PUD NO. 1 OF SKAGIT COUNTY
CAMPUS REPLACEMENT ADMINISTRATION BUILDING
PN 3675
June 22, 2023
ADDENDUM NO. 2

To All Planholders and/or Prospective Bidders:

The following changes, additions, and/or deletions are hereby made a part of the project bid documents for the Campus Replacement Administration Building and shall have the same effect as if set forth therein.

This addendum forms a part of the Contract Documents and modifies the original working drawings, specifications and supplemental information dated May 23, 2023. Receipt of this Addendum must be acknowledged on your Bidder's Proposal form. Failure to acknowledge receipt of this Addendum may result in your bid proposal being disqualified.

ATTACHMENTS

Attachments with this Addendum include revisions to the Contract Documents that pertain to the Drawings and the Project Manual. The numbering for the changes to the Project Manual is per CSI numbering system.

The attachments included with this Addendum are as follows:

- Substitution Requests
  - Lighting
    - TLG
  - Mobile Shelving
    - Montel Inc
- Project Manual Sections
  - Information Available to Bidders
    - CPT-01
  - 00 4050 BID PROPOSAL FORM B
  - 00 4105 STATEMENT OF BIDDER QUALIFICATIONS
  - 09 5423 LINEAR METAL CEILINGS
  - 27 1300 COMMUNICATIONS BACKBONE CABLING
- Drawings
  - Landscape Detail 5/L1.6 - Soil Preparation Sections
  - A8.04
  - Complete Structural Set (44 Sheets)
  - Electrical sheets E1.00, E2.01, E2.03, E5.02, E6.02, E6.03
  - Telecom sheets T2.01, T2.02

A. CLARIFICATIONS

1. PROJECT MANUAL

   a. 00 3000 INFORMATION AVAILABLE TO BIDDERS: SOILS REPORT

      1) A request was made for the results from CPT-01 mentioned in the Soils Report. That information is attached and a file type other than PDF can be provided during construction.

      2) The intention of including soil cement treatment starting on page 18 of the Soils Report is to provide an alternate if stabilization of the surface soils is needed during wet weather construction.

   b. 10 5626 MOBILE STORAGE SHELVING

      1) The 60" wide aisle requirement does not apply when the doors to the locking shelving are open.

   c. 31 3421 AGGREGATE PIER GROUND IMPROVEMENTS

      1) Section 1.07: It is the engineer's intent to mitigate liquefaction throughout the entire building envelope, including full building pad improvement.

      2) Section 1.07, D: It is <u>not</u> the engineer's intent to require verification that the dynamic settlement requirement has been met through on site testing.

   d. Security

      1) There is no Div 28 spec for security. Security Solutions Northwest will provide and install all wire/cable and devices along with the programming and set up, but any pathway, conduit, trenching, 120V power, etc should be provided by the General Contractor.

2. <u>DRAWINGS</u>:

   a. ARCHITECTURAL

      1) Fencing Types: Fence type locations are called out on the Site Plan on A1.01. Descriptions for the fence types are shown in detail 1/A1.09.

      2) 3 & 8/A1.09: F-1 Telescoping Gate

         A. Contractor may install a (2) leaf telescoping gate instead of the (3) leaf gate that is shown in the plans. Bids must include all costs for changes to the gate and the curb dimensions. Contractor's submittal documents must provide all redesign on the gate and provide design team with the required dimensions for the extension of the curbs.

      3) 10/A1.08

         A. The handrail running down the stairs is to be in the same style as the RA-2 guardrails. However, only a handrail is needed at this location due to the foundation wall and the drop off the north side not requiring a

guardrail.

4) Interior Room Signage: The interior room signage is all basis of design and the specified product is called out in described in 3/A8.05. A separate specification section will not be provided.

b. LANDSCAPING

1) All landscaping notes and specifications are located on the Landscaping plans. There will not be a separate landscaping specification included in the Project Manual.

2) Soils and Mulches notes on L1.6

(a) Lawn and landscape planting areas with subgrades established with on-site soils:

- Amend subgrades per D.I-III,
- Reference Soil Analysis and Recommendations in Section 00 3000 Information Available to Bidders per E.I.,
- Retest amended on-site soils and re-amend as required per E.II,

(b) Lawn and landscape planting areas with subgrades established with imported soils:

- Test soils and amend as recommended by soils testing lab per E.III.

(c) All soil testing to be completed by William Black Soil Testing per E.IIII.

c. CIVIL

1) On the surfacing plan on C6.0, the whole eastern portion of the drive lane is shown to require grinding and an asphalt overlay. However, where the drive lane is widened, those areas would require all new asphalt. The area for all new asphalt is roughly 750 SF.

B. SUBSTITUTION REQUESTS

1. GENERAL

a. Substitution requests were review under the following premise: This is a cursory review to evaluate if the submitted product offering appears to be able to meet the design intent. It shall not be construed as a full submittal review certifying that the substituted submittal represents an equal to what was provided in the design documents. Submitter accepts the responsibility to ensure that the submitted product does in fact represent an equal offering and/or will pay any associated engineer fees to review or redesign to incorporate the substituted product in the project after bid acceptance.

2. MOBILE STORAGE SHELVING

   a. Montel Inc and products were preliminarily approved.

3. LIGHTING

   a. TLG and products were preliminarily approved with notes.

C. PROJECT MANUAL SPECIFICATIONS

1. TABLE OF CONTENTS:

   a. Delete section 32 1316 Decorative Concrete Paving from the list as it is incorrectly listed.

2. SECTION 00 4050 BID PROPOSAL FORM B

   a. In 1.09, strike #5.

      1) 00 4100 Bidder's Responsibility Criteria is not required at the time of bidding. Only the apparent low bidder will need to submit the forms within 48 of the bid opening.

3. 00 4105 STATEMENT OF BIDDER QUALIFICATIONS

   a. Per attached, changes (2) references of "00 6440" to "**00 4230**".

4. SECTION 03 3000 CAST-IN-PLACE CONCRETE

   a. Add new section 2.13:

2.13 CONCRETE SEALER

A. Manufacturer / Product: L&M Construction Chemicals, "PermaGuard SPS", or approved substitute.

B. Installation: Follow manufacturer's printed instructions.

C. Locations: Install at interior exposed concrete slabs scheduled as "CON-1".

   b. Replace section 3.10 with, "**Sealing Coat: Uniformly apply a continuous sealing coat of curing and sealing compound to hardened concrete by power spray or roller according to manufacturer's written instructions."**

5. SECTION 05 5200 ILLUMINATED RAILINGS

   a. To the end of 2.9, A add, "**Finish is to be run in the circumferential direction and not longitudinal.**"

6. SECTION 09 5423 LINEAR METAL CEILINGS

   a. Update section 2.2 per the attached section.

7. SECTION 10 5626 MOBILE STORAGE SHELVING

   a. Add the following manufacturer to 2.1, A, 1: **e: Montel Inc.**

b. Replace 2.5, B, 2, b with "**Width of Carriage Sections: (2) 48 inches & (1) 42 inches**".

c. Replace 2.5, B, 3, b with "**Width of Carriage Sections: (2) 48 inches & (1) 42 inches**".

d. Replace 2.5, B, 3, e, 4 with "**Provide locking double doors for (1) 48 inch wide, full height section of shelving on (1) carriage. When open, the doors will swing 24" into the 60" aisle. Files within the locking double doors can only be accessible through the doors. Provide (4) keys for the locks**".

8. SECTION 27 1300 COMMUNICATIONS BACKBONE CABLING

a. Per the attached document, update the following sections:

1) 1.1, A

2) 1.2, A & B

3) Delete 2.1, C

4) 2.3, A, 1

5) 3.2

9. SECTION 32 3113 CHAIN LINK FENCES & GATES

a. In 2.2, A, 1 strike the sentence, "**7' heights in project.**" Heights are indicated in the drawings.

b. Strike 2.2, A, 2, d, 1 that reads, "**3/8" where indicated.**"

c. At the end of 2.3, A, 2 add, "**or Group IC, round steel pipe SS-40.**"

d. For both 2.3, A, 3 and subparagraph a, change to say "Top **and bottom** rails…". Chain link fencing in project is to have bottom rails in lieu of tension wires.

e. Add new section 2.9:

2.9 PRIVACY SLATS

A. Fiber-Glass-Reinforced Plastic Slats: UV-light-stabilized fiber-glass-reinforced plastic, not less than 0.06 inch thick, sized to fit mesh specified for direction indicated, with vandal-resistant fasteners and lock strips.

B. Color: Black

D. CONSTRUCTION DRAWINGS (LANDSCAPING)

1. L1.6 – LANDSCAPE DETAILS

a. Add new attached detail #5 for soil preparation sections.

b. Detail 1 – EVERGREEN & DECIDUOUS TREE PLANTING DETAIL

1) Change note that reads, "LOOSEN AND AMENDED SOILS TO 6" DEPTH ON SIDES OF PLANTING PIT" to read, "**LOOSEN AND AMEND SOILS TO**

36" DEPTH IN PARKING LOT ISLANDS AND WITHIN 10' RADIUS OF ALL TREE PLANTINGS".

2. L1.7 – LANDSCAPE DETAILS

   a. Notes for Soils and Mulches.

      1) Add new note 1, F that states, "**SUBGRADES IN LAWN AND LANDSCAPE PLANTING AREAS TO BE ESTABLISHED BY EARTHWORK CONTRACTOR FROM EXISTING ON-SITE AND IMPORTED SOILS WITHIN 0.10 FOOT OF ELEVATIONS SHOWN ON GRADING PLANS."**

      2) Add note 2, A, V that states, "**SEE DETAIL 5/L1.06**".

      3) Add note 2, B, III that states, "**SEE DETAIL 5/L1.06**".

      4) Add note 2, C, IV that states, "**SEE DETAIL 5/L1.06**".

E. CONSTRUCTION DRAWINGS (ARCHITECTURAL)

1. A1.05 – ENLARGED SITE PLANS

   a. Detail 13 – PLAZA PAVING PLAN

      1) Add a new note pointing to the lower plaza paving CONC-3 & CONC-7 that reads, "**4" SLAB ON GRADE W/ #4 REBARD @ 16" O.C. SPACING A MID DEPTH OF SLAB & EACH WAY. PROVIDE DOWELS TO CONNECT CONC-7 BORDERS**".

2. A1.09 – FENCES AND GATES

   a. Detail 10 – SWING GATE ELEVATION

      1) Change note that says "Chain link fence, black vinyl coated" to read "**CHAIN LINK FENCE, GALVANIZED**"

3. A2.07 – LEVEL 1 FINISH PLAN

   a. Detail 1 - LEVEL 1 FINISH PLAN

      1) Add a new note that says "**BABY CHANGING STATION**" and call out the component on the north wall of Toilet 3 room 130. This is the only baby changing station in the project.

4. A6.04 – MATERIAL AND ROOM FINISH SCHEDULES

   a. Detail 10 - INTERIOR MATERIAL SCHEDULE

      1) For CON-1, column FINISH, add "**SEAL PER SPEC 03 3000**".

5. A8.04 – FLOORING DETAILS

   a. Per the attached sheet, details 3 & 9 were corrected to show the carpet tile sizes to be 19.7" squares instead of the previously shown 24" squares.

F. CONSTRUCTION DRAWINGS (STRUCTURAL)

1. The complete Structural set is replaced with an update set that includes the engineer's signature on each sheet. No other changes were made.

G. CONSTRUCTION DRAWINGS (ELECTRICAL)

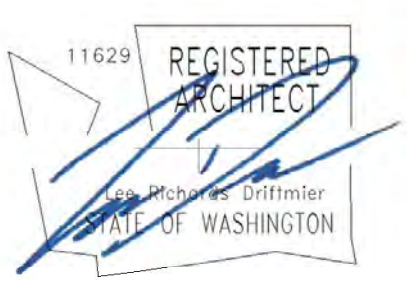
1. E1.00 – ELECTRICAL SITE POWER PLAN
   a. Change note #6 per the attached sheet.
   b. Add new notes 13 & 14 per the attached sheet.
   c. On the plan, add power connection and notes to the sanitary sewer pump per the attached sheet.
2. E2.01 - ELECTRICAL LEVEL 1 POWER PLAN
   a. Update Key Note 17 per the attached sheet.
   b. Add new Key Note 18 per the attached sheet.
   c. On the plan, add new callouts to the Server Room and Mechanical Room per the attached sheet.
3. E2.03 - ELECTRICAL ROOF POWER PLAN
   a. Update notes related to the GPS antenna per the attached sheet.
4. E5.02 – ELECTRICAL CONNECTION SCHEDULE
   a. Add new Other Equipment Connection Schedule per the attached sheet.
5. E6.02 – ELECTRICAL PANEL SCHEDULES
   a. Update diagram for Panel P1A per the attached sheet.
6. E6.03 – ELECTRICAL PANEL SCHEDULES
   a. Update diagram for Panel PG1A per the attached sheet.

H. CONSTRUCTION DRAWINGS (TELECOM)

1. T2.01 – LEVEL 1 FLOOR PLAN - TELECOM
   a. Add F1 floor box callouts to King Room 115 and Littlefield Room 134 per attached sheet.
2. T2.02 – LEVEL 2 FLOOR PLAN - TELECOM
   a. Add F1 floor box callout to Coho Room 202 per attached sheet.

All Bidders shall acknowledge receipt and acceptance of this Addendum No. 2 in the Bid Form. Bid Forms submitted without acknowledgment will be considered in non-conformance.

This Addendum consists of these eight (8) cover pages and two hundred thirty-three (233) attached pages, for a total of two hundred forty-one (241) pages.



Lee Driftmier, AIA
Principal Architect
Driftmier Architects, P.S.

END OF ADDENDUM #2

DRIFTMIER ARCHITECTS

7983 Leary Way NE
Redmond, WA 98052
(425) 881-7506

SUBSTITUTION REQUEST FORM

To: Driftmier Architects

Project: Campus ReplacementAdministration Building

We hereby submit for consideration the following product instead of the specified item for the above project:

Section: 265100 Specified Item: Lighting

Proposed Substitution: Attached

Attach complete technical data, including laboratory tests and samples, as applicable. Compare the significant qualities (size, weight, durability, performance and similar characteristics, and including visual effect where applicable) of the proposed substitution with the original requirements. List complete installation changes and changes to Drawings and Specifications required by proposal.
Fill in blanks below:

A. Does substitution require changes in Drawing dimensions? No

B. Will Undersigned pay for resulting building design changes including engineering and detailing costs?

No

C. What effect does substitution have on other trades? Proposed has no effects on trades.

D. Differences between proposed substitution and specified item: Proposed is equal or better than the specified product.

E. Manufacturer's guarantees of proposed and specified items are: X Same ____Different (explain on attachment)

F. Name and address of three similar projects on which product was used as well as date of installation:

N/A

G. Contract completion date is: X Same ____Different

Undersigned attests function and quality is equivalent or superior to specified item and waives their right to additional payment and time which may subsequently be necessitated by failure of the substitution to perform adequately and for the required work to make corrections thereof.

Submitted by:

Chris Hamaker
Signature

Lighting Group LLC
Firm

1201 S Bailey

Seattle, Was 98108
Address

Date 6/8/2023

Phone

Fax

Email

For use by Architect:
___Accepted X Accepted as Noted
___Not Accepted ___Received Too Late

By Lee Driftmier

Date 6/21/23

Provided to Builders Exchange of WA, Inc. For usage Conditions Agreement see www.bxwa.com - Always Verify Scal

RENSCH ENGINEERING

MECHANICAL AND ELECTRICAL BUILDING DESIGN

SUBSTITUTION REQUEST REVIEW RESPONSE

Project Name:	Skagit County PUD Campus Replacement Administration Building
Substitution Request:	Substitution Request (TLG)
Date Received:	6/13/2023
Date Returned:	6/21/2023

Driftmier Architects
Attn: Lee Driftmier

Dear Lee:

We have reviewed the substitution request from Chris Hamaker with The Lighting Group LLC (TLG), received on 6/13/2023 and attached. Below is our assessment of the substitution request. The substitution is hereby partially approved subject to the stipulations in the substitution request form and stated herein. See rejected light fixtures and comments below.

- L12 – The fixture shall include appropriate power supply at a voltage defined in plans. Contractor shall ensure light fixtures use the same voltage as shown in the fixture schedule in plan. A user interface (controller) shall be provided for the owner's use.
- LX1 – This fixture is rejected. Plans indicate a wall mounted fixture while a pendant mounted fixture was submitted. Contractor shall ensure mounting type for all light fixtures matches plan.

This response does not relieve the contractor from meeting all other requirements listed in the contract documents not specifically altered by this response. If any conflicts exist between this document and the contract documents, Contractor shall provide a written request for further clarification with specific details of the conflict. Please contact me if you have any questions.

DISCLAIMER:
This review is a cursory review to evaluate if the substituted product offering appears to be able to meet the design intent. It shall not be construed as a full submittal review certifying that the substituted submittal represents an equal to what was provided in the design documents. Submitter accepts the responsibility to ensure that the submitted product does in fact represent an equal offering and/or will pay any associated engineering fees to review or redesign to incorporate the substituted product in the project after bid acceptance.

Sincerely,



Josh Ensley, EIT | Electrical Design Engineer
Rensch Engineering, LLC | 111 Ave. C Suite 104, Snohomish, WA 98290 | (360)-863-6677
Cc: Tim Carr
Enclosures (103)

The Lighting Group LLC
PO Box 80585
Seattle WA 98108
Phone: (206) 298-9000
Fax: (206) 763-2764

Date: Jun 9, 2023

Job Name
Skagit County Public Utilities District - Campus Replacement Administration Building Phase
LGNW23-97480
Mount Vernon Wa

Bid Date
Jun 27, 2023

Submittal Date
Jun 8, 2023

Architect:
Driftmier Architects
7983 Leary Way NE
Redmond WA 98052

Engineer:
Rensch Engineering
111 Avenue C
Snohomish WA 98290

Transmittal

The Lighting Group LLC
PO Box 80585
Seattle WA 98108
Phone: (206) 298-9000
From: Chris Hamaker

Project **Skagit County Public Utilities District - Campus Replacement Administration Building Phase**
Quote# LGNW23-97480
Location Mount Vernon Wa
To Driftmier Architects
7983 Leary Way NE
Redmond WA 98052
Contact:

ATTACHED WE ARE SENDING YOU 1 COPY OF THE FOLLOWING ITEM:

- ☐ Drawings
- ☐ Prints
- ☐ Plans
- ☐ Specifications
- ☐ Information
- ☒ Submittals

Other:

THESE ARE TRANSMITTED FOR:

- ☒ Prior Approval
- ☐ Approval
- ☐ Approval as Submitted
- ☐ Approval as Noted
- ☐ Resubmittal for Approval
- ☐ Corrections
- ☐ Your Use
- ☐ Review and Comment
- ☐ Record

Bids due on:
Other:

Type	MFG	Part
		* * * LIGHTING * * *
L10A	Lumenwerx	VIA5RPAT D HLO FH SW 90 500 35 32FT (8X8X8X8 SQUARE SHAPE) 120 D1 1C NA TB(X) NA W NA NA
L10B	Lumenwerx	VIA5RPAT D HLO FH SW 90 500 35 24FT (6X6X6X6 SQUARE SHAPE) 120 D1 1C NA TB(X) NA W NA NA
L10C	Lumenwerx	VIA5RPAT D HLO FH SW 90 500 35 40FT (6X14X6X14 RECTANGLE SHAPE) 120 D1 1C NA TB(X) NA W NA NA
L10D	Lumenwerx	VIA5RPAT D HLO FH SW 90 500 35 44FT (6X16X6X16 RECTANGLE SHAPE) 120 D1 1C NA TB(X) NA W NA NA
L10E	Lumenwerx	VIA5RPAT D HLO FH SW 90 500 35 60FT (6X24X6X24 RECTANGLE SHAPE) 120 D1 1C NA TB(X) NA W NA NA
L11	Elliptipar	S415 LO56 C XX M 00 0 830 ZX
L12	Acclaim Lighting	AGD 2 4 1 D D H
L12/ALT	Hydrel	HLF501 10 650LMF ARTC RGBW MVOLT 15X30 FCA XXX DMX FINISH
L15	Scott Architectural Lighting	S3875-L18
L15/ALT	Indessa Lighting	444 2LED12 MOVLT XX 24
L18	Eureka	4272D-9 LED 30 80 120V DV WHE WH XX
		* * * EXTERIOR * * *

Transmittal

The Lighting Group LLC
PO Box 80585
Seattle WA 98108
Phone: (206) 298-9000
From: Chris Hamaker

Type	MFG	Part
LX1	CSL Lighting Inc	LP3-FST 20 S2 35 50 XX WW
LX4	Hydrel	PDX7 XX 12LED WHT41K MVOLT NSP FLCSR XX LDIM
LX7	Hevi-Lite	HL905 XX 8LED GL-93
LX8	Hydrel	PINE P1 80CIR 30K MVOLT 25DEG WSL KM C3 XX * * * EMERGENCY * * *
EX-2	Isolite	ODLM 20 EM WH MBB SD
INV	Isolite	E3MINI 250 LC MB
INV	IOTA ALTERNATE CHOICE	IIS 250 HE DR

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** * * * LIGHTING * * * Notes:	**Type:** LGNW23-97480

LIGHTING

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** VIA5RPAT D HLO FH SW 90 500 35 32FT (8X8X8X8 SQUARE SHAPE) 120 D1 1C NA TB(X) NA W NA NA Notes:	**Type:** **L10A** LGNW23-97480

VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT

STATIC WHITE, BIOS ST/DY

5 YEAR WARRANTY

Project: _____

Type: _____



LEV - Leveled corner



INN - Inner corner



OUT - Outer corner

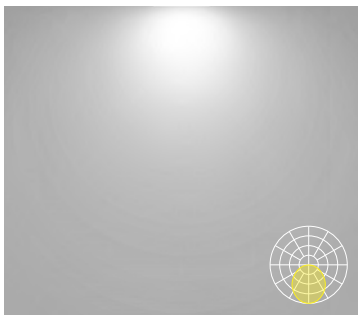
DESCRIPTION

Our elegant, flexible Via family is composed of linear, pendant, surface, recessed, and wall mounted luminaires. Each lighting fixture can be installed as a discrete luminaire or in continuous runs or patterns in which a combination of luminaires forms part of a custom design that can also incorporate less conventional acute and obtuse angles. Via 5 Recessed is offered with asymmetric, or wall wash optics.

Up to 139 lm/W performance

IC RATED

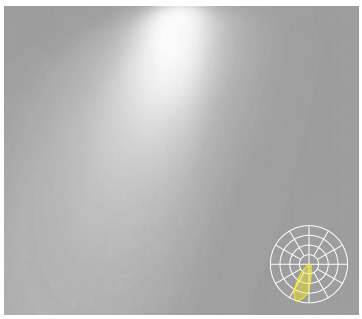
SENSORS
For latest information on sensors, click here.



HLO [1]
High-Efficiency Lambertian Optic



ARO2
Asymmetric Refractive Optic



WRO2
Wall Wash Refractive Optic

[1] Regressed lens and drop lens positions available with HLO only.

3737 Cote Vertu St-Laurent, Quebec, Canada H4R 2C9
T (514) 225-4304 F (514) 931 -4862
www.lumenwerx.com

Intertek

Lumenwerx reserves the right to modify product specifications without notification.
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bios PoE

Submitted by The Lighting Group LLCChris Hamaker

Job Name:
Skagit County Public Utilities District - Campus Replacement Administration Building Phase
Architect: Driftmier Architects (Redmond)
Engineer: Rensch Engineering (Snohomish)

Catalog Number:
VIA5RPAT D HLO FH SW 90 500 35 32FT (8X8X8X8 SQUARE SHAPE) 120 D1 1C NA TB(X) NA W NA NA

Notes:

Type:
L10A
LGNW23-97480

VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT
STATIC WHITE, BIOS ST/DY

Project: _____

Type: _____

Order Guide

LUMINAIRE ID	DISTRIBUTION	OPTIC	LENS POSITION	LIGHT SOURCE [3]	CRI
VIA5RPAT	D				
VIA5RPAT - Via 5" Recessed Pattern	**D** - Direct	**HLO** - High-Efficiency Lambertian Optic **ARO2** - Asymmetric Refractive Optic **WRO2** - Wall Wash Refractive Optic	**FH** [1] - Flush **RG** [1] - Regressed **1.0D** [1] - 1.0" drop **NA** [2] - Not applicable [1] Available with HLO only. [2] Specify NA for all optics except for HLO.	**SW** - Static white **BIOSST** [4] - Static biologically-optimized lighting **BIOSDY** [4] - Dynamic biologically-optimized lighting [3] Chromawerx Sola, Duo and Quadro also available. Consult other spec sheets. [4] Only available with low and medium lumen packages.	**80** - 80 CRI **90** [5] - 90 CRI [5] Not available with BIOS.

LUMEN PACKAGE (lm/ft)							COLOR TEMP.	TOTAL PATTERN LENGTH	CORNER TYPE	CORNER DEGREE
								8 x 8 x 8 SQUARE SHAPE		
	Hypo [6]	Low	Med	High	Ultra high	Hyper [7]	**27** [8] - 2700K **30** - 3000K **35** - 3500K **40** - 4000K [8] Not available with BIOS.	**#FT#IN** - Specify nominal length (#) in 1' and/or 1" increments Continuous runs: lengths over 12'	**INN** - Inner corner **OUT** - Outer corner **LEV** - Leveled corner	**90(#)** - 90 degrees, specify number of corners (#) **#(#)** [9] - Custom degree, specify the angle degree #, followed by the number of corners (#) [9] Minimum angle is 45°.
HLO	350	500	750	1000	1200	1500				
ARO2	350	500	750	1000	1200	x				
WRO2	350	500	750	1000	1200	x				

[6] Minimum 3' fixture.
[7] Fixture will be very bright. Use in suitable applications.

VOLTAGE	DRIVER [11]	ELECTRICAL	ELECTRICAL SECTIONS (optional) [17, 18]
120 - 120V **277** - 277V **UNV** - 120V-277V **347** [10] - 347V [10] Available with D1 only.	**D1** - 1% 0-10V **DA** [12] - DALI **LTEA2W** [13] - Lutron 1% - 2 wire FP 120V **LDE1** [12] - Lutron Hi-lume 1% Eco **ELD1** - eldoLED 1% ECOdrive 0-10V **ELD0** - eldoLED 0.1% SOLOdrive 0-10V [11] PoE (Power-over-Ethernet) compatible. Consult factory for details. [12] On-site commissioning is required. [13] Available with 120V only.	**1C** - 1 circuit **#MC** [14] - Multi circuit **EC** - Emergency-powered fixture **NL** - Night light fixture **DL** - Daylight fixture **GTD** [15,16] - Generator transfer device fixture [14] Specify total number of circuits (#), including any required for electrical section options. Provide drawing or layout specifications. Minimum 4' section per circuit. [15] Minimum 4' fixture. [16] Not available with 347V.	**#EC##** [19] - Emergency-powered section **#NL##** [19] - Night light section **#DL##** [19] - Daylight section **#GTD##** [19, 20, 21] - Generator transfer device section **#EMB** [21, 22] - Emergency battery **NA** - None [17] Specify with multi circuit (#MC) electrical option only. [18] Provide drawing or layout specifications. Consult factory for other configurations. Default section length is 4'. [19] Specify quantity (#), and section length in inches (##). [20] Minimum 4' section. [21] Not available with 347V. [22] Specify quantity (#). All batteries will be on the same circuit. Each battery powers a 4' section.

MOUNTING CEILING	MOUNTING WALL	FINISH	CONTROL [23]		OPTIONS
TG9 - Tegular 9/16" **TG15** - Tegular 15/16" **TB9** - T-bar 9/16" **SPECIFY** **TB15** - T-bar 15/16" **ST** - Screw slot T-bar **DTR** - Drywall trim **DTL** - Drywall trimless **DMF** - Drywall mud flange **NA** - Not applicable	**DTR** - Drywall trim **DTL** - Drywall trimless **DMF** - Drywall mud flange **NA** - Not applicable	**W** - Matte white **B** - Matte black **CF#** - Custom finish, specify RAL#	STANDALONE CONTROLS [24, 25] Specify the quantity (#) of sensors per fixture. **#OMS** [26] - Onboard Occupancy **#OMSX** [27] - Onboard Occupancy with bi-level dimming **#ODS** - Onboard Daylight **#OCS** - Onboard Occupancy & Daylight	CONNECTED CONTROLS [28] **LU**- Lutron **EN** - Enlighted **ENC** - Encelium **WL** - Cooper Wavelinx **AN** - Acuity nLight **CA** - Casambi **LG** - Legrand	**FU120** - Fuse 120V **FU277** - Fuse 277V **FWC** - Flexible whip cable (6' std) **CP** - Chicago Plenum **NA** - None
			NA - None		

[23] Standalone and connected control options cannot be combined.
[24] Available with D1 driver and 1 circuit options only.
[25] Minimum 4' per zone. Provide control zone length.
[26] Fixture turns off when no occupancy.
[27] Fixture dims to specified light level % (X).
[28] Consult factory for connected controls.

TECHZONE™ & USG Compatible with 6" ceiling

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VIA5-RECESSED-PAT-SPEC-REV1 August 24, 2022

bios PoE

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** VIA5RPAT D HLO FH SW 90 500 35 32FT (8X8X8X8 SQUARE SHAPE) 120 D1 1C NA TB(X) NA W NA NA Notes:	**Type:** **L10A** LGNW23-97480

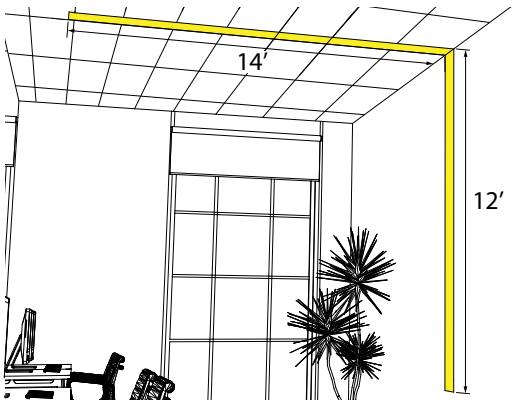
VIA 5 RECESSED PATTERN

LUMENWERX

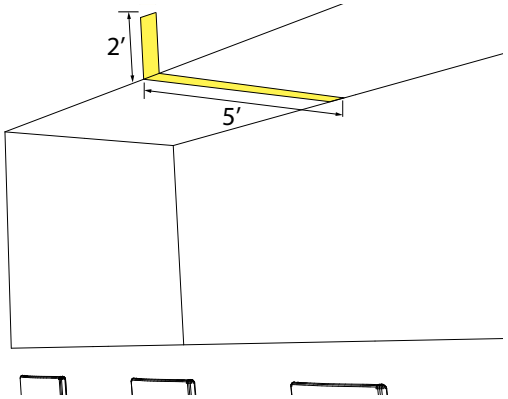
DIRECT

STATIC WHITE, BIOS ST/DY

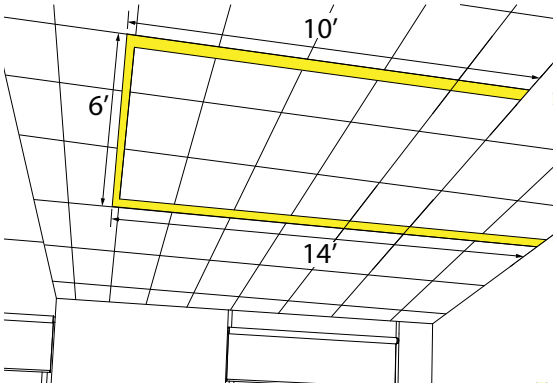
Pattern



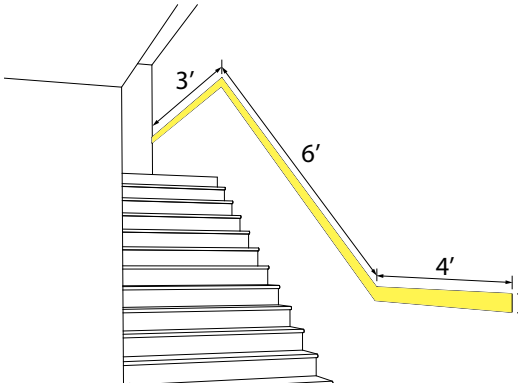
Grid to Drywall - 26FT - INN - 90(1)



Drywall - 7FT - OUT - 90(1)



Grid - 30FT - LEV - 90(2)



Drywall - 13FT - LEV - 150(1) - 300(1)

HOW TO SPECIFY A PATTERN?

Please follow these steps when specifying in order to be as precise as possible.
(1) We require a drawing illustrating the pattern you are trying to achieve - anything from a simple line drawing to elaborate architectural drawings will suffice.
(2) Under TOTAL PATTERN LENGTH, enter the overall length of your pattern - either in feet or inches.
(3) Under CORNER TYPE, please enter the type (or types) of corner you require. If more than one type of corner is required, please separate types with a plus (+).
(4) Under CORNER DEGREE, please enter the angle in degrees of each corner required to complete your pattern, followed by the number of corners.

PATTERN LENGTH	CORNER TYPE	CORNER DEGREE
#FT#IN [16] - Specify nominal length (**#**) in 1' and/or 1" increments Continuous runs: lengths over 12'	**INN** - Inner corner **OUT** - Outer corner **LEV** - Leveled corner	**90(#)** - 90 degrees, specify number of corners (#) **#(#)** [1] - Custom degree, specify the angle degree #, followed by the number of corners (#) [1] Minimum angle is 45°.

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VIA 5 RECESSED PATTERN

LUMENWERX

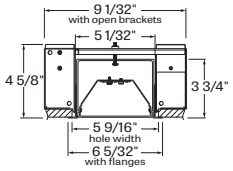
DIRECT

STATIC WHITE, BIOS ST/DY

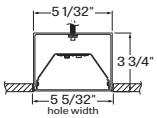
Dimensions

DRYWALL

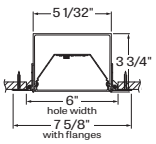
DTR - Drywall Trim



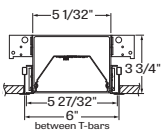
DTL - Drywall Trimless

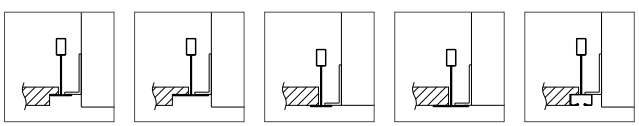


DMF - Drywall Mud Flange



GRID





TG9
Tegular 9/16"

TG15
Tegular 15/16"

TB9
T-bar 9/16"

TB15
T-bar 15/16"

ST
Screw slot T-bar

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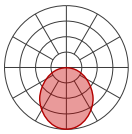
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STATIC WHITE, BIOS ST/DY

Photometrics

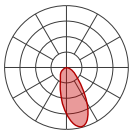
Delivered lumens at 35K at 80 CRI for all optics.

HLO (Flush Lens)



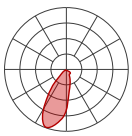
LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	10.6	132
500	2000	15.5	129
750	3000	23.9	126
1000	4000	32.7	122
1200	4800	40.3	119
1500	6000	51.9	116

ARO2



LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	12.1	116
500	2000	17.7	113
750	3000	27.9	107
1000	4000	39.0	103
1200	4800	48.3	99

WRO2



LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	12.1	116
500	2000	17.8	112
750	3000	28.0	107
1000	4000	39.1	102
1200	4800	48.5	99

MULTIPLIER TABLES

Use these tables to get results for different color temperatures, CRI, and drop lenses.

Multiplier - CCT/CRI

CCT (K)	WATTS		LPW	
	CRI 80	CRI 90	CRI 80	CRI 90
2700	1.05	1.26	0.95	0.79
3000	1.01	1.23	0.99	0.81
3500	1.00	1.20	1.00	0.84
4000	1.00	1.17	1.00	0.85

Multiplier - Drop Lens

DIRECT LENS	WATTS	LPW
Flush Lens	1.00	1.00
Drop Lens 1.0"	0.88	1.12

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VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT
STATIC WHITE, BIOS ST/DY

Technical Specifications

OPTICS

High-Efficiency Lambertian Optic (HLO)
The High-Efficiency Lambertian Optic (HLO) uses matte white reflectors to distribute LED output across 0.075" acrylic shielding, providing up to 88% transmission and good obscuration. Available as a flush lens or as a drop lens, the HLO has a spacing criterion of 1.22.

Asymmetric Refractive Optic (ARO2)
The Asymmetric Refractive Optic (ARO2) uses a sophisticated reflector combined with a matte beam-shaping film to create a smooth, effective downward light component without shadows or hot spots. It provides directional Gaussian light distribution with peak intensity at 20° above nadir and a 55° Full Width at Half Maximum (FWHM) beam angle. Microstructure material applied to the snap-in lens provides the precise refractive power and visual comfort, while achieving high luminous efficacy.

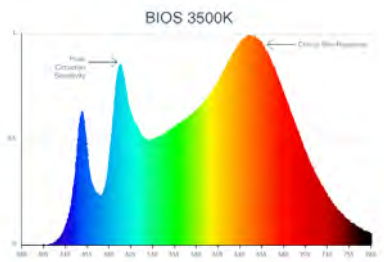
Wall Wash Refractive Optic (WRO2)
The Wall Wash Refractive Optic (WRO2) delivers smooth vertical illumination with a gentle gradient and soft visual cut-off. Its exacting configuration creates a strong downward light component without shadows or hot spots and provides light distribution with peak intensity at 21° above nadir. Microstructure material applied to the snap-in lens provides the precise refractive power and visual comfort, while achieving a high luminous efficacy.

LIGHT SOURCE

Custom linear array of mid-flux LEDs are cartridge-mounted with quick-connect wiring to facilitate service and thermal management. Available in 2700K, 3000K, 3500K and 4000K with a minimum 80 CRI and an option for 90 CRI with elevated R9 value. Color consistency maintained to within 3 SDCM. LEDs operate at reduced drive current to optimize efficacy and lumen maintenance. All LEDs have been tested in accordance with IESNA LM-80-08 and the results have shown L80 lumen maintenance greater than 60,000 hours. Absolute product photometry is measured and presented in accordance with IESNA LM-79, unless otherwise indicated.

bios ILLUMINATED

BIOS SkyBlue™ Technology is designed to provide the specific circadian stimulus to improve overall sleep quality, recovery during the night, and overall feelings of well-being.
The non-visual light signals that stimulate our circadian system have peak intensity in the "sky blue" region. As the diagram below illustrates, BIOS SkyBlue technology shifts the peak LED spectral intensity (490 nm) to align better with the peak response of circadian stimulus. Also note the enhanced deep-red (near 660 nm) spectrum.



PATTERN LENGTH

All individual sections are joined together onsite using the joiner kits provided. Lumenwerx offers joiner kits that are extremely simple to work with in the field and result in a fixture that appears virtually seamless with no light leak at any connection.

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bios PoE

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** VIA5RPAT D HLO FH SW 90 500 35 32FT (8X8X8X8 SQUARE SHAPE) 120 D1 1C NA TB(X) NA W NA NA Notes:	**Type:** **L10A** LGNW23-97480

VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT

STATIC WHITE, BIOS ST/DY

ELECTRICAL

Factory-set, adjustable output current LED driver with universal (120-277VAC) input. Dimmable from 100% to 1% with 0-10V dimming control. Rated life (90% survivorship) of 50,000 hours at 50°C max. ambient (and 70°C max. case) temperature. At maximum driver load: Efficiency>84%, PF>0.9, THD<20%. Other specifiable options include Lutron Hi-Lume 1% (specify 2-wire, or Ecosystem Dim-to-Off), eldoLED 1% ECOdrive 0-10V, eldoLED 0.1% SOLOdrive 0-10V, and DALI protocol drivers. All of our standard 0-10V drivers are NEMA 410 compliant.

PoE

Depending on the PoE manufacturer selected, Lumenwerx will install the node in factory as either integral to the luminaire or as a remote module. Factory programming of the PoE node may or may not enable the following functionalities: lumen package, Duo (tunable white), Quadro (RGBW) emergency battery backup, and sensor integration. These must be addressed and evaluated on a case-by-case basis.

ELECTRICAL SECTION OPTIONS

Electrical section options are available for fixtures specified as multi circuit (#MC). With MC, specify the total number of circuits (#), including any circuits required for optional electrical sections. A drawing is required to specify the layout. Please consult factory for custom configurations.

Electrical sections

Options include emergency-powered (#EC##), night light (#NL##), daylight (#DL##), and generator transfer device (#GTD##) sections. Specify the quantity (#), as well as the section length in inches (##).

Example 1: A 32' Direct fixture with two 8' emergency-powered sections on a second circuit.
Code: 2MC-2EC96

Example 2: A 24' Direct fixture with one 4' generator transfer device section.
Code: 1MC-1GTD48

Battery

Each emergency battery (#EMB) powers a 4' section. All batteries will be on the same circuit. Specify the number of batteries (#) required.
Factory installed long life, high temperature, maintenance-free Lithium-Ion battery pack with self-test functionality, test switch and charge indicator. Minimum of 90 minutes operation, up to 1000 lumens per 4' (25°C) emergency lighting output and recharge time of 24 hours.

MOUNTING OPTIONS

Recessed fixtures can be mounted into exposed or concealed T-bar or tegular ceiling, as well as in drywall ceilings with trim, trimless, or mud flange options. Via 5 is compatible with 6" Armstrong Techzone™ & USG ceilings.

FINISH

Interior - 95%, reflective matte powder coated white paint
Exterior - Matte white or matte black powder coating. Custom finishes are also available.

CONTROLS

Lumenwerx offers several options for integrating occupancy and daylight harvesting controls in our luminaires.
For latest information on sensors, click here.

