engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, or other provisions of the Contract.

- B. Contractor shall also furnish such other bonds (if any) as are required by other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or Regulations, and must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Construction Manager in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity

claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 Insurance—General Provisions

- A. Contractor must provide and maintain at Contractor's own expense, until Contract completion and during the time period following final completion if Contractor is required to return and perform any additional work, services, or operations, the insurance coverages and requirements specified below, insuring all work, services, or operations related to the Contract.
- B. *Evidence of Insurance.* Contractor must furnish the Owner, Illinois International Port District, 3600 E 95th St., Chicago, Illinois, 60617-5193, original certificates of insurance and additional insured endorsement, or other evidence of insurance, to be in force on the date of this Contract, and renewal certificates of Insurance and endorsement, or such similar evidence, if the coverages have an expiration or renewal date occurring during the term of this Contract. Contractor must submit evidence of insurance prior to execution of Contract. The receipt of any certificate does not constitute Contract by the Owner that the insurance requirements in the Contract have been fully met or that the insurance policies indicated on the certificate are in compliance with all requirements of Contract. The failure of the Owner to obtain, nor the Owner's receipt of, or failure to object to a non-complying insurance certificate, endorsement or other insurance evidence from Contractor, its insurance broker(s) and/or insurer(s) will not be construed as a waiver by the Owner of any of the required insurance provisions. Contractor must advise all insurers of the Contract provisions regarding insurance. The Owner in no way warrants that the insurance required herein is sufficient to protect Contractor for liabilities which may arise from or relate to the Contract. The Owner reserves the right to obtain complete, certified copies of any required insurance policies at any time.
- C. *Failure to Maintain Insurance.* Failure of Contractor to comply with required coverage and terms and conditions outlined herein will not limit Contractor's

liability or responsibility nor does it relieve Contractor of the obligation to provide insurance as specified in this Contract. Nonfulfillment of the insurance conditions may constitute a violation of the Contract, and the Owner retains the right to suspend this Contract until proper evidence of insurance is provided, or the Contract may be terminated.

- D. *Notice of Material Change, Cancellation or Non-Renewal.* Contractor must provide for sixty (60) days prior written notice to be given to the Owner in the event coverage is substantially changed, canceled or non-renewed and ten (10) days prior written notice for non-payment of premium
- E. *Deductibles and Self-Insured Retentions.* Any deductibles or self-insured retentions on referenced insurance coverages must be borne by Contractor.
- F. *Waiver of Subrogation.* Contractor hereby waives rights of subrogation and agrees to require their insurers to waive their rights of subrogation against the Owner under all required insurance herein for any loss arising from or relating to this Contract. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the Owner received a waiver of subrogation endorsement for Contractor's insurer(s).
- G. *Contractors Insurance Primary.* All insurance required of Contractor under this Contract must be endorsed to state that Contractor's insurance policy is primary and not contributory with any insurance carrier by the Owner.
- H. *No Limitation as to Contractor's Liabilities.* The coverages and limits furnished by Contractor in no way limit the Contractor's liabilities and responsibilities specified within the Contract or by law.
- I. *No Contribution by Owner.* Any insurance or self-insurance programs maintained by the Owner do not contribute with insurance provided by Contractor under this Contract.
- J. *Insurance not Limited by Indemnification.* The required insurance to be carried is not limited by any limitations expressed in the indemnification

language in this Contract or any limitation placed on the indemnity in this Contract given as a matter of law.

- K. *Insurance and Limits Maintained.* If Contractor maintains higher limits and/or broader coverage than the minimums shown herein, the Owner requires and must be entitled the higher limits and/or broader coverage maintained by Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage must be available to the Owner.
- L. *Joint Venture or Limited Liability Company.* If Contractor is a joint venture or limited liability company, the insurance policies must name the joint venture or limited liability company as a named insured.
- M. *Other Insurance obtained by Contractor.* If Contractor desires additional coverages, Contractor will be responsible for the acquisition and cost.
- N. *Insurance required of Subcontractors.* Contractor must name Subcontractor(s) as a named insured(s) under Contractor's insurance or Contractor will require each Subcontractor(s) to provide and maintain Commercial General Liability, Commercial Automobile Liability, Worker's Compensation and Employers Liability Insurance and when applicable Excess/Umbrella Liability Insurance and Professional Liability with coverage at least as broad as in outlined in Section 6.03, Insurance Required. Contractor must determine if Subcontractor(s) must also provide any additional coverage or other coverage outlined in Section 6.03, Insurance Required. Contractor is responsible for ensuring that each Subcontractor has named the Owner as an additional insured where required and name the Owner as an additional insured under the Commercial General Liability on ISO form CG 2010 10 01 and CG 2037 10 01 for ongoing operation and completed operations or an endorsement form at least as broad and acceptable to the Owner Contractor is also responsible for ensuring that each Subcontractor has complied with the required coverage and terms and conditions outlined in this Section 6.02. When requested by the Owner, Contractor must provide to the Owner certificates of insurance and additional insured endorsements or

other evidence of insurance. The Owner reserves the right to obtain complete, certified copies of any required insurance policies at any time. Failure of the Subcontractors to comply with required coverage and terms and conditions outlined herein will not limit Contractor's liability or responsibility.

- O. *Owner's Right to Modify.* Notwithstanding any provisions in the Contract to the contrary, the Owner maintains the right to modify, delete, alter or change these requirements.

6.03 Contractor's Insurance to be Provided.

- A. *Workers Compensation and Employer:* Contractor shall purchase and maintain Worker's Compensation Insurance, as prescribed by applicable law covering all employees who are to provide work, services, or operations under this Contract and Employers Liability coverage with limits of not less than \$1,000,000 each accident; \$1,000,000 disease-policy limit; and \$1,000,000 disease-each employee, or the full per occurrence limits of the policy, whichever is greater. Contractor may use a combination of primary and excess/umbrella policy/policies to satisfy the limits of liability required herein. The excess/umbrella policy/policies must provide the same coverages/follow form as the underlying policy/policies.
- B. *Commercial General Liability:* Commercial General Liability Insurance or equivalent must be maintained with limits of not less than \$2,000,000 per occurrence, or the full per occurrence limits of the policy, whichever is greater, for bodily injury, personal injury, and property damage liability. Coverages must include, but not be limited to, the following: All premises and operations, products/completed operations (for the full statute of repose following project completion), explosion, collapse, underground, separation of insureds, mobile equipment, defense, contractual liability (not to include endorsement CG 21 39 or equivalent), no exclusion for damage to work performed by Subcontractors, any limitation of coverage for designated premises or project is not permitted (not to include endorsement CG 21 44 or equivalent), and any endorsement modifying or deleting the exception to the Employer's Liability

exclusion is not permitted. If a general aggregate limit applies, the general aggregate must apply per project/location and once per policy period; or Contractor may obtain separate insurance to provide the required limits which will not be subject to depletion because of claims arising out of any other work or activity of Contractor. If a general aggregate applies to products/completed operations, the general aggregate limits must apply per project and once per policy period.

The Owner and other entities required by Owner must be provided additional insured status with respect to liability arising out of Contractor's work, services or operations and completed operations performed on behalf of the Owner. Such additional insured coverage must be provided on ISO form CG 2010 10 01 and CG 2037 10 01 or endorsement form at least as broad for ongoing operations and completed operations. The Owner's additional insured status must apply to liability and defense of suits arising out of Contractor's acts or omissions, whether such liability is attributable to the Contractor or to the Owner. The full policy limits and scope of protection also will apply to the Owner as an additional insured, even if they exceed the Owner's minimum limits required herein. Contractor's liability insurance must be primary without right of contribution by any other insurance or self-insurance maintained by or available to the Owner.

Contractor may use a combination of primary and excess/umbrella policy/policies to satisfy the limits of liability required herein. The excess/umbrella policy/policies must provide the same coverages/follow form as the underlying policy/policies

- C. *Automobile Liability (Primary and Umbrella):* Contractor must maintain Automobile Liability Insurance with limits of not less than \$1,000,000 per occurrence, or the full per occurrence limits of the policy, whichever is greater, for bodily injury and property damage. Coverages must include, but not be limited to, the following: ownership, maintenance, or use of any auto whether owned, leased, non-owned or hired used in the performance of the work or devices, both on and off

the Project site including loading and unloading. If applicable, coverage extension must include an MCS-90 endorsement where required by the Motor Carrier Act of 1980. The Owner and other entities required by Owner are to be named as additional insureds on a primary, non-contributory basis.

Contractor may use a combination of primary and excess/umbrella policy/policies to satisfy the limits of liability required herein. The excess/umbrella policy/policies must provide the same coverages/follow form as the underlying policy/policies.

- D. *Excess / Umbrella.* Excess/Umbrella Liability Insurance must be maintained with limits of not less than \$10,000,000 per occurrence, or the full per occurrence limits of the policy, whichever is greater. The policy/policies must provide the same coverages/follow form as the underlying Commercial General Liability, Automobile Liability, Employers Liability and Completed Operations coverage required herein and expressly provide that the excess or umbrella policy/policies will drop down over reduced and/or exhausted aggregate limit, if any, of the underlying insurance. If a general aggregate limit applies, the general aggregate must apply per project/location. The Excess/Umbrella policy/policies must be primary without right of contribution by any other insurance or self-insurance maintained by or available to the Owner.
- E. Contractor may use a combination of primary and excess/umbrella policies to satisfy the limits of liability required in sections 6.03(A), (B), (C) and (D) herein.
- F. *Builders Risk / Installation.* When Contractor undertakes any construction, including improvements, betterments, and/or repairs, Contractor must provide All Risk Builders Risk Insurance at replacement cost for materials, supplies, equipment, machinery and fixtures that are or will be part of the project. Coverages must include, but not limited to, the following: material stored off-site and in-transit, equipment breakdown, debris removal, loss resulting from faulty workmanship or material when applicable. The Owner is to be named as an additional insured and loss payee.

Contractor is responsible for all loss or damage to personal property (including but not limited to materials, equipment, tools and supplies) owned, used, leased, or rented to Contractor.

- G. *Contractors Pollution Liability.* When any work performed involves a potential pollution risk that may arise from the work, services, or operations of Contractor's scope of services, Contractors Pollution Liability must be provided or caused to be provided, covering bodily injury, property damage and other losses caused by pollution conditions with limits of not less than \$1,000,000. Coverage must include, but not be limited to, the following: completed operations, contractual liability, defense, excavation, environmental cleanup, remediation and disposal and if applicable, include transportation and non-owned disposal coverage. When policies are renewed or replaced, the policy retroactive date must coincide with or precede, start of work on the Contract. A claims made policy which is not renewed or replaced must have an extended reporting period of two (2) years. The Owner is to be named as an additional insured.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.01 *Contractor's Means and Methods of Construction*

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner, Construction Manager, nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Construction Manager except under extraordinary circumstances.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.
- B. Contractor shall be fully responsible to Owner, Construction Manager, and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities

and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.

- B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Construction Manager, the Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.05 *"Or Equals"*

- A. *Contractor's Request; Governing Criteria*—Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Construction Manager authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
 - 1. If Construction Manager, in consultation with Engineer, determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Construction Manager will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:

- a. in the exercise of reasonable judgment Construction Manager, in consultation with Engineer, determines that the proposed item:
 - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) has a proven record of performance and availability of responsive service; and
 - 4) is not objectionable to Owner.
- b. Contractor certifies that if the proposed item is approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense*—Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Construction Manager's Evaluation and Determination*—Construction Manager will be allowed a reasonable time to evaluate, in consultation with Engineer, each "or-equal" request. Construction Manager may require Contractor to furnish additional data about the proposed "or-equal" item. Construction Manager, in consultation with Engineer, will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Construction Manager's review is complete and Construction Manager, in consultation with Engineer, has determined that the proposed item is an equal, which will be evidenced by an approved Shop Drawing or other written communication. Construction Manager will advise Contractor in writing of any negative determination.
- D. *Effect of Construction Manager's Determination*—Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The

Construction Manager's denial of an "or-equal" request will be final and binding and may not be reversed through an appeal under any provision of the Contract.

- E. *Treatment as a Substitution Request*—If Construction Manager determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Construction Manager consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 *Substitutes*

- A. *Contractor's Request; Governing Criteria*—Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Construction Manager authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
 - 1. Contractor shall submit adequate information as provided below to allow Construction Manager, in consultation with Engineer, to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Construction Manager will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
 - 2. The requirements for review by Construction Manager, in consultation with Engineer, will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Construction Manager may decide is appropriate under the circumstances.
 - 3. Contractor shall make written application to Construction Manager for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
 - a. will certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design;

- 2) be similar in substance to the item specified; and
 - 3) be suited to the same use as the item specified.
- b. will state:
- 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
- c. will identify:
- 1) all variations of the proposed substitute item from the item specified; and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
- d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Construction Manager's Evaluation and Determination*—Construction Manager will be allowed a reasonable time to evaluate, in consultation with Engineer, each substitute request, and to obtain comments and direction from Owner. Construction Manager may require Contractor to furnish additional data about the proposed substitute item. Construction Manager, in consultation with Engineer, will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Construction Manager's review is complete and Construction Manager determines that the proposed item is an acceptable substitute. Construction Manager's determination will be evidenced by a Field Order or a proposed Change Order issued by the Construction Manager accounting for the

substitution itself and all related impacts, including changes in Contract Price or Contract Times. Construction Manager will advise Contractor in writing of any negative determination.

- C. *Special Guarantee*—Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Review Cost*—Construction Manager and Engineer will record their costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Construction Manager approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Construction Manager and Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Construction Manager and Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense*—Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Construction Manager's Determination*—If Construction Manager approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Construction Manager's denial of a substitution request will be final and binding and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 *Concerning Subcontractors and Suppliers*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.

- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the

completion of the Work in accordance with the Contract Documents.

- H. On a monthly basis, Contractor shall submit to Construction Manager a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner, Construction Manager, and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Construction Manager, Engineer, or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner, Construction Manager, or Engineer, its use is subject

to patent rights or copyrights calling for the payment of any license fee or royalty to others, then the existence of such rights will be disclosed in the Contract Documents.

- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of construction managers, engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner, Construction Manager, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of construction managers, engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and

inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work. Owner is a tax-exempt governmental body and, where applicable, will cooperate to furnish certificates evidencing applicable tax exemption(s).

7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner, Construction Manager, nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner, Construction Manager, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of construction managers, engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws

or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Construction Manager and Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Construction Manager.

7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;

- 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
- 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner, Construction Manager, or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify, in writing (with a copy to Construction Manager), the Owner, the owners of adjacent property, the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor), and other contractors and utility owners performing work at or adjacent to the Site when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to

the Work are identified or included in the Drawings or Specifications.

- H. Contractor shall inform Owner, Construction Manager, and Engineer of the specific requirements of Contractor's safety program with which Owner's, Construction Manager's, and Engineer's employees and representatives must comply while at the Site.
- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Construction Manager has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 Hazard Communication Programs

- A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 Emergencies

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent damage, injury, or loss. Contractor shall give Construction Manager prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by an emergency, or are required as a result of Contractor's response to an emergency. If Construction Manager, in consultation with Engineer, determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 Submittals

A. Shop Drawing and Sample Requirements

- 1. Before submitting a Shop Drawing or Sample, Contractor shall:
 - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determine and verify:
 - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
 - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
 - 2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.
 - 3. With each Shop Drawing or Sample, Contractor shall give Construction Manager specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. *Submittal Procedures for Shop Drawings and Samples*—Contractor shall label and submit Shop Drawings and Samples to Construction Manager for

review by Engineer in accordance with the accepted Schedule of Submittals.

1. *Shop Drawings*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show the services, materials, and equipment Contractor proposes to provide, and to enable the information to be reviewed for the limited purposes required by Paragraph 7.16.C.

2. *Samples*

- a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Construction Manager may require to enable Engineer to review the Sample for the limited purposes required by Paragraph 7.16.C.
3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's approval (if any) of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Engineer's Review of Shop Drawings and Samples*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval (if any) will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.

3. Engineer's review and approval (if any) of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval (if any) of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Construction Manager, in consultation with Engineer, will document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.
 5. Engineer's review and approval (if any) of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
 6. Engineer's review and approval (if any) of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
 7. Neither receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
 8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.
- D. *Resubmittal Procedures for Shop Drawings and Samples*
1. Contractor shall make required corrections and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for on previous Submittals.
 2. Contractor shall furnish required Shop Drawing and Sample submittals with adequate information and

accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.

3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

E. *Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs*

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
 - a. Contractor shall submit all such Submittals to Construction Manager in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
 - b. A timely review will be made of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
 - c. Review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.
 - d. If any such Submittal is not accepted, Contractor shall confer with Construction Manager regarding the reason for the non-acceptance and resubmit an acceptable document.
2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.

- F. Owner-delegated Designs—Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Construction Manager and Engineer are entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
 1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
 1. Observations by Construction Manager or Engineer;

2. Recommendation by Construction Manager or payment by Owner of any progress or final payment;
3. The issuance of a certificate of Substantial Completion by Construction Manager or any payment related thereto by Owner;
4. Use or occupancy of the Work or any part thereof by Owner;
5. Any review and approval of a Shop Drawing or Sample submittal;
6. The issuance of a notice of acceptability by Construction Manager;
7. The end of the correction period established in Paragraph 15.08;
8. Any inspection, test, or approval by others; or
9. Any correction of defective Work by Owner.
- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 Indemnification

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner, Construction Manager, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any

negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.

