NEGUS TRANSFER STATION IMPROVEMENTS PROJECT
CEC PROJECT No.: 301-277

RE: ADDENDUM No.: 02

TO ALL CONTRACTORS:

This serves as Addendum No.: 02 for the above referenced project. Included in this addendum are the following:

1. Civil/Site CAD Files.
    a. CAD files prepared by CEC are now available on Deschutes County's bid website.
2. Expected delivery date of Pre-Engineered Metal Building (PEMB)
    a. The expected delivery date of the PEMB is scheduled for the week of 10/3/2022.
3. Attachment of insurance requirements.
    a. Please see Attachment 1 for the insurance requirements.
4. Attachment of revised Schedule of Bid Items & Acknowledgement of Addendums & Bid Signature Page
    a. See Attachment 2 for the updated Schedule of Bid Items in which line items 1.006 and 1.021 were added.
    b. See pages 2 & 3 in Attachment 2 for the addition of the Acknowledgement of Addendums and Signature Page.
5. Attachment of revised Scale Specification 36 0100
    a. Part 2.1D of Section 36 0100 specification for Electronic Truck Scales was revised, please see Attachment 3.
6. Attachment of revised Surface Water-Storage Tank Specification 21 4000
    a. Part 2.1A.9 of Section 21 4000 specification for Surface Water-Storage Tank was revised, please see Attachment 4.
    b. Question: Specification 21 4000, Part 2.1.A (Bolted-Steel Reservoirs) states the tank structure shall be constructed with corrugated galvanized steel sheets (both wall and roof sheets). Unfortunately, AWWA D103 (the design standard for Factory-Coated Bolted Steel Tanks) does not allow for or recognize the use of corrugated steel sheets for bolted tank design. In lieu of the corrugated steel sheets, may we use powder coated flat-panel carbon steel sheets in compliance with AWWA D103?
    Response: This would be okay.
    c. Question: Specifications 21 4000, Section 2.1.A.9 states the tank roof shall be designed for a 2,000 lb. equipment load. AWWA D103 requires a minimum roof

design live load of 15 psf. The 39'-0" diameter tank (Roof area = 1,195 sf) will be designed for a 17,919 lb. load applied over the entire roof structure. Will this 15 psf. roof design load sufficiently encompass the 2,000 lb. equipment load? As you can imagine, this concentrated load will require a large and heavy roof framing system.

Response: Please see the updated Surface Water-Storage Tank specification, Attachment 4. A 2,000 lb. point load will not be required for the tank roof, but the tank roof shall be designed to accommodate the design live load of 15 psf and have an accessible manhole at the top.

d. Question: If we are required to accommodate the 2,000 lb. design point load, can you confirm that both the 2,000 lb. and 15 psf loads do no act concurrently.

Response: The 2,000 lb. point load is not required, only the 15 psf live load is required per the updated 214000 specification, Attachment 4.

7. Attachment of General Conditions
    a. See Attachment 5 for the General Conditions.
8. Attachment of General Requirements
    a. See Attachment 6 for the General Requirements.
9. Concrete & Asphalt Specifications
    a. Concrete and asphalt specifications were included in the original bid documents under Section 5 of the Civil-Site Specifications.
10. Entrance Gate Details
    a. The gate will require dual height keypads on the entry side, a free exit loop, vehicle sensors, edge sensors, and Knox box.
11. Fire Pump House
    a. The Fire Pump House is to be provided per Specification Section 13 3420 Metal Building System for Fire Pump Building. Bidders are to disregard the representation of the Fire Pump Building walls as concrete shown in drawings on sheet FP3.00.Skylight Panels
12. Scale House Building Fire Sprinkler System
    a. The Scale House Building fire sprinkler system is **NOT** to be provided. A fire sprinkler system is not required by code for the Scale House Building.
13. Ceramic Tile (also porcelain tile)
    a. Specification section for ceramic wall tile will be issued at a later date.
    b. Product info for the ceramic (porcelain) tile is listed below.
        i. basis of design:
        dal tile, porcelain tile 'portfolio' 12x12, matte finish, 'iron grey pf06'
        cove base: 6" 'iron grey pf06'
        grout: architect to select from manufacturer's full range

14. Attachment of Revised Architectural Drawings. Changes to Architectural Drawings are listed below.
    a. E1/A1.10 (Scale House Set and Transfer Station Building Set)
        i. Added loading berth notes to site plan
    b. E2/A2.2A (Transfer Station Building Set)
        i. Added note regarding roof crickets at skylights
        ii. Added skylight section callout
    c. E1/A4.1A (Transfer Station Building Set)
        i. Added skylight dimensions
    d. A5.0A (Transfer Station Building Set)
        i. Added product information for ceramic (porcelain) tile
    e. A8.6A (Transfer Station Building Set)
        i. Added skylight section details to this new sheet
    f. AC0.1B (Scale House Set)
        i. Revised to show that fire sprinklers are not required
    g. E1/A1.10 (Scale House Set)
        i. Added loading berth notes to site plan
    h. A5.1B (Scale House Set)
        i. Added product information for ceramic (porcelain) tile
15. Attachment of Revised Architectural Specifications
    a. These sections below have been revised
        i. 00 0110 Table of Contents
        ii. 08 4113 Aluminum Framed Entrances and Storefronts
        iii. 08 4513 Structured-Polycarbonate-Panel Assemblies
        iv. 11 3100 Residential Appliances and Equipment
        v. 13 3419 Metal Building Systems (OFCI)
    b. These sections below have been removed
        i. Division 00 – Procurement Requirements Sections 01 1000 to 01 7900
        ii. 08 6200 Unit Skylights
    c. This section below has been added
        i. 08 7100 Door Hardware

ATTACHMENT 1
INSURANCE REQUIREMENTS

EXHIBIT 2
DESCHUTES COUNTY SERVICES CONTRACT
Contract No. 2022-XXX
INSURANCE REQUIREMENTS

Contractor shall at all times maintain in force at Contractor's expense, each insurance noted below. Insurance coverage must apply on a primary or non-contributory basis. All insurance policies, except Professional Liability, shall be written on an occurrence basis and be in effect for the term of this contract. Policies written on a "claims made" basis must be approved and authorized by Deschutes County.

Contractor Name: TBD

Workers Compensation insurance in compliance with ORS 656.017, requiring Contractor and all subcontractors to provide workers' compensation coverage for all subject workers, or provide certification of exempt status. Worker's Compensation Insurance to cover claims made under Worker's Compensation, disability benefit or any other employee benefit laws, including statutory limits in any state of operation with Coverage B Employer's Liability coverage all at the statutory limits. . In the absence of statutory limits the limits of said Employers liability coverage shall be not less than $1,000,000 each accident, disease and each employee. This insurance must be endorsed with a waiver of subrogation endorsement, waiving the insured's right of subrogation against County.

Professional Liability insurance with an occurrence combined single limit of not less than:

Per Occurrence limit	Annual Aggregate limit
☐ $1,000,000	☐ $2,000,000
☐ $2,000,000	☐ $3,000,000
☐ $3,000,000	☐ $5,000,000

Professional Liability insurance covers damages caused by error, omission, or negligent acts related to professional services provided under this Contract. The policy must provide extended reporting period coverage, sometimes referred to as "tail coverage" for claims made within two years after the contract work is completed.

☐ Required by County ☒ Not required by County (one box must be checked)

Commercial General Liability insurance with a combined single limit of not less than:

Per Single Claimant and Incident	All Claimants Arising from Single Incident
☐ $1,000,000	☐ $2,000,000
☒ $2,000,000	☒ $3,000,000
☐ $3,000,000	☐ $5,000,000

Commercial General Liability insurance includes coverage for personal injury, bodily injury, advertising injury, property damage, premises, operations, products, completed operations and contractual liability. The insurance coverages provided for herein must be endorsed as primary and non-contributory to any insurance of County, its officers, employees or agents. Each such policy obtained by Contractor shall provide that the insurer shall defend any suit against the named insured and the additional insureds, their officers, agents, or employees, even if such suit is frivolous or fraudulent. Such insurance shall provide County with the right, but not the obligation, to engage its own attorney for the purpose of defending any legal action against County, its officers, agents, or employees, and that Contractor shall indemnify County for costs and expenses, including reasonable attorneys' fees, incurred or arising out of the defense of such action.

The policy shall be endorsed to name ***Deschutes County, its officers, agents, employees and volunteers as an additional insured***. The additional insured endorsement shall not include declarations that reduce any per occurrence or aggregate insurance limit. The contractor shall provide additional coverage based on any outstanding claim(s) made against policy limits to ensure that minimum insurance limits required by the County are maintained. Construction contracts may include aggregate limits that apply on a "per location" or "per project" basis. The additional insurance protection shall extend equal protection to County as to Contractor or subcontractors and shall not be limited to vicarious liability only or any similar limitation. To the extent any aspect of this Paragraph shall be deemed unenforceable, then the additional insurance protection to County shall be narrowed to the maximum amount of protection allowed by law.

☒ Required by County ☐ Not required by County (One box must be checked)

Claims Made Policy ☐ Approved by County ☒ Not Approved by County

Automobile Liability insurance with a combined single limit of not less than:

Per Occurrence
☐ $500,000
☒ $1,000,000
☐ $2,000,000
Automobile Liability insurance includes coverage for bodily injury and property damage resulting from operation of a motor vehicle. Commercial Automobile Liability Insurance shall provide coverage for *any* motor vehicle (symbol 1 on some insurance certificates) driven by or on behalf of Contractor during the course of providing services under this contract. Commercial Automobile Liability is required for contractors that own business vehicles registered to the business. Examples include: plumbers, electricians or construction contractors. An Example of an acceptable personal automobile policy is a contractor who is a sole proprietor that does not own vehicles registered to the business.
☒ Required by County ☐ Not required by County (one box must be checked)

Additional Requirements. Contractor shall pay all deductibles and self-insured retentions. A cross-liability clause or separation of insured's condition must be included in all commercial general liability policies required by this Contract. Contractor's coverage will be primary in the event of loss.

Certificate of Insurance Required. Contractor shall furnish a current Certificate of Insurance to the County with the signed Contract. Contractor shall notify the County in writing at least 30 days in advance of any cancellation, termination, material change, or reduction of limits of the insurance coverage. The Certificate shall also state the deductible or, if applicable, the self-insured retention level. Contractor shall be responsible for any deductible or self-insured retention. If requested, complete copies of insurance policies shall be provided to the County.

Risk Management review	Date
Sarah Key	**7/20/22**

ATTACHMENT 2
SCHEDULE OF BID ITEMS

SCHEDULE OF BID ITEMS

Project: Negus Transfer Station
Location: Deschutes County, Oregon
Project #: 301-277

Bid Submitted By: _____

Signature of authorized agent of Contractor: _____

ITEM	DESCRIPTION	QTY	UNITS	TOTAL
1.000				
1.001	Mobilization, Demobilization, and Cleanup	1	LUMP SUM	
1.002	Transfer Station. All labor, material and equipment for a complete installation of the facility	1	LUMP SUM	
1.003	Scale House and Scales. All labor, material and equipment for a complete installation of scales and scale house	1	LUMP SUM	
1.004	Fire Pump Building	1	LUMP SUM	
1.005	Water Storage Tank	1	LUMP SUM	
1.006	Road Aggregate Yard	1	LUMP SUM	
1.007	Site Preparation, grubbing, top soil removal, excavation, fill, grading, compaction, and erosion control	1	LUMP SUM	
1.008	Underground utilities, power supply, water supply, telephone/data cables, sanitary sewage piping	1	LUMP SUM	
1.009	Septic System. All work for ATT, septic tank, and capping fill trenches	1	LUMP SUM	
1.010	Sewage Lift Station	1	LUMP SUM	
1.011	Water well modifications	1	LUMP SUM	
1.012	Stormwater system and pond	1	LUMP SUM	
1.013	Leachate system and pond	1	LUMP SUM	
1.014	SWPPP Development and Notice of Intent Submittal	1	LUMP SUM	
1.015	Paving, striping and signage	1	LUMP SUM	
1.016	Site Lighting including poles and fixtures	1	LUMP SUM	
1.017	Misc. Site. Work including fencing, gates, exterior stairs, and retaining walls	1	LUMP SUM	
1.018	Landscape soil, testing, amendments & fine grading	1	LUMP SUM	
1.019	Landscape planting, hydroseed, and establishment	1	LUMP SUM	
1.020	Landscape irrigation	1	LUMP SUM	
1.021	Site Security During Construction	1	LUMP SUM	
1.022	Performance/Payment Bonds, Maintenance Bond, Insurance, Profit, and General Conditions	1	LUMP SUM	
			BID TOTAL:	

Notes/Assumptions:

1. The quantities provided on this bid form are estimates only. Contractor shall make their own determinations regarding acutal quantities required to execute a representation of the total price required to execute the work as shown on the drawings.
2. Upon contract award, contractor will be required to furnish pricing for electrical, plumbing, mechanical, structural/architectural, fire sprinkler, and fire alarm items each for existing well modification, fire pump building, scale house, and transfer station building for establishment of the county permit fees.

ACKNOWLEDGEMENT OF ADDENDUMS

The undersigned acknowledges receipt of and has incorporated the addenda listed below in the Bid Price submitted herein:

Addenda #	Signature	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

It is understood that the right is reserved by Deschutes County to reject any or all proposals or bids. In the event that the Contract is not awarded within thirty (30) days after the receipt of bids, the Bidder will be released from his bid unless an extension of time is mutually agreed upon.

The undersigned certifies the bid prices contained in this proposal or bid have been carefully checked and are submitted as correct and final.

The name of the Bidder submitting this Proposal is:

_____ of
NAME CCB# TELEPHONE

_____
ADDRESS CITY STATE ZIP

Which is the address to which all communication concerning this proposal and the Contract shall be sent.

The names of the principal officers of the corporation submitting this Proposal, or of the partnership, or of all persons interested in this Proposal as principals, are as follows:

_____ _____

_____ _____

(IF SOLE PROPRIETOR OR PARTNERSHIP)

IN WITNESS HERETO, the undersigned has set his/her hand this _____ day of_____, 2022.

_____
Signature of Bidder

_____
Title

(IF CORPORATION)

IN WITNESS WHEREOF, the undersigned corporation has caused this instrument to be executed and its seal affixed by its duly authorized officers this _____ day of _____, 2022.

_____
Name of Corporation

By: _____

Title: _____

Attest: _____
Signature and Title

ATTACHMENT 3
SECTION 36 0100 ELECTRONIC TRUCK SCALE SPECIFICATION

SECTION 360100

ELECTRONIC TRUCK SCALES

PART 1 GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

A. Concrete: Division 03

B. Electrical: Division 26

1.2 DESCRIPTION

A. Contractor shall furnish and install three (3) new 80-ft. long x 10-ft. wide scale.

1.3 SUBMITTALS

A. Vendor drawing of scales, and scale support requirements shall be submitted per section 01340.

B. Details of load cells.

1.4 QUALITY ASSURANCE

A. The manufacturer shall have been in the business of design and manufacture of similar truck scales for at least 10 years. The manufacturer shall be capable of providing a local source of parts and service on a 24 hours per day, 7 days per week work basis. Service call response time shall be no more than 24 hours.

B. The scales shall be manufacturer's standard design and shall have NTEP (National Type Evaluation Program) certification for scale and load cells.

C. Manufacturer shall supply examples of past proven similar type installation.

PART 2 PRODUCTS

2.1 GENERAL

A. Scales shall be fully electronic "low profile" in design, and shall not incorporate any mechanical weighing elements, check rods, or check stays.

B. The scales shall each have a minimum capacity of 100 tons.

C. The scale shall be a minimum of 80-feet long and 10-feet wide.

D. Load cell fixtures and load cell suspension components shall be designed for Rice Lake Model 75058 50k double ended center loaded shear beam load cells with G force dampening technology included, or approved equal. Load cells must be readily available from multiple vendors and must be interchangeable. Platform movement shall be controlled by the load fixture as it receives the load and the fixture automatically dampens the movement without external bolts or check rods.

E. Digital weight indication shall be in no greater than 20 pound increments.

F. The scales shall have a maximum of 3 modules and a maximum of 8 load cells. The scales shall be designed to perform as a single weighing platform. The Concentrated Load Capacity shall be a minimum of 66,000 lbs. Side rails shall be included for an added safety measure to assure that vehicles cannot drive off the side of scales.

G. There shall be no bolted connections between the load cell and weighbridge assemblies.

H. Steel weighbridge with 8-inch thick, site cast steel reinforced concrete deck.

I. A comprehensive surge voltage protection system shall be included with the scale that shall, at a minimum, consist of surge suppression circuits located in the scale platform junction box, an instrument load cell input protector, and an arc line protector.

2.2 DIGITAL INSTRUMENTATION

A. The instrumentation shall be through a microprocessor-based digital weight indicator. The digital instrument should meet or exceed the following specifications:

a. The instrument shall be mounted in a stainless steel NEMA 4 enclosure.

b. RFI and EMI protected.

c. Digital display shall have eight (8) digits with polarity indication.

d. RAM memory: 64K with battery back-up system for memory retention and including surge voltage protection.

B. Touch sensitive front panel controls shall have the following functions:

a. Keyboard calibration

b. Span and dead load offset through keyboard

c. Pushbutton zero

d. Lb/kg conversion

e. Pushbutton tare

f. Gross/net weight selection

g. LAMP and LED test sequence

h. Center of zero indication

i. Motion detection with inhibit

j. Over/under tolerance zone selection

k. Automatic zero tracking with on/off selection

l. Data send button

C. The instrument shall have provisions for remote display at each scale.

PART 3 EXECUTION

3.1 INSTALLATION

A. All weighbridge modules must be factory assembled and welded. No bolt together weighbridges or bolt on cross members will be accepted.

B. All exterior surfaces of the scale shall have a two-part epoxy primer coat to a minimum of 2 mils dry film thickness, and a two-part finish coat of epoxy paint to a minimum of 2 mils dry film thickness.

C. Interior portions of the scale weighbridge where concrete will be poured shall have a zinc rich primer coat applied to a minimum of 2 mils dry film thickness.

END OF SECTION

ATTACHMENT 4
SPECIFICATION 21 4000 SURFACE WATER-STORAGE TANKS

SECTION 214000 - SURFACE WATER-STORAGE TANKS

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. This Section includes steel construction reservoirs for storage of fire-suppression water.

1.3 DEFINITIONS

A. CR: Chlorosulfonated polyethylene synthetic rubber.

B. NR: Natural rubber.

C. PVC: Polyvinyl chloride plastic.

1.4 PERFORMANCE REQUIREMENTS

A. Structural Performance: Surface water-storage tank, including structural reinforcement and foundation, shall be capable of withstanding the effects of dead and live gravity loads. Roof to withstand code mandated snow loads. Construction and installation shall comply with all jurisdictional wind loading criteria.

B. Seismic Performance: Surface water-storage tank, including structural reinforcement and foundation, shall be capable of withstanding the effects of earthquake motions determined according to authorities having jurisdiction. Project is designated at Site Class B, Design Category B with Seismic response coefficient Cs=0.037. Refer to structural drawings for more seismic design data.

C. Thermal Movements: Surface water-storage tank, including structural reinforcement and foundation, shall allow for thermal movements resulting from the maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects. Base engineering calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1.5 SUBMITTALS

A. Product Data: Include rated capacities, accessories, appurtenances, and furnished specialties for each surface water-storage tank indicated.

B. Shop Drawings: Signed and sealed by a qualified professional engineer. Show fabrication and installation details for each surface water-storage tank, including the following:

1. Tank, roof, and shell openings.
2. Safety railings and ladders.
3. Plans, elevations, sections, details, and attachments to other work.
4. Structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
5. Power, signal, and control wiring.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For the following to include in emergency, operation, and maintenance manuals:

1. Obstruction lighting.
2. Lightning protection.
3. Cathodic protection.
4. Tank heaters.

1.7 WARRANTY

A. The manufacturer shall warrant the tank structure against defects in workmanship and materials for a period of thirty years from date of shipment of the materials from the factory. The main liner shall be warranted against defects a minimum of ten years.

1.8 QUALITY ASSURANCE

A. Fabricator Qualifications: Employ a qualified structural engineer to prepare calculations, Shop Drawings, and other structural data for fabrication and erection of surface water-storage tanks.

1. Engineering Responsibility: Preparation of data for surface water-storage tanks, accessories, specified appurtenances, and concrete supports and foundations, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.

2. Tank installer shall be trained in confined space protocols (OSHA) and be able to prove a minimum of fire years of tank building experience.

B. Welding: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code--Steel."
2. AWS D1.3, "Structural Welding Code--Sheet Steel."
3. AWS D1.4, "Structural Welding Code--Reinforcing Steel."

C. Pipe Welding: Qualify procedures and personnel according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."

D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

E. Comply with AWWA D103, "Factory-Coated Bolted Steel Tanks for Water Storage," and with AWWA M42, "Steel Water-Storage Tanks," for bolted-steel, surface water-storage tanks.

F. Comply with NFPA 22, "Water Tanks for Private Fire Protection," for surface water-storage tanks for fire-suppression water supply. Comply with NSF-61 and all OSHA requirements.

PART 2 - PRODUCTS

2.1 BOLTED-STEEL RESERVOIRS

A. The water storage tank shall be insulated and of steel construction having a nominal capacity as determined by this contractor. Tank shall be sized for a 2 hour fire event based on fire pump size and assuming no make up water is available. Provide a 20% safety factor in storage volume.

1. Tank shall be standard factory engineered galvanized steel, insulated and with liquid tight liners. The tank structure shall consist of corrugated galvanized steel wall sheets, roof panels , roof panel access hatch, roof ladder, anchor clips and necessary hardware for tank assembly.
2. Bolted tank structure: Galvanized steel tank wall and roof panels shall be pre-punched for field assembly.
3. Insulation: 2” of IsoSpray 20C04 FR (or equal) low viscosity, 2 component rigid polyurethane spray foam insulation applied to the interior of the metal walls and roof.
4. Preliner: 8 oz. black geotextile preliner inside the tank covering the tank floor and walls of all surfaces which the liner could contact the tank structure.
5. Main Liner: water containment system shall be welded seam, flexible membrane main liner. Liners shall be inside the tand utilizing liner hanger bolts, seal washers and grommets for suspension.
6. Tanks shall be manufacturer from high yield strength US steel, (min. 57 ksi yield strength for wall panels) originally sourced in USA.
7. Wall sheets shall be continuous annularly corrugated galvanized steel 20 gauge steel or heavier. All zinc coatings shall conform to G-115 or higher. Bottom wall sheets to have an inward return flange for bearing on foundation.
8. One piece, 12 gauge or heavier galvanized steel die formed or welded anchor clips – minimum one clip per base wall panel.
9. Tank roofs shall use single stage self-supporting roof sheets. Roofs shall meet all code required loading criteria and shall. Manhole on top of tank shall be accessible. Roof sheets shall have 90 deg formed drip edge at eave and to be manufactured from G-115 galvanized steel conforming to ASTM A 446, Grade C, or greater. Bulb type neoprene eave seal and silicone caulking shall seal between the top wall panel and roof panel. Roof ladder cleats shall extend from eave to center.
10. Tank Access: Provide roof access hole with cover having hinged cover located on the lower end of roof sheet. Bolted side access panels shall be located above floor on side panels.
11. Tank Penetrations: Penetrations thru the floor or wall withing the water storage level shall be completed utilizing schedule 80 PVC flange sets bolted together with SS or brass hex

head cap screws with bonded sealing washers at all liquid side holes. Liquid seam sealant to be used to ensure effective sealing. Do not utilize flanges which use a single set of through bolts which sandwich the liner and flange faces to the steel wall.

12. Foundation: Foundation shall be a concrete pad that extends a minimum 9” outside the tank wall.
13. Hardware: All bolts and nuts shall be electro-galvanized with clear coat protective coating. Roof bolts shall have factory installed steel backed vinyl washers. Wall sheet bolts shall have slotted button heads for insertion from inside toward outside. All bolts shall be heat treated and meet SAE Grade 8.2 or stronger specs.
14. Flexible Membrane Liner: Liner shall have minimum rated thickness of 24 mil and a minimum finished coated weight of 22.0 ox/yd2. The liner shall be a PVC coated polyester fabric liner or polypropylene coated fabric reinforced liner. The liner shall be fabricated with minimum of 1.5” factory welded seams and shall have a poly rope in top hem for reinforcement. Metal or PVC grommets shall be evenly spaced along the top hem to facilitate liner hanging.
15. Anchor Clips: Anchor clips and bolts shall conform to structural design calculation package and shall meet site specific requirements for anchor tank in accordance with seismic, wind and other environmental conditions.,
16. Where Seismic anchor clips are required, an anchor “chair” shall be utilized with bolt extending thru base plate and thru a 1” hole in top plate of chair. A minimum of 9 15/15” shall separate the two plates to allow for stretch of the anchor bolt during a seismic event. The anchor chair shall be secured to the wall of the tank with no fewer than six 3/8” bolts.
17. Immersion: Provide a minimum of three (number and size to be determined by contractor) electric immersion heaters to prevent freezing of tank water. Heaters to be 460V/3 phase. Installed capacity to be based on an ambient air temperature of -20 deg F and sufficient to maintain a water temperature of 42 deg F. Coordinate power loads with electrical contractor.
18. Shell Roof: Comply with AWWA D103.
19. Overflow Piping: ASTM A 53/A 53M, Grade B, Schedule 40, welded-steel pipe with ASTM A 234/A 234M, Grade W.B., Schedule 40, carbon-steel butt-weld fittings.
20. Roof Hatch: Steel, hinged cover, 24 by 15 inches minimum with 4-inch neck and 2-inch downward overlap with hasp and lock, located over interior ladder and adjacent to exterior ladder.
21. Roof Manhole: Steel, removable, 20-inch- minimum-diameter cover with 4-inch neck and 2-inch- downward overlap with hasp and lock. Construct opening with capability of supporting ventilation fan.
22. Shell Sidewall Manholes: Two, steel, 24: x 24”.
23. Tank Vent: Steel pipe with stainless-steel screen, constructed to prevent entrance of rain, birds, and animals.
24. Foundation: Reinforced concrete. Refer to Section 03300 "Cast-in-Place Concrete."

2.2 SURFACE WATER-STORAGE TANK APPURTENANCES

A. Water-Level Controls: Automatic controls for maintaining water level in tank, with valves, piping, and audible and visual alarms to indicate the following:

1. High- and low-water levels.
2. Tank overflowing or tank not filling.

B. Obstruction Lighting: Comply with requirements of authorities having jurisdiction.

C. Provide Lightning Protection.

D. Cathodic Protection: Comply with AWWA D104.

E. Tank Heaters: Comply with NFPA 22 and with capacity to maintain 42 deg F water temperature inside surface water-storage tank.

PART 3 - EXECUTION

3.1 STEEL, SURFACE WATER-STORAGE TANK INSTALLATION

A. Set top of reinforced-concrete foundation at least 6 inches above finish grade.

B. Install roof hatch near exterior ladder.

C. Install roof manhole near center of roof.

D. Install tank vent at center of roof.

E. Install two manholes in tank wall near grade.

F. Note: Installation personnel entering the tank must be trained on confined space OSHA protocols.

3.2 CONNECTIONS

A. Connect tanks to water-distribution piping.

B. Daylight overflow drainage with splash block. Connect tank drain to stormwater system with lockable shutoff valve.

C. Ground equipment.

D. Connect wiring.

3.3 SURFACE WATER-STORAGE TANK APPURTENANCE INSTALLATION

A. Install and adjust water-level control valves, piping, and alarms.

B. Install obstruction lighting according to authorities having jurisdiction.

C. Install lightning protection.

D. Install tank heaters according to NFPA 22.

E. Insulate and provide self-regulating and monitored heat trace to all exposed water and drain lines.

3.4 FIELD QUALITY CONTROL

A. Testing:

1. Leak Test: Comply with AWWA D100 and NFPA 22. Fill tanks with potable water and test for leaks after installation. Repair leaks and retest until no leaks exist.

2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

B. Remove and replace malfunctioning units and retest as specified above.

3.5 CLEANING

A. Clean interior and exterior of surface water-storage tanks.

B. Disinfect surface water-storage tanks according to AWWA C652 and requirements of authorities having jurisdiction.

3.6 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain the following. Refer to Section 01820 "Demonstration and Training."

1. Obstruction lighting.
2. Water-level controls.
3. Tank heaters.

END OF SECTION 13220

ATTACHMENT 5
GENERAL CONDITIONS

GENERAL CONDITIONS

1. **Prevailing Rates of Wage.** This Contract is subject to the "Prevailing Wage Rates for Public Works Contracts in Oregon" as published by the Oregon Bureau of Labor and Industries that may be paid to workers in each trade or occupation required for the public works employed in the performance of the contract either by the contractor or subcontractor or other person doing or contracting to do the whole or any part of the work contemplated by the contract. The following internet link may be used to obtain the access to State and Federal Prevailing Wage Rates: http://www.oregon.gov/BOLI/WHD/PWR/pwr_book.shtml

2. **Required Conditions in Public Works Contract and Contract Specifications - ORS 279C.800 to 279C.870.** County shall pay to the Bureau of Labor and Industries a fee equal to one tenth of one percent (.001) of the contract price but no less than $250 nor more than $7,500 regardless of the contract price; that the fee shall be paid no later than the date the contract is signed; and that the fee shall be delivered to the Bureau at the following address: Prevailing Wage Rate Unit, Wage and Hour Division, Bureau of Labor and Industries, 800 NE Oregon Street #32, Portland, OR 97232.

   Posting Requirements. Contractors shall post the prevailing wage rates applicable to the project in a conspicuous place at the site of work. The posting shall be easily accessible to employees working on the project.

   When a contractor or subcontractor provides for or contributes to a health and welfare plan or pension plan for employees who are working on a public works project, the contractor or subcontractor shall post a notice containing the following information:

   A. A description of the plan or plans;

   B. Information on how and where claims can be made; and,

   C. Where to obtain more information

   All required postings shall be posted in the same place and shall be in a conspicuous place at the site of work and shall be easily accessible to employees working on the project.

3. **Required Payroll Submissions.** Contractors and subcontractors on public works projects are required to prepare **weekly** certified payroll reports and statements and submit them to the public contracting agency by the fifth business day of each month. Contractors and subcontractors who fail to submit certified payroll reports as described above, will be subject to a twenty five percent (25%) withholding of the amounts owed by the County.

   Information submitted on certified statements may be used only to ensure compliance with the provisions of ORS 279C.800 to 279C.870. These are public records and must be made available on request. Contractors may submit their own report as long as it contains all the same information as the WH-38 form (see Prevailing Wage Rates published by the Oregon Bureau of Labor and Industries for forms). Contractors must complete the statement of certification and attach it to the payroll submissions.

4. **Contracting Agency Payments.** If the Contractor fails, neglects, or refuses to make prompt payment of any claim for labor or services furnished to the Contractor or Subcontractor by any person, or the assignee of the person, in connection with the public works contract as such claim becomes due, the

proper officer or officers of the public contracting agency may pay such claim and charge the amount of the payment against funds due or to become due the Contractor by reason of the Contract.

5. **Interest Rate For Failure to Make Payment.** If Contractor or a first-tier subcontractor fails, neglects or refuses to make payment to a person furnishing labor or materials in connection with this contract for a public improvement within 30 days after receipt of payment from the County or a Contractor, the Contractor or first-tier subcontractor shall owe the person the amount due plus interest charges commencing at the end of the 10-day period that payment is due under ORS 279C.580(4) and ending upon final payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580. The rate of interest charged to the Contractor or first-tier subcontractor on the amount due shall equal three times the discount rate on 90-day commercial paper in effect at the Federal Reserve Bank in the Federal Reserve district that includes Oregon on the date that is 30 days after the date when payment was received from the County or from the Contractor, but the rate of interest shall not exceed 30 percent. The amount of interest may not be waived.

6 **Construction Contractors Board Complaint.** If Contractor or a subcontractor fails, neglects or refuses to make payment to a person furnishing labor or materials in connection with this contract, the person may file a complaint with the Construction Contractors Board, unless payment is subject to a good faith dispute as defined in ORS 279C.580.