STANDALONE CONTROLS

An integrated standalone sensor controls the luminaire in which it is installed. Depending on the length, more than one sensor may be necessary and may control the entire luminaire, or just a section of it. These controls operate independently. Unless otherwise agreed, sensor location, blank size, and functionality of the sensor within the luminaire are selected by Lumenwerx. See client drawings for details.
Three types are available:

OMS: An integral Passive InfraRed (PIR) sensor turns luminaires on and off automatically with field-adjustable time out period. No wall control is used. Coverage pattern for large motion has a 12' diameter with the sensor mounted 8' above the floor; for small motion, the pattern has an 8' diameter. Typically, one sensor is required for every 10' of a continuous luminaire run.

ODS: An integral, daylight harvesting sensor with closed-loop operation dims the luminaire in which it is installed in order to compensate for available daylight. The sensor measures the combination of daylight and luminaire light reflected from horizontal surfaces below the luminaire. Initial onsite calibration is required via the use of provided remote control.

OCS: Both an occupancy and a daylight sensor are installed in the luminaire.

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bios PoE

VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT
STATIC WHITE, BIOS ST/DY

CONNECTED CONTROLS
With connected controls, sensors or nodes installed in the luminaire form part of a larger control system infrastructure from manufacturers such as: Lutron, Enlighted, Encelium, Cooper Wavelinx, Acuity nLight, Casambi, Legrand, and others. These connected controls allow for a scalable system providing features like occupancy and daylight control, manual control, scheduling and configuration of various zones and scenes. Energy reporting and system monitoring are also possible. Specific capabilities depend on the control system being used.

Lumenwerx installs the components (sensors, nodes, power packs, etc) which may be supplied to us by a third party, or procured directly by Lumenwerx, depending on the control system manufacturer.

Lumenwerx is solely responsible for the installation of specified components; the controls manufacturer is responsible for performance of the control system.

To indicate a Lumenwerx luminaire with connected controls, identify the specific onsite control system to be integrated into the luminaires using the ordering code. Due to the diversity of components, you must contact factory to assure complete compatibility with intended control system and to fully specify the luminaire.

Complete control specifications, sensor/node/power pack layout, and narrative for the control system are required for Lumenwerx to create shop drawings and submittals.

CONSTRUCTION

Housing - Extruded aluminum, up to 90% recycled content
Interior brackets - Die formed cold rolled sheet steel
Joining system - Die cast zinc
Reflectors - Cold rolled steel die-formed, 95% reflective matte white painted
Lens - Acrylic or polycarbonate
Drop lens - Extruded with glued end caps
Mud flange - Extruded aluminum, up to 90% recycled content
Slip-through bracket - Die formed galvanized sheet
End plate - Die formed cold rolled sheet steel

CERTIFICATIONS

ETL - Rated for Indoor Dry/Damp locations. Conforms to UL Standard 1598 and certified to CAN/CSA Standard C22.2 No. 250.0.
Chicago plenum - City of Chicago Approved (CCEA)
IC rated - Suitable for direct contact with insulation.

WARRANTY

Lumenwerx provides a five-year limited warranty of electrical and mechanical performance of the luminaires, including the LED boards, drivers, and auxiliary electronics. Lumenwerx will repair or replace defective luminaires or components at our discretion, provided they have been installed and operated in accordance with our specifications. Other limitations apply, please refer to the full warranty on our website.

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Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** VIA5RPAT D HLO FH SW 90 500 35 24FT (6X6X6X6 SQUARE SHAPE) 120 D1 1C NA TB(X) NA W NA NA Notes:	**Type:** **L10B** LGNW23-97480

VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT

STATIC WHITE, BIOS ST/DY

5 YEAR WARRANTY

Project: _____

Type: _____



LEV - Leveled corner



INN - Inner corner



OUT - Outer corner

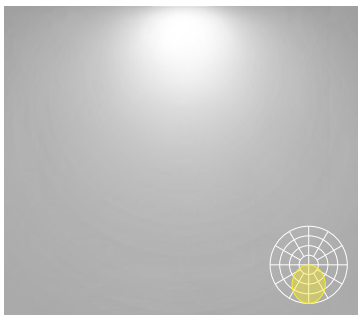
DESCRIPTION

Our elegant, flexible Via family is composed of linear, pendant, surface, recessed, and wall mounted luminaires. Each lighting fixture can be installed as a discrete luminaire or in continuous runs or patterns in which a combination of luminaires forms part of a custom design that can also incorporate less conventional acute and obtuse angles. Via 5 Recessed is offered with asymmetric, or wall wash optics.

Up to 139 lm/W performance

IC RATED

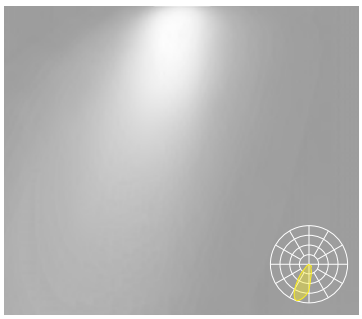
SENSORS
For latest information on sensors, click here.



HLO [1]
High-Efficiency Lambertian Optic



ARO2
Asymmetric Refractive Optic



WRO2
Wall Wash Refractive Optic

[1] Regressed lens and drop lens positions available with HLO only.

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bios PoE

Submitted by The Lighting Group LLCChris Hamaker

Job Name:
Skagit County Public Utilities District - Campus Replacement Administration Building Phase
Architect: Driftmier Architects (Redmond)
Engineer: Rensch Engineering (Snohomish)

Catalog Number:
VIA5RPAT D HLO FH SW 90 500 35 24FT (6X6X6X6 SQUARE SHAPE) 120 D1 1C NA TB(X) NA W NA NA

Notes:

Type:
L10B
LGNW23-97480

VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT
STATIC WHITE, BIOS ST/DY

Project: _____

Type: _____

Order Guide

LUMINAIRE ID	DISTRIBUTION	OPTIC	LENS POSITION	LIGHT SOURCE [3]	CRI
VIA5RPAT	D				
VIA5RPAT - Via 5" Recessed Pattern	**D** - Direct	**HLO** - High-Efficiency Lambertian Optic **ARO2** - Asymmetric Refractive Optic **WRO2** - Wall Wash Refractive Optic	**FH** [1] - Flush **RG** [1] - Regressed **1.0D** [1] - 1.0" drop **NA** [2] - Not applicable [1] Available with HLO only. [2] Specify NA for all optics except for HLO.	**SW** - Static white **BIOSST** [4] - Static biologically-optimized lighting **BIOSDY** [4] - Dynamic biologically-optimized lighting [3] Chromawerx Sola, Duo and Quadro also available. Consult other spec sheets. [4] Only available with low and medium lumen packages.	**80** - 80 CRI **90** [5] - 90 CRI [5] Not available with BIOS.

LUMEN PACKAGE (lm/ft)							COLOR TEMP.	TOTAL PATTERN LENGTH	CORNER TYPE	CORNER DEGREE
	Hypo [6]	Low	Med	High	Ultra high	Hyper [7]		**6 x 6 x 6 SQUARE SHAPE**		
HLO	350	500	750	1000	1200	1500	**27** [8] - 2700K **30** - 3000K **35** - 3500K **40** - 4000K [8] Not available with BIOS.	**#FT#IN** - Specify nominal length (#) in 1' and/or 1" increments Continuous runs: lengths over 12' **24FT**	**INN** - Inner corner **OUT** - Outer corner **LEV** - Leveled corner	**90(#)** - 90 degrees, specify number of corners (#) **#(#)** [9] - Custom degree, specify the angle degree #, followed by the number of corners (#) [9] Minimum angle is 45°.
ARO2	350	500	750	1000	1200	x				
WRO2	350	500	750	1000	1200	x				

[6] Minimum 3' fixture.
[7] Fixture will be very bright. Use in suitable applications.

VOLTAGE	DRIVER [11]	ELECTRICAL	ELECTRICAL SECTIONS (optional) [17, 18]
120 - 120V **277** - 277V **UNV** - 120V-277V **347** [10] - 347V [10] Available with D1 only.	**D1** - 1% 0-10V **DA** [12] - DALI **LTEA2W** [13] - Lutron 1% - 2 wire FP 120V **LDE1** [12] - Lutron Hi-lume 1% Eco **ELD1** - eldoLED 1% ECOdrive 0-10V **ELD0** - eldoLED 0.1% SOLOdrive 0-10V [11] PoE (Power-over-Ethernet) compatible. Consult factory for details. [12] On-site commissioning is required. [13] Available with 120V only.	**1C** - 1 circuit **#MC** [14] - Multi circuit **EC** - Emergency-powered fixture **NL** - Night light fixture **DL** - Daylight fixture **GTD** [15,16] - Generator transfer device fixture [14] Specify total number of circuits (#), including any required for electrical section options. Provide drawing or layout specifications. Minimum 4' section per circuit. [15] Minimum 4' fixture. [16] Not available with 347V.	**#EC## [19]** - Emergency-powered section **#NL## [19]** - Night light section **#DL## [19]** - Daylight section **#GTD## [19, 20, 21]** - Generator transfer device section **#EMB [21, 22]** - Emergency battery **NA** - None [17] Specify with multi circuit (#MC) electrical option only. [18] Provide drawing or layout specifications. Consult factory for other configurations. Default section length is 4'. [19] Specify quantity (#), and section length in inches (##). [20] Minimum 4' section. [21] Not available with 347V. [22] Specify quantity (#). All batteries will be on the same circuit. Each battery powers a 4' section.

MOUNTING CEILING	MOUNTING WALL	FINISH	CONTROL [23]	OPTIONS
TG9 - Tegular 9/16" **TG15** - Tegular 15/16" **TB9** - T-bar 9/16" **SPECIFY** **TB15** - T-bar 15/16" **ST** - Screw slot T-bar **DTR** - Drywall trim **DTL** - Drywall trimless **DMF** - Drywall mud flange **NA** - Not applicable	**DTR** - Drywall trim **DTL** - Drywall trimless **DMF** - Drywall mud flange **NA** - Not applicable	**W** - Matte white **B** - Matte black **CF#** - Custom finish, specify RAL#	STANDALONE CONTROLS [24, 25] Specify the quantity (#) of sensors per fixture. **#OMS** [26] - Onboard Occupancy **#OMSX** [27] - Onboard Occupancy with bi-level dimming **#ODS** - Onboard Daylight **#OCS** - Onboard Occupancy & Daylight CONNECTED CONTROLS [28] **LU**- Lutron **EN** - Enlighted **ENC** - Encelium **WL** - Cooper Wavelinx **AN** - Acuity nLight **CA** - Casambi **LG** - Legrand **NA** - None [23] Standalone and connected control options cannot be combined. [24] Available with D1 driver and 1 circuit options only. [25] Minimum 4' per zone. Provide control zone length. [26] Fixture turns off when no occupancy. [27] Fixture dims to specified light level % (X). [28] Consult factory for connected controls.	**FU120** - Fuse 120V **FU277** - Fuse 277V **FWC** - Flexible whip cable (6' std) **CP** - Chicago Plenum **NA** - None

TECHZONE™ & USG Compatible with 6" ceiling

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bios PoE

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** VIA5RPAT D HLO FH SW 90 500 35 24FT (6X6X6X6 SQUARE SHAPE) 120 D1 1C NA TB(X) NA W NA NA Notes:	**Type:** **L10B** LGNW23-97480

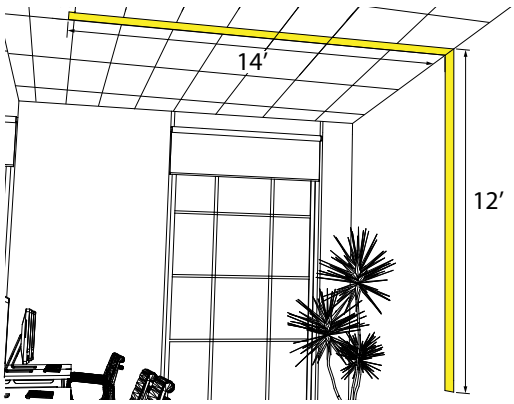
VIA 5 RECESSED PATTERN

LUMENWERX

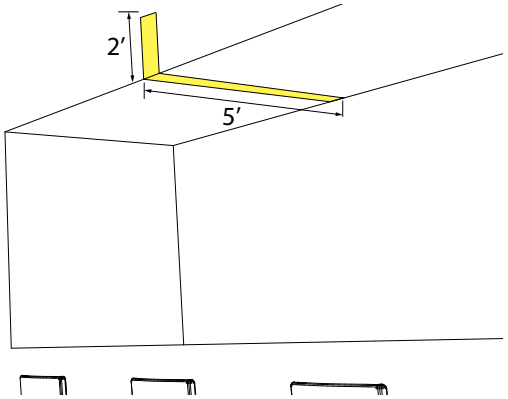
DIRECT

STATIC WHITE, BIOS ST/DY

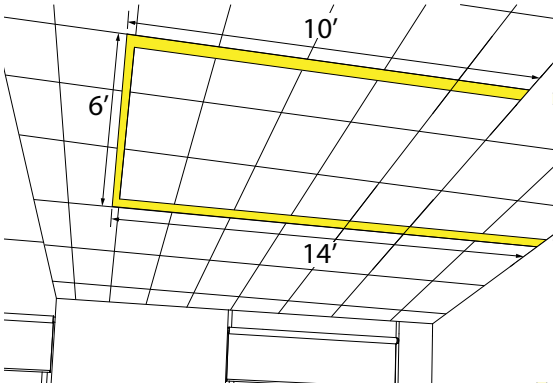
Pattern



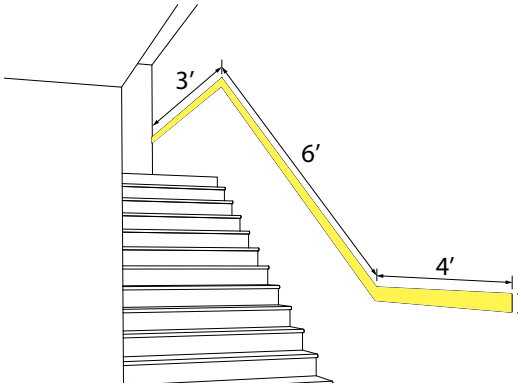
Grid to Drywall - 26FT - INN - 90(1)



Drywall - 7FT - OUT - 90(1)



Grid - 30FT - LEV - 90(2)



Drywall - 13FT - LEV - 150(1) - 300(1)

HOW TO SPECIFY A PATTERN?

Please follow these steps when specifying in order to be as precise as possible.
(1) We require a drawing illustrating the pattern you are trying to achieve - anything from a simple line drawing to elaborate architectural drawings will suffice.
(2) Under TOTAL PATTERN LENGTH, enter the overall length of your pattern - either in feet or inches.
(3) Under CORNER TYPE, please enter the type (or types) of corner you require. If more than one type of corner is required, please separate types with a plus (+).
(4) Under CORNER DEGREE, please enter the angle in degrees of each corner required to complete your pattern, followed by the number of corners.

PATTERN LENGTH	CORNER TYPE	CORNER DEGREE
#FT#IN [16] - Specify nominal length (**#**) in 1' and/or 1" increments Continuous runs: lengths over 12'	**INN** - Inner corner **OUT** - Outer corner **LEV** - Leveled corner	**90(#)** - 90 degrees, specify number of corners (#) **#(#)** [1] - Custom degree, specify the angle degree #, followed by the number of corners (#) [1] Minimum angle is 45°.

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LUMENWERX

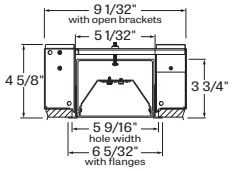
DIRECT

STATIC WHITE, BIOS ST/DY

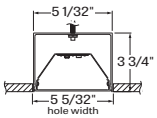
Dimensions

DRYWALL

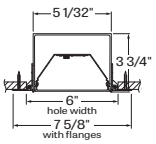
DTR - Drywall Trim



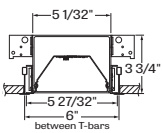
DTL - Drywall Trimless

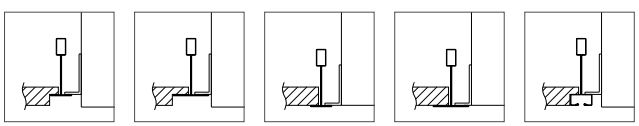


DMF - Drywall Mud Flange



GRID





TG9
Tegular 9/16"

TG15
Tegular 15/16"

TB9
T-bar 9/16"

TB15
T-bar 15/16"

ST
Screw slot T-bar

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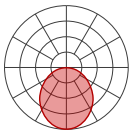
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Photometrics

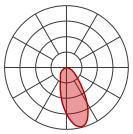
Delivered lumens at 35K at 80 CRI for all optics.

HLO (Flush Lens)



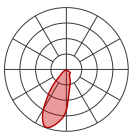
LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	10.6	132
500	2000	15.5	129
750	3000	23.9	126
1000	4000	32.7	122
1200	4800	40.3	119
1500	6000	51.9	116

ARO2



LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	12.1	116
500	2000	17.7	113
750	3000	27.9	107
1000	4000	39.0	103
1200	4800	48.3	99

WRO2



LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	12.1	116
500	2000	17.8	112
750	3000	28.0	107
1000	4000	39.1	102
1200	4800	48.5	99

MULTIPLIER TABLES

Use these tables to get results for different color temperatures, CRI, and drop lenses.

Multiplier - CCT/CRI

CCT (K)	WATTS		LPW	
	CRI 80	CRI 90	CRI 80	CRI 90
2700	1.05	1.26	0.95	0.79
3000	1.01	1.23	0.99	0.81
3500	1.00	1.20	1.00	0.84
4000	1.00	1.17	1.00	0.85

Multiplier - Drop Lens

DIRECT LENS	WATTS	LPW
Flush Lens	1.00	1.00
Drop Lens 1.0"	0.88	1.12

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Technical Specifications

OPTICS

High-Efficiency Lambertian Optic (HLO)
The High-Efficiency Lambertian Optic (HLO) uses matte white reflectors to distribute LED output across 0.075" acrylic shielding, providing up to 88% transmission and good obscuration. Available as a flush lens or as a drop lens, the HLO has a spacing criterion of 1.22.

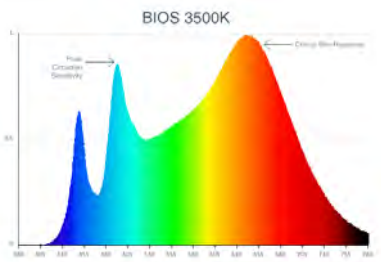
Asymmetric Refractive Optic (ARO2)
The Asymmetric Refractive Optic (ARO2) uses a sophisticated reflector combined with a matte beam-shaping film to create a smooth, effective downward light component without shadows or hot spots. It provides directional Gaussian light distribution with peak intensity at 20° above nadir and a 55° Full Width at Half Maximum (FWHM) beam angle. Microstructure material applied to the snap-in lens provides the precise refractive power and visual comfort, while achieving high luminous efficacy.

Wall Wash Refractive Optic (WRO2)
The Wall Wash Refractive Optic (WRO2) delivers smooth vertical illumination with a gentle gradient and soft visual cut-off. Its exacting configuration creates a strong downward light component without shadows or hot spots and provides light distribution with peak intensity at 21° above nadir. Microstructure material applied to the snap-in lens provides the precise refractive power and visual comfort, while achieving a high luminous efficacy.

LIGHT SOURCE

Custom linear array of mid-flux LEDs are cartridge-mounted with quick-connect wiring to facilitate service and thermal management. Available in 2700K, 3000K, 3500K and 4000K with a minimum 80 CRI and an option for 90 CRI with elevated R9 value. Color consistency maintained to within 3 SDCM. LEDs operate at reduced drive current to optimize efficacy and lumen maintenance. All LEDs have been tested in accordance with IESNA LM-80-08 and the results have shown L80 lumen maintenance greater than 60,000 hours. Absolute product photometry is measured and presented in accordance with IESNA LM-79, unless otherwise indicated.

BIOS SkyBlue™ Technology is designed to provide the specific circadian stimulus to improve overall sleep quality, recovery during the night, and overall feelings of well-being.
The non-visual light signals that stimulate our circadian system have peak intensity in the "sky blue" region. As the diagram below illustrates, BIOS SkyBlue technology shifts the peak LED spectral intensity (490 nm) to align better with the peak response of circadian stimulus. Also note the enhanced deep-red (near 660 nm) spectrum.



PATTERN LENGTH

All individual sections are joined together onsite using the joiner kits provided. Lumenwerx offers joiner kits that are extremely simple to work with in the field and result in a fixture that appears virtually seamless with no light leak at any connection.

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ELECTRICAL

Factory-set, adjustable output current LED driver with universal (120-277VAC) input. Dimmable from 100% to 1% with 0-10V dimming control. Rated life (90% survivorship) of 50,000 hours at 50°C max. ambient (and 70°C max. case) temperature. At maximum driver load: Efficiency>84%, PF>0.9, THD<20%. Other specifiable options include Lutron Hi-Lume 1% (specify 2-wire, or Ecosystem Dim-to-Off), eldoLED 1% ECOdrive 0-10V, eldoLED 0.1% SOLOdrive 0-10V, and DALI protocol drivers. All of our standard 0-10V drivers are NEMA 410 compliant.

PoE
Depending on the PoE manufacturer selected, Lumenwerx will install the node in factory as either integral to the luminaire or as a remote module. Factory programming of the PoE node may or may not enable the following functionalities: lumen package, Duo (tunable white), Quadro (RGBW) emergency battery backup, and sensor integration. These must be addressed and evaluated on a case-by-case basis.

ELECTRICAL SECTION OPTIONS

Electrical section options are available for fixtures specified as multi circuit (#MC). With MC, specify the total number of circuits (#), including any circuits required for optional electrical sections. A drawing is required to specify the layout. Please consult factory for custom configurations.

Electrical sections
Options include emergency-powered (#EC##), night light (#NL##), daylight (#DL##), and generator transfer device (#GTD##) sections. Specify the quantity (#), as well as the section length in inches (##).

Example 1: A 32' Direct fixture with two 8' emergency-powered sections on a second circuit.
Code: 2MC-2EC96

Example 2: A 24' Direct fixture with one 4' generator transfer device section.
Code: 1MC-1GTD48

Battery
Each emergency battery (#EMB) powers a 4' section. All batteries will be on the same circuit. Specify the number of batteries (#) required.
Factory installed long life, high temperature, maintenance-free Lithium-Ion battery pack with self-test functionality, test switch and charge indicator. Minimum of 90 minutes operation, up to 1000 lumens per 4' (25°C) emergency lighting output and recharge time of 24 hours.

MOUNTING OPTIONS

Recessed fixtures can be mounted into exposed or concealed T-bar or tegular ceiling, as well as in drywall ceilings with trim, trimless, or mud flange options. Via 5 is compatible with 6" Armstrong Techzone™ & USG ceilings.

FINISH

Interior - 95%, reflective matte powder coated white paint
Exterior - Matte white or matte black powder coating. Custom finishes are also available.

CONTROLS

Lumenwerx offers several options for integrating occupancy and daylight harvesting controls in our luminaires.
For latest information on sensors, click here.

STANDALONE CONTROLS
An integrated standalone sensor controls the luminaire in which it is installed. Depending on the length, more than one sensor may be necessary and may control the entire luminaire, or just a section of it. These controls operate independently. Unless otherwise agreed, sensor location, blank size, and functionality of the sensor within the luminaire are selected by Lumenwerx. See client drawings for details.
Three types are available:

OMS: An integral Passive InfraRed (PIR) sensor turns luminaires on and off automatically with field-adjustable time out period. No wall control is used. Coverage pattern for large motion has a 12' diameter with the sensor mounted 8' above the floor; for small motion, the pattern has an 8' diameter. Typically, one sensor is required for every 10' of a continuous luminaire run.

ODS: An integral, daylight harvesting sensor with closed-loop operation dims the luminaire in which it is installed in order to compensate for available daylight. The sensor measures the combination of daylight and luminaire light reflected from horizontal surfaces below the luminaire. Initial onsite calibration is required via the use of provided remote control.

OCS: Both an occupancy and a daylight sensor are installed in the luminaire.

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STATIC WHITE, BIOS ST/DY

CONNECTED CONTROLS
With connected controls, sensors or nodes installed in the luminaire form part of a larger control system infrastructure from manufacturers such as: Lutron, Enlighted, Encelium, Cooper Wavelinx, Acuity nLight, Casambi, Legrand, and others. These connected controls allow for a scalable system providing features like occupancy and daylight control, manual control, scheduling and configuration of various zones and scenes. Energy reporting and system monitoring are also possible. Specific capabilities depend on the control system being used.

Lumenwerx installs the components (sensors, nodes, power packs, etc) which may be supplied to us by a third party, or procured directly by Lumenwerx, depending on the control system manufacturer.

Lumenwerx is solely responsible for the installation of specified components; the controls manufacturer is responsible for performance of the control system.

To indicate a Lumenwerx luminaire with connected controls, identify the specific onsite control system to be integrated into the luminaires using the ordering code. Due to the diversity of components, you must contact factory to assure complete compatibility with intended control system and to fully specify the luminaire.

Complete control specifications, sensor/node/power pack layout, and narrative for the control system are required for Lumenwerx to create shop drawings and submittals.

CONSTRUCTION

Housing - Extruded aluminum, up to 90% recycled content
Interior brackets - Die formed cold rolled sheet steel
Joining system - Die cast zinc
Reflectors - Cold rolled steel die-formed, 95% reflective matte white painted
Lens - Acrylic or polycarbonate
Drop lens - Extruded with glued end caps
Mud flange - Extruded aluminum, up to 90% recycled content
Slip-through bracket - Die formed galvanized sheet
End plate - Die formed cold rolled sheet steel

CERTIFICATIONS

ETL - Rated for Indoor Dry/Damp locations. Conforms to UL Standard 1598 and certified to CAN/CSA Standard C22.2 No. 250.0.
Chicago plenum - City of Chicago Approved (CCEA)
IC rated - Suitable for direct contact with insulation.

WARRANTY

Lumenwerx provides a five-year limited warranty of electrical and mechanical performance of the luminaires, including the LED boards, drivers, and auxiliary electronics. Lumenwerx will repair or replace defective luminaires or components at our discretion, provided they have been installed and operated in accordance with our specifications. Other limitations apply, please refer to the full warranty on our website.

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Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** VIA5RPAT D HLO FH SW 90 500 35 40FT (6X14X6X14 RECTANGLE SHAPE) 120 D1 1C NA TB(X) NA W NA NA Notes:	**Type:** **L10C** LGNW23-97480

VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT

STATIC WHITE, BIOS ST/DY

5 YEAR WARRANTY

Project: _____

Type: _____



LEV - Leveled corner



INN - Inner corner



OUT - Outer corner

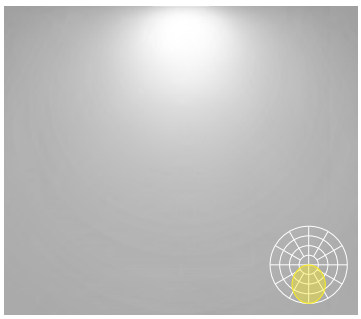
DESCRIPTION

Our elegant, flexible Via family is composed of linear, pendant, surface, recessed, and wall mounted luminaires. Each lighting fixture can be installed as a discrete luminaire or in continuous runs or patterns in which a combination of luminaires forms part of a custom design that can also incorporate less conventional acute and obtuse angles. Via 5 Recessed is offered with asymmetric, or wall wash optics.

Up to 139 lm/W performance

IC RATED

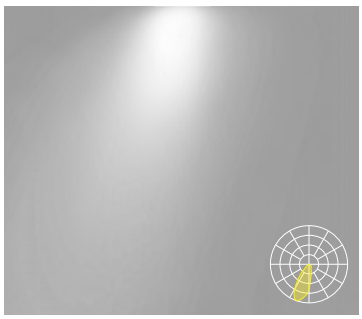
SENSORS
For latest information on sensors, click here.



HLO [1]
High-Efficiency Lambertian Optic



ARO2
Asymmetric Refractive Optic



WRO2
Wall Wash Refractive Optic

[1] Regressed lens and drop lens positions available with HLO only.

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Submitted by The Lighting Group LLCChris Hamaker

Job Name:
Skagit County Public Utilities District - Campus Replacement Administration Building Phase
Architect: Driftmier Architects (Redmond)
Engineer: Rensch Engineering (Snohomish)

Catalog Number:
VIA5RPAT D HLO FH SW 90 500 35 40FT (6X14X6X14 RECTANGLE SHAPE) 120 D1 1C NA TB(X) NA W NA NA
Notes:

Type:
L10C
LGNW23-97480

VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT
STATIC WHITE, BIOS ST/DY

Project: _____
Type: _____

Order Guide

LUMINAIRE ID	DISTRIBUTION	OPTIC	LENS POSITION	LIGHT SOURCE [3]	CRI
VIA5RPAT	D				

VIA5RPAT - Via 5" Recessed Pattern

D - Direct

HLO - High-Efficiency Lambertian Optic
ARO2 - Asymmetric Refractive Optic
WRO2 - Wall Wash Refractive Optic

FH [1] - Flush
RG [1] - Regressed
1.0D [1] - 1.0" drop
NA [2] - Not applicable

[1] Available with HLO only.
[2] Specify NA for all optics except for HLO.

SW - Static white
BIOSST [4] - Static biologically-optimized lighting
BIOSDY [4] - Dynamic biologically-optimized lighting

[3] Chromawerx Sola, Duo and Quadro also available. Consult other spec sheets.
[4] Only available with low and medium lumen packages.

80 - 80 CRI
90 [5] - 90 CRI

[5] Not available with BIOS.

LUMEN PACKAGE (lm/ft)	COLOR TEMP.	TOTAL PATTERN LENGTH	CORNER TYPE	CORNER DEGREE
		6 x 14 x 14 RECTANGLE SHAPE		

	Hypo [6]	Low	Med	High	Ultra high	Hyper [7]
HLO	350	500	750	1000	1200	1500
ARO2	350	500	750	1000	1200	x
WRO2	350	500	750	1000	1200	x

[6] Minimum 3' fixture.
[7] Fixture will be very bright. Use in suitable applications.

27 [8] - 2700K
30 - 3000K
35 - 3500K
40 - 4000K

[8] Not available with BIOS.

#FT#IN - Specify nominal length (#) in 1' and/or 1" increments

Continuous runs: lengths over 12'

40FT

INN - Inner corner
OUT - Outer corner
LEV - Leveled corner

90(#) - 90 degrees, specify number of corners (#)
#(#) [9] - Custom degree, specify the angle degree #, followed by the number of corners (#)

[9] Minimum angle is 45°.

VOLTAGE	DRIVER [11]	ELECTRICAL	ELECTRICAL SECTIONS (optional) [17, 18]

120 - 120V
277 - 277V
UNV - 120V-277V
347 [10] - 347V

[10] Available with D1 only.

D1 - 1% 0-10V
DA [12] - DALI
LTEA2W [13] - Lutron 1% - 2 wire FP 120V
LDE1 [12] - Lutron Hi-lume 1% Eco
ELD1 - eldoLED 1% ECOdrive 0-10V
ELD0 - eldoLED 0.1% SOLOdrive 0-10V

[11] PoE (Power-over-Ethernet) compatible. Consult factory for details.
[12] On-site commissioning is required.
[13] Available with 120V only.

1C - 1 circuit
#MC [14] - Multi circuit
EC - Emergency-powered fixture
NL - Night light fixture
DL - Daylight fixture
GTD [15,16] - Generator transfer device fixture

[14] Specify total number of circuits (#), including any required for electrical section options. Provide drawing or layout specifications. Minimum 4' section per circuit.
[15] Minimum 4' fixture.
[16] Not available with 347V.

#EC## [19] - Emergency-powered section
#NL## [19] - Night light section
#DL## [19] - Daylight section
#GTD## [19, 20, 21] - Generator transfer device section
#EMB [21, 22] - Emergency battery
NA - None

[17] Specify with multi circuit (#MC) electrical option only.
[18] Provide drawing or layout specifications. Consult factory for other configurations. Default section length is 4'.
[19] Specify quantity (#), and section length in inches (##).
[20] Minimum 4' section.
[21] Not available with 347V.
[22] Specify quantity (#). All batteries will be on the same circuit. Each battery powers a 4' section.

MOUNTING CEILING	MOUNTING WALL	FINISH	CONTROL [23]	OPTIONS

TG9 - Tegular 9/16"
TG15 - Tegular 15/16"
TB9 - T-bar 9/16" SPECIFY
TB15 - T-bar 15/16"
ST - Screw slot T-bar
DTR - Drywall trim
DTL - Drywall trimless
DMF - Drywall mud flange
NA - Not applicable

DTR - Drywall trim
DTL - Drywall trimless
DMF - Drywall mud flange
NA - Not applicable

W - Matte white
B - Matte black
CF# - Custom finish, specify RAL#

STANDALONE CONTROLS [24, 25]
Specify the quantity (#) of sensors per fixture.
#OMS [26] - Onboard Occupancy
#OMSX [27] - Onboard Occupancy with bi-level dimming
#ODS - Onboard Daylight
#OCS - Onboard Occupancy & Daylight

CONNECTED CONTROLS [28]
LU- Lutron
EN - Enlighted
ENC - Encelium
WL - Cooper Wavelinx
AN - Acuity nLight
CA - Casambi
LG - Legrand

NA - None

[23] Standalone and connected control options cannot be combined.
[24] Available with D1 driver and 1 circuit options only.
[25] Minimum 4' per zone. Provide control zone length.
[26] Fixture turns off when no occupancy.
[27] Fixture dims to specified light level % (X).
[28] Consult factory for connected controls.

FU120 - Fuse 120V
FU277 - Fuse 277V
FWC - Flexible whip cable (6' std)
CP - Chicago Plenum
NA - None

TECHZONE™ & USG Compatible with 6" ceiling

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bios PoE

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** VIA5RPAT D HLO FH SW 90 500 35 40FT (6X14X6X14 RECTANGLE SHAPE) 120 D1 1C NA TB(X) NA W NA NA Notes:	**Type:** **L10C** LGNW23-97480

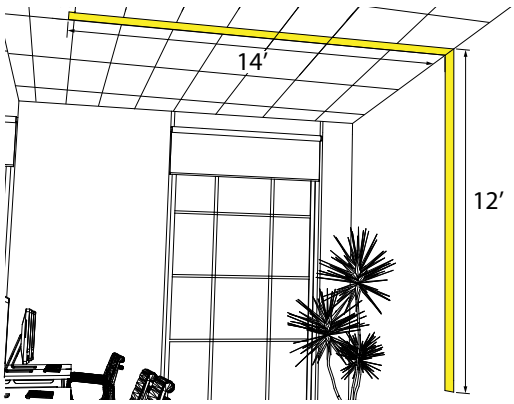
VIA 5 RECESSED PATTERN

LUMENWERX

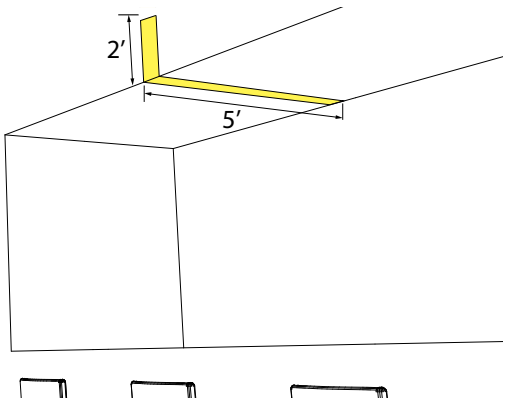
DIRECT

STATIC WHITE, BIOS ST/DY

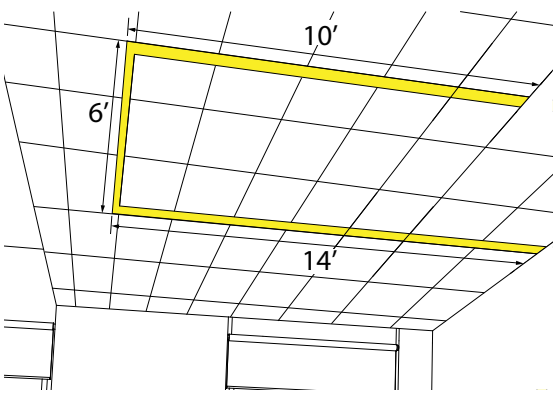
Pattern



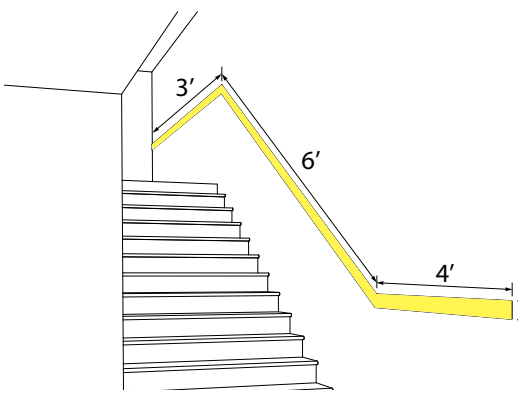
Grid to Drywall - 26FT - INN - 90(1)



Drywall - 7FT - OUT - 90(1)



Grid - 30FT - LEV - 90(2)



Drywall - 13FT - LEV - 150(1) - 300(1)

HOW TO SPECIFY A PATTERN?

Please follow these steps when specifying in order to be as precise as possible.
(1) We require a drawing illustrating the pattern you are trying to achieve - anything from a simple line drawing to elaborate architectural drawings will suffice.
(2) Under TOTAL PATTERN LENGTH, enter the overall length of your pattern - either in feet or inches.
(3) Under CORNER TYPE, please enter the type (or types) of corner you require. If more than one type of corner is required, please separate types with a plus (+).
(4) Under CORNER DEGREE, please enter the angle in degrees of each corner required to complete your pattern, followed by the number of corners.

PATTERN LENGTH	CORNER TYPE	CORNER DEGREE
#FT#IN [16] - Specify nominal length (**#**) in 1' and/or 1" increments Continuous runs: lengths over 12'	**INN** - Inner corner **OUT** - Outer corner **LEV** - Leveled corner	**90(#)** - 90 degrees, specify number of corners (#) **#(#)** [1] - Custom degree, specify the angle degree #, followed by the number of corners (#) [1] Minimum angle is 45°.

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VIA 5 RECESSED PATTERN

LUMENWERX

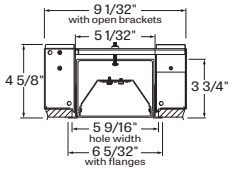
DIRECT

STATIC WHITE, BIOS ST/DY

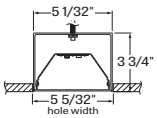
Dimensions

DRYWALL

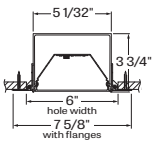
DTR - Drywall Trim



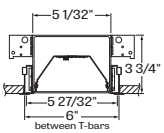
DTL - Drywall Trimless

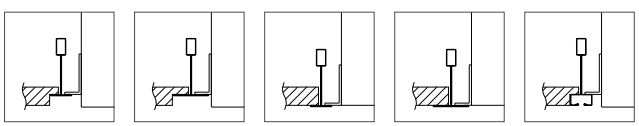


DMF - Drywall Mud Flange



GRID





TG9
Tegular 9/16"

TG15
Tegular 15/16"

TB9
T-bar 9/16"

TB15
T-bar 15/16"

ST
Screw slot T-bar

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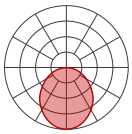
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Photometrics

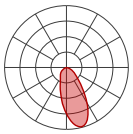
Delivered lumens at 35K at 80 CRI for all optics.

HLO (Flush Lens)



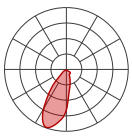
LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	10.6	132
500	2000	15.5	129
750	3000	23.9	126
1000	4000	32.7	122
1200	4800	40.3	119
1500	6000	51.9	116

ARO2



LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	12.1	116
500	2000	17.7	113
750	3000	27.9	107
1000	4000	39.0	103
1200	4800	48.3	99

WRO2



LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	12.1	116
500	2000	17.8	112
750	3000	28.0	107
1000	4000	39.1	102
1200	4800	48.5	99

MULTIPLIER TABLES

Use these tables to get results for different color temperatures, CRI, and drop lenses.

Multiplier - CCT/CRI

CCT (K)	WATTS		LPW	
	CRI 80	CRI 90	CRI 80	CRI 90
2700	1.05	1.26	0.95	0.79
3000	1.01	1.23	0.99	0.81
3500	1.00	1.20	1.00	0.84
4000	1.00	1.17	1.00	0.85

Multiplier - Drop Lens

DIRECT LENS	WATTS	LPW
Flush Lens	1.00	1.00
Drop Lens 1.0"	0.88	1.12

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VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT
STATIC WHITE, BIOS ST/DY

Technical Specifications

OPTICS

High-Efficiency Lambertian Optic (HLO)
The High-Efficiency Lambertian Optic (HLO) uses matte white reflectors to distribute LED output across 0.075" acrylic shielding, providing up to 88% transmission and good obscuration. Available as a flush lens or as a drop lens, the HLO has a spacing criterion of 1.22.

Asymmetric Refractive Optic (ARO2)
The Asymmetric Refractive Optic (ARO2) uses a sophisticated reflector combined with a matte beam-shaping film to create a smooth, effective downward light component without shadows or hot spots. It provides directional Gaussian light distribution with peak intensity at 20° above nadir and a 55° Full Width at Half Maximum (FWHM) beam angle. Microstructure material applied to the snap-in lens provides the precise refractive power and visual comfort, while achieving high luminous efficacy.

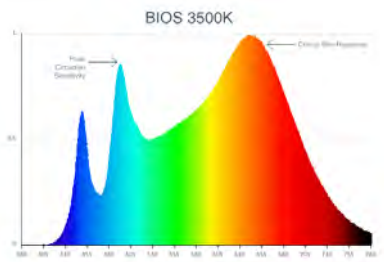
Wall Wash Refractive Optic (WRO2)
The Wall Wash Refractive Optic (WRO2) delivers smooth vertical illumination with a gentle gradient and soft visual cut-off. Its exacting configuration creates a strong downward light component without shadows or hot spots and provides light distribution with peak intensity at 21° above nadir. Microstructure material applied to the snap-in lens provides the precise refractive power and visual comfort, while achieving a high luminous efficacy.