- B. In any and all claims against Owner, Construction Manager, or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 Delegation of Professional Design Services

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Construction Manager with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Construction Manager, then such Shop Drawing or other Submittal must bear the written approval of

Contractor's design professional when submitted by Contractor to Construction Manager.

- D. Owner, Construction Manager, and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this Paragraph 7.19;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.

- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Construction Manager and the others whose work will be affected.
- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Construction Manager in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.
- F. The provisions of this Article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred

by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be provided to Contractor prior to the start of any such other work:
 - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights

against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
 - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
 - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, Construction Manager, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner, Construction Manager, and

Engineer, and their officers, directors, members, partners, employees, agents, consultants and subcontractors from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of construction managers, engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER’S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Construction Manager.

9.02 *Replacement of Construction Manager or Engineer*

- A. Owner may at its discretion appoint a construction manager to replace Construction Manager, provided Contractor makes no reasonable objection to the replacement construction manager. The replacement construction manager’s status under the Contract Documents shall be that of the former Construction Manager.
- B. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer’s status under the Contract Documents will be that of the former Engineer.

9.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner’s duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner’s duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.

- C. Article 5 refers to Owner’s identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner’s responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner’s responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner’s responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner’s Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor’s failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner’s responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner’s obligations under the Contract (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner’s employees and representatives shall comply with the specific applicable requirements of Contractor’s safety programs of which Owner has been informed.

- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—CONSTRUCTION MANAGER’S AND ENGINEER’S STATUS DURING CONSTRUCTION

10.01 Owner’s Representative

- A. Construction Manager will be Owner’s representative during the construction period. The duties and responsibilities and the limitations of authority of Construction Manager as Owner’s representative during construction are set forth in the Contract.

10.02 Visits to Site

- A. Construction Manager will observe the Work on a regular basis. Construction Manager will check the quality, quantity, and progress of the Work; implement Owner’s quality assurance program; and administer the Contract as Owner’s representative.
- B. Engineer will make visits to the Site at appropriate stages of construction to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor’s executed Work. Engineer will not make exhaustive or continuous inspections at the Site to check the quality or quantity of the Work. Engineer will report to Construction Manager regarding information obtained during such Site visits and observations.
- C. Construction Manager’s and Engineer’s visits and observations are subject to all the limitations on Construction Manager’s and Engineer’s authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Construction Manager’s and Engineer’s visits or observations of Contractor’s Work, neither Construction Manager nor Engineer will supervise, direct, control, or have authority over or be responsible for Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 Determinations for Unit Price Work

- A. Construction Manager will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.04 Decisions on Requirements of Contract Documents and Acceptability of Work; Exercise of Authority

- A. Construction Manager will render decisions regarding the requirements of the Contract Documents, and judge the quality and acceptability of the Work, pursuant to the specific procedures set forth herein for interpretations, Change Proposals, Applications for Payment, and acceptance of the Work.
 - 1. Before rendering such decisions or judgments, and before exercising its authority with respect to differing subsurface or physical conditions, Underground Facilities, “or equal” and substitute requests, emergencies, Field Orders, and similar matters, Construction Manager will consult with Engineer as to all matters in question involving (a) the design (as set forth in the Drawings, Specifications, or otherwise), (b) the quality or acceptability of the Work under the Contract Documents, or (c) other engineering matters.
 - 2. With respect to such matters, Construction Manager’s decisions and judgments as rendered will be in accord with Engineer’s professional analysis, opinions, recommendations, and conclusions.
- B. In rendering such decisions and judgments, exercising such authority, or providing professional analysis, opinions, recommendations, or conclusions underlying such decisions and judgments, neither Construction Manager nor Engineer will show partiality to Owner or Contractor, and neither Construction Manager nor Engineer will be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, analysis, opinions, recommendations, conclusions, decisions, or judgments conducted or rendered in good faith.
- C. Construction Manager may at any time request that Contractor furnish proposed changes to Contract Price and Contract Times that would result from

specified proposed changes to the Contract Documents.

10.05 *Limitations on Construction Manager's and Engineer's Authority and Responsibilities*

- A. Neither Construction Manager's nor Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Construction Manager or Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Construction Manager or Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Construction Manager or Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Neither Construction Manager nor Engineer will supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Neither Construction Manager nor Engineer will be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Neither Construction Manager nor Engineer will be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Construction Manager's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of the Contract Documents, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

10.06 *Compliance with Safety Program*

- A. While at the Site, Construction Manager's and Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Construction Manager and Engineer have been informed.

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 *Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work performed in accordance with a Work Change Directive;
 - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the

Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering matters; and

4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 *Work Change Directives*

- A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.
- B. If Owner has issued a Work Change Directive and:
 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
 2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 *Field Orders*

- A. Construction Manager, in consultation with Engineer, may authorize minor changes in the Work

if the changes do not involve an adjustment in the Contract Price or the Contract Times. Such changes will be accomplished by a Field Order and will be binding on Owner and on Contractor, which shall perform the Work involved promptly.

- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
 - 1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
 - 2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
 - 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee*—When applicable, the Contractor's fee for overhead and profit will be determined as follows:
 - 1. A mutually acceptable fixed fee; or
 - 2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
 - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;
 - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2

by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;

- d. No fee will be payable based on costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
- e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
- f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 *Change Proposals*

- A. **Purpose and Content**—Contractor shall submit a Change Proposal to Construction Manager to request an adjustment in the Contract Times or Contract Price; contest a decision by Construction Manager concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.
- B. ***Change Proposal Procedures***
 1. ***Submittal***—Contractor shall submit each Change Proposal to Construction Manager within 30 days after the start of the event giving rise thereto, or after such decision.
 2. ***Supporting Data***—Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to Construction Manager within 15 days after the submittal of the Change Proposal.
 - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
 - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.
 3. ***Construction Manager's Initial Review***—Construction Manager, in consultation with Engineer, will advise Owner regarding the Change Proposal and consider any comments or response

from Owner regarding the Change Proposal. If in its discretion Construction Manager concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Construction Manager may request that Contractor submit such additional supporting data by a date specified by Construction Manager, prior to Construction Manager beginning its full review of the Change Proposal.

4. ***Construction Manager's Full Review and Action on the Change Proposal***—Upon receipt of Contractor's supporting data (including any additional data requested by Construction Manager), Construction Manager, in consultation with Engineer, will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Construction Manager does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Construction Manager's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 5. ***Binding Decision***—Construction Manager's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
 - C. ***Post-Completion***—Contractor shall not submit any Change Proposals after Construction Manager issues a written recommendation of final payment pursuant to Paragraph 15.06.B.
- #### 11.10 *Notification to Surety*
- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12—CLAIMS

12.01 *Claims*

A. *Claims Process*—The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:

1. Appeals by Owner or Contractor of Construction Manager's decisions regarding Change Proposals;
2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
3. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Construction Manager has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.

B. *Submittal of Claim*—The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to Construction Manager and Engineer, for their information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

C. *Review and Resolution*—The party receiving a Claim shall review it thoroughly and consider its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Construction Manager and Engineer.

D. *Mediation*

1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*—If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*—If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*—If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract,

including the Work, the Contract Times, or the Contract Price.

**ARTICLE 13—COST OF THE WORK; ALLOWANCES;
UNIT PRICE WORK**

13.01 *Cost of the Work*

- A. Purposes for Determination of Cost of the Work—The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined based on Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*—Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned based on their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and

retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Construction Manager, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to construction managers, engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
5. Other costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are consumed in the performance of the

Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

c. *Construction Equipment Rental*

- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
- 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
- 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.

- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.
 - g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded*—The term Cost of the Work does not include any of the following items:
1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by

Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.

2. The cost of purchasing, renting, or furnishing small tools and hand tools.
3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
6. Expenses incurred in preparing and advancing Claims.
7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. Contractor's Fee

1. When the Work is performed based on cost-plus-a-fee, then:
 - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
 - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price based on Cost of the Work, Contractor's fee will be determined as follows:
 - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
 - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be

determined in accordance with Paragraph 11.07.C.2.

2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.
- E. Documentation and Audit—Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Construction Manager.
- B. *Cash Allowances*—Contractor agrees that:
 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.

- C. *Owner's Contingency Allowance*—Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Construction Manager to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Construction Manager will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Construction Manager will review with Contractor the Construction Manager's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Construction Manager's written decision thereon will be final and binding (except as modified by Construction Manager to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.
- E. *Adjustments in Unit Price*
 - 1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:

- a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
- 2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
 - 3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Construction Manager, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.
- B. In accordance with the Owner's policy and applicable federal regulations, Contractor, its representatives, personnel, subcontractors and vendors, are required to have a valid Transportation Worker Identification Credential (TWIC) or will need to be placed on the gate list maintained by the IIPD the day before they are scheduled to arrive. To ensure there are no difficulties with admission to the site, Contractor/vendor should verify with appropriate IIPD staff that their name is on the gate list by 3:00 P.M. on the day preceding their arrival.

14.02 Tests, Inspections, and Approvals

- A. Contractor shall give Construction Manager timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Construction Manager the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or

other qualified individuals or entities acceptable to Owner and Construction Manager.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Construction Manager, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Construction Manager, then Contractor shall, if requested by Construction Manager, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Construction Manager timely notice of Contractor's intention to cover the same and Construction Manager had not acted with reasonable promptness in response to such notice.

14.03 Defective Work

- A. *Contractor's Obligation*—It is Contractor's obligation to ensure that the Work is not defective.
- B. *Construction Manager's Authority*—Construction Manager has the authority to determine, in consultation with Engineer, whether Work is defective, and to reject defective Work.
- C. *Notice of Defects*—Prompt written notice of all defective Work of which Owner, Construction Manager, or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement*—Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Construction Manager has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties*—When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages*—In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims,

costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Construction Manager as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Construction Manager has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Construction Manager, then Contractor shall, if requested by Construction Manager,

uncover such Work for Construction Manager's or Engineer's observation, and then replace the covering, all at Contractor's expense.

- C. If Engineer or Construction Manager considers it necessary or advisable that covered Work be observed by Construction Manager or Engineer, or inspected or tested by others, then Construction Manager will so advise Contractor, and Contractor shall uncover, expose, or otherwise make available for observation, inspection, or testing as Construction Manager may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.

1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or

entity, or any surety for, or employee or agent of any of them.

14.07 Owner May Correct Defective Work

- A. If Contractor fails within a reasonable time after written notice from Construction Manager to correct defective Work, or to remove and replace defective Work as required by Construction Manager, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, Construction Manager, Engineer, and their consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses, and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

**ARTICLE 15—PAYMENTS TO CONTRACTOR;
SET-OFFS; COMPLETION; CORRECTION PERIOD**

15.01 Progress Payments

- A. Basis for Progress Payments—The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Construction Manager. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Construction Manager for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
 - 2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
 - 3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied

to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications*

1. Construction Manager will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Construction Manager's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Construction Manager's recommendation of any payment requested in an Application for Payment will constitute a representation by Construction Manager to Owner, based on Construction Manager's (a) observations of the executed Work, (b) consultations with Engineer, and (c) review of the Application for Payment and the accompanying data and schedules, that to the best of Construction Manager's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Construction Manager's responsibility to observe the Work.
3. By recommending any such payment Construction Manager will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the

Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Construction Manager in the Contract; or

- b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Construction Manager's review of Contractor's Work for the purposes of recommending payments nor Construction Manager's recommendation of any payment, including final payment, will impose responsibility on Construction Manager:
 - a. to supervise, direct, or control the Work;
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Construction Manager may refuse to recommend the whole or any part of any payment if, in Construction Manager's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Construction Manager will recommend reductions in payment (set-offs) necessary in Construction Manager's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has

accepted defective Work pursuant to Paragraph 14.04;

- d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
- e. Construction Manager has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due*

- 1. Ten days after presentation of the Application for Payment to Owner with Construction Manager's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner*

- 1. In addition to any reductions in payment (set-offs) recommended by Construction Manager, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges for construction management or engineering costs related to submittal reviews, evaluations of proposed

substitutes, tests, and inspections, or return visits to manufacturing or assembly facilities;

- f. The Work is defective, requiring correction or replacement;
- g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
- h. The Contract Price has been reduced by Change Orders;
- i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
- j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
- k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or
- l. Other items which entitle Owner to a set-off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Construction Manager, Owner will give Contractor immediate written notice (with a copy to Construction Manager) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
- 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Construction Manager in writing that the entire Work is substantially complete and request that Construction Manager issue a certificate of Substantial Completion. Contractor shall at the same time submit to Construction Manager the Contractor's proposed punch list of items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, Construction Manager, and Engineer will inspect the Work to determine the status of completion. If the Work is not determined to be substantially complete, Construction Manager will notify Contractor in writing, giving the reasons for the determination.
- C. If the Work is deemed substantially complete, Construction Manager will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Construction Manager will attach to the certificate Construction Manager's proposed punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Construction Manager as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Construction Manager, with Engineer's express approval, concludes that the Work is not substantially complete, Construction Manager will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons for the conclusion. If Owner does not object to the provisions of the certificate, or if

despite consideration of Owner's objections Construction Manager, in consultation with Engineer, concludes that the Work is substantially complete, then Construction Manager will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Construction Manager believes justified after consideration of any objections from Owner.

- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Construction Manager, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's

performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, Construction Manager and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Construction Manager in writing that Contractor considers any such part of the Work substantially complete and request Construction Manager to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, Construction Manager and Engineer will inspect that part of the Work to determine its status of completion. If Construction Manager, in consultation with Engineer, does not consider that part of the Work to be substantially complete, Construction Manager will notify Owner and Contractor in writing, giving the reasons for its determination. If Construction Manager, in consultation with the Engineer, considers that part of the Work to be substantially complete, then for that part of the Work the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion, the division of responsibility, and access.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Construction Manager will promptly make a final inspection with Owner, Engineer, and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as

are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Final Payment*

1. After Contractor has, in the opinion of Construction Manager, in consultation with Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects or will so pass upon final payment.
 - d. a list of all duly pending Change Proposals and Claims; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to

furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

- B. *Construction Manager's Review of Final Application and Recommendation of Payment*—If, on the basis of Construction Manager's observation of the Work during construction and final inspection, consultation with Engineer regarding completion, and review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Construction Manager is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Construction Manager will, within 10 days after receipt of the final Application for Payment, indicate in writing Construction Manager's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Construction Manager's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Construction Manager will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. *Notice of Acceptability*—In support of its recommendation of payment of the final Application for Payment, Construction Manager, with Engineer's express approval, will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work*—The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Construction Manager's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due*—Upon receipt from Construction Manager of the final Application for

Payment and accompanying documentation, Owner shall set off against the amount recommended by Construction Manager for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Construction Manager.

15.07 *Waiver of Claims*

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim, appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
1. correct the defective repairs to the Site or such adjacent areas;
 2. correct such defective Work;
 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of

others, or to other land or areas resulting from the corrective measures.

- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of construction managers, engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Construction Manager. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner, Construction Manager or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and

2. enforce the rights available to Owner under any applicable performance bond.
 - C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
 - D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
 - E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of construction managers, engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Construction Manager as to their reasonableness and, when so approved by Construction Manager, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
 - F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
 - G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.
- 16.03 *Owner May Terminate for Convenience*
- A. Upon 7 days' written notice to Contractor and Construction Manager, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
 - B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.
- 16.04 *Contractor May Stop Work or Terminate*
- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Construction Manager fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Construction Manager, and provided Owner or Construction Manager do not remedy such suspension or failure within that time, terminate the contract and recover from Owner

payment on the same terms as provided in Paragraph 16.03.

- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Construction Manager has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Construction Manager, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. Disputes Subject to Final Resolution—The following disputed matters are subject to final resolution under the provisions of this article:
1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. Final Resolution of Disputes—For any dispute subject to resolution under this article, Owner or Contractor may:
1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
 2. agree with the other party to submit the dispute to another dispute resolution process; or
 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent

to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Construction Manager, Contractor, or Engineer when required, it will be deemed to have been validly given only if delivered:
1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner, Construction Manager, nor Engineer, nor any of their officers, directors, members, partners, employees, agents,

consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract

of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions



NOTICE TO BIDDERS,
SPECIFICATIONS, CONTRACT
AND CONTRACT BOND
FOR ILLINOIS INTERNATIONAL PORT DISTRICT
County of Cook, Illinois

Ivan Solis
Board Chairman

Erik A. Varela
Executive Director

Letting: August 28, 2025

No Later Than 3 p.m.

Illinois International Port District - Shed Roof Replacement
Calumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633
State Job Number: C-91-040-23
Section 22-IIPD1-00-PT

BOOK II – EXECUTION PAGES

Failure to submit Book II in its entirety may result in the bid being deemed unresponsive and rejected

NOTICE TO PROSPECTIVE BIDDERS

To obtain specifications and submit 1 original proposal go to:

iipd@iipd.com

Pre-Bid\Site Visit Meeting:

August 11, 2025 @ 9:30 a.m. at IIPD Security Entrance at 130th Street & Stony Island Avenue

All questions are due by August 18, 2025 no later than 3:00p.m. Chicago Time

Send all questions via e-mails to: iipd@iipd.com

Illinois International Port District
Illinois Port Authority
– Transit Shed 1, Transit Shed 2, Transit Shed 3, Transit Shed 4

240036
Issue for Bid
2024.10.11

SECTION 004100 - BID FORM

BID DATE:

BID TO: Illinois International Port District
12700 S. Butler Drive
Chicago, IL 60633

BID FROM:

BID FOR: Illinois International Port District – Shed Roof Replacement

Shed 1, Shed 2, Shed 3, Back-up Warehouse Shed 4
Calumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633

THE UNDERSIGNED:

Acknowledges receipt of:

Plans and specifications for the work indicated above.