7. **Independent Contractor.** Contractor is engaged hereby as an independent contractor, and will be so deemed for purposes of the following:

A. Contractor will be solely responsible for payment of any Federal or State taxes required as a result of this Agreement.

B. This Contract is not intended to entitle Contractor to any benefits generally granted to County employees. Without limitation, but by way of illustration, the benefits which are not intended to be extended by this Contract to the Contractor are vacation, holiday and sick leave, other leaves with pay, tenure, medical and dental coverage, life and disability insurance, overtime, Social Security, Workers' Compensation, unemployment compensation, or retirement benefits (except insofar as benefits are otherwise required by law if the Contractor is presently a member of the Public Employees Retirement System).

C. Contractor is an independent contractor for purposes of the Oregon Workers' Compensation law (ORS Chapter 656) and is solely liable for any Workers' Compensation coverage under this Contract. If Contractor has the assistance of other persons in the performance of this Contract, the Contractor shall qualify and remain qualified for the term of this Contract as a direct responsibility employer under ORS 656.407, and furnish County with evidence of said insurance. If Contractor performs this contract without the assistance of any other person, Contractor shall execute a Joint Declaration with County's Workers' Compensation carrier absolving County of any and all liability from Workers' Compensation provided in ORS 656.029 (2).

8. **Delegation and Reports.** Contractor shall not delegate the responsibility for providing services hereunder to any other individual or agency, and shall provide County with periodic reports to County at the frequency and with the information prescribed to be reported by County.

9. **Constraints.** Pursuant to the requirements of ORS 279C.500 through 279C.540 and Article XI, Section 10, of the Oregon Constitution, the following terms and conditions are made a part of this Agreement:

A. Contractor shall:

1) Make all payments promptly, as due, to all persons supplying to Contractors labor or materials for the prosecution of the work provided for in this agreement.
2) Pay all contributions or amounts due the Industrial Accident Fund from such contractor or subcontractor incurred in the performance of this Agreement.
3) Not permit any lien or claim to be filed or prosecuted against County on account of any labor or material furnished.
4) Pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.
5) Demonstrate that an employee drug testing program is in place prior to execution of this Contract.

B. If Contractor fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to Contractor or a subcontractor by any person in connection with this agreement as such claim becomes due, the proper officers representing County may pay such claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due Contractor by reason of this agreement.

C. Employees of Contractor shall be paid at least time and a half for all overtime worked in excess of eight hours a day or forty (40) hours in any one week when the work week is five consecutive days, Monday through Friday; or for all overtime in excess of 10 hours a day or 40 hours in any one week when the work week is four consecutive days, Monday through Friday, except individuals under this contract who are excluded under ORS 653.010 to 653.261 or under 29 U.S.C. Sections 201 to 209 from receiving overtime.

D. Employees of Contractor providing labor shall be paid at least time and a half for all work performed on Saturday and Sunday and the following legal holidays:

1) New Year's Day on January 1.
2) Memorial Day on the last Monday in May.
3) Independence Day on July 4.
4) Labor Day on the first Monday in September.
5) Thanksgiving Day on the fourth Thursday in November.
6) Christmas Day on December 25.

E. An employer must give notice to employees who perform work under this agreement in writing, either at the time of hire or before commencement of work on the contract, or by posting a notice in a location frequented by employees, of the number of hours per day and days per week that employees may be required to work.

F. Contractor shall promptly, as due, make payment to any person or partnership, association or corporation furnishing medical, surgical and hospital care or other needed care and attention incident to sickness and/or injury to the employees of Contractor, of all sums which Contractor agrees to pay for such services, and all monies and sums which Contractor collected or deducted from the wages of Contractor's employees pursuant to any law, contract or agreement for the purpose of providing or paying for such services.

G. This Agreement is expressly subject to the debt limitation of Oregon counties set forth in Article XI, Section 10, of the Oregon Constitution, and is contingent upon funds being appropriated therefore. Any provision herein which would conflict with law are deemed inoperative to that extent.

H. All subject employers working under this contract are either employers that will comply with ORS 656.017 or are employers that are exempt under ORS 656.126

10. <u>Early Termination</u>. This Contract may be terminated as follows:

A. Mutual Consent. County and Contractor, by mutual written agreement, may terminate this Contract at any time.

B. Party's Convenience. County or Contractor may terminate this Contract for any reason upon 30 calendar days written notice to the other party.

C. For Cause. County may also terminate this Contract effective upon delivery of written notice to the Contractor, or at such later date as may be established by the County, under any of the following conditions:

1) If funding from state or other sources is not obtained and continued at levels sufficient to allow for the purchase of the indicated quantity of services as required in this contract. This Contract may be modified to accommodate the change in available funds.
2) If state laws, regulations or guidelines are modified, changed or interpreted in such a way that the services are no longer allowable or appropriate for purchase under this Contract or are no longer eligible for the funding proposed for payments authorized by this contract.
3) In the event sufficient funds shall not be appropriated for the payment of consideration required to be paid under this contract, and if County has no funds legally available for consideration from other sources.
4) If any license or certificate required by law or regulation to be held by the Contractor to provide the services required by this Contract is for any reason denied, revoked, suspended, not renewed or changed in such a way that the Contractor no longer meets requirements for such license or certificate.

D. Contractor Default or Breach. The County, by written notice to the Contractor, may immediately terminate the whole or any part of this Contract under any of the following conditions:

1) If the Contractor fails to provide services called for by this Contract within the time specified or any extension thereof.
2) If the Contractor fails to perform any of the other requirements of this Contract or so fails to pursue the work so as to endanger performance of this Contract in accordance with its terms, and after receipt of written notice from the County specifying such failure, the Contractor fails to correct such failure within 10 calendar days or such other period as the County may authorize.
3) Contractor institutes or has instituted against it insolvency, receivership or bankruptcy proceedings, makes an assignment for the benefit of creditors, or ceases doing business on a regular basis.

E. County Default or Breach. Contractor may terminate this Contract in the event of a breach of this Contract by the County. Prior to such termination, the Contractor shall give to the County written notice of the breach and intent to terminate. If the County has not entirely cured the breach within 10 calendar days of the date of the notice, then the Contractor may terminate this Contract at any time thereafter by giving notice of termination.

11. Payment on Early Termination. Upon termination pursuant to paragraph 10, payment shall be made as follows:

A. If terminated under subparagraphs 10 a. through c. of this Contract, the County shall pay Contractor for work performed prior to the termination date if such work was performed in accordance with the Contract. County shall not, however, pay Contractor for any obligations or liabilities incurred by Contractor after Contractor receives written notice of termination.

B. If this Contract is terminated under subparagraph 10 d. of this Contract, County obligations shall be limited to payment for services provided in accordance with this Contract prior to the date of termination, less any damages suffered by the County.

C. If terminated under subparagraph 10 e. of this Contract by the Contractor due to a breach by the County, then the County shall pay the Contractor for work performed prior to the termination date if such work was performed in accordance with the Contract (a) with respect to services compensable on an hourly basis, for unpaid invoices, hours worked within any limits set forth in this Contract but not yet billed, authorized expenses incurred and interest within the limits set forth under ORS 293.462, and (b) with respect to deliverable-based Work, the sum designated for completing the deliverable multiplied by the percentage of Work completed and accepted by County, less previous amounts paid and any claim(s) that County has against Contractor. In no event shall County be liable to Contractor for any expenses related to termination of this Contract or for anticipated profits.

12. Remedies. In the event of breach of this Contract the parties shall have the following remedies:

A. Termination under subparagraphs 10 a. through c. of this Contract shall be without prejudice to any obligations or liabilities of either party already reasonably incurred prior to such termination. Contractor may not incur obligations or liabilities after Contractor receives written notice of termination. Additionally, neither party shall be liable for any indirect, incidental, consequential or special damages under this Contract or for any damages of any sort arising solely from the termination of this Contract in accordance with its terms.

B. If terminated under subparagraph 10 d. of this Contract by the County due to a breach by the Contractor, County may pursue any remedies available at law or in equity. Such remedies may include, but are not limited to, termination of this contract, return of all or a portion of this Contract amount, payment of interest earned on this Contract amount, and declaration of ineligibility for the receipt of future contract awards. Additionally, County may complete the work either itself, by agreement with another Contractor, or by a combination thereof. If the cost of completing the work exceeds the remaining unpaid balance of the total compensation provided under this Contract, then the Contractor shall pay to the County the amount of the reasonable excess.

C. In addition to the remedies in paragraphs 10 through 12 of this Contract for a breach by the Contractor, the County also shall be entitled to any other equitable and legal remedies that are provided by law.

D. If previous amounts paid to Contractor exceed the amount due to Contractor under this Contract, Contractor shall repay any excess to County upon demand.

E. If the County breaches this Contract, Contractor's sole monetary remedy shall be (a) with respect to services compensable on an hourly basis, a claim for unpaid invoices, hours worked within any limits set forth in this Contract but not yet billed, authorized expenses incurred and interest within the limits set forth under ORS 293.462, and (b) with respect to deliverable-based Work, a claim for the sum designated for completing the deliverable multiplied by the percentage of Work completed and accepted by County, less previous amounts paid and any claim(s) that County has against Contractor. In no event shall County be liable to Contractor for any expenses related to termination of this Contract or for anticipated profits.

F. Neither County nor Contractor shall be held responsible for delay or default caused by fire, civil unrest, labor unrest, riot, acts of God, or war where such cause was beyond reasonable control of County or Contractor, respectively. Contractor shall, however, make all reasonable efforts to remove or eliminate such a cause of delay or default and shall, upon the cessation of the cause, diligently pursue performance of its obligations under this Contract. For any delay in performance as a result of the events described in this subparagraph, Contractor shall be entitled to additional reasonable time for performance that shall be set forth in an amendment to this Contract.

G. The passage of this Contract expiration date shall not extinguish or prejudice the County's or Contractor's right to enforce this Contract with respect to any default or defect in performance that has not been cured.

H. **LIQUIDATED DAMAGES.** It is impractical to determine the actual damages that the County would sustain in the event the project is not completed by **January 12, 2024**. Therefore, the Contractor shall pay to the County, not as a penalty, but as liquidated damages**, $500 per calendar day**, or any portion thereof, for each day in which the project is not completed by such date.

I. County's remedies are cumulative to the extent the remedies are not inconsistent, and County may pursue any remedy or remedies singly, collectively, successively or in any order whatsoever.

13. **Contractor's Tender Upon Termination.** Upon receiving a notice of termination of this Contract, Contractor shall immediately cease all activities under this Contract unless County expressly directs otherwise in such notice of termination. Upon termination of this Contract, Contractor shall deliver to County all documents, information, works-in-progress and other property that are or would be deliverables had this Contract been completed. Upon County's request, Contractor shall surrender to anyone County designates, all documents, research, objects or other tangible things needed to complete the work.

14. **Work Standard.** Contractor shall be solely responsible for and shall have control over the means, methods, techniques, sequences and procedures of performing the work, subject to the plans and specifications under this Contract and shall be solely responsible for the errors and omissions of its employees, subcontractors and agents. For goods and services to be provided under this contract, Contractor agrees to:

A. Perform the work in a good, workmanlike, and timely manner using the schedule, materials, plans and specifications approved by County;

B. Comply with all applicable legal requirements;

C. Comply with all programs, directives, and instructions of County relating to safety, storage of equipment or materials;

D. Take all precautions necessary to protect the safety of all persons at or near County or Contractor's facilities, including employees of Contractor, County and any other contractors or subcontractors and to protect the work and all other property against damage.

15. **Hold Harmless.** To the fullest extent allowed by law Contractor shall indemnify, save harmless and defend the County from and against all claims, suits or actions for damages, costs, losses and expenses arising from Contractor's torts, as the term "tort" is defined in ORS 30.260(8).

16. **Contractor Not An Agent of County.** It is agreed by and between the parties that Contractor is not carrying out a function on behalf of County, and County does not have the right of direction or control of the manner in which Contractor delivers services under this agreement or exercise any control over the activities of Contractor.

17. **Partnership.** County is not, by virtue of this Contract, a partner or joint venturer with Contractor in connection with activities carried out under this Contract, and shall have no obligation with respect to Contractor's debts or any other liabilities of each and every nature.

18. **Insurance.** In conjunction with all services performed under this agreement: Contractor shall furnish proof of the types and amounts of insurance required in the Project bid documents. County reserves the right to require completed, certified copies of all required insurance policies, at any time.

19. **Non-Discrimination.** Contractor agrees that no person shall, on the grounds of race, color, creed, national origin, sex, marital status, or age, suffer discrimination in the performance of this Agreement when employed by Contractor. Contractor agrees to comply with Title VI of the Civil Rights Act of 1964, with Section V of the Rehabilitation Act of 1973, and with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations. Additionally, each party shall comply with the Americans with Disabilities Act of 1990 (Pub. L. No. 101-336), ORS 659A.112, and all regulations and administrative rules established pursuant to those laws.

20. **Non-Appropriation.** In the event sufficient funds shall not be appropriated for the payment of consideration required to be paid under the Contract, and if County has no funds legally available for consideration from other sources, then County may terminate this agreement in accordance with Paragraph 10 of these General Conditions.

21. **Attorney Fees.** In the event an action, lawsuit or proceeding, including appeal there from, is brought for failure to observe any of the terms of this Agreement, each party shall be responsible for their own attorney's fees, expenses, costs and disbursements for said action, suit, proceeding or appeal.

22. **Claim, Action, Suit or Proceeding.** This Contract shall be governed by and construed in accordance with the laws of the State of Oregon without regard to principles of conflicts of law. Any claim, action, suit or proceeding (collectively, "Claim") between County and Contractor that arises from or relates to this Contract shall be brought and conducted solely and exclusively within the Circuit Court of Deschutes County for the State of Oregon; provided, however, if a Claim must be brought in a federal forum, then it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. THE RECIPIENT, BY EXECUTION OF THIS CONTRACT, HEREBY CONSENTS TO THE IN PERSONAM JURISDICTION OF SAID COURTS.

23. **Land Use Permit.** This contract does not constitute a land use permit, nor does acceptance of this Contract by Contractor constitute approval of any legislative or quasi-judicial action required as a condition precedent to use of the land for the intended purpose.

24. **Drug Testing Program.** The drug testing program in place at execution of this Contract shall remain in place for the duration of the Contract.

25. **Records Maintenance; Right to Audit Records.**

A. Records Maintenance; Access. Contractors and subcontractors shall maintain all fiscal records relating to Contracts in accordance with generally accepted accounting principles ("GAAP"). In addition, Contractors and subcontractors shall maintain all other records necessary to clearly document:

1) Their performance; and
2) Any claims arising from or relating to their performance under this Contract. Contractors and subcontractors shall make all records pertaining to their performance and any claims under a Contract (the books, fiscal records and all other records, hereafter referred to as "Records") accessible to the County at reasonable times and places, whether or not litigation has been filed as to such claims.

B. Inspection and Audit. County may, at reasonable times and places, have access to and an opportunity to inspect, examine, copy, and audit the Records of any Entity that has submitted cost or pricing data according to the terms of a Contract to the extent that the Records relate to such cost or pricing data. If the Entity must provide cost or pricing data under a Contract, the Entity shall maintain such records that

relate to the cost or pricing data for 3 years from the date of final payment under the Contract, unless a shorter period is otherwise authorized in writing.

C. Records Inspection; Control Audit. County, and its authorized representatives, shall be entitled to inspect, examine, copy, and audit any Contractor's or subcontractor's Records, as provided in Section A of this rule. The Contractor and subcontractor shall maintain the Records and keep the Records accessible and available at reasonable times and places for a minimum period of 3 years from the date of final payment under the Contract or subcontract, as applicable, or until the conclusion of any audit, controversy or litigation arising out of or related to the Contract, whichever date is later, unless a shorter period is otherwise authorized in writing.

26. **Contract Rules.** The rules applicable to this contract are the Attorney General's Model Public Contract Rules, Chapter 137-046 and Chapter 137-049, as presently constituted and Deschutes County Code (DCC) Chapter 2.37. The provisions of DCC Chapter 2.37.150 are incorporated herein by reference. These provisions may be viewed at the following web address: https://deschutescounty.municipalcodeonline.com/book?type=ordinances#name=CHAPTER_2.37_PUBLIC_CONTRACTING_CODE

27. **Contractor Certifies.** By execution of this contract, Contractor certifies, under penalty of perjury, that:

A. To the best of Contractor's knowledge, Contractor is not in violation of any tax laws described in ORS 305.380(4), and

B. Contractor has not discriminated against minority, women or small business enterprises in obtaining any required subcontracts.

28. **Contract Provisions.** Contractor shall make all provisions of this contract with the County applicable to any subcontractor performing work under the contract.

29. **Contract Content.** This Contract and attached exhibits and attachments constitute the entire agreement between the parties on the subject matter hereof. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this Contract. No waiver, consent, modification or change of terms of this Contract shall bind either party unless in writing and signed by both parties and all necessary County approvals have been obtained. Such waiver, consent, modification or change, if made, shall be effective only in the specific instance and for the specific purpose given. The failure of the County to enforce any provision of this Contract shall not constitute a waiver by County of that or any other provision.

30. **Hazardous Materials.** Contractor shall not generate, store, process, dispose, release or discharge into the environment any hazardous, toxic, radioactive, or other dangerous materials on or about the work site subject to this Contract, nor allow any of its subcontractors to engage in such prohibited activities. Contractor agrees to indemnify, defend and hold the County, its officer, agents, and employees harmless from and against any and all claims, suits, actions, demands, damages, costs, losses and expenses in any manner resulting from, arising out of, or connected with any such prohibited activities of Contractor or its subcontractors. Discovery by Contractor of unanticipated hazardous, toxic, radioactive or other dangerous materials present at the work site shall not constitute a release or discharge by Contractor.

County and Contractor agree that, Contractor's discovery of unanticipated hazardous, toxic, radioactive, or other dangerous materials constitutes a changed condition mandating re-negotiation of the scope of work to be performed by Contractor, the terms under which the work is to be performed, and the charges therefore. Except as otherwise specified in this paragraph, nothing contained in this Contract shall be construed or interpreted as requiring Contractor to assume the status of an owner, operator, or generator,

under any federal or state statute governing the disposal, transportation, storage or treatment of hazardous substances or wastes. Contractor shall not directly or indirectly assume title to such hazardous or toxic substances. Should the proper and lawful transportation and disposal of any such materials be required, Contractor's responsibilities shall be limited to facilitating the preparation of manifests or related documents for execution by County for the proper disposal. storage or treatment of such materials. In the event such materials are discovered at the work sites by County, Contractor or any of their employees, subcontractors or agents, County shall have the option to terminate this Contract pursuant to paragraph 19 herein. Contractor shall have an affirmative duty to disclose and immediately notify County upon discovery or knowledge of the existence of any such materials at the work site.

ATTACHMENT 6
GENERAL REQUIREMENTS

Division 1: General Requirements

Section 01010 - Summary of the Work

A. **General Statement and Extent of Work.** The work to be performed under these Contract Documents consists of furnishing all labor, materials, tools, and equipment necessary for the construction of the Negus Transfer Station Improvements Project. The project site is at 2400 NE Maple Avenue in Redmond, Oregon.

The work shall be performed in a workmanlike manner, complete and usable as required by the Drawings and these specifications. The work is to be constructed for Deschutes County, herein defined as the Owner.

The general work to be performed for the Negus Transfer Station Project includes, but is not limited to, the following major items:

- Site work including road, storm drainage and utility construction
- Truck scale facilities construction (scales and scalehouse)
- Construction of transfer station building and related facilities (Pre-engineered metal building has been purchased by the owner)

B. **Time of Completion and Liquidated Damages**. Performance of the work to be done under the Contract shall be commenced within ten (10) calendar days after receipt of written notice to proceed by the Contractor, unless later commencement of the work is authorized by the Engineer. The Contractor shall complete all work items on or before **January 12, 2024**. For each calendar day after this date that the work remains uncompleted, the Contractor shall pay to the Owner five hundred dollars ($500) per calendar day as liquidated damages.

Such amounts shall be a reimbursement to the Owner for damages which the Owner will have sustained by reason of such delayed completion. Damages so liquidated are understood to include the additional cost to the Owner for engineering supervision, observation of construction, interest charges and overhead.

C. **Excess Work Hours**. If the Contractor wishes to work at such a time of the day which is during the period other than the regular business hours of the County, including at night, between sunset and sunrise, or on a Saturday, Sunday, or legal State holiday, he shall make a written request for construction monitoring services during such period. If such a request is made and granted, the Contractor shall notify the Engineer not less than twenty-four (24) hours in advance of the time when such monitoring services are required.

D. **Project Coordination**. It shall be the responsibility of the Contractor to coordinate all work to be performed under this Contract. This coordination shall encompass all work to be performed by the Contractor, Contractor's subcontractors, the Owner, and any public utilities which may be involved.

E. **Access to the Work**. The Contractor shall provide access to the work as may be required by the Owner or Engineer. The Contractor also shall provide access to the work for representatives of local, state, and federal agencies as may be required for inspection of the

progress of the work, the methods of construction, and for any other aspect of the work or the Contractor's operation under the jurisdiction of the respective agency.

Section 01040 - Technical Specifications

A. **General Statement**. Articles, materials, operations or methods mentioned in these Special Provisions, or indicated on the Drawings as being required for the project, shall be provided by the Contractor, and Contractor shall provide each item mentioned or indicated, perform according to the conditions stated in each operation prescribed, and provide, therefore, all necessary labor, equipment, and incidentals necessary to make a complete and operable installation.

No attempt has been made in these Contract Documents to segregate work covered by any trade or subcontract under one specification. Such segregation and establishment of subcontract limits will be solely a matter of specific agreement between the Contractor and Contractor's subcontractors. The Contractor and subcontractor in each case is cautioned that work included in any subcontract may be divided between several general specifications, and that each general specification or subheading of the Special Provisions may include work covered by two or more subcontracts or work in excess of any one subcontract.

B. **Standard Specifications**. The "Oregon Standard Specifications for Construction", 2021 Edition, prepared by the Oregon Department of Transportation and amendments thereto are hereby made a part of this Contract Document and shall be the "Oregon Standard Specifications". The Oregon Standard Specifications requirements for measurement and payment are not applicable to this project.

Should a conflict occur between the General and Special Provisions as contained herein and those of the Oregon Standard Specifications, the General and Special Provisions shall have precedence.

Where the term "Commission", "Department", "Division", or "Oregon Transportation Commission" appears in the Oregon Standard Specifications, it shall be interpreted to mean the Deschutes County Solid Waste Department.

Where the term "Engineer" appears in the Oregon Standard Specifications, it shall be interpreted to mean Civil & Environmental Consultants, Inc. (CEC) directly or acting through its duly authorized representatives.

Where the term "State" appears in the Oregon Standard Specifications, it shall be interpreted to mean Deschutes County acting through authorized representatives.

Section 01042 - Restoration of Surfaces

A. **Roads and Streets**. The Contractor shall restore all roads and streets in which the surface is removed, broken or damaged, or in which the ground has caved or settled, due to the performance of work covered by this Contract, to the original grade and cross section unless otherwise indicated. The Contractor shall match the existing surfacing for depth, materials and surface finish, including striping and pavement markings, except as otherwise specified.

B. **Curbs, Gutters, Driveways and Sidewalks**. The Contractor shall reconstruct all curbs, gutters, driveways, sidewalks and similar structures which are broken or damaged during construction. The Contractor shall reconstruct with the same kind of material with the same finish, and in not less than the same dimensions as the original work. The Contractor shall remove and replace the entire portions between joints or scores and not merely by refinishing the damaged part. The Contractor shall match the appearance of the existing improvements as nearly as possible, except as otherwise required.

C. **Cultivated Areas and Other Surfaces**. The Contractor shall restore all cultivated areas, which are damaged by actions of the Contractor, to their original condition. The Contractor shall remove ornamental trees and shrubbery with earth surrounding the roots wrapped in burlap, and replant in their original positions, or, as an alternative, replace with equal material.

For lawn areas, the Contractor shall cut the sod, roll and replace after the excavation has been properly compacted. Or, as an alternative, cover the excavated area with top soil to the depth of the original top soil and reseed, water and maintain as directed. The Contractor shall notify the owner of any private property prior to construction upon their premises.

The materials storage areas shall be regraded and seeded by the Contractor at the conclusion of the project. Any damage to fences, walks, curbs, driveways, etc. shall be handled in accordance with applicable sections of these specifications.

D. **Measurement and Payment**. No separate or additional payment will be made for Restoration of Surfaces, but shall be considered incidental to the work and shall be included in various unit or lump sum bid items.

Section 01045 - Cooperation with County and Other Contractors

The Contractor shall extend full cooperation to the County, other contractors, and the public. The Contractor shall schedule and construct his work in conjunction with these and other organizations to minimize mutual interference.

No separate or additional payment will be made for cooperation with the County, the public, and other contractors, but shall be considered incidental to the work and shall be included in various unit or lump sum bid items.

Section 01050 - Surveying

A. **General**. The Contractor shall verify all grades, lines, levels and dimensions shown on the Drawings and shall report any errors or inconsistencies to the Engineer before commencing work. Failure to do so shall make the Contractor responsible for any changes which may be required thereafter in connection therewith. The Contractor shall, at Contractor's expense, furnish all stakes, templates, platforms, equipment, and labor that may be required in setting or laying out any part of the work.

The Contractor will be held responsible for the proper execution of the work to such lines and grades as shown on the Drawings and as may be directed by the Engineer. All stakes or

other marks thus established shall be preserved by Contractor until their removal is authorized by the Engineer.

B. **Measurement and Payment**. No separate or additional payment will be made for surveys, but shall be considered incidental to the work and shall be included in the various unit or lump sum bid items.

Section 01060 - Codes, Permits and Prevention of Environmental Degradation

A. **General**. Environmental pollution control shall consist of the protection of the environment from pollution during and as a result of construction operations under the Contract. The control of environmental pollution requires the consideration of air, water and land and involves noise, dust, and other pollutants. It is the responsibility of the Contractor to investigate and comply with all applicable federal, state, and county laws and regulations concerning environmental pollution control and abatement.

B. **Protection of Land Resources**. Land resources within the project area and outside the limits of permanent work performed under the Contract shall be preserved in their present condition or be restored to a natural condition that will not detract from the appearance of the surrounding area. Except in areas marked on the Drawings to be cleared, the Contractor shall not deface, injure or destroy trees or shrubs nor remove or cut them without approval by the Owner. Any tree or other landscape feature scarred or damaged by the Contractor's equipment or operation shall be restored as nearly as possible to its original condition at the Contractor's expense.

C. **Water Pollution**. The Contractor shall not pollute water resources, including streams and drainage systems, with fuel, oils, bituminous materials, calcium chloride, acids, construction wastes, wash waters or other harmful materials. Objectionable construction discharges shall be processed, filtered, ponded or otherwise treated prior to their discharge into a waterway or drainage system. Disposal of any material, garbage, oil, grease, chemicals, trash and other similar materials in areas adjacent to streams or drainage systems is prohibited.

D. **Protection of Fish and Wildlife**. The Contractor shall at all times perform all work and take such steps to prevent any interference or disturbance to fish and wildlife.

E. **Permits**. The Owner has applied for permits related to the construction of the project (building, electrical, mechanical, septic, plumbing). Contractor shall be responsible for obtaining all other permits necessary for completing the work.

F. **Subcontractors**. Compliance with the provisions of this section by the subcontractors will be the responsibility of the Contractor.

G. **Non-Compliance**. The Engineer will notify the Contractor of any non-compliance with the foregoing provisions and the action to be taken. If the Contractor fails or refuses to comply promptly, the Engineer, with the approval of the Owner, may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No extension of time or payment for excess costs or damage shall be made to the Contractor for the time lost due to such stop action. Failure to notify does not change the requirements.

H. **Payment**. No separate or additional payment will be made for codes, permits and prevention of environmental degradation, but shall be considered incidental to the work and shall be included in various unit or lump sum bid items.

Section 01070 - Safety Provisions

A. **General**. Contractor shall comply with all health and safety rules, regulations, and ordinances promulgated by the local, state, and federal governments, the various construction permits, and other sections of the Contract Documents. Such compliance shall include, but not be specifically limited to, any and all protective devices, guards, restraints, locks, latches, switches, and other safety provisions that may be required or necessitated by state and federal safety regulations. The Contractor shall determine the specific requirements for safety provisions and shall cause inspections and reports by the appropriate safety authorities to be conducted to insure compliance with the intent of the regulations.

Contractor shall perform whatever work is necessary for safety and be solely and completely responsible for conditions of the job site, including safety of all persons (including employees of the Owner, Engineer, and Contractor) and property during the contract period. This requirement applies continuously and is not limited to normal working hours.

The Engineer's review of the Contractor's performance does not include a review or approval of the adequacy of the Contractor's safety supervisor, the safety program or any safety measures taken in, on, or near the construction site.

Accidents causing death, injuries, or damage must be reported to the Engineer immediately in person or by telephone or messenger. In addition, Contractor shall promptly report in writing to the Engineer all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses.

If a claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing within twenty-four (24) hours after occurrence, to the Engineer, giving full details of the claim.

B. **Site Safety and Health Plan**. The Contractor shall develop and maintain for the duration of this Contract, a site safety and health plan that will effectively incorporate and implement all required county, state, and federal safety provisions. Contractor shall provide a written site safety and health plan for the construction within ten (10) calendar days after receiving a Notice to Proceed and prior to commencing work on this project. Contractor shall maintain at least one copy of the plan at the work site. Contractor shall assign an individual serving as a Site Safety and Health Officer at the job site at all times during work who is responsible and authorized to supervise and enforce compliance with the site safety and health plan. In addition to the other items that shall be addressed, the site safety and health plan shall list the appropriate procedures to be followed in the event that hazardous materials or gases are encountered.

Preparation of the written site safety and health plan is the Contractor's responsibility, and no statement made in these provisions relieves the Contractor of responsibility for information included in, and implementation of, the site safety and health plan.

The Contractor's written site safety and health plan should include, but not be limited to:

1. A list of chemical and physical hazards (such as methane exposure and electrical shock), allowable OSHA exposure levels, threshold limit values, other regulatory exposure levels, and the emergency response should an exposure or injury occur.

2. An emergency evacuation plan for immediate removal to a hospital or a doctor's care any person who may be injured on the job site including evacuation plan routes to medical treatment, and emergency telephone numbers including hospital, ambulance, fire, sheriff/police, poison control, the Engineer, and others as deemed necessary.

3. A list of safety and monitoring equipment at the job site and locations where equipment is stored or expected to be maintained.

4. Monitoring equipment action levels, frequency of testing, and recommended responses.

5. Procedures for entering confined spaces.

6. Procedures to be followed if hazardous materials or gases is encountered.

The Contractor shall submit copies of the site safety and health plan in accordance with Section 01340 of the Special Provisions. Failure on the part of the Contractor to follow the site safety and health plan or failure to work in a safe manner may result in suspension of the work by the Owner. The Contractor shall not be entitled to extra compensation for health- and safety-related suspensions, nor shall the Contract completion date be extended.

C. **Contractor Safety Equipment**. As part of the safety program, the Contractor shall maintain at the job site safety equipment applicable to the work as prescribed by the governing safety authorities and all articles necessary for giving first aid to the injured.

The Contractor shall train all personnel in use of the appropriate safety equipment that would be utilized during the course of their work. It is the responsibility of the Site Safety and Health Officer to ascertain that all safety equipment is properly maintained and being used when appropriate.

D. **Site Safety and Health Officer**. The Contractor shall provide a person designated as the Site Safety and Health Officer who is thoroughly trained in rescue procedures and the use of safety equipment and gas detectors. The person must be present at all times while work is being performed, and implement the written site safety and health plan and conduct testing, as necessary.

The Contractor shall provide the Site Safety and Health Officer with the delegated authority to order any person or worker on the project site to follow the safety rules. Failure to

observe these rules is sufficient cause for removal of the person or worker(s) from this project.