LIGHT SOURCE

Custom linear array of mid-flux LEDs are cartridge-mounted with quick-connect wiring to facilitate service and thermal management. Available in 2700K, 3000K, 3500K and 4000K with a minimum 80 CRI and an option for 90 CRI with elevated R9 value. Color consistency maintained to within 3 SDCM. LEDs operate at reduced drive current to optimize efficacy and lumen maintenance. All LEDs have been tested in accordance with IESNA LM-80-08 and the results have shown L80 lumen maintenance greater than 60,000 hours. Absolute product photometry is measured and presented in accordance with IESNA LM-79, unless otherwise indicated.

bios ILLUMINATED

BIOS SkyBlue™ Technology is designed to provide the specific circadian stimulus to improve overall sleep quality, recovery during the night, and overall feelings of well-being.
The non-visual light signals that stimulate our circadian system have peak intensity in the "sky blue" region. As the diagram below illustrates, BIOS SkyBlue technology shifts the peak LED spectral intensity (490 nm) to align better with the peak response of circadian stimulus. Also note the enhanced deep-red (near 660 nm) spectrum.



PATTERN LENGTH

All individual sections are joined together onsite using the joiner kits provided. Lumenwerx offers joiner kits that are extremely simple to work with in the field and result in a fixture that appears virtually seamless with no light leak at any connection.

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bios PoE

VIA 5 RECESSED PATTERN

LUMENWERX

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ELECTRICAL

Factory-set, adjustable output current LED driver with universal (120-277VAC) input. Dimmable from 100% to 1% with 0-10V dimming control. Rated life (90% survivorship) of 50,000 hours at 50°C max. ambient (and 70°C max. case) temperature. At maximum driver load: Efficiency>84%, PF>0.9, THD<20%. Other specifiable options include Lutron Hi-Lume 1% (specify 2-wire, or Ecosystem Dim-to-Off), eldoLED 1% ECOdrive 0-10V, eldoLED 0.1% SOLOdrive 0-10V, and DALI protocol drivers. All of our standard 0-10V drivers are NEMA 410 compliant.

PoE
Depending on the PoE manufacturer selected, Lumenwerx will install the node in factory as either integral to the luminaire or as a remote module. Factory programming of the PoE node may or may not enable the following functionalities: lumen package, Duo (tunable white), Quadro (RGBW) emergency battery backup, and sensor integration. These must be addressed and evaluated on a case-by-case basis.

ELECTRICAL SECTION OPTIONS

Electrical section options are available for fixtures specified as multi circuit (#MC). With MC, specify the total number of circuits (#), including any circuits required for optional electrical sections. A drawing is required to specify the layout. Please consult factory for custom configurations.

Electrical sections
Options include emergency-powered (#EC##), night light (#NL##), daylight (#DL##), and generator transfer device (#GTD##) sections. Specify the quantity (#), as well as the section length in inches (##).

Example 1: A 32' Direct fixture with two 8' emergency-powered sections on a second circuit.
Code: 2MC-2EC96

Example 2: A 24' Direct fixture with one 4' generator transfer device section.
Code: 1MC-1GTD48

Battery
Each emergency battery (#EMB) powers a 4' section. All batteries will be on the same circuit. Specify the number of batteries (#) required.
Factory installed long life, high temperature, maintenance-free Lithium-Ion battery pack with self-test functionality, test switch and charge indicator. Minimum of 90 minutes operation, up to 1000 lumens per 4' (25°C) emergency lighting output and recharge time of 24 hours.

MOUNTING OPTIONS

Recessed fixtures can be mounted into exposed or concealed T-bar or tegular ceiling, as well as in drywall ceilings with trim, trimless, or mud flange options. Via 5 is compatible with 6" Armstrong Techzone™ & USG ceilings.

FINISH

Interior - 95%, reflective matte powder coated white paint
Exterior - Matte white or matte black powder coating. Custom finishes are also available.

CONTROLS

Lumenwerx offers several options for integrating occupancy and daylight harvesting controls in our luminaires.
For latest information on sensors, click here.

STANDALONE CONTROLS
An integrated standalone sensor controls the luminaire in which it is installed. Depending on the length, more than one sensor may be necessary and may control the entire luminaire, or just a section of it. These controls operate independently. Unless otherwise agreed, sensor location, blank size, and functionality of the sensor within the luminaire are selected by Lumenwerx. See client drawings for details.
Three types are available:

OMS: An integral Passive InfraRed (PIR) sensor turns luminaires on and off automatically with field-adjustable time out period. No wall control is used. Coverage pattern for large motion has a 12' diameter with the sensor mounted 8' above the floor; for small motion, the pattern has an 8' diameter. Typically, one sensor is required for every 10' of a continuous luminaire run.

ODS: An integral, daylight harvesting sensor with closed-loop operation dims the luminaire in which it is installed in order to compensate for available daylight. The sensor measures the combination of daylight and luminaire light reflected from horizontal surfaces below the luminaire. Initial onsite calibration is required via the use of provided remote control.

OCS: Both an occupancy and a daylight sensor are installed in the luminaire.

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VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT
STATIC WHITE, BIOS ST/DY

CONNECTED CONTROLS
With connected controls, sensors or nodes installed in the luminaire form part of a larger control system infrastructure from manufacturers such as: Lutron, Enlighted, Encelium, Cooper Wavelinx, Acuity nLight, Casambi, Legrand, and others. These connected controls allow for a scalable system providing features like occupancy and daylight control, manual control, scheduling and configuration of various zones and scenes. Energy reporting and system monitoring are also possible. Specific capabilities depend on the control system being used.

Lumenwerx installs the components (sensors, nodes, power packs, etc) which may be supplied to us by a third party, or procured directly by Lumenwerx, depending on the control system manufacturer.

Lumenwerx is solely responsible for the installation of specified components; the controls manufacturer is responsible for performance of the control system.

To indicate a Lumenwerx luminaire with connected controls, identify the specific onsite control system to be integrated into the luminaires using the ordering code. Due to the diversity of components, you must contact factory to assure complete compatibility with intended control system and to fully specify the luminaire.

Complete control specifications, sensor/node/power pack layout, and narrative for the control system are required for Lumenwerx to create shop drawings and submittals.

CONSTRUCTION

Housing - Extruded aluminum, up to 90% recycled content
Interior brackets - Die formed cold rolled sheet steel
Joining system - Die cast zinc
Reflectors - Cold rolled steel die-formed, 95% reflective matte white painted
Lens - Acrylic or polycarbonate
Drop lens - Extruded with glued end caps
Mud flange - Extruded aluminum, up to 90% recycled content
Slip-through bracket - Die formed galvanized sheet
End plate - Die formed cold rolled sheet steel

CERTIFICATIONS

ETL - Rated for Indoor Dry/Damp locations. Conforms to UL Standard 1598 and certified to CAN/CSA Standard C22.2 No. 250.0.
Chicago plenum - City of Chicago Approved (CCEA)
IC rated - Suitable for direct contact with insulation.

WARRANTY

Lumenwerx provides a five-year limited warranty of electrical and mechanical performance of the luminaires, including the LED boards, drivers, and auxiliary electronics. Lumenwerx will repair or replace defective luminaires or components at our discretion, provided they have been installed and operated in accordance with our specifications. Other limitations apply, please refer to the full warranty on our website.

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Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** VIA5RPAT D HLO FH SW 90 500 35 44FT (6X16X6X16 RECTANGLE SHAPE) 120 D1 1C NA TB(X) NA W NA NA Notes:	**Type:** **L10D** LGNW23-97480

VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT

STATIC WHITE, BIOS ST/DY

5 YEAR WARRANTY

Project: _____

Type: _____



LEV - Leveled corner



INN - Inner corner



OUT - Outer corner

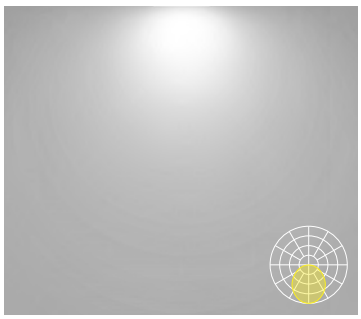
DESCRIPTION

Our elegant, flexible Via family is composed of linear, pendant, surface, recessed, and wall mounted luminaires. Each lighting fixture can be installed as a discrete luminaire or in continuous runs or patterns in which a combination of luminaires forms part of a custom design that can also incorporate less conventional acute and obtuse angles. Via 5 Recessed is offered with asymmetric, or wall wash optics.

Up to 139 lm/W performance

IC RATED

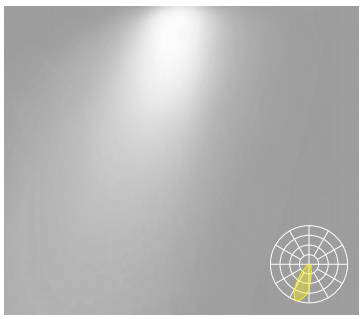
SENSORS
For latest information on sensors, click here.



HLO [1]
High-Efficiency Lambertian Optic



ARO2
Asymmetric Refractive Optic



WRO2
Wall Wash Refractive Optic

[1] Regressed lens and drop lens positions available with HLO only.

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bios PoE

Submitted by The Lighting Group LLCChris Hamaker

Job Name:
Skagit County Public Utilities District - Campus Replacement Administration Building Phase
Architect: Driftmier Architects (Redmond)
Engineer: Rensch Engineering (Snohomish)

Catalog Number:
VIA5RPAT D HLO FH SW 90 500 35 44FT (6X16X6X16 RECTANGLE SHAPE) 120 D1 1C NA TB(X) NA W NA NA
Notes:

Type:
L10D
LGNW23-97480

VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT
STATIC WHITE, BIOS ST/DY

Project: _____
Type: _____

Order Guide

LUMINAIRE ID	DISTRIBUTION	OPTIC	LENS POSITION	LIGHT SOURCE [3]	CRI
VIA5RPAT	D				

VIA5RPAT - Via 5" Recessed Pattern

D - Direct

HLO - High-Efficiency Lambertian Optic
ARO2 - Asymmetric Refractive Optic
WRO2 - Wall Wash Refractive Optic

FH [1] - Flush
RG [1] - Regressed
1.0D [1] - 1.0" drop
NA [2] - Not applicable

[1] Available with HLO only.
[2] Specify NA for all optics except for HLO.

SW - Static white
BIOSST [4] - Static biologically-optimized lighting
BIOSDY [4] - Dynamic biologically-optimized lighting

[3] Chromawerx Sola, Duo and Quadro also available. Consult other spec sheets.
[4] Only available with low and medium lumen packages.

80 - 80 CRI
90 [5] - 90 CRI

[5] Not available with BIOS.

LUMEN PACKAGE (lm/ft)	COLOR TEMP.	TOTAL PATTERN LENGTH	CORNER TYPE	CORNER DEGREE
		6 x 16 x 16 RECTANGLE SHAPE		

	Hypo [6]	Low	Med	High	Ultra high	Hyper [7]
HLO	350	500	750	1000	1200	1500
ARO2	350	500	750	1000	1200	x
WRO2	350	500	750	1000	1200	x

[6] Minimum 3' fixture.
[7] Fixture will be very bright. Use in suitable applications.

27 [8] - 2700K
30 - 3000K
35 - 3500K
40 - 4000K

[8] Not available with BIOS.

#FT#IN - Specify nominal length (#) in 1' and/or 1" increments

Continuous runs: lengths over 12'

44FT

INN - Inner corner
OUT - Outer corner
LEV - Leveled corner

90(#) - 90 degrees, specify number of corners (#)
#(#) [9] - Custom degree, specify the angle degree #, followed by the number of corners (#)

[9] Minimum angle is 45°.

VOLTAGE	DRIVER [11]	ELECTRICAL	ELECTRICAL SECTIONS (optional) [17, 18]

120 - 120V
277 - 277V
UNV - 120V-277V
347 [10] - 347V

[10] Available with D1 only.

D1 - 1% 0-10V
DA [12] - DALI
LTEA2W [13] - Lutron 1% - 2 wire FP 120V
LDE1 [12] - Lutron Hi-lume 1% Eco
ELD1 - eldoLED 1% ECOdrive 0-10V
ELD0 - eldoLED 0.1% SOLOdrive 0-10V

[11] PoE (Power-over-Ethernet) compatible. Consult factory for details.
[12] On-site commissioning is required.
[13] Available with 120V only.

1C - 1 circuit
#MC [14] - Multi circuit
EC - Emergency-powered fixture
NL - Night light fixture
DL - Daylight fixture
GTD [15,16] - Generator transfer device fixture

[14] Specify total number of circuits (#), including any required for electrical section options. Provide drawing or layout specifications. Minimum 4' section per circuit.
[15] Minimum 4' fixture.
[16] Not available with 347V.

#EC## [19] - Emergency-powered section
#NL## [19] - Night light section
#DL## [19] - Daylight section
#GTD## [19, 20, 21] - Generator transfer device section
#EMB [21, 22] - Emergency battery
NA - None

[17] Specify with multi circuit (#MC) electrical option only.
[18] Provide drawing or layout specifications. Consult factory for other configurations. Default section length is 4'.
[19] Specify quantity (#), and section length in inches (##).
[20] Minimum 4' section.
[21] Not available with 347V.
[22] Specify quantity (#). All batteries will be on the same circuit. Each battery powers a 4' section.

MOUNTING CEILING	MOUNTING WALL	FINISH	CONTROL [23]	OPTIONS

TG9 - Tegular 9/16"
TG15 - Tegular 15/16"
TB9 - T-bar 9/16"
TB15 - T-bar 15/16"
ST - Screw slot T-bar
DTR - Drywall trim
DTL - Drywall trimless
DMF - Drywall mud flange
NA - Not applicable

SPECIFY

DTR - Drywall trim
DTL - Drywall trimless
DMF - Drywall mud flange
NA - Not applicable

W - Matte white
B - Matte black
CF# - Custom finish, specify RAL#

STANDALONE CONTROLS [24, 25]
Specify the quantity (#) of sensors per fixture.
#OMS [26] - Onboard Occupancy
#OMSX [27] - Onboard Occupancy with bi-level dimming
#ODS - Onboard Daylight
#OCS - Onboard Occupancy & Daylight

CONNECTED CONTROLS [28]
LU - Lutron
EN - Enlighted
ENC - Encelium
WL - Cooper Wavelinx
AN - Acuity nLight
CA - Casambi
LG - Legrand

NA - None

[23] Standalone and connected control options cannot be combined.
[24] Available with D1 driver and 1 circuit options only.
[25] Minimum 4' per zone. Provide control zone length.
[26] Fixture turns off when no occupancy.
[27] Fixture dims to specified light level % (X).
[28] Consult factory for connected controls.

FU120 - Fuse 120V
FU277 - Fuse 277V
FWC - Flexible whip cable (6' std)
CP - Chicago Plenum
NA - None

TECHZONE™ & USG Compatible with 6" ceiling

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bios PoE

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** VIA5RPAT D HLO FH SW 90 500 35 44FT (6X16X6X16 RECTANGLE SHAPE) 120 D1 1C NA TB(X) NA W NA NA Notes:	**Type:** **L10D** LGNW23-97480

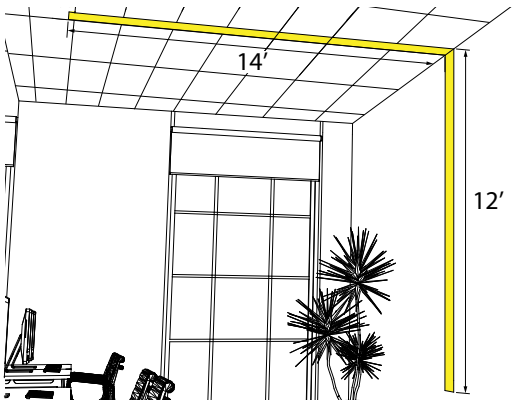
VIA 5 RECESSED PATTERN

LUMENWERX

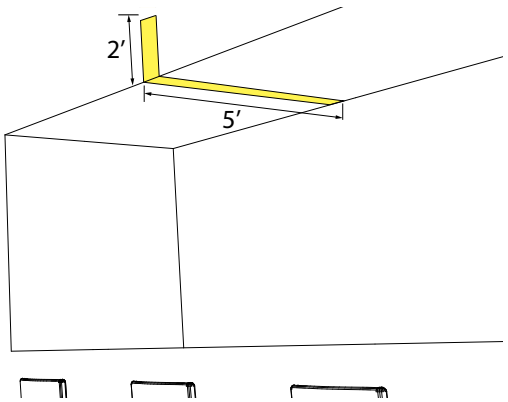
DIRECT

STATIC WHITE, BIOS ST/DY

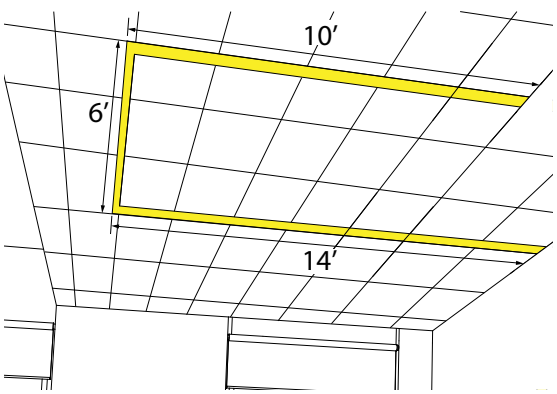
Pattern



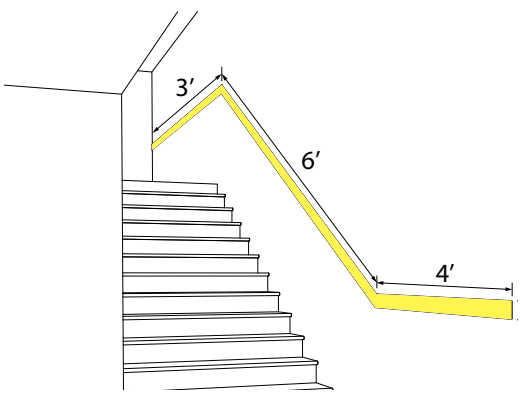
Grid to Drywall - 26FT - INN - 90(1)



Drywall - 7FT - OUT - 90(1)



Grid - 30FT - LEV - 90(2)



Drywall - 13FT - LEV - 150(1) - 300(1)

HOW TO SPECIFY A PATTERN?

Please follow these steps when specifying in order to be as precise as possible.
(1) We require a drawing illustrating the pattern you are trying to achieve - anything from a simple line drawing to elaborate architectural drawings will suffice.
(2) Under TOTAL PATTERN LENGTH, enter the overall length of your pattern - either in feet or inches.
(3) Under CORNER TYPE, please enter the type (or types) of corner you require. If more than one type of corner is required, please separate types with a plus (+).
(4) Under CORNER DEGREE, please enter the angle in degrees of each corner required to complete your pattern, followed by the number of corners.

PATTERN LENGTH	CORNER TYPE	CORNER DEGREE
#FT#IN [16] - Specify nominal length (**#**) in 1' and/or 1" increments Continuous runs: lengths over 12'	**INN** - Inner corner **OUT** - Outer corner **LEV** - Leveled corner	**90(#)** - 90 degrees, specify number of corners (#) **#(#)** [1] - Custom degree, specify the angle degree #, followed by the number of corners (#) [1] Minimum angle is 45°.

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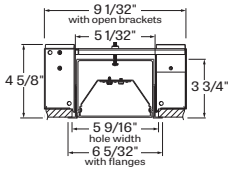
DIRECT

STATIC WHITE, BIOS ST/DY

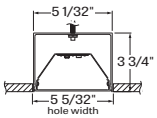
Dimensions

DRYWALL

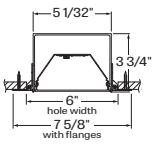
DTR - Drywall Trim



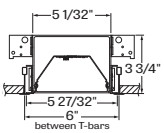
DTL - Drywall Trimless

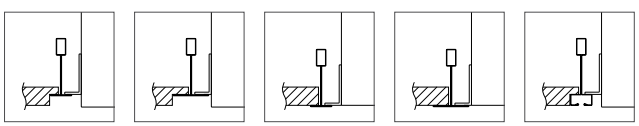


DMF - Drywall Mud Flange



GRID





TG9
Tegular 9/16"

TG15
Tegular 15/16"

TB9
T-bar 9/16"

TB15
T-bar 15/16"

ST
Screw slot T-bar

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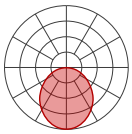
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Photometrics

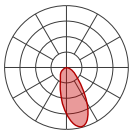
Delivered lumens at 35K at 80 CRI for all optics.

HLO (Flush Lens)



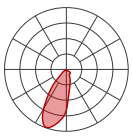
LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	10.6	132
500	2000	15.5	129
750	3000	23.9	126
1000	4000	32.7	122
1200	4800	40.3	119
1500	6000	51.9	116

ARO2



LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	12.1	116
500	2000	17.7	113
750	3000	27.9	107
1000	4000	39.0	103
1200	4800	48.3	99

WRO2



LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	12.1	116
500	2000	17.8	112
750	3000	28.0	107
1000	4000	39.1	102
1200	4800	48.5	99

MULTIPLIER TABLES

Use these tables to get results for different color temperatures, CRI, and drop lenses.

Multiplier - CCT/CRI

CCT (K)	WATTS		LPW	
	CRI 80	CRI 90	CRI 80	CRI 90
2700	1.05	1.26	0.95	0.79
3000	1.01	1.23	0.99	0.81
3500	1.00	1.20	1.00	0.84
4000	1.00	1.17	1.00	0.85

Multiplier - Drop Lens

DIRECT LENS	WATTS	LPW
Flush Lens	1.00	1.00
Drop Lens 1.0"	0.88	1.12

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VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT
STATIC WHITE, BIOS ST/DY

Technical Specifications

OPTICS

High-Efficiency Lambertian Optic (HLO)
The High-Efficiency Lambertian Optic (HLO) uses matte white reflectors to distribute LED output across 0.075" acrylic shielding, providing up to 88% transmission and good obscuration. Available as a flush lens or as a drop lens, the HLO has a spacing criterion of 1.22.

Asymmetric Refractive Optic (ARO2)
The Asymmetric Refractive Optic (ARO2) uses a sophisticated reflector combined with a matte beam-shaping film to create a smooth, effective downward light component without shadows or hot spots. It provides directional Gaussian light distribution with peak intensity at 20° above nadir and a 55° Full Width at Half Maximum (FWHM) beam angle. Microstructure material applied to the snap-in lens provides the precise refractive power and visual comfort, while achieving high luminous efficacy.

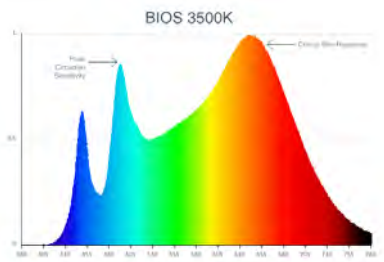
Wall Wash Refractive Optic (WRO2)
The Wall Wash Refractive Optic (WRO2) delivers smooth vertical illumination with a gentle gradient and soft visual cut-off. Its exacting configuration creates a strong downward light component without shadows or hot spots and provides light distribution with peak intensity at 21° above nadir. Microstructure material applied to the snap-in lens provides the precise refractive power and visual comfort, while achieving a high luminous efficacy.

LIGHT SOURCE

Custom linear array of mid-flux LEDs are cartridge-mounted with quick-connect wiring to facilitate service and thermal management. Available in 2700K, 3000K, 3500K and 4000K with a minimum 80 CRI and an option for 90 CRI with elevated R9 value. Color consistency maintained to within 3 SDCM. LEDs operate at reduced drive current to optimize efficacy and lumen maintenance. All LEDs have been tested in accordance with IESNA LM-80-08 and the results have shown L80 lumen maintenance greater than 60,000 hours. Absolute product photometry is measured and presented in accordance with IESNA LM-79, unless otherwise indicated.

bios ILLUMINATED

BIOS SkyBlue™ Technology is designed to provide the specific circadian stimulus to improve overall sleep quality, recovery during the night, and overall feelings of well-being.
The non-visual light signals that stimulate our circadian system have peak intensity in the "sky blue" region. As the diagram below illustrates, BIOS SkyBlue technology shifts the peak LED spectral intensity (490 nm) to align better with the peak response of circadian stimulus. Also note the enhanced deep-red (near 660 nm) spectrum.



PATTERN LENGTH

All individual sections are joined together onsite using the joiner kits provided. Lumenwerx offers joiner kits that are extremely simple to work with in the field and result in a fixture that appears virtually seamless with no light leak at any connection.

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VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT
STATIC WHITE, BIOS ST/DY

ELECTRICAL

Factory-set, adjustable output current LED driver with universal (120-277VAC) input. Dimmable from 100% to 1% with 0-10V dimming control. Rated life (90% survivorship) of 50,000 hours at 50°C max. ambient (and 70°C max. case) temperature. At maximum driver load: Efficiency>84%, PF>0.9, THD<20%. Other specifiable options include Lutron Hi-Lume 1% (specify 2-wire, or Ecosystem Dim-to-Off), eldoLED 1% ECOdrive 0-10V, eldoLED 0.1% SOLOdrive 0-10V, and DALI protocol drivers. All of our standard 0-10V drivers are NEMA 410 compliant.

PoE
Depending on the PoE manufacturer selected, Lumenwerx will install the node in factory as either integral to the luminaire or as a remote module. Factory programming of the PoE node may or may not enable the following functionalities: lumen package, Duo (tunable white), Quadro (RGBW) emergency battery backup, and sensor integration. These must be addressed and evaluated on a case-by-case basis.

ELECTRICAL SECTION OPTIONS

Electrical section options are available for fixtures specified as multi circuit (#MC). With MC, specify the total number of circuits (#), including any circuits required for optional electrical sections. A drawing is required to specify the layout. Please consult factory for custom configurations.

Electrical sections
Options include emergency-powered (#EC##), night light (#NL##), daylight (#DL##), and generator transfer device (#GTD##) sections. Specify the quantity (#), as well as the section length in inches (##).

Example 1: A 32' Direct fixture with two 8' emergency-powered sections on a second circuit.
Code: 2MC-2EC96

Example 2: A 24' Direct fixture with one 4' generator transfer device section.
Code: 1MC-1GTD48

Battery
Each emergency battery (#EMB) powers a 4' section. All batteries will be on the same circuit. Specify the number of batteries (#) required.
Factory installed long life, high temperature, maintenance-free Lithium-Ion battery pack with self-test functionality, test switch and charge indicator. Minimum of 90 minutes operation, up to 1000 lumens per 4' (25°C) emergency lighting output and recharge time of 24 hours.

MOUNTING OPTIONS

Recessed fixtures can be mounted into exposed or concealed T-bar or tegular ceiling, as well as in drywall ceilings with trim, trimless, or mud flange options. Via 5 is compatible with 6" Armstrong Techzone™ & USG ceilings.

FINISH

Interior - 95%, reflective matte powder coated white paint
Exterior - Matte white or matte black powder coating. Custom finishes are also available.

CONTROLS

Lumenwerx offers several options for integrating occupancy and daylight harvesting controls in our luminaires.
For latest information on sensors, click here.

STANDALONE CONTROLS
An integrated standalone sensor controls the luminaire in which it is installed. Depending on the length, more than one sensor may be necessary and may control the entire luminaire, or just a section of it. These controls operate independently. Unless otherwise agreed, sensor location, blank size, and functionality of the sensor within the luminaire are selected by Lumenwerx. See client drawings for details.
Three types are available:

OMS: An integral Passive InfraRed (PIR) sensor turns luminaires on and off automatically with field-adjustable time out period. No wall control is used. Coverage pattern for large motion has a 12' diameter with the sensor mounted 8' above the floor; for small motion, the pattern has an 8' diameter. Typically, one sensor is required for every 10' of a continuous luminaire run.

ODS: An integral, daylight harvesting sensor with closed-loop operation dims the luminaire in which it is installed in order to compensate for available daylight. The sensor measures the combination of daylight and luminaire light reflected from horizontal surfaces below the luminaire. Initial onsite calibration is required via the use of provided remote control.

OCS: Both an occupancy and a daylight sensor are installed in the luminaire.

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bios PoE

VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT
STATIC WHITE, BIOS ST/DY

CONNECTED CONTROLS
With connected controls, sensors or nodes installed in the luminaire form part of a larger control system infrastructure from manufacturers such as: Lutron, Enlighted, Encelium, Cooper Wavelinx, Acuity nLight, Casambi, Legrand, and others. These connected controls allow for a scalable system providing features like occupancy and daylight control, manual control, scheduling and configuration of various zones and scenes. Energy reporting and system monitoring are also possible. Specific capabilities depend on the control system being used.

Lumenwerx installs the components (sensors, nodes, power packs, etc) which may be supplied to us by a third party, or procured directly by Lumenwerx, depending on the control system manufacturer.

Lumenwerx is solely responsible for the installation of specified components; the controls manufacturer is responsible for performance of the control system.

To indicate a Lumenwerx luminaire with connected controls, identify the specific onsite control system to be integrated into the luminaires using the ordering code. Due to the diversity of components, you must contact factory to assure complete compatibility with intended control system and to fully specify the luminaire.

Complete control specifications, sensor/node/power pack layout, and narrative for the control system are required for Lumenwerx to create shop drawings and submittals.

CONSTRUCTION

Housing - Extruded aluminum, up to 90% recycled content
Interior brackets - Die formed cold rolled sheet steel
Joining system - Die cast zinc
Reflectors - Cold rolled steel die-formed, 95% reflective matte white painted
Lens - Acrylic or polycarbonate
Drop lens - Extruded with glued end caps
Mud flange - Extruded aluminum, up to 90% recycled content
Slip-through bracket - Die formed galvanized sheet
End plate - Die formed cold rolled sheet steel

CERTIFICATIONS

ETL - Rated for Indoor Dry/Damp locations. Conforms to UL Standard 1598 and certified to CAN/CSA Standard C22.2 No. 250.0.
Chicago plenum - City of Chicago Approved (CCEA)
IC rated - Suitable for direct contact with insulation.

WARRANTY

Lumenwerx provides a five-year limited warranty of electrical and mechanical performance of the luminaires, including the LED boards, drivers, and auxiliary electronics. Lumenwerx will repair or replace defective luminaires or components at our discretion, provided they have been installed and operated in accordance with our specifications. Other limitations apply, please refer to the full warranty on our website.

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bios PoE

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** VIA5RPAT D HLO FH SW 90 500 35 60FT (6X24X6X24 RECTANGLE SHAPE) 120 D1 1C NA TB(X) NA W NA NA Notes:	**Type:** **L10E** LGNW23-97480

VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT

STATIC WHITE, BIOS ST/DY

5 YEAR WARRANTY

Project: _____

Type: _____



LEV - Leveled corner



INN - Inner corner



OUT - Outer corner

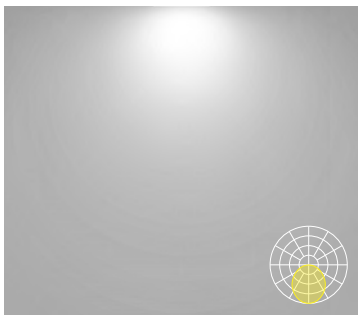
DESCRIPTION

Our elegant, flexible Via family is composed of linear, pendant, surface, recessed, and wall mounted luminaires. Each lighting fixture can be installed as a discrete luminaire or in continuous runs or patterns in which a combination of luminaires forms part of a custom design that can also incorporate less conventional acute and obtuse angles. Via 5 Recessed is offered with asymmetric, or wall wash optics.

Up to 139 lm/W performance

IC RATED

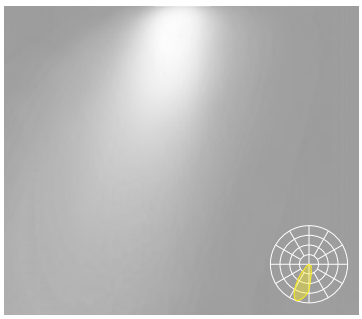
SENSORS
For latest information on sensors, click here.



HLO [1]
High-Efficiency Lambertian Optic



ARO2
Asymmetric Refractive Optic



WRO2
Wall Wash Refractive Optic

[1] Regressed lens and drop lens positions available with HLO only.

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bios PoE

Submitted by The Lighting Group LLCChris Hamaker

Job Name:
Skagit County Public Utilities District - Campus Replacement Administration Building Phase
Architect: Driftmier Architects (Redmond)
Engineer: Rensch Engineering (Snohomish)

Catalog Number:
VIA5RPAT D HLO FH SW 90 500 35 60FT (6X24X6X24 RECTANGLE SHAPE) 120 D1 1C NA TB(X) NA W NA NA
Notes:

Type:
L10E
LGNW23-97480

VIA 5 RECESSED PATTERN

LUMENWERX

DIRECT
STATIC WHITE, BIOS ST/DY

Project: _____
Type: _____

Order Guide

LUMINAIRE ID	DISTRIBUTION	OPTIC	LENS POSITION	LIGHT SOURCE [3]	CRI
VIA5RPAT	D				

VIA5RPAT - Via 5" Recessed Pattern

D - Direct

HLO - High-Efficiency Lambertian Optic
ARO2 - Asymmetric Refractive Optic
WRO2 - Wall Wash Refractive Optic

FH [1] - Flush
RG [1] - Regressed
1.0D [1] - 1.0" drop
NA [2] - Not applicable

[1] Available with HLO only.
[2] Specify NA for all optics except for HLO.

SW - Static white
BIOSST [4] - Static biologically-optimized lighting
BIOSDY [4] - Dynamic biologically-optimized lighting

[3] Chromawerx Sola, Duo and Quadro also available. Consult other spec sheets.
[4] Only available with low and medium lumen packages.

80 - 80 CRI
90 [5] - 90 CRI

[5] Not available with BIOS.

LUMEN PACKAGE (lm/ft)	COLOR TEMP.	TOTAL PATTERN LENGTH	CORNER TYPE	CORNER DEGREE
		6 x 24 x 24 U SHAPE		

	Hypo [6]	Low	Med	High	Ultra high	Hyper [7]
HLO	350	500	750	1000	1200	1500
ARO2	350	500	750	1000	1200	x
WRO2	350	500	750	1000	1200	x

[6] Minimum 3' fixture.
[7] Fixture will be very bright. Use in suitable applications.

27 [8] - 2700K
30 - 3000K
35 - 3500K
40 - 4000K

[8] Not available with BIOS.

#FT#IN - Specify nominal length (#) in 1' and/or 1" increments

Continuous runs: lengths over 12'

INN - Inner corner
OUT - Outer corner
LEV - Leveled corner

90(#) - 90 degrees, specify number of corners (#)
#(#) [9] - Custom degree, specify the angle degree #, followed by the number of corners (#)

[9] Minimum angle is 45°.

VOLTAGE	DRIVER [11]	ELECTRICAL	ELECTRICAL SECTIONS (optional) [17, 18]

120 - 120V
277 - 277V
UNV - 120V-277V
347 [10] - 347V

[10] Available with D1 only.

D1 - 1% 0-10V
DA [12] - DALI
LTEA2W [13] - Lutron 1% - 2 wire FP 120V
LDE1 [12] - Lutron Hi-lume 1% Eco
ELD1 - eldoLED 1% ECOdrive 0-10V
ELD0 - eldoLED 0.1% SOLOdrive 0-10V

[11] PoE (Power-over-Ethernet) compatible. Consult factory for details.
[12] On-site commissioning is required.
[13] Available with 120V only.

1C - 1 circuit
#MC [14] - Multi circuit
EC - Emergency-powered fixture
NL - Night light fixture
DL - Daylight fixture
GTD [15,16] - Generator transfer device fixture

[14] Specify total number of circuits (#), including any required for electrical section options. Provide drawing or layout specifications. Minimum 4' section per circuit.
[15] Minimum 4' fixture.
[16] Not available with 347V.

#EC## [19] - Emergency-powered section
#NL## [19] - Night light section
#DL## [19] - Daylight section
#GTD## [19, 20, 21] - Generator transfer device section
#EMB [21, 22] - Emergency battery
NA - None

[17] Specify with multi circuit (#MC) electrical option only.
[18] Provide drawing or layout specifications. Consult factory for other configurations. Default section length is 4'.
[19] Specify quantity (#), and section length in inches (##).
[20] Minimum 4' section.
[21] Not available with 347V.
[22] Specify quantity (#). All batteries will be on the same circuit. Each battery powers a 4' section.

MOUNTING CEILING	MOUNTING WALL	FINISH	CONTROL [23]	OPTIONS
SPECIFY	SPECIFY			

TG9 - Tegular 9/16"
TG15 - Tegular 15/16"
TB9 - T-bar 9/16"
TB15 - T-bar 15/16"
ST - Screw slot T-bar
DTR - Drywall trim
DTL - Drywall trimless
DMF - Drywall mud flange
NA - Not applicable

DTR - Drywall trim
DTL - Drywall trimless
DMF - Drywall mud flange
NA - Not applicable

W - Matte white
B - Matte black
CF# - Custom finish, specify RAL#

STANDALONE CONTROLS [24, 25]
Specify the quantity (#) of sensors per fixture.
#OMS [26] - Onboard Occupancy
#OMSX [27] - Onboard Occupancy with bi-level dimming
#ODS - Onboard Daylight
#OCS - Onboard Occupancy & Daylight

CONNECTED CONTROLS [28]
LU- Lutron
EN - Enlighted
ENC - Encelium
WL - Cooper Wavelinx
AN - Acuity nLight
CA - Casambi
LG - Legrand

NA - None

[23] Standalone and connected control options cannot be combined.
[24] Available with D1 driver and 1 circuit options only.
[25] Minimum 4' per zone. Provide control zone length.
[26] Fixture turns off when no occupancy.
[27] Fixture dims to specified light level % (X).
[28] Consult factory for connected controls.

FU120 - Fuse 120V
FU277 - Fuse 277V
FWC - Flexible whip cable (6' std)
CP - Chicago Plenum
NA - None

TECHZONE™ & USG Compatible with 6" ceiling

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bios PoE

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** VIA5RPAT D HLO FH SW 90 500 35 60FT (6X24X6X24 RECTANGLE SHAPE) 120 D1 1C NA TB(X) NA W NA NA Notes:	**Type:** **L10E** LGNW23-97480

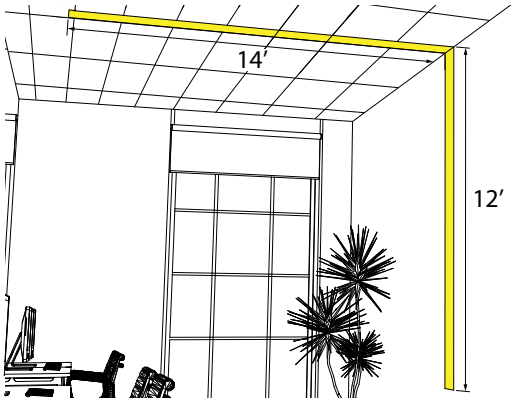
VIA 5 RECESSED PATTERN

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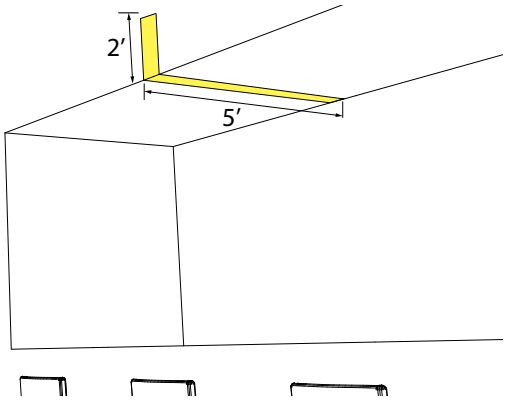
DIRECT

STATIC WHITE, BIOS ST/DY

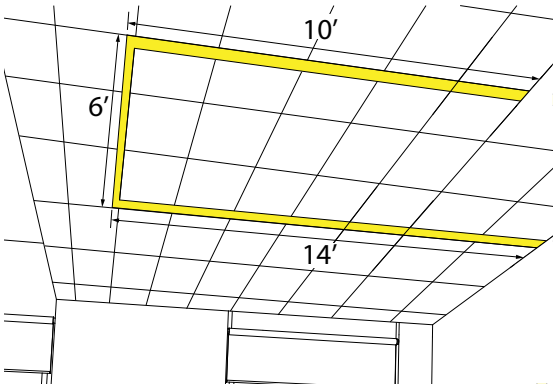
Pattern



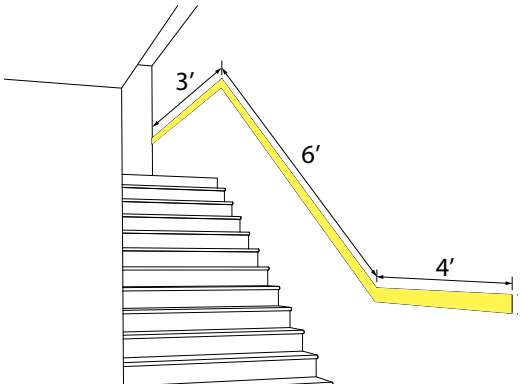
Grid to Drywall - 26FT - INN - 90(1)



Drywall - 7FT - OUT - 90(1)



Grid - 30FT - LEV - 90(2)



Drywall - 13FT - LEV - 150(1) - 300(1)

HOW TO SPECIFY A PATTERN?

Please follow these steps when specifying in order to be as precise as possible.
(1) We require a drawing illustrating the pattern you are trying to achieve - anything from a simple line drawing to elaborate architectural drawings will suffice.
(2) Under TOTAL PATTERN LENGTH, enter the overall length of your pattern - either in feet or inches.
(3) Under CORNER TYPE, please enter the type (or types) of corner you require. If more than one type of corner is required, please separate types with a plus (+).
(4) Under CORNER DEGREE, please enter the angle in degrees of each corner required to complete your pattern, followed by the number of corners.