Addenda: No. _____, dated _____

No. _____, dated _____

No. _____, dated _____

Having examined the site of the work, and having familiarized himself with local conditions affecting the cost of the work and with all requirements of the bidding documents including Instructions to Bidders, drawings, specifications, and duly issued addenda, as prepared by the Architect, the Bidder hereby agrees to perform all work and furnish all labor, material and equipment specifically required of him by the bidding documents and such additional work as may be included as related requirements in other divisions or sections of the specifications, exclusive of alternate bids.

Agrees:

To furnish and/or install the described material and/or services for stated lump sum price.

To hold this bid open until **90** calendar days after bid opening date.

To accept the provisions of the Instructions to Bidders, Conditions of the Contract, Drawings, specifications, Addenda, and disposition of bid security.

To enter into and execute a contract with the Owner, if awarded on the basis of this bid, and in connection therewith to:

1. Furnish all bonds and insurance required by the bidding documents.
2. Accomplish the Work according to the Contract.
3. Complete the Work within the Contract time herein specified.

BID SECURITY

The undersigned furnishes herewith, as required in the Instructions to Bidders, bid security in the amount of **10 percent** of the amount bid in the form of Cashier's Check __, or Certified Check __, made payable to the Owner or Bid Bond __, naming the Owner as obligee. (Bidder to check form of bid security furnished)

It is understood and agreed that should the undersigned fail to enter into a contract with the Owner or furnish acceptable contract security within the time and in the manner herein provided, the bid security shall be retained by the Owner as liquidated damages and not as a forfeiture. As it is impossible to determine precisely an exact amount of damages the Owner will sustain, it is agreed that the bid security is a fair and equitable estimate of such damages.

BASE BID

Shed 4 - Replacement of the existing building and canopy roofing system in its entirety, roof drains, gutters, downspouts, metal roof edge, and expansion joints. Replacement of selected damaged metal deck.

The sum of: _____ **Dollars (\$_____)**

(BASE BID: Bid Group 1 to include Five hundred Thousand Dollars (\$500,000) contingency allowance)

Illinois International Port District
Illinois Port Authority
– Transit Shed 1, Transit Shed 2, Transit Shed 3, Transit Shed 4

240036
Issue for Bid
2024.10.11

TIME OF COMPLETION

The undersigned agrees to begin construction work **October 1, 2025** or upon award of the contract, and to complete all work required by the Contract Documents on or before **September 30, 2026**.

AFFIDAVIT OF COMPLIANCE

Bidder has attached to this Bid Form an executed Certificates of Eligibility and Compliance.

ALTERNATE BID GROUPS

1. Alternate Bid Group 1: **Shed 1** - Replacement of the existing building roofing system in its entirety, gutters, downspouts, metal roof edge, and expansion joints. Replacement of selected damaged metal deck.

The sum of: _____ Dollars (\$ _____)

2. Alternate Bid Group 2: **Shed 2** - Replacement of the existing roofing system in its entirety, gutters, downspouts, metal roof edge, and expansion joints. Replacement of selected damaged metal deck.

The sum of: _____ Dollars (\$ _____)

3. Alternate Bid Group 3: **Shed 3** - Replacement of the existing roofing system in its entirety, gutters, downspouts, metal roof edge, and expansion joints. Replacement of selected damaged metal deck.

The sum of: _____ Dollars (\$ _____)

Buy American: Products to be manufactured in the United States in compliance with applicable U.S. Federal Trade Commission (FTC) and U.S. Customs Service and Border Protections regulations and be labeled "Made in America".

Source Limitations: Obtain each product from manufacturers that manufacture products within North America.

Contractors Proposed Alternates:

Item Specified	Proposed Alternate	Change in	Bid Price
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

UNIT PRICES

If incorporated into the Contract, the following units of labor and material shall apply to facilitate changes in the Work, should such changes, additions, or deductions become necessary during the progress of the Work. (Bidder to fill in applicable unit prices.)

Adjustments shall be made on net variations of total quantities based on design dimensions. A unit price shall represent the total cost of a unit of labor and material in place, according to the requirements of the Contract Documents and applicable revisions thereto:

ITEM	ADD	DEDUCT	UNIT
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Bidder to assume approximately 20% roof deck replacement/overlay for purposes of bidding a per square foot cost below. Square footage to be assumed for bidding purposes is 73,000 and should be used to determine the per square foot cost.

1. Overlay of Type A metal roof deck.
Install new metal deck over top of existing deck
anchoring to adjacent existing metal deck: \$_____ \$_____ per sq. ft.
2. Installation of Type A metal roof deck.
Remove existing deck, furnish and install
new deck anchoring to adjacent existing metal deck: \$_____ \$_____ per sq. ft.

KEY PERSONNEL

Bidder has attached to this Bid Form the List of Key Personnel qualifications and contact information for the company contact, PM level electrician and site superintendent. If any of these personnel are to change, permission from Owner will be required.

REFERENCES

Bidder has attached to this Bid Form a List of References.

BID ACCEPTANCE

If written notice of the acceptance of this bid is mailed, telegraphed or delivered to the undersigned within the time noted herein, after the date of opening of bids or at any time thereafter before this bid is withdrawn, the undersigned agrees that bidder will execute a construction contract (substantially in the form provided with the bid documents. He will obtain performance and payments bonds with such surety or sureties as the Owner may approve, the cost of which shall be included in the base bid.

The Owner reserves the right to award the contract to its best interests, to reject any of all bids, to waive any informalities in bidding and to hold all bids for the bid guarantee period.

REPRESENTATIONS AND CERTIFICATIONS

The bidder makes the following representations and certifications as part of his bid on the project herein identified in the Bid Form. In the case of a joint venture bid, each party represents and certifies as to his own organization.

SURETY. I have notified a Surety Company that I am submitting a bid for work to be performed on the project. The Surety Company has agreed to issue a performance and labor and material payment bond for my work, if requested by the Owner, if my bid is accepted and the contract awarded to me.

AVAILABILITY. The number and amount of contracts and awards pending which I am and/or will be obligated to perform, now and during the course of the project, will not interfere with or hinder the timely prosecution of my work.

INDEPENDENT PRICE DETERMINATION. The contract sum in this bid has been arrived at independently, without consultation, communication or agreement for the purpose of restricting competition.

PREVAILING WAGE. The contractor and each subcontractor shall pay not less than the general prevailing rate of hourly wages for work of a similar character in the locality in which the work is performed and not less than general prevailing rate of hourly wages for legal holidays and overtime work in the performance of work under this contract, as established by the Illinois Department of Labor, pursuant to an act of the General Assembly of the State of Illinois approved June 26, 1941 as amended according to the Illinois Revised Statutes, Chapter 48, Section 39s-1, et seq.

Pursuant to Illinois Revised Statutes, Chapter 48, Section 34s-5, the contractor and each contractor shall keep an accurate record showing the names and occupation of all laborers, workers and mechanics employed by them, and also showing the actual hourly wages paid to each such individual, which record shall be open at all reasonable hours to inspection by the Owner, its officers and agents, and to agents of the Illinois Department of Labor.

The contractor and each subcontractor hereby agree, jointly and severally, to defend, indemnify and hold harmless the Owner from any and all claims, demands, liens or suits of any kind or nature whatsoever (including suits for injunctive relief) by the Illinois Department of Labor under the Illinois Prevailing Wage Act, Illinois Revised Statutes, Chapter 48, Section 39s-1, et seq., or by any laborer, worker or mechanic employed by the contractor or the subcontractor who alleges that he has been paid for his services in a sum less than prevailing wage rates required by Illinois law. The Owner agrees to notify the contractor or subcontractor of the pendency of any such claim, demand, lien or suit.

The current prevailing wage rates are included in the specifications for reference only. The contractor and subcontractor must pay the prevailing wage rates in effect at the actual time the labor is performed.

CERTIFICATE OF COMPLIANCE WITH ILLINOIS PREVAILING WAGE RATE ACT. Pursuant to the provisions of the Illinois Prevalent Wage Rate Act. (820 ILCS 130/), Bidder hereby certifies that all workers will be paid at the prevailing wage rate as published by the Illinois Department of Labor.

Initials _____

NON-COLLUSION AFFIDAVIT. Bidder has not, nor has any other member, representative, nor agent of the firm, company, corporation or partnership represented by him/her, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting, nor to prevent any person from bidding nor to induce anyone to refrain from bidding, and that this bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding. Bidder further says that no person or persons, firms or corporation has, have or will receive directly or indirectly, any rebate, fee, gift, commission or thing of value on account of such bid, or any contract awarded as a direct or indirect result of such bid.

Initials _____

CERTIFICATE OF ELIGIBILITY TO CONTRACT. Pursuant to Section 33 E-11 of the Illinois Criminal Code of 1961 as amended, contractor hereby certifies that neither they nor any of the officers, partners, or owners of this business have been convicted in the past five years of the offense of bid-rigging under Section 33 E-3, nor bid-rotating under Section 33 E-4, nor bribing or attempting to bribe an officer or an employee of the State of Illinois, or made an admission of guilt or such conduct which is a matter of record.

Initials _____

CERTIFICATE OF COMPLIANCE WITH ILLINOIS DRUG-FREE WORKPLACE ACT. Pursuant to Section 3 of the Illinois Drug-Free Workplace Act, having twenty-five or more employees, contractor does hereby certify that they shall provide a drug-free workplace for all employees engaged in the performance of work under this contract by complying with Illinois Drug-Free

Illinois International Port District
Illinois Port Authority
– Transit Shed 1, Transit Shed 2, Transit Shed 3, Transit Shed 4

240036
Issue for Bid
2024.10.11

Workplace Act, and, further certifies that they are not ineligible for award of this contract by reason of debarment for a violation of the Illinois Drug-Free Workplace Act.

Initials_____

CERTIFICATE REGARDING SEXUAL HARASSMENT POLICY. Pursuant to Section 2-105 of the Illinois Human Rights Act (775 IL-CS5/2-105), contractor certifies they have a written sexual harassment policy that includes, at a minimum, the following information: (i) the illegality of sexual harassment; (ii) the definition of sexual harassment under State law; (iii) a description of sexual harassment, utilizing examples; (iv) an internal complaint process including penalties; (v) the legal recourse, investigative and compliant process available through the Department of Human Rights Commission; (vi) directions of how to contact the Department of Human Rights and Human Rights Commission; and (vii) protection against retaliation.

Initials_____

Signature:

Respectfully submitted this _____ day of _____, 20_____.

Type of Firm (Bidder to indicate)

_____ Individual

_____ Partnership

_____ Corporation

_____ Joint Venture

(Firm Name)

(Address)

(CORPORATE SEAL)

Illinois International Port District
Illinois Port Authority
– Transit Shed 1, Transit Shed 2, Transit Shed 3, Transit Shed 4

240036
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2024.10.11

(Telephone Number)

(Bidder's Signature)

(Title)

Subscribed and sworn to me

this ____ day of _____, 20_____.

(NOTARY SEAL)

END OF SECTION 004100



NOTICE TO BIDDERS,
SPECIFICATIONS, CONTRACT
AND CONTRACT BOND
FOR ILLINOIS INTERNATIONAL PORT DISTRICT
County of Cook, Illinois

Ivan Solis
Board Chairman

Erik A. Varela
Executive Director

Letting: August 28, 2025

No Later Than 3 p.m.

Illinois International Port District - Shed Roof Replacement
Calumet River Terminal Facility
12700 S. Butler Drive
Chicago, IL 60633
State Job Number: C-91-040-23
Section 22-IIPD1-00-PT

BOOK III – Detailed Specifications

NOTICE TO PROSPECTIVE BIDDERS

To obtain specifications and submit 1 original proposal go to:

iipd@iipd.com

Pre-Bid\Site Visit Meeting:

August 11, 2025 @ 9:30 a.m. at IIPD Security Entrance at 130th Street & Stony Island Avenue

All questions are due by August 18, 2025 no later than 3:00p.m. Chicago Time

Send all questions via e-mails to: iipd@iipd.com

SPECIAL PROVISIONS

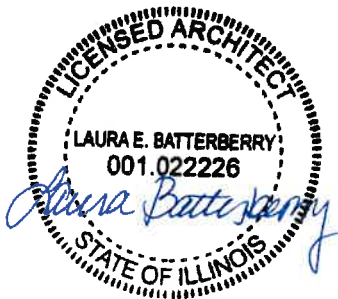
Contract Number: _____

ILLINOIS INTERNATIONAL PORT DISTRICT SHED ROOF REPLACEMENT

Section Number: 22-IIPD1-00-PT
State Job Number: C-91-040-23
Calumet River Terminal Facility

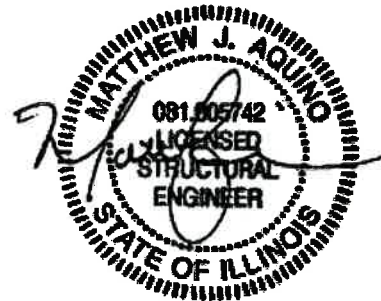
Base Bid:	Transit Shed 4 Roof and Canopies
Alternate Bid 1:	Transit Shed 1 Roof
Alternate Bid 2:	Transit Shed 2 Roof
Alternate Bid 3:	Transit Shed 3 Roof

ARCHITECT	STRUCTURAL ENGINEER
SIGNATURE: <u><i>Laura Batterberry</i></u>	SIGNATURE: <u><i>Matthew J. Aquino</i></u>
DATE SIGNED: <u>10.11.2024</u>	DATE SIGNED: <u>Exp. 11-07-2024</u>
LICENSE EXPIRATION DATE: <u>Exp. 11/30/2024</u>	LICENSE EXPIRATION DATE: <u>Exp. 11-30-2026</u>
WIGHT & COMPANY	WIGHT & COMPANY



Exp. 11/30/2024

2024.10.11
Issue for Bid



ILLINOIS INTERNATIONAL PORT DISTRICT

SHED ROOF REPLACEMENT

Section Number: 22-IIPD1-00-PT

State Job Number: C-91-040-23

Calumet River Terminal Facility



Base Bid:

Alternate Bid 1:

Alternate Bid 2:

Alternate Bid 3:

Transit Shed 4 Roof and Canopies

Transit Shed 1 Roof

Transit Shed 2 Roof

Transit Shed 3 Roof

DIVISION	SECTION	DATE
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053100	STEEL DECKING	2024.10.10
055000	METAL FABRICATIONS	2024.10.10

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221423	STORM DRAINAGE PIPING SPECIALTIES	2024.10.10

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SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Demolition and removal of selected portions of building or structure.
 - 2. Demolition and removal of selected site elements.

- B. Related Requirements:

- 1. Division 01 Section "Summary" for restrictions on the use of the premises, Owner-occupancy requirements, and phasing requirements.
 - 2. Division 01 Section "Execution" for cutting and patching procedures.
 - 3. Division 31 Section "Site Clearing" for site clearing and removal of above- and below-grade improvements not part of selective demolition.

1.3 DEFINITIONS

- A. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at Project site.

- 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review structural load limitations of existing structure.
 - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.

4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For refrigerant recovery technician.
- B. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, which might be misconstrued as damage caused by demolition operations. Comply with Division 01 Section "Photographic Documentation." Submit before Work begins.
- C. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- D. Warranties: Documentation indicated that existing warranties are still in effect after completion of selective demolition.

1.7 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.

1.8 FIELD CONDITIONS

- A. Owner/other tenancy will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's/other tenancy operations will not be disrupted.
 1. Comply with requirements specified in Division 01 Section "Summary."
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

- D. Hazardous Materials: It is expected that hazardous materials are present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials has been provided as part of section 003126 Existing Hazardous Material Information. Examine report to become aware of locations where hazardous materials are present.
 - 1. Hazardous material remediation is specified elsewhere in the Contract Documents.
 - 2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.9 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

- B. Perform survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.
 - 1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
- C. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or videotapes.
- D. Verify that hazardous materials have been remediated before proceeding with selective demolition operations.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
 - 2. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
 - e. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.

3.3 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure, interior areas, and warehoused goods.
 - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
- B. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering, and chopping. Temporarily cover openings to remain.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 - 5. Maintain fire watch during and for at least two hours after flame-cutting operations.
 - 6. Maintain adequate ventilation when using cutting torches.
 - 7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 - 9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 10. Dispose of demolished items and materials promptly. Comply with requirements in Division 01 Section "Construction Waste Management and Disposal."

- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
- B. PCB-CONTAINING CAULK IN BUILDINGS PRE-DATING 1978 MUST BE DISPOSED OF AS HAZARDOUS WASTE. VERIFY IF OLD CAULK HAS BEEN TESTED.
- C. Roofing: Remove no more existing roofing than can be covered in one day by new roofing and so that building interior remains watertight and weathertight. Refer to applicable Division 07 section for new roofing requirements.
 - 1. Remove existing roof membrane, flashings, copings, and roof accessories.
 - 2. Remove existing roofing system down to substrate.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 - 4. Comply with requirements specified in Division 01 Section "Construction Waste Management and Disposal."
- B. Burning: Do not burn demolished materials.