The Site Safety and Health Officer is responsible for determining the extent to which any safety equipment must be utilized, depending on conditions encountered at the site.

E. **Payment**. No separate or additional payment will be made for safety provisions, but shall be considered incidental to the work and shall be included in various unit or lump sum bid items.

Section 01150 - Measurement, Payment and Retained Amounts

A. **Measurement and Payment** - General.
Measurement of pay items will be performed by the Contractor according to the United States standard measures and based upon actual units of work performed or installed. The method of measurement is described under each bid item. Each lump sum bid item has a measurement section in them stating that measurement will be by the lump sum.

Payment will be in accordance with the unit or lump sum prices shown on the Bid Schedule shown in the Proposal. The unit or lump sum contract prices shall constitute full compensation for each bid item including all costs for overhead, profit, fees, taxes, bonding, insurance, and for furnishing all plant, materials, labor, equipment, tools, and performing all operations required as well as all work incident or incidental to complete the work in accordance with the Contract Documents, and to provide operation and maintenance manuals, guarantees and warrantees as well as as-built documentation of the completed work.

In the event that terms for "measurement and payment" and/or "measurement" and/or "payment" are not directly mentioned in a section, such omission shall be construed to mean that no separate or additional payment will be made for the work described in that section, but shall be considered incidental and included in various unit or lump sum bid items.

B. **Retained Amount** (Retainage)
The amount to be retained from progress payments to protect the County's interests shall be 5 percent of the value of work accomplished, and shall be withheld as described in Section 00195.50 of the Oregon Standard Specifications.

Section 01210 - Construction Schedule

A. **Construction Schedule.** Within ten (10) calendar days after Notice to Proceed, or such later time as may be designated by the Engineer, the Contractor shall prepare and submit to the Engineer for review a construction schedule, showing the order in which the Contractor proposes to carry on the work, the dates on which salient features will be started (including the procurement of materials, plant and equipment) and the contemplated dates for completing the same. No payment for mobilization will be made until receipt of the construction schedule by the Engineer.

The Contractor shall prepare and submit a construction schedule in the form of a Gantt Chart. The project's critical path, along with the start and end dates of each of the individual

work items shall be shown. The construction schedule shall be in sufficient detail that progress of the work can be evaluated accurately at any time during the performance of the Contract.

The construction schedule shall be updated monthly. The Owner will make no progress payments under this Contract until an updated construction schedule has been submitted for review.

All costs associated with the submittal of the construction schedule updates shall be incidental to and included in the various contract items.

Review of any schedule submitted by the Contractor shall not be construed to assign responsibility of performance or contingencies to the Engineer or relieve the Contractor of responsibility to adjust forces, equipment, and work schedules as may be necessary to ensure completion of the work within the prescribed contract time.

B. **Revisions**. If, in the opinion of the Engineer, the Contractor's work activities are inconsistent with the order, sequence, or timing of the activities shown on the construction schedule, the Engineer may require the Contractor to propose methods, such as providing additional equipment and/or workers, to complete the work within the specified time limit. The Engineer may require the Contractor to submit supplementary construction schedules demonstrating the agreed rate of progress and the order and sequence of the work.

C. **Failure to Comply**. Failure of the Contractor to comply with the requirements of the Engineer under the provisions of this section shall be grounds for determination by the Engineer that the Contractor is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such determination, the Owner may terminate the Contractor's right to proceed with the work, or any separable part thereof, in accordance with determination for default or in accordance with other provisions provided in the Contract Documents.

D. **Payment**. No separate or additional payment will be made for the construction schedule, but shall be considered incidental to the work and shall be included in various unit or lump sum bid items.

Section 01220 - Progress Meetings

A. **General**. The Engineer and Contractor shall arrange for and conduct progress meetings. These meetings shall include a Pre-Construction meeting, and monthly or more frequent progress meetings in advance of construction milestones (including but not limited to; trenching through roadway, inspection of below grade infrastructure and concrete reinforcement, major equipment setting, and substantial completion/commissioning). These meetings shall be attended by the Engineer and/or a designated representative, the Contractor's superintendent, and representatives of all subcontractors, utilities and others that are active in the execution of the work. The purpose of these meetings shall be to determine the status of the work; to resolve conflicts; and, in general, to coordinate and facilitate expeditious prosecution of the work.

The Engineer and/or a designated representative will prepare the agenda of progress meetings which shall include review of the progress, payment requests, narrative reports, latest construction schedule update, and record documents. The Engineer and/or a designated representative will prepare and distribute meeting minutes.

B. **Progress and Schedule Review**. The progress of the work and the construction schedule shall be reviewed at the progress meetings to verify:

1. Actual start and finish dates of completed activities since the last progress meeting.
2. Duration and progress of all activities not completed.
3. Reason, time and cost data for change order work that is to be incorporated into the construction schedule.
4. Payment due to the Contractor.
5. Reason and duration of required revisions.

C. **Review of Construction Schedule**. The Contractor shall submit a current construction schedule at the progress meeting in a form agreed upon by the Contractor and the Engineer. The construction schedule shall be in sufficient detail that the progress of the work can be evaluated accurately.

D. **Payment**. No separate or additional payment will be made for preparation for or attendance at progress meetings, but shall be considered incidental to the work and shall be included in various unit or lump sum bid items.

Section 01230 - Preconstruction Conference

A. After the Contract has been executed, but prior to the Contractor beginning the work, a preconstruction conference will be held between the Contractor, Engineer, Owner, and such other interested or affected parties as may be invited. The purposes of the preconstruction conference will be:

1. To review the initial construction schedule.
2. To establish a working understanding among the various parties associated or affected by the work.
3. To establish and review procedures for progress payment, notifications, approvals, submittals, etc.
4. To establish normal working hours for the work.
5. To review safety standards and traffic control.
6. To discuss such other related items as may be pertinent to the work.

B. The Contractor shall prepare and submit at the preconstruction conference the following:

1. A list of proposed subcontractors.
2. A preliminary schedule of submittals.
3. A list of material sources for review, if applicable.

4. A construction schedule.

C. **Payment**. No separate or additional payment will be made for preparation for or attendance at the preconstruction conference, but shall be considered incidental to the work and shall be included in various unit or lump sum bid items.

Section 01340 –Required Submittals

A. **General**.

1. Promptly after award of the Contract, the Contractor shall notify the Engineer in writing of the proposed sources of materials, suppliers and fabricators including addresses, telephone numbers and names of contact persons. Review by the Engineer is required for all sources of materials, suppliers and fabricators prior to any ordering, fabrication, processing, or delivery.

2. A Record of Materials, listing the materials for which source information will be required, and the submittal requirements for those items, will be given to the Contractor at the preconstruction conference. Submittal information for items shown in the Record of Materials, together with any other submittals that may be requested by the Engineer, shall be submitted sufficiently in advance of their need to allow for ordering, fabrication, inspection, delivery and installation, after the Engineer's review, in accordance with the reviewed construction schedule.

3. The Contractor shall coordinate, check, approve and submit shop drawings, samples, catalogs, catalog cuts, layouts, color charts, bills of material, test reports, materials certifications, Site Safety and Health Plan, Operating and Maintenance Manual, Traffic Control Plan, and Manufacturers' Equipment Warranties as specified herein and in the relevant sections of these Contract Documents.

B. **Shop Drawings**.

1. The Contractor shall assemble; label with reference to the relevant section of the specifications, and/or the drawing number, detail number, bid proposal item number, location, name and address, and delivery date; and provide all other pertinent data needed for a complete shop drawing. Deviations from the provisions in the Contract Documents shall be noted on the shop drawings.

2. Contractor shall submit shop drawings electronically in Adobe Acrobat file.

3. The Contractor shall verify all rough-in, backing or blocking, space requirements, field measurements, conformity to Contract Documents, code requirements where applicable, and necessary coordination with other parts of the work.

4. Form of Submittal: The Contractor shall submit a Request for Review of Materials, together with all drawings, to the Engineer for review. The request shall be submitted on a standard form supplied by the Engineer.

C. Product Data.

1. The Contractor shall submit manufacturer's catalog cuts, illustrations, brochures, diagrams, mixing or installing instructions for all products specified in the Record of Materials, together with any other submittals that shall be requested by the Engineer. Submittals will be required for all materials requiring coordination, verification of requirements, selection of minor accessories, and as specified in each section of these Special Provisions. Additional or duplicating information also may be required, after review, for use by the Owner in the maintenance and operation of the facilities.

2. Form of Submittal: The Contractor shall submit a Request for Review of Materials, together with all product data, to the Engineer for review. The request shall be submitted on a standard form supplied by the Engineer.

3. Contractor shall submit product data electronically as an Adobe Acrobat, Excel or Word document file.

D. Samples and Color Selections.

1. The Contractor shall submit samples, color charts and finish selection requirements as may be specified elsewhere in these Contract Documents.

2. *Samples*. Unless specified otherwise, the Contractor shall submit samples in a manageable size for mailing, and storage in the project file cabinet, and as follows:
   a. Quantity: Contractor shall submit five (5) sets of samples.
   b. Character: The material samples shall be representative of the production line, or the product produced by the manufacturer.

3. *Color Charts.* Unless otherwise specified, colors for selection are from the manufacturer's standard color selection as currently published or manufactured in effect at the time of the Invitation to Bid.

E. Site Safety and Health Plan

1. A Site Safety and Health Plan shall be submitted by the Contractor as required in Section 01070 of the Special Provisions.

2. Form of Submittal. The Contractor shall submit the Site Safety and Health Plan to the Engineer for review.

3. Contractor shall submit the Site Safety and Health Plan in printed form or electronically as an Adobe Acrobat, Excel or Word document file.

F. Operation and Maintenance Manuals

1. An Operation and Maintenance Manual shall be submitted by the Contractor as required in Section 01350 of the Special Provisions.

2. Form of Submittal. The Contractor shall submit the Operations and Maintenance Manual to the Engineer for review.

3. Contractor shall submit the Operation and Maintenance Manual in printed form or electronically as an Adobe Acrobat, Excel or Word document file.

4. Upon acceptance after Engineer's Review, Contractor shall assemble and submit five (5) hardbound copies and one (1) electronic copy of the approved Operations and Maintenance Manual.

G. Traffic Control Plan

1. A Traffic Control Plan shall be submitted by the Contractor as required in Section 01570 of the Special Provisions.

2. Form of Submittal. The Contractor shall submit Traffic Control Plan to the Engineer for review.

3. Contractor shall submit the Traffic Control Plan in printed form or electronically as an Adobe Acrobat, Excel or Word document file.

H. Equipment Warranties

1. Equipment Warranties shall be submitted by the Contractor as required in Section 02420 of the Special Provisions.

2. Form of Submittal. The Contractor shall submit the Equipment Warranties to the Engineer for review.

3. Contractor shall submit the Equipment Warranties in printed form on the equipment manufacturers' warranty forms.

I. After Engineer's Review. The Engineer may require up to fourteen (14) calendar days from the date the submittals are received at the Engineer's office until they are returned to the Contractor. This time will increase if the drawings and information or samples submitted do not meet the contract requirements, or contain insufficient details.

If more than fourteen (14) calendar days are required for the Engineer's review of any individual submittal or resubmittal, an extension of time will be considered in accordance with the General Provisions.

After receiving the reviewed submittal, the Contractor shall:

1. Review and execute the direction of, and/or respond to, the Engineer's review comments.

2. Revise the material or information, if required, and date and identify revisions if any.

3. Submit revised project data for rejected submittals in the same form as specified above for original submittals.

J. Payment. No separate or additional payment will be made for shop drawings, product data and samples, site safety and health plan, manufacturer's operating and maintenance

manual, traffic control plan, and equipment warranties, but shall be considered incidental to the work and shall be included in the various unit or lump sum bid items.

Section 01350 - Operation and Maintenance Manuals

A. General.

1. The Contractor shall coordinate, assemble and submit two (2) hard bound copies and one (1) electronic copy of the manufacturer's operating and maintenance manuals for the electrical, plumbing and mechanical components provided for the project in accordance with Section 01340 of the Special Provisions.

2. The operation and maintenance manuals shall be submitted to the Engineer prior to final payment. The Owner will not pay retainage until the approved operation and maintenance manuals have been submitted.

B. Payment. No separate or additional payment will be made for operation and maintenance manuals, but shall be considered incidental to the work and shall be included in the various unit or lump sum bid items.

Section 01370 - Schedule of Values

Within ten (10) calendar days of receipt of the Notice to Proceed, the Contractor shall submit a complete breakdown of all lump sum bid items showing the value assigned to each part of the work for that item. Upon review by the Engineer of the breakdown of the lump sum price, the schedule of values shall be used as the basis for all progress payments. The schedule of values shall be coordinated and consistent with the reviewed construction schedule.

No separate or additional payment will be made for schedule of values, but shall be considered incidental to the work and shall be included in the various unit or lump sum bid items.

Section 01510 - Maintenance of Existing Facilities During Construction and Contractor Coordination

A. General. The Contractor may remove, relocate or adjust such existing facilities that are to remain, as may be necessary for the performance of the work, and rebuild any such disturbed existing facilities in as good condition as found (with minimum requirements as herein specified). The Contractor shall make all necessary or required revisions and perform all construction required by operations under the Contract, incident to any interference with power transmission and distribution, telephone, cable and other utility lines or with the maintenance of traffic or service thereon, all in a manner satisfactory to the owners and operators thereof.

B. Cooperation with Other Contractors. The Owner and others will be working within the project area while the work is in progress. The Contractor shall schedule his work in conjunction with these other organizations to minimize mutual interference, in accordance with Section 01014.

C. Coordination of Work. The Contractor shall maintain overall coordination for the execution of the work. Based on the progress schedule prepared in accordance with these Special Provisions, the Contractor shall obtain from each subcontractor a schedule and shall be

responsible for all parties maintaining these schedules or for coordinating required modifications.

D. **Payment**. No separate or additional payment will be made for maintenance of existing facilities during construction and contractor coordination, but shall be considered incidental to the work and shall be included in the various unit or lump sum bid items.

Section 01530 - Temporary Facilities, Utilities

A. **Electrical Service**. The Contractor shall arrange with the local utility to provide adequate temporary electrical service, if required for Contractor's operations, at a mutually agreeable location. The Contractor shall then provide adequate job site distribution facilities conforming to applicable codes and safety regulations. The Contractor shall provide, at Contractor's expense, all electric power required for construction, testing, general and security lighting, and all other purposes whether supplied through temporary or permanent facilities.

B. **Water**. The Contractor shall make arrangements for and provide necessary facilities for water supply and sanitary requirements at his own expense.

Water used for human consumption shall be kept free from contamination and shall conform to the requirements of the State and local authorities for potable water.

C. **Temporary Lighting**. If applicable, the Contractor shall provide temporary lighting in all work areas sufficient to maintain a lighting level during working hours not less than the lighting level required by OSHA standards.

D. **Sanitary Facilities**. The Contractor shall provide suitable chemical toilets or water closets at appropriate locations within the site of the work. The facilities shall be serviced weekly or more often if necessary. At the end of the job such toilets shall be removed completely.

E. **Payment**. No separate or additional payment will be made for temporary facilities and utilities, but shall be considered incidental to the work and shall be included in the various unit or lump sum bid items.

Section 01540 - Special Controls

A. **Public Safety and Convenience**. The Contractor shall at all times conduct work as to insure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the work, and to insure the protection of persons and property. No road or street shall be closed to the public except with the permission of the Engineer and proper governmental authority.

The Contractor shall conduct work, and take preventive measures, including performing dust control to minimize or reduce dust conditions, and such that dust in the project area shall not become objectionable to the adjacent property owners. Should the Owner determine the Contractor is not fulfilling obligations in this regard, the Owner reserves the right to take such action as may be necessary, and to charge the Contractor for any costs that may be incurred in such remedial action. No separate or extra measurement and payment of any

kind will be made for dust control, including watering as may be necessary or required by the Engineer.

All work shall be carried on with due regard for the safety of the public. Open trenches shall be provided with barricades of a type that can be seen at a reasonable distance, and at night they shall be distinctly indicated by adequately placed lights. Safety instructions received from the Engineer, Owner or applicable federal, state, or local agency shall be observed, but the following of such instructions shall in no way relieve the Contractor of responsibility or liability should any accident or loss occur as the result of Contractor's construction operations.

It shall be the Contractor's responsibility to see that all requirements of the Federal Williams-Steiger Occupational Safety and Health Act are observed and enforced to protect all the workers on the project, as well as the general public.

B. **Noise**. The Contractor shall comply with applicable federal, state and local rules and regulations. Daytime sound pressure levels shall comply with applicable federal, state and local regulations. All equipment working on the subject site shall be equipped with sound suppressers.

All costs incurred by the Contractor to comply with the noise restrictions shall be considered incidental to the construction bid items and no separate or additional payment will be made.

C. **Payment**. No separate or additional payment will be made for special controls, but shall be considered incidental to the work and shall be included in the various unit or lump sum bid items.

Section 01570 - Traffic Maintenance and Protection

The Contractor shall provide traffic maintenance and protection in accordance with the Oregon Standard Specifications. The work shall be performed under a traffic control plan which has been reviewed by the Engineer and shall create a minimum of interruptions or inconveniences to pedestrian and vehicular traffic. Prior to commencement of construction operations, and not later than 10 days after receipt of Notice to Proceed, the Contractor shall provide in writing a plan of procedure of construction, traffic handling methodology, plans for routing traffic, safety provisions, sequence of operations and any other pertinent data relating to traffic regulation and protection for the public, as may be required. All such plans and provisions shall be submitted in accordance with Section 01340 of these Special Provisions.

All expenses involved in the maintenance of traffic, detours, bridges, barricades, signing, etc. shall be borne by the Contractor and amount thereof shall be included in the unit price or lump sum proposal.

Section 01700 - Project Closeout

A. **General**. It is the intent of these Contract Documents that the Contractor shall deliver a complete and usable facility capable of performing its intended functions and ready for use.

B. **Cleanup**. Throughout the period of construction the Contractor shall keep the work site free and clean of all rubbish and debris, and shall promptly remove from any portion of the site, or from property adjacent to the site of the work, all unused materials, surplus earth and

debris, excepting select material which may be required for embankment, backfill, or grading.

Upon completion of the work, and prior to final acceptance, the Contractor shall remove from the vicinity of the work all plant, surplus material and equipment belonging to or used under Contractor's direction during construction.

C. **Waste Disposal**. The Contractor shall make arrangements for and provide for the disposal of surplus materials, waste products and debris at his own expense.

D. **Project Record Document**. The Contractor shall maintain at the site, available to the Owner and Engineer, one copy of the Contract Documents, Drawings, shop drawings, change orders and other modifications in good order and marked to record all changes made during construction. These documents shall be delivered to the Engineer upon completion and prior to acceptance of the work.
Marking of the Drawings shall be kept current and be done at the time the material and equipment are installed. The Drawings shall be presented monthly to the Engineer for review.

E. **Touch-Up and Repair.** The Contractor shall touch-up or repair finished surfaces on structures, equipment, fixtures or installations that have been damaged prior to final acceptance. Surfaces on which such touch-up or repair cannot be successfully accomplished shall be completely refinished or, in the case of hardware and similar small items, the item shall be replaced.

F. **Releases**. The Contractor shall furnish, before final acceptance, a written release from the property owners of each property disturbed or otherwise interfered with by reason of construction pursued under this Contract, including disposal sites, whenever any of the work is accomplished on or through property other than that owned by the Owner. Should the release be, in the opinion of the Owner, arbitrarily withheld, then the Owner may, at its sole discretion, accept that portion of the work involved and cause final payment therefore to be made. The release must be signed by the Owner, or proper authority acting for the owner, of the property affected, stating that the restoration of the property has been satisfactorily accomplished.

G. **Cost**. All costs in conjunction with work performed under this section shall be considered incidental to the construction bid items, and no separate or additional payment will be made.

Section 01710 - Contract Closeout Procedure

A. **Substantial Completion**.

1. The Contractor shall submit the following:
    a. A written certification to the Owner that the Project or designated portion of the Project is substantially complete; and
    b. A list of items to be completed or corrected.

2. The Owner will make an inspection after receipt of Contractor's certification.

3. If it appears to the Owner that work is substantially complete:

   a. The Owner may request of and the Contractor shall prepare and submit to the Owner, a list of items to be completed or corrected as determined by the inspection.

   b. If the Owner then considers the work to be substantially complete, the Owner will issue a Certificate of Substantial Completion, with appropriate conditions, accompanied by a list of the items to be completed and corrected, as verified and amended by the Owner. Omission of any item from the list shall not relieve the Contractor from responsibility to complete all the work in accordance with the Contract.

   c. The Owner may commence with occupancy of the Project or designated portion of the project.

   d. The Contractor shall complete all the work within the time designated in the Certificate, or if not so designated within a reasonable time.

4. Should the Owner consider that work is not substantially complete:

   a. Owner shall notify the Contractor, in writing stating reasons.

   b. Contractor shall complete work and send second written notice to the Owner certifying that Project or designated portion of Project is substantially complete.

B. Final Inspection.

1. The Contractor shall submit written certification that:

   a. Work has been completed in accordance with Contract Documents.

   b. Equipment and systems have been tested in presence of the Owner's representative and are operational.

   c. The Project is completed, and ready for final inspection.

2. The Owner will make a final inspection within a reasonable time after receipt of certification.

3. Should the Owner consider that work is complete in accordance with requirements of Contract Documents, the Owner shall request the Contractor to make project closeout submittals.

4. Should the Owner consider that work is not complete:

   a. Owner shall notify the Contractor in writing stating reasons.

   b. The Contractor shall take immediate steps to remedy the stated deficiencies and upon completion send a second written notice to the Owner certifying that work is complete.

   c. The Owner will reinspect work.

C. **Reinspection Costs**. If the Owner is required to perform second inspections because of inaccuracies in original certifications of the Contractor, the Owner will charge the Contractor for the resulting costs incurred by the Owner including consultant(s) fees.

D. **Closeout Submittals**.

1. Project Record Documents: See the requirements of Section 01700-D.

2. Guarantees, Bonds and Letters of Credit required by these specifications.

3. Easement Release(s) if applicable.

4. At the close of the Contract the Contractor shall:

    a. Pay all utility bills.

    b. Remove all electrical, telephone, water, offices and any other temporary service equipment that may remain.

E. **Release of Liens or Claims**. Final acceptance will not be given until satisfactory evidence of release of liens has been submitted to the Owner.

F. **Final Acceptance**. The Engineer will provide the Owner with a Recommendation of Final Acceptance following satisfactory completion of the final punch list items and all the items listed above. Owner will then provide the Contractor with Final Acceptance which will begin the warranty periods. Date of Final Acceptance from the Owner sets the completion date of the Contract.

G. **Final Adjustment of Accounts**.

1. Submit final statement of accounting to the Owner.

2. Statement shall reflect all uncompleted adjustments:
    a. Additions and deductions resulting from:
        1) Previous Change Orders
        2) Cash allowances
        3) Unit prices
        4) Other adjustments
        5) Deductions for uncorrected work
        6) Penalties and bonuses
        7) Deductions for liquidated damages
    b. Unadjusted sum remaining due.

H. **Final Application for Payment**. The Contractor shall submit a final application for payment.

I. Final Certificate for Payment.

1. The Owner will issue Final Certificate for Payment.

2. Should final completion be materially delayed through no fault of the Contractor, the Owner may issue a Final Certificate for Payment, in accordance with the specifications and existing laws.

J. Post-Construction Inspection.

1. Prior to expiration of one year from Date of Final Acceptance, the Owner may make visual inspection of the Project in company with the Contractor to determine whether correction of work is required, in accordance with provisions of the General Conditions.

2. For guarantees beyond one year, the Owner will make inspections after notification to the Contractor.

3. The Owner will promptly notify the Contractor, in writing, of any observed deficiencies.

K. Measurement and Payment. No separate or additional payment will be made for Contract closeout procedure, but shall be considered incidental to the work and shall be included in the various unit or lump sum bid items.

Section 01802 - Rate of Wages for Laborers and Mechanics

The Contractor is referred to the rates of minimum wages which shall be paid to the various classes of laborers and mechanics engaged in the performance of the Contract on the job site, contained elsewhere herein. The minimum wages for the Project shall not be less than the wages published by the State of Oregon Bureau of Labor and Industries (BOLI). The following internet link may be used to obtain the access to State and Federal Prevailing Wage Rates:
http://www.oregon.gov/BOLI/WHD/PWR/pwr_book.shtml.

No laborer or mechanic shall be permitted or required to work on Saturday, Sunday, or a legal holiday of the State or in excess of eight (8) hours on any other day unless they receive compensation for all hours worked on Saturday, Sunday, and a legal holiday of the State or in excess of eight (8) hours on any other day at a rate not less than one and one-half times the basic hourly rate of pay. For the purposes of determining overtime compensation, the basic hourly rate of any laborer or mechanic shall not be less than the basic hourly rate determined by the Commissioner of the Bureau of Labor and Industries of the State to be the prevailing basic hourly rate for corresponding classes of laborers and mechanics on projects of similar character in the State.

The Contractor and Contractor's subcontractors shall pay all mechanics and laborers employed on the job site, unconditionally and not less often than once a week, and without deduction or rebate on any account, except as allowed by law, the full amounts of their wages including overtime, accrued to not more than five (5) working days prior to the time of payment, at wage rates not less than those referred to hereinabove, regardless of any contractual relationship which may be alleged to exist between the Contractor or subcontractor and the laborers and mechanics.

The rates of wages to be paid shall be posted by the Contractor in a prominent and easily accessible place at the job site. A copy of the rates of wages required to be posted, shall be given to each laborer and mechanic employed under the Contract by the Contractor at the time of employment, provided that where there is a collective bargaining agreement, the Contractor does not have to provide employees the wage rate schedule.

The Owner may withhold from the Contractor so much of the accrued payments as may be considered necessary to pay to laborers and mechanics employed by the Contractor or any subcontractor on the job site the difference between the wages required as hereinabove referred to and the wages received and not refunded to the laborers and mechanics.

No separate or additional payment will be made for the provisions of this Section, but shall be considered incidental to the work and shall be included in the various unit or lump sum bid items.

Section 01803 - Payrolls and Payroll Records

A certified copy of all payrolls shall be submitted to the Engineer within the first 15 days of work and monthly thereafter. The Owner will make no progress payments under this Contract until the payroll records for the period have been submitted for review.

The Contractor shall be responsible for the submission of certified copies of the payrolls of all subcontractors. The certification shall affirm that the payrolls are correct and complete, that the wage rates contained therein are not less than the applicable rates contained in the wage determination decision of the Commissioner of the Bureau of Labor and Industries referred to hereinabove, and that the classifications set forth for each laborer or mechanic conform with the work performed.

Payroll records for all laborers and mechanics working at the site of the work shall be maintained by the general Contractor and Contractor's subcontractors during the course of the work and preserved for a period of three (3) years thereafter. The records shall contain the name of each employee, their correct classification, rate of pay, daily and weekly number of hours worked, deductions made and actual wages paid. The records shall be made available for inspection by the Owner, Commissioner of the Bureau of Labor and Industries of the State, and any authorized representatives thereof who may also interview employees during working hours on the job.

No separate or additional payment will be made for payrolls and payroll records, but shall be considered incidental to the work and shall be included in the various unit or lump sum bid items.

Section 01804 - Termination of Work on Failure to Pay Agreed Wages and Completion of Work

In the event that the Owner finds that any laborer or mechanic employed on the job site by the Contractor or any subcontractor has been or is being paid wages at a rate less than the required rate, the Owner may by written notice to the Contractor, terminate Contractor's right, or the right of any subcontractor, to proceed with the work or with the part of the work in which the required wages of compensation have not been paid and may complete such work or part by contract or otherwise, and the Contractor and Contractor's sureties shall be liable to the Owner for any excess costs occasioned thereby.

No separate or additional payment will be made for the provisions of this Section, but shall be considered incidental to the work and shall be included in the various unit or lump sum bid items.

ATTACHMENT 7
REVISION TO ARCHITECTURAL DRAWING SET

SITE CODE SUMMARY

APPLICABLE CODES

BUILDING JURISDICTION: DESCHUTES COUNTY

CONSTRUCTION CODES:
OREGON STRUCTURAL SPECIALTY CODE, 2019 EDITION (OSSC)
OREGON MECHANICAL SPECIALTY CODE, 2014 EDITION (OMSC)
OREGON PLUMBING SPECIALTY CODE, 2014 EDITION (OPSC)
OREGON ELECTRICAL SPECIALTY CODE, 2014 EDITION (OESC)
OREGON FIRE CODE, 2014 EDITION (OFC)

PROJECT DESCRIPTION

TAX LOT: 1513000000103
ADDRESS: 2400 NE MAPLE WAY, REDMOND, OREGON 97756
(THIS IS THE ADDRESS OF THE EXISITNG TS. WILL NEW TS BE SAME?)

THE PROPOSED PROJECT CONSISTS OF A NEW TRANSFER STATION AND SCALEHOUSE WITH THREE SCALES

ON-SITE WASTE WATER - OCCUPANCY INFORMATION (ALLOWABLE)

BUILDING A OCCUPANTS (S-1): **117 OCCUPANTS**
BUILDING C OCCUPANTS (B): **4 OCCUPANTS**

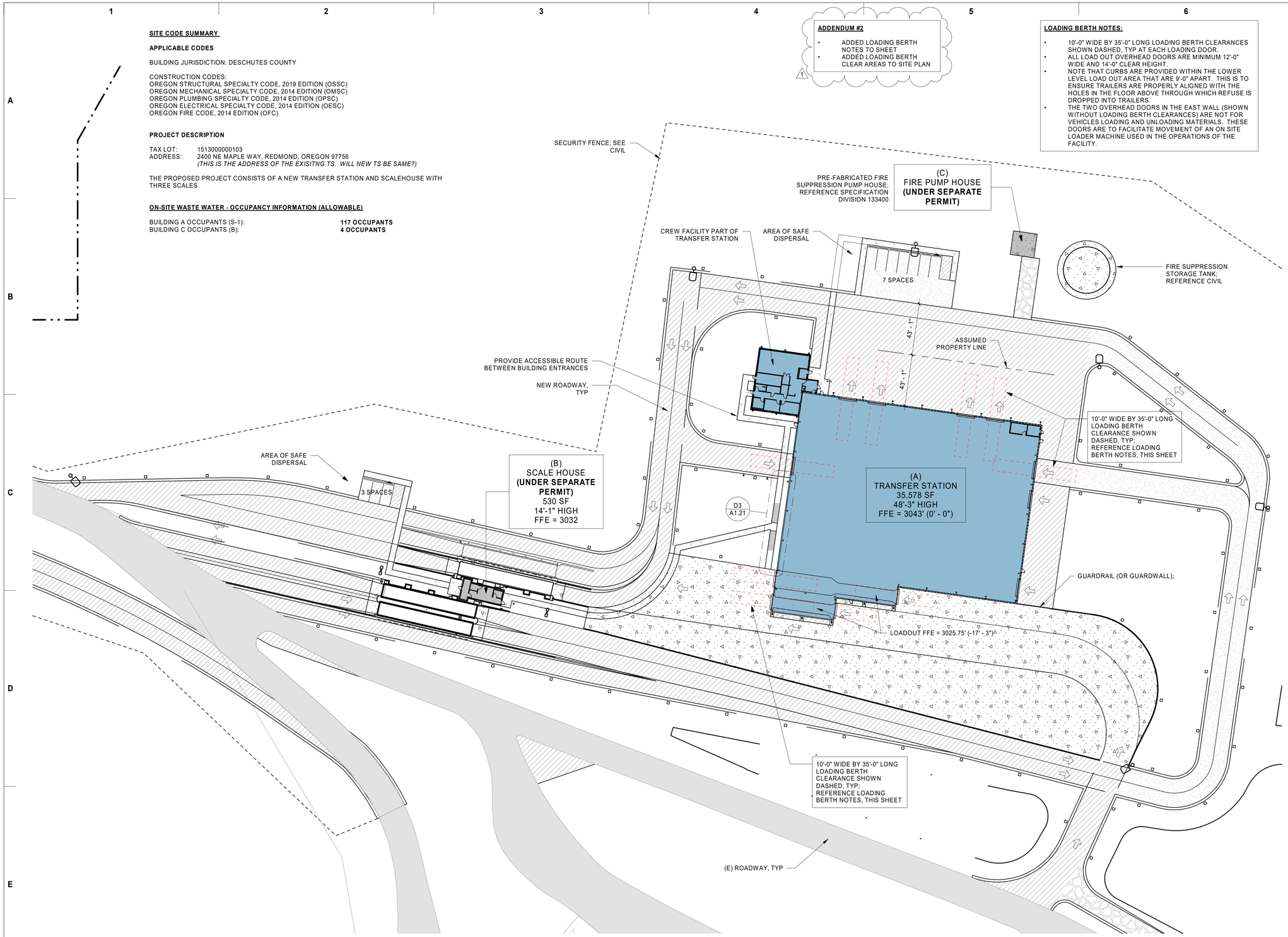
ADDENDUM #2

- ADDED LOADING BERTH NOTES TO SHEET
- ADDED LOADING BERTH CLEAR AREAS TO SITE PLAN

1

LOADING BERTH NOTES:

- 10'-0" WIDE BY 35'-0" LONG LOADING BERTH CLEARANCES SHOWN DASHED, TYP AT EACH LOADING DOOR.
- ALL LOAD OUT OVERHEAD DOORS ARE MINIMUM 12'-0" WIDE AND 14'-0" CLEAR HEIGHT.
- NOTE THAT CURBS ARE PROVIDED WITHIN THE LOWER LEVEL LOAD OUT AREA THAT ARE 9'-0" APART. THIS IS TO ENSURE TRAILERS ARE PROPERLY ALIGNED WITH THE HOLES IN THE FLOOR ABOVE THROUGH WHICH REFUSE IS DROPPED INTO TRAILERS.
- THE TWO OVERHEAD DOORS IN THE EAST WALL (SHOWN WITHOUT LOADING BERTH CLEARANCES) ARE NOT FOR VEHICLES LOADING AND UNLOADING MATERIALS. THESE DOORS ARE TO FACILITATE MOVEMENT OF AN ON SITE LOADER MACHINE USED IN THE OPERATIONS OF THE FACILITY.