PATTERN LENGTH	CORNER TYPE	CORNER DEGREE
#FT#IN [16] - Specify nominal length (**#**) in 1' and/or 1" increments Continuous runs: lengths over 12'	**INN** - Inner corner **OUT** - Outer corner **LEV** - Leveled corner	**90(#)** - 90 degrees, specify number of corners (#) **#(#)** [1] - Custom degree, specify the angle degree #, followed by the number of corners (#) [1] Minimum angle is 45°.

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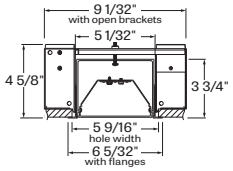
DIRECT

STATIC WHITE, BIOS ST/DY

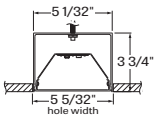
Dimensions

DRYWALL

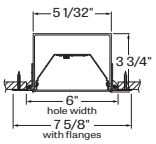
DTR - Drywall Trim



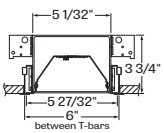
DTL - Drywall Trimless

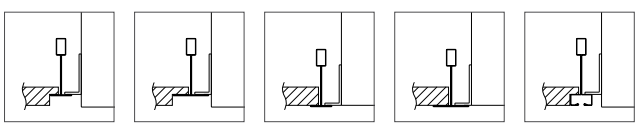


DMF - Drywall Mud Flange



GRID





TG9
Tegular 9/16"

TG15
Tegular 15/16"

TB9
T-bar 9/16"

TB15
T-bar 15/16"

ST
Screw slot T-bar

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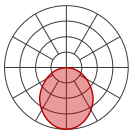
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Photometrics

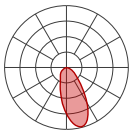
Delivered lumens at 35K at 80 CRI for all optics.

HLO (Flush Lens)



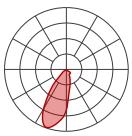
LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	10.6	132
500	2000	15.5	129
750	3000	23.9	126
1000	4000	32.7	122
1200	4800	40.3	119
1500	6000	51.9	116

ARO2



LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	12.1	116
500	2000	17.7	113
750	3000	27.9	107
1000	4000	39.0	103
1200	4800	48.3	99

WRO2



LM/FT	TOTAL LM/4FT	INPUT WATTS	LPW
350	1400	12.1	116
500	2000	17.8	112
750	3000	28.0	107
1000	4000	39.1	102
1200	4800	48.5	99

MULTIPLIER TABLES

Use these tables to get results for different color temperatures, CRI, and drop lenses.

Multiplier - CCT/CRI

CCT (K)	WATTS		LPW	
	CRI 80	CRI 90	CRI 80	CRI 90
2700	1.05	1.26	0.95	0.79
3000	1.01	1.23	0.99	0.81
3500	1.00	1.20	1.00	0.84
4000	1.00	1.17	1.00	0.85

Multiplier - Drop Lens

DIRECT LENS	WATTS	LPW
Flush Lens	1.00	1.00
Drop Lens 1.0"	0.88	1.12

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Technical Specifications

OPTICS

High-Efficiency Lambertian Optic (HLO)
The High-Efficiency Lambertian Optic (HLO) uses matte white reflectors to distribute LED output across 0.075" acrylic shielding, providing up to 88% transmission and good obscuration. Available as a flush lens or as a drop lens, the HLO has a spacing criterion of 1.22.

Asymmetric Refractive Optic (ARO2)
The Asymmetric Refractive Optic (ARO2) uses a sophisticated reflector combined with a matte beam-shaping film to create a smooth, effective downward light component without shadows or hot spots. It provides directional Gaussian light distribution with peak intensity at 20° above nadir and a 55° Full Width at Half Maximum (FWHM) beam angle. Microstructure material applied to the snap-in lens provides the precise refractive power and visual comfort, while achieving high luminous efficacy.

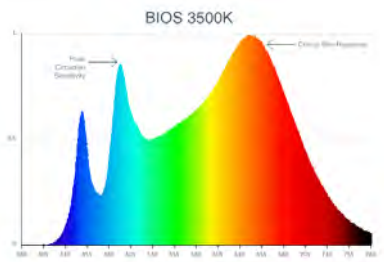
Wall Wash Refractive Optic (WRO2)
The Wall Wash Refractive Optic (WRO2) delivers smooth vertical illumination with a gentle gradient and soft visual cut-off. Its exacting configuration creates a strong downward light component without shadows or hot spots and provides light distribution with peak intensity at 21° above nadir. Microstructure material applied to the snap-in lens provides the precise refractive power and visual comfort, while achieving a high luminous efficacy.

LIGHT SOURCE

Custom linear array of mid-flux LEDs are cartridge-mounted with quick-connect wiring to facilitate service and thermal management. Available in 2700K, 3000K, 3500K and 4000K with a minimum 80 CRI and an option for 90 CRI with elevated R9 value. Color consistency maintained to within 3 SDCM. LEDs operate at reduced drive current to optimize efficacy and lumen maintenance. All LEDs have been tested in accordance with IESNA LM-80-08 and the results have shown L80 lumen maintenance greater than 60,000 hours. Absolute product photometry is measured and presented in accordance with IESNA LM-79, unless otherwise indicated.

bios ILLUMINATED

BIOS SkyBlue™ Technology is designed to provide the specific circadian stimulus to improve overall sleep quality, recovery during the night, and overall feelings of well-being.
The non-visual light signals that stimulate our circadian system have peak intensity in the "sky blue" region. As the diagram below illustrates, BIOS SkyBlue technology shifts the peak LED spectral intensity (490 nm) to align better with the peak response of circadian stimulus. Also note the enhanced deep-red (near 660 nm) spectrum.



PATTERN LENGTH

All individual sections are joined together onsite using the joiner kits provided. Lumenwerx offers joiner kits that are extremely simple to work with in the field and result in a fixture that appears virtually seamless with no light leak at any connection.

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ELECTRICAL

Factory-set, adjustable output current LED driver with universal (120-277VAC) input. Dimmable from 100% to 1% with 0-10V dimming control. Rated life (90% survivorship) of 50,000 hours at 50°C max. ambient (and 70°C max. case) temperature. At maximum driver load: Efficiency>84%, PF>0.9, THD<20%. Other specifiable options include Lutron Hi-Lume 1% (specify 2-wire, or Ecosystem Dim-to-Off), eldoLED 1% ECOdrive 0-10V, eldoLED 0.1% SOLOdrive 0-10V, and DALI protocol drivers. All of our standard 0-10V drivers are NEMA 410 compliant.

PoE
Depending on the PoE manufacturer selected, Lumenwerx will install the node in factory as either integral to the luminaire or as a remote module. Factory programming of the PoE node may or may not enable the following functionalities: lumen package, Duo (tunable white), Quadro (RGBW) emergency battery backup, and sensor integration. These must be addressed and evaluated on a case-by-case basis.

ELECTRICAL SECTION OPTIONS

Electrical section options are available for fixtures specified as multi circuit (#MC). With MC, specify the total number of circuits (#), including any circuits required for optional electrical sections. A drawing is required to specify the layout. Please consult factory for custom configurations.

Electrical sections
Options include emergency-powered (#EC##), night light (#NL##), daylight (#DL##), and generator transfer device (#GTD##) sections. Specify the quantity (#), as well as the section length in inches (##).

Example 1: A 32' Direct fixture with two 8' emergency-powered sections on a second circuit.
Code: 2MC-2EC96

Example 2: A 24' Direct fixture with one 4' generator transfer device section.
Code: 1MC-1GTD48

Battery
Each emergency battery (#EMB) powers a 4' section. All batteries will be on the same circuit. Specify the number of batteries (#) required.
Factory installed long life, high temperature, maintenance-free Lithium-Ion battery pack with self-test functionality, test switch and charge indicator. Minimum of 90 minutes operation, up to 1000 lumens per 4' (25°C) emergency lighting output and recharge time of 24 hours.

MOUNTING OPTIONS

Recessed fixtures can be mounted into exposed or concealed T-bar or tegular ceiling, as well as in drywall ceilings with trim, trimless, or mud flange options. Via 5 is compatible with 6" Armstrong Techzone™ & USG ceilings.

FINISH

Interior - 95%, reflective matte powder coated white paint
Exterior - Matte white or matte black powder coating. Custom finishes are also available.

CONTROLS

Lumenwerx offers several options for integrating occupancy and daylight harvesting controls in our luminaires.
For latest information on sensors, click here.

STANDALONE CONTROLS
An integrated standalone sensor controls the luminaire in which it is installed. Depending on the length, more than one sensor may be necessary and may control the entire luminaire, or just a section of it. These controls operate independently. Unless otherwise agreed, sensor location, blank size, and functionality of the sensor within the luminaire are selected by Lumenwerx. See client drawings for details.
Three types are available:

OMS: An integral Passive InfraRed (PIR) sensor turns luminaires on and off automatically with field-adjustable time out period. No wall control is used. Coverage pattern for large motion has a 12' diameter with the sensor mounted 8' above the floor; for small motion, the pattern has an 8' diameter. Typically, one sensor is required for every 10' of a continuous luminaire run.

ODS: An integral, daylight harvesting sensor with closed-loop operation dims the luminaire in which it is installed in order to compensate for available daylight. The sensor measures the combination of daylight and luminaire light reflected from horizontal surfaces below the luminaire. Initial onsite calibration is required via the use of provided remote control.

OCS: Both an occupancy and a daylight sensor are installed in the luminaire.

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CONNECTED CONTROLS
With connected controls, sensors or nodes installed in the luminaire form part of a larger control system infrastructure from manufacturers such as: Lutron, Enlighted, Encelium, Cooper Wavelinx, Acuity nLight, Casambi, Legrand, and others. These connected controls allow for a scalable system providing features like occupancy and daylight control, manual control, scheduling and configuration of various zones and scenes. Energy reporting and system monitoring are also possible. Specific capabilities depend on the control system being used.

Lumenwerx installs the components (sensors, nodes, power packs, etc) which may be supplied to us by a third party, or procured directly by Lumenwerx, depending on the control system manufacturer.

Lumenwerx is solely responsible for the installation of specified components; the controls manufacturer is responsible for performance of the control system.

To indicate a Lumenwerx luminaire with connected controls, identify the specific onsite control system to be integrated into the luminaires using the ordering code. Due to the diversity of components, you must contact factory to assure complete compatibility with intended control system and to fully specify the luminaire.

Complete control specifications, sensor/node/power pack layout, and narrative for the control system are required for Lumenwerx to create shop drawings and submittals.

CONSTRUCTION

Housing - Extruded aluminum, up to 90% recycled content
Interior brackets - Die formed cold rolled sheet steel
Joining system - Die cast zinc
Reflectors - Cold rolled steel die-formed, 95% reflective matte white painted
Lens - Acrylic or polycarbonate
Drop lens - Extruded with glued end caps
Mud flange - Extruded aluminum, up to 90% recycled content
Slip-through bracket - Die formed galvanized sheet
End plate - Die formed cold rolled sheet steel

CERTIFICATIONS

ETL - Rated for Indoor Dry/Damp locations. Conforms to UL Standard 1598 and certified to CAN/CSA Standard C22.2 No. 250.0.
Chicago plenum - City of Chicago Approved (CCEA)
IC rated - Suitable for direct contact with insulation.

WARRANTY

Lumenwerx provides a five-year limited warranty of electrical and mechanical performance of the luminaires, including the LED boards, drivers, and auxiliary electronics. Lumenwerx will repair or replace defective luminaires or components at our discretion, provided they have been installed and operated in accordance with our specifications. Other limitations apply, please refer to the full warranty on our website.

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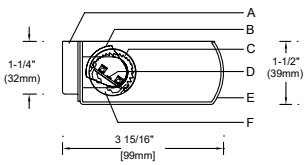
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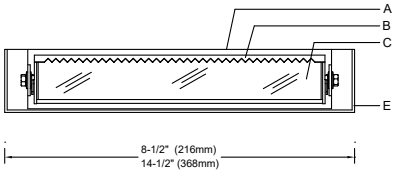
Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** S415 LO56 C XX M 00 0 830 ZX Notes:	**Type:** **L11** LGNW23-97480

Lighting the Ceiling Xtra Small Ensconce Solid State (LED) Ensconce® Styles S414 & S415

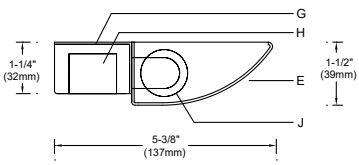
S414 - End View 1:3 Scale



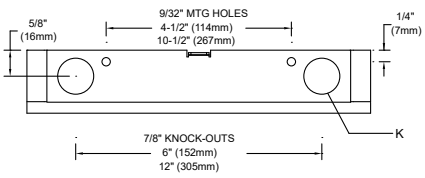
S414 - Front View 1:4 Scale



S415 - End View 1:3 Scale



S415 - Rear View 1:3 Scale





Specifications

A Formed aluminum wall plate
B Optional adjustable backsplash shield
C Extruded semi-diffuse asymmetric lens
D Aluminum core LED board
E Formed steel enclosure (aluminum for MRI)
F Extruded aluminum heat sink
G Formed aluminum driver box and cover Visor
H High power factor electronic LED driver
J Adjustable and lockable optical assembly
K 7/8" dia. knock-outs (S415 only)

Housing and Optic Assembly:
Extruded aluminum heat sink. Exterior heat sink anodized for maximum emissivity. Precision extruded polymer refractive lens with optimal diffusion. Aluminum core LED board with high efficiency dual-die midpower LEDs.

Finish:
Anodized extruded aluminum heat sink, aluminum reveal plates, cold rolled steel sconce enclosure finished semi-gloss white (or specified color).

Painted surfaces – 6 stage pretreatment and electrostatically applied thermoset polyester powder coating for a durable abrasion, fade and corrosion resistant finish.

All hardware – stainless steel.

Mounting:
Aluminum mounting plate mounts to wall (fasteners by others).

Yoke arms support optical assembly allowing aiming to maximize ceiling uniformity.

Electrical:
S414 furnished with 7 foot (2438mm) leads for connection to remote driver. Remote electronic HPF thermally protected Class II driver mounted in aluminum enclosure.

See **MA-1357** for additional information.

S415 provided with integral HPF electronic driver. (2) 7/8" knock-outs in rear allow for feed-through wiring.

Optional dimming drivers available, compatible dimming controls (by others). See **MA-1303** for dimming compatibility.

Standard:
CSA certified for dry locations. 5 year warranty,maximum ambient temperature 45°C (113°F).

rgbw

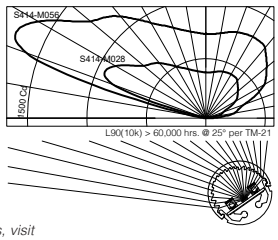
Features

- *Crisp geometric sconce enclosures compliment any space - or design your own housing*
- *Fully adjustable and lockable aiming*
- *Optional adjustable sawtooth backsplash shield to minimum back light*
- *Style S414 is ADA compliant*

SC 30.0

Performance

Precisely extruded acrylic lens produces an asytmmetric distribution ideal for illuminating vertical surfaces evenly from top to bottom.



For LM79 and photometric reports, visit **thelightingquotient.com**

elliptipar

8/21

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** S415 LO56 C XX M 00 0 830 ZX Notes:	**Type:** **L11** LGNW23-97480

Ensconce® Styles S414 & S415

Project:

Type:

To form a Catalog Number

S 4 1 - _ _ _ _ - _ - _ _ - _ - _ _ - _ - _ _ - _ _

1 2 3 4 5 6 7 8 9

1 Style

S414 = Xtra small Ensconce® wall mount LED **Remote** driver

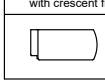
S415 = Xtra small Ensconce® wall mount LED **Integral** driver

2 Length / Light Output / Power

ORDER CODE	LENGTH	LUMENS	INPUT WATTS	NUMBER OF LEDS	DRIVE CURRENT
L028	8.5"	858	8W	28	175mA
M028	8.5"	1660	16W	28	350mA
L056	14.5"	1762	16W	56	175mA
M056	14.5"	3409	32W	56	350mA

Based on 3500K/80+ CRI. **Click here** for scaled performance table.

3 Enclosure Style

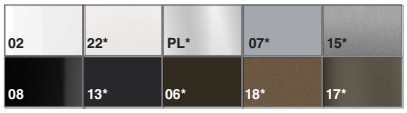
A = Rectangular with crescent front	**C** = Curved scoop	**J** = Tapered front with round edges
		

Additional designs or custom designs available. Consult factory.

SC 30.1

4 Finish

02 = Semigloss white
06 = Dark bronze*
07 = Silver*
08 = Semigloss black
13 = Matte Black
15 = Metallic
17 = Champagne*
18 = Copper*
22 = Matte White
PL = Platinum
99 = Custom or RAL, consult rep.*



* = non-cancellable/returnable

5 Voltage

M = 120-277V Universal voltage input

K = 347V input

6 Option

00 = No options

0S = Backsplash shield (adjustable)

0M = For use in medical MRI facility - remote driver only. MRI filters (by others) required on output of each remote driver. Consult factory prior to specification.

7 Destination Requirement

0 = UL listed or CSA certified for U.S.

J = UL listed or CSA certified for Canada

8 Color Temperature / CRI

827 = 2700K, 80+ CRI
830 = 3000K, 80+ CRI
835 = 3500K, 80+ CRI
840 = 4000K, 80+ CRI
927 = 2700K, 90+ CRI
930 = 3000K, 90+ CRI
935 = 3500K, 90+ CRI
940 = 4000K, 90+ CRI

Note: Additional CCT and CRI options are available; consult factory.

RGBW - Consult factory.

9 Dimming**

Integral (S415) or Remote (S414) Driver Options

00 = Non-dimming

TD = ERP Tri-Dim forward phase, reverse phase (120V) or 0-10V dimming (120-277V), 100-10% power on forward/ reverse phase, 100%-1% on 0-10V, compatible controls by others

ZX = 0-10V analog dimming 120-277V input, dimming range 100%-1%, 0-10V controls by others

Remote (S414) Driver Options

EL = eldoLED SOLOdrive 0-10V analog dimming, dimming range 100%-0.1%, 0-10V controls by others.

ED = eldoLED SOLOdrive, DALI dimming, dimming range 100%-0.1%, DALI controls by others.

L2 = Lutron Hi-lume LTE 120V input only, dimming range 100%-1%, compatible 2-wire dimming controls by others (see note*)

**Dimming range refers to % power input, % light output will vary.

Example

S415-M028-A-02-M-00-0-935-TD

S414 Xtra-small wall mounted LED Ensconce, 14" long, 350mA driver, "A" style shroud finish semi-gloss white, 120-277V electronic dimming driver dims to 1% on 0-10V controls by others, CSA certified for U.S., 3500K, 90+CRI.

Accessories

AXC0810 = Accessory extension cord, black jacket. 18AWG, 10' long with plug and socket quick connectors at each end.

AXC0899 = Accessory plug and socket quick connectors for use with #18/2 AWG solid or topcoat wire by others to extend remote driver distance.

8/21

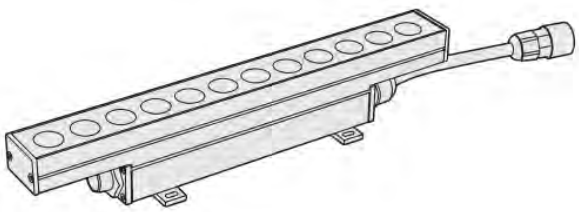
elliptipar *from* **The Lighting Quotient**
114 Boston Post Road, West Haven, Connecticut 06516, USA
Voice 203.931.4455 • Fax 203.931.4464 • **thelightingquotient.com**

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Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** AGD 2 4 1 D D H Notes:	**Type:** **L12** LGNW23-97480

AL Graze DC DMX

ACCLAIM LIGHTING



Client:	
Project:	
Type:	
Order Code:	
Quantity:	

The **AL Graze DC DMX** is a mid-range output, low profile, outdoor linear LED fixture.
Available in 1' and 4' sections, it offers multiple configurations, including RGB, RGBW, and Dynamic White.
Featuring a robust IP66 housing, on-board DMX driver with RDM addressing, and linkable cable system, it is the perfect option for any structure that calls for indoor or outdoor linear grazing.

Specifications

Color	RGB, RGBW, RGBA, Dynamic White (2200K-5000K), 2700K, 3000K, 3500K, 4000K
Beam Angle	10º x 60º, 30º x 60º, 15º x 15º, 60º x 60º
Max Fixtures In Series	12'
Total Lumens	419 per foot (4000K, 30º x 60º)
Control	DMX + RDM
Mounting	30º Swivel Mount and Fixed Flat Mount Included
Power Consumption	9W (1'), 36W (4')
Operating Voltage	24VDC
Lumen Maintenance	L70 @ 150,000 Hours (25º C)
Finish	Anodized Brushed Aluminum
Housing Material	Aluminum; Glass Top Lens
Operating Temperature	-4°F to 123°F (-20°C to 50°C)
IP Rating	IP66, Wet or Dry Location
Fixture Connectors	Multipin IP66 Connectors, End to end jumpers attached to each fixture
Warranty	5 Years
Weight	1.25 lbs. / 0.6 kg (1'), 5 lbs / 2.3 kg (4')
Dimensions	L: 12" / 48" W: 1.5" H: 2.3" (L: 305mm / 1220mm W: 38mm H: 59mm)
Certifications	C ETL US CE

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** AGD 2 4 1 D D H Notes:	**Type:** **L12** LGNW23-97480

AL Graze DC DMX

ACCLAIM LIGHTING

Order Codes

* Indicates Special Order

Model	Control	Housing Color	Lens Cover	Length	Beam	Color	Input voltage
AGD	- 2	4	1	- #	#	#	N

Control: 2 = DMX

Housing Color: 4 = Aluminum

Lens Cover: 1 = Clear

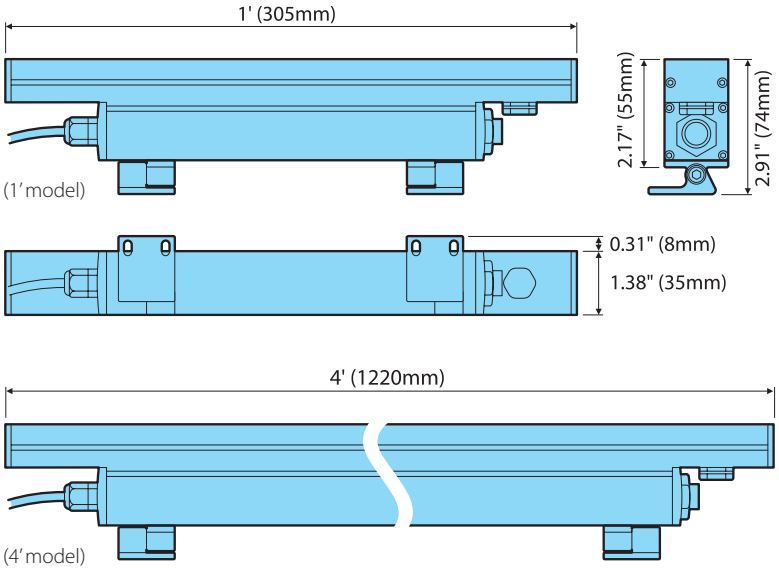
Length:
A = 1'
D = 4'

Beam:
D = 15° x 15°*
K = 60° x 60°*
P = 10 x 60°
Q = 30 x 60°

Color:
A = 2700K*
B = 3000K*
D = 3500K*
E = 4000K*
H = RGB
L = RGBW (W=4000K)
J = RGBA
M = Dynamic White (2200K-5000K)

Input Voltage:
N = Normal (24VDC)

Dimensions



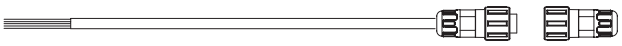
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AL Graze DC DMX

ACCLAIM LIGHTING

Related Components

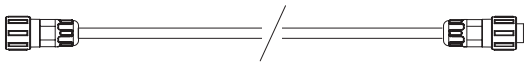
Connection Cables



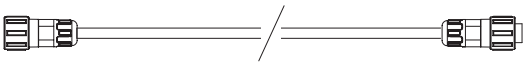
AGDFC10-V2
10' Feed Cable For AL Graze DC DMX + End Cap
Powers up to 12'



AGDLC1-V2
1' Link Cable for AL Graze DC DMX



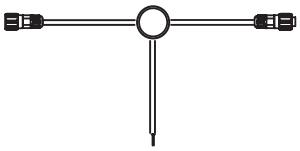
AGDLC5-V2
5' Link Cable for AL Graze DC DMX



AGDLC10-V2
10' Link Cable for AL Graze DC DMX

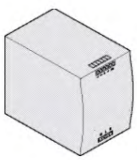


AGDEC-V2
End Cap for AL Graze DC DMX



AGDT1-V2
1' DMX "T" Jumper for AL Graze DC DMX

Power Supplies



APS-240-24
Powers 2 x 12' Runs
240W, 24VDC, Dry location, DIN Rail Mount
115-230VAC (47-63Hz) Input



APS-480-24
Powers 4 x 12' Runs
480W, 24VDC, Dry location, DIN Rail Mount
115-230VAC (47-63Hz) Input

Glare Shields



AGS1
12" Single Sided Glare Shield for AL Graze DC



AGS4
48" Single Sided Glare Shield for AL Graze DC

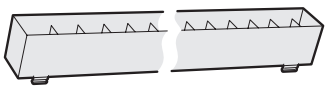
Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** AGD 2 4 1 D D H Notes:	**Type:** **L12** LGNW23-97480

AL Graze DC DMX

ACCLAIM LIGHTING

Related Components (Con't)

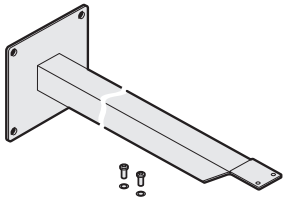
Louvers



AGLV12
12" Louver for AL Graze DC DMX

AGLV48
48" Louver for AL Graze DC DMX

Extender Bars



AGEB12
12" Extender Bar for AL Graze DC DMX

AGEB24
24" Extender Bar for AL Graze DC DMX

Mounting Accessories

AG90
90 Degree Mounting Bracket for AL Graze DC DMX

Fixture Setup Accessories



XMT350
DMX + RDM Addressing and Testing Tool

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** AGD 2 4 1 D D H Notes:	**Type:** **L12** LGNW23-97480

AL Graze DC DMX

ACCLAIM LIGHTING

Photometrics

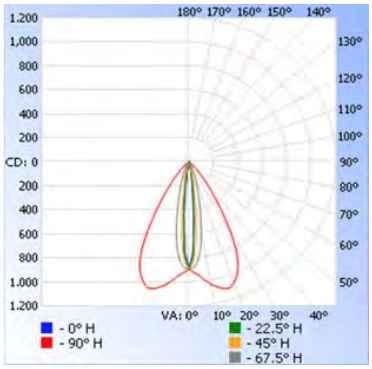
For additional color data and IES files, please visit acclaimlighting.com

RGB 10º x 60º 1'

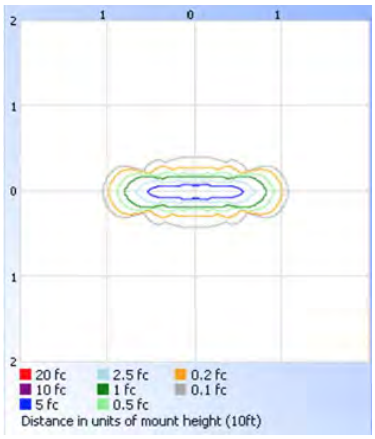
Zonal Lumen Summary

Zone	Lumens	%
0-60	233.9	99.2
60-90	1.8	0.7
90-180	0.1	0.0
Total	**235.7**	**100**

Polar Candela Distribution



Isofootcandle Plot

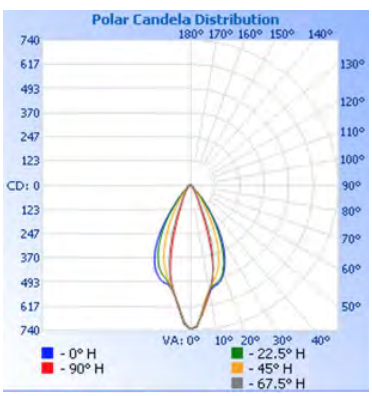


4000K 30º x 60º 1'

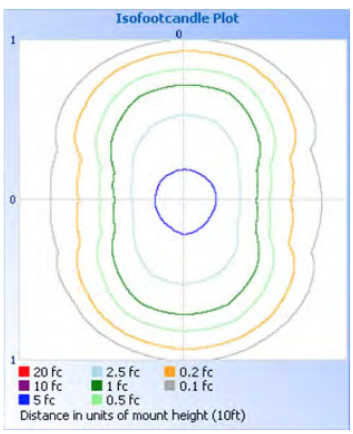
Zonal Lumen Summary

Zone	Lumens	%
0-60	404.7	98.8
60-90	5.0	1.2
90-180	0.0	0.0
Total	**419.7**	**100**

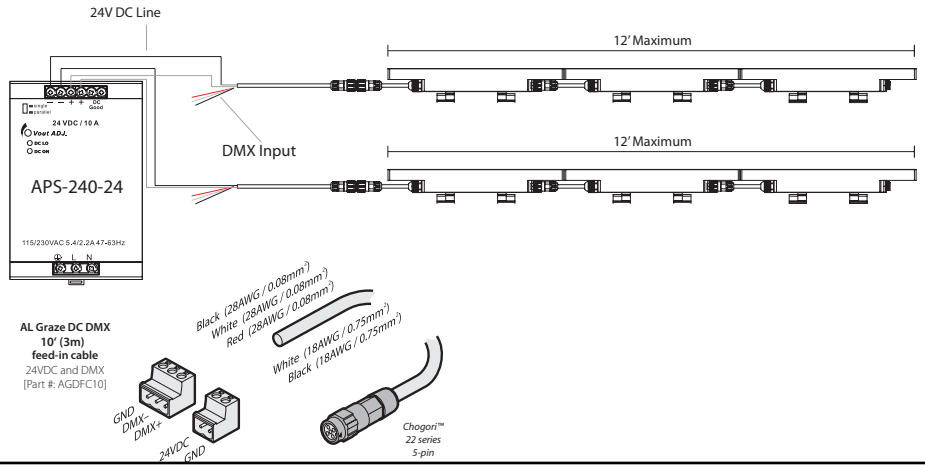
Polar Candela Distribution



Isofootcandle Plot



Wiring



Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** HLF501 10 650LMF ARTC RGBW MVOLT 15X30 FCA XXX DMX FINISH Notes:	**Type:** **L12/ALT** LGNW23-97480

HYDREL

CATALOG NUMBER

NOTES

TYPE



Specifications

Model	Length	Weight
HLF501	25 - 1/8" (639mm)	7.5 lbs (3.40kg)
	37" (941mm)	11 lbs (4.98kg)
	48 - 7/8" (1242mm)	13 lbs (5.90kg)

HLF501

Linear Flood

Dynamic Color RGBW

HIGHLIGHTS

- Surface mount luminaire designed to graze or wash architectural features or facades with theatrical lighting
- One-piece extruded aluminum housing lending both high quality and longevity.
- IP66 rated per IEC60598
- Available in 2ft, 3ft, or 4ft lengths with wide open distribution, placing the light where it is required.
- DMX controllable with Remote Device Management (RDM) capability
- 3G vibration rated per ANSI C136.31

5 YEAR warranty

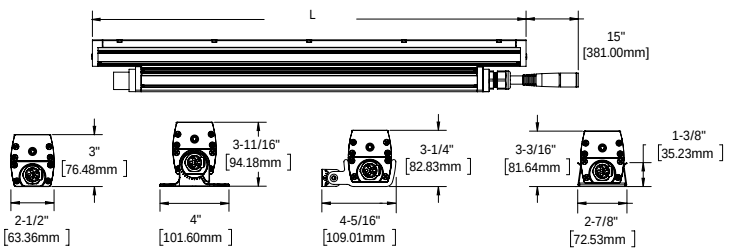
LED

ARCHITAINMENT COLOR

66 IP RATED

BAA

DIMENSIONS



No Mount (Shown for size reference only)

H500ADJC1 Mount

H500ADJH2 Mount

H500FMC Mount

LUMEN PACKAGES

	9x9	10x60	15x30	30x60	40x60	60x60	WWD
Delivered Lumens	2087	2090	2621	2681	2483	2657	2092
Watts	37.7	37.7	29.91	29.91	29.91	29.91	29.91
LPW	55	55	88	90	83	89	70

Information based on 4FT, 650 LMF

MAINSTREAM DYNAMIC BY ACUITY BRANDS

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Phone: 800-705-SERV (7378) • www.hydrel.com

ORDERING INFORMATION

EXAMPLE: HLF501 LCB 2FT MSL2 650LMF ARTC RGBW MVOLT 9x9DEG FCA H500ADJH2 CWM6 HVSR DARK FCCSL100D DMX BKT

Series*	Linear Plan*	Total Run Length*	Maximum Fixture Length*	LED Output*	Dynamic Feature*
HLF501 Hydrel Linear Flood	**LCB** Linear Center Balance **LLP** Linear Longest Possible **LSL** Linear Same Length	**#FT** 10 Total Run Length offered in 1FT increments starting at 2FT. *See page 5 for maximum run lengths*	**MSL2** 2FT Section Length **MSL3** 3FT Section Length **MSL4** 4FT Section Length	**650LMF** 650 Nominal Lumens Per Foot **750LMF** 750 Nominal Lumens Per Foot	**ARTC** Architainment Color

SPECIFY

Color Temperature*	Voltage*	Distribution*	Lens*	Mounting*
RGBW Dynamic Color Red Green Blue + White	**MVOLT** 120V-277V	**9X9DEG** 9 x 9 Degrees **10X60DEG** 10 x 60 Degrees **15X30DEG** 15 x 30 Degrees **30X60DEG** 30 x 60 Degrees **40X60DEG** 40 x 60 Degrees **60X60DEG** 60 x 60 Degrees **WWD** Wall Wash (Asymmetric) **WWD option supplied with a snap-on visor	**FCA** Frosted Clear Acrylic **CAL** Clear Acrylic Lens	**H500ADJC1** Adjustable Mount Center Axis **H500ADJH2** Adjustable Mount Side Hinge **H500FMC** Fixed Mount

SPECIFY SPECIFY SPECIFY SPECIFY

Mounting Accessories **Optional**	Extra Shielding **Optional**	Dimming*	Cord Set Length*	Control Input*	Finish*
CWM6 Cantilever Wall Mount 6" Projection **CWM12** Cantilever Wall Mount 12" Projection **CWM18** Cantilever Wall Mount 18" Projection **CWML6** Cantilever Wall Mount Large 6" Projection **CWML12** Cantilever Wall Mount Large 12" Projection **CWML18** Cantilever Wall Mount Large 18" Projection Note: Must have 500ADJH2 mounting selected	**HBFL** Baffle Linear Surface (Matte Black Finish) **HVSR** Glare Visor Linear Surface (Finish to match housing)	**DARK** Constanet Current, Dimming to <1%	**FCCSL100D** 100FT Feed Cable Wet Location with DMX Plug **FCCSL10D** 10FT Feed Cable Wet Location with DMX Plug **FCCSL25D** 25FT Feed Cable Wet Location DMX Plug **FCCSL50D** 50FT Feed Cable Wet Location DMX Plug **NOFCL** No Power Feed Cable	**DMX** DMX	**BKT** Black Textured Paint **SIT** Silver Textured Paint **WHT** White Textured Paint **CF** Custom Painted Finish **RALTBD** RAL Paint Finish RALTBD for pricing only, replace with applicable RAL call out when ready to order. See the Architectural RAL Color brochure for available options.

Note: * is a required field

Accessories

Controller (Fresco Control System)	See page 6-8
Controller (Easyl™ Solo / Touch / Pro)	See page 6-8
DMX-Power Integrator (required for installation)	See page 6-8
Feed Cable (required for installation)	See page 6-8
Jumper Cable	See page 6-8
Liquid-Tight Cord Grip	See page 6-8
Glare Visor	See page 6-8
Baffle	See page 6-8
Brackets	See page 6-8

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PERFORMANCE DATA

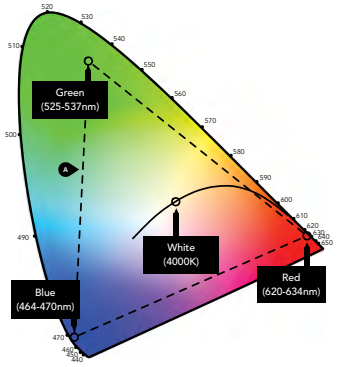
Lumens Per Foot	Fixture Length	Distribution	Delivered Lumens	Input Watts	Lumen/ Watt	Delivered Lumens Per Foot	Input Watts Per Foot
650	2FT	9x9	1165	22.9	51	583	11.45
	2FT	10x60	1167	22.9	51	584	11.45
	2FT	15x30	1237	16.04	77	619	8.02
	2FT	30x60	1264	16.04	79	632	8.02
	2FT	40x60	1171	16.04	73	586	8.02
	2FT	60x60	1253	16.04	78	627	8.02
	2FT	WWD	987	16.04	62	494	8.02
	3FT	9x9	1648	32.99	50	549	11.00
	3FT	10x60	1651	32.99	50	550	11.00
	3FT	15x30	1927	22.72	85	642	7.57
	3FT	30x60	1970	22.72	87	657	7.57
	3FT	40x60	1825	22.72	80	608	7.57
	3FT	60x60	1953	22.72	86	651	7.57
	3FT	WWD	1538	22.72	68	513	7.57
	4FT	9x9	2087	37.7	55	522	9.43
	4FT	10x60	2090	37.7	55	523	9.43
	4FT	15x30	2621	29.91	88	655	7.48
	4FT	30x60	2681	29.91	90	670	7.48
	4FT	40x60	2483	29.91	83	621	7.48
	4FT	60x60	2657	29.91	89	664	7.48
	4FT	WWD	2092	29.91	70	523	7.48

Lumens Per Foot	Fixture Length	Distribution	Delivered Lumens	Input Watts	Lumen/ Watt	Delivered Lumens Per Foot	Input Watts Per Foot
750	2FT	9x9	1354	28.8	47	677	14.40
	2FT	10x60	1356	28.8	47	678	14.40
	2FT	15x30	1475	19.19	77	738	9.60
	2FT	30x60	1508	19.19	79	754	9.60
	2FT	40x60	1397	19.19	73	699	9.60
	2FT	60x60	1495	19.19	78	748	9.60
	2FT	WWD	1177	19.19	61	589	9.60
	3FT	9x9	1914	41.49	46	638	13.83
	3FT	10x60	1917	41.49	46	639	13.83
	3FT	15x30	2298	27.19	85	766	9.06
	3FT	30x60	2350	27.19	86	783	9.06
	3FT	40x60	2177	27.19	80	726	9.06
	3FT	60x60	2330	27.19	86	777	9.06
	3FT	WWD	1835	27.19	67	612	9.06
	4FT	9x9	2424	47.42	51	606	11.86
	4FT	10x60	2428	47.42	51	607	11.86
	4FT	15x30	3127	35.78	87	782	8.95
	4FT	30x60	3197	35.78	89	799	8.95
	4FT	40x60	2962	35.78	83	741	8.95
	4FT	60x60	3170	35.78	89	793	8.95
	4FT	WWD	2496	35.78	70	624	8.95

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Actual performance may differ as a result of end-user environment and application. Contact factory for performance data on any configurations not shown here.

IES data is available at www.winonalighting.com. Refer to website for the latest IES file updates.

RGBW GAMUT AND RANGE



A *RGBW Range* within triangle formed by RGB

- The Gamut of a luminaire determines the potential color range, specifically the dominant wavelength of each primary color.
- The Path determines the range of colors the user can select for the luminaire.

ARCHITAINMENT COLOR GPHD
- **Gamut** Triangular
- **Path** Full RGB gamut
- **Handle** Four Handles: Red, Green, Blue, White
- **Data** DMX512/RDM

The RGBW Range reaches the full range of saturated colors and subtle pastels to create bold transformational effects.

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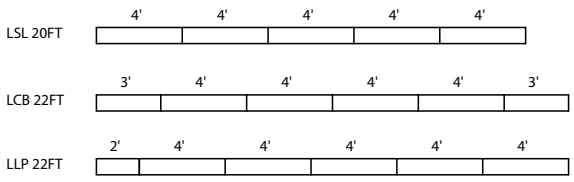
Linear Plan

Hydrel offers the ability to provide a continuous run plan to suit your requirements by optionally offering three methods of configuration.