3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 050110 - MAINTENANCE OF STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes maintenance of structural metal framing.

1.3 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For repair and replacement of structural metal framing items and components. Show location and extent of replacement work, with enlarged details of replacement parts indicating materials, profiles, methods of attachment, accessory items, and finishes. Include field-verified dimensions and the following:
 - 1. Identification of each new metal item and component and its location on the structure in annotated plans and elevations.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer and fabricator.

- B. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

1.7 QUALITY ASSURANCE

- A. Fabricator Qualifications: Engage a firm experienced in fabricating structural steel similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to fabricate structural steel without delaying the Work.
- B. Installer Qualifications: Engage an experienced Installer who has completed structural steel maintenance work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.
- C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code Steel."
- D. Comply with applicable provisions of the following specifications and documents:
 - 1. ANSI 303.
 - 2. AISC's "Specification for Structural Steel Buildings", ANSI/AISC 360-05.
 - 3. ASTM A6 "Specification for General Requirements for Rolled Steel Plates, Shapes, Sheet Piling, and Bars for Structural Use."
 - 4. RCSC's "Specification for Structural Joints Using ASTM A325 or A490 Bolts."

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.
 - 1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.
- B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.
 - 1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
 - 2. Clean and relubricate bolts and nuts that become dry or rusty before use.
 - 3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F1852 fasteners and for retesting fasteners after lubrication.

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

- A. Channel- and Angle-Shapes: ASTM A36.
- B. Plate and Bar: ASTM A36.
- C. Welding Electrodes: Comply with AWS requirements.

2.2 ROOF DECK

- A. Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with "SDI Specifications and Commentary for Steel Roof Deck," in SDI Publication No. 31, and with the following:
 - 1. Galvanized Steel Sheet: ASTM A653, Structural Steel (SS), Grade 33, G60 zinc coating.
 - 2. Deck Profile: As indicated.
 - 3. Profile Depth: As indicated.
 - 4. Design Uncoated-Steel Thickness: As indicated.
 - 5. Side Laps: Overlapped and screwed as indicated.

2.3 BOLTS, CONNECTORS, AND ANCHORS

- A. High-Strength Bolts, Nuts, and Washers: ASTM A325, Type 1, heavy hex steel structural bolts, heavy hex carbon-steel nuts, and hardened carbon-steel washers; all with plain finish.
- B. Power-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 10 times design load, as determined by testing per ASTM E1190 conducted by a qualified independent testing agency.
- C. Steel Deck Side-Lap Fasteners: Corrosion-resistant, hexagonal washer head; self-drilling, carbon-steel screws, No. 10 minimum diameter.

2.4 PRIMER

- A. Low-Emitting Materials:
 - 1. Interior paints and coatings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

- B. Primer: Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.
- C. Galvanizing Repair Paint: SSPC-Paint 20, with dry film containing a minimum of 90 percent zinc dust by weight.

2.5 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.
 - 1. Camber structural steel members where indicated.
 - 2. Mark and match-mark materials for field assembly.
 - 3. Complete structural steel assemblies, including welding of units, before starting shop-priming operations.
- B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
 - 1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1.
- C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces. Do not flame-cut holes or enlarge holes by burning. Drill holes in bearing plates.
- D. Finishing: Accurately mill ends of columns and other members transmitting loads in bearing.
- E. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel framing members.
 - 1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
 - 2. Baseplate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
 - 3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.6 SHOP CONNECTIONS

- A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A325 or A490 Bolts" for type of bolt and type of joint specified.
 - 1. Joint Type: Snug tightened, unless indicated as slip-critical, direct-tension, or tensioned shear/bearing connections.

- B. Weld Connections: Comply with AWS D1.1 for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 - 1. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.

2.7 SHOP PRIMING

- A. Shop prime steel surfaces, except the following:
 - 1. Surfaces to be field welded.
- B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:
 - 1. SSPC-SP 3, "Power Tool Cleaning."
- C. Priming: Immediately after surface preparation, apply primer according to manufacturer's instructions and at rate recommended by SSPC to provide a dry film thickness of not less than 1.5 mils. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
 - 1. Apply two coats of shop paint to inaccessible surfaces after assembly or erection. Change color of second coat to distinguish it from first.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify, with steel Erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place, unless otherwise indicated.

3.3 STRUCTURAL METAL FRAMING INSTALLATION

- A. Erect structural metal framing accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.

- B. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."
- C. Align and adjust various members forming part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
 - 1. Level and plumb individual members of structure.
 - 2. Make allowances for difference between temperature at time of erection and mean temperature at which structure will be when completed and in service.
- D. Splice members only where indicated.
- E. Do not use thermal cutting during erection, unless approved by Architect. Finish thermally cut sections within smoothness limits in AWS D1.1.
- F. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.
- G. Field Connections:
 - 1. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A325 or A490 Bolts" for type of bolt and type of joint specified.
 - a. Joint Type: Snug tightened, unless indicated as slip-critical, direct-tension, or tensioned shear/bearing connections.
 - 2. Weld Connections: Comply with AWS D1.1 for procedures, appearance and quality of welds, and methods used in correcting welding work.
 - a. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
 - b. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.

3.4 ROOF DECK INSTALLATION

- A. Install deck panels and accessories according to applicable specifications and commentary in SDI Publication No. 31, manufacturer's written instructions, and requirements in this Section.
- B. Place deck panels on supporting frame and adjust to final position with ends accurately aligned and bearing on supporting frame before being permanently fastened. Do not stretch or contract side-lap interlocks.

- C. Place deck panels flat and square and fasten to supporting frame without warp or deflection.
- D. Cut and neatly fit deck panels and accessories around openings and other work projecting through or adjacent to decking.
- E. Provide additional reinforcement and closure pieces at openings as required for strength, continuity of decking, and support of other work.
- F. Comply with AWS requirements and procedures for manual shielded metal arc welding, appearance and quality of welds, and methods used for correcting welding work.
- G. Mechanical fasteners may be used in lieu of welding to fasten deck, as indicated in drawings. Where not indicated in drawings, mechanical fasteners may be used in lieu of welding to fasten deck, only after approval by Architect and Structural Engineer. Locate mechanical fasteners and install according to deck manufacturer's written instructions.
- H. Fasten roof deck panels to steel supporting members by arc spot (puddle) welds of the surface diameter indicated or arc seam welds with an equal perimeter, but not less than 1-1/2 inches long, and as follows:
 - 1. Weld Diameter: As indicated.
 - 2. Weld Spacing: Weld edge and interior ribs of deck units with a minimum of two welds per deck unit at each support. Space welds as indicated.
 - 3. Weld Washers: Install weld washers as indicated.
- I. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports, at intervals not exceeding the lesser of 1/2 of the span or as indicated, and as follows:
 - 1. Mechanically fasten with self-drilling No. 10 diameter or larger carbon-steel screws.
- J. End Bearing: Install deck ends over supporting frame with a minimum end bearing of 1-1/2 inches, with end joints as follows:
 - 1. End Joints: Lapped 2 inches minimum.

3.5 FIELD QUALITY CONTROL

- A. Testing: Owner will engage a qualified independent testing agency to perform field quality-control testing.
- B. Bolted Connections: Bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A325 or A490 Bolts."
- C. Field-welded connections shall be visually inspected.
- D. Testing agency will report inspection results promptly and in writing to Contractor and Architect.

SECTION 053100 - STEEL DECKING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Roof deck.
- B. Related Requirements:
 - 1. Division 05 Section "Metal Fabrications" for framing deck openings with miscellaneous steel shapes.
 - 2. Division 07 specifications sections for preparation and installation of roofing over roof deck.
 - 3. Division 09 Section "High-Performance Coatings" for preparation of deck to receive high-performance coating.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of deck, accessory, and product indicated.
- B. Sustainable Design Submittals:
 - 1. Environmental Product Declaration (EPD): For each product.
 - 2. Health Product Declaration (HPD): For each product.
- C. Shop Drawings: Include layout and types of deck panels, anchorage details, reinforcing channels, pans, deck openings, special jointing, accessories, and attachments to other construction.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: From a qualified testing agency indicating that each of the following complies with requirements, based on comprehensive testing of current products:
 - 1. Mechanical fasteners.

- E. Remove and replace work that does not comply with specified requirements.
- F. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of corrected work with specified requirements.

3.6 REPAIRS AND PROTECTION

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on both surfaces of deck with galvanized repair paint according to ASTM A780 and manufacturer's written instructions.
- B. Repair Painting: Wire brush and clean rust spots, welds, and abraded areas immediately after installation, and apply repair paint.
 - 1. Apply repair paint surfaces exposed to view.
 - 2. Wire brushing, cleaning, and repair painting are included in Division 09 Section "Painting"
- C. Provide final protection and maintain conditions to ensure that metal framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION 050110

B. Test and Evaluation Reports:

1. Product Test Reports: For tests performed by a qualified testing agency, indicating that each of the following complies with requirements:
 - a. Power-actuated mechanical fasteners.
2. Research Reports: For steel deck, from ICC-ES showing compliance with the building code.

C. Qualification Statements: For Installer and welding personnel.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed steel deck similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Welding Qualifications: Qualify procedures and personnel in accordance with SDI QA/QC and welding codes AWS D1.1/D1.1M. and AWS D1.3.
- C. FM Approvals' RoofNav Listing: Provide steel roof deck evaluated by FM Approvals and listed in its "RoofNav" for Class 1 fire rating and Class 1-90 windstorm ratings. Identify materials with FM Approvals Certification markings.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Store products in accordance with SDI MOC3. Stack steel deck on platforms or pallets and slope to provide drainage. Protect with a waterproof covering and ventilate to avoid condensation.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. AISI Specifications: Comply with calculated structural characteristics of steel deck in accordance with AISI S100.

2.2 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Canam Buildings US Inc.; Canam Group Inc.
 2. Epic Metals Corporation.
 3. Verco Decking, Inc.; a Nucor company.
 4. Vulcraft Group; Division of Nucor Corp.

2.3 ROOF DECK

- A. Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with SDI RD and with the following:
1. Galvanized-Steel Sheet: ASTM A653/A653M, Structural Steel (SS), Grade 33, G60 zinc coating.
 2. Deck Profile: As indicated.
 3. Profile Depth: As indicated.
 4. Design Uncoated-Steel Thickness: As indicated.
 5. Span Condition: Triple span or more, unless indicated otherwise.
 6. Side Laps: Overlapped and screwed.

2.4 ACCESSORIES

- A. Provide manufacturer's standard accessory materials for deck that comply with requirements indicated.
- B. Mechanical Fasteners: Corrosion-resistant, low-velocity, power-actuated or pneumatically driven carbon-steel fasteners; or self-drilling, self-threading screws.
- C. Side-Lap Fasteners: Corrosion-resistant, hexagonal washer head; self-drilling, carbon-steel screws, No. 10 minimum diameter.
- D. Flexible Closure Strips: Vulcanized, closed-cell, synthetic rubber.
- E. Miscellaneous Sheet Metal Deck Accessories: Steel sheet, minimum yield strength of 33,000 psi, not less than 0.0359-inch design uncoated thickness, of same material and finish as deck; of profile indicated or required for application.
- F. Steel Sheet Accessories: Steel sheet, of same material, finish, and thickness as deck, unless otherwise indicated.
- G. Weld Washers: Uncoated steel sheet, shaped to fit deck rib, thickness as indicated, with factory-punched hole of 3/8-inch minimum diameter.

- H. Flat Sump Plates: Single-piece steel sheet, 0.0747 inch thick, of same material and finish as deck. For drains, cut holes in the field.
- I. Recessed Sump Pans: Single-piece steel sheet, 0.0747 inch thick, of same material and finish as deck, with 3-inch- wide flanges and sloped recessed pans of 1-1/2-inch minimum depth. For drains, cut holes in the field.
- J. Galvanizing Repair Paint: Galvanizing Repair Paint: SSPC-Paint 20, with dry film containing a minimum of 90 percent zinc dust by weight and compatible with paints specified to be used over it.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine supporting frame and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Install deck panels and accessories in accordance with SDI C, SDI NC, and SDI RD, as applicable; manufacturer's written instructions; and requirements in this Section.
- B. Install temporary shoring before placing deck panels, if required to meet deflection limitations.
- C. Locate decking bundles to prevent overloading of supporting members.
- D. Place deck panels on supporting frame and adjust to final position with ends accurately aligned and bearing on supporting frame before being permanently fastened. Do not stretch or contract side-lap interlocks.
- E. Place deck panels flat and square and fasten to supporting frame without warp or deflection.
- F. Cut and neatly fit deck panels and accessories around openings and other work projecting through or adjacent to decking.
- G. Provide additional reinforcement and closure pieces at openings as required for strength, continuity of decking, and support of other work.
- H. Comply with AWS requirements and procedures for manual shielded metal arc welding, appearance and quality of welds, and methods used for correcting welding work.

- I. Mechanical fasteners may be used in lieu of welding to fasten deck, as indicated in the drawings. Where not indicated in the drawings, mechanical fasteners may be used in lieu of welding to fasten deck only after approval by Architect and Structural Engineer. Locate mechanical fasteners and install according to deck manufacturer's written instructions.
- J. Immediately after welding deck and other metal components in position, coat welds, burned areas, and damaged surface coating, with galvanized repair paint.

3.3 INSTALLATION OF ROOF DECK

- A. Fasten roof-deck panels to steel supporting members by arc spot (puddle) welds of the surface diameter indicated or arc seam welds with an equal perimeter that is not less than 1-1/2 inches long, and as follows:
 - 1. Weld Diameter: As indicated.
 - 2. Weld Spacing: Weld edge and interior ribs of deck units with a minimum of two welds per deck unit at each support. Space welds as indicated, and maximum 6 inches apart at roof perimeter.
 - 3. Weld Washers: Install weld washers as recommended by deck manufacturer for material thickness.
- B. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports, at intervals not exceeding the lesser of 1/2 of the span or as indicated, and as follows:
 - 1. Mechanically fasten with self-drilling, No. 10 diameter or larger, carbon-steel screws.
- C. End Bearing: Install deck ends over supporting frame with a minimum end bearing of 1-1/2 inches, with end joints as follows:
 - 1. End Joints: Lapped 2 inches minimum.
- D. Roof Sump Pans and Sump Plates: Install over openings provided in roof decking and weld flanges to top of deck. Space welds not more than 12 inches apart with at least one weld at each corner.
 - 1. Install reinforcing channels or zees in ribs to span between supports and weld.
- E. Miscellaneous Roof Deck Accessories: Install ridge and valley plates, finish strips, cover plates, end closures, and reinforcing channels according to deck manufacturer's written instructions. Weld to substrate to provide a complete deck installation.

3.4 REPAIR

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on both surfaces of deck with galvanized repair paint in accordance with ASTM A780/A780M and manufacturer's written instructions.

3.5 FIELD QUALITY CONTROL

- A. Testing: Owner will engage a qualified independent testing agency to perform field quality-control testing.
- B. Tests and Inspections:
 - 1. Special inspections and qualification of welding special inspectors for cold-formed steel roof deck in accordance with quality-assurance inspection requirements of SDI QA/QC.
 - a. Field welds will be subject to inspection.
 - 2. Steel decking will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports.

END OF SECTION 053100

SECTION 055000 - METAL FABRICATIONS`

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Steel framing and supports for roof drains, mechanical and electrical equipment.
 - 2. Steel framing and supports for applications where framing and supports are not specified in other Sections.
 - 3. Loose bearing and leveling plates for applications where they are not specified in other Sections.

1.3 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

1.4 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Shop primers.
 - 2. Product Data: For recycled content, indicating postconsumer and preconsumer recycled content and cost.
- B. Shop Drawings: Show fabrication and installation details for metal fabrications. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide Shop Drawings for the following: <
 - 1. Steel framing and supports for roof drains, mechanical and electrical equipment.
 - 2. Steel framing and supports for applications where framing and supports are not specified in other Sections.
 - 3. Loose bearing and leveling plates for applications where they are not specified in other Sections.

1.5 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code - Steel."

1.6 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 METALS

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces, unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
- B. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 85 percent.
- C. Steel Plates, Shapes, and Bars: ASTM A36.

2.2 FASTENERS

- A. General: Unless otherwise indicated, provide Type 304 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B633, Class Fe/Zn 5, at exterior walls.
- B. Steel Bolts and Nuts: Regular hexagon head bolts, ASTM A307, Grade A; with hex nuts, ASTM A563; and, where indicated, flat washers.
- C. Stainless-Steel Bolts and Nuts: Regular hexagon-head annealed stainless-steel bolts, ASTM F593; with hex nuts, ASTM F594; and, where indicated, flat washers; Alloy Group 1.
- D. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors.
 - 1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B633 or ASTM F1941, Class Fe/Zn 5, unless otherwise indicated.
 - 2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 stainless-steel bolts, ASTM F593, and nuts, ASTM F594.

2.3 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
- B. Zinc-Rich Primer: Complying with SSPC-Paint 20 or SSPC-Paint 29 and compatible with topcoat.
- C. Galvanizing Repair Paint: Galvanizing Repair Paint: SSPC-Paint 20, with dry film containing a minimum of 90 percent zinc dust by weight and compatible with paints specified to be used over it.