E1 SITE PLAN
1" = 40'-0" @ FULL SIZE

SITE PLAN GENERAL NOTES

A. REFERENCE CIVIL DRAWINGS FOR GRADING & DRAINAGE AND UTILITY INFORMATION
B. REFERENCE LANDSCAPE DRAWINGS FOR LANDSCAPE INFORMATION

SITE PLAN LEGEND

- PROPERTY BOUNDARY
- BUILDING SETBACK
- UTILITY EASEMENT
- ACCESSIBLE PATH OF TRAVEL TO PUBLIC WAY OR SAFE DISPERSAL AREA
- FENCE

DRAWING REVISIONS

#	Date	Description
1	2022-08-01	ADDENDUM #2

BID SET

NEGUS RECYCLING AND TRANSFER FACILITY TRANSFER STATION
2400 NE MAPLE AVE.
REDMOND, OR 97756

BLRB architects
TACOMA | SPOKANE | PORTLAND | BEND
1250 Pacific Ave Suite 700 WA 98402 253.627.5599
505 W Riverside Suite 500 WA 98201 509.252.5080
621 SW Morrison St. Suite 950 OR 97205 503.595.0270
721 SW Industrial Suite 130 OR 97702 541.330.6506

Drawing Title: SITE PLAN - PROPOSED NEW

Date : 2022-06-28
Drawn By : LCG
Revised :
Project No. 20013

Stamp: REGISTERED ARCHITECT 5291 SETH E. ANDERSON BEND, OREGON STATE OF OREGON

Sheet No. A1.10

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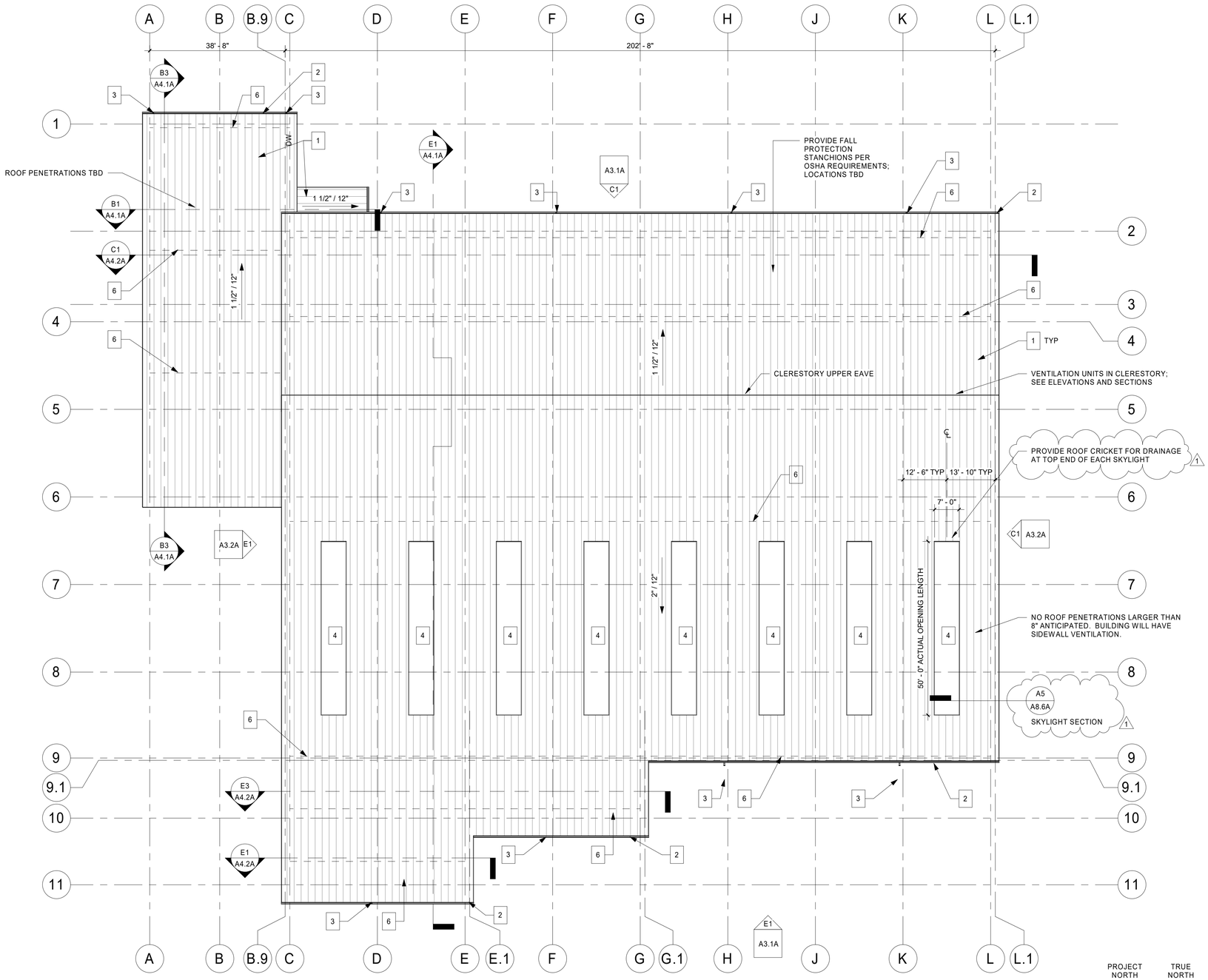

E2 ROOF PLAN

1/16" = 1'-0" @ FULL SIZE

0' 4' 8' 16'

ROOF KEYNOTES

#	DESCRIPTION

GENERAL NOTE: ITEMS MARKED (PEMB) ARE TO BE PROVIDED BY THE METAL BUILDING MANUFACTURER UNLESS OTHERWISE NOTED.

1. (PEMB) STANDING SEAM METAL ROOF
2. (PEMB) METAL GUTTER
3. (PEMB) METAL DOWNSPOUT AND BOOT: CONNECT TO STORM DRAIN, SEE CIVIL DWG'S. DOWNSPOUT TO BE LOCATED ADJACENT TO STEEL COLUMN U.N.O.
4. SKYLIGHT
5. FALL PROTECTION STANCHION
6. SNOW GUARD; SEAM-MOUNTED FENCE

DRAWING REVISIONS

#	Date	Description
1	2022-08-01	ADDENDUM #2

BID SET

NEGUS RECYCLING AND TRANSFER FACILITY TRANSFER STATION

2400 NE MAPLE AVE.
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505 W Riverside Suite 500 WA 99201 509.252.5080
621 SW Morrison St. Suite 950 OR 97205 503.595.0270
721 SW Industrial Suite 130 OR 97702 541.330.6506

Drawing Title: ROOF PLAN - TRANSFER STATION

Date :	Drawn By :
2022-06-28	Author
Revised :	Project No. 20013

Stamp: REGISTERED ARCHITECT 5291 SETH E. ANDERSON BEND, OREGON STATE OF OREGON

Sheet No. A2.2A

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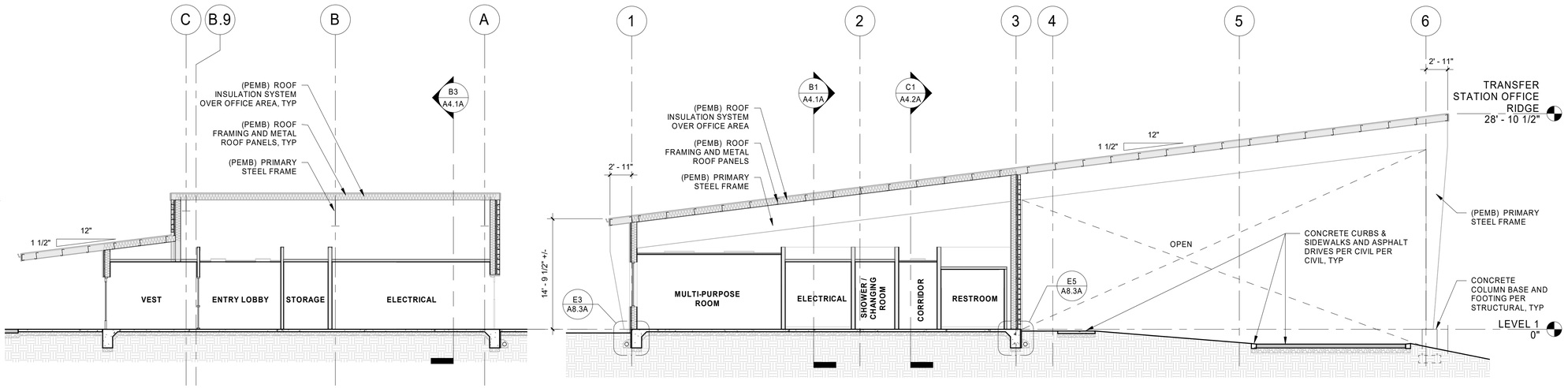


B1 TRANSFER STATION OFFICE SECTION - N/S

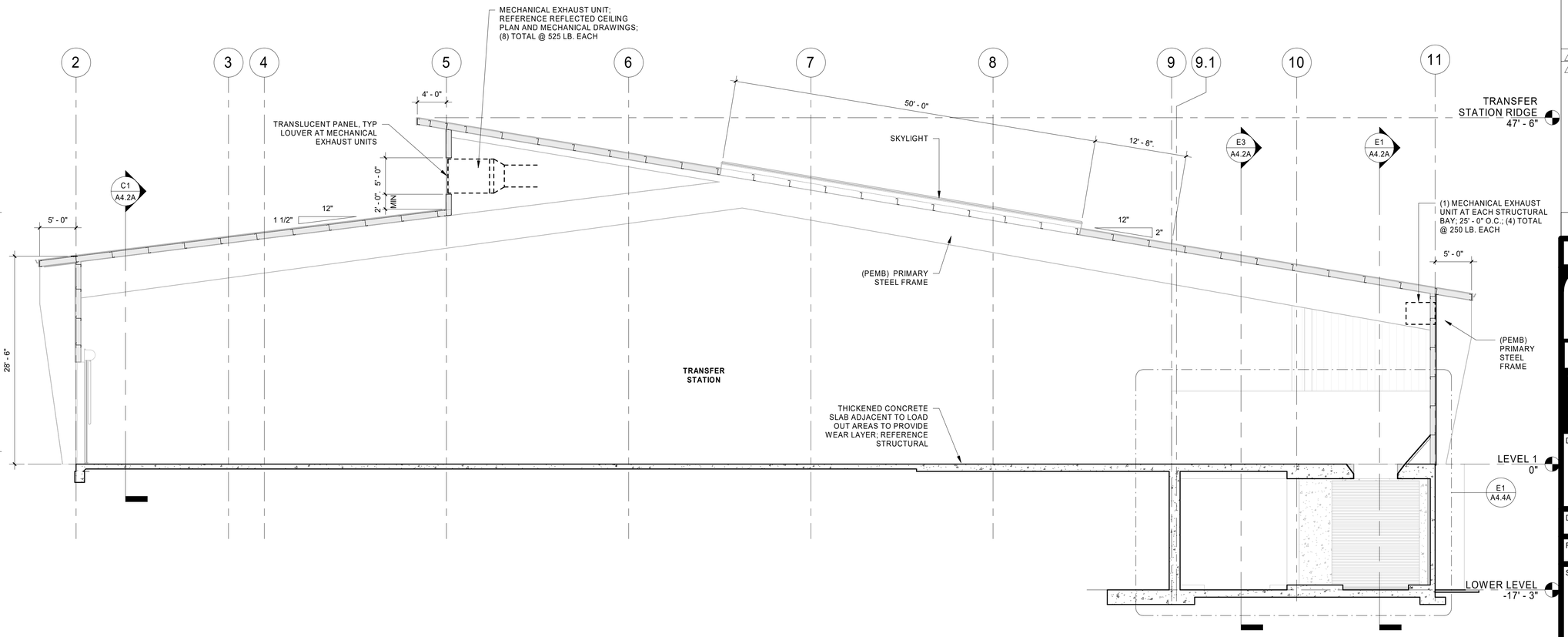
1/8" = 1'-0" @ FULL SIZE

0' 2' 4' 8'

B3 TRANSFER STATION OFFICE SECTION - E/W

1/8" = 1'-0" @ FULL SIZE

0' 2' 4' 8'



E1 E/W SECTION 2

1/8" = 1'-0" @ FULL SIZE

0' 2' 4' 8'

SECTION GENERAL NOTES

1. ITEMS MARKED (PEMB) TO BE PROVIDED BY PRE-ENGINERRED BUILDING MANUFACTURER
2. NOTE

DRAWING REVISIONS

#	Date	Description

BID SET

NEGUS RECYCLING AND TRANSFER FACILITY TRANSFER STATION

2400 NE MAPLE AVE.
REDMOND, OR 97756

BLRB architects

TACOMA | SPOKANE | PORTLAND | BEND

1250 Pacific Ave Suite 700 WA 98402 253.627.5599	505 W Riverside Suite 500 WA 98201 509.252.5080	621 SW Morrison St. Suite 950 OR 97205 503.595.0270	721 SW Industrial Suite 130 OR 97702 541.330.6506

Drawing Title: BUILDING SECTIONS - TRANSFER STATION

Date : 2022-06-28

Drawn By : LCG

Revised :

Project No. 20013

Stamp: REGISTERED ARCHITECT 5291 SETH E. ANDERSON BEND, OREGON STATE OF OREGON

Sheet No. A4.1A

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ROOM FINISH SCHEDULE

ROOM		FLOOR			WALLS								CEILING		
					NORTH		EAST		SOUTH		WEST				
NUMBER	NAME	MATERIAL	FINISH	BASE	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	NOTES
100	TRANSFER STATION	CONC	CONC	N/A	MP	FF	MP	FF	MP	FF	MP	FF	MP	FF	
101	VEST	CONC	LVT	RB	GWB / SF	PT / FF	GWB / SF	PT / FF	GWB	PT	GWB / SF	PT / FF	GWB	PT	
102	SUPERVISOR OFFICE	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	ACT		
103	SERVER	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	GWB	PT	PROVIDE PLYWOOD WALL PANELS OVER GWB FINISH AT LOCATIONS INDICATED BY ELECTRICAL OR TELCO
104	VENDOR OFFICE	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	ACT		
105	MECHANICAL ROOM	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	GWB	PT	PROVIDE PLYWOOD WALL PANELS OVER GWB FINISH AT LOCATIONS INDICATED BY ELECTRICAL OR TELCO
106	RESTROOM	CONC	CT	CT	GWB / CT	PT / CT	GWB / CT	PT / CT	GWB / CT	PT / CT	GWB / CT	PT / CT	GWB	PT	PROVIDE WAINSCOT PER INTERIOR ELEVATION
107	SHOWER / CHANGING ROOM	CONC	CT	CT	GWB / CT	PT / CT	GWB / CT	PT / CT	GWB / CT	PT / CT	GWB / CT	PT / CT	GWB	PT	
108	CORRIDOR	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	ACT		
109	ELECTRICAL	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	GWB	PT	PROVIDE PLYWOOD WALL PANELS OVER GWB FINISH AT LOCATIONS INDICATED BY ELECTRICAL OR TELCO
110	STORAGE	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	GWB	PT	
111	CLOSET	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	GWB	PT	
112	PUBLIC RESTROOM	CONC	CT	CT	GWB / CT	PT / CT	GWB / CT	PT / CT	GWB / CT	PT / CT	GWB / CT	PT / CT	GWB	PT	PROVIDE WAINSCOT PER INTERIOR ELEVATION
113	MULTI-PURPOSE ROOM	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	ACT		
114	KITCHEN	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	ACT	PT	
115	ENTRY LOBBY	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	ACT		
116	WARMING HUT	CONC	CONC	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	GWB	PT	
117	FIRE RISER / MISTER PUMP	CONC	CONC	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	GWB	PT	PROVIDE PLYWOOD WALL PANELS OVER GWB FINISH AT LOCATIONS INDICATED BY ELECTRICAL OR TELCO

(CT) CERAMIC TILE (ALSO PORCELAIN TILE) PRODUCT INFORMATION

BASIS OF DESIGN:
DAL TILE, PORCELAIN TILE 'PORTFOLIO' 12X12, MATTE FINISH, 'IRON GREY PF06'

COVE BASE: 6" 'IRON GREY PF06'

GROUT: ARCHITECT TO SELECT FROM MANUFACTURER'S FULL RANGE

1

FINISH MATERIAL ABBREV. LEGEND

FLOOR

CONC	CONC
CT	CERAMIC TILE
LVT	VINYL TILE

BASE

CT	CERAMIC TILE (ALSO PORCELAIN TILE)
RB	RESILIENT BASE

WALLS

CT	CERAMIC TILE
FRP	FIBERGLASS REINFORCED PANELS
MP	METAL PANEL (SUPLIED WITH PEMB)
PT	PAINT
SF	STOREFRONT WINDOW SYSTEM

MILLWORK

PL	PLASTIC LAMINATE
WV	WOOD VENEER
SLDS	SOLID SURFACE

WOODWORK

WT	WOOD TRIM

CEILING

ACT	ACOUSTIC CEILING TILE
GWB	GYPSUM BOARD CEILING
MP	METAL PANEL (SUPLIED WITH PEMB)

MISC FINISH

FF	FACTORY FINISH

DRAWING REVISIONS

#	Date	Description
1	2022-08-01	ADDENDUM #2

BID SET

NEGUS RECYCLING AND TRANSFER FACILITY TRANSFER STATION

2400 NE MAPLE AVE.
REDMOND, OR 97756

BLRB architects

TACOMA | SPOKANE | PORTLAND | BEND

1250 Pacific Ave, Suite 700, WA 98402, 253.627.5599
505 W Riverside, Suite 500, WA 98201, 509.252.5080
621 SW Morrison St, Suite 950, OR 97205, 503.595.0270
721 SW Industrial, Suite 130, OR 97702, 541.330.6506

Drawing Title: ROOM FINISH SCHEDULE

Date : 2022-06-28

Drawn By : LCG

Revised :

Project No. 20013

Stamp: REGISTERED ARCHITECT 5291 SETH E. ANDERSON BEND, OREGON STATE OF OREGON

Sheet No. A5.0A

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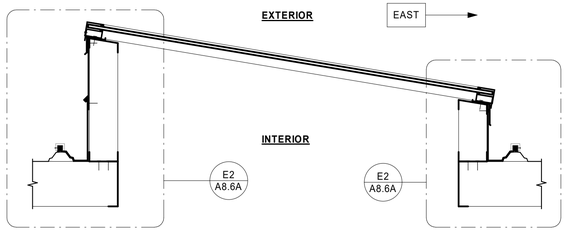
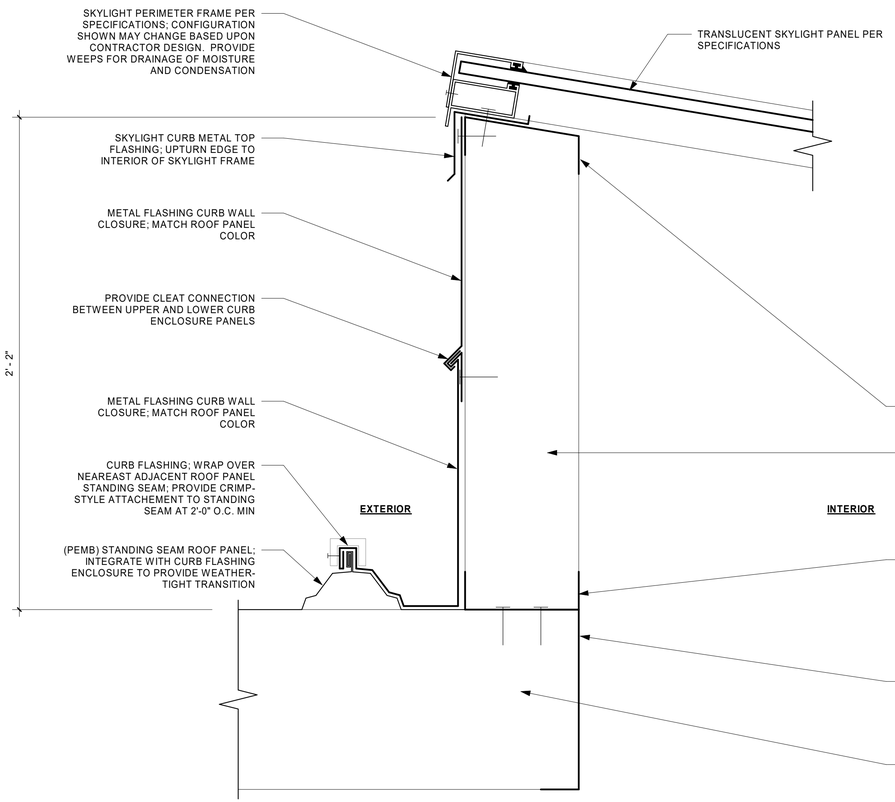


A5 SKYLIGHT SECTION
3/4" = 1'-0" @ FULL SIZE



E2 SKYLIGHT SECTION DETAILS
3" = 1'-0" @ FULL SIZE
0" 1" 2" 4"

DRAWING REVISIONS

#	Date	Description
1	2022-08-01	ADDENDUM #2

BID SET

NEGUS RECYCLING AND TRANSFER FACILITY TRANSFER STATION
2400 NE MAPLE AVE.
REDMOND, OR 97756

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621 SW Morrison St. Suite 950 OR 97205 503.595.0270
721 SW Industrial Suite 130 OR 97702 541.330.6506

Drawing Title: SKYLIGHT DETAILS

Date : 2022-06-28
Drawn By : LCG
Revised :
Project No. 20013

Stamp: REGISTERED ARCHITECT 5291 SETH E. ANDERSON STATE OF OREGON BEND, OREGON

Sheet No. 1 A8.6A

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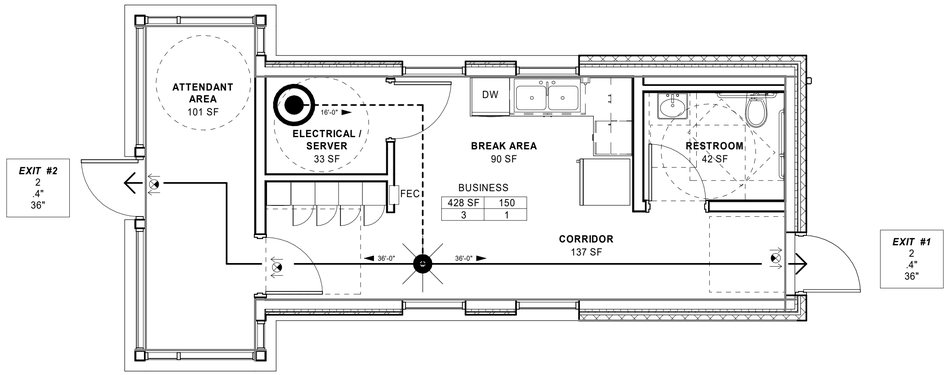


B2 CODE COMPLIANCE FLOOR PLAN

1/4" = 1'-0" @ FULL SIZE

0' 1' 2' 4'

CODE COMPLIANCE LEGEND

EXIT LIGHT, DIRECTIONAL ARROWS AS INDICATED, SHADED AREAS DENOTE FACES

ROOM NAME — 123 — ROOM NUMBER

(OCC. GROUP) — AREA — 000 SF | SF/OCC | OCC. | EXITS — OCCUPANT LOAD FACTOR (FROM TABLE 1004.1.1) — NUMBER OF OCCUPANTS — EXITS REQUIRED

EXIT #1 — 22 — 4.4" — 72"
- EXIT NUMBER
- EXIT OCCUPANT LOAD
- REQ'D EGRESS WIDTH
- PROVIDED EGRESS WIDTH (INCHES)

FEC — FIRE EXTINGUISHER CABINET

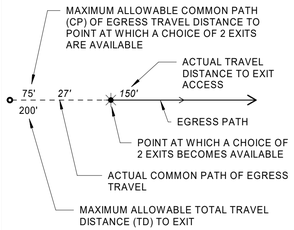
KNOX — KEY BOX

ACCESSIBLE INGRESS / EGRESS

2-HOUR RATED FIRE BARRIER

1-HOUR RATED FIRE BARRIER

EGRESS TRAVEL LEGEND



GENERAL NOTES

1. TRAVEL DISTANCES ARE SHOWN IN FEET AND ARE ROUNDED UP TO THE NEAREST INCREMENT.

2. FLOOR AREAS SHOWN ON THIS SHEET ARE CALCULATED IN ACCORDANCE WITH "AREA, BUILDING" PER *CHAPTER 2 - DEFINITIONS* OF THE 2019 OSSC.

BUILDING CODE ANALYSIS SUMMARY

GENERAL BUILDING CODE INFO

PROJECT DESCRIPTION: AN OPERATOR / ATTENDANT SCALE HOUSE BUILDING WITH OFFICE AND BREAK AREA. THE BUILDING FUNCTIONS AS THE PRIMARY SITE ACCESS POINT.

BUILDING JURISDICTION: REDMOND, OREGON (DESCHUTES COUNTY)

APPLICABLE CODES:
OREGON STRUCTURAL SPECIALTY CODE, 2019 EDITION (OSSC)
OREGON MECHANICAL SPECIALTY CODE, 2019 EDITION (OMSC)
OREGON PLUMBING SPECIALTY CODE, 2017 EDITION (OPSC)
OREGON ELECTRICAL SPECIALTY CODE, 2017 EDITION (OESC)
INTERNATIONAL ENERGY CONSERVATION CODE, 2018 EDITION (IECC)
INTERNATIONAL EXISTING BUILDING CODE, 2018 EDITION (IEBC)
OREGON FIRE CODE 2019
ANSI ICC A117.1-2009

DESIGN CRITERIA:

SNOW LOAD:	25 PSF
WIND EXPOSURE:	C
SEISMIC SITE CLASS:	D
DESIGN CATEGORY:	D
RISK CATEGORY:	II
CLIMATE ZONE:	5B

BUILDING INFORMATION:
CONSTRUCTION TYPE (SEC. 602) **TYPE V-B**

FIRE SPRINKLERS (OSSC SECT 903.2): NO (1)

OCCUPANCY CLASSIFICATION (OSSC CHAPTER 3)

BUSINESS = **GROUP B (BUSINESS)**

GENERAL BUILDING HEIGHTS AND AREAS (OSSC CHAPTER 5)

ALLOWABLE BUILDING HEIGHTS AND AREAS (TABLES 504.3, 504.4 & 506.2)

GROUP	TYPE OF CONST.	V-B (ALLOWED)	V-B (ACTUAL)
B (1) NON-SPRINKLERED	HEIGHT	60'-0"	14'-1" - COMPLIES
	STORIES	3	1
	AREA	9,000 SF (1)	428 SF COMPLIES

ALLOWABLE AREA PER SECTION 506 OF THE IBC (OSSC TABLE 506.2)

FRONTAGE INCREASE (OSSC 506.3):
N/A: BUILDING PERIMETER IS NOT ON A PUBLIC WAY OR QUALIFYING OPEN SPACE

ALLOWABLE AREA (AA) FORMULA (OSSC 506.2.1, **EQUATION 5-1**) (B OCCUPANCY, TYPE V-B CONSTRUCTION)
AA = AT + (NS X IF)
AA = 9,000 + (9,000 X 0)
AA = 9,000 SF
ACTUAL B OCCUPANCY AREA = 428 SF (COMPLIES) (1)

TYPES OF CONSTRUCTION (OSSC CHAPTER 6)

FIRE RATING REQ. FOR BUILDING ELEMENTS (HOURS) (OSSC TABLE 601)

BUILDING ELEMENT	TYPE V-B
PRIMARY STRUCTURAL FRAME	0
BEARING WALLS EXTERIOR	0
BEARING WALLS INTERIOR	0
NONBEARING WALLS AND PARTITIONS EXTERIOR	See Table 602
NONBEARING WALLS AND PARTITIONS INTERIOR	0
FLOOR CONST. AND ASSOCIATED SECONDARY MEMBERS	0
ROOF CONST. AND ASSOCIATED SECONDARY MEMBERS	0

FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE (OSSC TABLE 602)

FIRE SEP. DISTANCE = X (FEET)	TYPE OF CONST.	OCC. B
10 ≤ X < = 30'	V-B	0
X ≥ 30	V-B	0

FIRE PROTECTION SYSTEMS (OSSC CHAPTER 9)

FIRE SPRINKLER AND FIRE ALARM DETECTION SYSTEMS:

BUILDING **IS NOT** REQUIRED TO BE EQUIPPED THROUGHOUT WITH AN AUTOMATIC FIRE SPRINKLER SYSTEM PER OSSC TABLE 506.2 OR FIRE ALARM SYSTEM PER OSSC 907.2.2.

MEANS OF EGRESS (OSSC CHAPTER 10)

OCCUPANT LOAD (OSSC TABLE 1004.5)
SEE PLAN ON SHEET AC0.1B FOR OCCUPANCIES AND OCCUPANT LOADS.

COMMON PATH OF TRAVEL DISTANCE:
OSSC TABLE 1006.2.1 SPACES WITH ONE EXIT (WITHOUT AUTOMATIC SPRINKLER SYSTEM)

	ALLOWED MAX.	ACTUAL (LONGEST):
B	100'	16' COMPLIES

EXIT ACCESS DISTANCE:
OSSC TABLE 1017.2 (WITHOUT SPRINKLER SYSTEM)

	ALLOWED MAX.	ACTUAL (LONGEST):
B	200'	36' COMPLIES

(1)

ACCESSIBILITY (OSSC CHAPTER 11)

ICC A117.1 - 2009
REFER TO ICC A117.1-2009 FOR ITEMS NOT LISTED BELOW:

FLOOR SURFACES SHALL COMPLY WITH SECTION 302
- FLOOR SURFACES SHALL BE STABLE, FIRM, AND SLIP RESISTANT
- OPENINGS IN FLOOR SURFACES SHALL BE OF A SIZE THAT DOES NOT PERMIT THE PASSAGE OF A 1/2 INCH DIAMETER SPHERE. ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE PREDOMINANT DIRECTION OF TRAVEL.