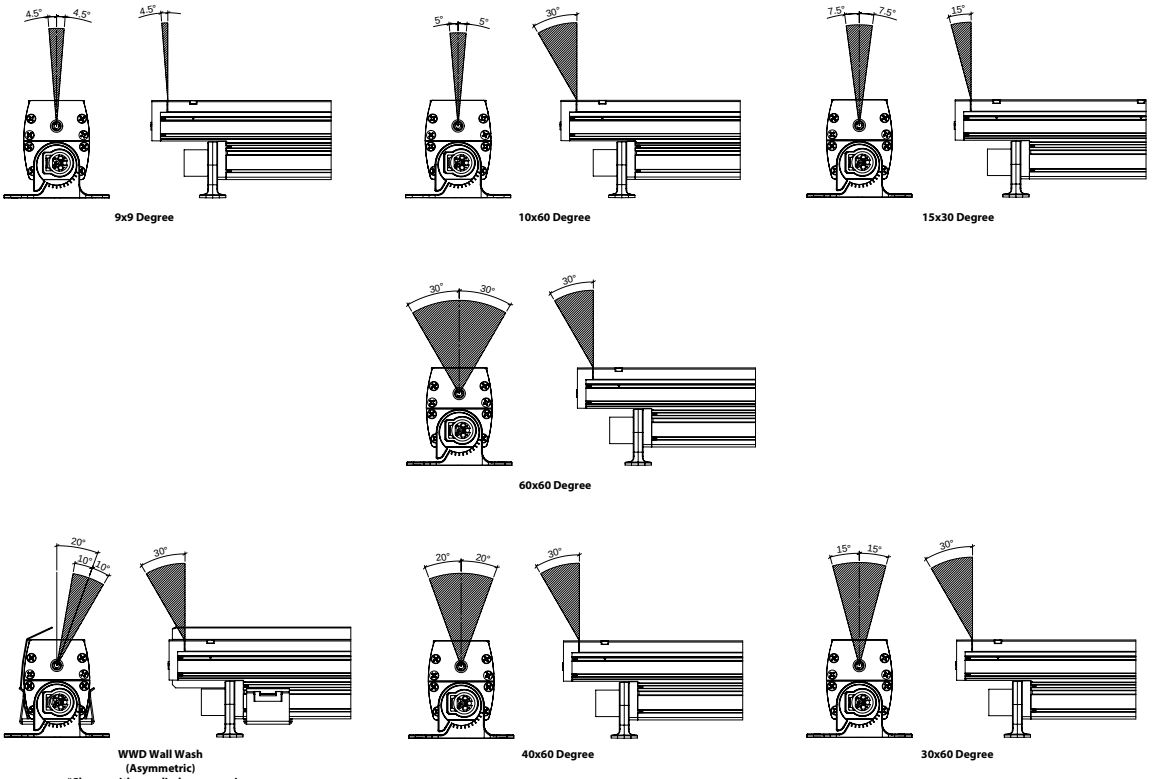
LSL Linear Same Length:
In this configuration each segment is the same length is standardized based on the longest length available and is the only option provided. Because it is dependent on one segment length there are mathematical limitations on what overall row lengths can be achieved. Example: 20FT row would be achieved with (5) 4FT long segments equaling 20FT (nominal).

LCB Linear Center Balanced:
This configuration incorporates the longest center segment(s) along with any additional lengths required to fill located at each end. Example: 22FT row would have (2) 3FT segments (one at each end) and (4) 4FT intermediate segments located in between.

LLP Linear Longest Possible:
In this plan the longest length available is optimized resulting in the fewest segments and mounting locations. Caution should be used where balanced appearance is a concern. Example: 22FT row would have (5) 4FT segments and (1) 2FT segment located at one end.



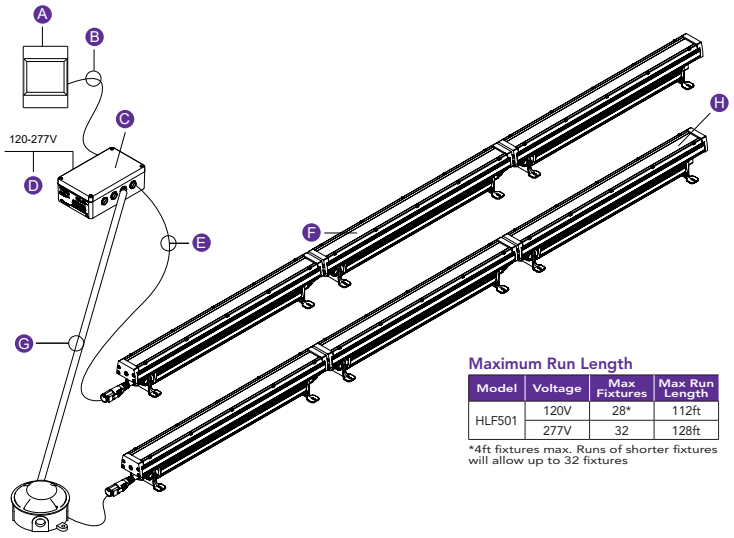
DISTRIBUTION



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BASIC SYSTEM WIRING INFORMATION

This very basic system wiring diagram provides an overview of components and materials required for a simple installation of HLF501 luminaires controlled by a DMX controller. These diagrams should not be used in place of actual installation instructions or submittal drawings prepared for a specific project.

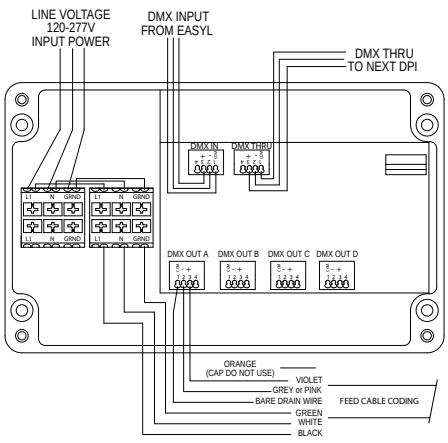


Maximum Run Length

Model	Voltage	Max Fixtures	Max Run Length
HLF501	120V	28*	112ft
	277V	32	128ft

*4ft fixtures max. Runs of shorter fixtures will allow up to 32 fixtures

Power & DMX Connection in DPI Box



A dynamic luminaire installation can be as simple as a single luminaire and one control to many different luminaires in multiple locations being triggered and manipulated in real time. Consulting with the factory at the beginning stages of the project will ensure the required equipment be specified and properly installed.

Note: For multiple runs and multiple DPI boxes, consult factory.

Note: No more than four DPI Boxes, in series, can be utilized between the DMX Controller and any luminaire.

A DMX controller providing one universe of DMX-512 control.

To supply a complete system RDM set-up and playback control solution, use:

Easyl
- Three versions available from entry-level to show creation using computer software
- Full color LCD touchscreen
- Recall colors, shows, and effects with one touch

Fresco
- Manage multiple light sources in multiple lighting zones, all from one controller
- On screen lighting design and set-up, no computer required or Ethernet connection for remote configuration and advanced control
- All device settings are stored on-board in non-volatile memory

B Belden 9829 cable is the preferred communication/ data cable used to carry the DMX signal to and from the DPI Box. The total length of this cable must not exceed 1000 feet from the DMX controller to the DPI Box. No luminaires should be installed between DMX Controller and any DPI Box.

C DPI box (Data Power Integration) is used to bundle DMX to line voltage and deliver them to the luminaire. This box provides necessary isolation between the DMX control and line voltage and is required for all HLF501 installations. The DPI box also serves as a 4-channel splitter enabling up to 128 fixtures to be controlled from a single DPI box. Refer to DPI Installation Sheet for dimensions and mounting details.

D 120V-277V input to DPI box. Metallic conduit and standard fittings are compatible as are multi-conductor cords provided they are appropriate to the mounting location.

E Feed cable connects junction box with first fixture in a run. 14 ga. conductors carry power, shielded 18 ga. conductors carry data. Input end is stripped for connection to the Junction or DPI box, output end includes a male or female plug for fixture connection. Also included with each feed cable is a termination/sealing cap for the end of each run. Contact factory for availability of custom feed cable lengths.

F A maximum of 32 luminaires can be connected to a single output channel of the DPI box. The maximum length of cord and luminaire run combined is 1000 feet per DMX/ RDM specification.

G Power and Data can be run to junction box locations in rigid conduit. Use Belden 9829 for data and copper wire per local code for power. Use appropriate fitting for combination cord.

H To ensure data integrity, a termination/sealing cap with 120 Ohm resistor is required at the last luminaire in each run. See installation instructions.

Easyl Controller



Fresco Control System



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ACCESSORY OPTIONS

Fresco Control System

Series		Model		Options		Finish	
FCS	Fresco Control System	7TSN	7" touchscreen with nLight port	(blank)	nlight only	DBL	Black
				X	DMX/RDM control	DWH	White
						DNA	Natural Aluminum



Refer to FRESCO spec sheet for additional details and options

Easyl™ LED Show Controller with LCD touchscreen (integral power supply)

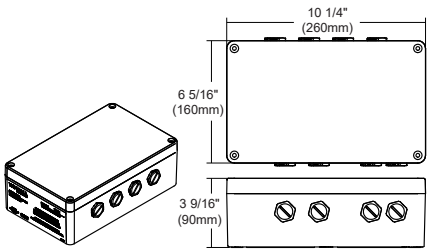
Series		Voltage		Finish	
EZSOLO	Easyl Solo	MVOLT	120V-277V VAC, 50/60 Hz	BK	Black
EZTOUCH	Easyl Touch			WH	White
EZPRO	Easyl Pro				



Refer to EASYL spec sheet for additional details and options

DMX / Power Integrator

Model	
DPI4WHYD	DPI4WHYD- DMX/POWER INTEGRATOR BOX



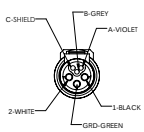
Integrates DMX signal & 120-277 line voltage onto a single cable. Exterior rated, up to 4 output feeds, Silver Textured Finish.

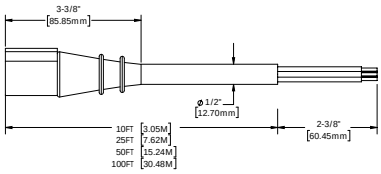
Environmental Information	
Storage Temperature	40°F - 185°F
Start-up Temperature	13°F - 122°F
Operating Temperature	13°F - 122°F
Ingress Protection Rating	IP65
Environment	Suitable for indoor and outdoor applications

Feed Cable, Right Feed (Female Plug), EXTERIOR (Linear)
***Minimum of one feed cable, left or right, required per installation**

Model	
FCCSL100D	100FT Feed Cable Wet Location with DMX Plug
FCCSL10D	10FT Feed Cable Wet Location with DMX Plug
FCCSL25D	25FT Feed Cable Wet Location DMX Plug
FCCSL50D	50FT Feed Cable Wet Location DMX Plug
NOFCL	No Power Feed Cable

Carries DMX signal and 120-277 line voltage power to right end of first fixture in run.
Supplied with termination/sealing cap.
Use one feed cable per run only.





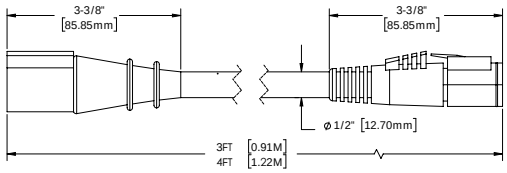
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ACCESSORY OPTIONS (CONTINUED)

Jumper Cable EXTERIOR (Linear) *Optional*

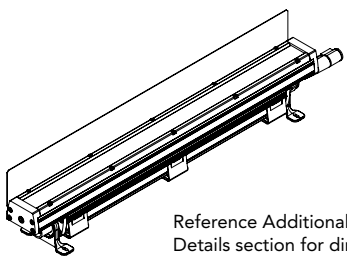
Model	
HJCLW3L	3FT Jumper Cable Exterior Location (Black)
HJCLW4L	4FT Jumper Cable Exterior Location (Black)

Standard fixture is supplied with 15" cable to connect fom one fixture to the other in a continous run application. If a larger gap between fixtures is required, an optional jumper cable can be ordered seperatley. Cable carries DMX or NON-DMX signal and 120- 277 line voltage power between two units in a run.



Glare Visor (Linear) *Optional*

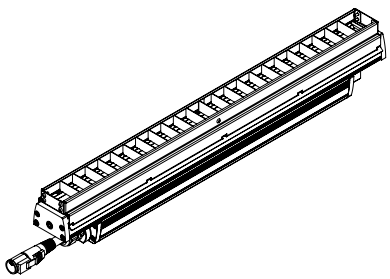
Model		Fixture Section		Finish	
HVSR5	Glare Visor Linear Surface	U2	2FT Length Unit	BKT	Black Textured Paint
		U3	3FT Length Unit	SIT	Silver Textured Paint
		U4	4FT Length Unit	WHT	White Textured Paint
				RALTBD	RAL Paint Finish
				CF	Custom Painted Finish



Reference Additional Accessory Details section for dimensions

Baffle (Linear) *Optional*

Model		Fixture Section	
HBFL5	Baffle Linear Surface (Available in matte black finish only)	U2	2FT Length Unit
		U3	3FT Length Unit
		U4	4FT Length Unit



Reference Additional Accessory Details section for dimensions

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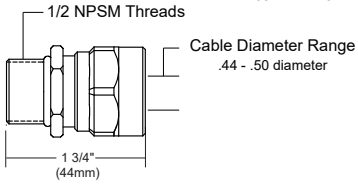
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ACCESSORY OPTIONS (CONTINUED)

Liquid-Tight Cord Grip *Optional*

Model	
HCORDGP2	Liquid-Tight Cord Grip (Use to secure and seal feed cord to DPI Box)

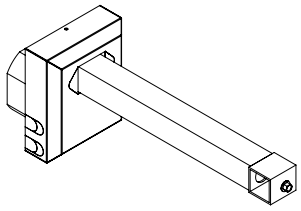




Connector to secures and seal feed cord to DPI Box.

Brackets *Optional*

Series		Finish	
CWM12	Cantilever Wall Mount 12" Projection	BKT	Black Textured Paint
CWM18	Cantilever Wall Mount 18" Projection	SIT	Silver Textured Paint
CWM6	Cantilever Wall Mount 6" Projection	WHT	White Textured Paint
		RALTBD	RAL Paint Finish
		CF	Custom Painted Finish

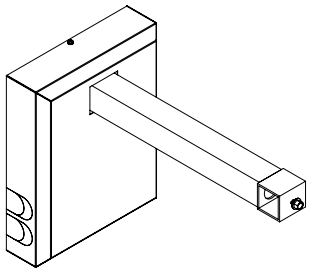


For use with recessed or remote junction box locations. Junction box (by others).

Reference Additional Accessory Details section for dimensions

Brackets *Optional*

Series		Finish	
CWML12	Cantilever Wall Mount Large 12" projection	BKT	Black Textured Paint
CWML18	Cantilever Wall Mount Large 18" projection	SIT	Silver Textured Paint
CWML6	Cantilever Wall Mount Large 6" projection	WHT	White Textured Paint
		RALTBD	RAL Paint Finish
		CF	Custom Painted Finish

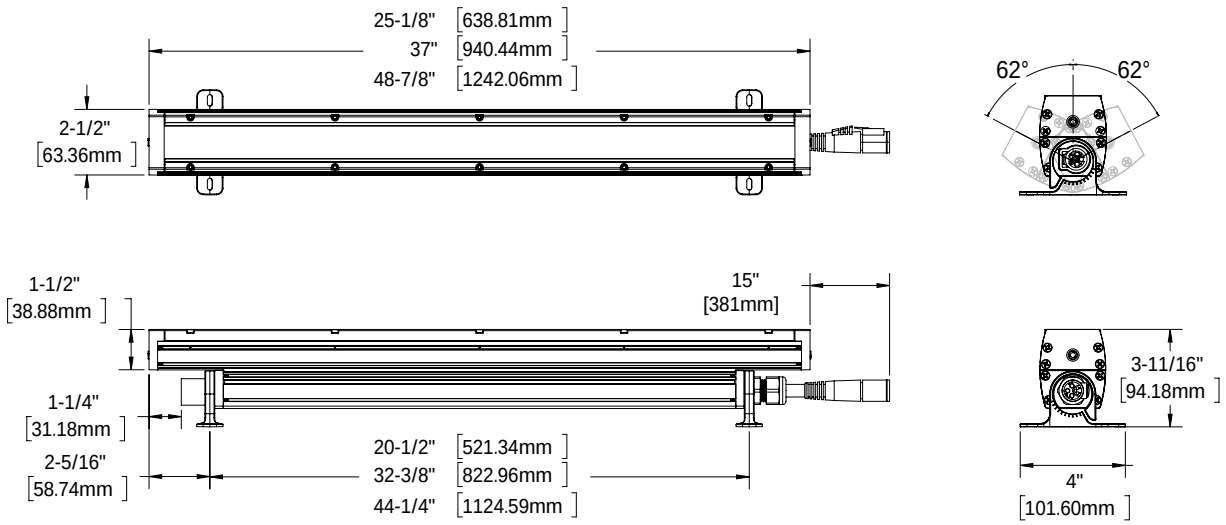


For use with surface mount junction box (by others) and surface mounted conduit (by others).

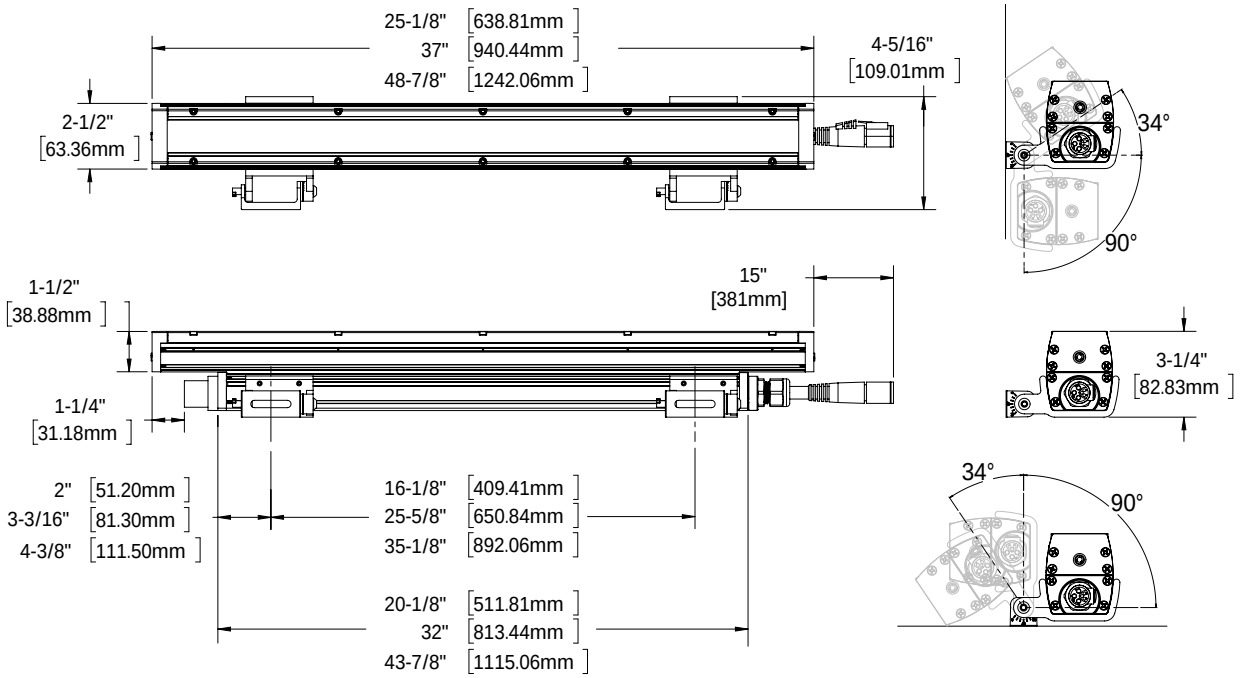
Reference Additional Accessory Details section for dimensions

DIMENSIONS & MOUNTING

H500ADJC1 - Adjustable Mount Center Axis



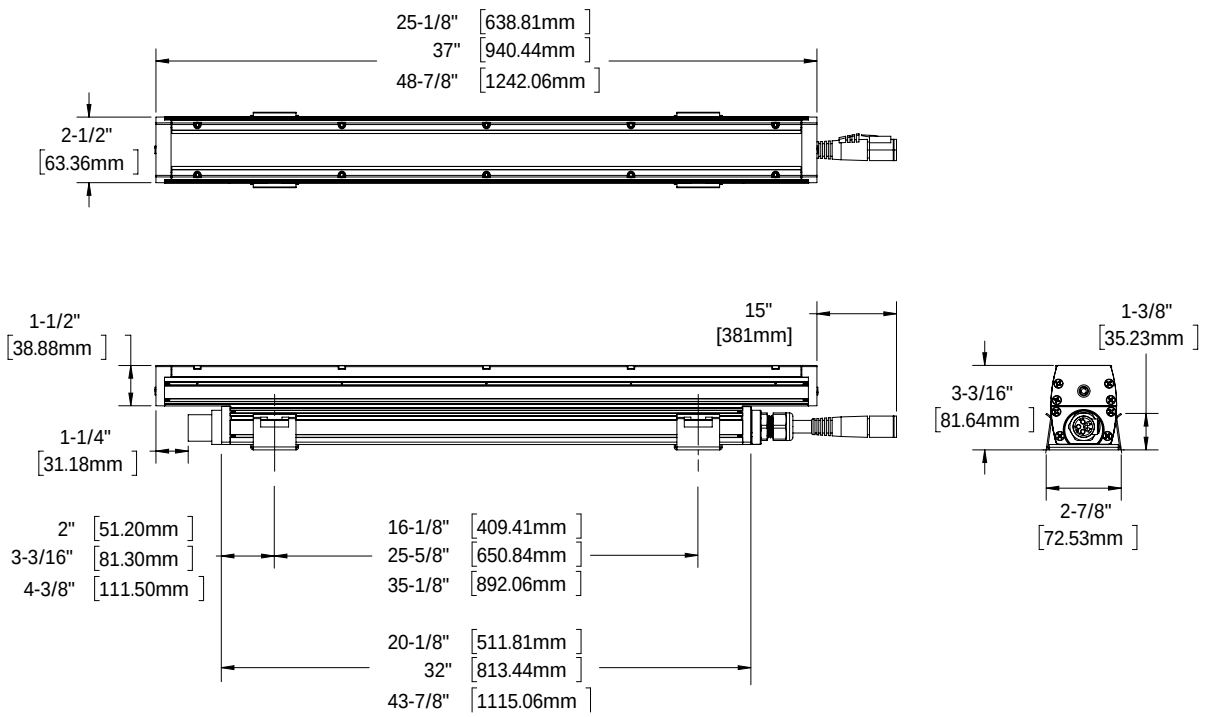
H500ADJH2 - Adjustable Mount Side Hinge



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DIMENSIONS & MOUNTING

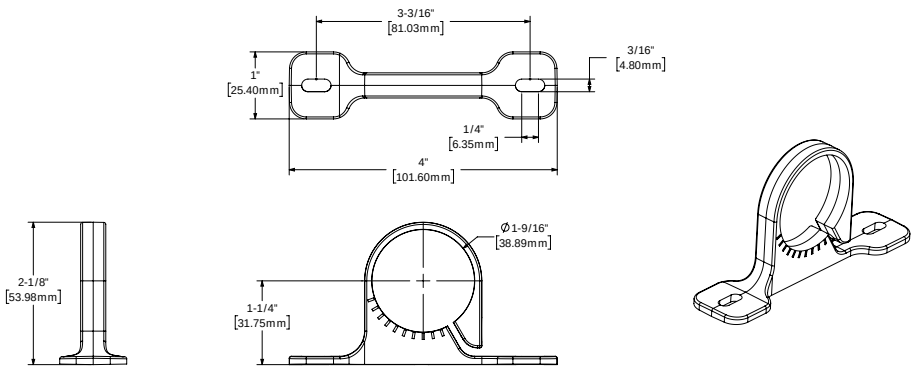
HM500FMC - Fixed Mount



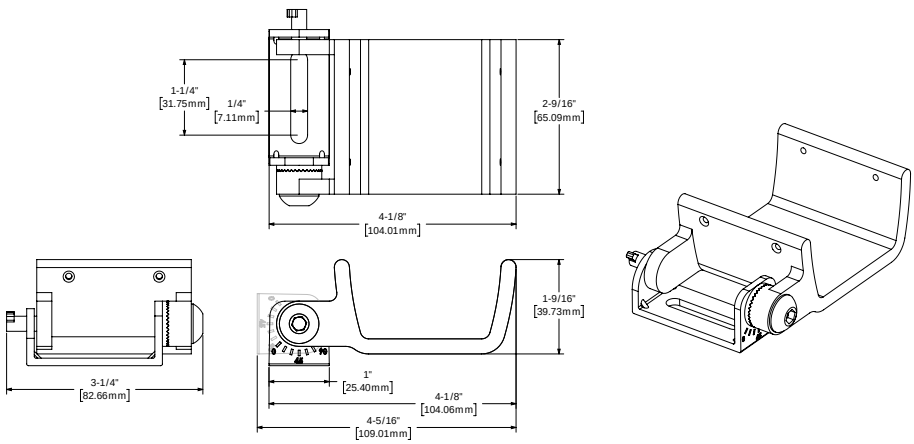
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DIMENSIONS & MOUNTING (CONTINUED)

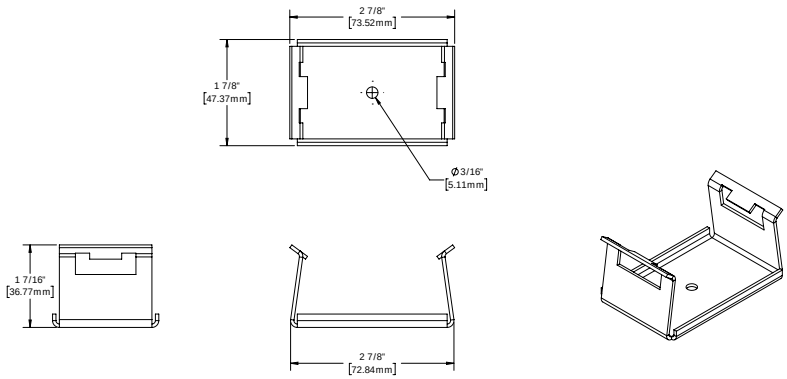
H500ADJC1 - Adjustable Mount Center Axis Detail



H500ADJH2 - Adjustable Mount Side Hinge Detail



H500FMC - Fixed Mount Detail



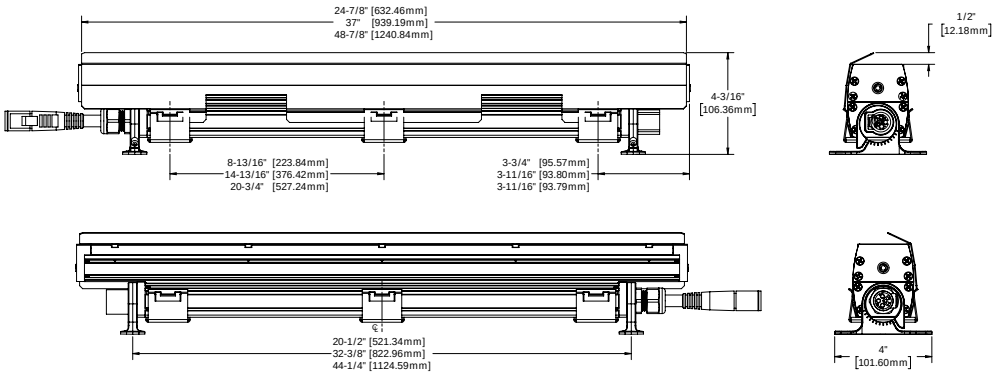
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DIMENSIONS & MOUNTING

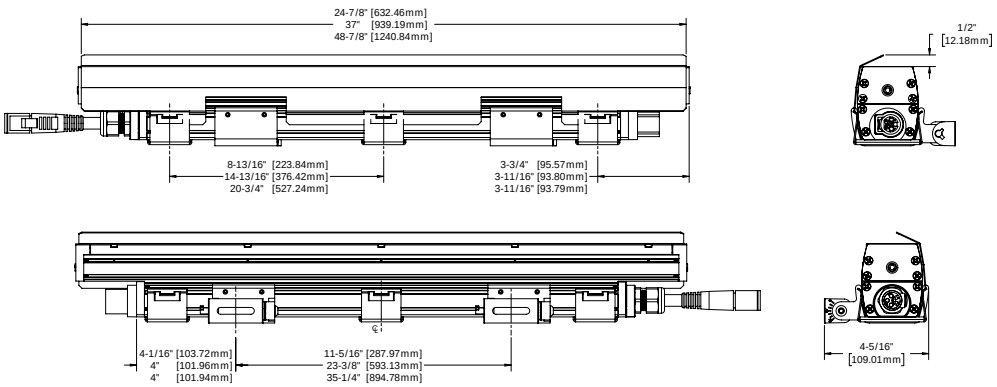
WWD Asymmetric Glare Visor with H500ADJC1 Mount

Automatically included when WWD distribution is ordered.



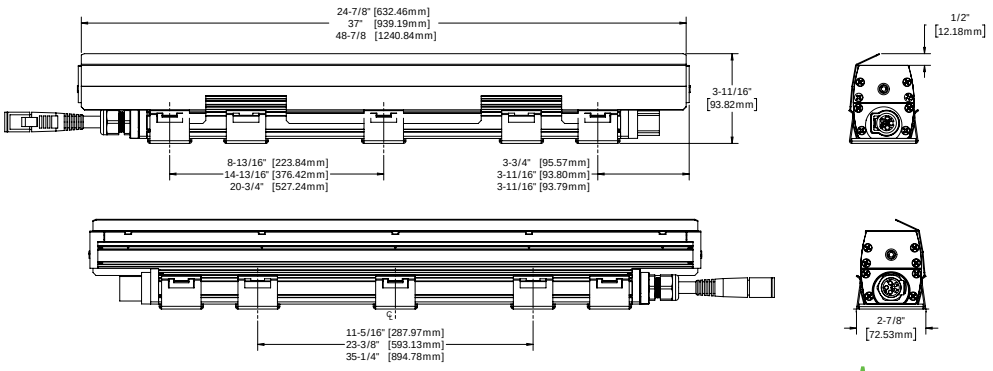
WWD Asymmetric Glare Visor with H500ADJH2 Mount

Automatically included when WWD distribution is ordered.



WWD Asymmetric Glare Visor with H500FMC Mount

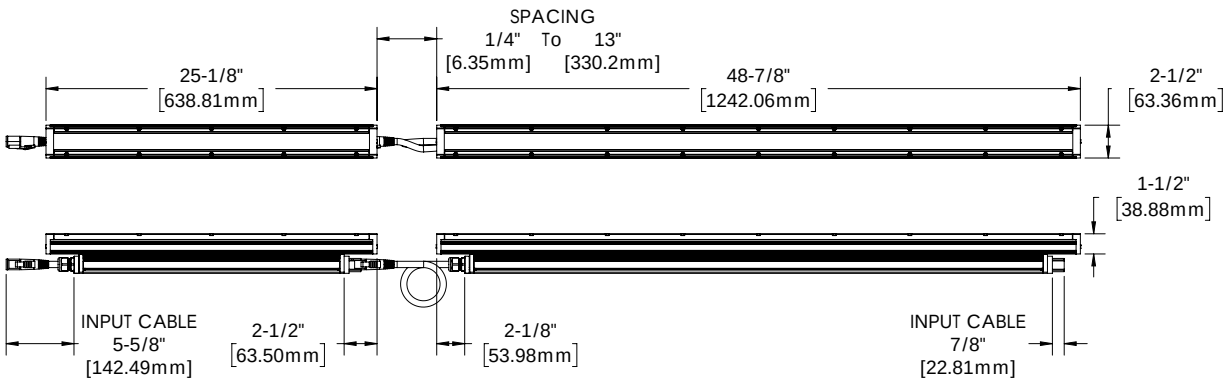
Automatically included when WWD distribution is ordered.



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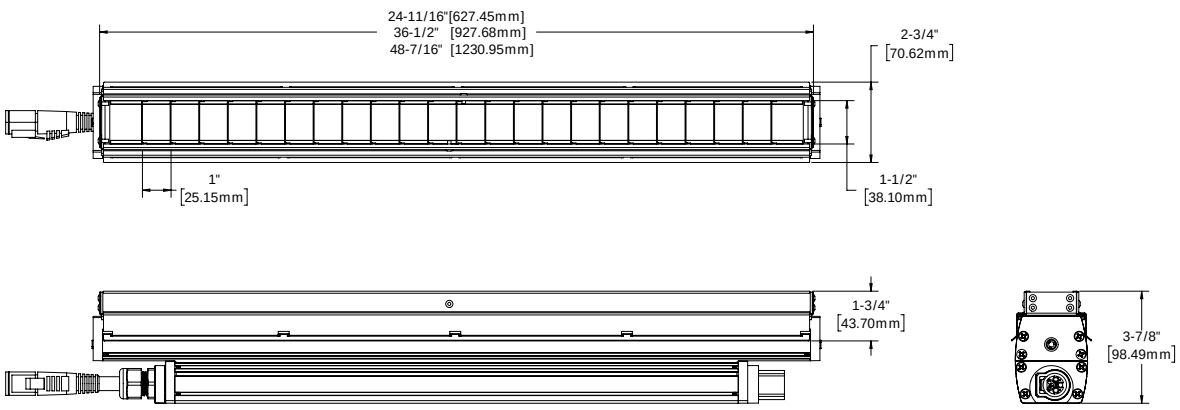
DIMENSIONS & MOUNTING (CONTINUED)

HLF501 Series Typical End-To-End Run Configuration



ADDITIONAL ACCESSORY DETAILS

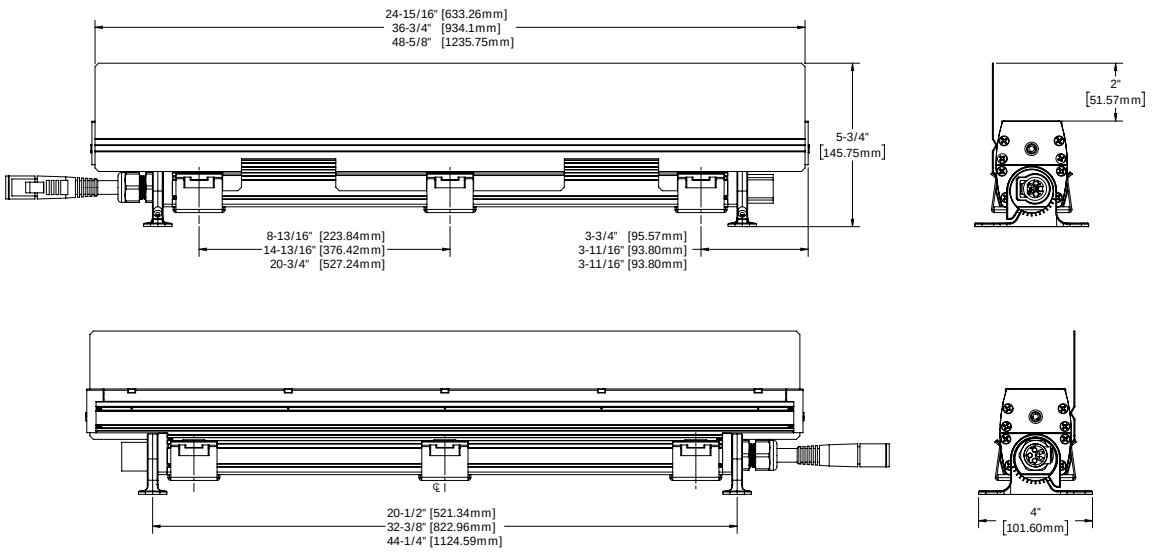
Baffle Linear Surface



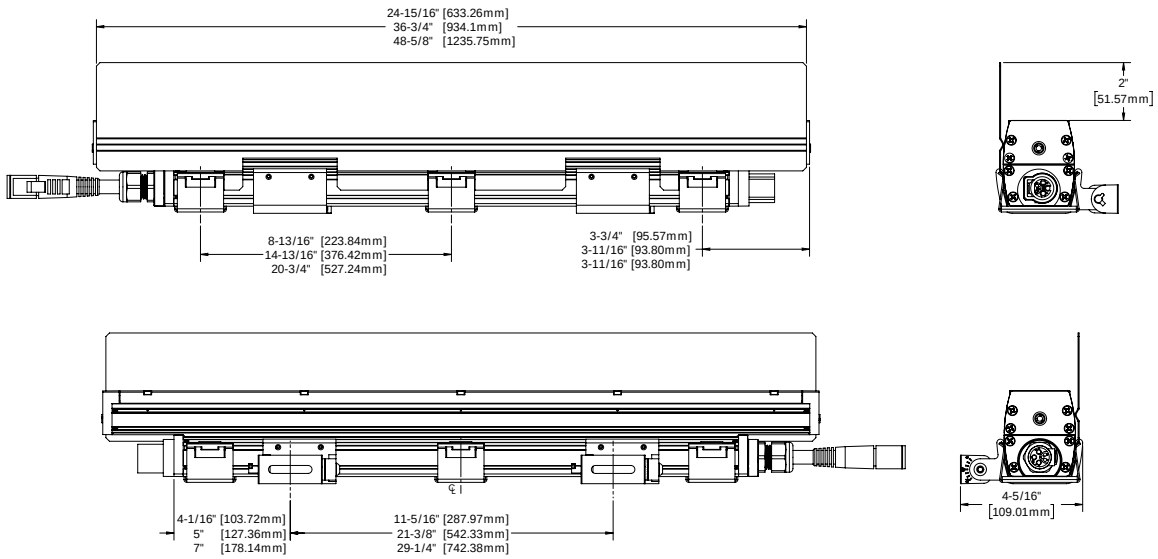
MAINSTREAM DYNAMIC BY ACUITY BRANDS

ADDITIONAL ACCESSORY DETAILS (CONTINUED)

Glare Visor with H500ADJC1 Mount



Glare Visor with H500ADJH2 Mount



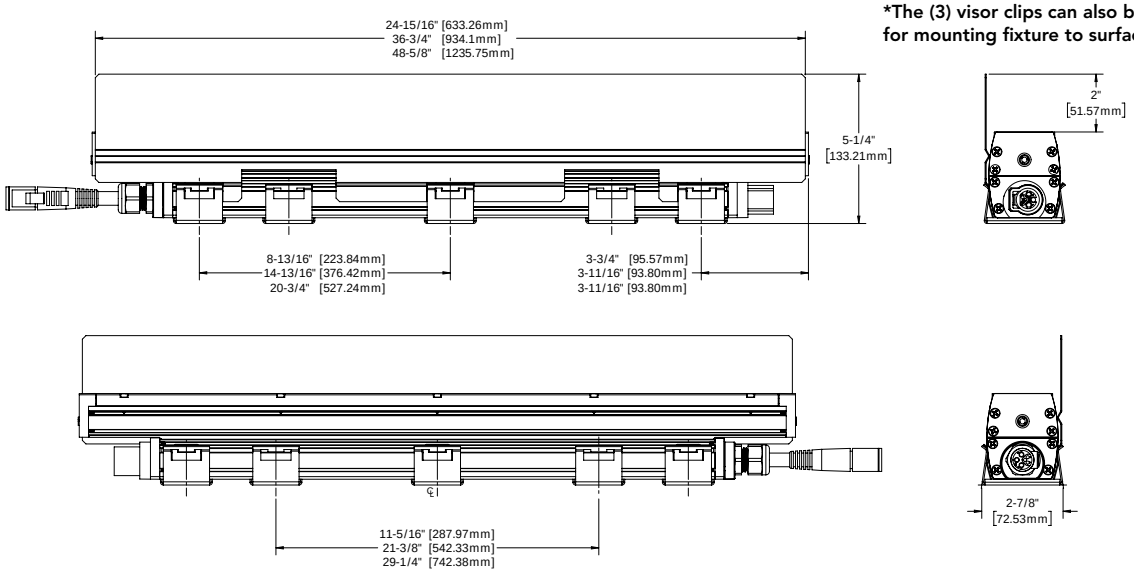
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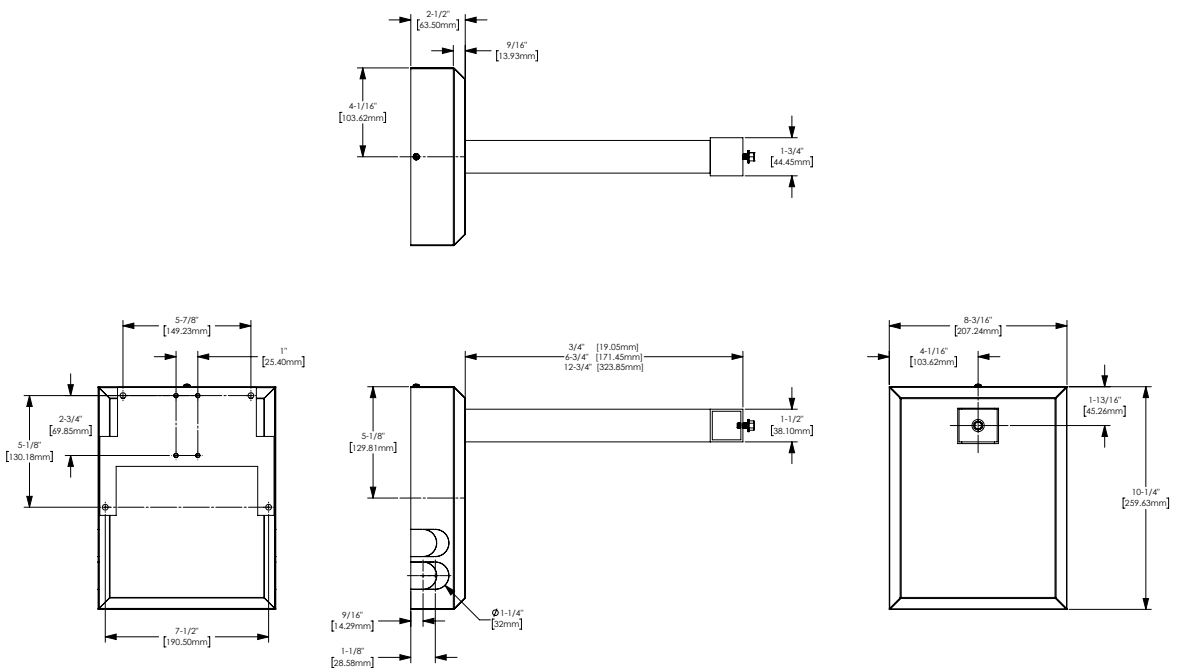
ADDITIONAL ACCESSORY DETAILS (CONTINUED)

Glare Visor with H500FMC Mount

*The (3) visor clips can also be used for mounting fixture to surface.