2.4 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch, unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- D. Form exposed work true to line and level with accurate angles and surfaces and straight edges.
- E. Weld corners and seams continuously to comply with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
- F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.
- G. Fabricate seams and other connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- H. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

- I. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.

2.5 MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.
- B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.
- C. Prime miscellaneous framing and supports with zinc-rich primer, unless otherwise indicated.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with the following requirements:
 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 2. Obtain fusion without undercut or overlap.
 3. Remove welding flux immediately.
 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- D. Fastening to In-Place Construction: Provide welds, anchorage devices, and/or fasteners, as indicated in drawings, where metal fabrications are required to be fastened to in-place construction.

3.2 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.

3.3 INSTALLING BEARING AND LEVELING PLATES

- A. Clean concrete and masonry bearing surfaces of bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of plates.
- B. Set bearing and leveling plates on wedges, shims, or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts. Do not remove wedges or shims but, if protruding, cut off flush with edge of bearing plate before packing with nonshrink grout. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.4 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 - 1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.

END OF SECTION 055000

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENER

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Rooftop equipment bases and support curbs.
 - 2. Wood / plywood nailers and blocking.

- B. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

- 1. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
 - 2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
 - 3. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.3 INFORMATIONAL SUBMITTALS

- A. Material test reports from a qualified independent testing agency indicating and interpreting test results relative to compliance of fire-retardant-treated wood products with performance requirements indicated.
- B. Warranty of chemical treatment manufacturer for each type of treatment.

1.4 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

- B. **Manufacturer Qualifications:** A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.
- C. **Vendor Qualifications:** A vendor that is certified for chain of custody by an FSC-accredited certification body.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. **Certified Wood:** Lumber and plywood shall be certified as "FSC Mixed Credit" according to FSC STD-01-001 and FSC STD-40-004.
- B. **Lumber Standards:** Comply with DOC PS 20, "American Softwood Lumber Standard," and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.
- C. **Inspection Agencies:** Inspection agencies, and the abbreviations used to reference them, include the following:
 - 1. WWPA - Western Wood Products Association.
- D. **Lumber:** DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Dress lumber, S4S, unless otherwise indicated.
- E. **Maximum Moisture Content of Lumber:** 19 percent maximum moisture content at time of dressing for 2-inch nominal thickness or less, unless otherwise indicated.

2.2 FIRE-RETARDANT-TREATED MATERIALS

- A. **General:** Where fire-retardant-treated materials are indicated, materials shall comply with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.

- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
 - 1. Treatment shall not promote corrosion of metal fasteners.
 - 2. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D3201 at 92 percent relative humidity. Use where exterior type is not indicated.
 - 3. Design Value Adjustment Factors: Treated lumber shall be tested according to ASTM D5664, and design value adjustment factors shall be calculated according to ASTM D6841.
- C. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Kiln-dry plywood after treatment to a maximum moisture content of 15 percent.
- D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.
- E. Application: Treat items indicated on Drawings, and the following:
 - 1. Plywood backing panels.

2.3 MISCELLANEOUS LUMBER

- A. General: Provide lumber for support or attachment of other construction, including cant strips, rooftop equipment bases and support curbs, bucks, nailers, blocking, stripping, and similar members.
- B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated and into shapes shown.
- C. Moisture Content: 19 percent maximum for lumber items are not specified to receive wood preservative treatment.
- D. Grade: For dimension lumber sizes, provide No. 2 SPIB or WWPA of S-P-F species. For board-size lumber, provide No. 3 Common grade per NELMA, NLGA, or WWPA; No. 2 grade per SPIB; or Standard grade per NLGA, WCLIB or WWPA of S-P-F species.

2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
 - 1. Where miscellaneous carpentry is exposed to weather, in ground contact, in area of high relative humidity, or fire-retardant-treated lumber and plywood, provide

fasteners with hot-dip zinc coating complying with ASTM A153, or of Type 304 stainless steel.

- B. Nails, Wire, Brads, and Staples: FS FF-N-105.
- C. Screws for Fastening to Metal Framing: ASTM C1002 or ASTM C954, length as recommended by screw manufacturer for material being fastened.
- D. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- E. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01, ICC-ES AC58, ICC-ES AC193, or ICC-ES AC308 as appropriate for the substrate.
 - 1. Material: Stainless steel with bolts and nuts complying with ASTM F593 and ASTM F594, Alloy Group 1 or 2 (ASTM F738M and ASTM F836M, Grade A1 or A4).
- F. Bolts: Steel bolts complying with ASTM A307, Grade A; with ASTM A563 hex nuts and, where indicated, flat washers.

2.5 MISCELLANEOUS MATERIALS

- A. **Installation Adhesives: Formulation complying with ASTM D3498 that is approved for use indicated by adhesive manufacturer.**
- B. Barrier Membrane: Self-adhesive, rubberized-asphalt compound, bonded to a high-density, polyethylene film to produce an overall thickness of not less than 0.064 inch'
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide GCP Applied Technologies Inc.; Vycor Deck Protector, or equal.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.
- C. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted.

- D. Fit carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.
- E. Apply field treatment complying with AWPA M4 to cut surfaces of preservative-treated lumber and plywood.
- F. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 - 2. ICC-ES evaluation report for fastener.
- G. Use fasteners of appropriate type and length. Predrill members when necessary to avoid splitting wood.

3.2 WOOD NAILERS, STRIPPING, AND BLOCKING

- A. Install where shown and where required for attaching other work. Cut and shape to required size. Coordinate locations with other work involved.
- B. Attach to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

3.3 INSTALLATION OF STRUCTURAL-USE PANELS

- A. General: Comply with applicable recommendations contained in APA Form No. E30, "APA Design/Construction Guide: Residential & Commercial," for types of structural-use panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
 - 1. Plywood Backing Panels: Nail or screw to supports.

END OF SECTION 061000

SECTION 070150.19 - PREPARATIONS FOR REROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Full tear-off of entire roof system.
 - 2. Removal of flashings and counterflashings.
 - 3. Temporary roofing, IF REQUIRED.
- B. Related Requirements.
 - 1. Division 01 Section "Summary" for use of the premises and phasing requirements.
 - 2. Division 01 Section "Temporary Facilities and Controls" for temporary construction and environmental-protection measures for reroofing preparation.

1.3 ALTERNATES

- A. Refer to Division 01 Section "Alternates" for description of Work in this Section affected by alternates.

1.4 DEFINITIONS

- A. EPS: Molded (expanded) polystyrene.
- B. Full Roof Tear-off: Removal of existing membrane roofing system from deck.
- C. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and reinstalled.
- D. Roofing Terminology: Refer to ASTM D1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

1.5 PREINSTALLATION MEETINGS

- A. Preliminary Roofing Conference: Before starting removal Work, conduct conference at Project site.
 - 1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing tear-off, including, but not limited to, the following:
 - a. Reroofing preparation, including roofing system manufacturer's written instructions.
 - b. Temporary protection requirements for existing roofing system components that are to remain.
 - c. Existing roof drains and roof drainage during each stage of reroofing, and roof-drain plugging and plug removal.
 - d. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to avoid delays.
 - e. Existing roof deck conditions requiring Architect notification.
 - f. Existing roof deck removal procedures and Owner notifications.
 - g. Condition and acceptance of existing roof deck and base flashing substrate for reuse.
 - h. Structural loading limitations of roof deck during reroofing.
 - i. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that affect reroofing.
 - j. HVAC shutdown and sealing of air intakes.
 - k. Shutdown of fire-suppression, -protection, and -alarm and -detection systems.
 - l. Asbestos removal and discovery of asbestos-containing materials.
 - m. Governing regulations and requirements for insurance and certificates if applicable.
 - n. Existing conditions that may require Architect notification before proceeding.

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Temporary Roofing Submittal: Product data and description of temporary roofing system.
 - 1. If temporary roof will remain in place, submit surface preparation requirements needed to receive permanent roof, and submit a letter from roofing membrane manufacturer stating acceptance of the temporary membrane, and that its inclusion will not adversely affect the roofing system's resistance to fire and wind.

1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
 - 1. Include certificate that Installer is approved by warrantor of existing roofing system.
- B. Field Test Reports:<FOR TECTUM, GYPSUM DECKS, AND WOOD; DELETE IF METAL DECKING>
 - 1. Fastener pull-out test report.
- C. Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, that might be misconstrued as having been damaged by reroofing operations.
 - 1. Submit before Work begins.

1.8 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with governing EPA notification regulations before beginning membrane roofing removal.
 - 2. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver temporary roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store temporary-roofing liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing manufacturer.
 - 1. Protect stored liquid material from direct sunlight.
 - 2. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Handle and store temporary roofing materials, and place equipment in a manner to avoid permanent deflection of deck.]

1.10 FIELD CONDITIONS

- A. Existing Roofing System: [Built-up asphalt][Built-up coal-tar][APP-modified bituminous][SBS-modified bituminous][EPDM][CSPE][KEE][PVC][TPO][APP-modified bituminous protected membrane][SBS-modified bituminous protected membrane][Fluid-applied protected membrane][Coated foamed]<Insert roof type> roofing.
- B. Owner will occupy portions of building immediately below reroofing area.
 - 1. Conduct reroofing so Owner's operations will not be disrupted.
 - 2. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.
 - 3. Coordinate work activities daily with Owner so Owner can place protective dust or water leakage covers over sensitive equipment or furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below the work area.
 - 4. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below the affected area. Verify that occupants below the work area have been evacuated before proceeding with work over the impaired deck area.
- C. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- D. Use planking to distribute load of equipment used to carry materials to disposal areas. Rolling or heavy loads may damage existing deck.
- E. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- F. Conditions existing at time of inspection for bidding will be maintained by Owner as far as practical.
 - 1. The results of an analysis of test cores from existing membrane roofing system are available for Contractor's reference.
- G. Limit construction loads on roof to 20 lb/sq ft for uniformly distributed loads and rooftop equipment wheel loads that do not damage existing construction.
- H. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering into existing roofing system or building.
- I. Hazardous Materials: It is not expected that hazardous materials such as asbestos-containing materials will be encountered in the Work.
 - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.
 - a. Hazardous materials will be removed by Owner under a separate contract.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Obtain components for temporary roofing system from or approved by roofing system manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General: Provide installed temporary roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- C. Roofing System Design: Provide a roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE 7.
 - 1. Zone 1' (Roof Area Field): 30 lbf/sq ft.
 - 2. Zone 1 (Roof Area Field): 57 lbf/sqft
 - 3. Zone 2 (Roof Area Perimeter): 78 lbf/sq ft.
 - 4. Zone 3 (Roof Area Corners): 109 lbf/sq ft.
 - 5. Location: Not less than 5 feet in each direction from each building corner.

2.3 TEMPORARY PROTECTION MATERIALS

- A. EPS Insulation: ASTM C578.
- B. Plywood: DOC PS1, Grade CD Exposure 1.
- C. OSB: DOC PS2, Exposure 1.

2.4 TEMPORARY ROOFING MATERIALS

- A. Design and selection of materials for temporary roofing are Contractor's responsibility.
- B. Liquid Flashing System: Roof membrane manufacturer's standard one- or two-part moisture curing resin with low solvent content, consisting of a primer, flashing cement, and scrim.

- C. Base Sheet Fasteners: Capped head, factory-coated steel fasteners, listed in FM Approvals' RoofNav tested by manufacturer for pullout strength, and acceptable to temporary roofing manufacturer.

2.5 INFILL AND REPLACEMENT MATERIALS

- A. Use infill materials matching existing construction, unless otherwise indicated.
- B. Steel Roof Deck: Fabricated without top flange, stiffening grooves, to comply with Steel Deck Institute (SDI) Publication No. 29; galvanized steel sheet complying with ASTM A653, Structural Steel (SS), Grade 33, G60 zinc coating; Type WR, wide rib; 1-1/2 inch profile depth; 22 gauge design uncoated steel thickness.
 - 1. Side laps overlapped and fastened with corrosion-resistant, hexagonal washer head, self-drilling, carbon-steel screws, No. 10 TEK.
- C. Wood blocking, curbs, and nailers are specified in Division 06 Section "Rough Carpentry."
- D. Fasteners: Factory-coated steel fasteners with metal or plastic plates listed in FM Approvals' RoofNav, and acceptable to new roofing system manufacturer.

2.6 REROOFING MATERIALS

- A. Reroofing Materials: cover board and thermoplastic polyolefin (TPO) single-ply roofing system is specified in Division 07 Section 075423 - Thermoplastic Polyolefin (TPO) Roofing
- B. Metal flashing sheet is specified in Division 07 Section 076200 - Sheet Metal Flashing and Trim

2.7 SUBSTRATE BOARDS

- A. Substrate Board: ASTM C1177, 2-layers glass-mat, water-resistant gypsum substrate, 5/8 inch thick.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. CertainTeed Corporation; GlasRoc Sheathing Type X.
 - b. Georgia-Pacific Corporation; Dens Deck Prime.
 - c. National Gypsum Company; Gold Bond eXP Extended Exposure Sheathing.
 - d. Temple-Inland, Inc; GreenGlass Exterior Sheathing.
 - e. USG Corporation; Securock Glass Mat Roof Board.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening substrate

board to roof deck, tested by manufacturer for pullout strength, and acceptable to temporary roofing manufacturer.

2.8 AUXILIARY REROOFING MATERIALS

- A. Metal Flashing Sheet: Metal flashing sheet is specified in Section 076200 "Sheet Metal Flashing and Trim."

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 roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 - 2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of 2-layers of deck boards.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- 1. Limit traffic and material storage to areas of existing roofing that have been protected.
 - 2. Maintain temporary protection and leave in place until replacement roofing has been completed. Remove temporary protection on completion of reroofing.
- B. Remove items that will interfere with installation of reroofing.
- C. Seal or isolate windows that may be exposed to airborne substances created in removal of existing materials.
- D. Shut off rooftop utilities and service piping before beginning the Work.
- E. Test existing roof drains to verify that they are not blocked or restricted.
 - 1. Immediately notify Architect of any blockages or restrictions.
- F. Coordinate with Owner to shut down air intake equipment in the vicinity of the Work.
 - 1. Cover air intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.

- G. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- H. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday.
 - 1. Prevent debris from entering or blocking roof drains and conductors.
 - a. Use roof-drain plugs specifically designed for this purpose.
 - b. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
 - 2. If roof drains will be temporarily blocked or unserviceable due to roofing system removal or partial installation of new membrane roofing system, provide alternative drainage method to remove water and eliminate ponding.
 - a. Do not permit water to enter into or under existing membrane roofing system components that are to remain.
- I. Verify that rooftop utilities and service piping have been shut off before commencing Work.

3.3 ROOF TEAR-OFF

- A. Notify Owner each day of extent of roof tear-off proposed for that day[and obtain authorization to proceed.
- B. Lower removed roofing materials to ground and onto lower roof levels, using dust-tight chutes or other acceptable means of removing materials from roof areas.
- C. Full Roof Tear-off: Remove existing roofing membrane and other membrane roofing system components down to the existing roof deck.
 - 1. Remove [cover boards, roof insulation, and substrate boards.
 - 2. Remove base flashings and counter flashings.
 - 3. Remove perimeter edge flashing and gravel stops.
 - 4. Remove copings.
 - 5. Remove expansion-joint covers.
 - 6. Remove flashings at pipes, curbs, mechanical equipment, and other penetrations.
 - 7. Remove roof drains indicated on Drawings to be removed.
 - 8. Remove wood blocking, curbs, and nailers.
 - 9. Remove fasteners from deck.

3.4 DECK PREPARATION

- A. Inspect deck after tear-off of membrane roofing system.

- B. If broken or loose fasteners that secure deck panels to one another or to structure are observed, or if deck appears or feels inadequately attached, immediately notify Architect.
- C. If deck surface is unsuitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Architect.

3.5 TEMPORARY ROOFING – IF REQUIRED

- A. Install substrate board to steel decking with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.
 - 1. Fasten substrate board to top flanges of steel deck to resist uplift pressure at corners, perimeter, and field of roof according to roofing system manufacturers' written instructions.
- B. Complete terminations and base flashings, and provide temporary seals to prevent water from entering completed sections of temporary roofing system at the end of the workday or when rain is forecast.
 - 1. Remove and discard temporary seals before beginning work on adjoining roofing.
- C. Install temporary roof membrane and auxiliary materials to tie in to existing roofing to maintain weathertightness of transition
- D. Remove temporary roofing membrane before installing new roofing membrane.

3.6 BASE FLASHING REMOVAL

- A. Remove existing base flashings around parapets, curbs, walls, and penetrations.
 - 1. Clean substrates of contaminants such as asphalt, sheet materials, dirt, and debris.

3.7 COVER BOARD INSTALLATION

- A. Install cover boards with long joints in continuous straight lines and end joints staggered between rows. Loosely butt cover boards together and anchor as follows:
 - 1. Fasten to deck utilizing fastener screws, with washer flanges, which are sized to extend into the roof substrate. Space fasteners according to cover board manufacturer's written recommendations to securely fasten panels to deck.
 - a. Fasten cover boards to resist wind-uplift pressure at corners, perimeter, and field of roof specified in Division 07 Section 075423 - Thermoplastic Polyolefin (TPO) Roofing Install additional fasteners near board corners

and edges as necessary to conform boards to substrate and to adjacent boards.

- B. Tape joints of cover boards if required by membrane roofing system manufacturer.