CHANGES IN LEVEL SHALL COMPLY WITH SECTION 303
- CHANGES IN LEVEL OF 1/4 INCH MAXIMUM IN HEIGHT SHALL BE PERMITTED TO BE VERTICAL.
- CHANGES IN LEVEL GREATER THAN 1/4 INCH IN HEIGHT AND NOT MORE THAN 1/2 INCH MAXIMUM IN HEIGHT SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 1:2
- CHANGES IN LEVEL GREATER THAN 1/2 INCH IN HEIGHT SHALL BE RAMPED AND SHALL COMPLY WITH SECTION 405 OR 406

TURNING SPACES SHALL COMPLY WITH SECTION 304
- FLOOR SURFACES OF A TURNING SPACE SHALL COMPLY WITH SECTION 302. CHANGES IN LEVEL ARE NOT PERMITTED WITHIN THE TURNING SPACE. SLOPES NOT STEEPER THAN 1:48 SHALL BE PERMITTED
- TURNING SPACES SHALL COMPLY WITH SECTION 304.3.1 OR 304.3.2
- DOOR SWINGS, UNLESS OTHERWISE SPECIFIES, SHALL BE PERMITTED INTO TURNING SPACES.

CLEAR FLOOR SPACES SHALL COMPLY WITH SECTION 305
- CHANGES IN LEVEL ARE NOT PERMITTED WITHIN THE CLEAR FLOOR SPACE. SLOPES NOT STEEPER THAN 1:48 SHALL BE PERMITTED
- THE CLEAR FLOOR SPACE SHALL BE 48 INCHES MINIMUM IN LENGTH AND 30 MINIMUM IN WIDTH

ACCESSIBLE ROUTES SHALL COMPLY WITH SECTION 402

WALKING SURFACES SHALL COMPLY WITH SECTION 403
- THE RUNNING SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:20. THE CROSS SLOPE OF A WALKING SURFACE SHALL NOT BE STEEPER THAN 1:48
- AN ACCESSIBLE ROUTE WITH A CLEAR WIDTH LESS THAN 60 INCHES SHALL PROVIDE A PASSING SPACE AT INTERVALS OF 200 FEET MAXIMUM. PASSING SPACES SHALL BE A 60-INCH MINIMUM BY 60-INCH MINIMUM SPACE
- FLOOR SURFACE WITHIN THE MANEUVERING CLEARANCES SHALL HAVE A SLOPE NOT STEEPER THAN 1:48 AND SHALL COMPLY WITH SECTION 302

PLUMBING SYSTEMS (OSSC CHAPTER 29)

PLUMBING FIXTURE CALCULATIONS:

GROUP B OCCUPANT LOAD:

3 OCCUPANTS

GROUP B (BUSINESS):

 # OF WATER CLOSETS (ALL SINGLE-USER)
3 TOTAL OCCUPANTS 1 PER 25 = .12 (1) WATER CLOSETS

OF LAVATORIES:
3 TOTAL OCCUPANTS 1 PER 40 = .075 (1) LAVATORY

1 PROVIDED WATER CLOSET AND 1 PROVIDED LAVATORY COMPLY

ENERGY CODE ANALYSIS SUMMARY

CLIMATE ZONE (ASHRAE STANDARD 169-2013, TABLE B-1)

DESCHUTES COUNTY: 5B

5.4.3.1.2 CONTINUOUS AIR BARRIER DESIGN AND INSTALLATION

THE CONTINUOUS AIR BARRIER FOR THIS BUILDING WILL BE COMPRISED OF THE STRUCTURAL INSULATED SHEATHING PANELS AT THE WALLS AND THE SELF-ADHERED MEMBRANE OVER THE ROOF.

PER 5.4.3.1.2, e, THE FOLLOWING AREAS OF THE CONTINUOUS AIR BARRIER IN THE BUILDING ENVELOPE ARE TO BE WRAPPED, SEALED, CAULKED, GASKETED, OR TAPED IN AN APPROVED MANNER TO MINIMIZE AIR LEAKAGE:
1. JOINTS AROUND FENESTRATION AND DOOR FRAMES
2. JUNCTIONS BETWEEN WALLS AND FLOORS, BETWEEN WALLS AT BUILDING CORNERS, AND BETWEEN WALLS AND ROOFS
3. PENETRATIONS THROUGH THE CONTINUOUS AIR BARRIER IN BUILDING ENVELOPE ROOF, WALLS, AND FLOORS
4. BUILDING ASSEMBLIES USED AS DUCTS OR PLENUMS
5. JOINTS, SEAMSM CONNECTIONS BETWEEN PLANES, AND OTHER CHANGES IN CONTINUOUS AIR BARRIER MATERIALS

5.4.3.3 VESTIBULES AND REVOLVING DOORS

NO VESTIBULE OR REVOLVING DOOR REQUIRED PER EXCEPTION #7

NOT REQUIRED IN CLIMATE ZONE 5 WHEN BUILDING IS LESS THAN 1,000 SF IN GROSS CONDITIONED FLOOR AREA

TABLE 5.5-5 BUILDING ENVELOPE REQUIREMENTS FOR CLIMATE ZONE 5B (C.I. = CONTINUOUS INSULATION)

ROOF INSULATION ENTIRELY ABOVE DECK = R-30 C.I. MIN

PROVIDED: 6" OF RIGID INSULATION @ R-5 PER INCH R-30 C.I. **(COMPLIES)**

WOOD-FRAMED WALLS = R-13 + R-7.5 C.I. OR R-19 + R-5 C.I. MIN

PROVIDED: R-21 BATT + R-7.5 C.I. **(COMPLIES)**

UNHEATED SLAB-ON-GRADE FLOOR = R-15 FOR 24"

PROVIDED: **R-10 AT EDGES AND UNDER SLAB**

SWINGING DOORS = U-0.370 MAX

PROVIDED: SEE ENTRANCE DOOR INFO BELOW

FENESTRATIONS - FIXED = U-0.36 MAX, SHGC: .38 MAX, ASSEMBLY: 1.10 MIN

STOREFRONT PROVIDED: U-0.36 MAX **(COMPLIES)** SHGC: .38 MAX **(COMPLIES)**
ALUMINUM PROVIDED: U-0.36 MAX **(COMPLIES)** SHGC: .38 MAX **(COMPLIES)**

FENESTRATIONS - OPERABLE = U-0.45 MAX, SHGC: .33 MAX, ASSEMBLY: 1.10 MIN

OPERABLE PROVIDED: U-0.36 MAX **(COMPLIES)** SHGC: .38 MAX **(COMPLIES)** ASSEMBLY: 1.10 MIN

FENESTRATIONS - ENTRANCE DOOR = U-0.63 MAX, SHGC: .33 MAX, ASSEMBLY: 1.10 MIN

STOREFRONT PROVIDED: U-0.60 MAX **(COMPLIES)**
HOLLOW METAL PROVIDED: (R-11) U-0.09 **(COMPLIES)**

DRAWING REVISIONS

#	Date	Description
1	2022-08-01	Addendum #2

BID SET

NEGUS RECYCLING AND TRANSFER FACILITY SCALE HOUSE
2400 NE MAPLE AVE.
REDMOND, OR 97756

BLRB architects
TACOMA | SPOKANE | PORTLAND | BEND
1250 Pacific Ave Suite 700 WA 98402 253.627.5599
505 W Riverside Suite 500 WA 99201 509.252.5080
621 SW Morrison St. Suite 950 OR 97205 503.595.0270
721 SW Industrial Suite 130 OR 97702 541.330.6506

Drawing Title: CODE ANALYSIS

Date : 2022-06-28
Drawn By : LCG
Revised :
Project No. 20013

Stamp: REGISTERED ARCHITECT 5291 SETH E. ANDERSON BEND, OREGON STATE OF OREGON

Sheet No. AC0.1B

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SITE CODE SUMMARY

APPLICABLE CODES

BUILDING JURISDICTION: DESCHUTES COUNTY

CONSTRUCTION CODES:
OREGON STRUCTURAL SPECIALTY CODE, 2019 EDITION (OSSC)
OREGON MECHANICAL SPECIALTY CODE, 2014 EDITION (OMSC)
OREGON PLUMBING SPECIALTY CODE, 2014 EDITION (OPSC)
OREGON ELECTRICAL SPECIALTY CODE, 2014 EDITION (OESC)
OREGON FIRE CODE, 2014 EDITION (OFC)

PROJECT DESCRIPTION

TAX LOT: 1513000000103
ADDRESS: 2400 NE MAPLE WAY, REDMOND, OREGON 97756
(THIS IS THE ADDRESS OF THE EXISITNG TS. WILL NEW TS BE SAME?)

THE PROPOSED PROJECT CONSISTS OF A NEW TRANSFER STATION AND SCALEHOUSE WITH THREE SCALES

ON-SITE WASTE WATER - OCCUPANCY INFORMATION (ALLOWABLE | PROPOSED)

BUILDING A OCCUPANTS (S-1): **117 OCCUPANTS**
BUILDING C OCCUPANTS (B): **4 OCCUPANTS**

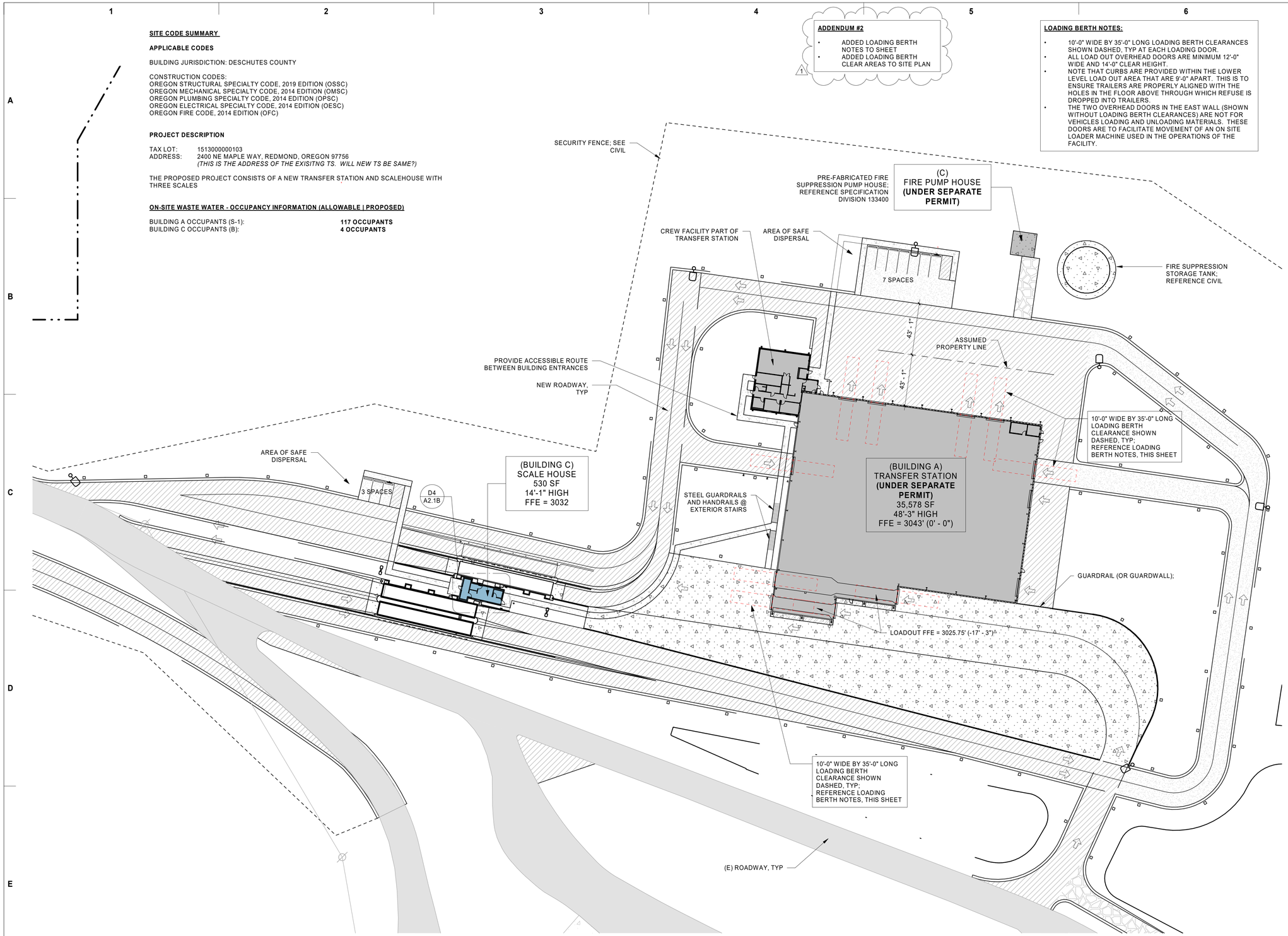
ADDENDUM #2

- ADDED LOADING BERTH NOTES TO SHEET
- ADDED LOADING BERTH CLEAR AREAS TO SITE PLAN

1

LOADING BERTH NOTES:

- 10'-0" WIDE BY 35'-0" LONG LOADING BERTH CLEARANCES SHOWN DASHED, TYP AT EACH LOADING DOOR.
- ALL LOAD OUT OVERHEAD DOORS ARE MINIMUM 12'-0" WIDE AND 14'-0" CLEAR HEIGHT.
- NOTE THAT CURBS ARE PROVIDED WITHIN THE LOWER LEVEL LOAD OUT AREA THAT ARE 9'-0" APART. THIS IS TO ENSURE TRAILERS ARE PROPERLY ALIGNED WITH THE HOLES IN THE FLOOR ABOVE THROUGH WHICH REFUSE IS DROPPED INTO TRAILERS.
- THE TWO OVERHEAD DOORS IN THE EAST WALL (SHOWN WITHOUT LOADING BERTH CLEARANCES) ARE NOT FOR VEHICLES LOADING AND UNLOADING MATERIALS. THESE DOORS ARE TO FACILITATE MOVEMENT OF AN ON SITE LOADER MACHINE USED IN THE OPERATIONS OF THE FACILITY.



E1 SITE PLAN
1" = 40'-0" @ FULL SIZE

SITE PLAN GENERAL NOTES

A. REFERENCE CIVIL DRAWINGS FOR GRADING & DRAINAGE AND UTILITY INFORMATION
B. REFERENCE LANDSCAPE DRAWINGS FOR LANDSCAPE INFORMATION

SITE PLAN LEGEND

- PROPERTY BOUNDARY
- BUILDING SETBACK
- UTILITY EASEMENT
- ACCESSIBLE PATH OF TRAVEL TO PUBLIC WAY OR SAFE DISPERSAL AREA
- FENCE

DRAWING REVISIONS

#	Date	Description
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505 W Riverside Suite 500 WA 98201 509.252.5080
621 SW Morrison St. Suite 950 OR 97205 503.595.0270
721 SW Industrial Suite 130 OR 97702 541.330.6506

Drawing Title: SITE PLAN - PROPOSED

Date: 2022-06-28
Drawn By: LCG
Revised:
Project No. 20013

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Sheet No. A1.10

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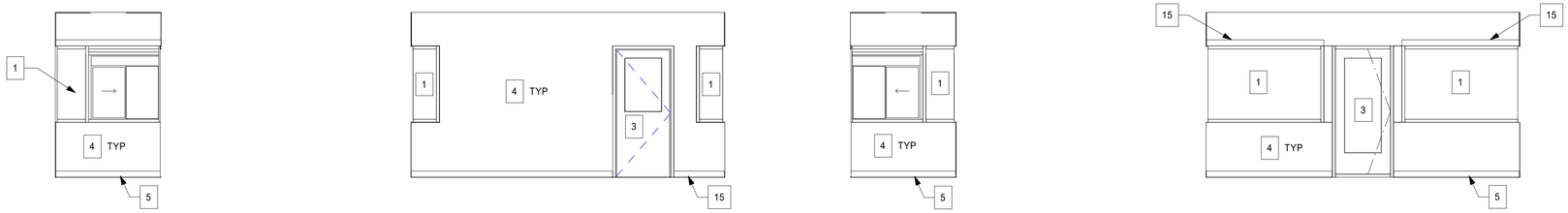
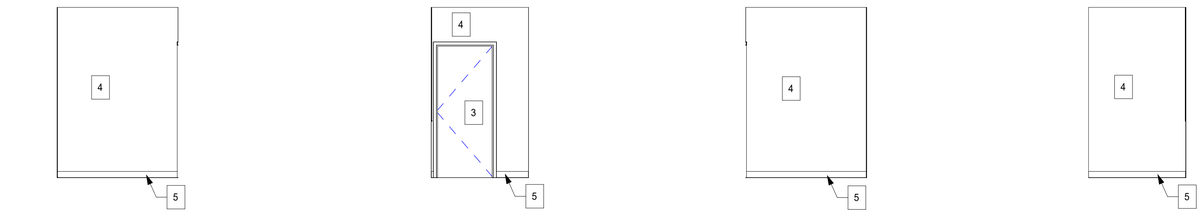


A1 ATTENDANT AREA - NORTH — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

A2 ATTENDANT AREA - EAST — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

A3 ATTENDANT AREA - SOUTH — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

A4 ATTENDANT AREA - WEST — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

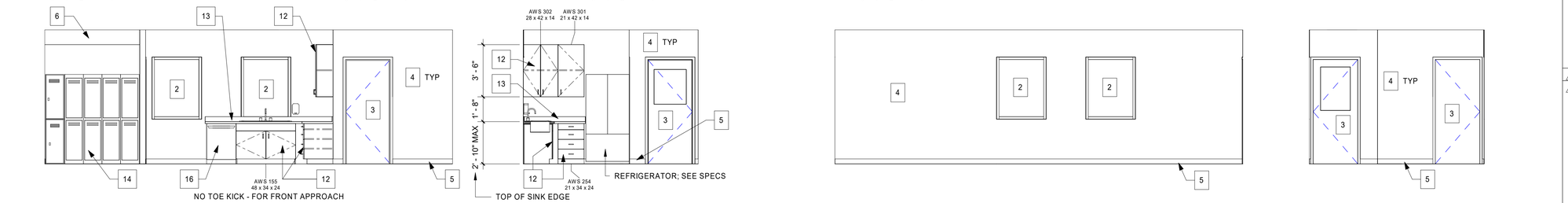


B1 SERVER ROOM - NORTH — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

B2 SERVER ROOM - EAST — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

B3 SERVER ROOM - SOUTH — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

B4 SERVER ROOM - WEST — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

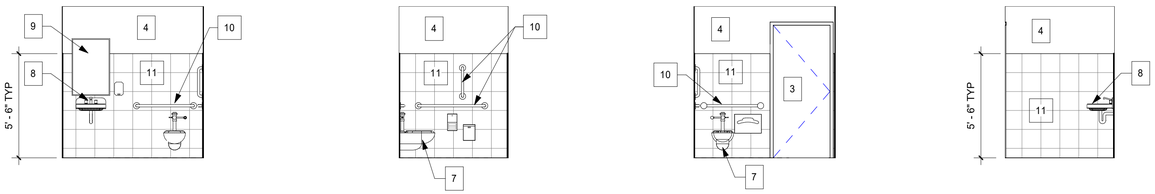


C1 BREAK AND CORRIDOR - NORTH — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

C3 BREAK AND CORRIDOR - EAST — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

C4 BREAK AND CORRIDOR - SOUTH — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

C5 BREAK AND CORRIDOR - WEST — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')



D1 RESTROOM - NORTH — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

D2 RESTROOM - EAST — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

D3 RESTROOM - SOUTH — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

D4 RESTROOM - WEST — 1/4" = 1'-0" @ FULL SIZE (0' 1' 2' 4')

RESTROOM ACCESSORY NOTE

REFERENCE ACCESSIBILITY CODE INFO AND DIAGRAMS SHEETS FOR MOUNTING REQUIREMENTS

OWNER IS TO FURNISH AND INSTALL THE FOLLOWING RESTROOM ACCESSORIES IN EACH RESTROOM: TOILET PAPER DISPENSER, PAPER TOWEL DISPENSER, WASTE RECEPTACLE, LIQUID SOAP DISPENSER, SEAT COVER DISPENSER, SANITARY NAPKIN DISPOSAL RECEPTACLE, VENDOR STYLE SANITARY NAPKIN DISPENSER,

ROOM FINISH SCHEDULE

ROOM		FLOOR			WALLS								CEILING		
					NORTH		EAST		SOUTH		WEST				
NUMBER	NAME	MATERIAL	FINISH	BASE	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	NOTES
101	ATTENDANT AREA	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	ACT		
102	ELECTRICAL / SERVER	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	GWB	PT	
103	BREAK AREA	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	ACT		
104	RESTROOM	CONC	CT	CT	GWB / CT	PT / CT	GWB / CT	PT / CT	GWB / CT	PT / CT	GWB / CT	PT / CT	GWB	PT	
105	CORRIDOR	CONC	LVT	RB	GWB	PT	GWB	PT	GWB	PT	GWB	PT	ACT		

1

(CT) CERAMIC TILE (ALSO PORCELAIN TILE) PRODUCT INFORMATION

BASIS OF DESIGN:
DAL TILE, PORCELAIN TILE 'PORTFOLIO' 12X12, MATTE FINISH, 'IRON GREY PF06'

COVE BASE: 6" 'IRON GREY PF06'

GROUT: ARCHITECT TO SELECT FROM MANUFACTURER'S FULL RANGE

SCALE HOUSE INTERIOR ELEVATIONS KEYNOTES

#	DESCRIPTION
1.	STOREFRONT SYSTEM
2.	ALUMINUM WINDOWS
3.	DOOR; REFERENCE FLOOR PLANS AND DOOR SCHEDULE
4.	GYPSUM WALL BOARD FINISH, PAINT; REFERENCE ROOM FINISH SCHEDULE
5.	RESILIENT WALL BASE
6.	SOFFIT WALL; GWB-WRAPPED; PAINT
7.	WATER CLOSET
8.	WALL-MOUNTED LAVATORY; ACCESSIBLE
9.	24" X 36" MIRROR PER SPECIFICATIONS
10.	METAL GRAB BARS
11.	CERAMIC TILE (CT) WAINSCOT; 12"x12" FIELD WITH 6" HIGH COVED TILE BASE
12.	PLASTIC LAMINATE CABINET
13.	PLASTIC LAMINATE COUNTERTOP WITH BACKSPLASH
14.	METAL LOCKERS
15.	ROLLER SHADE
16.	DISHWASHER

DRAWING REVISIONS

#	Date	Description
1	2022-08-01	Addendum #2

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REDMOND, OR 97756

BLRB architects

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721 SW Industrial Suite 130 OR 97702 541.330.6506

Drawing Title:
INTERIOR ELEVATIONS & ROOM FINISH SCHEDULE

Date : 2022-06-28
Drawn By : LCG
Revised :
Project No. 20013

Stamp: REGISTERED ARCHITECT 5291 SETH E. ANDERSON BEND, OREGON STATE OF OREGON

Sheet No. A5.1B

ATTACHMENT 8
REVISION TO ARCHITECTURAL SPECIFICATIONS

PROJECT MANUAL OF

CONSTRUCTION DOCUMENTS

NEGUS RECYCLING & TRANSFER FACILITY

Project No: 20.04B

Deschutes County Department of Solid Waste
61050 S.E. 27th St.
Bend, OR 97702

ADDENDUM 2

July 27, 2022

TABLE OF CONTENTS

VOLUME 1

SECTION 08 4113 - ALUMINUM FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section Includes:
   1. Exterior thermally-broken storefront framing, with project out windows.
   2. Interior non-thermally broken storefront framing.

B. Related Sections:
   1. Division 07 Section "Joint Sealants" for system joint sealants.
   2. Division 08 Section "Glazing" for glazing.
   3. Division 08 Section "Door Hardware" for door hardware.

1.03 DEFINITIONS

A. ADA/ABA Accessibility Guidelines: U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disability Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities."

B. Definitions: For fenestration industry standard terminology and definitions refer to American Architectural Manufacturers Association (AAMA) - AAMA Glossary (AAMA AG).

C. AAMA: American Architectural Manufacturers Association.

D. AWS: American Welding Society.

E. ASTM: American Society for Testing and Materials.

F. BHMA: Builders Hardware Manufacturers Association.

G. ICC: International Code Council.

H. SSPC: The Society for Protective Coatings.

I. UL: Underwriters Laboratories, Inc.

1.04 REFERENCE STANDARDS

A. 2021 Oregon Energy Efficiency Specialty Code / Ashrae 90.1-2019: Fenestration prescriptive requirements, Table 5.5-5.

B. American Society for Testing and Materials (ASTM).
   1. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
   2. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
   3. ASTM B 368 - Standard Method for Copper-Accelerated Acetic Acid-Salt Spray (Fog) Testing (CASS Test).

4. ASTM C 236 - Standard Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box.
5. ASTM C 864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
6. ASTM E 283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
7. ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
8. ASTM E 331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
9. ASTM E 783 - Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors.
10. ASTM E 1105 - Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference.

C. American Architectural Manufacturers Association (AAMA):
1. AAMA 501 - Method of Test for Exterior Walls.
2. AAMA 502 - Voluntary Specification for Field Testing of Newly Installed Fenestration Products.
3. AAMA 503 - Voluntary Specifications for Field Testing of Storefront, Curtain Walls and Sloped Glazing Systems
4. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum.
5. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors, and Glazed Wall Sections.
6. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
7. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.
8. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
9. AAMA CW-10 - Care and Handling of Architectural Aluminum from Shop to Site.

D. ANSI Z97.1 - American National Standard for Safety Glazing Materials used in Buildings - Safety Performance Specifications and Methods of Test.

E. 16 CFR 1201 - Consumer Product Safety Commission Safety Standard for Architectural Glazing Materials - codified at Title 16, Part 1201 of the Code of Federal Regulations.

1.05 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for aluminum-framed systems.

B. Shop Drawings: For aluminum-framed systems. Include plans, elevations, sections, details, and attachments to other work.
1. Include details of provisions for system expansion and contraction and for drainage of moisture in the system to the exterior.
2. Elevations at 1/4 inch scale.
3. Detail sections of typical composite members.
4. Anchors and reinforcement.
5. Hardware mounting heights.

6. Glazing details.
7. Miscellaneous cover, corner and closure pieces.
8. Infill panels.
9. Integral sunshade.
10. Vented aluminum storefront windows.
11. For entrance doors, coordinate with hardware schedule and indicate operating hardware types, functions, quantities, and locations.

C. Samples for Initial Selection: For units with factory-applied color finishes.

D. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.

E. Fabrication Sample: Of each vertical-to-horizontal intersection of aluminum-framed systems, made from 12-inch lengths of full-size components and showing details of the following:
1. Joinery, including concealed welds.
2. Anchorage.
3. Expansion provisions.
4. Glazing.
5. Flashing and drainage.
6. **Color to frame basis-of-design: Anodized Aluminum #40 Dark Bronze.**

F. Other Action Submittals:
1. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

G. Delegated Design Submittal: For aluminum-framed systems indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer, licensed in jurisdiction of Project, responsible for their preparation.
1. Detail fabrication and assembly of aluminum-framed systems.
2. Include design calculations.

H. Qualification Data: For qualified Installer.

I. Seismic Qualification Certificates: For aluminum-framed systems, accessories, and components, from manufacturer.
1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.

J. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for aluminum-framed systems, indicating compliance with performance requirements.

K. Source quality-control reports.

L. Quality-Control Program for Structural-Sealant-Glazed System: Include reports.

M. Field quality-control reports.

N. Maintenance Data: For aluminum-framed systems to include in maintenance manuals. Refer to documentation requirements in Division 01 Section “Contract Closeout.”

O. Warranties: Sample of special warranties. See documentation requirements in Division 01 Section “Close-out Submittals.”

P. Close-out Submittal: Maintenance Data: For aluminum-framed systems to include in maintenance manuals.

1.06 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Testing Agency Qualifications: Qualified according to ASTM E 699 for testing indicated.

C. Product Options: Information on Drawings and in Specifications establishes requirements for systems' aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance.
   1. Do not revise intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If revisions are proposed, submit comprehensive explanatory data to Architect for review.

D. Accessible Entrances: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

E. Source Limitations for Aluminum-Framed Systems: Obtain from single source from single manufacturer.

F. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

G. Mockups: Build mockups to verify selections made under submittals above and to set quality standards for installation.
   1. Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
      a. Build mockup of typical wall areas as shown on Drawings.
      b. Field testing shall be performed on mockups according to requirements in "FIELD QUALITY CONTROL" article.
      c. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section
   2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
   3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.07 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of structural supports for aluminum-framed systems by field measurements before fabrication and indicate measurements on Shop Drawings.

1.08 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of aluminum-framed systems that do not comply with requirements or that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Structural failures including, but not limited to, excessive deflection.
      b. Noise or vibration caused by thermal movements.
      c. Water leakage through fixed glazing and framing areas.
      d. Failure of operating components.
   2. Warranty Period: 10 years from date of Substantial Completion.

B. Special Finish Warranty, Anodized Finishes: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of anodized finishes within specified warranty period.
   1. Deterioration includes, but is not limited to, the following:
      a. Color fading more than 5 Delta E units when tested according to ASTM D 2244.
      b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
      c. Cracking, peeling, or chipping.
   2. Warranty Period: 10 years from date of Substantial Completion.

1.09 MAINTENANCE SERVICE

A. Entrance Door Hardware:
   1. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of entrance door hardware.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Division 01 Section "Shop Drawings, Product Data, Samples," to design aluminum-framed entrances and storefronts.

B. General Performance: Aluminum-framed systems shall withstand the effects of the following performance requirements without exceeding performance criteria or failure due to defective manufacture, fabrication, installation, or other defects in construction:
   1. Movements of supporting structure indicated on Drawings including, but not limited to, story drift and deflection from uniformly distributed and concentrated live loads.
   2. Dimensional tolerances of building frame and other adjacent construction.
   3. Failure includes the following:
      a. Deflection exceeding specified limits.
      b. Thermal stresses transferring to building structure.
      c. Framing members transferring stresses, including those caused by thermal and structural movements to glazing.
      d. Glazing-to-glazing contact.
      e. Noise or vibration created by wind and by thermal and structural movements.
      f. Loosening or weakening of fasteners, attachments, and other components.
      g. Sealant failure.
      h. Failure of operating units.

C. Design aluminum-framed systems, including comprehensive engineering analysis by a qualified Professional Engineer, licensed in the State of Oregon, using performance requirements and design criteria indicated.

D. Structural Loads:
   1. Wind Loads: As indicated on Structural Drawings.
   2. Seismic Loads: As indicated on Structural Drawings.

E. Deflection of Framing Members:
   1. Deflection Normal to Wall Plane: Limited to edge of glass in a direction perpendicular to glass plane shall not exceed L/175 of the glass edge length for each individual glazing lite or an amount that restricts edge deflection of individual glazing lites to 3/4 inch, whichever is less.
   2. Deflection Parallel to Glazing Plane: Limited to L/360 of clear span or 1/8 inch, whichever is smaller.

F. Structural-Test Performance: Provide aluminum-framed systems tested according to ASTM E 330 as follows:
   1. When tested at positive and negative wind-load design pressures, systems do not evidence deflection exceeding specified limits.
   2. When tested at 150 percent of positive and negative wind-load design pressures, systems, including anchorage, do not evidence material failures, structural distress, and permanent deformation of main framing members exceeding 0.2 percent of span.
   3. Test Durations: As required by design wind velocity, as but not fewer than 10 seconds.

G. Story Drift: Provide aluminum-framed systems that accommodate design displacement of adjacent stories indicated.
   1. Design Displacement: As indicated on Structural Drawings.
   2. Test Performance: Meet criteria for passing, based on building occupancy type, when tested according to AAMA 501.4 at design displacement and 1.5 times design displacement.