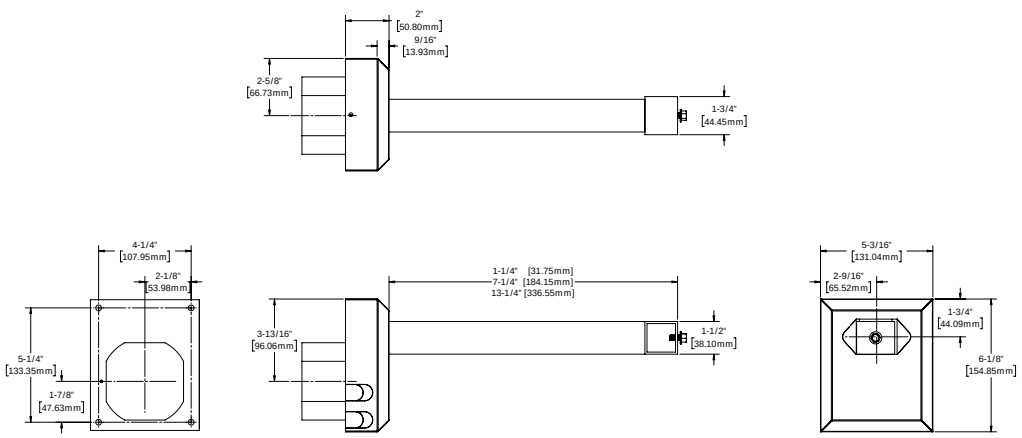


Cantilever Wall Mount Bracket Large Detail

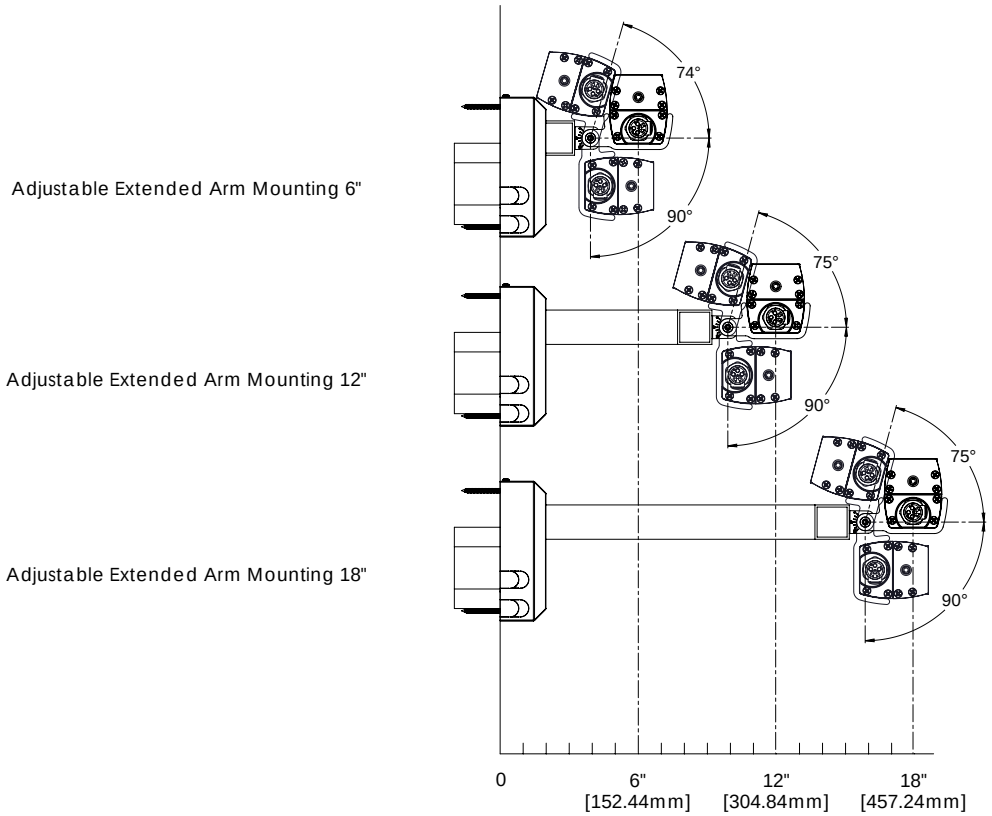


ADDITIONAL ACCESSORY DETAILS (CONTINUED)

Cantilever Wall Mount Bracket Detail



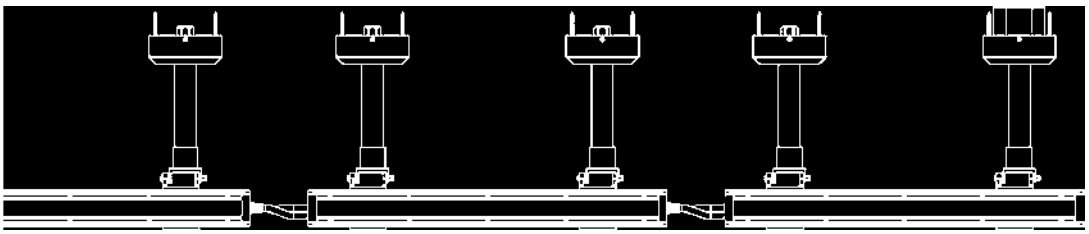
Cantilever Wall Mount Bracket Detail with 500ADJH2 and Fixture



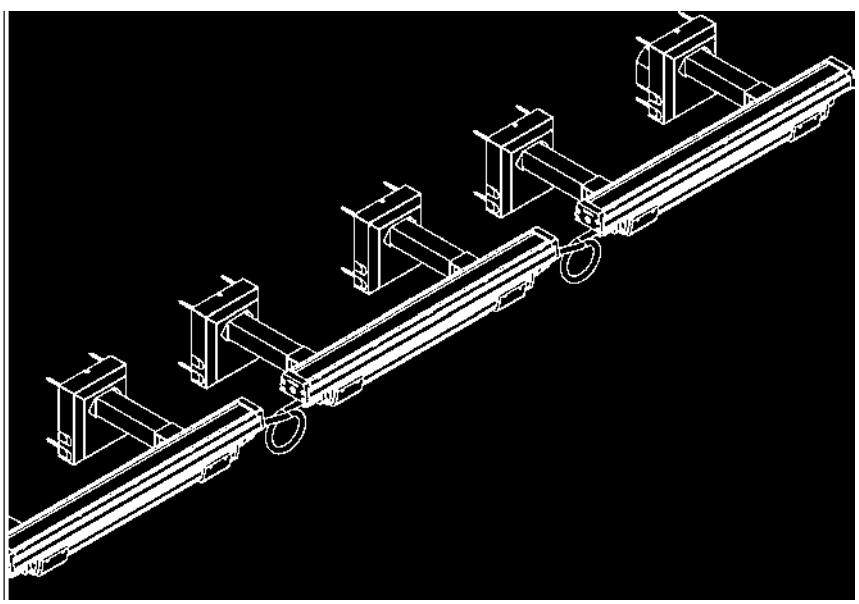
MAINSTREAM DYNAMIC BY ACUITY BRANDS

ADDITIONAL ACCESSORY DETAILS (CONTINUED)

HLF501 Series Typical End-To-End Run Configuration with Cantilever Wall Mount
(Showing 6-foot run of (3) 2-foot units with CWM12 wall mount accessory)







MAINSTREAM DYNAMIC BY ACUITY BRANDS

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Phone: 800-705-SERV (7378) • www.hydrel.com

SPECIFICATIONS & FEATURES

Voltage: 120 through 277v 50/60Hz

Distribution: 9° x 9°, 10° x 60°, 15° x 30°, 30° x 60°, 40° x 60°, 60° x 60°, Asymmetric Wall Wash

Size: 2.50 W x 3.00 H

Housing: Extruded aluminum one-piece construction with fasteners

Finish: Polyester powder coat painted finish. Black oxide fastener color with BKT finish and natural stainless steel fastener color with WHT & SIT finishes

Lens Material: Extruded acrylic

Lumen Maintenance: (9° x 9°, 10° x 60°): 60,000 hours L70 @ +120deg C
(15° x 30°, 30° x 60°, 40° x 60°, 60° x 60°, WWD): 120,000 hours L70@ +55deg C

LED Color Mix: 12 LEDs per 12 inches in a 1:1 ratio (1xRed, 1xGreen, 1xBlue, 1xWhite)

Color Wavelengths: RED (620-634nm), GREEN (525-537nm), BLUE (464-470nm), WHITE (4000K)

Control System: Easyl or Fresco DMX512 controller

Ambient Temperature Ranges: -40° to +45°C

Mounting: Side hinge, Center axis, and fixed mounting brackets available for installation flexibility and luminaire aiming. Suitable for outdoor wet location applications

Ingress Protection Rating: IP66 rated per IEC60598

Vibration: 3G vibration rated per ANSI C136.31

Buy American Act: This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/buy-america

Certification/Compliance: CSA Certified to meet U.S. and Canadian standards conforming to UL 1598 and CAN/CSA C22.2 No. 250.0

Weight: 24" - 7.5 lbs (3.40kg) / 36" - 11 lbs (4.98kg) / 48" - 13 lbs (5.90 kg)

Warranty: 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

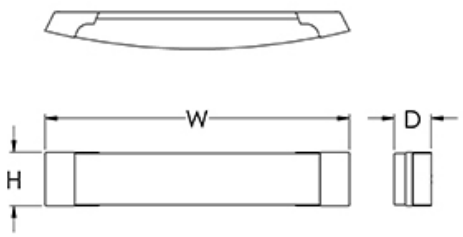
NOTE: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** S3875-L18 Notes:	**Type:** **L15** LGNW23-97480

S3875 Series



DIMENSIONS



W	H	D	MC	BASE MODEL NO.
25 1/4″	4 5/8″	3″	12 5/8″	**S3875-L18**
37 1/4″	4 5/8″	3 5/8″	18 5/8″	**S3876-L24**
49″	4 5/8″	3 7/8″	24 1/2″	**S3877-L32**

SPECIFICATIONS

Driver: 0-10V dimming to 1%, 120/277
Mounting: Mounts to all Standard Electrical Junction Boxes (by others) With Hardware Provided.

FEATURES

- Opal Matte Acrylic
- Solid Aluminum End Caps
- ADA Compliant
- LED 0-10V Dimming Driver

ORDER AS A COMPLETE UNIT:

Model No. + Lamp Code + CCT + Finish + Option Code

S3875-L18 S3876-L24 S3877-L32	+	27K 30K 35K 40K	+	PT BA BB BC BN	+	Option

FINISHES

BA Brushed Aluminum
BB Brushed Brass
BC Brushed Chrome
BN Brushed Nickel
PT Powder Coated Finishes*
*(Specify Color Code from the list of Powder Coating Finishes)

OPTIONS

EML Remote 10W Emergency LED Battery Backup
FAA Faux Alabaster Acrylic (Hand Painted) [FA1 White; FA2 Antique; FA3 Grey; FA4 Taupe; FA5 Honey; FA6 Tuscan]

LIGHT OUTPUT

LXX = ~ 69 LPW Delivered Lumens (Example: L18= 18W x 69LPW = 1,242 Lumens)

www.ScottArchLighting.com | Tel (707) 864-2172 | Fax (707) 864-2182
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Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** 444 2LED12 MOVLT XX 24 Notes:	**Type:** **L15/ALT** LGNW23-97480

444 Light Beam

Project: _____

Location: _____

Catalog Number	MODEL		WATTS		FINISH		OPTION(S)		LENGTH
Example: 444-4LED7-WHT-35K-48"	444	-		-		-		-	



Boxy, Rectangular, Strong! The 444 Light Beam incorporates clean lines throughout and will provide soft, warm illumination for a vanity or a stairwell.

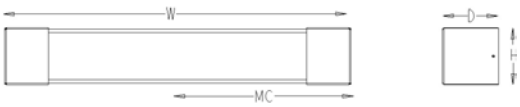
Features:

- Solid aluminum endcaps highlight this luminous rectangular product
- Ideal for vanities and hallways
- Endcaps available in brushed aluminum or powder coat finish
- Available in a wide variety of LED lumen packages
- Standard 0-10V dimming driver. 120-277V MVOLT
- Suitable for dry or damp locations
- Meets all ADA requirements
- Manufactured in the USA

Dimensions

Width	Height	Depth
24"	4"	4"
36"	4"	4"
48"	4"	4"





A 4" octagonal junction box should be used for installation

MC = Mounting Center, located at center of fixture unless noted otherwise

Ordering Information/Options

Model		Watts			Finishes		Options		Length	
444	24"	2LED7	1350 Lumens	MVOLT	WHT	White	DL	Damp Label	24"	24"
		2LED12	2380 Lumens		BLK	Black	30K	3000 Kelvin Temperature	36"	36"
	36"	3LED7	2225 Lumens	MVOLT	SAL	Silver	35K	3500 Kelvin Temperature	48"	48"
		3LED12	3570 Lumens		BRZ	Bronze	40K	4000 Kelvin Temperature		
	48"	4LED7	2700 Lumens	MVOLT	BA	Brushed Aluminum	IEM	Integral Emergency Pack		
		4LED12	4760 Lumens							

Indessa Lighting

PHONE: 509.924.0243 www.indessa.com

Indessa Lighting reserves the right to make design revisions without prior notice.

Submitted by The Lighting Group LLCChris Hamaker

Job Name:
Skagit County Public Utilities District - Campus Replacement Administration Building Phase
Architect: Driftmier Architects (Redmond)
Engineer: Rensch Engineering (Snohomish)

Catalog Number:
4272D-9 LED 30 80 120V DV WHE WH XX
Notes:

Type:
L18
LGNW23-97480

STELLA 4272

PROJECT PROJET

SPEC TYPE

NOTES



FINISH FINI


BLKE


WHE

FAMILY FAMILLE


4272DI-9


4272DI-16

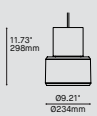

4273-14


4272D-9 DIRECT ONLY

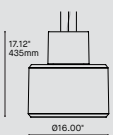

4272D-16 DIRECT ONLY


4273-23

4272-9



4272-16



ORDERING SPECIFICATION SPÉCIFICATION DE COMMANDE — CODE

MODEL MODÈLE

4272DI-9	STELLA 9" (DIRECT+INDIRECT)
~~4272DI-16~~	~~STELLA 16" (DIRECT+INDIRECT)~~
4272D-9	STELLA 9" (DIRECT ONLY)
4272D-16	STELLA 16" (DIRECT ONLY)

LIGHT SOURCE SOURCE LUMINEUSE

LED	REGULAR OUTPUT
LED.HO	HIGH OUTPUT

COLOR TEMPERATURE TEMPÉRATURE DE COULEUR

~~27*~~	~~2700K~~
30	3000K
~~35~~	~~3500K~~
40	4000K

*LONGER LEAD TIME MAY APPLY, PLEASE CONTACT YOUR EUREKA REPRESENTATIVE

COLOR RENDERING INDEX (CRI) INDICE DE RENDU DE COULEUR (IRC)

80	80+ CRI
~~90*~~	~~90+ CRI~~

*LONGER LEAD TIME MAY APPLY, PLEASE CONTACT YOUR EUREKA REPRESENTATIVE

VOLTAGE VOLTAGE

120V	120 VOLT
~~277V~~	~~277 VOLT~~
347V*	347 VOLT

*347V COMES WITH A Ø9.3" X 1.75" CANOPY

CONTROL OPTION OPTION DE CONTRÔLE*

DV	0-10V DIMMING (120V-277V & 347V)
DP	PHASE DIMMING (120V ONLY)
NLTAIR2	NLIGHT AIR CONTROL GEN 2 (A)*
NLIGHT	NLIGHT WIRED CONTROL(B)*

(A) NLIGHT AIR INTEGRATED INSIDE PRODUCT
(B) REQUIRES REMOTE POWER PACK (39NLWA)
*EMERGENCY BATTERY NOT AVAILABLE WITH NLIGHT
*REFER TO NLIGHT GUIDE AND INSTALLATION SHEET FOR ALL REQUIREMENTS.

EMERGENCY BATTERY BATTERIE D'URGENCE

AVAILABLE WITH LED SOURCES 120-227V. EM DRIVER BOX INCLUDED, INSTALLED REMOTELY. SEE EM GUIDE FOR DETAILS.
WITH DV DIMMING OPTION, AN ADDITIONAL POWER CABLE WILL DROP FROM CEILING NEXT TO MAIN CABLE.

EMB*	EMERGENCY BATTERY FOR REMOTE BOX

*3981EA ACCESSORY IS REQUIRED; ONLY AVAILABLE WITH CABLE

STEM OR CABLE TIGE OU CABLE — SPECIFY

S10	3/8" (10MM) STEM, NOT FIELD ADJUSTABLE
C	CABLE, FIELD ADJUSTABLE (FOR 4272-9 & 4272D-9)
AC	AIRCRAFT MOUNTING & CABLE, FIELD ADJUSTABLE (FOR 4272-16 & 4272D-16)

STEM OR CABLE LENGTH LONGUEUR DE TIGE OU CABLE — SPECIFY

36	36" STEM (STD LENGTH)
60	60" CABLE (STD LENGTH)
**	CUSTOM STEM LENGTH (PLEASE SPECIFY)
**	CUSTOM CABLE LENGTH (PLEASE SPECIFY)

FOR OVERALL LENGTH, PLEASE CONTACT YOUR EUREKA REPRESENTATIVE.

CANOPY FINISH FINI PAVILLON

BLKE	BLACK FINE TEXTURE
WHE	WHITE FINE TEXTURE

POWER CORD OR STEM FINISH FINI CABLE D'ALIMENTATION OU TIGE

~~BLK~~	~~BLACK POWER CORD OR STEM~~
WH	WHITE POWER CORD OR STEM

SHADE FINISH FINI ABAT-JOUR(A)

BLKE	BLACK FINE TEXTURE
WHE	WHITE FINE TEXTURE
RAL(B)	PLEASE SPECIFY RAL CODE

(A) SHADE INTERIOR IS ALWAYS WHITE
(B) LONGER LEAD TIME MAY APPLY, PLEASE CONTACT YOUR EUREKA REPRESENTATIVE

DIFFUSER FINISH FINI DIFFUSEUR — WH

WH	WHITE

ACCESSORY ACCESSOIRE

39NLWA*	NLIGHT WIRED REMOTE CONTROLLER
3981EA	ELECTRICAL BOX FOR EMB EMERGENCY BATTERY

*FOR CHICAGO PLENUM INSTALLATION, PLEASE CONTACT YOUR EUREKA REPRESENTATIVE.

EUREKA

SPECIFICATION

Submitted by The Lighting Group LLCChris Hamaker

Job Name:
Skagit County Public Utilities District - Campus Replacement Administration Building Phase
Architect: Driftmier Architects (Redmond)
Engineer: Rensch Engineering (Snohomish)

Catalog Number:
4272D-9 LED 30 80 120V DV WHE WH XX
Notes:

Type:
L18
LGNW23-97480

STELLA 4272-9

QUICKSHIP

PROJECT PROJET

SPEC TYPE

NOTES



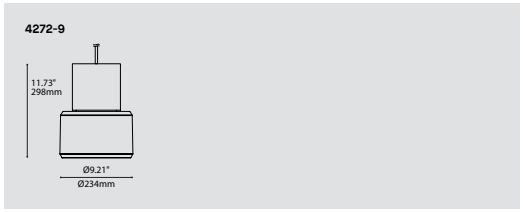
FINISH FINI



BLKE



WHE



ORDERING SPECIFICATION SPÉCIFICATION DE COMMANDE		CODE
QUICKSHIP		
QS5	QUICKSHIP 5 DAYS - MAXIMUM 5 UNITS QUICKSHIP 5 JOURS - MAXIMUM 5 UNITÉS	
QS10	QUICKSHIP 10 DAYS - MAXIMUM 20 UNITS QUICKSHIP 10 JOURS - MAXIMUM 20 UNITÉS	
MODEL MODÈLE		**4272DI-9**
4272DI-9	STELLA	
LIGHT SOURCE SOURCE LUMINEUSE		
LED	REGULAR OUTPUT	
LED.HO	HIGH OUTPUT	
COLOR TEMPERATURE TEMPÉRATURE DE COULEUR		
30	3000K	
35	3500K	
40	4000K	
COLOR RENDERING INDEX (CRI) INDICE DE RENDU DE COULEUR (IRC)		**80**
80	80+ CRI	
VOLTAGE VOLTAGE		
120V	120 VOLT	
277V	277 VOLT	
DIMMING OPTION OPTION DE GRADATION		
DV	0-10V DIMMING (120V-277V)	
DP	PHASE DIMMING (120V ONLY)	
	LED DIMMING DRIVER IS STANDARD IN THIS PRODUCT, PLEASE SPECIFY YOUR DIMMING TYPE.	
STEM OR CABLE TIGE OU CABLE		**C**
C	CABLE, FIELD ADJUSTABLE	
STEM OR CABLE LENGTH LONGUEUR DE TIGE OU CABLE		
60	60" CABLE (STD LENGTH)	
**	CUSTOM CABLE LENGTH (PLEASE SPECIFY)	
	FOR OVERALL LENGTH, PLEASE CONTACT YOUR EUREKA REPRESENTATIVE.	
CANOPY FINISH FINI PAVILLON		
BLKE	BLACK FINE TEXTURE	
WHE	WHITE FINE TEXTURE	
SHADE FINISH FINI ABAT-JOUR[A][B]		
BLKE	BLACK FINE TEXTURE	
WHE	WHITE FINE TEXTURE	
	[A] SHADE INTERIOR IS ALWAYS WHITE	
	[B] SHADE FINISH DICTATES THE CABLE COLOR	
DIFFUSER FINISH FINI DIFFUSEUR		**WH**
WH	WHITE	

PRODUCT CHARACTERISTICS CARACTÉRISTIQUES DU PRODUIT

BIM DIM EMB IES LED

DESIGN: Stella, at its core, is a powerful light engine fused to a minimalist aluminum shell. A large diffusion dome hidden inside the shade create a uniform direct & indirect illumination. Also offered in a direct only configuration.

INSTALLATION: Single cable or stem for a minimalist look.

LIGHT SOURCE: A highly powerful COB type light source project a light, softened by a large polymer diffusion dome to create an illumination that is efficient & uniform. Some of the light is reflected upward by the dome; thus illuminating indirectly the ceiling. Many control options available.

SHADE: The precision spun aluminum shade is optimized to reduce glare. White internal finish for optimal light reflection.

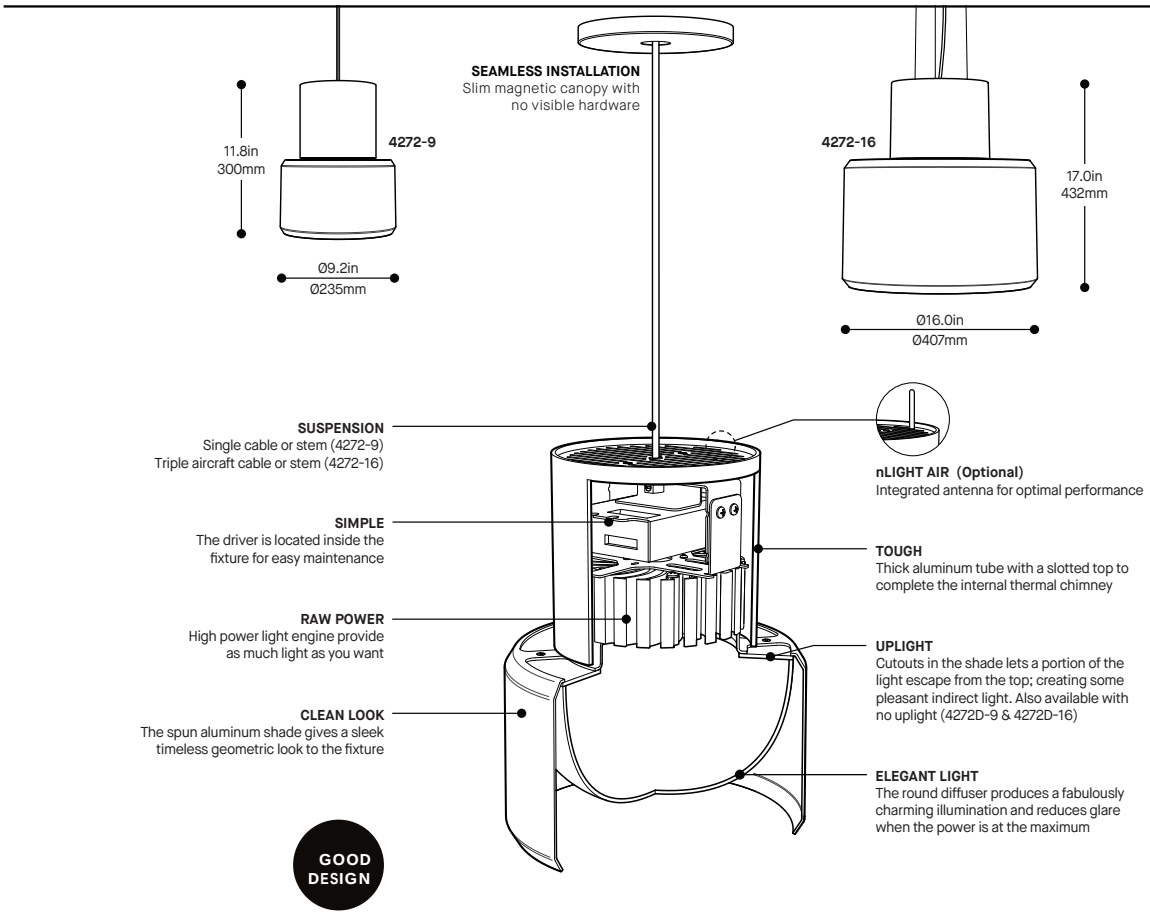
CERTIFIED: c-CSA-us

EUREKA

SPECIFICATION

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** 4272D-9 LED 30 80 120V DV WHE WH XX Notes:	**Type:** **L18** LGNW23-97480

STELLA 4272-XX

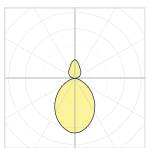


PRODUCT SPECIFICATION	4272DI-9 REG — HO	4272DI-16 REG — HO	4272D-9 REG — HO	4272D-16 REG — HO
PERFORMANCE				
SYSTEM WATTAGE	28.6W — 51W	34.8W — 68.9W	28.6W — 51W	34.8W — 68.9W
DELIVERED DIRECT LUMENS (4000K)	1750LM — 3060LM	2230LM — 3860LM	2050LM — 3560LM	2620LM — 4550LM
DELIVERED INDIRECT LUMENS (4000K)	500LM — 860LM	770LM — 1340LM	-	-
EFFICACY	78.8LM/W	86.2LM/W	71.7LM/W	75.3LM/W
OTHER INFORMATIONS				
WEIGHT	7.3LBS / 3.3KG	9.8LBS / 4.4KG	7.3LBS / 3.3KG	9.8LBS/ 4.4KG
L70 (LUMEN MA INTENANCE)	> 63 600 HRS	> 55 000 HRS	> 63 600 HRS	> 55 000 HRS
WELL & LEED STANDARD REQUIREMENTS				
MAX. LUMINANCE 45°-90° OF NADIR	5401(REG) CD/M²	4398(HO) CD/M²	5401(REG) CD/M²	4398(HO) CD/M²
LIGHT QUALITY	R9 > 50 (90 CRI OPTION)			
FLICKERING TOLERANCE	LOW FLICKER, COMPLIANT TO CALIFORNIA TITLE 24			

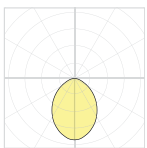
EFFICACY MULTIPLIERS

CRI	CCT	FACTOR
80+	4000K	1.00
80+	3500K	0.99
80+	3000K	0.97
80+	2700K	0.94
90+	4000K	0.89
90+	3500K	0.86
90+	3000K	0.84
90+	2700K	0.80

LIGHT DISTRIBUTION



4272DI-XX



4272D-XX

5 years warranty

Visit our website for warranty terms and conditions.

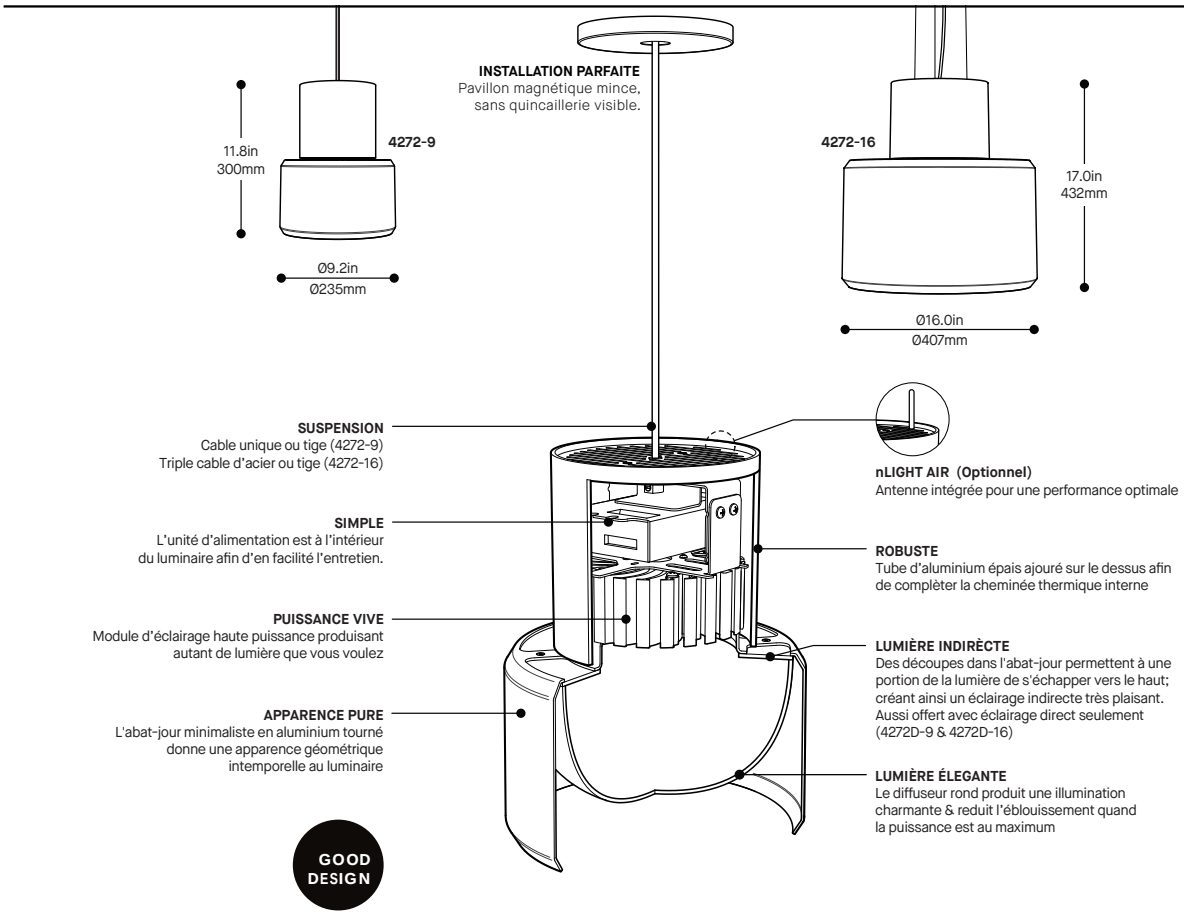
EUREKA

TECHNICAL DATA

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Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** 4272D-9 LED 30 80 120V DV WHE WH XX Notes:	**Type:** **L18** LGNW23-97480

STELLA 4272-XX

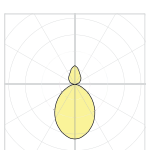


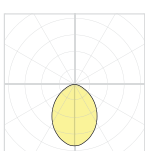
SPÉCIFICATION PRODUIT	4272DI-9 REG — HO	4272DI-16 REG — HO	4272D-9 REG — HO	4272D-16 REG — HO
PERFORMANCE				
PUISSANCE TOTALE	28.6W — 51W	34.8W — 68.9W	28.6W — 51W	34.8W — 68.9W
LUMENS RÉELS DIRECT (4000K)	1750LM — 3060LM	2230LM — 3860LM	2050LM — 3560LM	2620LM — 4550LM
LUMENS RÉELS INDIRECT (4000K)	500LM — 860LM	770LM — 1340LM	-	-
EFFICACITÉ	78.8LM/W	86.2LM/W	71.7LM/W	75.3LM/W
AUTRES INFORMATIONS				
POIDS	7.3LBS / 3.3KG	9.8LBS / 4.4KG	7.3LBS / 3.3KG	9.8LBS/ 4.4KG
L70 (MAINTENANCE DE LA LUMIÈRE)	> 63 600 H	> 55 000 H	> 63 600 H	> 55 000 H
CRITÈRES DE CERTIFICATION WELL & LEED				
MAX. LUMINANCE 45°-90° NADIR	5401(REG) CD/M²	4398(HO) CD/M²	5401(REG) CD/M²	4398(HO) CD/M²
QUALITÉ DE LA LUMIERE	R9 > 50 (OPTION 90 IRC)			
TOLÉRANCE DE CLIGNOTEMENTS	PEU DE CLIGNOTEMENT (CONFORME À CALIFORNIA TITLE 24)			

FACTEUR D'EFFICACITÉ

IRC	CCT	FACTEUR
80+	4000K	1.00
80+	3500K	0.99
80+	3000K	0.97
80+	2700K	0.94
90+	4000K	0.89
90+	3500K	0.86
90+	3000K	0.84
90+	2700K	0.80

DISTRIBUTION LUMINEUSE


4272DI-XX


4272D-XX

5 ans de garantie

Visitez notre site Web pour les termes et conditions.

EUREKA

DONNÉES TECHNIQUES

Tous droits réservés et tous les dessins protégés par le droit d'auteur. Eureka Lighting se réserve le droit de changer ou de modifier les spécifications sans préavis.

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** 4272D-9 LED 30 80 120V DV WHE WH XX Notes:	**Type:** **L18** LGNW23-97480

JUNCTION BOX 3981E

PROJECT PROJET

SPEC TYPE

NOTES



ORDERING SPECIFICATION SPÉCIFICATION DE COMMANDE — **CODE**

MODEL MODÈLE	
3981EA	APPROX. 10W MAX EMERGENCY BACKUP POWER
3981EB	APPROX. 5W MAX EMERGENCY BACKUP POWER

PRODUCT CHARACTERISTICS CARACTÉRISTIQUES DU PRODUIT

DESIGN: Remote junction box and cover with an emergency backup driver. Features matching wires and labelling to simplify installation. Is required to complete luminaires ordered with EMB remote emergency box option (selected models, refer to specification sheets. Other models possible upon request). Available in several power outputs, selected according to the luminaire power.

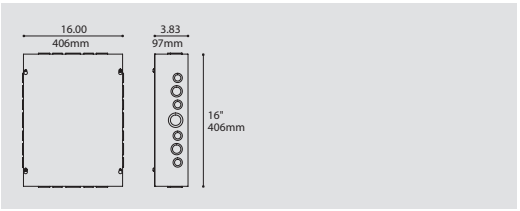
STRUCTURE: Die-stamped 16 gauge grey painted steel. Knockouts on all 4 sides from 1/2" to 1-1/4".

CERTIFIED: c-CSA-us, UL, RoHS, NEMA Type 1, FCC

CONCEPTION: Boîte de jonction à distance avec couvercle avec batterie d'urgence intégré. Contient des fils avec couleurs et étiquettage pour simplifier l'installation. Requis pour compléter un luminaire commandée avec l'option EMB (voir pages de spécification pour produits avec l'option EMB. Autres produits possibles sur demande). Disponible en plusieurs puissances, sélectionnées en fonction du luminaire.

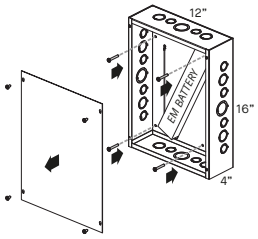
STRUCTURE: Acier plié de 16 jauge peinturé gris avec coins soudés. Débouchures sur 4 côtés 1/2" à 1-1/4".

CERTIFIÉ: c-CSA-us, UL, RoHS, NEMA Type 1, FCC



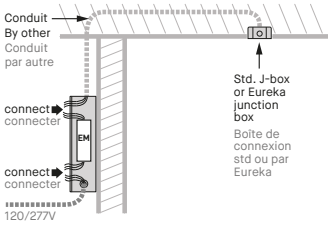
INSTALLATION SUMMARY SOMMAIRE D'INSTALLATION

STEP 1 ÉTAPE 1



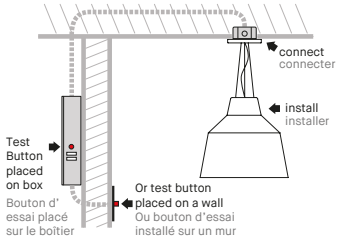
Remove cover and fasten box remotely to a wall or a ceiling.
Enlever le couvercle et fixer la boite à distance sur un mur ou un plafond.

STEP 2 ÉTAPE 2



Run conduit from box to junction box of luminaire. Conduit must have a minimum of 5 wires with wire gauge and maximum distance as per EM driver distance chart. Connect EM driver to conduit wires and ac branch circuit.
Faites passer le conduit de la boîte EM à la boîte de connexion du luminaire. Consulter le tableau de "distance maximale" disponible dans la feuille d'installation. Branchez la batterie EM avec les fils du conduit ainsi que la ligne 120V ou 277V.

STEP 3 ÉTAPE 3



Install luminaire & connect its wires to conduit. Install test button on wall or box (wall plate not supplied).
Installer le luminaire & connecter les fils au conduit. Installer le bouton d'essai sur le mur ou boîtier (plaque murale non fournie).

REFER ALSO TO INSTALLATION DRAWING AND EM GUIDE FOR MORE INFORMATION.
CONSULTEZ LE DESSIN D'INSTALLATION ET LE GUIDE EM POUR PLUS D'INFORMATIONS.

EUREKA **SPECIFICATION**

Submitted by The Lighting Group LLCChris Hamaker	**Catalog Number:**	**Type:**
Job Name: Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	4272D-9 LED 30 80 120V DV WHE WH XX Notes:	**L18** LGNW23-97480

3981E REMOTE EMERGENCY BOX KIT - **IOTA EM DRIVER**

SAFETY GUIDELINES :

> Follow safety instructions and guidlelines of EM battery/driver manufacturer for the specific model.
> Install by qualified personnel in accordance with the National Electrical Code and local regulations.
> Turn off power supply before installation or servicing the fixture.

EMB LOCATION :

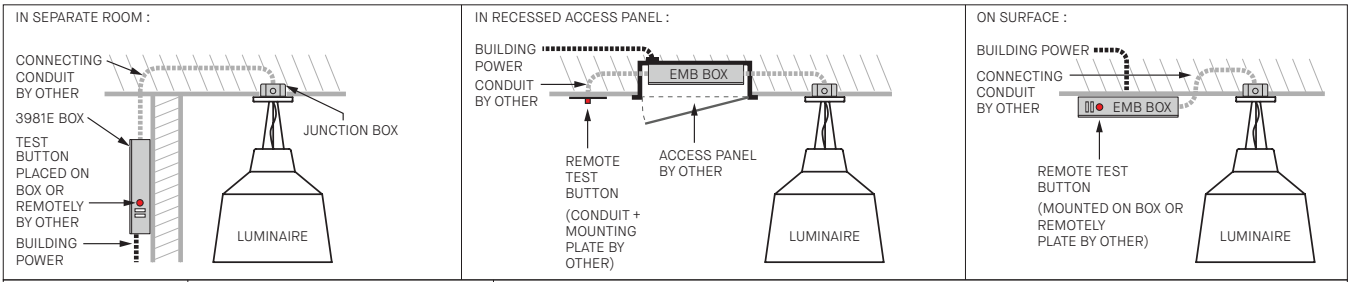
> The 3981E box connects to a luminaire ordered with an EMB option (which has specific EM WIRING).
> Consult our chart for maximum remote distance of EM battery to luminaire leds.
> Establish desired location for EMB box & EM test button on box or on a wall.