3.8 DISPOSAL

- A. Collect and place demolished materials in containers.
 - 1. Promptly dispose of demolished materials.
 - 2. Do not allow demolished materials to accumulate on-site.
 - 3. Storage or sale of demolished items or materials on-site will not be permitted.
- B. Transport and legally dispose of demolished materials off Owner's property.

END OF SECTION 070150.19

SECTION 075423 - THERMOPLASTIC POLYOLEFIN (TPO) ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Adhered thermoplastic polyolefin (TPO) roofing system.
 - 2. Substrate board.

- B. Related Requirements:

- 1. Division 06 Section "Rough Carpentry" for wood nailers, curbs, and blocking.
 - 2. Division 07 Section "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.
 - 3. Division 07 Section "Roof Specialties" for manufactured copings and roof edge flashings.
 - 4. Division 07 Section "Manufactured Roof Expansion Joints" for manufactured roof expansion-joint assemblies.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D1079 and glossary in NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" apply to Work of this Section.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Roofing Conference: Conduct conference at Project site.

- 1. Meet with Owner, Architect, Owner's insurer if applicable, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.

3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:
 1. Base flashings and membrane termination details.
 2. Roof plan showing orientation of steel roof deck and orientation of membrane roofing.
 3. Substrate fastening patterns for corner, perimeter, and field-of-roof locations.
- C. Samples for Verification: For the following products:
 1. Roof membrane
 2. Flashings and metal edges painted to match color selected by Architect from manufacturers color palette.
- D. Wind Uplift Resistance Submittal: For roofing system, indicating compliance with wind uplift performance requirements.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.

B. 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.

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

D. Evaluation Reports: For components of roofing system, from ICC-ES.

E. Field quality-control reports.

1. Inspection Reports: Weekly reports of from roofing contractor, including weather conditions, description of work performed, defective work observed, and corrective actions taken to correct defective work.

F. Sample Warranties: For manufacturer's special warranties.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

1.8 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is UL listed or listed in SPRI's Directory of Roof Assemblies, for membrane roofing system identical to that used for this Project.
- B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by membrane roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.10 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.11 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. Special warranty includes roof membrane, base flashings, fasteners, substrate board, and all other applicable components of roofing system.
 - 2. Warranty wind speed coverage shall be peak gusts of 90 miles per hour, as measured at 30 feet above ground level.
 - 3. No Dollar Limit (NDL) Warranty Period: 30 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Obtain components for roofing system from roof membrane manufacturer or manufacturers approved by roof membrane manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing system and flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure

due to defective manufacture, fabrication, installation, or other defects in construction. Roof system and flashings shall remain watertight.

1. Accelerated Weathering: Roof membrane shall withstand 2000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.
 2. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D3746, ASTM D4272, or the "Resistance to Foot Traffic Test" in FM Approvals 4470.
- B. 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.
- C. Wind Uplift Resistance: Design roofing system to resist the following wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897:
1. Zone 1 (Roof Area Field): 40.9 lb./sq ft.
 2. Zone 2 (Roof Area Perimeter): 68.4 lb./sq ft.
 - a. Location: From roof edge to 10'-0" inside roof edge.
 3. Zone 3 (Roof Area Corners): 103.1 lb./sq ft.
 - a. Location: 10'-0" in each direction from each building corner.
- D. Roof Edge Design: Comply with requirements of ANSI/SPRI ES-1.
- E. Exterior Fire-Test Exposure: ASTM E108 or UL 790, Class B for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

2.3 THERMOPLASTIC POLYOLEFIN (TPO) ROOFING SYSTEM

- A. TPO Sheet: ASTM D6878/D6878M, internally fabric- or scrim-reinforced, Fleece-backed TPO sheet.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Carlisle Roofing Systems, Inc.
 - b. Holcim Solutions and Products US, LLC (Elevate Roofing Systems)
 - c. Tremco Roofing TPA
 2. Thickness: 115 mils, nominal.
 3. Exposed Face Color: White

2.4 ACCESSORY ROOFING MATERIALS

- A. General: Accessory materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.
 - 1. Adhesive and Sealants: Comply with VOC limits of authorities having jurisdiction.
- B. Sheet Flashing: Manufacturer's standard unreinforced TPO sheet flashing, 55 mils thick, minimum, of same color as TPO sheet.
- C. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.
- D. Bonding Adhesive: Manufacturer's standard - Flashings.
- E. Metal Termination Bars: Manufacturer's standard, predrilled stainless steel or aluminum bars, approximately 1 by 1/8 inch thick; with anchors.
- F. Fasteners: Fleeceback membrane adhesive – Carlisle Flexible Fast Low-Rise Foam Adhesive.
- 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.

2.5 SUBSTRATE BOARD

- A. Substrate Board: ASTM C1177/C1177M, glass-mat, water-resistant gypsum substrate, 5/8" inch thick (2 layers minimum).
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Securock Gypsum – Fober Board (B.O.D.).
 - b. Georgia-Pacific Corporation; Dens Deck Prime (Alternate).
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening substrate panel to roof deck.

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 roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 - 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 - 3. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Division 05 Section "Steel Deck."
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

3.3 INSTALLATION OF ROOFING, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions, SPRI's Directory of Roof Assemblies listed roof 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 INSTALLATION OF ADHERED ROOF MEMBRANE

- A. Adhere 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.
 - 1. Do not crease field membrane.

- C. Start installation of roofing in presence of roofing system manufacturer's technical personnel.
- D. Accurately align roof membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- E. Bonding Adhesive: Apply to substrate and underside of membrane roofing at rate required by manufacturer and allow to partially dry before installing membrane roofing. Do not apply to splice area of membrane roofing.
 - 1. Roll membrane with weighted garden roller to achieve 100-percent bonding.
- F. Fabric-Backed Roof Membrane Adhesive: Apply to substrate at rate required by manufacturer in accordance with windup-lift requirements.
- G. In addition to adhering, mechanically fasten membrane roofing securely at terminations, penetrations, and perimeter of roofing.
- H. Apply roof membrane with side laps shingled with slope of roof deck where possible.
- 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. Apply water cut-cutoff mastic at drain flange at roof drains and securely seal membrane roofing in place with clamping ring.

3.5 INSTALLATION OF BASE FLASHING

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
 - 1. Hot-air weld flashing laps and field laps on same day as installation.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to flash off per manufacturer's specifications. 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 and according to manufacturer's written instructions.

3.6 FIELD QUALITY CONTROL

- A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion, in presence of Architect, and to prepare inspection report.
- B. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.
- C. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.7 PROTECTING AND CLEANING

- A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
 - 1. Provide 1/2-inch-thick plywood walk boards on 1-inch thick expanded polystyrene in areas of heavy traffic and take other measures necessary to prevent damage to roofing system.
- B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements; repair substrates; and repair or reinstall membrane 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 075423

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Formed low-slope roof sheet metal fabrications.
 - 2. Formed roof-edge fascia.
 - 3. Formed wall sheet metal fabrications.
 - 4. Formed equipment support flashing.
- B. Related Requirements:
 - 1. Division 06 Section "Rough Carpentry" for wood nailers, curbs, and blocking.
 - 2. Division 07 roofing Sections for installation of sheet metal flashing and trim integral with roofing.
 - 3. Division 07 Section "Roof Specialties" for manufactured roof specialties not part of sheet metal flashing and trim.
 - 4. Division 07 Section "Roof Accessories" for set-on-type curbs, equipment supports, roof hatches, vents, and other manufactured roof accessory units.
 - 5. Division 07 Section "Manufactured Roof Expansion Joints" for manufactured roof expansion joint covers.

1.3 COORDINATION

- A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.
- B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leakproof, secure, and noncorrosive installation.
- C. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review construction schedule. Verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 2. Review special roof details, roof drainage, roof-penetration flashing, equipment curbs, and condition of other construction that affect sheet metal flashing and trim.

3. Review requirements for insurance and certificates if applicable.
4. Review sheet metal flashing observation and repair procedures after flashing installation.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.

B. Shop Drawings: For sheet metal flashing and trim.

1. Include plans, elevations, sections, and attachment details.
2. Detail fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled Work.
3. Include identification of material, thickness, weight, and finish for each item and location in Project.
4. Include details for forming, including profiles, shapes, seams, and dimensions.
5. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
6. Include details of termination points and assemblies.
7. Include details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction from fixed points.
8. Include details of roof-penetration flashing.
9. Include details of edge conditions, including eaves, ridges, valleys, rakes, crickets, flashings, and counterflashings.
10. Include details of special conditions.
11. Include details of connections to adjoining work.
12. Detail formed flashing and trim at scale of not less than 3 inches per 12 inches.

C. Samples for Initial Selection: For each type of sheet metal and accessory indicated with factory-applied finishes.

D. Samples for Verification: For each type of exposed finish.

1. Sheet Metal Flashing: 12 inches long by actual width of unit, including finished seam and in required profile. Include fasteners, cleats, clips, closures, and other attachments.
2. Trim, Metal Closures, Expansion Joints, Joint Intersections, and Miscellaneous Fabrications: 12 inches long and in required profile. Include fasteners and other exposed accessories.
3. Unit-Type Accessories and Miscellaneous Materials: Full-size Sample.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For fabricator.

- B. Product Certificates: For each type of coping and roof-edge flashing that is ANSI/SPRI/FM 4435/ES-1 tested.
- C. Product Test Reports: For each product, for tests performed by a qualified testing agency.
- D. Evaluation Reports: For coping and roof-edge flashing, from ICC-ES showing compliance with ANSI/SPRI/FM 4435/ES-1.
- E. Sample Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For sheet metal flashing, trim, and accessories to include in maintenance manuals.
- B. Special warranty.

1.7 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
 - 1. For coping and roof-edge flashing that are ANSI/SPRI/FM 4435/ES-1 tested, shop shall be listed as able to fabricate required details as tested and approved.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage.
 - 1. Store sheet metal flashing and trim materials away from uncured concrete and masonry.
 - 2. Protect stored sheet metal flashing and trim from contact with water.
- B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

1.9 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Delta E units when tested in accordance with ASTM D2244.
 - b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Sheet metal flashing and trim assemblies, including cleats, anchors, and fasteners, shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual: Architectural Metal Flashing, Condensation and Air Leakage Control, and Reroofing" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. SPRI Wind Design Standard: Manufacture and install copings and roof-edge flashings tested in accordance with ANSI/SPRI/FM 4435/ES-1 and capable of resisting the following design pressure:
 - 1. Design Pressure:
 - a. Basic Wind Speed: 90 mph.
 - b. Design Pressure, Field: 54.1 psf
 - c. Design Pressure, Perimeter: 90.5 psf.
 - d. Design Pressure, Corners: 136.5 psf.
 - 2. Contractor Options: Provide roof-edge flashings and copings complying with one of the following:
 - a. Shop-fabricated roof-edge flashings and copings complying with an NRCA-certified ANSI/SPRI ES-1 compliant design.

- b. Shop-fabricated roof-edge flashings and copings tested for compliance with ANSI/SPRI ES-1, as evidenced by reports based on mockup testing by qualified testing agency acceptable to Architect.
 - c. Factory-fabricated roof-edge flashings and copings tested for compliance with ANSI/SPRI ES-1.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 SHEET METALS

- A. Protect mechanical and other finishes on exposed surfaces from damage by applying a strippable, temporary protective film before shipping.
- B. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet according to ASTM A653/A653M, G90 coating designation; prepainted by the coil-coating process to comply with ASTM A755/A755M.
 - 1. Surface: Smooth, flat.
 - 2. Exposed Coil-Coated Finish:
 - a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - b. Color: As selected by Architect from manufacturer's standard full range
 - 3. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with minimum total dry film thickness of 0.5 mil.

2.3 UNDERLAYMENT MATERIALS

- A. Felt: ASTM D226/D226M, Type II (No. 30), asphalt-saturated organic felt; nonperforated.
- B. Slip Sheet: Rosin-sized building paper, 3 lb/100 sq. ft. minimum.

2.4 MISCELLANEOUS MATERIALS

- A. Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet

metal flashing and trim installation and recommended by manufacturer of primary sheet metal unless otherwise indicated.

- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
 - 1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating.
 - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
 - 2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
 - 3. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.
 - 4. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Series 300 stainless steel or hot-dip galvanized steel in accordance with ASTM A153/A153M or ASTM F2329.
- C. Solder:
 - 1. For Stainless Steel: ASTM B32, Grade Sn60, with an acid flux of type recommended by stainless-steel sheet manufacturer.
- D. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
- E. Elastomeric Sealant: ASTM C920, elastomeric silicone polymer sealant; low modulus; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

2.5 FABRICATION, GENERAL

- A. Custom fabricate sheet metal flashing and trim to comply with details indicated and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required.
 - 1. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
 - 2. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
 - 3. Verify shapes and dimensions of surfaces to be covered and obtain field measurements for accurate fit before shop fabrication.
 - 4. Form sheet metal flashing and trim to fit substrates without excessive oil-canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.

5. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.

B. Fabrication Tolerances:

1. Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

C. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant.

D. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.

1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
2. Use lapped expansion joints only where indicated on Drawings.

E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

F. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard for application, but not less than thickness of metal being secured.

G. Seams for Galvanized- or Stainless-Steel Sheet: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.

H. Do not use graphite pencils to mark metal surfaces.

2.6 ROOF DRAINAGE SHEET METAL FABRICATIONS

A. Hanging Gutters:

1. Fabricate to cross section indicated, complete with end pieces, outlet tubes, and other accessories as required.
2. Fabricate in minimum 96-inch- long sections.
3. Furnish flat-stock gutter spacers and gutter brackets fabricated from same metal as gutters, of size recommended by SMACNA but not less than twice the gutter thickness.
4. Fabricate expansion joints, expansion-joint covers, and gutter accessories from same metal as gutters.

B. Gutter Profile: Box Style.

C. Expansion Joints: Lap type.

- D. Gutters with Girth up to 15 Inches: Fabricate from the following materials:
1. Aluminum: 0.032 inch thick.
 2. Galvanized Steel: 0.022 inch thick.
 3. Color: Match As selected by Architect from manufacturer's standard full range.
- E. Downspouts: Fabricate round downspouts to not less than 5 inches in diameter complete with mitered elbows. Furnish with metal hangers, from same material as downspouts, and anchors.
1. Hanger Style: U-shaped.
 2. Fabricated from the following materials:
 - a. Galvanized Steel: 0.022 inch thick.
 3. [Color: Match As selected by Architect from manufacturer's standard full range.

2.7 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Roof Edge Flashing Gravel Stop and Exposed Trim: Fabricate in minimum 96-inch-long, but not exceeding 12-foot- long sections. Furnish with 6-inch- wide, joint cover plates. Shop fabricate interior and exterior corners.
1. Joint Style: Butt, with 6-inch-wide, concealed back up plate
 2. Wind-Restraint Cleat: Provide continuous cleat to be installed before roof edge flashing to prevent wind uplift of roof edge flashing's lower edge.
 3. Fabricate from the following materials:
 - a. Galvanized Steel: 0.028 inch thick.
 4. Color: Match As selected by Architect from manufacturer's standard full range.
- B. Copings: Fabricate in minimum 96-inch- long, but not exceeding 12-foot- long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and drill elongated holes for fasteners on interior leg. Miter corners, seal, and solder or weld watertight. Shop fabricate interior and exterior corners.
1. Coping Profile: As indicated.
 2. Joint Style: Butt, with 6-inch-wide, concealed back up plate
 3. Fabricate from the following materials:
 - a. Galvanized Steel: 0.040 inch thick.
 4. Color: Match As selected by Architect from manufacturer's standard full range.
 5. Coping Wind-Restraint Cleats and Clips: Provide continuous cleats at exposed face to be installed before coping to prevent wind uplift of coping's lower edge.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of the Work.
 - 1. Verify compliance with requirements for installation tolerances of substrates.
 - 2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
 - 3. Verify that air- or water-resistant barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF UNDERLAYMENT

- A. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim.
 - 1. Install in shingle fashion to shed water.
 - 2. Lap joints not less than 2 inches.

3.3 INSTALLATION, GENERAL

- A. Install sheet metal flashing and trim to comply with details indicated and recommendations of cited sheet metal standard that apply to installation characteristics required unless otherwise indicated on Drawings.
 - 1. Install fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 2. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
 - 3. Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 4. Install sheet metal flashing and trim to fit substrates and to result in watertight performance.
 - 5. Install continuous cleats with fasteners spaced not more than 12 inches o.c.
 - 6. Space individual cleats not more than 12 inches apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
 - 7. Install exposed sheet metal flashing and trim with limited oil-canning, and free of buckling and tool marks.
 - 8. Do not field cut sheet metal flashing and trim by torch.
 - 9. Do not use graphite pencils to mark metal surfaces.

- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
 - 1. Coat back side of stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.
 - 2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim.
 - 1. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.
 - 2. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.
 - 3. Use lapped expansion provisions only where indicated on Drawings.
- D. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.
- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction.
 - 1. Use sealant-filled joints unless otherwise indicated.
 - a. Embed hooked flanges of joint members not less than 1 inch into sealant.
 - b. Form joints to completely conceal sealant.
 - c. When ambient temperature at time of installation is between 40 and 70 deg F, set joint members for 50 percent movement each way.
 - d. Adjust setting proportionately for installation at higher ambient temperatures.
 - 1) Do not install sealant-type joints at temperatures below 40 deg F.
 - 2. Prepare joints and apply sealants to comply with requirements in Division 07 Section "Joint Sealants."
 - 3. Stainless-Steel Soldering:
 - a. Tin edges of uncoated sheets using solder recommended for stainless steel and acid flux.
 - b. Promptly remove acid flux residue from metal after tinning and soldering.
 - c. Comply with solder manufacturer's recommended methods for cleaning and neutralization.