H. Air Infiltration: Provide aluminum-framed systems with maximum air leakage through fixed glazing and framing areas of 0.06 cfm/sq. ft. of fixed wall area when tested according to ASTM E 283 at a minimum static-air-pressure difference of 6.24 lbf/sq. ft.

I. Water Penetration under Static Pressure: Provide aluminum-framed systems that do not evidence water penetration through fixed glazing and framing areas when tested according to ASTM E 331 at a minimum static-air-pressure difference of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft.
   1. Maximum Water Leakage: No uncontrolled water penetrating aluminum-framed systems or water appearing on systems' normally exposed interior surfaces from sources other than condensation. Water leakage does not include water controlled by flashing and gutters that is drained to exterior and water that cannot damage adjacent materials or finishes.

J. Thermal Movements: Provide aluminum-framed systems that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures. Base engineering calculation 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.

K. Condensation Resistance (CRF): When tested to AAMA Specification 1503, the condensation resistance factor shall not be less than:
   1. Glass to Center:

a. low-e: 62 frame and 68 glass.
b. clear: 63 frame and 56 glass.

2. Storefront Doors: Provide entrance doors having a condensation resistance factor shall not be less than 46 frame and 65 glass when tested according to AAMA 1503.

L. Thermal Transmittance (U-factor): When tested to AAMA Specification 1503, the thermal transmittance (U-factor) shall not be more than:
1. Glass to Center:
a. low-e: 0.36 or better.
2. Storefront Doors: Provide entrance doors having an average U-factor of not more than 0.60 when tested according to AAMA 1503 or NFRC 100.
3. Operable Window: Provide entrance doors having an average U-factor of not more than 0.40 when tested according to AAMA 1503 or NFRC 100.

M. Storefront Doors: All storefront doors both exterior and interior are to provide in excess of 50.1 percent glazed area. This is calculated area of storefront door framing members including all stiles, rails and glazing stops. Refer to "Submittals" article for requirements for storefront door submittal. Doors not complying with this performance requirement are not allowed.

N. Sound Transmission Class (STC) and Outdoor-Indoor Transmission Class (OITC): When tested to AAMA Specification 1801 and in accordance with ASTM E1425 and ASTM E90, the STC and OITC Rating shall not be less than:
1. Glass to Exterior - 38 (STC) and 31 (OITC) when glazed with 1 inch thick insulating glass units (glazing assembly: 1/4 inch thick tempered glass - 1/2 inch air space - 1/4 inch thick tempered glass).

2.02 MANUFACTURERS

A. Basis-of-Design Manufacturer for Storefront Systems: Subject to compliance with requirements, provide products specified below by Kawneer North America, an Arconic company, or comparable products by one of the following:
1. Arcadia, Inc.
2. EFCO Corporation.

B. Storefront Types:
1. Exterior Storefront:
a. Kawneer Trifab 451 T, Thermal Storefront Framing.
b. Dimensions: 2 inches by 4-1/2 inches.
2. Interior Storefront:
a. Where 1/4 or 3/8 inch thick glazing is indicated: Kawneer Trifab 450; refer to Drawings for locations.
1) Dimensions: 1-3/4 inches by 4-1/2 inches.
b. Where 1 inch glazing is indicated: Kawneer Trifab 451; refer to Drawings for locations.
1) Dimensions: 2 inches by 4-1/2 inches.

C. Storefront Window System: Manufacturer's standard units, complying with AAMA/WDMA/CSA 101/I.S.2/A440.
1. Kawneer OptiQ AA 4325 Series windows.
a. Window Type: Awning.
b. Minimum Performance Class: CW.
c. Minimum Performance Grade: PG80-AP.
d. Hardware: Manufacturer's standard; of aluminum, stainless steel, die-cast steel, malleable iron, or bronze; including the following:
1) Cam-action sweep sash lock and keeper at meeting rails.

2) 4 bar hinge.
3) Limit Devices: Designed to restrict sash opening; limit clear opening to 4 inches for ventilation; with custodial key release.

e. Insect Screens: Provide removable insect screen on each operable exterior sash, with screen frame finished to match window unit, complying with SMA 1004 or SMA 1201.

D. Entrance Doors:
1. Storefront Entry Doors: Kawneer Insulpour 500T Wide Stile thermally broken doors within thermally broken door frames. Refer to Door Schedule on Drawings and Division 08 Section "Door Hardware" for hardware not specified herein.
a. Kawneer extrusion components consist of the following:
1) Top Rail: 5 inches.
2) Panic Mid-Rail: Provide only where indicated on Drawings; 4 7/16 inches.
3) Bottom Rail: 10 inches.
4) Vertical Stile: 5 inches.
5) Glass Stop: As provided by manufacturer.
6) Pull: Kawneer; CO-12/CP-11 push/pull set in finish selected by Architect.
2. Refer to Drawings for elevations of doors.

2.03 MATERIALS

A. Aluminum: Extruded aluminum shall be 6063-T6 alloy and temper.
1. Sheet and plate:
2. Extruded bars, rods, profiles, and tubes:
3. Extruded structural pipe and tube.
4. Structural profiles.

B. Steel Reinforcement: Manufacturer's standard zinc-rich, corrosion-resistant primer, complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM and prepare surfaces according to applicable SSPC standard.
1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
2. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
3. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.

2.04 FRAMING SYSTEMS

A. Framing Members: Manufacturer's standard extruded-aluminum framing members of thickness required and reinforced as required to support imposed loads.
1. Construction: Thermally improved.
2. Glazing System: Retained mechanically with gaskets on four sides.
3. Glazing Plane: As indicated.

B. Formed Trim: Provide aluminum formed trim in profiles indicated.
1. Type: Extrusion wherever possible, otherwise fabricate from brake shaped aluminum plate.
2. Finish: Match framing members.
3. Material Thickness: Minimum 0.080 inch frame and 0.125 inch vent.
4. Provide watertight visible joints with no visible fasteners.

C. Compensation Channels: Provide compensation channels to match system material and finish where required by manufacturer or indicated in Drawings. Provide all components for compensation channel system including fasteners and attachment devices.

D. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

E. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.
   1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
   2. Reinforce members as required to receive fastener threads.
   3. Do not use exposed fasteners except for application of hardware. For application of hardware, use exposed fasteners with countersunk Phillips screw heads, finished to match framing system, or fabricated from stainless steel.

F. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts, complying with ASTM A 123/A 123M or ASTM A 153/A 153M.

G. Concealed Flashing: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding flashing compatible with adjacent materials or Dead-soft, 0.018-inch-thick stainless steel, ASTM A 240/A 240M of type recommended by manufacturer.

H. Framing System Gaskets and Sealants: Manufacturer's standard, recommended by manufacturer for joint type.
   1. Provide sealants for use inside of the weatherproofing system that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.05 GLAZING SYSTEMS

A. Glazing: As specified in Division 08 Section "Glazing."

B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, molded or extruded, of profile and hardness required to maintain watertight seal.

C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.
   1. Weatherseal Sealant: ASTM C 920 for Type S, Grade NS, Class 25, Uses NT, G, A, and O; single-component neutral-curing formulation that is compatible with structural sealant and other system components with which it comes in contact; recommended by structural-sealant, weatherseal-sealant, and aluminum-framed-system manufacturers for this use.
      a. Provide sealants for use inside of the weatherproofing system that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
      b. Color: As selected by Architect.

2.06 ACCESSORY MATERIALS

A. Joint Sealants: For installation at perimeter of aluminum-framed systems, as specified in Division 07 Section "Joint Sealants."
   1. Provide sealants for use inside of the weatherproofing system that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

B. Bituminous Paint: Cold-applied, asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos; formulated for 30-mil thickness per coat.

C. HM Frame and Aluminum Frame Separation: Isolation, protect against galvanic action by painting contact surfaces with primer or applying sealant or tape, or by installing nonconductive spacers as recommended by manufacturer.

2.07 FABRICATION

A. Form or extrude aluminum shapes before finishing.

B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

C. Framing Members, General: Fabricate components that, when assembled, have the following characteristics:
   1. Profiles that are sharp, straight, and free of defects or deformations.
   2. Accurately fitted joints with ends coped or mitered.
   3. Means to drain water passing joints, condensation within framing members, and moisture migrating within the system to exterior.
   4. Physical and thermal isolation of glazing from framing members.
   5. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
   6. Provisions for field replacement of glazing from exterior for vision glass and exterior for spandrel glazing or metal panels.
   7. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

D. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.

E. Storefront Framing: Fabricate components for assembly using shear-block system.

F. Entrance Door Hardware Installation: Coordinate factory installed entrance door hardware to the greatest extent possible.

2.08 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.01 EXAMINATION

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

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

3.02 INSTALLATION

A. General:
   1. Comply with manufacturer's written instructions.
   2. Do not install damaged components.
   3. Fit joints to produce hairline joints free of burrs and distortion.
   4. Rigidly secure nonmovement joints.
   5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration.
   6. Seal joints watertight unless otherwise indicated.

B. Metal Protection:
   1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or applying sealant or tape, or by installing nonconductive spacers as recommended by manufacturer for this purpose.
   2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.

D. Set continuous sill members and flashing in full sealant bed as specified in Division 07 Section "Joint Sealants" to produce weathertight installation.

E. Install components plumb and true in alignment with established lines and grades, and without warp or rack.

F. Install glazing as specified in Division 08 Section "Glazing."

G. Install perimeter joint sealants as specified in Division 07 Section "Joint Sealants" to produce weathertight installation.

3.03 ERECTION TOLERANCES

A. Install aluminum-framed systems to comply with the following maximum erection tolerances:
   1. Location and Plane: Limit variation from true location and plane to 1/8 inch in 12 feet; 1/4 inch over total length.
   2. Alignment:
      a. Where surfaces about in line, limit offset from true alignment to 1/16 inch (1.5 mm).
      b. Where surfaces meet at corners, limit offset from true alignment to 1/32 inch (0.8 mm).

B. Diagonal Measurements: Limit difference between diagonal measurements to 1/8 inch (3 mm).

3.04 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified independent testing and inspecting agency to perform field tests and inspections.

B. Testing Services: Testing and inspecting of representative areas to determine compliance of installed systems with specified requirements shall take place as follows and in successive phases as indicated on Drawings. Do not proceed with installation of the next area until test results for previously completed areas show compliance with requirements.
   1. Air Infiltration: Areas shall be tested for air leakage of 1.5 times the rate specified for laboratory testing under "Performance Requirements" Article, but not more than 0.09 cfm/sq. ft. of fixed wall area when tested according to ASTM E 783 at a minimum static-air-pressure difference of 6.24 lbf/sq. ft
   2. Water Spray Test: Before installation of interior finishes has begun, a minimum area of 75 feet by 1 story of aluminum-framed systems designated by Architect shall be tested according to AAMA 501.2 and shall not evidence water penetration.

C. Repair or remove work if test results and inspections indicate that it does not comply with specified requirements.

D. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

E. Aluminum-framed assemblies will be considered defective if they do not pass tests and inspections.

F. Prepare test and inspection reports.

3.05 ADJUSTING

A. Adjust operating entrance door hardware to function smoothly as recommended by manufacturer.
   1. For entrance doors accessible to people with disabilities, adjust closers to provide a 3-second closer sweep period for doors to move from a 70-degree open position to 3 inches from the latch, measured to the leading door edge.

END OF SECTION 08 4113

SECTION 08 4513 - STRUCTURED-POLYCARBONATE-PANEL ASSEMBLIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes aluminum-framed assemblies glazed with structured-polycarbonate panels as follows:
   1. Wall assemblies.
   2. Roof assemblies.
   3. Skylight assemblies.

B. Related Sections:
   1. Division 07 Section "Standing Seam Metal Roof Panels."
   2. Division 13 Section "Metal Building Systems."

1.03 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.04 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 aluminum components of panel assemblies.

B. Sustainable Design Submittals:
   1. Product Data: For sealants, indicating VOC content.
   2. Laboratory Test Reports: For sealants, indicating compliance with requirements for low-emitting materials.

C. Shop Drawings: For panel assemblies.
   1. Include plans, elevations, sections, details, and attachments to other work.
   2. Include details of provisions for assembly expansion and contraction and for draining moisture within the assembly to the exterior.

D. Samples: In manufacturer's standard size.
   1. For each type of structured-polycarbonate panel.
   2. For each type of exposed finish for framing members.

E. Fabrication Samples: Of each framing system intersection and adjacent panels, made from 12-inch (305-mm) lengths of full-size framing members and showing details of the following:
   1. Joinery.
   2. Anchorage.
   3. Expansion provisions.
   4. Structured-polycarbonate panels.
   5. Flashing and drainage.

F. Delegated-Design Submittal: For panel assemblies indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.05 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified [Installer] [testing agency].

B. Product Test Reports: For each structured-polycarbonate-panel assembly, for tests performed by a qualified testing agency.

C. Evaluation Reports: For structured-polycarbonate-panel assemblies from ICC-ES.

D. Field quality-control reports.

E. Sample Warranties: For special warranties.

1.06 CLOSEOUT SUBMITTALS

A. Maintenance Data: For panel assemblies to include in maintenance manuals.

1.07 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
   1. Build mockup of typical panel assemblies as shown on Drawings.
   2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
   3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.08 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components of panel assemblies that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Structural failures including, but not limited to, excessive deflection.
      b. Deterioration of metals[, metal finishes,] and other materials beyond normal weathering.
      c. Water leakage.
   2. Warranty Period: Five years from date of Substantial Completion.

B. Manufacturer's Special Warranty: Manufacturer agrees to repair or replace structured-polycarbonate panels that exhibit defects in materials or workmanship within specified warranty period.
   1. Defects include, but are not limited to, the following:
      a. Delamination.
      b. Color changes exceeding requirements.
      c. Losses in light transmission beyond 6 percent from original when measured according to ASTM D1003.

2. Warranty Period: 10 years from date of Substantial Completion.

C. Special Aluminum-Finish Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which finishes fail within specified warranty period. Warranty does not include normal weathering.
   1. Failures include, but are not limited to, checking, crazing, peeling, chalking, and fading of finishes.
   2. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design structured-polycarbonate-panel assemblies.

B. Structural Loads: As indicated on Drawings.

C. Deflection Limits:
   1. Vertical Panel Assemblies: Limited to 1/120 of clear span for each assembly component.
   2. Overhead Panel Assemblies: Limited to 1/120 of clear span for each assembly component.

D. Structural-Test Performance: Panel assemblies tested according to ASTM E330, as follows:
   1. When tested at positive and negative wind-load design pressures, assemblies do not show evidence of deflection exceeding specified deflection limits.
   2. When tested at 150 percent of positive and negative wind-load design pressures, assemblies, including anchorage, do not show evidence of material failures, structural distress, and permanent deformation of main framing members exceeding 0.2 percent of span.
   3. Test Durations: As required by design wind velocity, but not less than 10 seconds.

E. Water Penetration under Static Pressure: Provide panel assemblies that do not evidence water penetration through fixed glazing and framing areas when tested according to ASTM E331 at a minimum static-air-pressure difference of 20 percent of positive wind-load design pressure, but not less than 10 lbf/sq. ft. (480 Pa).

F. Water Penetration under Dynamic Pressure: Provide panel assemblies that do not evidence water leakage through fixed glazing and framing areas when tested according to AAMA 501.1 under dynamic pressure equal to 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft..

G. Thermal Movements: Allow for thermal movements from ambient- and surface-temperature changes. 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 (67 deg C), ambient; 180 deg F, material surfaces.

2.02 STRUCTURED-POLYCARBONATE-PANEL ASSEMBLIES

A. Structured-Polycarbonate-Panel Assemblies: Translucent assemblies that are supported by aluminum framing and glazed with structured-polycarbonate panels.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide Kingspan Light + Air; Pentaglas Translucent Single Panel Standing Seam Cladding System or a comparable product by one of the following:

a. CO-EX Corp.
b. CPI Daylighting, Inc.
c. Duo-Gard Industries Inc.
d. Energy-Glazed Systems, Inc.
e. Gallina USA, LLC.
f. Major Industries, Inc.
g. Super Sky Products Inc.
h. Wasco - Part of VELUX Commercial.

2.03 STRUCTURED-POLYCARBONATE PANELS

A. Structured-Polycarbonate Panels: Translucent, extruded-polycarbonate sheet with multiwall cellular cross section that provides isolated airspaces and that is coextruded with a UV-protective layer.

B. Panel Thickness: 5/8 inch nominal (16 mm).

C. Panel Width: 2 feet nominal (23 5/8 inch) (600 mm).

D. Panel Joint: Mechanically interlocking double-tooth connection.

E. UV Resistance: On both surfaces.

F. Color: Ice White.

G. Panel Performance:
1. Fire: ASTM E1929, D2843, D635.
2. Interior Finish Classification: Class A based on testing according to ASTM E84.
3. Cyclic Test ASTM E1886 Pass- 100 psf, Wind Zone 4.
4. Large Missile Impact ASTM E1996/E 1886 Pass - Missile Impact Level D, Wind Zone 4.
5. Concentrated Load 3” Diameter ASTM E661 No Damage, 400 lbf load.
6. Concentrated Load 1 sqf Area (OSHA) 29 CFR Section 1910.23(e)(8) No Damage 600 lbf load.
7. Color Change: Not more than 3.0 units Delta E, when measured according to ASTM D2244, after outdoor weathering compliant with procedures in ASTM D1435.
8. U-Factor: NFRC 100 0.43 to 0.38 center of glass.

2.04 ALUMINUM FRAMING SYSTEMS

A. Components: Manufacturer's standard extruded-aluminum members of thickness required and reinforced as required to support imposed loads.

B. Aluminum: Alloy and temper recommended in writing by manufacturer for type of use and finish indicated.
1. Sheet and Plate: ASTM B209 (ASTM B209M).
2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B221 (ASTM B221M).
3. Extruded Structural Pipe and Tubes: ASTM B429 (/B 429M).
4. Structural Profiles: ASTM B308 (/B 308M).

C. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning skylight components.

D. Fasteners and Accessories: Manufacturer's standard, corrosion-resistant, nonstaining, and nonbleeding fasteners and accessories; compatible with adjacent materials.

1. At closures, retaining caps, or battens, use ASTM A193, 300 series stainless-steel screws.
2. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.

E. Concealed Flashing: Corrosion-resistant, nonstaining, nonbleeding flashing compatible with adjacent materials.

F. Exposed Flashing and Closures: Aluminum sheet not less than 0.040 inch thick, finished to match framing.

G. Framing Gaskets: Manufacturer's standard gasket system with low-friction surface treatment designed specifically for retaining structured-polycarbonate panels.

H. Frame-System Sealants: As recommended in writing by manufacturer or as otherwise specified in Division 07 Section "Joint Sealants."
1. Verify sealant has a VOC content of 250 g/L or less.

2.05 FABRICATION

A. Fabricate aluminum components that, when assembled, have the following characteristics:
1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Internal guttering systems or other means to drain water passing through joints and moisture migrating within assembly to exterior.

B. Fabricate aluminum sill closures with weep holes and for installation as continuous component.

C. Reinforce aluminum components as required to receive fastener threads.

2.06 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.01 EXAMINATION

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

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

3.02 INSTALLATION

A. General: Comply with manufacturer's written instructions. Install Structured Polycarbonate Panel Assemblies including aluminum flashing, fasteners, hardware, gaskets, joint sealants, and glazing materials required for a complete, weathertight installation.
1. Do not install damaged components.
2. Fit joints between aluminum components to produce hairline joints free of burrs and distortion.
3. Rigidly secure nonmovement joints.
4. Install anchors with separators and isolators to prevent metal corrosion, electrolytic deterioration, and immobilization of moving joints.

5. Seal joints watertight unless otherwise indicated.

B. Metal Protection: Where aluminum components will contact dissimilar materials, protect against galvanic action by painting contact surfaces with corrosion-resistant coating or by installing nonconductive spacers as recommended in writing by manufacturer for this purpose.

C. Install components plumb and true in alignment with established lines and elevations.

D. Skylight Assemblies: Install continuous aluminum sill closures with weatherproof expansion joints and locked and sealed corners. Install components to drain water passing through joints and moisture migrating within assembly to exterior.

E. Erection Tolerances: Install panel assemblies to comply with the following maximum tolerances:
1. Alignment: Limit offset from true alignment to 1/32 inch where surfaces abut in line, edge to edge, at corners, or where a reveal or protruding element separates aligned surfaces by less than 3 inches; otherwise, limit offset to 1/8 inch.
2. Location and Plane: Limit variation from true location and plane to 1/8 inch in 12 feet, but no greater than 1/2 inch over total length.

F. Install sheet metal flashing as specified elsewhere in specifications.

3.03 FIELD QUALITY CONTROL

A. Repair minor damages to metal finish or glazing in accordance with manufacturer’s instructions. Remove and replace damaged components that cannot be successfully repaired as determined by Architect.

B. Repair or remove work where test results and inspections indicate that it does not comply with specified requirements.

C. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

END OF SECTION 08 4513

SECTION 08 7100 - DOOR HARDWARE

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Hardware for aluminum, hollow metal & wood doors.

B. Hardware for fire-rated doors.

1.02 RELATED REQUIREMENTS

A. Section 08 1113 - Hollow Metal Doors and Frames.

B. Section 08 3613 - Sectional Doors.

C. Section 08 4113 - Aluminum Framed Entrances and Storefronts.

1.03 REFERENCE STANDARDS

A. ANSI/ICC A117.1 - American National Standard for Accessible and Usable Buildings and Facilities; International Code Council; 2003.

B. BHMA A156.1 - American National Standard for Butts and Hinges; Builders Hardware Manufacturers Association, Inc.; 2006 (ANSI/BHMA A156.1).

C. BHMA A156.2 - American National Standard for Bored and Preassembled Locks & Latches; Builders Hardware Manufacturers Association; 2003 (ANSI/BHMA A156.2).

E. BHMA A156.4 - American National Standard for Door Controls - Closers; Builders Hardware Manufacturers Association, Inc.; 2000 (ANSI/BHMA A156.4).

G. BHMA A156.16 - American National Standard for Auxiliary Hardware; Builders Hardware Manufacturers Association; 2002 (ANSI/BHMA A156.16).

H. BHMA A156.18 - American National Standard for Materials and Finishes; Builders Hardware Manufacturers Association, Inc.; 2006 (ANSI/BHMA A156.18).

J. BHMA A156.22 - American National Standard for Door Gasketing and Edge Seal Systems, Builders Hardware Manufacturers Association; 2005 (ANSI/BHMA A156.22).

K. BHMA A156.115 - Hardware Preparation in Steel Doors and Steel Frames; 2006.

L. BHMA A156.115W - Hardware Preparation in Wood Doors with Wood or Steel Frames; 2006.

M. 36 CFR 1191 - Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities; Final Rule; current edition; (ADAAG - Americans with Disabilities Act, Accessibility Guidelines).

N. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2010.

O. NFPA 101 - Code for Safety to Life from Fire in Buildings and Structures; National Fire Protection Association; 2009.

P. UL (BMD) - Building Materials Directory; Underwriters Laboratories Inc.; current edition.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the manufacture, fabrication, and installation of products onto which door hardware will be installed.

B. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.

1.05 SUBMITTALS

A. See Section 01 3300 – Submittal Procedures, for submittal procedures.

B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project.

C. Hardware Schedule: Detailed listing of each item of hardware to be installed on each door. Use door numbering scheme as included in the Contract Documents. Identify electrically operated items and include power requirements. The schedule shall be reviewed and signed by the supplier's architectural hardware consultant (AHC) before submitting it for approval.

D. Wiring Diagrams: Provide riser and point to point wiring diagrams for each opening with electrified door hardware. Diagrams shall accompany the hardware submittal.

E. Keying Schedule: Coordinate keying instructions with Owner and produce a written keying schedule for Owner approval within (10) days of meeting.

F. Keys: Coordinate quantities with Owner.

G. Warranty: Submit manufacturer's warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with a minimum five years of documented experience.

B. Supplier Qualifications: A local company specializing in furnishing the commercial products specified with a minimum five years of documented experience. Supplier must have a factory direct status with the approved manufacturers and have an architectural hardware consultant (AHC) on staff who is available for jobsite consultation.

C. Installer Qualifications: A local company specializing in commercial door hardware installation. The installer shall have a minimum five years of documented experience and be able to furnish references if requested.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Package hardware items individually; label and identify each package with door opening code to match hardware schedule.

1.08 WARRANTY

A. See Section 01 7700 - Closeout Procedures, for additional warranty requirements.

B. Provide (20) twenty year warranty on door closers, (10) ten years on locksets and (10) ten years on panic/exit devices.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A.	Hinges:	Ives. Equivalents by McKinney or Stanley are acceptable.
B.	Power Transfers:	Von Duprin. Securitron CEPT approved.
C.	Flushbolts/Coordinators:	Ives. DCI, Trimco approved.
D.	Locks:	Schlage ALX, ND & L series as specified in the hardware groups. No approvals permitted- owner standard.
E.	Panic Hardware:	Von Duprin 98 series. No approvals permitted- owner standard.
F.	Cylinders:	Schlage. No approvals permitted- owner standard.
G.	Closers:	LCN 4010/4110 series. No approvals permitted- owner standard.
H.	Push/Pull & Kickplates:	Ives; Equivalents by Tice, Trimco are acceptable.
I.	Overhead Stops:	Glynn Johnson; Equivalents by Rixson are acceptable.

J. Stops: Ives WS407CVX/CCV series, Equivalent by Trimco is acceptable.

K. Seals: Zero International. Equivalents by NGP, Pemko are acceptable.

L. Thresholds & Sweeps: Zero International. Equivalents by NGP, Pemko are acceptable.

2.02 DOOR HARDWARE - GENERAL

A. Provide all hardware specified or required to make doors fully functional, compliant with applicable codes, and secure to the extent indicated.

B. Provide all items of a single type of the same model by the same manufacturer.

C. Provide products that comply with the following:
   1. Applicable provisions of federal, state, and local codes.
   2. Fire-Rated Doors: NFPA 80.
   3. All Hardware on Fire-Rated Doors: Listed and classified by UL as suitable for the purpose specified and indicated.
   4. Hardware for Smoke and Draft Control Doors (Indicated as "S" on Drawings): Provide hardware that enables door assembly to comply with air leakage requirements of the applicable code.

2.03 HINGES

A. Hinges: Provide hinge size, weight and type as listed in the hardware groups.

2.04 LOCKS AND LATCHES

A. Locks: Provide a lock for every door, unless specifically indicated as not requiring locking.

B. Locks must meet or exceed ANSI A156.13 Grade 1 at all doors.

C. Furnish proper strikes to clear any projecting trim around door frame.

2.05 KEYING

A. Provide and install all cylinders and cores to a Schlage keyway. Coordinate the specific keyway with Owner.

B. Provide a construction key system with (12) keys.

C. Provide a master key system as listed above with (2) grand master keys, (6) master keys, and (2) change keys per cylinder. Final key quantities shall be determined at the keying meeting.

D. Coordinate installation of final cores and key system with Owner after substantial completion.

2.06 CLOSERS

A. All closers shall be cast iron.

B. Closers shall have extra duty arms where specified in the hardware groups.

C. Pressure relief valves are not permitted.

D. Closers shall have all-weather fluid.

E. Through bolts are not permitted except where fire ratings dictate their use.

2.07 PANIC HARDWARE

A. Panic hardware shall be furnished with cast/flush end caps at all devices. Overlapping or stamped end caps will not be permitted.

B. Provide any necessary shim kits to clear vision panels in doors.

C. Provide proper strikes for the frame type installed.

D. Through bolts are not permitted except where fire ratings dictate their use.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that doors and frames are ready to receive work; labeled, fire-rated doors and frames are present and properly installed, and dimensions are as indicated on shop drawings.

B. Verify that electric power is available to power operated devices and of the correct characteristics.

3.02 INSTALLATION

A. Install hardware in accordance with manufacturer's instructions and applicable codes.

B. Use templates provided by hardware item manufacturer.

C. Do not install surface mounted items until finishes applied to substrate are complete.

D. Install hardware on fire-rated doors and frames in accordance with code and NFPA 80.

E. Mounting heights for hardware from finished floor to center line of hardware item: As listed in Schedule, unless otherwise noted:

F. Field prep existing doors as required. Do not prep existing fire rated doors unless certified to do so by the labeling agency.

G. Hardware manufacturer provided fasteners shall be used at all hardware. Do not substitute any other fasteners.

3.03 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 01 40 00.

3.04 ADJUSTING

A. Adjust work under provisions of Section 01 70 00.

B. Adjust hardware for smooth operation.

C. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

D. Adjust all door closers to meet code after the air systems have been final balanced.

3.05 CLEANING

A. Clean adjacent surfaces soiled by hardware installation. Clean finished hardware per manufacturer's instructions after final adjustments has been made. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.

3.06 PROTECTION

A. Protect finished Work under provisions of Section 01 70 00.

B. Do not permit adjacent work to damage hardware or finish.

3.07 SCHEDULE

DOOR INDEX

Door Numbers	HwSet#
001A	06
001B	06
001C	06
001D	06
001E	07
100A	06
100B	06

Door Numbers	HwSet#
100C	06
100D	06
100E	06
100F	06
100G	06
100H	06
100J	07
100K	07
100L	07
100M	07
101A	08
101B	09
101C	10
102	11
103	12
104	11
105	13
106	04
107	04
108	05
109	14
110	15
111	16
112	17
116	18
117	19
S101A	01
S101B	02
S102	03
S104	04
S105	05

HARDWARE GROUP NO. 01

S101A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
1	EA	CONT. HINGE	027XY EPT		628	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	VANDL EU STOREROOM	ND96P6DEU RHO RX CON 12V/24V DC (CONFIRM KEYWAY WITH OWNER)		626	SCH
1	EA	LOCK GUARD	LG13		630	IVE
1	EA	CUSH SHOE SUPPORT	4110-30		689	LCN
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	BLADE STOP SHIM	4110-61		689	LCN
1	EA	RAIN DRIP	142AA		AA	ZER
1	SET	WEATHER STRIPPING	PROVIDED BY DOOR/FRAME MANUFACTURER			
1	EA	DOOR SWEEP	8198AA		AA	ZER
1	EA	THRESHOLD	65A-223		A	ZER
1	EA	WIRE HARNESS	CON-192P (FROM EPT TO ELECTRIFIED HARDWARE- VERIFY LENGTH BEFORE ORDERING)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

RUN WIRE HARNESS FROM EPT AROUND DOOR STILES TO ELECTRIC LOCKSET. VERIFY THE PROPER CONTINUOUS HINGE MODEL WITH DOOR MANUFACTURER BEFORE ORDERING.

HARDWARE GROUP NO. 02

S101B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE SET	ALX10 SAT	626	SCH
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 03

S102

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	STOREROOM LOCK	ALX80P6 SAT (CONFIRM KEYWAY WITH OWNER)		626	SCH
1	EA	ELECTRIC STRIKE	5000		630	HES
1	EA	SURFACE CLOSER	4111 EDA WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436		626	IVE
3	EA	SILENCER	SR64		GRY	IVE
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

HARDWARE GROUP NO. 04

106 107 S104

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PRIVACY W/DB & IND	L9496P6 06A L583-363 XL11-986 (CONFIRM KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4011 WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	GASKETING	488SBK PSA (FOR SOUND)		BK	ZER

HARDWARE GROUP NO. 05

108 S105

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP			630	IVE
1	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	VANDL EU STOREROOM	ND96P6DEU RHO RX CON 12V/24V DC (CONFIRM KEYWAY WITH OWNER)			626	SCH
1	EA	LOCK GUARD	LG13			630	IVE
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	RAIN DRIP	142AA			AA	ZER
1	EA	GASKETING	188SBK PSA			BK	ZER
1	EA	DOOR SWEEP	8198AA			AA	ZER
1	EA	THRESHOLD	65A-223			A	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELECTRIC HARDWARE- VERIFY PROPER LENGTH)				SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

HARDWARE GROUP NO. 06

001A	001B	001C	001D	100A	100B
100C	100D	100E	100F	100G	100H

PROVIDE EACH RU DOOR(S) WITH THE FOLLOWING:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1		HARDWARE BY DOOR MANUFACTURER		

HARDWARE GROUP NO. 07

001E 100J 100K 100L 100M

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	VANDL CLASSROOM LOCK	ND94P6D RHO (CONFIRM KEYWAY WITH OWNER)		626	SCH
1	EA	LOCK GUARD	LG13		630	IVE
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	DOOR SWEEP	8198AA		AA	ZER
1	EA	THRESHOLD	65A-223		A	ZER

HARDWARE GROUP NO. 08

101A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
1	EA	CONT. HINGE	027XY EPT		628	IVE
1	EA	POWER TRANSFER	EPT10 CON	✓	689	VON
1	EA	VANDL EU STOREROOM	ND96P6DEU RHO RX CON 12V/24V DC (CONFIRM KEYWAY WITH OWNER)	✓	626	SCH
1	EA	SURFACE CLOSER	4111 EDA WMS		689	LCN
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	SET	WEATHER STRIPPING	PROVIDED BY DOOR/FRAME MANUFACTURER			
1	EA	WIRE HARNESS	CON-192P (FROM EPT TO ELECTRIFIED HARDWARE- VERIFY LENGTH BEFORE ORDERING)	✓		SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)	✓		SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

RUN WIRE HARNESS FROM EPT AROUND DOOR STILES TO ELECTRIC LOCKSET. VERIFY THE PROPER CONTINUOUS HINGE MODEL WITH DOOR MANUFACTURER BEFORE ORDERING.