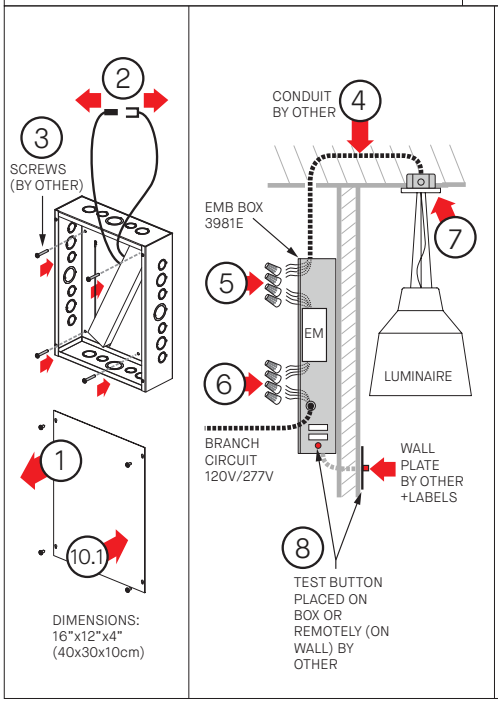
EM Remote Distance Chart

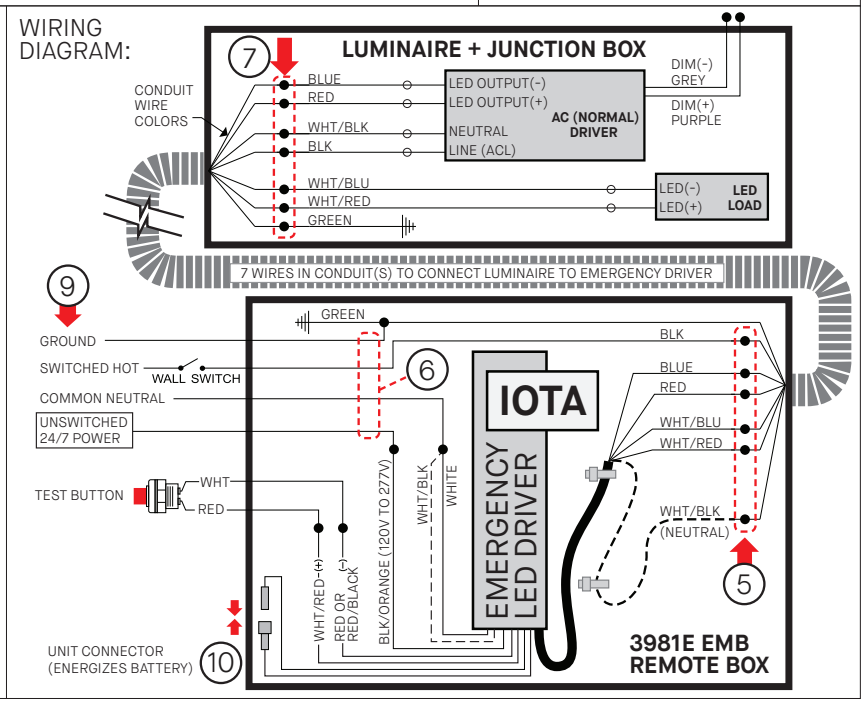
Maximum distance EM battery to Luminaire LEDs (Ft)

	MAX EM BOX DISTANCE (Ft)	CONDUIT WIRE GAUGE (AWG)						
		10	12	14	16	18	20	22
LUMINAIRE DRIVER OUTPUT CURRENT* (Amps) *Contact Eureka	200mA	1043'	651'	413'	259'	163'	103'	65'
	350mA	596'	372'	236'	148'	93'	59'	37'
	500mA	417'	261'	165'	104'	65'	41'	26'
	700mA	298'	186'	118'	74'	47'	29'	18'
	1000mA	209'	130'	83'	52'	33'	21'	13'
	1400mA	149'	93'	59'	37'	23'	15'	9'
	2000mA	104'	65'	41'	26'	16'	10'	6'
	3000mA	70'	43'	28'	17'	11'	7'	4'

EMB PLACEMENT EXAMPLES :







INSTALLATION

1 -REMOVE BOX COVER.

2 -IF CONNECTED, DISCONNECT THE EM BATTERY 'UNIT CONNECTOR' (WHITE).

3 -SCREW BOX TO MOUNTING SURFACE (SCREWS NOT SUPPLIED)

4 -RUN CONDUIT FROM EMB BOX TO ELECTRICAL JUNCTION BOX OF LUMINAIRE. CONDUIT MUST HAVE MIN. 7 WIRES AND WIRE GAUGE AS PER DISTANCE CHART.

5 -CONNECT CONDUIT WIRES TO EM BATTERY AS PER WIRING DIAGRAM.
CAREFULLY NOTE WHICH WIRE COLORS ARE CONNECTED TOGETHER ON EACH END.

6 -CONNECT BATTERY TO AC BRANCH CIRCUIT : GROUND, NEUTRAL, 24/7 UNSWITCHED LINE (HOT) AND SWITCHED LINE (ON SAME CIRCUIT AS LUMINAIRE ON/OFF CONTROL).

7 -INSTALL SPECIFIC EM LUMINAIRE, CONNECT WIRES TO CONDUIT USING THE SAME CORRESPONDING COLORS NOTED AT THE EM BATTERY-CONDUIT CONNECTION.

8 -INSTALL EM BATTERY TEST BUTTON IN DESIRED LOCATION. WALL PLATE BY OTHER. ADD LABELS "PUSH TO TEST" & CHARGING INDICATOR LIGHT".

9 -SWITCH ON AC POWER.

10 -JOIN THE EM BATTERY CONVERTOR CONNECTOR. 10.1 -INSTALL BOX COVER.

11 -IF EMB IS FAR FROM THE LUMINAIRE, IDENTIFY TO WHICH LUMINAIRE IT IS CONNECTED.

AT THIS POINT POWER SHOULD BE CONNECTED TO BOTH THE AC DRIVER AND THE EMERGENCY DRIVER & TEST/CHARGE LIGHT SHOULD ILLUMINATE, INDICATING BATTERY IS CHARGING.

TESTING & EM DRIVER/BATTERY MAINTENANCE:

CONDUCT A SHORT-TERM DISCHARGE TEST AFTER THE EMERGENCY DRIVER HAS BEEN CHARGED FOR MINIMUM ONE HOUR. CHARGE FOR 24 HOURS BEFORE CONDUCTING A LONG-TERM DISCHARGE TEST.

FOLLOW GUIDELINES FROM THE EM DRIVER/BATTERY MANUFACTURER INSTRUCTIONS FOR THE REQUIRED PERIODIC TESTING AND MAINTENANCE GUIDELINES.

EUREKA

INSTALLATION

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Submitted by The Lighting Group LLCChris Hamaker

Job Name:
Skagit County Public Utilities District - Campus Replacement Administration Building Phase
Architect: Driftmier Architects (Redmond)
Engineer: Rensch Engineering (Snohomish)

Catalog Number:
4272D-9 LED 30 80 120V DV WHE WH XX
Notes:

Type:
L18
LGNW23-97480

3981E BOÎTE D'URGENCE À DISTANCE - **DRIVER EM IOTA**

DIRECTIVES DE SÉCURITÉ:

> Suivre les consignes de sécurité et les directives d'installation du fabricant de la batterie d'urgence.
> Installer par du personnel qualifié conformément au code électrique national et local.
> Fermer l'alimentation avant l'installation ou l'entretien.

EMPLACEMENT :

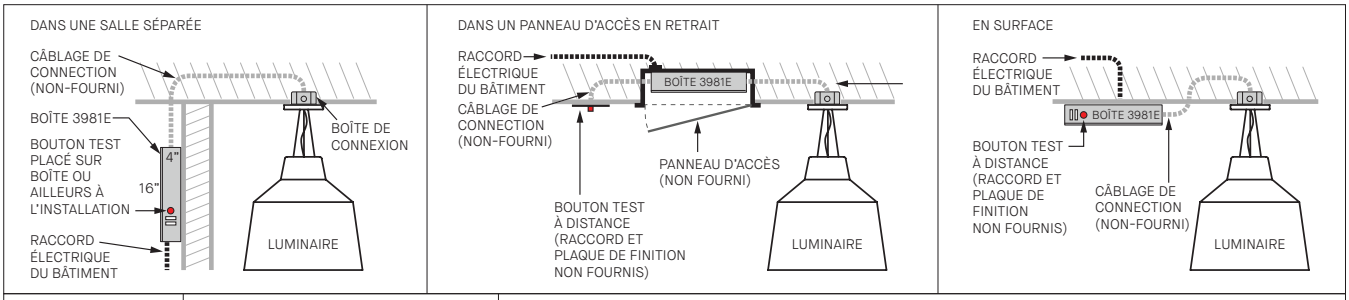
> Cette boîte 3981E se connecte à un luminaire commandé avec l'option EMB (qui a du filage spéficique).
> Consulter le tableau pour la distance maximale de la batterie d'urgence aux DELs du luminaire.
> Déterminer l'emplacement souhaité pour la boîte EMB et le bouton de test d'urgence.

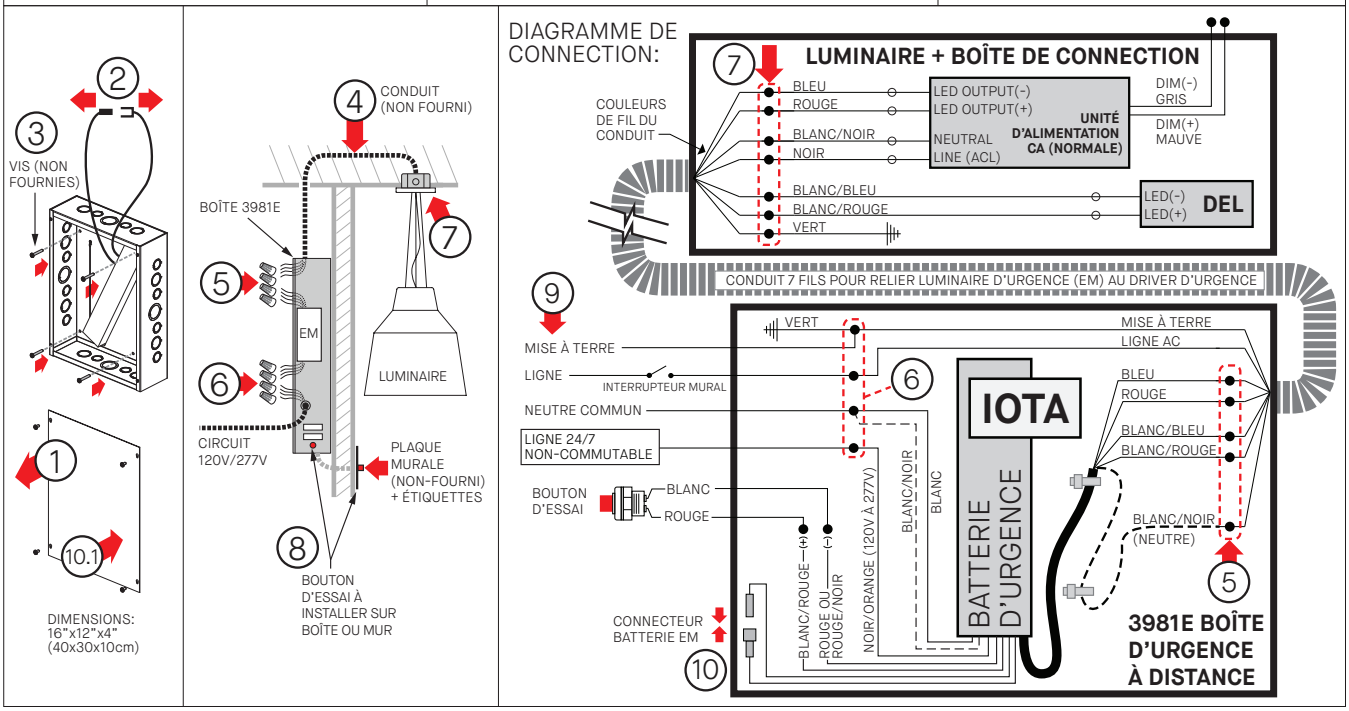
Charte de distance d'installation EM

Distance maximale entre Batterie d'urgence et DELs du luminaire (Pi)

DISTANCE MAX D'INSTALLATION (Pi)		GAUGE DE FILS DU CONDUIT (AWG)						
		10	12	14	16	18	20	22
COURANT ALIMENTATION DU LUMINAIRE* (Amp) *Contacter Eureka	200mA	1043'	651'	413'	259'	163'	103'	65'
	350mA	596'	372'	236'	148'	93'	59'	37'
	500mA	417'	261'	165'	104'	65'	41'	26'
	700mA	298'	186'	118'	74'	47'	29'	18'
	1000mA	209'	130'	83'	52'	33'	21'	13'
	1400mA	149'	93'	59'	37'	23'	15'	9'
	2000mA	104'	65'	41'	26'	16'	10'	6'
	3000mA	70'	43'	28'	17'	11'	7'	4'

EXEMPLES D'EMPLACEMENT:





INSTALLATION

1 - DÉVISSER LE COUVERCLE.

2 -DÉCONNECTER LE CONNECTEUR BLANC DE BATTERIE EM (UNIT CONNECTOR).

3 -FIXER LA BOÎTE SUR LE MUR/PLAFOND AVEC VIS (NON FOURNIES)

4 -PASSER DU CONDUIT DU EMB VERS LA BOÎTE DE CONNEXION ÉLÉCTRIQUE DE LUMINAIRE. LE CONDUIT DOIT AVOIR 7 FILS AVEC JAUGE DE FIL SELON CHARTE DE DISTANCE.

5 -CONNECTER LES FILS DE CONDUIT À LA BATTERIE EM SELON LE SCHÉMA DE CÂBLAGE.

6 -CONNECTER LA BATTERIE AU CIRCUIT DE DÉRIVATION AC (FILS: MISE A LA TERRE, NEUTRE, LIGNE & LIGNE SANS INTERRUPTEUR 24H/7* (*DOIT ETRE LE MEME CIRCUIT QUE LE CONTROLE DU LUMINAIRE).

7 -INSTALLER LUMINAIRE SPÉCIFIQUE EM, CONNECTER LES FILS AU CONDUIT AVEC MÊMES COULEURS CORRESPONDANTES DE LA BATTERIE EM AUX FILS DE CONDUIT.

8 -INSTALLEZ LE BOUTON D'ESSAI DE BATTERIE EM DANS L'ENDROIT SOUHAITÉ (PLAQUE MURALE PAR AUTRE). COLLER ÉTIQUETTES "PUSH TO TEST" & CHARGING INDICATOR LIGHT".

9 -ALIMENTER LE CIRCUIT AC.

10 -JOINDRE CONNECTEUR BLANC DE BATTERIE EM. 10.1 -INSTALLER COUVERCLE DE BOITE.

11 -SI LE EMB EST LOIN DU LUMINAIRE, IDENTIFIER À QUEL LUMINAIRE IL EST CONNECTÉ.

A CE STADE, L 'ALIMENTATION DEVRAIT ETRE CONNECTÉE À L'UNITÉ D'ALIMENTATION AC ET LA BATTERIE D' URGENCE ET LA LUMIERE DE TEST/CHARGE S'ILLUMINE, INDIQUANT QUE LA BATTERIE SE CHARGE.

ESSAIS & ENTRETIEN DE LA BATTERIE:

FAITES UN TEST DE DÉCHARGE À COURT TERME APRÈS AVOIR CHARGÉ LA BATTERIE D'URGENCE AU MINIMUM UNE HEURE. CHARGEZ 24 HEURES AVANT D'EFFECTUER UN TEST DE DÉCHARGE À LONG TERME.

SUIVRE LES DIRECTIVES DU FABRICANT DE BATTERIE / CONDUCTEUR EM (SITE WEB) POUR LES DIRECTIVES PÉRIODIQUES REQUISES EN MATIÈRE DE TEST ET D'ENTRETIEN.

EUREKA

INSTALLATION

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** * * * EXTERIOR * * * Notes:	**Type:** LGNW23-97480

EXTERIOR

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** LP3-FST 20 S2 35 50 XX WW Notes:	**Type:** **LX1** LGNW23-97480

3” Cylinder

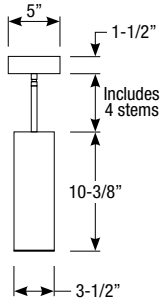
25W LED Pendant (Round or Square)

Catalog #: Type:

Project: Date:

Notes:





STANDARD FINISHES

- **ABL** (Aegean Blue)
- **BB** (Burnished Bronze)
- **BK** (Gloss Black)
- **BLU** (Blue)
- **DVG** (Dove Gray)
- **FLG** (Flannel Gray)
- **GA** (Galvanized)
- **GWT** (Gloss White)
- **LG** (Lime Green)
- **MB** (Matte Black)
- **MBL** (Midnight Blue)
- **PNA** (Painted Natural Aluminum)
- **PNC** (Painted Natural Copper)
- **RD** (Red)
- **SGR** (Sage Green)
- **SND** (Sand)
- **SS** (Satin Silver)
- **TBZ** (Textured Bronze)
- **TGP** (Textured Graphite)
- **TNG** (Tangerine)
- **TTL** (Tahitian Teal)
- **WT** (Semi Gloss White)
- **YEL** (Yellow)

Electrical Data (In one direction)

CCT	CRI	Wattage	Delivered Lumens	Efficacy
2700K	90 CRI	25W	1716lm	69lpw
3000K	90 CRI	25W	1838lm	74lpw
3500K	90 CRI	25W	1975lm	79lpw
4000K	90 CRI	25W	2107lm	84lpw

Multiplier for Delivered Lumens

Wattage	10	15	20	25
Multiplier	0.45	0.69	0.83	1

Specifications

Field Replaceable LED Light Engine
- LED with 2 SDCM binning
- 2700K, 3000K, 3500K and 4000K at 90 CRI
- 10º, 30º, 50º and 80º optics

Field Replaceable Dimming Driver
- Multiple dimming drivers available
- Power factor > 0.9, 50/60Hz

Mounting
- 4’ of stem included; (1) 6”, (2) 12” & (1) 18” (includes couplers) Contact the factory for custom sloped ceiling projects
- 10’ field adjustable cord available, must specify
- 5” x 1-1/2” canopy included with standard universal dim driver (7-1/8” x 2-1/4” round canopy or 6-1/4” x 2-1/4” square canopy included with Lutron and eldoLED drivers)

Finishes
Available in 22 standard finishes with optional coastal coating to protect finish in coastal environments.

Listing / Warranty
- Five (5) year limited warranty
- UL listed to US and Canadian standards for Damp locations

5 YEAR WARRANTY · c UL us LISTED · DAMP LOCATION · JA8 TITLE 24 COMPLIANT

Order Matrix

3” Cylinder (Example: LP3-25-35-10-BK-5-S-BC)

Series	Wattage	CCT / CRI	Optic	Finish	Coastal Coating	Rev	Driver	Hanging Option	Canopy
LP3 (Round)	**-10**	**-27** (2700K/90CRI)	**-10**	**-ABL** (Aegean Blue)	(blank) (No coating)	**-5**	**-S**[2] (ERP, Universal Dim, Triac/ ELV/0-10V 1% 120-277V)	**-ST** Stem	(blank) (standard canopy)
	-15	**-30** (3000K/90CRI)		**-BB** (Burnished Bronze)	**-C** (Coating)		**-L3**[1] (Lutron Hi-lume® Fade-to-Black 1% 120-277V)	**-BC** 10’ Black Cord	**-CC1**[3] (Conduit 3-1/4” canopy)
	-20	**-35** (3500K/90CRI)	**-30**	**-BK** (Gloss Black)			**-EL1**[1] (eldoLED DALI 1% 120-277V)	**-WC** 10’ White Cord	**-CC2**[3] (Conduit 3-7/8” canopy)
SLP3 (Square)	**-25**	**-40** (4000K/90CRI)	**-50**	**-BLU** (Blue)			**-EL2**[1] (eldoLED 0-10V 1% 120-277V)	**-LV** 10’ Low Voltage Aircraft Cable	
			-80	**-DVG** (Dove Gray)			**-DMX**[1] (DMX 1% 120-277V)	**-BCC** 10’ Black Cord with internal strain relief	
				-FLG (Flannel Gray)				**-WCC** 10’ White Cord with internal strain relief	
				-GA (Galvanized)					
				-GWT (Gloss White)					
				-LG (Lime Green)					
				-MBL (Midnight Blue)					
				-MB (Matte Black)					
				-PNA (Painted Natural Aluminum)					
				-PNC (Painted Natural opper)					
				-RD (Red)					
				-SGR (Sage Green)					
				-SND (Sand)					
				-SS (Satin Silver)					
				-TBZ (Textured Bronze)					
				-TGP (Textured Graphite)					
				-TNG (Tangerine)					
				-TTL (Tahitian Teal)					
				-WT (Semi Gloss White)					
				-YEL (Yellow)					

Emergency

EM-1000	(25W Remote Inverter)
EM-1002	(10W Remote Inverter)
EM-1003	(35W Remote Inverter)
EM-1003-CA	(35W Remote Inverter) Title 20
EM-1004	(50W Remote Inverter)
EM-1006	(25W Remote Inverter) Title 20

Optic

EDL-10-OPTIC-5	(10º Spot)
EDL-30-OPTIC-4	(30º Spot)
EDL-50-OPTIC-4	(50º Spot)
EDL-80-OPTIC-4	(80º Spot)

1. Includes larger canopy
2. Forward and reverse dimming at 120V only
3. CC1 and CC2 only for S driver option

Spec-00227 Revised 10/14/2022

14508 Nelson Ave. City of Industry, CA 91744 • tel: 626.336.4511 • fax: 626.330.4266 • www.csllighting.com

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CSL CREATIVE SYSTEMS LIGHTING

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** PDX7 XX 12LED WHT41K MVOLT NSP FLCSR XX LDIM Notes:	**Type:** **LX4** LGNW23-97480

HYDREL

CATALOG NUMBER

NOTES

TYPE



Specifications

Lenght:	15"
	381 mm
Width:	9"
	229 mm
Height	8"
	203 mm
Weight:	9lbs

PARADOX 7

12W LED

7" Architectural In-Grade

HIGHLIGHTS

- Adjustable LED module for in-field aiming up to 15° tilt and 360° rotation
- Integral junction box for wire splicing
- Available with 0-10V low voltage dimming
- U.V. stabilized, impact and corrosion resistant housing
- Integral driver

5 YEAR warranty

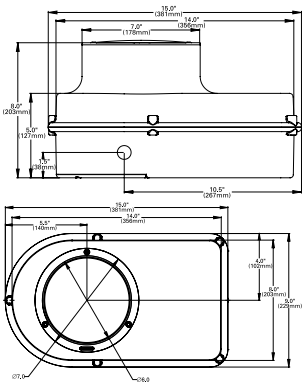
LED

IP67

WET LOCATION™

BAA

DIMENSIONS



LUMEN PACKAGES

	NSP	MFL	FL	WFL	HSP	HFL	VWFL
Delivered Lumens	1200	1200	900	1100	1200	1100	700
Watts	14	14	14	14	14	14	14
LPW	86	86	64	79	86	79	54

Note: Based on 41K

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Phone: 800-705-SERV (7378) • www.hydrel.com

ORDERING INFORMATION

EXAMPLE: PDX7 B 12LED WHT53K MVOLT NSP FLC 34S IHL

SPECIFY

Model*	Material*	LED Array*	LED Color*	Voltage*	Light Distribution*	Lens*
PDX7	**SS** Stainless Steel **BSS** Brushed Stainless Steel **B** Bronze	**12LED**	**WHT30K** 3000K CCT **WHT41K** 4100K CCT **WHT53K** 5300K CCT **AMBPC** Phosphor Converted Amber **BLU** Blue **GRN** Green **RED** Red	**MVOLT** (120-277 Volt 50/60HZ)	**NSP** Narrow Spot **MFL** Medium Flood **FL** Flood **WFL** Wide Flood **VWFL**[1] Very Wide Flood (no optics) **HSP** Horizontal Spot **HFL** Horizontal Flood	**FLC** Flat Lens Clear **FLCAS** Flat Lens Clear, Anti-Slip **FLCSR**[2] Flat Lens Frosted, Slip Resistant

SPECIFY

Conduit Entries	Accessories	Options	Listing
34S Two 3/4" NPT Side (Standard) **25S**[3] Two 25mm Side	**Internal** **IHL** Honeycomb Louver **FRF** Frosted Filter	**LDIM** 0-10V Dimming. Dims to 20%.	**IEC**[3] International Electrotechnical Commission

ELECTRICAL LOAD

Light Engines	Drive Current (mA)	System Watts	Current (A)					
			120	208	240	277	347	480
12 LED	350	14	0.117	0.067	0.058	0.051	0.040	0.029

PROJECTED LED LUMEN MAINTENANCE

Data references the extrapolated performance projections for the **Fixture** platform in a **25°C ambient**, based on 8400 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.00	0.99	0.98	0.95

LUMEN AMBIENT TEMPERATURE (LAT) MULTIPLIERS

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

SLIP RESISTANCE AND LOAD RATING

PDX7
MAXIMUM LOAD RATING
Peak compression force of 2,847 lbs.
LENS STATIC COEFFICIENT OF FRICTION
PDX7 Anti-Slip Lens (FLCAS): Dry = 0.76; Wet = 0.20
PDX7 Slip Resistant Lens (FLSR): Dry = 0.84; Wet = 0.65

Notes:
1 FRF filter needed with VWFL.
2 Meets ADA requirements for coefficient of friction.
3 Only for use in 50HZ applications.

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PERFORMANCE DATA

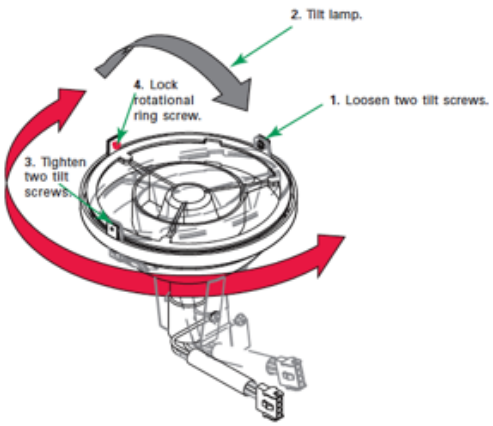
LUMEN OUTPUT

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Actual performance may differ as a result of end-user environment and application. Contact factory for performance data on any configurations not shown here.

	Distribution	Nema Type	Beam Angle (50%) H x V	Field Angle (10%) H x V	Watts	LPW	Delivered Lumens
3000K 80CRI	NSP	2 x 2	14.7 x 14.7	28 x 28	14	50	700
	MFL	3 x 3	24.4 x 24.4	44 x 44	14	50	700
	FL	6 x 6	74.5 x 70.8	104.2 x 102.1	14	36	500
	WFL	6 x 6	102.5 x 100.4	129.6 x 129.1	14	43	600
	HSP	3 x 3	21.6 x 21.6	39.9 x 39.9	14	50	700
	HFL	4 x 3	39.3 x 15.7	59.6 x 29.9	14	43	600
	VWFL	6 x 6	89.3 x 85.1	129.4 x 128.2	13	31	400
4100K 70CRI	NSP	2 x 2	14.7 x 14.7	28 x 28	14	86	1,200
	MFL	3 x 3	24.4 x 24.4	44 x 44	14	86	1,200
	FL	6 x 6	74.5 x 70.8	104.2 x 102.1	14	64	900
	WFL	6 x 6	102.5 x 100.4	129.6 x 129.1	14	79	1,100
	HSP	3 x 3	21.6 x 21.6	39.9 x 39.9	14	86	1,200
	HFL	4 x 3	39.3 x 15.7	59.6 x 29.9	14	79	1,100
	VWFL	6 x 6	89.3 x 85.1	129.4 x 128.2	13	54	700
5300K 70CRI	NSP	2 x 2	14.7 x 14.7	28 x 28	14	86	1,200
	MFL	3 x 3	24.4 x 24.4	44 x 44	14	86	1,200
	FL	6 x 6	74.5 x 70.8	104.2 x 102.1	14	64	900
	WFL	6 x 6	102.5 x 100.4	129.6 x 129.1	14	79	1,100
	HSP	3 x 3	21.6 x 21.6	39.9 x 39.9	14	86	1,200
	HFL	4 x 3	39.3 x 15.7	59.6 x 29.9	14	79	1,100
	VWFL	6 x 6	89.3 x 85.1	129.4 x 128.2	13	54	700

LED LIFE: L70/60,000 hours
OPERATING TEMPERATURE: -30°C Through 40°C

LAMP ADJUSTMENT DETAIL



SPECIFICATIONS AND FEATURES

DOOR MATERIAL: Die cast bronze or stainless steel.

HOUSING: Compression molded polyester with patent pending internal direct access junction box for through-branch wiring. Internal junction box provides 44in³ volume to ensure proper seal during installation. The housing is U.V. stabilized, impact and corrosion resistant for use in all types of environments. The housing has a side-car configuration and houses the lamp and power module components as well as the lens/ door finishing section.

SOURCE TYPE: LED: White and monochromatic LEDs, 12W. All within 3 MacAdam ellipses

VOLTAGE: MVOLT

LIGHT DISTRIBUTION: See Ordering Guide. LED module has 15° of internal tilt and 360° of rotation.

LENS/SEAL: Tempered clear flat borosilicate glass. The patent pending door / lens seal uses proprietary knife edge technology to secure the assembly to the housing. Three captive screws hold the assembly in place. The lens is notched to provide maximum aperture opening.

CONDUIT ENTRIES: Two molded ¾" NPT side entries standard, bottom hubs are molded with a ¾" NPT membrane knockout.

ACCESSORIES: Internal glare control, anti-slip lenses available. See ordering guide for complete list of accessories.

POWER MODULE: Integrally mounted modular encapsulated LED driver.

FINISH: Natural bronze or stainless steel with a brushed finish. Bronze doors may be painted. Contact factory for color options.

LISTING: cCSAus, suitable for wet locations, laboratory tests conducted by CSA to UL Standard UL-1598 and UL-8750.

BUY AMERICAN ACT: This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/resources/buy-american for additional information.

WARRANTY: 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Consult factory for details.

NOTE: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

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Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** HL905 XX 8LED GL-93 Notes:	**Type:** **LX7** LGNW23-97480

SPECIFICATIONS

DESCRIPTION:
LED flood light. Suitable for wet/damp/dry location installations.

MATERIAL:
Standard overall material is 6061 aluminum.
HL-905 - Machined Aluminum

FINISH:
AA - Anodized Satin Aluminum
AP - Powder Coat Aluminum
BK - Powder Coat Black
BZ - Powder Coat Bronze
WT - Powder Coat White

LED OPTIONS:
Integral high output LED, warm white (3000K CCT) standard, others available.
3LED - 3W LED
8LED - 8W LED

VOLTAGE:
12 - 12 VAC output transformer required, not included.

MOUNTING:
Fixture is designed with a 1/2-NPS adjustable mounting stem.

ACCESSORIES:
Glare shields
GL-93 - Angled, aluminum
See fixture accessories for more information.

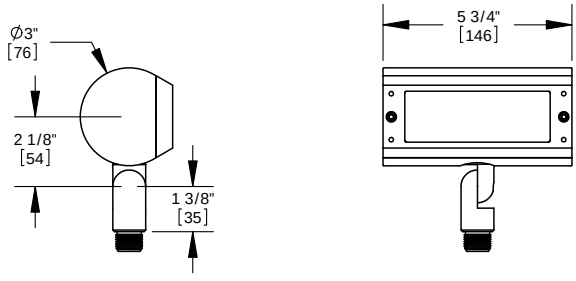
SAMPLE ORDER SPECIFICATION:
HL-905

RATING:
Wet/damp/dry location.

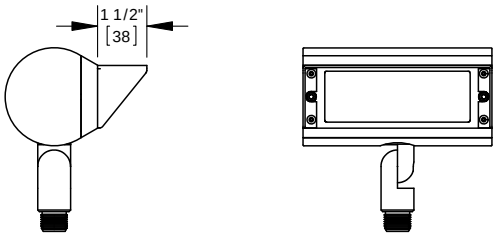
Intertek

MADE IN THE USA





STANDARD



GLARE SHIELD

ORDER SPECIFICATION: _____ - _____ - _____ - _____ - _____
Fixture - Finish - Lamping - Voltage - Options/Access.

PROJECT:

APPROVED:

NOTE:

TYPE:

HEVI LITE, INC.
9714 Variel Ave, Chatsworth, CA 91311
Tel., (818) 341-8091 - Fax (818) 998-1986
Web Site http://www.hevilite.com

CATALOG NUMBER:
HL-905

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Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** PINE P1 80CIR 30K MVOLT 25DEG WSL KM C3 XX Notes:	**Type:** **LX8** LGNW23-97480

HYDREL

CATALOG NUMBER

NOTES

TYPE



Specifications

Weight:	10 lbs
H:	9.07" (230mm) w/C1
	11.07" (281mm) w/C2
	14.88" (378mm) w/C3

PINE
MVOLT LED

HIGHLIGHTS

- The Pine Series accent light is suitable for a variety of mounting applications including ground, wall, tree, sign and architectural accents
- Suitable for wet locations
- TRIAC (forward-phase or leading-edge) and ELV (reverse phase or trailing-edge)
- Available in 80CRI and 90CRI
- 4,200lm

LED

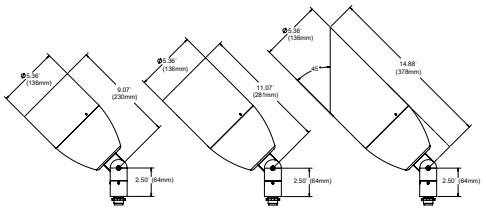
5 YEAR warranty

66 IP RATED

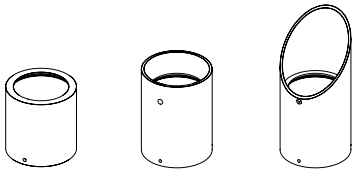
WET LOCATION

BAA

DIMENSIONS

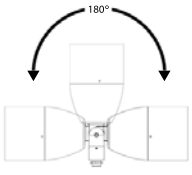


C1 EPA = 0.400 ft^2 | C2 EPA = 0.489 ft^2 | C3 EPA = 0.539 ft^2



C1 SHORT FLUSH | C2 LENS RECESSED | C3 45° CUTOFF

AIMING DETAILS



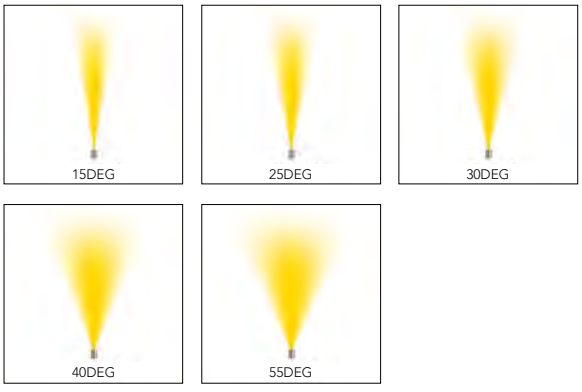
PINE

LUMEN PACKAGES

	15DEG	20DEG	25DEG	30DEG	35DEG	40DEG	45DEG	50DEG	55DEG
Delivered Lumens	3,298	3,124	3,175	3121	3254	3240	3138	3128	3131
Watts	33	33	33	33	33	33	33	33	33
LPW	100	95	96	95	99	98	95	95	95
Peak Candela	31,317	13,776	14,155	8649	7574	6133	4813	3749	3260

Note: Information based on 4000K @ P1, 80CRI, 120 Volt with C1 cap and FLC lens

STANDARD DISTRIBUTION



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ORDERING INFORMATION

EXAMPLE: PINE P1 90CRI 27K 120 15DEG WSL KM JBA IHL C2 BL

PINE

Series*	Performace Packages*	CRI*	LED Color*	Voltage*	Distribution*	Lens*	Mounting*	Mounting Accessories *Optional*
PINE	**P1**	**80CRI**	27K	**MVOLT** 120-277VAC	**15DEG** 15°	**FLC** Flat Clear	**KM** Knuckle Mount	**Independent Mounting**
	P2	90CRI	**30K**		**20DEG** 20°	**WSL** Watershed		**JBA** Aluminum J-Box
			35K[1]		**25DEG** 25°			**ARJB** J-Box, Aluminum
			40K		30DEG 30°			**WMSA** Wall Mount with Splice Access
			50K[1]		35DEG 35°			**PM60C** Post Mount with Conduit
					40DEG 40°			
					45DEG 45°			
					50DEG 50°			
					55DEG 55°			

STANDARD FINISH

Options *Optional*				External Caps*	Finish*			
Internal Louver		**Internal Filters**[3]		**C1** Short Flush	**All Material**		**All Material**	
IHL	Honeycomb Louver	**FA**	Amber	**C2** Recessed Lens	**BL**	Black Textured	**DNA**	Natural Aluminum
Internal Accessory		**FG**	Green	**C3** 45° Angle Cut	**BRS**	Bronze Smooth	**NBS**[4]	Natural Bronze Smooth
L1	Prismatic Lens	**FGD**	Green Dichroic		**BRT**	Bronze Textured	**STG**	Steel Gray
L2	Linear Spread Lens	**FLB**	Light Blue		**DBL**	Black Smooth	**VET**	Verde Textured
L3	Softening Lens	**FM**	Mercury Vapor		**DDB**	Designer Bronze	**WH**	White Textured
		FMB	Medium Blue				**WHS**	White Smooth
		FMBD	Medium Blue Dichroic				**CF**	Custom Finish
		FR	Red				**__Z**[5]	Zinc Undercoat (i.e.BLZ)
		FRD	Red Dichroic				**RALTBD**	Ral Paint Finishes

Note: RALTBD for pricing only, replace with applicable RAL call out when ready to order. See the RALBROCHURE for available options. It is recommended that Hydrel products only use textured paint.

*Required Fields

Notes:
1. 80CRI Only.
2. Up to 2 options can be specified.
3. Only available with P1.
4. NBS paint uses specialty pigments to give a natural appearance that may vary by fixture.
5. Zinc undercoat for harsh environments

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PERFORMANCE DATA

LUMEN OUTPUT

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Performance Package	System Watts	Distribution Type	Field Angle		Beam Angle		27K (2700K, 80CRI)			30K (3000K, 80CRI)			35K (3500K, 80CRI)			40K (4000K, 80CRI)			50K (5000K, 80CRI)		
			°H	°V	°H	°V	Max CD	Lumens	LPW	Max CD	Lumens	LPW	Max CD	Lumens	LPW	Max CD	Lumens	LPW	Max CD	Lumens	LPW
P1	33	15DEG	29	29	15	15	28,641	3,016	91	29,711	3,129	95	30,247	3,185	97	31,317	3,298	100	32,388	3,410	103
		20DEG	44	44	21	21	12,598	2,857	87	13,069	2,964	90	13,305	3,017	91	13,776	3,124	95	14,247	3,231	98
		25DEG	43	43	23	23	12,945	2,904	88	13,429	3,012	91	13,671	3,067	93	14,155	3,175	96	14,639	3,284	100
		30DEG	55	55	30	30	7,910	2,855	87	8,206	2,961	90	8,353	3,015	91	8,649	3,121	95	8,945	3,228	98
		35DEG	56	54	36	33	6,927	2,976	90	7,186	3,088	94	7,316	3,143	95	7,574	3,254	99	7,833	3,366	102
		40DEG	64	63	40	39	5,609	2,963	90	5,818	3,074	93	5,923	3,129	95	6,133	3,240	98	6,343	3,351	102
		45DEG	74	73	44	43	4,401	2,870	87	4,566	2,977	90	4,648	3,030	92	4,813	3,138	95	4,977	3,245	98
		50DEG	86	86	51	51	3,429	2,861	87	3,557	2,968	90	3,621	3,021	92	3,749	3,128	95	3,877	3,235	98
		55DEG	94	94	54	53	2,982	2,863	87	3,093	2,970	90	3,149	3,024	92	3,260	3,131	95	3,372	3,238	98
P2	53	15DEG	29	29	15	15	35,517	3,740	71	36,845	3,880	73	37,508	3,950	75	38,836	4,089	77	40,164	4,229	80
		20DEG	44	44	21	21	15,623	3,543	67	16,207	3,675	69	16,499	3,742	71	17,083	3,874	73	17,667	4,006	76
		25DEG	43	43	23	23	16,053	3,601	68	16,653	3,736	70	16,953	3,803	72	17,553	3,938	74	18,153	4,072	77
		30DEG	55	55	30	30	9,809	3,540	67	10,176	3,672	69	10,359	3,739	71	10,726	3,871	73	11,092	4,003	76
		35DEG	56	54	36	33	8,590	3,691	70	8,911	3,829	72	9,072	3,898	74	9,393	4,036	76	9,714	4,174	79
		40DEG	64	63	40	39	6,955	3,674	69	7,215	3,812	72	7,345	3,880	73	7,605	4,018	76	7,865	4,155	78
		45DEG	74	73	44	43	5,458	3,559	67	5,662	3,692	70	5,764	3,758	71	5,968	3,891	73	6,172	4,024	76
		50DEG	86	86	51	51	4,252	3,548	67	4,411	3,680	69	4,490	3,747	71	4,649	3,879	73	4,808	4,012	76
		55DEG	94	94	54	53	3,697	3,551	67	3,836	3,684	70	3,905	3,750	71	4,043	3,883	73	4,181	4,015	76

CRI SCALING	Multipler
90CRI	0.83

EXTERNAL CAP	Multiplier
C2	0.70
C3	0.965

OPERATING TEMPERATURE: -20°C through 45°C (P1 Performance Package)
-20°C through 30°C (P2 Performance Package)

PHOTOMETRIC DIAGRAMS

To see complete photometric reports or download .ies files for this product, visit www.hydrel.com

FEATURES & SPECIFICATIONS

MATERIAL: Body cast from 356-T6 Aluminum, Cap knuckle machined from 6061-T6 Aluminum.

LIGHT SOURCE: Proprietary high output LEDs. Units have near constant light output when supplied with aaVAC to combat voltage drop. All within 3 MacAdam ellipses.

VOLTAGE: MVOLT

DISTRIBUTION: 15DEG, 20DEG, 25DEG, 30DEG, 35DEG, 40DEG, 45DEG, 50DEG, 55DEG

LENS: FLC - Cut from heat strengthened borosilicate glass for superior clarity and strength. WSL - Molded heat strengthened borosilicate glass for superior clarity and strength, where the glass and the top of the door are flush to allow water to shed off the fixture.

MOUNTING: Knuckle is 1/2" NPSM, mounts to 7/8" thru hole.

ELECTRICAL: Integral MVOLT LED driver. 120VAC Dimmable with standard Triac or ELV dimming system.

FINISH: Super durable polyester TGIC powder coat finish (standard). Optional Zinc undercoat for harsh environments.

FEATURES: Any combination of up to 2 lens accessories/color filter/shielding can be specified in any cap style and are held securely by a removable stainless steel clip ring.

LISTING: cCSAus, Wet location. Laboratory tests conducted by CSA to UL Standards UL-1598, UL-8750 and UL-1838. IP66 Rated

BUY AMERICAN ACT: This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/resources/buy-american for additional information.