3.4 INSTALLATION OF ROOF-DRAINAGE SYSTEM

- A. Install sheet metal roof-drainage items to produce complete roof-drainage system in accordance with cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.
- B. Hanging Gutters:
 - 1. Join sections with riveted and soldered joints or with lapped joints sealed with sealant.
 - 2. Provide for thermal expansion.
 - 3. Attach gutters at eave or fascia to firmly anchored gutter brackets spaced not more than 36 inches apart.
 - 4. Provide end closures and seal watertight with sealant.
 - 5. Slope to downspouts.
 - 6. Fasten gutter spacers to front and back of gutter.
 - 7. Anchor and loosely lock back edge of gutter to continuous cleat, eave, or apron flashing.
 - 8. Install gutter with expansion joints at locations indicated on Drawings, but not exceeding, 50 feet apart. Install expansion-joint caps.
- C. Downspouts:
 - 1. Join sections with 1-1/2-inch telescoping joints.
 - 2. Provide hangers with fasteners designed to hold downspouts securely to walls.
 - 3. Locate hangers at top and bottom and at approximately 60 inches o.c.
 - 4. Connect downspouts to underground drainage system where indicated.
- D. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated on Drawings. Lap joints minimum of 4 inches in direction of water flow.

3.5 INSTALLATION OF ROOF FLASHINGS

- A. Install sheet metal flashing and trim to comply with performance requirements indicated, sheet metal manufacturer's written installation instructions, and cited sheet metal standard.
 - 1. Provide concealed fasteners where possible, set units true to line, and level as indicated.
 - 2. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
- B. Roof Edge Flashing:
 - 1. Install roof edge flashings according to ANSI/SPRI/FM 4435/ES-1.
- C. Copings:
 - 1. Install copings according to ANSI/SPRI/FM 4435/ES-1.

2. Anchor to resist uplift and outward forces in accordance with recommendations in FM Global Property Loss Prevention Data Sheet 1-49 for specified FM Approvals' listing for required windstorm classification.
- D. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending minimum of 4 inches over base flashing. Install stainless steel draw band and tighten.
- E. Counterflashing: Coordinate installation of counterflashing with installation of base flashing.
 1. Insert counterflashing in reglets or receivers and fit tightly to base flashing.
 2. Extend counterflashing 4 inches over base flashing.
 3. Lap counterflashing joints minimum of 4 inches.
 4. Secure in a waterproof manner by means of anchor and washer at 36 inch centers.
- F. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric or butyl sealant and clamp flashing to pipes that penetrate roof.

3.6 INSTALLATION OF MISCELLANEOUS FLASHING

- A. Equipment Support Flashing:
 1. Coordinate installation of equipment support flashing with installation of roofing and equipment.
 2. Weld or seal flashing with elastomeric sealant to equipment support member.

3.7 INSTALLATION TOLERANCES

- A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.8 CLEANING

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean off excess sealants.

3.9 PROTECTION

- A. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.
- B. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended in writing by sheet metal flashing and trim manufacturer.
- C. Maintain sheet metal flashing and trim in clean condition during construction.
- D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures, as determined by Architect.

END OF SECTION 076200

SECTION 077100 - ROOF SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Copings.
 - 2. Roof-edge specialties.
 - 3. Roof edge drainage systems.

- B. Related Requirements:

- 1. Division 06 Section "Rough Carpentry" for wood nailers, curbs, and blocking.
 - 2. Division 07 Section "Sheet Metal Flashing and Trim" for custom- and site-fabricated sheet metal flashing and trim.
 - 3. Division 07 Section "Manufactured Roof Expansion Joints" for manufactured roof expansion-joint cover assemblies.
 - 4. Division 07 Section "Roof Accessories" for set-on-type curbs, equipment supports, roof hatches, vents, and other manufactured roof accessory units.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

- 1. Meet with Owner, Architect, Owner's insurer if applicable, Installer, and installers whose work interfaces with or affects roof specialties including installers of roofing materials and accessories.
 - 2. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
 - 3. Review special roof details, roof drainage, and condition of other construction that will affect roof specialties.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product specified. Include details of construction relative to materials, dimensions of individual components, profiles, and finishes.

- B. Shop Drawings: For roof specialties. Include plans, elevations, expansion-joint locations, keyed details, and attachments to other work. Distinguish between plant- and field-assembled work. Include the following:
 - 1. Details for expansion and contraction; locations of expansion joints, including direction of expansion and contraction.
 - 2. Pattern of seams and layout of fasteners, cleats, clips, and other attachments.
 - 3. Details of termination points and assemblies, including fixed points.
 - 4. Details of special conditions.
- C. Samples for Initial Selection: For each type of roof specialty indicated with factory-applied color finishes.
- D. Samples for Verification: For copings, roof-edge specialties, and roof-edge drainage systems made from 12-inch lengths of full-size components including fasteners, cover joints, accessories, and attachments.

1.5 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for copings and roof-edge flashings.
- B. Warranty: Sample of special warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing specialties to include in maintenance manuals.

1.7 QUALITY ASSURANCE

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Do not store roof specialties in contact with other materials that might cause staining, denting, or other surface damage. Store roof specialties away from uncured concrete and masonry.
- B. Protect strippable protective covering on roof specialties from exposure to sunlight and high humidity, except to extent necessary for the period of roof specialties installation.

1.9 WARRANTY

- A. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace manufactured roof specialties that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide products by Metal-Era, Inc., or comparable products by one of the following:
 - 1. Cheney Flashing Company.
 - 2. Hickman Company, W. P.
 - 3. MM Systems Corporation.
 - 4. Petersen Aluminum Corporation.
- B. Source Limitations: Obtain each type of manufactured roof specialty from one source and by a single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Roof specialties shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.
- B. SPRI Wind Design Standard: Manufacture and install copings and roof-edge specialties tested according to SPRI ES-1 and capable of resisting the following design pressures:
 - 1. Design Pressure:
 - a. Basic Wind Speed: 120 mph.
 - b. Design Pressure, Field: 54.1 psf.
 - c. Design Pressure, Perimeter: 90.5 psf.

d. Design Pressure, Corners: 136.4 psf.

C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

2.3 COPINGS

A. Metal Copings: Manufactured coping system consisting of formed-metal coping cap in section lengths not exceeding 12 feet, concealed anchorage; corner units, end cap units, and concealed splice plates with same finish as coping caps.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Metal-Era, Inc.; Perma-Tite Coping, 6" to 12" Face Height, Masonry Attached Tapered Version, or a comparable product by another listed manufacturer.

2. Formed Aluminum Sheet Coping-Caps: Aluminum sheet, 0.063 inch thick.

a. Surface: Smooth, flat finish.

b. Finish: Two-coat fluoropolymer.

c. Color: Match As selected by Architect from manufacturer's standard full range..

3. Corners: Factory mitered and mechanically clinched and sealed watertight.

4. Coping-Cap Attachment Method: Snap-on, fabricated from coping-cap material.

a. Snap-on-Coping Anchor Plates: Concealed, galvanized-steel sheet, 12 inches wide, with integral cleats.

2.4 ROOF-EDGE DRAINAGE SYSTEMS

A. Gutters: Manufactured in uniform section lengths not exceeding 12 feet, with matching corner units, ends, outlet tubes, and other accessories. Elevate back edge at least 1 inch above front edge. Furnish flat-stock gutter straps, gutter brackets, expansion joints, and expansion-joint covers fabricated from same metal as gutters.

1. Fabricate gutter from the following exposed metal:

a. Formed Aluminum: 0.040 inch thick.

2. Gutter Style: As indicated: Box Style.

3. Corners: Factory mitered and mechanically clinched and sealed watertight.

4. Gutter Supports: Straps with finish matching the gutters.
- B. Downspouts: Plain rectangular complete with mitered elbows, manufactured from the following exposed metal. Furnish with metal hangers, from same material as downspouts, and anchors.
 1. Formed Aluminum: 0.050 inch thick.
- C. Aluminum Finish: Two-coat fluoropolymer.
 1. Color: As selected by Architect from manufacturer's full range.

2.5 MATERIALS

- A. Aluminum Sheet: ASTM B209, alloy as standard with manufacturer for finish required, with temper to suit forming operations and performance required.
- B. Aluminum Extrusions: ASTM B221, alloy and temper recommended by manufacturer for type of use and finish indicated, finished as follows:

2.6 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, protective coatings, separators, sealants, and other miscellaneous items required by manufacturer for a complete installation.
- B. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to meet performance requirements. Furnish the following unless otherwise indicated:
 1. Exposed Penetrating Fasteners: Gasketed screws with hex washer heads matching color of sheet metal.
 2. Fasteners for Aluminum: Aluminum or Series 300 stainless steel.
 3. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Series 300 stainless steel or hot-dip zinc-coated steel according to ASTM A153 or ASTM F2329.
- C. Elastomeric Sealant: ASTM C920, elastomeric silicone polymer sealant of type, grade, class, and use classifications required by roofing-specialty manufacturer for each application.
- D. Butyl Sealant: ASTM C1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
- E. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D1187.
- F. Asphalt Roofing Cement: ASTM D4586, asbestos free, of consistency required for application.

2.7 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipment.
- C. 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 the 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.
- D. Coil-Coated Aluminum Sheet Finishes:
 - 1. High-Performance Organic Finish: Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - a. Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - 2. Concealed Surface Finish: Apply pretreatment and manufacturer's standard acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of Work.
- B. Examine walls, roof edges, and parapets for suitable conditions for manufactured roof specialties.
- C. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. General: Install roof specialties according to manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete roof-specialty systems.
1. Install roof specialties level, plumb, true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
 2. Provide uniform, neat seams with minimum exposure of solder and sealant.
 3. Install roof specialties to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
 4. Torch cutting of manufactured roof specialties is not permitted.
 5. Do not use graphite pencils to mark metal surfaces.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
1. Coat concealed side of uncoated aluminum manufactured roof specialties with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
 2. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof specialties for waterproof performance.
- C. Expansion Provisions: Allow for thermal expansion of exposed roof specialties.
1. Space movement joints at a maximum of 12 feet with no unplanned joints within 18 inches of corners or intersections unless otherwise indicated on Drawings.
 2. When ambient temperature at time of installation is between 40 and 70 deg F, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures.
- D. Fastener Size: Use fasteners of type and size recommended by manufacturer but of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.
- E. Seal concealed joints with butyl sealant as required by roofing-specialty manufacturer.
- F. Seal joints as required for weathertight construction. Place sealant to be completely concealed in joint. Do not install sealants at temperatures below 40 deg F.

3.3 INSTALLATION OF COPINGS

- A. Install cleats, anchor plates, and other anchoring and attachment accessories and devices with concealed fasteners.

- B. Anchor copings with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.
 - 1. Interlock face and back leg drip edges of snap-on coping cap into cleated anchor plates anchored to substrate at manufacturer's required spacing that meets performance requirements.

3.4 INSTALLATION OF ROOF-EDGE SPECIALTIES

- A. Install cleats, cants, and other anchoring and attachment accessories and devices with concealed fasteners.
- B. Anchor roof edgings with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.

3.5 INSTALLATION OF ROOF EDGE DRAINAGE SYSTEMS

- A. General: Install components to produce a complete roof-edge drainage system according to manufacturer's written instructions. Coordinate installation of roof perimeter flashing with installation of roof-edge drainage system.
- B. Gutters: Join and seal gutter lengths. Attach gutters to firmly anchored gutter supports spaced not more than 24 inches apart. Attach ends with rivets and seal with sealant to make watertight. Slope gutters to downspouts.
 - 1. Install gutter with expansion joints at locations indicated but not exceeding 50 feet apart. Install expansion joint caps.
- C. Downspouts: Join sections with manufacturer's standard telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls and 1 inch away from walls; locate fasteners at top and bottom and at approximately 60 inches o.c.
 - 1. Connect downspouts to underground drainage system indicated.

3.6 CLEANING AND PROTECTING

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Remove temporary protective coverings and strippable films as roof specialties are installed. On completion of installation, clean finished surfaces including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain roof specialties in a clean condition during construction.

- C. Replace roof specialties that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077100

SECTION 077129 - MANUFACTURED ROOF EXPANSION JOINTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes metal-flanged, bellows-type roof expansion assemblies.
- B. Related Requirements:
 - 1. Division 06 Section "Rough Carpentry" for wooden curbs for mounting roof expansion assemblies.
 - 2. Division 07 Section "Thermoplastic Polyolefin (TPO) Roofing"
 - 3. Division 07 Section "Roof Accessories" for manufactured and prefabricated metal roof curbs.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For roof expansion joints.
 - 1. Include plans, elevations, sections, and attachment details.
 - 2. Include details of splices, intersections, transitions, fittings, method of field assembly, and location and size of each field splice.
 - 3. Provide isometric drawings of intersections, terminations, and changes in joint direction or planes, depicting how components interconnect with each other and adjacent construction to allow movement and achieve waterproof continuity.
- C. Samples: For each exposed product and for each color specified, 6 inches in size.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Sample Warranties: For special warranties.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Installer of roof membrane.

1.7 SCHEDULING

- A. Coordinate delivery and installation of roof expansion assemblies to prevent damage and provide timely integration of units with roofing membranes and flashing.

1.8 WARRANTY

- A. Special Warranty: Manufacturer and Installer agree to repair or replace roof expansion joints and components that leak, deteriorate beyond normal weathering, or otherwise fail in materials or workmanship within specified warranty period.

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

- B. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace roof expansion joints that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:

- a. Color fading more than five Hunter units when tested according to ASTM D2244.
- b. Chalking in excess of a No. 8 rating when tested according to ASTM D4214.
- c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Roof expansion joints shall withstand exposure to weather, remain watertight, and resist the movements indicated without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint seals, failure of connections, and other detrimental effects.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 BELLOWS-TYPE ROOF EXPANSION JOINT

- A. Source Limitations: Obtain bellows-type roof expansion joints approved by roofing membrane manufacturer and that are part of roofing membrane warranty.

- B. Flanged Bellows Roof Expansion Joint: Manufactured, continuous, waterproof, joint-cover assembly, consisting of exposed membrane bellows, laminated to flexible, closed-cell support foam, and secured along each edge to a 3- to 4-inch- wide metal flange for nailing to substrate.

1. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide Johns Manville; a Berkshire Hathaway company; Expand-O-Flash, or comparable products by one of the following:

- a. Construction Specialties, Inc.
- b. inpro Corporation.
- c. MM Systems Corporation.

2. Joint Movement Capability: Plus, and minus 50 percent of joint size.

3. Bellows: TPO flexible membrane, nominal 60 mils thick.

- a. Color: White.

4. Flanges: Galvanized steel, 0.022 inch thick.

- a. Form: As indicated on Drawings.

5. Secondary Seal: Continuous, waterproof membrane within joint and attached to substrate on sides of joint below the primary bellows assembly.

- a. Thermal Insulation: Fill space above secondary seal with manufacturer's standard, factory-installed glass-fiber insulation; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E84.

2.3 MATERIALS

- A. Galvanized Steel Sheet: ASTM A653, hot-dip zinc-coating designation G90, stretcher-leveled standard of flatness and either commercial or forming steel, minimum 0.019 inch thick.

- B. Neoprene Membrane: Neoprene sheet recommended by EPDM manufacturer for resistance to hydrocarbons, non-aromatic solvents, grease, and oil; and as standard with roof-expansion-joint manufacturer for application.
- C. TPO Membrane: Type standard with manufacturer for application.
- D. Adhesives: As recommended by roof-expansion-joint manufacturer and that comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- E. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to withstand design loads.
 - 1. Exposed Fasteners: Gasketed. Use screws with hex washer heads matching color of material being fastened.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.
- B. Examine roof-joint openings, inside surfaces of parapets, and expansion-control joint systems that interface with roof expansion joints, for suitable conditions where roof expansion joints will be installed.
- C. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Comply with manufacturer's written instructions for handling and installing roof expansion joints.
 - 1. Anchor roof expansion joints securely in place, with provisions for required movement. Use fasteners, protective coatings, sealants, and miscellaneous items as required to complete roof expansion joints.
 - 2. Install roof expansion joints true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
 - 3. Provide for linear thermal expansion of roof expansion joint materials.
 - 4. Provide uniform profile of roof expansion joint throughout its length; do not stretch or squeeze membranes.
 - 5. Provide uniform, neat seams.

6. Install roof expansion joints to fit substrates and to result in watertight performance.
 7. Torch cutting of roof expansion joints is not permitted.
- B. Directional Changes and Other Expansion-Control Joint Systems: Coordinate installation of roof expansion joints with other expansion-control joint systems to result in watertight performance. Install factory-fabricated units at directional changes and at transitions between roof expansion joints and exterior expansion-control joint systems specified in Section 079500 "Expansion Control" to provide continuous, uninterrupted, and watertight joints.
- C. Splices: Splice roof expansion joints with materials provided by roof-expansion-joint manufacturer for this purpose, to provide continuous, uninterrupted, and waterproof joints.
1. Install waterproof splices and prefabricated end dams to prevent leakage of secondary-seal membrane.