HARDWARE GROUP NO. 09

101B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
1	EA	CONT. HINGE	027XY		628	IVE
1	EA	VANDL CLASSROOM LOCK	ND94P6D RHO (CONFIRM KEYWAY WITH OWNER)		626	SCH
1	EA	CUSH SHOE SUPPORT	4110-30		689	LCN
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	BLADE STOP SHIM	4110-61		689	LCN
1	EA	RAIN DRIP	142AA		AA	ZER
1	SET	WEATHER STRIPPING	PROVIDED BY DOOR/FRAME MANUFACTURER			
1	EA	DOOR SWEEP	8198AA		AA	ZER
1	EA	THRESHOLD	65A-223		A	ZER

VERIFY THE PROPER CONTINUOUS HINGE MODEL WITH DOOR MANUFACTURER BEFORE ORDERING.

HARDWARE GROUP NO. 10

101C

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	ND10S RHO		626	SCH
1	EA	CLOSER W/STOP ARM	4111 CUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	DOOR SWEEP	8192AA		AA	ZER
1	EA	THRESHOLD	546A-223		A	ZER

HARDWARE GROUP NO. 11

102 104

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	CLASSROOM LOCK	ALX70P6 SAT (CONFIRM KEYWAY WITH OWNER)		626	SCH
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	GASKETING	488SBK PSA (FOR SOUND)		BK	ZER

HARDWARE GROUP NO. 12

103

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	STOREROOM LOCK	ALX80P6 SAT (CONFIRM KEYWAY WITH OWNER)		626	SCH
1	EA	ELECTRIC STRIKE	5000		630	HES
1	EA	SURFACE CLOSER	4111 EDA WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
3	EA	SILENCER	SR64		GRY	IVE
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

HARDWARE GROUP NO. 13

105

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	STOREROOM LOCK	ALX80P6 SAT (CONFIRM KEYWAY WITH OWNER)		626	SCH
1	EA	WALL STOP	WS406/407CVX		630	IVE
3	EA	SILENCER	SR64		GRY	IVE

HARDWARE GROUP NO. 14

109

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	PANIC HARDWARE	LD-98-NL		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	FINAL CORE	23-030 (CONFIRM KEYWAY WITH OWNER)		626	SCH
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	DOOR SWEEP	8198AA		AA	ZER
1	EA	THRESHOLD	65A-223		A	ZER

HARDWARE GROUP NO. 15

110

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	CONST LATCHING BOLT	FB51P		630	IVE
1	EA	DUST PROOF STRIKE	DP2		626	IVE
1	EA	CLASSROOM LOCK	ALX70P6 SAT (CONFIRM KEYWAY WITH OWNER)		626	SCH
1	EA	OH STOP	90S		630	GLY
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	ASTRAGAL	383AA		AA	ZER
3	EA	SILENCER	SR64		GRY	IVE

HARDWARE GROUP NO. 16

111

PROVIDE EACH BP DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
1	EA	BIPASS TRACK	CCD-410-W- SOFT CLOSE		AL	KNC
2	EA	FLUSH PULL	227		626	IVE

HARDWARE GROUP NO. 17

112

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	PRIVACY W/DB & IND	L9496P6 06A L583-363 XL11-986 (CONFIRM KEYWAY WITH OWNER)		626	SCH
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	DOOR SWEEP	8198AA		AA	ZER
1	EA	THRESHOLD	65A-223		A	ZER

HARDWARE GROUP NO. 18

116

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	ND10S RHO		626	SCH
1	EA	SURFACE CLOSER	4011 WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	DOOR SWEEP	8192AA		AA	ZER
1	EA	THRESHOLD	546A-223		A	ZER

HARDWARE GROUP NO. 19

117

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	VANDL STOREROOM LOCK	ND96P6D RHO (CONFIRM KEYWAY WITH OWNER)		626	SCH
1	EA	LOCK GUARD	LG13		630	IVE
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	DOOR SWEEP	8198AA		AA	ZER
1	EA	THRESHOLD	65A-223		A	ZER

END OF SECTION 08 7100

SECTION 11 3100 - RESIDENTIAL APPLIANCES AND EQUIPMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section Includes Appliances:
   1. Microwave Oven.
   2. Refrigerator/Freezer.
   3. Dishwasher (ADA-Compliant).

B. Related Sections:
   1. Division 06 Section "Manufactured Wood Casework" for cabinetry to receive residential appliances.
   2. Division 22 Section "Domestic Water Piping" for water distribution piping connections to residential appliances.
   3. Division 22 Section "Sanitary Waste and Vent Piping" for drainage and vent piping connections to residential appliances.
   4. Division 22 Section "Plumbing Fixtures" for kitchen sinks, waste disposers, and instant hot-water dispensers.
   5. Division 23 for appliance venting.
   6. Division 26 Section "Low-Voltage Electrical Power Conductors and Cables" for services and connections to residential appliances.
   7. Division 26 Section "Electrical Power Conductors and Cables" for services and connections to residential appliances and equipment.

1.03 DEFINITIONS

A. OFCI: Owner Furnished Contractor Installed.

B. OFOI: Owner Furnished Owner Installed.

C. NIC: Not in Contract.

1.04 SUBMITTALS

A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, dimensions, furnished accessories, and finishes for each appliance.

B. Product Schedule: For appliances. Use same designations indicated on Drawings.

C. Qualification Data: For qualified Manufacturer.

D. Product Certificates: For each type of appliance, from manufacturer.

E. Operation and Maintenance Data: For each residential appliance to include in operation and maintenance manuals.

F. Warranties: Sample of special warranties.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer for installation and maintenance of units required for this Project.

B. Source Limitations: Obtain residential appliances from single source and each type of residential appliance from single manufacturer.

C. Regulatory Requirements: Comply with the following:
   1. NFPA: Provide electrical appliances listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
   2. ANSI: Provide gas-burning appliances that comply with ANSI Z21 Series standards.

D. Accessibility: Where residential appliances are indicated to comply with accessibility requirements, comply with the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

E. Preinstallation Conference: Conduct conference at Project site.

F. Energy Star: all appliances shall be “Energy Star” rated.

1.06 WARRANTY

A. Special Warranties: Manufacturer's standard form in which manufacturer agrees to repair or replace residential appliances or components that fail in materials or workmanship within specified warranty period.

PART 2 - PRODUCTS

2.01 MICROWAVE OVENS (OFCI)

A. Type: Free-standing microwave.
   1. Power supply: 120v, single phase, 15 Amp.

2.02 REFRIGERATOR/FREEZERS (~~OFCI~~ **CFCI**)

A. Type 1: Freestanding side by side refrigerator/freezer combination: ~~OFCI~~ **CFCI**
   1. Basis-of-Design Product: ~~Whirlpool 18 cu. Ft. Refrigerator, Model #W8TXEWFVQ with optional ice maker. Energy Star rated.~~ **GE Energy Star, 20.08 cu. FT. French Door Refrigerator, Finish: Stainless Steel, Model# GNE21FYKFS.**
   2. Power supply: 120v, single phase, 15 Amp.

B. ~~Type 2: Under-counter refrigerator/freezer combination.~~
   1. ~~Basis-of-Design Product:~~
   2. ~~Power supply: 120v, single phase, 15 Amp.~~

2.03 DISHWASHER (ADA-COMPLIANT) (~~0FCI~~ **CFCI**)

A. Type: Built-in Undercounter dishwasher.
   1. Basis-of-Design Product: Whirlpool GU3100XTVS Energy Star rated
   2. Power supply: 120v, single phase, 15 Amp.

2.04 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, power connections, and other conditions affecting installation and performance of residential appliances.

B. Examine roughing-in for piping systems to verify actual locations of piping connections before appliance installation.

C. Examine walls, ceilings, and floors for suitable conditions where appliances will be installed.

D. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

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

3.02 INSTALLATION, GENERAL

A. General: Comply with manufacturer's written instructions.

B. Built-in Equipment: Securely anchor units to supporting cabinets or countertops with concealed fasteners. Verify that clearances are adequate for proper functioning and that rough openings are completely concealed.

C. Freestanding Equipment: Place units in final locations after finishes have been completed in each area. Verify that clearances are adequate to properly operate equipment.

D. Range Anti-Tip Device: Install at each range according to manufacturer's written instructions.

E. Utilities: See Divisions 22 and 26 for plumbing and electrical requirements.

3.03 FIELD QUALITY CONTROL

A. Perform tests and inspections.
   1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.

B. Tests and Inspections:
   1. Perform visual, mechanical, and electrical inspection and testing for each appliance according to manufacturers' written recommendations. Certify compliance with each manufacturer's appliance-performance parameters.
   2. Leak Test: After installation, test for leaks. Repair leaks and retest until no leaks exist.

3. Operational Test: After installation, start units to confirm proper operation.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and components.

C. An appliance will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

3.04 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain residential appliances.

END OF SECTION 11 3100

SECTION 13 3419 - METAL BUILDING SYSTEMS (OFCI)

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section Includes:
   1. Structural-steel framing.
   2. Metal roof panels.
   3. Metal wall panels.
   4. Metal soffit panels.
   5. Thermal insulation.
   6. Personnel doors and frames.
   7. Translucent panels.
   8. Skylights.
   9. Accessories.
      a. Roof snow guards.

B. Related Requirements:
   1. Division 08 Section "Overhead Coiling Doors" for coiling vehicular doors in metal building systems.
   2. Division 08 Section "Structured-Polycarbonate-Panel Assemblies."
   3. Division 08 Section “Aluminum Windows.”
   4. ~~Division 08 Section "Unit Skylights" to be provided as part of the metal building system.~~
   5. Division 08 Section "Glazing."

1.03 DEFINITIONS

A. Terminology Standard: See MBMA's "Metal Building Systems Manual" for definitions of terms for metal building system construction not otherwise defined in this Section or in standards referenced by this Section.

B. OFCI: Owner Furnished Contractor Installed.

1.04 COORDINATION

A. Coordinate sizes and locations of concrete foundations and casting of anchor-rod inserts into foundation walls and footings. Anchor rod installation, concrete, reinforcement, and formwork requirements are specified in Division 03 Section "Cast-in-Place Concrete."

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

1.05 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.06 ACTION SUBMITTALS

A. Product Data: For each type of metal building system component.
   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:
      a. Metal roof panels.
      b. Metal wall panels.
      c. Metal soffit panels.
      d. Thermal insulation and vapor-retarder facings.
      e. Translucent roof panels.

B. Sustainable Design Submittals:
   1. Product Test Reports: For roof materials, documentation indicating that roof materials comply with Solar Reflectance Index requirements.
   2. Product Data: For recycled content, indicating postconsumer and preconsumer recycled content and cost.

C. Shop Drawings: Indicate components by others. Include full building plan, elevations, sections, details and the following:
   1. Anchor-Rod Plans: Submit anchor-rod plans and templates before foundation work begins. Include location, diameter, and minimum required projection of anchor rods required to attach metal building to foundation. Indicate column reactions at each location.
   2. Structural-Framing Drawings: Show complete fabrication of primary and secondary framing; include provisions for openings. Indicate welds and bolted connections, distinguishing between shop and field applications. Include transverse cross-sections.
      a. Show provisions for attaching roof curbs, service walkways, platforms and pipe racks.
   3. Metal Roof and Wall Panel Layout Drawings: Show layouts of panels including methods of support. Include details of edge conditions, joints, panel profiles, corners, anchorages, clip spacing, trim, flashings, closures, and special details. Distinguish between factory- and field-assembled work; show locations of exposed fasteners.
      a. Show roof-mounted items including roof hatches, equipment supports, pipe supports and penetrations, lighting fixtures, skylights and items mounted on roof curbs.
      b. Show wall-mounted items including personnel doors, vehicular doors, windows, louvers, and lighting fixtures.
      c. Show translucent panels.
   4. Accessory Drawings: Include details of the following items, at a scale of not less than 1-1/2 inches per 12 inches:
      a. Flashing and trim.
      b. Gutters.
      c. Downspouts.

D. Samples for Initial Selection: For units with factory-applied finishes, from manufacturer's full range of standard colors.

E. Delegated-Design Submittal: For metal building systems.
   1. Include analysis data indicating compliance with performance requirements and design data signed and sealed by the qualified professional engineer responsible for their preparation.
   2. Provide Oregon PE stamped and signed drawings and calculations for submittal.

1.07 INFORMATIONAL SUBMITTALS

A. Qualification Data: For erector and manufacturer.

B. Welding certificates.

C. Letter of Design Certification: Signed and sealed by a qualified professional engineer. Include the following:
   1. Name and location of Project.
   2. Order number.
   3. Name of manufacturer.
   4. Name of Contractor.
   5. Building dimensions including width, length, height, and roof slope.
   6. Indicate compliance with AISC standards for hot-rolled steel and AISI standards for cold-rolled steel, including edition dates of each standard.
   7. Governing building code and year of edition.
   8. Design Loads: Include dead load, roof live load, collateral loads, roof snow load, deflection, wind loads/speeds and exposure, seismic design category or effective peak velocity-related acceleration/peak acceleration, and auxiliary loads (cranes).
   9. Load Combinations: Indicate that loads were applied acting simultaneously with concentrated loads, according to governing building code.
   10. Building-Use Category: Indicate category of building use and its effect on load importance factors.

D. Material Test Reports: For each of the following products:
   1. Structural steel including chemical and physical properties.
   2. Bolts, nuts, and washers including mechanical properties and chemical analysis.
   3. Tension-control, high-strength, bolt-nut-washer assemblies.
   4. Shop primers.
   5. Nonshrink grout.

1.08 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer.
   1. Accreditation: Manufacturer's facility accredited according to the International Accreditation Service's AC472, "Accreditation Criteria for Inspection Programs for Manufacturers of Metal Building Systems."
   2. Engineering Responsibility: Preparation of comprehensive engineering analysis and Shop Drawings by a professional engineer who is legally qualified to practice in jurisdiction where Project is located.

B. Erector Qualifications: An experienced erector who specializes in erecting and installing work similar in material, design, and extent to that indicated for this Project and who is acceptable to manufacturer.

C. Welding Qualifications: Qualify procedures and personnel according to the following:
   1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
   2. AWS D1.3, "Structural Welding Code - Sheet Steel."

1.09 DELIVERY, STORAGE, AND HANDLING

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

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

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

D. Protect foam-plastic insulation as follows:
   1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
   2. Protect against ignition at all times. Do not deliver foam-plastic insulation materials to Project site before installation time.
   3. Complete installation and concealment of foam-plastic materials as rapidly as possible in each area of construction.

1.10 FIELD CONDITIONS

A. Weather Limitations: Proceed with panel installation only when weather conditions permit metal panels to be installed according to manufacturers' written instructions and warranty requirements.

1.11 WARRANTY

A. Special Warranty on Metal Panel Finishes: Manufacturer agrees to repair finish or replace metal panels that show 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 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.

B. Special Weathertightness Warranty for Standing-Seam Metal Roof Panels: Manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that leak or otherwise fail to remain weathertight within specified warranty period.
   1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
   1. Allied Buildings, www.alliedbuildings.com
   2. Armstrong Steel Buildings, www.armstrongsteelbuildings.com
   3. Butler Manufacturing Company; a division of BlueScope Buildings North America, Inc.
   4. CHG Building Systems, www.chgbuildingsystems.com
   5. Heritage Building Systems, www.heritagebuildings.com
   6. Nucor Corporation, Nucor Buildings Group, www.nucorbuildingsystems.com
   7. Pacific Building Systems, www.pbsbuildings.com
   8. Varco Pruden, www.vp.com

B. Source Limitations: Obtain metal building system components, including primary and secondary framing and metal panel assemblies, from single source from single manufacturer.

2.02 SYSTEM DESCRIPTION

A. Provide a complete, integrated set of mutually dependent components and assemblies that form a metal building system capable of withstanding structural and other loads, thermally induced movement, and exposure to weather without failure or infiltration of water into building interior.

B. Primary-Frame Type:
   1. Rigid Clear Span: Solid-member, structural-framing system without interior columns.
   2. Truss-Frame Clear Span: Truss-member, structural-framing system without interior columns.

C. End-Wall Framing: Manufacturer's standard, for buildings not required to be expandable, consisting of primary frame, capable of supporting one-half of a bay design load, and end-wall columns.

D. Secondary-Frame Type: Manufacturer's standard purlins and joists and exterior-framed (bypass) girts.

E. Eave Height: Manufacturer's standard height, as indicated by nominal height on Drawings.

F. Bay Spacing: As indicated on Drawings.

G. Roof Slope: As indicated on Drawings.

H. Roof System: Standing-seam, vertical-rib, metal roof panels.

I. Exterior Wall System: Lap-seam metal wall panels.

2.03 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer to design metal building system, using performance requirements and design criteria indicated.

B. Structural Performance: Metal building systems shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated according to procedures in MBMA's "Metal Building Systems Manual."
   1. Design Loads: As indicated on Drawings, and in accordance to AHJ requirements.
   2. Deflection and Drift Limits: Design metal building system assemblies to withstand serviceability design loads without exceeding deflections and drift limits recommended in AISC Steel Design Guide No. 3 "Serviceability Design Considerations for Steel Buildings."
   3. Deflection and Drift Limits: No greater than the following:
      a. Purlins and Rafters: Vertical deflection of 1/240 of the span.
      b. Girts: Horizontal deflection of 1/180 of the span.
      c. Metal Roof Panels: Vertical deflection of 1/180 of the span.
      d. Metal Wall Panels: Horizontal deflection of 1/180 of the span.
      e. Design secondary-framing system to accommodate deflection of primary framing and construction tolerances, and to maintain clearances at openings.
      f. Lateral Drift: Maximum of 1/200 of the building height.

C. Seismic Performance: Metal building system shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing 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.

E. Structural Performance for Metal Roof and Wall Panels: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E1592:
   1. Wind Loads: As indicated on Drawings.

F. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.
   1. Uplift Rating: UL 90.

2.04 STRUCTURAL-STEEL FRAMING

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

B. Structural Steel: Comply with AISC 360, "Specification for Structural Steel Buildings."

C. Bolted Connections: Comply with RCSC's "Specification for Structural Joints Using High-Strength Bolts."

D. Cold-Formed Steel: Comply with AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members" for design requirements and allowable stresses.

E. Primary Framing: Manufacturer's standard primary-framing system, designed to withstand required loads and specified requirements. Primary framing includes transverse and lean-to frames; rafters, rake, and canopy beams; sidewall, intermediate, end-wall, and corner columns; and wind bracing.
   1. General: Provide frames with attachment plates, bearing plates, and splice members. Factory drill for field-bolted assembly. Provide frame span and spacing indicated.
   2. Rigid Clear-Span Frames: I-shaped frame sections fabricated from shop-welded, built-up steel plates or structural-steel shapes. Interior columns are not permitted.
   3. Frame Configuration: As indicated on Drawings.
   4. Exterior Column: Tapered.
   5. Rafter: Tapered.

F. End-Wall Framing: Manufacturer's standard primary end-wall framing fabricated for field-bolted assembly to comply with the following:
   1. End-Wall and Corner Columns: I-shaped sections fabricated from structural-steel shapes; shop-welded, built-up steel plates; or C-shaped, cold-formed, structural-steel sheet.

G. Secondary Framing: Manufacturer's standard secondary framing, including purlins, girts, eave struts, flange bracing, base members, gable angles, clips, headers, jambs, and other miscellaneous structural members. Unless otherwise indicated, fabricate framing from either cold-formed, structural-steel sheet or roll-formed, metallic-coated steel sheet, prepainted with coil coating, to comply with the following:
   1. Purlins: C- or Z-shaped sections; fabricated from built-up steel plates, steel sheet, or structural-steel shapes; minimum 2-1/2-inch-wide flanges.
      a. Depth: As needed to comply with system performance requirements.
   2. Purlins: Steel joists of depths indicated on Drawings.

3. Girts: C- or Z-shaped sections; fabricated from built-up steel plates, steel sheet, or structural-steel shapes. Form ends of Z-sections with stiffening lips angled 40 to 50 degrees from flange, with minimum 2-1/2-inch-wide flanges.
    a. Depth: As required to comply with system performance requirements.
4. Eave Struts: Unequal-flange, C-shaped sections; fabricated from built-up steel plates, steel sheet, or structural-steel shapes; to provide adequate backup for metal panels.
5. Flange Bracing: Minimum 2-by-2-by-1/8-inch structural-steel angles or 1-inch-diameter, cold-formed structural tubing to stiffen primary-frame flanges.
6. Sag Bracing: Minimum 1-by-1-by-1/8-inch structural-steel angles.
7. Base or Sill Angles: Manufacturer's standard base angle, minimum 3-by-2-inch, fabricated from zinc-coated (galvanized) steel sheet.
8. Purlin and Girt Clips: Manufacturer's standard clips fabricated from steel sheet. Provide galvanized clips where clips are connected to galvanized framing members.
9. Framing for Openings: Channel shapes; fabricated from cold-formed, structural-steel sheet or structural-steel shapes. Frame head and jamb of door openings and head, jamb, and sill of other openings.
10. Miscellaneous Structural Members: Manufacturer's standard sections fabricated from cold-formed, structural-steel sheet; built-up steel plates; or zinc-coated (galvanized) steel sheet; designed to withstand required loads.

H. Bracing: Provide adjustable wind bracing using any method as follows:
1. Rods: ASTM A36/A36M; ASTM A572/A572M, Grade 50; or ASTM A529/A529M, Grade 50; minimum 1/2-inch-diameter steel; threaded full length or threaded a minimum of 6 inches at each end.
2. Cable: ASTM A475, minimum 1/4-inch-diameter, extra-high-strength grade, Class B, zinc-coated, seven-strand steel; with threaded end anchors.
3. Rigid Portal Frames: Fabricated from shop-welded, built-up steel plates or structural-steel shapes to match primary framing; of size required to withstand design loads.

I. Anchor Rods: Headed anchor rods as indicated in Anchor Rod Plan for attachment of metal building to foundation.

J. Materials:
1. W-Shapes: ASTM A992/A992M; ASTM A572/A572M, Grade 50 or 55; or ASTM A529/A529M, Grade 50 or 55.
2. Channels, Angles, M-Shapes, and S-Shapes: ASTM A36/A36M; ASTM A572/A572M, Grade 50 or 55; or ASTM A529/A529M, Grade 50 or 55.
3. Plate and Bar: ASTM A36/A36M; ASTM A572/A572M, Grade 50 or 55; or ASTM A529/A529M, Grade 50 or 55.
4. Structural-Steel Sheet: Hot-rolled, ASTM A1011/A1011M, Structural Steel (SS), Grades 30 through 55, or High-Strength Low-Alloy Steel (HSLAS) or High-Strength Low-Alloy Steel with Improved Formability (HSLAS-F), Grades 45 through 70; or cold-rolled, ASTM A1008/A1008M, Structural Steel (SS), Grades 25 through 80, or HSLAS, Grades 45 through 70.
5. Metallic-Coated Steel Sheet: ASTM A653/A653M, SS, Grades 33 through 80, or HSLAS or HSLAS-F, Grades 50 through 80 (340 through 550); with G60 (Z180) coating designation; mill phosphatized.
6. Metallic-Coated Steel Sheet Prepainted with Coil Coating: Steel sheet, metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A755/A755M.
    a. Zinc-Coated (Galvanized) Steel Sheet: ASTM A653/A653M, SS, Grades 33 through 80, or HSLAS or HSLAS-F, Grades 50 through 80; with G90 coating designation.
    b. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A792/A792M, SS, Grade 50 or 80; with Class AZ50 coating.

7. Steel Joists: Manufactured according to "Standard Specifications for Open Web Steel Joists, K-Series," in SJI's "Standard Specifications and Load Tables for Steel Joists and Joist Girders"; with steel-angle, top- and bottom-chord members, and end- and top-chord arrangements as indicated on Drawings and required for secondary framing.
8. High-Strength Bolts, Nuts, and Washers: ASTM F3125/F3125M, Grade A490, Type 1, heavy-hex steel structural bolts or Grade F2280 tension-control, bolt-nut-washer assemblies with splined ends; ASTM A563, Grade DH, heavy-hex carbon-steel nuts; and ASTM F436/F436M, Type 1, hardened carbon-steel washers; all with plain finish.
9. Tension-Control, High-Strength Bolt-Nut-Washer Assemblies: ASTM F3125/F3125M, Grade F1852, Type 1, heavy-hex head assemblies consisting of steel structural bolts with splined ends; ASTM A563, Grade DH, heavy-hex carbon-steel nuts; and ASTM F436/F436M, Type 1 hardened carbon-steel washers.
    a. Finish: Mechanically deposited zinc coating, ASTM B695, Class 50.
10. Unheaded Anchor Rods: ASTM F1554, Grade 36 .
    a. Configuration: Straight.
    b. Nuts: ASTM A563 heavy-hex carbon steel.
    c. Plate Washers: ASTM A36/A36M carbon steel.
    d. Washers: ASTM F436 hardened carbon steel.
    e. Finish: Hot-dip zinc coating, ASTM F2329, Class C.
11. Headed Anchor Rods: ASTM F1554, Grade 36.
    a. Configuration: Straight.
    b. Nuts: ASTM A563 heavy-hex carbon steel.
    c. Plate Washers: ASTM A36/A36M carbon steel.
    d. Washers: ASTM F436 hardened carbon steel.
    e. Finish: Hot-dip zinc coating, ASTM F2329, Class C.

K. Finish: Factory primed and painted with one factory applied silicone-modified polyester topcoat, Duracoat DC5000 or comparable, standard gloss white color, over primer approved by topcoat manufacturer. Apply specified primer immediately after cleaning and pretreating.
1. Clean and prepare in accordance with SSPC-SP2.
2. Coat with manufacturer's standard primer. Apply primer to primary and secondary framing to a minimum dry film thickness of 1 mil.
    a. Prime secondary framing formed from uncoated steel sheet to a minimum dry film thickness of 0.5 mil on each side.

2.05 METAL ROOF PANELS

A. Standing-Seam, Vertical-Rib, Metal Roof Panels: Formed with vertical ribs at panel edges and intermediate stiffening ribs symmetrically spaced between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels and engaging opposite edge of adjacent panels.
1. Preformed Metal Standing Seam Roofing System: Panels with mechanically seamed 2” high rib.
    a. Basis-of-Design Product: Subject to compliance with requirements, provide Nucor Building Systems, A Nucor Company, VR16 II-360 or comparable product by one of the following:
        1) AEP Span, A BlueScope Steel Company.
        2) CENTRIA Architectural Systems.
        3) Morin - A Kingspan Group Company.
        4) PAC-CLAD; Petersen Aluminum Corporation; a Carlisle company.
        5) Taylor Metal Products.
2. Material: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, 24 gauge nominal uncoated steel thickness. Prepainted by the coil-coating process to comply with ASTM A755/A755M.

a. Exterior Finish: PVDF (polyvinylidene fluoride) two-coat fluoropolymer resin coating system.
b. Color: As selected by Architect from manufacturer's full range.

3. Joint Type: Mechanically seamed.
4. Panel Coverage: 16 inches.
5. Panel Height: 2 inches.

B. Finishes:
1. 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.
2. Concealed Finish: Apply pretreatment and 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.

2.06 METAL WALL PANELS

A. Exposed-Fastener, Lap-Seam Metal Wall Panels: Factory-formed metal panels designed to be field assembled by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps. Include accessories required for weathertight installation.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Nucor Building Systems, A Nucor Company, Nucor Classic Wall or comparable product by one of the following:
a. AEP Span, A BlueScope Steel Company.
b. CENTRIA Architectural Systems.
c. Morin - A Kingspan Group Company.
d. PAC-CLAD; Petersen Aluminum Corporation; a Carlisle company.
e. Taylor Metal Products.
2. Metallic-Coated Steel Sheet: Zinc-coated (galvanized) steel sheet complying with ASTM A653/A653M, G90 coating designation, or aluminum-zinc alloy-coated steel sheet complying with ASTM A792/A792M, Class AZ50 coating designation; structural quality. Prepainted by the coil-coating process to comply with ASTM A755/A755M.
a. Nominal Thickness: 26 gauge.
3. Exterior Finish: PVDF (polyvinylidene fluoride) two-coat fluoropolymer resin coating system.
a. Color: As selected by Architect from manufacturer's full range.

B. Metal Liner Panels: Formed with raised, trapezoidal major ribs and intermediate stiffening ribs symmetrically spaced between major ribs; designed to be installed by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Nucor Building Systems, A Nucor Company, Nucor Classic Wall Liner Panel or comparable product by one of the following:
a. AEP Span, A BlueScope Steel Company.
b. CENTRIA Architectural Systems.
c. Morin - A Kingspan Group Company.
d. PAC-CLAD; Petersen Aluminum Corporation; a Carlisle company.
e. Taylor Metal Products.

2. Material: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, 24 gauge, 0.024-inch (0.61-mm) nominal uncoated steel thickness. Prepainted by the coil-coating process to comply with ASTM A755/A755M.
    a. Exterior Finish: Siliconized polyester.
    b. Color: As selected by Architect from manufacturer's full range.
3. Major-Rib Spacing: 12 inches (305 mm) o.c.
4. Panel Coverage: 36 inches (914 mm).
5. Panel Height: 1.25 inches (32 mm).

C. Finishes:
1. 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. Siliconized Polyester: Epoxy primer and silicone-modified, polyester-enamel topcoat; with a minimum dry film thickness of 0.2 mil (0.005 mm) for primer and 0.8 mil (0.02 mm) for topcoat.
2. Concealed Finish: Apply pretreatment and 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.

2.07 METAL SOFFIT PANELS

A. General: Provide factory-formed metal soffit panels designed to be installed by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports in side laps. Include accessories required for weathertight installation.

B. Tapered-Rib-Profile, Metal Soffit Panels: Formed with raised, trapezoidal major ribs and intermediate stiffening ribs symmetrically spaced between major ribs; designed to be installed by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Nucor Building Systems, A Nucor Company, Nucor Classic Wall or comparable product by one of the following:
    a. AEP Span, A BlueScope Steel Company.
    b. CENTRIA Architectural Systems.
    c. Morin - A Kingspan Group Company.
    d. PAC-CLAD; Petersen Aluminum Corporation; a Carlisle company.
    e. Taylor Metal Products.
2. Material: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, 26 gauge, 0.018-inch (0.46-mm) nominal uncoated steel thickness. Prepainted by the coil-coating process to comply with ASTM A755/A755M.
    a. Exterior Finish: Two-coat fluoropolymer.
    b. Color: As selected by Architect from manufacturer's full range.
3. Major-Rib Spacing: 12 inches (305 mm) o.c.
    a. Align ribs with siding panels.
4. Panel Coverage: 36 inches (914 mm).
5. Panel Height: 1.25 inches (32 mm).