3.3 PROTECTION

- A. Protect roof expansion joints from foot traffic, displacement, or other damage.
- B. Remove and replace roof expansion joints and components that become damaged by moisture or otherwise.

END OF SECTION 077129

SECTION 077200 - ROOF ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Roof curbs.
 - 2. Roof hatches.
 - 3. Prefabricated pipe hanger units.
 - 4. Preformed flashings.

- B. Related Requirements:

- 1. Division 05 Section "Metal Fabrications" for metal vertical ladders, ships' ladders, and stairs for access to roof hatches.
 - 2. Division 06 Section "Rough Carpentry" for roof sheathing, wood cants, and wood nailers.
 - 3. Division 07 Section "Sheet Metal Flashing and Trim" for shop- and field-formed roof curbs.
 - 4. Division 07 Section "Roof Specialties" for manufactured fasciae, copings, gravel stops, gutters and downspouts, and counterflashing.
 - 5. Division 07 Section "Manufactured Roof Expansion Joints" for manufactured roof expansion-joint covers.

1.3 COORDINATION

- A. Coordinate layout and installation of roof accessories with roofing membrane and base flashing and interfacing and adjoining construction to provide a leakproof, weathertight, secure, and noncorrosive installation.
 - 1. With Architect's approval, adjust location of roof accessories that would interrupt roof drainage routes.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, materials, dimensions of individual components and profiles, and finishes.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Pack, handle, and ship roof accessories properly labeled in heavy-duty packaging to prevent damage.

1.6 FIELD CONDITIONS

- A. Field Measurements: Verify required openings for each type of roof accessory by field measurements before fabrication and indicate measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General Performance: Roof accessories shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

2.2 ROOF HATCHES

- A. Roof Hatches: Metal roof-hatch units with lids and insulated single-walled curbs, welded or mechanically fastened and sealed corner joints, continuous lid-to-curb counterflashing and weathertight perimeter gasketing, straight sides, and integrally formed deck-mounting flange at perimeter bottom.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide BILCO Company (The); S-50TB Thermally Broken Roof Hatch, or a comparable product by one of the following:
 - a. ACUDOR Products, Inc.
 - b. Babcock-Davis.
 - c. J. L. Industries, Inc.; Activar Construction Products Group, Inc.
 - d. Milcor; Hart & Cooley, Inc.
 - e. O'Keeffe's Inc.
 - f. Pate Company (The).
- B. Type and Size: Single-leaf lid, 30 by 40 inches.

- C. Loads: Minimum 40-lbf/sq ft (1.9-kPa) external live load and 20-lbf/sq ft (0.95-kPa) internal uplift load.
- D. Hatch Material: Zinc-coated (galvanized) steel sheet.
 - 1. Thickness: Manufacturer's standard thickness for hatch size indicated.
 - 2. Hatch Lid: Aluminum.
 - 3. Finish: Baked enamel or powder coat.
 - 4. Color: White.
- E. Construction:
 - 1. Insulation: Minimum 1-inch thick.
 - 2. Nailer: Factory-installed wood nailer continuous around hatch perimeter.
 - 3. Hatch Lid: Opaque, insulated, and double walled, with manufacturer's standard metal liner of same material and finish as outer metal lid.
 - 4. Fabricate curbs to minimum height of 12 inches (305 mm) above roofing surface unless otherwise indicated.
 - 5. Hardware: Spring operators, hold-open arm, galvanized steel spring latch with turn handles, galvanized steel butt- or pintle-type hinge system, and padlock hasps inside and outside.
- F. Safety Railing System: Roof-hatch manufacturer's standard system including rails, clamps, fasteners, safety barrier at railing opening, and accessories required for a complete installation; attached to roof hatch and complying with 29 CFR 1910.23 requirements and authorities having jurisdiction.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Bilco Company (The); Bil-Guard 2.0 Hatch Railing System, or equal.
 - 2. Height: 42 inches (1060 mm) above finished roof deck.
 - 3. Posts and Rails: Pultruded, fire-retardant, fiberglass-reinforced polymer material with molded-in, high-visibility, safety yellow color, treated with UV inhibitor.
 - 4. Mounting Brackets: Fabricate from 1/4-inch-thick hot-dip galvanized steel.
 - 5. Self-Latching Gate: Fabricated of same materials and rail spacing as safety railing system. Provide manufacturer's standard hinges and self-latching mechanism.
 - 6. Maximum Opening Size: System constructed to prevent passage of a sphere 21 inches (533 mm) in diameter.
 - 7. Non-penetrating attachment. Hatch rail system attached to roof hatch cap flashing.
 - 8. Provide weep holes or another means to drain entrapped water in hollow sections of handrail and railing members.
 - 9. Fabricate joints exposed to weather to be watertight.
 - 10. Fasteners: Manufacturer's standard, finished to match railing system.
 - 11. Finish: Manufacturer's standard.
 - a. Color: Safety yellow.

2.3 PREFORMED FLASHINGS

- A. Preformed Flashings: Prefabricated, watertight flashing system consisting of the following:
1. Roof Curb: Galvanized roof curb, with integral base plate, continuously welded corner seams, factory-installed wood nailer, and 1-1/2-inch-thick rigid fiberglass insulation..
 2. Curb Cover: Laminated, acrylic coated, ABS plastic curb cover with prepunched holes. molded sealing ring on collared opening for watertight seal with cap.
 3. Curb Cover Cap: Manufacturer's standard design allowing both vertical and horizontal pipe movement without damage, 60 mil EPDM compression molded body with conically shaped steps, molded sealing grooves for watertight seal with curb cover, EPDM adapter rings as required, and stainless steel clamp band. Provide caps designed for multiple pipe penetrations where required. Size pipe boot and adapter ring to match roof penetration.
 4. Pipe Flashing: Manufacturer's standard design allowing both vertical and horizontal pipe movement without damage, 60 mil EPDM compression molded body with conically shaped steps to rubber cap, integral mounting flange, EPDM adapter rings as required, and stainless steel clamp bands. Provide boots designed for multiple pipe penetrations where required. Size pipe boot and adapter ring to match roof penetration.
- B. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide the following:
1. Preformed Retrofit Flashings: Portals Plus; Duravent Group: Small or Large Retrofit Flashings, or equal, complete with adapters as appropriate for penetration being flashed.
 2. Preformed Flashings: Portals Plus; Duravent Group; Pipe Portal System and Pipe Flashings, or equal, compete with adapters as appropriate for penetration being flashed.

2.4 MATERIALS, GENERAL

- A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A653/A653M, G90 coating designation and mill phosphatized for field painting where indicated.
1. Mill-Phosphatized Finish: Manufacturer's standard for field painting.
 2. Baked-Enamel or Powder-Coat Finish: After cleaning and pretreating, apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat to a minimum dry film thickness of 2 mils.
 3. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester-backer finish consisting of prime coat and wash coat, with a minimum total dry film thickness of 0.5 mil.
- B. Glass-Fiber Board Insulation: ASTM C726, nominal density of 3 lb/cu ft, thermal resistivity of 4.3 deg F x h x sq ft/Btu x inch at 75 deg F, thickness as indicated.

- C. Wood Nailers: Softwood lumber, pressure treated with waterborne preservatives for aboveground use, complying with AWWA C2; not less than 1-1/2 inches thick.
- D. Fasteners: Same metal as metals being fastened, or nonmagnetic stainless steel or other noncorrosive metal as recommended by manufacturer. Match finish of exposed fasteners with finish of material being fastened.
- E. Polyethylene Sheet: 6-mil-thick, polyethylene sheet complying with ASTM D4397.
- F. Gaskets: Manufacturer's standard tubular or fingered design of neoprene, EPDM, or PVC; or flat design of foam rubber, sponge neoprene, or cork.
- G. Bituminous Coating: Cold-applied asphalt mastic SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.
- H. Mastic Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.
- I. Elastomeric Sealant: Generic type recommended by unit manufacturer that is compatible with joint surfaces; ASTM C920, Type S, Grade NS, Class 25, and Uses NT, G, A, and, as applicable to joint substrates indicated, O.
- J. Roofing Cement: ASTM D4586, nonasbestos, fibrated asphalt cement designed for trowel application or other adhesive compatible with roofing system.

2.5 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. 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 the same piece are not acceptable. 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.

2.6 GALVANIZED STEEL SHEET FINISHES

- A. Surface Preparation: Clean surfaces with nonpetroleum solvent so surfaces are free of oil and other contaminants. After cleaning, apply a conversion coating suited to the organic coating to be applied over it. Clean welds, mechanical connections, and abraded areas, and apply galvanizing repair paint specified below to comply with ASTM A780.
 - 1. Galvanizing Repair Paint: High-zinc-dust-content paint for regalvanizing welds in steel, complying with SSPC-Paint 20.
- B. Baked-Enamel Finish: Immediately after cleaning and pretreating, apply manufacturer's standard two-coat, baked-enamel finish consisting of prime coat and thermosetting topcoat, with a minimum dry film thickness of 1 mil for topcoat. Comply with paint manufacturer's written instructions for applying and baking to achieve a minimum dry film thickness of 2 mils.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of work.
- B. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored and is ready to receive roof accessories.
- C. Verify dimensions of roof openings for roof accessories.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install roof accessories according to manufacturer's written instructions.
 - 1. Install roof accessories level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil canning, buckling, or tool marks.
 - 2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
 - 3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
 - 4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.

- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
 - 1. Underlayment: Where installing exposed-to-view components of roof accessories directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet, or install a course of polyethylene underlayment.
 - 2. Bed flanges in thick coat of asphalt roofing cement where required by roof accessory manufacturers for waterproof performance.
- C. Roof Curb Installation: Install each roof curb so top surface is level.
- D. Equipment Support Installation: Install equipment supports so top surfaces are level with each other.
- E. Roof Hatch Installation:
 - 1. Install roof hatch so top surface of hatch curb is level.
 - 2. Verify that roof hatch operates properly. Clean, lubricate, and adjust operating mechanism and hardware.
 - 3. Hatch Railing System: Install according to manufacturer's written instructions. Adjust operating mechanism for proper operation. Clean and lubricate hardware.
- F. Preformed Flashing Installation: Secure to roof membrane according to preformed flashing manufacturer's written instructions.
- G. Preformed Retrofit Flashings: Provide EPDM retrofit flashings, designed for existing penetrations that cannot be disconnected. Retrofit flashings shall have an integral tongue and groove, plus an overlapping flap, fastened with stainless steel hardware. Provide small (for 1 to 3 inch diameter round projections) or large (for 3-1/2 to 6 inch diameter round projections) retrofit flashings as required. For non-round projections, provide adapter rings designed to fit retrofit flashing.
- H. Seal joints with elastomeric sealant as required by preformed flashing manufacturer.

3.3 REPAIR AND CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A780.
- B. Touch up factory-painted surfaces with compatible paint according to Section 09 Section "Painting."
- C. Clean exposed surfaces according to manufacturer's written instructions.
- D. Clean off excess sealants.

- E. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077200

SECTION 099600 - HIGH-PERFORMANCE COATINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes surface preparation and the application of high-performance coating systems.
- B. Related Requirements:
 - 1. Section 051200 "Structural Steel Framing" for shop priming of structural steel with primers specified in this Section.

1.3 DEFINITIONS

- A. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- B. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- C. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
 - 1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
- B. Samples for Initial Selection: For each type of topcoat product indicated.
- C. Samples for Verification: For each type of coating system and each color and gloss of topcoat indicated.
 - 1. Submit Samples on rigid backing, 8 inches square.
 - 2. Apply coats on Samples in steps to show each coat required for system.
 - 3. Label each coat of each Sample.

4. Label each Sample for location and application area.

- D. Product List: Cross-reference to coating system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish maintenance materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Coatings: 5 percent, but not less than 1 gal. of each material and color applied.

1.6 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each coating system indicated to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each coating system.

- a. Wall and Ceiling Surfaces: Provide samples of at least 100 sq. ft..
- b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

- a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

- 1. Maintain containers in clean condition, free of foreign materials and residue.
- 2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

- A. Apply coatings only when temperature of surfaces to be coated and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply coatings when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
- C. Do not apply exterior coatings in snow, rain, fog, or mist.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Benjamin Moore & Co.
 - 2. Dulux (formerly ICI Paints); a brand of AkzoNobel.
 - 3. PPG Architectural Coatings.
 - 4. Sherwin-Williams Company (The).
 - 5. Tnemec Inc.

2.2 HIGH-PERFORMANCE COATINGS, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
 - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
 - 3. Products shall be of same manufacturer for each coat in a coating system.
- C. VOC Content: For field applications, verify paints and coatings comply with VOC content limits of authorities having jurisdiction and the following VOC content limits:
 - 1. Flat Paints and Coatings: 50 g/L.
 - 2. Nonflat Paints and Coatings: 50 g/L.
 - 3. Primers, Sealers, and Undercoaters: 100 g/L.
 - 4. Rust-Preventive Coatings: 100 g/L.
 - 5. Zinc-Rich Industrial Maintenance Primers: 100 g/L.
 - 6. Pretreatment Wash Primers: 420 g/L.
 - 7. Floor Coatings: 50 g/L.

8. Shellacs, Clear: 730 g/L.
 9. Shellacs, Pigmented: 550 g/L.
- D. Colors: [As selected by Architect from manufacturer's full range][Match Architect's samples][As indicated [on Drawings][in color schedule]].

2.3 SOURCE QUALITY CONTROL

- A. Testing of Coating Materials: Owner reserves the right to invoke the following procedure:
1. Owner will engage the services of a qualified testing agency to sample coating materials. Contractor will be notified in advance and may be present when samples are taken. If coating materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
 2. Testing agency will perform tests for compliance with product requirements.
 3. Owner may direct Contractor to stop applying coatings if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying coating materials from Project site, pay for testing, and recoat surfaces coated with rejected materials. Contractor will be required to remove rejected materials from previously coated surfaces if, on recoating with complying materials, the two coatings are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- C. Proceed with coating application only after unsatisfactory conditions have been corrected.
1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" and "MPI Maintenance Repainting Manual" applicable to substrates and coating systems indicated.

- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce coating systems indicated.
- D. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer.
- E. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- F. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied coatings.
- G. Aluminum Substrates: Remove loose surface oxidation.

3.3 APPLICATION

- A. Apply high-performance coatings according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."
 - 1. Use applicators and techniques suited for coating and substrate indicated.
 - 2. Coat surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, coat surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Coat backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 - 4. Do not apply coatings over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of the same material are to be applied. Tint undercoats to match color of finish coat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through final coat, apply additional coats until cured film has a uniform coating finish, color, and appearance.

- D. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Produce sharp glass lines and color breaks.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test coatings for dry film thickness.
 - 1. Contractor shall touch up and restore coated surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied coating does not comply with coating manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with coating manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from coating operation. Correct damage to work of other trades by cleaning, repairing, replacing, and recoating, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

3.6 EXTERIOR HIGH-PERFORMANCE COATING SCHEDULE

- A. Galvanized-Metal Substrates:
 - 1. Pigmented Polyurethane over Epoxy Primer System MPI EXT 5.3L:
 - a. Prime Coat: Primer, epoxy, anti-corrosive, for metal, MPI #101.
 - 1) Sherwin Williams; Kem Bond HS Universal Metal Primer.
 - b. Intermediate Coat: Polyurethane, two component, pigmented, gloss matching topcoat.
 - c. Topcoat: Polyurethane, two component, pigmented, gloss (MPI Gloss Level 6), MPI #72.

- 1) Sherwin Williams; Polane 8890 Polyurethane Enamel.

END OF SECTION 099600

SECTION 221423 – STORM DRAINAGE PIPING SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions and Division 01 Specification Sections apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Metal roof drains.

- B. Related Requirements:

- 1. Section 076200 "Sheet Metal Flashing and Trim" for penetrations of roofs.
 - 2. Section 078413 "Penetration Firestopping" for firestopping roof penetrations.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 QUALITY ASSURANCE

- A. Drainage piping specialties shall bear label, stamp, or other markings of specified testing agency.

PART 2 - PRODUCTS

2.1 METAL ROOF DRAINS

- A. Cast-Iron, Large-Sump, General-Purpose Roof Drains:

- 1. Acceptable Manufacturers:
 - a. Mifab, Model R1200.
 - b. J.R. Smith.
 - c. Zurn.
 - d. Watts.
 - e. Wade.
 - f. Josam.
 - 2. Standard: ASME A112.6.4.

3. Body Material: Cast iron.
4. Combination Flashing Ring and Gravel Stop: Required.
5. Outlet: Bottom.
6. Extension Collars: As required to match roof insulation thickness.
7. Underdeck Clamp: Required.
8. Sump Receiver Plate: Required.
9. Dome Material: Cast iron.
10. Water Dam: Not required.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install roof drains at low points of roof areas according to roof membrane manufacturer's written installation instructions.
 1. Install flashing collar or flange of roof drain to prevent leakage between drain and adjoining roofing. Maintain integrity of waterproof membranes where penetrated.
 2. Install expansion joints, if indicated, in roof drain outlets.
 3. Position roof drains for easy access and maintenance.
- B. Install through-penetration firestop assemblies for penetrations of fire- and smoke-rated assemblies.
 1. Comply with requirements in Section 078413 "Penetration Firestopping."

3.2 PROTECTION

- A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.
- B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION 221423