2.08 THERMAL INSULATION

A. Basis of Design Product: Subject to compliance with requirements, provide Simple Saver System, double layer system; as manufactured by Thermal Design, Inc.

B. Roof Metal Building Insulation: ASTM C 991, Type I, ASTM E 84, glass-fiber-blanket insulation; with a thermal resistance and thickness as follows:
   1. R-36; 11-1/2 inches, 8 inches plus 3-1/2 inches (two layers).

C. Wall Metal Building Insulation: ASTM C 991, Type I, ASTM E 136 and ASTM E 84, glass-fiber-blanket insulation; with a thermal resistance and thickness as follows:
   1. R-19; 8 inches.

D. Straps: For securing insulation between supports, 100 KSI minimum yield tempered, high-tensile-strength steel. Not less than 0.020-inch-thick by 1 inch by continuous length. Galvanized, primed and painted to match insulation facing.

E. Vapor-Barrier Liner Fabric: ASTM C 1136, with permeance not greater than 0.02 perm when tested according to ASTM E 96.
   1. Composition: Woven, reinforced, high-density polyethylene yarns coated on both sides with continuous white polyethylene coatings.

F. Vapor-Retarder Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.

2.09 DOORS AND FRAMES

A. Related Requirements:
   1. Swinging Personnel Doors and Frames: As specified in Division 08 Section "Hollow Metal Doors and Frames."
   2. Overhead Doors: As specified in Division 08 Section "Overhead Coiling Doors."
   3. Door Hardware: To be coordinated with Owner (NIC).
   4. **Doors and frames to be provided by GC.**

B. ~~Swinging Personnel Doors and Frames: Metal building system manufacturer's standard doors and frames; prepared and reinforced at strike and at hinges to receive factory- and field-applied hardware according to BHMA A156 Series.~~
   1. ~~Exterior Hollow Metal Doors: Provide all exterior doors as part of PEMB package, including doors located in walls with metal siding and concrete masonry.~~
      a. ~~General: Zinc-Iron Alloy-Coated galvannealed steel, ASTM A 653, Class A60. Close tops of doors to eliminate moisture penetration.~~
         1) ~~Thickness: 16 gage.~~
         2) ~~Performance: Level A (Heavy Duty), Full Flush.~~
         3) ~~Door Level: 3, high impact, high frequency of use.~~
         4) ~~Thickness: 1-3/4 inches.~~
         5) ~~Thermal Performance:~~
      b. ~~Internal construction:~~
         1) ~~Insulation: ASTM C 591; Foamed in place polyurethane foam, not greater than one-half (1/2) of an inch void in any one direction, U-value of 0.11 minimum.~~
         2) ~~Vertical Stiffeners: Minimum 20-gauge stiffeners.~~
      c. ~~Glazing: At locations indicated in Door Schedule.~~
         1) ~~5/8-inch factory installed, tempered gas-filled insulated glazing, sealed trim with factory weatherproof gasket.~~
         2) ~~Thermal performance: SHGC .37, U-Factor .25 BTU/hr*FT^2, Shading Coefficient (SC) .42.~~
         3) ~~Fire Rating: Supply door units bearing Manufacturer labels for fire ratings indicated in Door Schedule.~~
         4) ~~Glazing color: Clear.~~

d. ~~Hardware reinforcements:~~
   1) ~~Hinge reinforcements for full mortise hinges minimum 7 gage, galvannealed.~~
   2) ~~Lock reinforcements: minimum sixteen 16 gauge, galvannealed.~~
   3) ~~Closer reinforcements: minimum 14 gauge, galvannealed.~~
   4) ~~Reinforce top and bottom of doors with 14 gauge, galvannealed metal welded to both panels.~~
      a) ~~Fire rated doors: Supply door units bearing Manufacturer labels for fire ratings indicated in Door Schedule.~~
      b) ~~Accessories: Provide one-way, peep-holes as indicated in Door Schedule.~~

2. ~~Hollow Metal Frames:~~
   a. ~~Exterior frames:~~
      1) ~~Basis of Design: CeccoDoor 'Series SQW'.~~
      2) ~~Thickness: 16 gage.~~
      3) ~~Fabricate frames with mitered or coped corners.~~
      4) ~~Fabricate frames as a full profile welded unless otherwise indicated.~~
      5) ~~Provide foam filled compression weather stripping in kerf pocket.~~
      6) ~~Size: 5-1/2".~~
   b. ~~Frame Anchors.~~
      1) ~~Masonry: 'T' jamb anchors for grout filled frames anchored to concrete masonry units.~~
      2) ~~Metal stud framing: 'Z' tab-anchors for metal stud framed openings.~~
3. ~~Finish: Factory finished multi-coat system color as indicated on finish schedule.~~
   a. ~~Primer: Factory primer suitable for application of exterior-grade urethane topcoats meeting ANSI A224.1 "Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces."~~
   b. ~~Topcoat: Two component high solid urethane.~~
      1) ~~Basis of Design Product: 'PPG Spectracron 360 Series 2K HS' Exterior Grade Urethane.~~
      2) ~~Sheen: High Gloss.~~
      3) ~~Hardener: Use finish manufacturer recommended catalyzed exterior hardener.~~
      4) ~~Hardness: Pencil H-2H.~~
      5) ~~Application: Factory spray applied for smooth, blemish free finish.~~
      6) ~~Dry film build: 1.5-2.5 mils.~~
      7) ~~Gloss: 15-25@60-degree angle per ASTM D523~~
      8) ~~Humidity Resistance: No rust, blisters or delamination per ASTM D2247.~~
      9) ~~Salt Spray Resistance: <3-5 mm creepage; no blisters or delamination per ASTM D2247 with 500-1000 hour life.~~

C. ~~ELECTRIFIED DOORS AND FRAMES~~
   1. ~~General: Provide pre-wired electrified doors and frames at locations indicated on Door Schedule.~~
   2. ~~Door and Frame materials: See Section 2.08 Doors and Frames for materials.~~
   3. ~~Doors: All doors required for the application of electronic locks, remote monitoring, which require the door to have wires through the door shall be provided.~~
      a. ~~Wiring: 22-gauge multi-strand wire using internal door conduit.~~
      b. ~~Junction Box Location and Type: Junction boxes at middle hinge reinforcement to accommodate electric hinge and a junction box at the strike location to accommodate an electric strike.~~
   4. ~~Frames:~~

a. ~~Provide all hollow metal frames receiving electrified hardware through-frame wiring harness and concealed plug connectors on each end to accommodate up to twelve wires.~~
b. ~~Coordinate connectors on each end of the wiring harness to plug directly into the electrified hardware and the electric hinge.~~

2.10 TRANSLUCENT PANELS

A. Translucent Single Panel Standing Seam Cladding System: **As specified in Division 08 Section "Structured-Polycarbonate-Panel Assemblies." Translucent panels to be provided and installed by GC.** ~~Polycarbonate panel with cell extrusion; complying with ASTM E330, Grade 1 (weather resistant); smooth finish on both sides.~~
1. ~~Basis-of-Design Product: Subject to compliance with requirements, provide Kingspan Light + Air; Pentaglas or a comparable product.~~
2. ~~Wall Panel Weight: Not less than .53 lb/sq. ft.~~
3. ~~Thickness: 16 mm.~~
4. ~~Width: 24 inches nominal.~~
5. ~~Metal Edge: Fabricate full length of each side of panel with metal edge for seaming into standing-seam roof panel joint.~~
6. ~~Color: As selected by Architect from manufacturer's full range.~~
7. ~~Cellular configuration: multi-cell extruded polycarbonate, maximum of 0.18 inches diameter per cell.~~
8. ~~Panel width: No panel shall exceed two-feet zero inches (2'-0") nominal width.~~
9. ~~Panel interlock: Panels shall interlock with manufacturer supplied "U" shape battens. Battens shall be capable of installation oriented towards the building exterior allowing flush mounting against building interior structure.~~
10. ~~Heat welding or gluing of the system is not acceptable.~~
11. ~~Material: Panels shall be manufactured from polycarbonate resin with a manufacturer applied permanent ultraviolet protective layer. Post-applied coatings or films of dissimilar materials are not acceptable.~~
12. ~~Exposed Ends: Panels shall be factory sealed at the sill.~~

B. ~~Performance:~~
1. ~~Surface-Burning Characteristics: As determined by testing identical products according to ASTM E84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.~~
   a. ~~Flame-Spread Index: 25 or less, class A rating.~~
   b. ~~Smoke-Developed Index: 450 or less.~~
   c. ~~U-Factor: NFRC 100 0.43 to 0.38 center of glass.~~
   d. ~~Water Penetration ASTM E331, Air Infiltration ASTM E283.~~
   e. ~~Panels shall be impact resistant of no less than 350 Ft-Lbs.~~

2.11 SKYLIGHTS

A. **As specified in** Division 08 Section **"Structured-Polycarbonate-Panel Assemblies"** ~~"Unit Skylights"~~ **Skylights to be provided and installed by GC**.

2.12 ACCESSORIES

A. General: Provide accessories as standard with metal building system manufacturer and as specified. Fabricate and finish accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes. Comply with indicated profiles and with dimensional and structural requirements.

1. Form exposed sheet metal accessories that are without excessive oil-canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.

B. Roof Panel Accessories: Provide components required for a complete metal roof panel assembly including copings, fasciae, corner units, ridge closures, clips, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.
   1. Closures: Provide closures at eaves and ridges, fabricated of same material as metal roof panels.
   2. Clips: Manufacturer's standard, formed from stainless-steel sheet, designed to withstand negative-load requirements.
   3. Cleats: Manufacturer's standard, mechanically seamed cleats formed from stainless-steel sheet or nylon-coated aluminum sheet.
   4. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
   5. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch-thick, flexible closure strips; cut or premolded to match metal roof panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
   6. Thermal Spacer Blocks: Where metal panels attach directly to purlins, provide thermal spacer blocks of thickness required to provide 1-inch standoff; fabricated from extruded polystyrene.

C. Roof Snow Guards: Complete snow retention system with standing seam rib mounted clamps and 2-piece horizontal pole snow-retention assembly manufactured out of of aluminum, stainless steel, or roofing color-match PVDF coated material. Subject to compliance with requirements, basis of design products that may be incorporated in the Work include the following:
   1. Ace Clamp – ‘A2 N Thee-Rail Heavy Duty Snow Guard System’ with double lock install. www.aceclamp.com.
   2. Alpine Snow Guards – ‘2000 T-2K’ – www.alpinesnowguards.com.
   3. S-5 – ‘DualGuard’ – www.s-5.com.
   4. Or Approved Equal.

D. Wall Panel Accessories: Provide components required for a complete metal wall panel assembly including copings, fasciae, mullions, sills, corner units, clips, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal wall panels unless otherwise indicated.
   1. Closures: Provide closures at eaves and rakes, fabricated of same material as metal wall panels.
   2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
   3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch-thick, flexible closure strips; cut or premolded to match metal wall panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.

E. Flashing and Trim: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, 22 gauge, 0.025-inch nominal uncoated steel thickness, prepainted with coil coating; finished to match adjacent metal panels.
   1. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers.

2. Opening Trim: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, 22 gauge, 0.025-inch nominal uncoated steel thickness, prepainted with coil coating. Trim head and jamb of door openings, and head, jamb, and sill of other openings.

F. Gutters: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, 22 gauge, 0.025-inch nominal uncoated steel thickness, prepainted with coil coating; finished to match roof fascia and rake trim. Match profile of gable trim, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 20-foot-long sections, sized according to SMACNA's "Architectural Sheet Metal Manual."
   1. Gutter Supports: Fabricated from same material and finish as gutters.
   2. Strainers: Bronze, copper, or aluminum wire ball type at outlets.

G. Downspouts: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, 22 gauge, 0.025-inch nominal uncoated steel thickness, prepainted with coil coating; finished to match metal wall panels. Fabricate in minimum 10-foot-long sections, complete with formed elbows and offsets.
   1. Mounting Straps: Fabricated from same material and finish as gutters.

H. Roof Curbs: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, 0.048-inch nominal uncoated steel thickness prepainted with coil coating; finished to match metal roof panels; with welded top box and bottom skirt, and integral full-length cricket; capable of withstanding loads of size and height indicated.
   1. Curb Subframing: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, 0.060-inch nominal uncoated steel thickness, angle-C-, or Z-shaped metallic-coated steel sheet.
   2. Insulation: 1-inch-thick, rigid type.
   3. **Roof curbs to be provided and installed by GC.**

I. Pipe Flashing: Premolded, EPDM pipe collar with flexible aluminum ring bonded to base.

J. Materials:
   1. Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide fasteners with heads matching color of materials being fastened by means of plastic caps or factory-applied coating. Only supply products suitable for installation application as approved by roofing and siding manufacturer.
      a. Clips for Concealed Fastener Metal Roof Panels: Seamed standard clips mounted to bearing plates approved by metal roofing manufacturer for installation and warranty of roof system. Provide protection against galvanic action at dissimilar materials.
      b. Fasteners for Metal Roof Panels: Self-drilling, self tapping, zinc-alloy-steel hex washer head, coated for protection against corrosion, with EPDM washer under heads of fasteners bearing on weather side of metal panels.
      c. Fasteners for Metal Wall Panels: Color matched to wall panels, self-drilling, self tapping, zinc-alloy-steel hex washer head, with EPDM sealing washers bearing on weather side of metal panels.
      d. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws with hex washer head. Screws must be coated for protection against corrosion.
      e. Blind Fasteners: High-strength aluminum or stainless-steel rivets.
   2. Corrosion-Resistant Coating: Cold-applied asphalt mastic, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.
   3. Nonmetallic, Shrinkage-Resistant Grout: ASTM C1107/C1107M, factory-packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency

suitable for application and a 30-minute working time, minimum compressive strength of 5,000 psi at column bases.

4. Metal Panel Sealants:
   a. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene-compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape of manufacturer's standard size.
   b. Joint Sealant: ASTM C920; one part elastomeric polyurethane or polysulfide; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended by metal building system manufacturer.

2.13 FABRICATION

A. General: Design components and field connections required for erection to permit easy assembly.
   1. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.
   2. Fabricate structural framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Members shall be free of cracks, tears, and ruptures.

B. Tolerances: Comply with MBMA's "Metal Building Systems Manual" for fabrication and erection tolerances.

C. Primary Framing: Shop fabricate framing components to indicated size and section, with baseplates, bearing plates, stiffeners, and other items required for erection welded into place. Cut, form, punch, drill, and weld framing for bolted field assembly.
   1. Make shop connections by welding or by using high-strength bolts.
   2. Join flanges to webs of built-up members by a continuous, submerged arc-welding process.
   3. Brace compression flange of primary framing with steel angles or cold-formed structural tubing between frame web and purlin web or girt web, so flange compressive strength is within allowable limits for any combination of loadings.
   4. Weld clips to frames for attaching secondary framing if applicable, or punch for bolts.
   5. Shop Priming: Prepare surfaces for shop priming according to SSPC-SP 2. Shop prime primary framing with specified primer after fabrication.

D. Secondary Framing: Shop fabricate framing components to indicated size and section by roll forming or break forming, with baseplates, bearing plates, stiffeners, and other plates required for erection welded into place. Cut, form, punch, drill, and weld secondary framing for bolted field connections to primary framing.
   1. Make shop connections by welding or by using non-high-strength bolts.
   2. Shop Priming: Prepare uncoated surfaces for shop priming according to SSPC-SP 2. Shop prime uncoated secondary framing with specified primer after fabrication.

E. Metal Panels: Fabricate and finish metal panels at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.
   1. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of metal panel.

2.14 SOURCE QUALITY CONTROL

A. Special Inspection: Owner will engage a qualified special inspector to perform source quality control inspections and to submit reports.
   1. Accredited Manufacturers: Special inspections will not be required if fabrication is performed by an IAS AC472-accredited manufacturer approved by authorities having jurisdiction to perform such Work without special inspection.
      a. After fabrication, submit copy of certificate of compliance to authorities having jurisdiction, certifying that Work was performed according to Contract requirements.

PART 3 EXECUTION

3.01 EXAMINATION

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

B. Before erection proceeds, survey elevations and locations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments to receive structural framing, with erector present, for compliance with requirements and metal building system manufacturer's tolerances.
   1. Engage land surveyor to perform surveying.

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

3.02 PREPARATION

A. Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition.

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

3.03 ERECTION OF STRUCTURAL FRAMING

A. Erect metal building system according to manufacturer's written instructions and drawings.

B. Do not field cut, drill, or alter structural members without written approval from metal building system manufacturer's professional engineer.

C. Set structural framing accurately in locations and to elevations indicated, according to AISC specifications referenced in this Section. Maintain structural stability of frame during erection.

D. Base and Bearing Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
   1. Set plates for structural members on wedges, shims, or setting nuts as required.
   2. Tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.

3. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

E. Align and adjust structural framing before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with framing. 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 when structure will be completed and in service.

F. Primary Framing and End Walls: Erect framing level, plumb, rigid, secure, and true to line. Level baseplates to a true even plane with full bearing to supporting structures, set with double-nutted anchor bolts. Use grout to obtain uniform bearing and to maintain a level base-line elevation. Moist-cure grout for not less than seven days after placement.
1. Make field connections using high-strength bolts installed according to RCSC's "Specification for Structural Joints Using High-Strength Bolts" for bolt type and joint type specified.
    a. Joint Type: Snug tightened or pretensioned as required by manufacturer.

G. Secondary Framing: Erect framing level, plumb, rigid, secure, and true to line. Field bolt secondary framing to clips attached to primary framing.
1. Provide rake or gable purlins with tight-fitting closure channels and fasciae.
2. Locate and space wall girts to suit openings such as doors and windows.
3. Provide supplemental framing at entire perimeter of openings, including doors, windows, louvers, ventilators, and other penetrations of roof and walls.

H. Steel Joists and Joist Girders: Install joists, girders, and accessories plumb, square, and true to line; securely fasten to supporting construction according to SJI's "Standard Specifications and Load Tables for Steel Joists and Joist Girders," joist manufacturer's written instructions, and requirements in this Section.
1. Before installation, splice joists delivered to Project site in more than one piece.
2. Space, adjust, and align joists accurately in location before permanently fastening.
3. Install temporary bracing and erection bridging, connections, and anchors to ensure that joists are stabilized during construction.
4. Joist Installation: Bolt joists to supporting steel framework using carbon-steel bolts unless otherwise indicated.
5. Joist Installation: Bolt joists to supporting steel framework using high-strength structural bolts unless otherwise indicated. Comply with RCSC's "Specification for Structural Joints Using High-Strength Bolts" for high-strength structural bolt installation and tightening requirements.
6. Joist Installation: Weld joist seats to supporting steel framework.
7. Install and connect bridging concurrently with joist erection, before construction loads are applied. Anchor ends of bridging lines at top and bottom chords if terminating at walls or beams.

I. Bracing: Install bracing in roof and sidewalls where indicated on erection drawings.
1. Tighten rod and cable bracing to avoid sag.
2. Locate interior end-bay bracing only where indicated.

J. Framing for Openings: Provide shapes of proper design and size to reinforce openings and to carry loads and vibrations imposed, including equipment furnished under mechanical and electrical work. Securely attach to structural framing.

K. Erection Tolerances: Maintain erection tolerances of structural framing within AISC 303.

3.04 METAL PANEL INSTALLATION, GENERAL

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

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

C. Examination: Examine primary and secondary framing to verify that structural-panel support members and anchorages have been installed within alignment tolerances required by manufacturer.
   1. Examine roughing-in for components and systems penetrating metal panels, to verify actual locations of penetrations relative to seams before metal panel installation.

D. General: Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
   1. Field cut metal panels as required for doors, windows, and other openings. Cut openings as small as possible, neatly to size required, and without damage to adjacent metal panel finishes.
      a. Field cutting of metal panels by torch is not permitted unless approved in writing by manufacturer.
   2. Install metal panels perpendicular to structural supports unless otherwise indicated.
   3. Flash and seal metal panels with weather closures at perimeter of openings and similar elements. Fasten with self-tapping screws.
   4. Locate and space fastenings in uniform vertical and horizontal alignment.
   5. Locate metal panel splices over structural supports with end laps in alignment.
   6. Lap metal flashing over metal panels to allow moisture to run over and off the material.

E. Lap-Seam Metal Panels: Install screw fasteners using power tools with controlled torque adjusted to compress EPDM washers tightly without damage to washers, screw threads, or metal panels. Install screws in predrilled holes.
   1. Arrange and nest side-lap joints so prevailing winds blow over, not into, lapped joints. Lap ribbed or fluted sheets one full rib corrugation. Apply metal panels and associated items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line.

F. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with corrosion-resistant coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal roof panel manufacturer.

G. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal panel assemblies. Provide types of gaskets, fillers, and sealants indicated; or, if not indicated, provide types recommended by metal panel manufacturer.
   1. Seal metal panel end laps with double beads of tape or sealant the full width of panel. Seal side joints where recommended by metal panel manufacturer.
   2. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."

3.05 METAL ROOF PANEL INSTALLATION

A. General: Provide metal roof panels of full length from eave to ridge unless otherwise indicated or restricted by shipping limitations.
   1. Install ridge[and hip] caps as metal roof panel work proceeds.
   2. Flash and seal metal roof panels with weather closures at eaves and rakes. Fasten with self-tapping screws.

B. Standing-Seam Metal Roof Panels: Fasten metal roof panels to supports with concealed clips at each standing-seam joint, at location and spacing and with fasteners recommended by manufacturer.
   1. Install clips to supports with self-drilling or self-tapping fasteners.
   2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
   3. Snap Joint: Nest standing seams and fasten together by interlocking and completely engaging factory-applied sealant.
   4. Seamed Joint: Crimp standing seams with manufacturer-approved motorized seamer tool so that clip, metal roof panel, and factory-applied sealant are completely engaged.
   5. Rigidly fasten eave end of metal roof panels and allow ridge end free movement for thermal expansion and contraction. Predrill panels for fasteners.
   6. Provide metal closures at peaks rake edges and each side of ridge caps.

C. Metal Fascia Panels: Align bottom of metal panels and fasten with blind rivets, bolts, or self-drilling or self-tapping screws. Flash and seal metal panels with weather closures where fasciae meet soffits, along lower panel edges, and at perimeter of all openings.

D. Metal Roof Panel Installation Tolerances: Shim and align metal roof panels within installed tolerance of 1/4 inch in 20 feet on slope and location lines and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.06 METAL WALL PANEL INSTALLATION

A. General: Install metal wall panels in orientation, sizes, and locations indicated on Drawings. Install panels perpendicular to girts, extending full height of building, unless otherwise indicated. Anchor metal wall panels and other components of the Work securely in place, with provisions for thermal and structural movement.
   1. Unless otherwise indicated, begin metal panel installation at corners with center of rib lined up with line of framing.
   2. Shim or otherwise plumb substrates receiving metal wall panels.
   3. When two rows of metal panels are required, lap panels 4 inches minimum.
   4. When building height requires two rows of metal panels at gable ends, align lap of gable panels over metal wall panels at eave height.
   5. Rigidly fasten base end of metal wall panels and allow eave end free movement for thermal expansion and contraction. Predrill panels.
   6. Flash and seal metal wall panels with weather closures at eaves and rakes, and at perimeter of all openings. Fasten with self-tapping screws.
   7. Install screw fasteners in predrilled holes.
   8. Install flashing and trim as metal wall panel work proceeds.
   9. Apply elastomeric sealant continuously between metal base channel (sill angle) and concrete, and elsewhere as indicated on Drawings; if not indicated, as necessary for waterproofing.
   10. Align bottom of metal wall panels and fasten with blind rivets, bolts, or self-drilling or self-tapping screws.

11. Provide weatherproof escutcheons for pipe and conduit penetrating exterior walls.

B. Metal Wall Panels: Install metal wall panels on exterior side of girts. Attach metal wall panels to supports with fasteners as recommended by manufacturer.

C. Installation Tolerances: Shim and align metal wall panels within installed tolerance of 1/4 inch in 20 feet, noncumulative; level, plumb, and on location lines; and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.07 TRANSLUCENT PANEL INSTALLATION

A. Translucent Panels: Attach translucent panels to structural framing with fasteners according to manufacturer's written instructions. Install panels perpendicular to supports unless otherwise indicated. Anchor translucent panels securely in place, with provisions for thermal and structural movement.
1. Installs must be performed by installers certified by panel manufacturer.
2. Use only recommended fasteners, screws, etc., level, straight, etc. to allow movement.
   a. Allow for expansion and contraction of 1/4” for each 10’ of panel.
3. Install the panel with the UV protection facing the sun. An arrow on the side of the glazing should point outward.
4. Panel end must be fixed into the proper framing without excessive stresses, deformation or twisting.
5. Remove the protective film from glazing immediately upon installation to avoid melting the film to the panel.

3.08 METAL SOFFIT PANEL INSTALLATION

A. Provide metal soffit panels the full width of soffits. Install panels perpendicular to support framing.

B. Flash and seal metal soffit panels with weather closures where panels meet walls and at perimeter of all openings.

3.09 THERMAL INSULATION INSTALLATION

A. General: Install insulation concurrently with metal panel installation, in thickness indicated to cover entire surface, according to manufacturer's written instructions.
1. Set vapor-retarder-faced units with vapor retarder toward warm side of construction unless otherwise indicated. Do not obstruct ventilation spaces except for firestopping.
2. Tape joints and ruptures in vapor retarder, and seal each continuous area of insulation to the surrounding construction to ensure airtight installation.
3. Install factory-laminated, vapor-retarder-faced blankets straight and true in one-piece lengths, with both sets of facing tabs sealed, to provide a complete vapor retarder.
4. Install blankets straight and true in one-piece lengths. Install vapor retarder over insulation, with both sets of facing tabs sealed, to provide a complete vapor retarder.

B. Blanket Roof Insulation: Comply with the following installation method:
1. Over-Framing Installation: Extend insulation and vapor retarder over and perpendicular to top flange of secondary framing. Hold in place by metal roof panels fastened to secondary framing.
2. Between-Purlin Installation: Extend insulation and vapor retarder between purlins. Carry vapor-retarder-facing tabs up and over purlin, overlapping adjoining facing of next insulation course and maintaining continuity of retarder. Hold in place with bands and crossbands below insulation.

3. Over-Purlin-with-Spacer-Block Installation: Extend insulation and vapor retarder over and perpendicular to top flange of secondary framing. Install layer of filler insulation over first layer to fill space formed by metal roof panel standoffs. Hold in place by panels fastened to standoffs.
    a. Thermal Spacer Blocks: Where metal roof panels attach directly to purlins, install thermal spacer blocks.
4. Two-Layers-between-Purlin-with-Spacer-Block Installation: Extend insulation and vapor retarder between purlins. Carry vapor-retarder-facing tabs up and over purlin, overlapping adjoining facing of next insulation course and maintaining continuity of retarder. Install layer of filler insulation over first layer to fill space between purlins formed by thermal spacer blocks. Hold in place with bands and crossbands below insulation.
    a. Thermal Spacer Blocks: Where metal roof panels attach directly to purlins, install thermal spacer blocks.
5. Retainer Strips: Install retainer strips at each longitudinal insulation joint, straight and taut, nesting with secondary framing to hold insulation in place.

C. Blanket Wall Insulation: Extend insulation and vapor retarder over and perpendicular to top flange of secondary framing. Hold in place by metal wall panels fastened to secondary framing.
1. Retainer Strips: Install retainer strips at each longitudinal insulation joint, straight and taut, nesting with secondary framing to hold insulation in place.
2. Sound-Absorption Insulation: Where sound-absorption requirement is indicated for metal liner panels, cover insulation with polyethylene film and provide inserts of wire mesh to form acoustical spacer grid.

3.10 DOOR AND FRAME INSTALLATION

A. General: Install doors and frames plumb, rigid, properly aligned, and securely fastened in place according to manufacturers' written instructions. Coordinate installation with wall flashings and other components. Seal perimeter of each door frame with elastomeric sealant used for metal wall panels.

B. Personnel Doors and Frames: Install doors and frames according to NAAMM-HMMA 840. Fit non-fire-rated doors accurately in their respective frames, with the following clearances:
1. Between Doors and Frames at Jambs and Head: 1/8 inch.
2. Between Edges of Pairs of Doors: 1/8 inch.
3. At Door Sills with Threshold: 3/8 inch.
4. At Door Sills without Threshold: 3/4 inch.
5. At fire-rated openings, install frames according to, and doors with clearances specified in, NFPA 80.

C. Field Glazing: Comply with installation requirements in Section 088000 "Glazing."

D. Door Hardware:
1. Install surface-mounted items after finishes have been completed at heights indicated in DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
2. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
3. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
4. Set thresholds for exterior doors in full bed of sealant complying with requirements for concealed mastics specified in Section 079200 "Joint Sealants."

3.11 SKYLIGHT PANEL INSTALLATION

A. See Division 08 Section **"Structured-Polycarbonate-Panel Assemblies"** ~~"Unit Skylights."~~

3.12 ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
   1. Install components required for a complete metal roof panel assembly, including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
   2. Install components for a complete metal wall panel assembly, including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
   3. Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with corrosion-resistant coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by manufacturer.

B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
   1. Install exposed flashing and trim that is without excessive oil-canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.
   2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (600 mm) of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).

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

D. Downspouts: Join sections with 1-1/2-inch (38-mm) telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch (25 mm) away from walls; locate fasteners at top and bottom and at approximately 60 inches (1524 mm) o.c. in between.
   1. Provide elbows at base of downspouts to direct water away from building.
   2. Tie downspouts to underground drainage system indicated.

E. Roof Curbs: Install curbs at locations indicated on Drawings. Install flashing around bases where they meet metal roof panels.

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

3.13 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform field quality control special inspections and to submit reports.

B. Product will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

3.14 ADJUSTING

A. Doors: After completing installation, test and adjust doors to operate easily, free of warp, twist, or distortion.

B. Door Hardware: Adjust and check each operating item of door hardware and each door to ensure proper operation and function of every unit. Replace units that cannot be adjusted to operate as intended.

C. Windows: Adjust operating sashes and ventilators, screens, hardware, and accessories for a tight fit at contact points and at weather stripping to ensure smooth operation and weathertight closure. Lubricate hardware and moving parts.

3.15 CLEANING AND PROTECTION

A. Repair damaged galvanized coatings on galvanized items with galvanized repair paint according to ASTM A780/A780M and manufacturer's written instructions.

B. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

C. Touchup Painting: After erection, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted structural framing[, bearing plates,] and accessories.
   1. Clean and prepare surfaces by SSPC-SP 2, "Hand Tool Cleaning," or by SSPC-SP 3, "Power Tool Cleaning."
   2. Apply a compatible primer of same type as shop primer used on adjacent surfaces.

D. Touchup Painting: Cleaning and touchup painting are specified in Division 09 Section "Exterior Painting" and Division 09 Section "Interior Painting."

E. Metal Panels: Remove temporary protective coverings and strippable films, if any, as metal panels are installed. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
   1. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

F. Doors and Frames: Immediately after installation, sand rusted or damaged areas of prime coat until smooth and apply touchup of compatible air-drying primer.
   1. Immediately before final inspection, remove protective wrappings from doors and frames.

G. Windows: Clean metal surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances. Clean factory-glazed glass immediately after installing windows.

3.16 FINISH SCHEDULE

A. General: Finish color selection to be made by Project Representative from approved manufacturer's standard range in color noted below. Finish coating system is indicated within product information.

B. Finish Schedule:

1.

MATERIAL OR COMPONENT	COLOR
Roof Panels:	To be selected by Architect.
Wall Panel, Type 1	
Wall Panel, Type 1A	
Wall Panel, Type 2	
Soffit:	To be selected by Architect.
Trim and Fascia:	Match color of adjacent panel surface.
Louvers, Vents, Wall Accessories, and Roof Accessories	Match color of adjacent panel surface.
Metal Doors & Frames Exposed to Exterior, finish all sides.	Match siding color:
Primary Structural Steel Steel Less Than 16-Gauge Thickness	No color, hot dipped galvanized.

END OF SECTION 13 3419