WARRANTY: 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

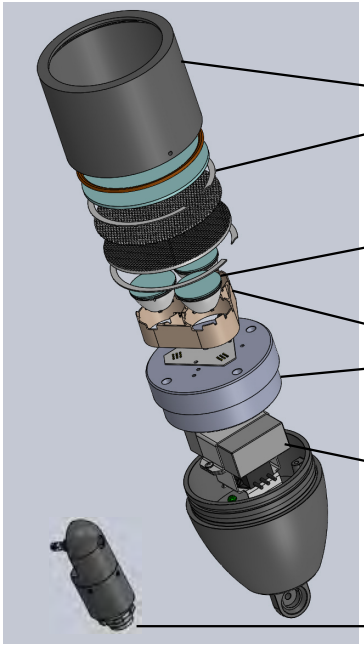
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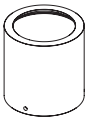
ACCENT MOUNTING ACCESSORIES

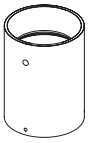
		Part #
	• JBA/JBB Junction box for direct fixture mounting • Available in cast bronze or aluminum • Used where splicing is required for single or multiple fixtures Drilled and tapped to specified requirements • May be Ground or wall mounted	Examples: JBA 34E 34F 78G BL JBB 12A 12C 78G See spec sheet for more options
	• ARJB Architectural Junction Box • Available in cast aluminum • For direct mounting of a single lighting fixture • Designed foe architectural and landscape application Recommended for mounting on a rigid metallic conduit	Example: ARJB 12B 78C BL See spec sheet for more options
	• WMSA wall mount splice access • Available in cast aluminum • Wall mount with splice access plate for mounting a variety of fixtures • Integral splice access compartment for easy fixture connections • To be mounted over a recessed wall box	Example: WMSA 78C BL See spec sheet for more options
	• Post Mounts PM60C Ground Mounting posts • Available in aluminum or brass • Suitable for fixtures with 1/2" knuckles • Fixtures are secured with a locking nut • Can be used with low or line voltage fixtures • Optional stems are offered in lengths from 3" to 36"	Examples: PM60C S3 BL See spec sheet for more options
	• Tree Ring TRAR 2FX, TRAR 3FX, TRAR 4XF, TRAR 5FX, TRAR 6FX • Stainless Steel Ring and Hardware • Can accommodate trees between 10" to 15" in diameter • Available in 2, 3, 4, 5 and 6 fixture configurations	Examples: TRAR 5FX 12S 12C BL TRAR 3FX 12S 12C BRS Note: TRAR is sold separately. See spec sheets for options

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PINE SPARE PARTS LIST




C1 Short Flush


C2 Recessed Lens


C3 45° Angle

Part Number	Description	Part Number	Description
A. CAP ASSEMBLY CAPAPINE C1 xxx1 xxx2 CAPAPINE C2 xxx1 xxx2 CAPAPINE C3 xxx1 xxx2 1. available lens: FLC, WSL 2. add paint finish	Cap Assembly will include the cap, lens and o-ring	D. LED Driver DRVAPINE xx1 xxx2 1. available performance packages: P1,P2 2. available voltage: MVOLT	Includes LED driver and surge
B. Optic only OPTPINE xx1 1. available distributions: 15DEG, 20DEG, 25DEG, 30DEG, 35DEG, 40DEG, 45DEG, 50DEG, 55DEG	Three piece snap on optic only	E. Knuckle KAPINE xx1 xx2 xx3 1. add paint finish	Knuckle Assembly
C. LED Assembly LEDAPINE xx1 xxx2 xxx3 1. available CRI: 80CRI, 90CRI 2. available colors: 27K, 30K, 35K, 40K, 50K 3. available distributions: 15DEG, 20DEG, 25DEG, 30DEG, 35DEG 40DEG, 45DEG, 50DEG, 55DEG	Includes LED array, optics,		

PINE INTERNAL ACCESSORIES

Internal Accessories can be ordered separate and are field replaceable

	**INTERNAL HONEYCOMB LOUVER** • Hexagonal cell louver with 45°cut-off • includes retaining ring	Example: IHLPINE
	**INTERNAL ACCESSORY LENSES** • L1 Prismatic Lens • L2 Linear Spread Lens • L3 Softening Lens • includes retaining ring	Examples: LAPINE L1 LAPINE L2 LAPINE L3
	**INTERNAL COLORED FILTERS** • FA Amber • FG Green • FGD Green Dichroic • FLB Light Blue • FM Mercury Vapor • FMB Medium Blue • FMBD Medium Blue Dichroic • FR Red • FRD Red Dichroic • includes retaining ring	Examples: CFPINE FA CFPINE FG CFPINE FGD CFPINE FLB CFPINE FM CFPINE FMB CFPINE FMBD CFPINE FR CFPINE FRD

The difference between the FLC and WSL lens



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Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** * * * EMERGENCY * * * Notes:	**Type:** LGNW23-97480

EMERGENCY

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** ODLM 20 EM WH MBB SD Notes:	**Type:** **EX-2** LGNW23-97480

isolite

ODLM

Mullion Mount Outdoor Emergency Egress Light

DATE:

PROJECT

COMMENTS:



FEATURES

- Very low profile extruded aluminum housing and mount bracket blend seamlessly with structural metal frames
- Remote power supply for 10W and 20W EM and AC model single fixtures
- Certified IP66 housing withstands multi direction water spray and fine dust ingress
- Universal side or top mount
- Wide lighting distribution designed for entrance walkways
- 10W or 20W emergency power models
- Option for 20W models to operate for 2 hours in emergency mode
- Standard CCT 5000K, with 2900K, 3200K and 3800K options available

Intertek

ASSEMBLED IN THE USA

ORDERING INFORMATION *ODLM-10-AC-BA-MBB*

1. SERIES		2. VA RATING		3. OPERATION		4. HOUSING COLOR	
	ODLM	-		-		-	-
		10	10 Watt	**AC**	AC Only	**BA**	Brushed Aluminum
		20	20 Watt	**EM**	Battery Backup	**WH**	White
						BK	Black

5. MOUNTING		6. OPTIONS	
MMB		-	
MBB	Mullion Mount Back	**BLANK = NO OPTION**	
		SD	Self-Diagnostics
		C1	Dual Circuit (120V)
		C2	Dual Circuit (277V)
		EB	2 Hour Runtime
		2900K	2900K Lens Filter
		3200K	3200K Lens Filter
		3800K	3800K Lens Filter

CONSTRUCTION

- Extruded aluminum lamp housing 2" diameter, with gasketed mount bracket only
- Waterproof compression seal for universal wall or top mount
- Gasketed, molded end caps and sealed acrylic lens
- Stainless steel hardware

ELECTRONICS

- Line latch circuit prevents unwanted emergency activation at installation.
- Low Voltage Disconnect prevents deep battery discharge

TEMPERATURE RATING

- **EM:** Backup Battery: -4°F to 104°F
- **AC:** No Backup Battery: -4°F to 104°F

APPROVALS

- UL 924
- NFPA 101 Life Safety Code
- IP66

WARRANTY

Isolite offers a 3-year limited warranty. For further details, refer to General Warranty and Obligations in the Isolite manual or on our website. Lamps not warranted.

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** ODLM 20 EM WH MBB SD Notes:	**Type:** **EX-2** LGNW23-97480

isolite

ODLM

Mullion Mount Outdoor Emergency Egress Light

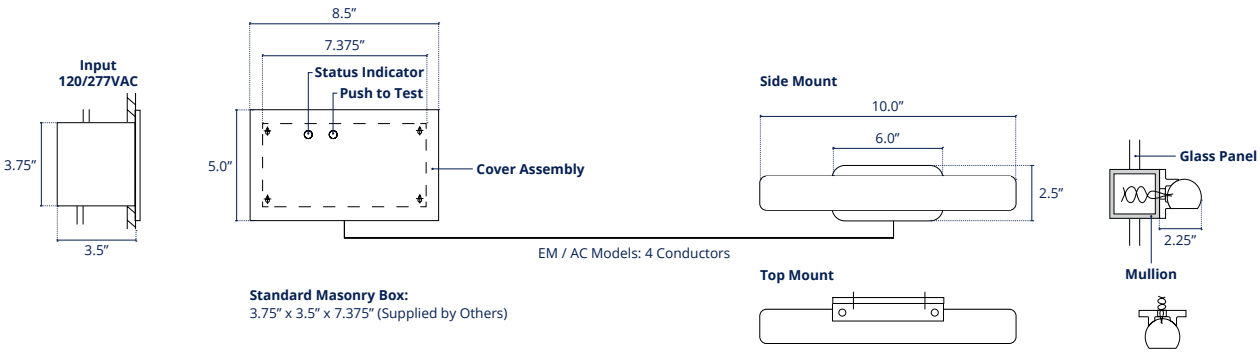
Intertek

ASSEMBLED IN THE USA

MOUNTING DIMENSIONS

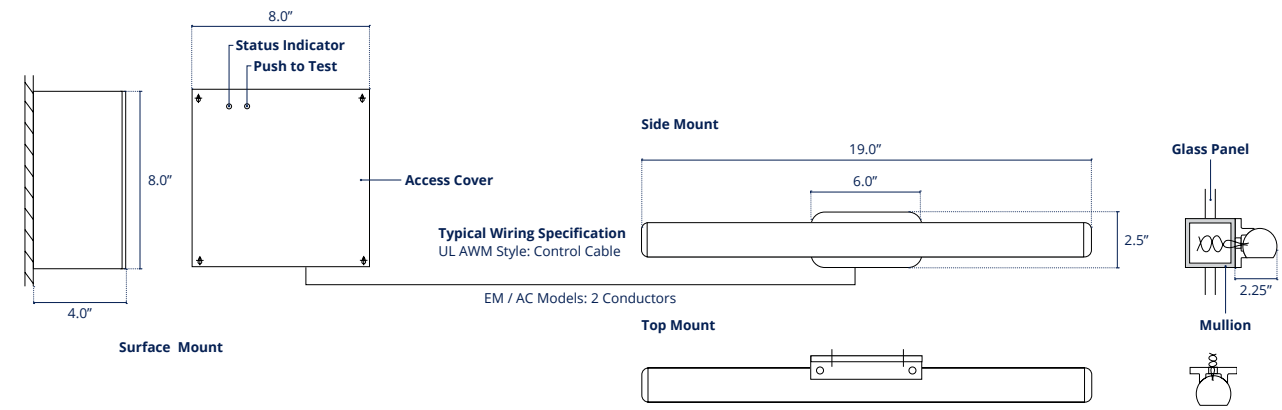
Remote Power Supply

10W AC & EM Models



Remote Power Supply

20W AC & EM Models



MAXIMUM WIRING LENGTH FROM POWER SUPPLY TO FIXTURE		
WIRING SIZE AWG	LENGTH (FT)	LENGTH (FT)
	10W UNIT	20W UNIT
#22		20
#20	12	40
#18	25	60
#16	50	100
#14	75	160
#12	125	250

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** E3MINI 250 LC MB Notes:	**Type:** **INV** LGNW23-97480

isolite

E3MINI

Pure Sine Wave Mini Inverter

DATE:

PROJECT

COMMENTS:



FEATURES

- Field-selectable 120 or 277 VAC input/output
- Four Independent Outputs with user configurable Normally-Off / Switched output types. One dedicated Normally-On, 3 configurable Switched/Normally-Off outputs
- Microprocessor controlled Pure Sine Wave output with less than 3% THD and Crest Factor up to 10X (125W), 5X (250W)
- Advanced Startup, Charger and Inverter Diagnostics prevent failures from wiring errors, overloads and application issues
- Front facing module allow for easy field wiring of AC input/output wires and all system connections/interfaces
- Advanced hysteretic ultra-efficient charger improves efficiency and extends battery lifetime
- UL 924 and CSA 22.2 approved
- Includes Self-Testing/Self Diagnostics
- Optional internal DALI/0-10V dimming interface allows for up to 3 independent zones and allows 5 different dimming presets to adjust emergency lighting levels.
- High Purity, Premium Valve Regulated Lead Acid (VRLA) with Lead-Calcium plates provide long life and durability
- Max Connected Load when using Dimming Feature is 375W

c UL us ASSEMBLED IN THE USA

ORDERING INFORMATION *E3MINI-125-LC-MB*

1. SERIES	2. VA RATING	3. BATTERY TYPE	4. MOUNTING	5. OPTIONS
E3MINI -	125 125VA 250 250VA	- LC LC Lead Calcium	- MB Back Mount MCG Ceiling Grid[1]	- BLANK = NO OPTION FD 3 Zone 0-10V/DALI Dimming & Fire Alarm Interface RT Remote Diagnostic Status Display Panel AA Audible Alarm (Buzzer) CL Canada Listed EB Extended Run Time (2h)[2]

ORDERING NOTES

1. Only Available with 125VA
2. Capacity reduced to 100VA & 200VA

ACCESSORIES

- E3MINI-FPS = E3MINI 125/250 Factory Phone Startup
  NOTE: INCREASES ELECTRONICS WARRANTY TO 5 YEARS

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** E3MINI 250 LC MB Notes:	**Type:** **INV** LGNW23-97480

isolite

E3MINI

Pure Sine Wave Mini Inverter

ASSEMBLED IN THE USA

c UL us

INPUT

- Voltage: 120 or 277 VAC – field configurable
- Current: 2.7A (120V), 1.2A (277V) for 250 Watt Model
- Current: 1.4A (120V), 0.6A (277V) for 125 Watt Model
- Frequency: 60Hz +/- 2 Hz
- Protection: Easy access 8A fast acting 5x20 mm fuse.
- Power Factor: 0.5 lead to 0.5 lag

OUTPUT

- Voltage: 120 or 277 VAC – matches input selection
- Current: 2.08A (120V), 0.9A (277V) for 250 Watt Model
- Current: 1.04A (120V), 0.45A (277V) for 125 Watt Model
- Frequency: 60Hz +/- 0.02 Hz crystal controlled during emergency mode
- Overload: 110 percent will generate overload fault
- Configurable Transfer Times: 50mS, 1s (default), 2s
- Output Distortion: Less than 3% THD
- Crest Factor: 10X for 125W and 5X for 250W model
- Load Power Factor: 0.5 lead to 0.5 lag
- Output Types: 1x Normally-On, 3x configurable Normally-Off/Switched
- Max Connected Load w/ Dimmer option: 375W (In Non emergency Mode)

BATTERY

- Type: Premium Long Life Valve-Regulated Lead Acid (VRLA)
- Charger: 3 rate with Temperature Compensation
- Recharge Time: 24 Hour recharge
- Protection: Automatic Low Voltage Disconnect (LVD) set at 1.67 VPC
- Automatic restart upon utility return
- Runtime: 90 Minutes at 25C°
- DC Voltage: 24 VDC Nominal, 2.27 VPC float, temperature compensated
- DC Current: 6.2/12.4 ADC Nominal for 125W/250 Watt model respectively

ENVIRONMENTAL

- Operating Temp: 20C° to 30C°
- Storage Temp:
  Electronics - 20C° to 70C°

BATTERY STORAGE TEMP	
51°F (11°C) TO 77°F (25°C)	180 DAYS
78°F (26°C) TO 92°F (33°C)	90 DAYS

- Relative Humidity: <95 % (non-condensing)

PHYSICAL

- Cabinet: NEMA Type 1 enclosure, 16 AWG powder painted CRS
- Cooling: Natural Convection – No fans

APPROVALS

- UL924
- New York City approved, Calendar Number 51575
- NFPA101 Life Safety Code
- NFPA70-NEC
- OSHA
- NEMA Type 1 enclosure
- NEMA 410 load tested up to 375W

WARRANTY

- Isolite warrants the E3 Series electronics assembly against defects in material and workmanship for a period of 3 years
- Isolite warrants the lead calcium batteries for 3 years full and 7 years pro-rata limited
- For further details, refer to General Warranty and Obligations in the Isolite manual or on our website

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** E3MINI 250 LC MB Notes:	**Type:** **INV** LGNW23-97480

isolite

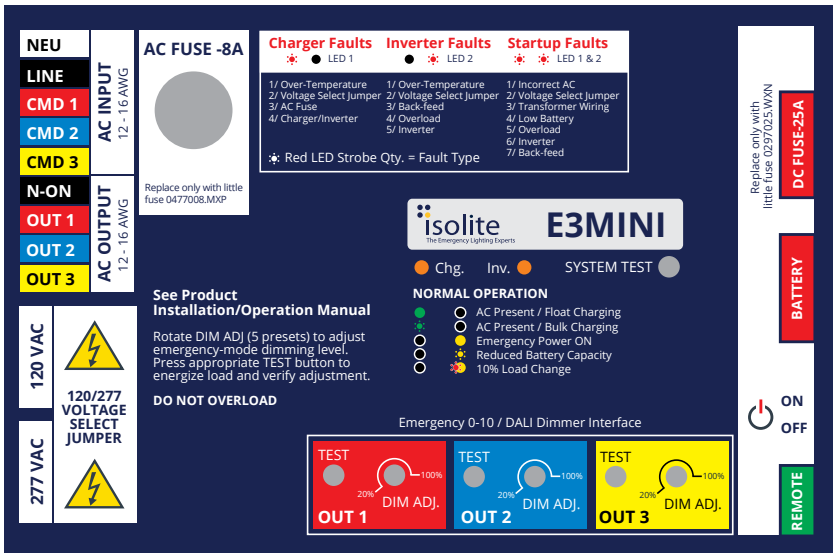
E3MINI

Pure Sine Wave Mini Inverter

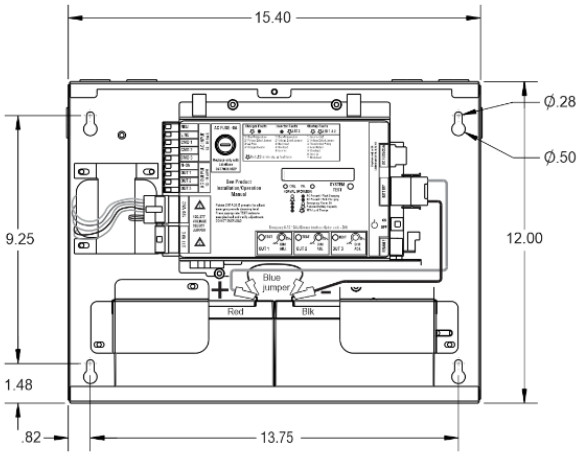
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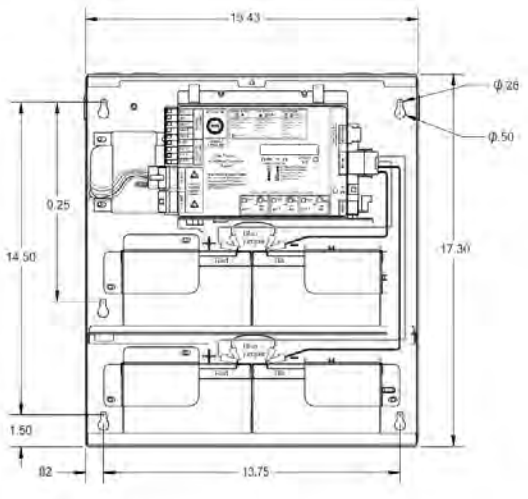
FRONT PANEL



DIMENSIONS



E3MINI 125W



E3MINI 250W

SPECIFICATIONS AND DETAILS ARE SUBJECT TO CHANGE WITHOUT NOTIFICATION.
CONTACT ISOLITE FOR UP TO DATE DETAILS.

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TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** E3MINI 250 LC MB Notes:	**Type:** **INV** LGNW23-97480

isolite

E3MINI

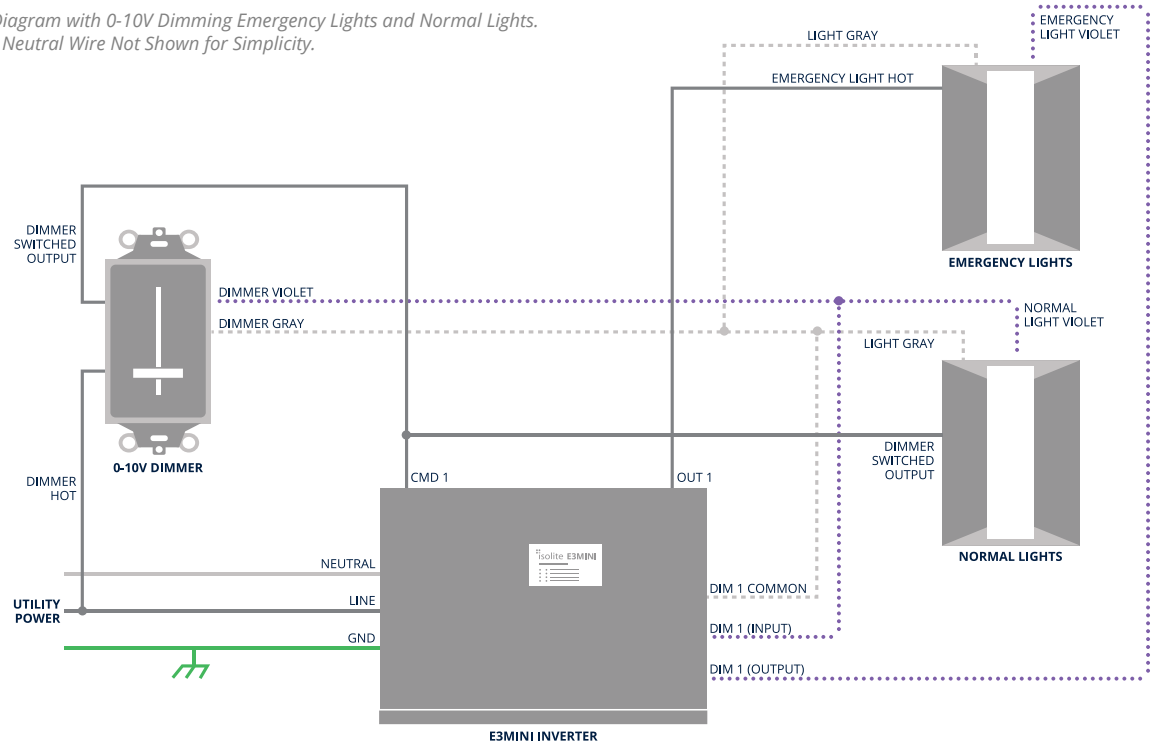
Pure Sine Wave Mini Inverter

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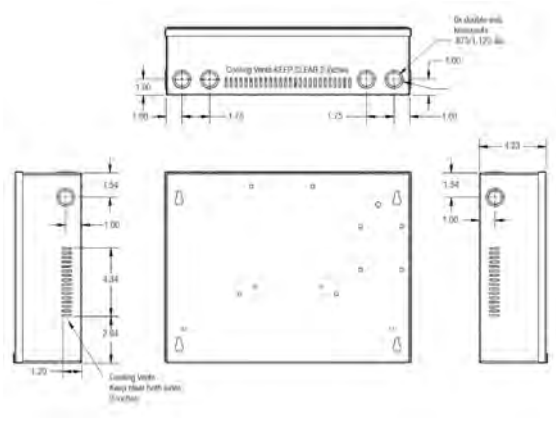
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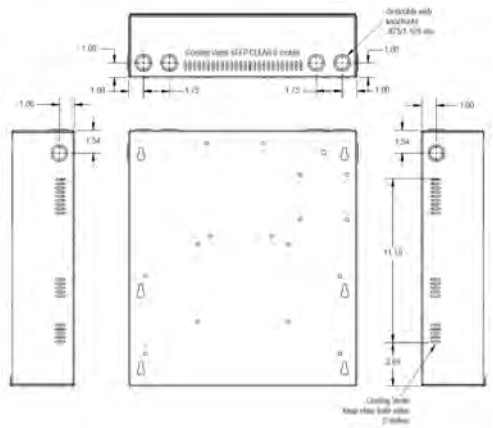
MINI INVERTER WITH DIMMING INTERFACE OPTION

Wiring Diagram with 0-10V Dimming Emergency Lights and Normal Lights.
Lighting Neutral Wire Not Shown for Simplicity.



KNOCKOUT LOCATIONS





SPECIFICATIONS AND DETAILS ARE SUBJECT TO CHANGE WITHOUT NOTIFICATION.
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TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** E3MINI 250 LC MB Notes:	**Type:** **INV** LGNW23-97480

isolite

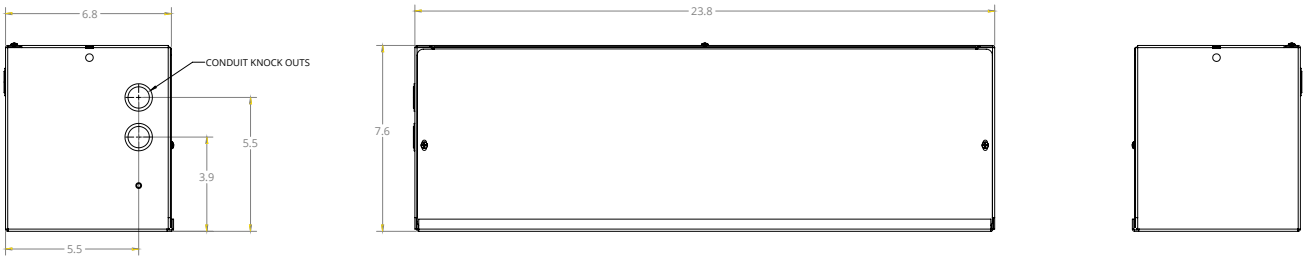
E3MINI

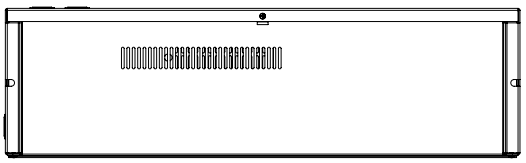
Pure Sine Wave Mini Inverter

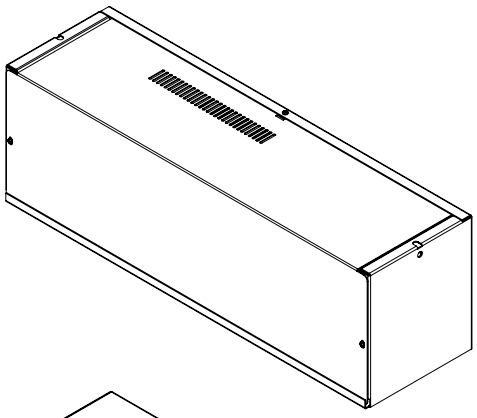
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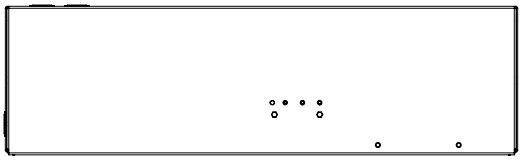
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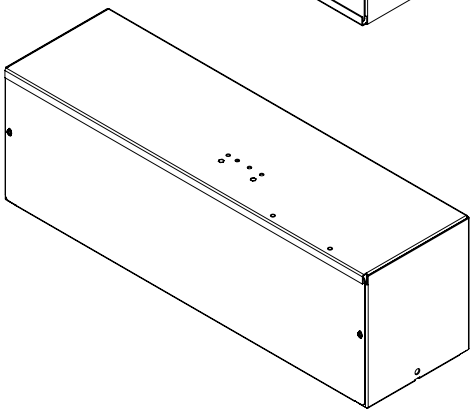
CEILING GRID MOUNTING











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CONTACT ISOLITE FOR UP TO DATE DETAILS.

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** IIS 250 HE DR Notes:	**Type:** **INV** LGNW23-97480

IIS 250 HE DR

PRODUCT SPECIFICATION SHEET

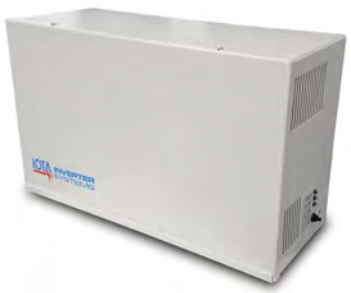
250 WATT EMERGENCY POWER

Certified in CA TITLE 20 Appliance Efficiency Database Battery Charger

DIMMING RELAY

QUALIFIED TO NEMA 410 STANDARDS

IN RUSH CAPABILITY



MODEL NO: _____

TYPE: _____

PROJECT: _____

COMMENTS: _____

LOAD CAPABILITY

250 Watts

FIXTURE TYPES

LED
Fluorescent
Incandescent

DESCRIPTION

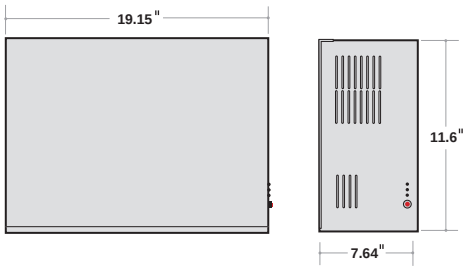
The IOTA **IIS 250 HE DR** is a UL Listed stand-alone modified sine wave output inverter designed to provide power to designated emergency lighting fixtures. In a power loss situation, the IOTA **IIS 250 HE DR** will supply **250 watts** of emergency power from the onboard battery supply. The IOTA **IIS 250 HE DR** works in conjunction with incandescent, LED, and fluorescent lamp and fixture types and will automatically run switched, normally-on, or normally-off designated emergency fixtures. The **IIS 250 HE DR** is ideal for applications requiring an emergency source for lighting arrangements that utilize multiple lamp and fixture types. The IOTA **IIS 250 HE DR** features increased inrush capability to prevent shutdown caused by inrush currents, allowing operation of loads at the full rated output of the unit with no need for circuit de-rating. The **IIS 250 HE DR** is designed for high-efficiency performance and is certified in the CA Title 20 Appliance Efficiency Database. The **IIS 250 HE DR** also features dimming relay leads to accommodate 0-10V dimming applications. The **IIS 250 HE DR** is available in a surface mount housing and comes with a three-year warranty and seven-year pro-rata battery warranty.

SPECIFICATIONS

Input Voltage	(Universal, 2-wire) 120-277V, 60Hz
Input Rating (bulk)	305 Watts
Output Voltage	(auto-detect) 120/277V, 60Hz
Output Power	250 Watts (@ .9 leading to .9 lagging PF)
Lamps Operated	LED (per NEMA 410), Fluorescent, Incandescent
Transfer Time	less than 1 second
Surge Protection	Meets ANSI/IEEE C62.41.2-2002
Emergency Operation	90 minutes
Frequency Regulation (emergency)	+/- 3%
Load Power Factor Range	.9 leading to .9 lagging
Operating Temp	20° to 30° C
Battery	Valve Regulated Lead Acid (VRLA)
Weight	65.5 lbs.
Certifications	UL 924 Listed for use in U.S. and Canada CSA C22.2 No 141 CA T20 Appliance Efficiency Database

c UL us BC

DIMENSIONS



Product Advantages

- **High Efficiency Performance meets CA T20 battery charger efficiency standards**
- **Operates loads to its fully-rated capacity. Inrush capability eliminates need for circuit de-rating.**
- **Full light output in the emergency mode**
- **Dimming Relay for 0-10V dimming applications**

FEATURES

- Operates incandescent, LED, and fluorescent fixtures
- Includes dual-purpose momentary contact test switch and red charging indicator
- Universal Input voltage 120-277 60Hz
- High efficiency modified sine wave inverter
- Variable-rate, high-efficiency charger
- Valve Regulated Lead Acid (VRLA) battery provides long life and is maintenance free
- Line voltage allows for remote mounting of emergency fixtures at distances up to 1000 feet
- Low Battery Voltage Disconnect and Line Latch Protection
- Allows for emergency operation of switched or unswitched fixtures
- Meets or exceeds all National Electrical Code and Life Safety Code Emergency Lighting Requirements
- Durable 16-gauge steel housing design with white semi-gloss powder-coat paint finish
- RoHS Compliant RoHS COMPLIANT
- 3/7 Pro-Rata Warranty

IIS INVERTERS

IOTA

IOTA REV 051022

© 2022 Acuity Brands Lighting, Inc.

Submitted by The Lighting Group LLCChris Hamaker			
TLG	**Job Name:** Skagit County Public Utilities District - Campus Replacement Administration Building Phase Architect: Driftmier Architects (Redmond) Engineer: Rensch Engineering (Snohomish)	**Catalog Number:** IIS 250 HE DR Notes:	**Type:** **INV** LGNW23-97480

IIS 250 HE DR

250W SURFACE MOUNT UNIT HIGH-EFFICIENCY INVERTER SYSTEM

ORDERING GUIDE

- **IIS 250 HE DR**

COMPONENTS

- High-efficiency modified sine wave inverter
- Variable-rate, high-efficiency charger
- 12V maintenance-free Valve Regulated Lead Acid (VRLA) battery

CONSTRUCTION

- 16-gauge steel housing

IIS 250 HE DR SAMPLE SPECIFICATION

Emergency lighting shall be provided by inverter unit equipment designed to operate designated fluorescent, incandescent, and LED fixtures on emergency power at their full nominal lumen rating during the full 90 minute emergency discharge cycle. System output will be rated at 250 watts for 90 minutes. The system's voltage rating shall be universal input 120-277Vac with auto-detecting 120 or 277 VAC output.

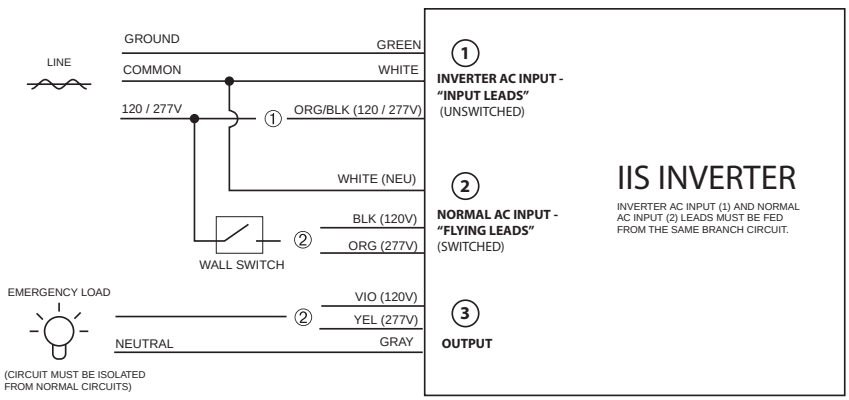
The inverter unit shall allow for connected emergency fixture(s) to be normally on, normally off, switched or dimmed without affecting lamp operation during a power failure. Upon utility power loss, the inverter unit shall operate the load at 100% of its full rated output regardless of the local switch position, and will provide power to emergency fixtures at distances of up to 1000 feet.

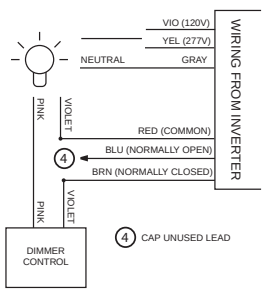
The housing shall be designed for surface mount installation requirements and manufactured using 16-gauge steel with a white hammer semi-gloss scratch-resistant baked-on powder coat paint finish.

The unit's electronics shall include inverter circuitry with a fully automatic battery charging circuit shall monitor and adjust the input power consumption and be certified in the CA Title 20 Modernized Appliance Efficiency Database System (MAEDBS) as a small battery charger. The unit shall also include dimming relay for 0-10V dimming leads, an AC lockout feature, low battery voltage disconnect, short circuit and brownout protection as standard. The unit shall utilize a sealed lead calcium battery with a 10-year design life. The inverter system shall be UL 924 Listed and labeled for use in United States or Canada. The unit shall be covered under a 3-year warranty on the electronics and battery and a 7-year pro-rata warranty on the battery. It shall meet or exceed the requirements of UL 924, NFPA 101 Life Safety Code, NFPA 70 National Electrical Code, OSHA and State and Local codes.

The inverter unit shall be IOTA model **IIS 250 HE DR**.

TYPICAL WIRING





The Dimming Relay Leads can be used to accommodate a 0-10V dimming signal, allowing the load to operate at the desired dimmed setting, but enabling the inverter to bypass the dimmed state and operate the load at full brightness while in the emergency mode.

Warranty: 3-Year Limited Warranty
Complete warranty terms located at *www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx*

IOTA Emergency Lighting 1361 E. Wieding Road, Tucson, AZ 85706 Phone: 1-800-866-4682 E-mail: techsupport@iotaengineering.com Web: www.iotaengineering.com © 2022 Acuity Brands Lighting, Inc.

DRIFTMIER ARCHITECTS

7983 Leary Way NE
Redmond, WA 98052
(425) 881-7506

SUBSTITUTION REQUEST FORM

To: Lee Driftmier

Project: Skagit PUD Campus Replacement

We hereby submit for consideration the following product instead of the specified item for the above project:

Section: 10 56 26 Specified Item: Mobile Storage Shelving

Proposed Substitution: Montel - MobileX

Attach complete technical data, including laboratory tests and samples, as applicable. Compare the significant qualities (size, weight, durability, performance and similar characteristics, and including visual effect where applicable) of the proposed substitution with the original requirements. List complete installation changes and changes to Drawings and Specifications required by proposal.
Fill in blanks below:

A. Does substitution require changes in Drawing dimensions? No

B. Will Undersigned pay for resulting building design changes including engineering and detailing costs?
NA/No

C. What effect does substitution have on other trades? None

D. Differences between proposed substitution and specified item:
None - Industry equivalent

E. Manufacturer's guarantees of proposed and specified items are: X Same ____Different (explain on attachment)

F. Name and address of three similar projects on which product was used as well as date of installation:
King County Records Center, 7272 W Marginal Way S, Seattle WA 98108 - 2020
Tukwila Justice Center,15005 Tukwila Int BLVD, Tukwila WA 98168 - 2019
Seattle Municiple Archives, 600 Fourth Ave, Seattle WA 98104 - 2021

G. Contract completion date is: X Same ____Different

Undersigned attests function and quality is equivalent or superior to specified item and waives their right to additional payment and time which may subsequently be necessitated by failure of the substitution to perform adequately and for the required work to make corrections thereof.

Submitted by:

Cameron Stone
Signature

Workpointe
Firm

9877 40th Ave S, Seattle, WA 98118
Address

Date ____

Phone ____

Fax ____

Email ____

For use by Architect:
___Accepted X Accepted as Noted
___Not Accepted _Received Too Late

By ____

Date 6/21/23

***See attached sheet for notes**

Provided to Builders Exchange of WA, Inc. For usage Conditions Agreement see www.bxwa.com - Always Verify Scal

Substitution requests were review under the following premise: This is a cursory review to evaluate if the submitted product offering appears to be able to meet the design intent. It shall not be construed as a full submittal review certifying that the substituted submittal represents an equal to what was provided in the design documents. Submitter accepts the responsibility to ensure that the submitted product does in fact represent an equal offering and/or will pay any associated engineer fees to review or redesign to incorporate the substituted product in the project after bid acceptance.

MOBILEX®

MECHANICAL-ASSIST MOBILE STORAGE SYSTEMS











MONTEL®
Intelligent Use of Space

EFFORTLESSLY MOVE ONE OR MORE CARRIAGES ALL AT ONCE

WITH ITS ENGINEERED GEAR RATIOS AND SUPERIOR QUALITY COMPONENTS, MONTEL CAN EASILY PROCLAIM TO HAVE THE BEST COMBINATION FOR THE SMOOTHEST RUNNING MOBILE STORAGE SYSTEMS.











THE BEST MECHANICAL-ASSIST MOBILE STORAGE SYSTEM

MOBILEX®

OPTIMIZE AND CUSTOMIZE YOUR STORAGE SPACE WITH MONTEL'S FLEXIBLE, HIGH-DENSITY MOBILE SHELVING SYSTEM

Easily recover floor space with the addition of new Montel shelving, existing shelving or racking securely mounted on Montel carriage and rail systems.

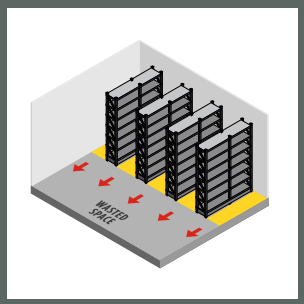




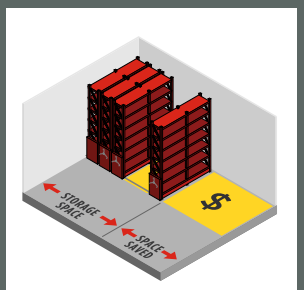


SAVE SPACE BY MOBILIZING YOUR STORAGE SYSTEM

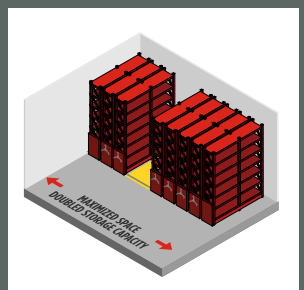
Eliminate the need for multiple space-wasting static aisles and use the total potential of your vertical and horizontal space. Save 50% or more of your floor space or get 100% greater storage within the original floor space.



WASTED SPACE CONVENTIONAL FIXED SHELVING LAYOUT.



SPACE SAVED AND INCREASED PROFITABILITY MOBILE STORAGE SYSTEM LAYOUT. 50% OF FLOOR SPACE SAVED WITHIN SAME FOOTPRINT.



DOUBLED STORAGE CAPACITY AND INCREASED PROFITABILITY MOBILE STORAGE SYSTEM LAYOUT. 100% GREATER STORAGE WITHIN SAME FOOTPRINT.

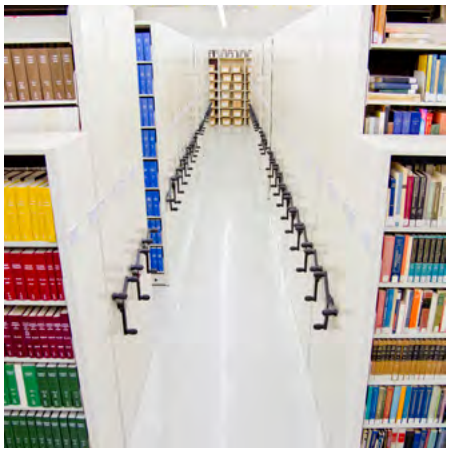
MAXIMIZING VERSATILITY AND FUNCTIONALITY

Mobilex® is the ideal high-density mobile shelving system for any business or institutional setting. Montel's signature high-density movable storage system gives you the flexibility to customize your shelving while optimizing your capacity.

ENDLESS POSSIBILITIES. COST-EFFECTIVE SOLUTION.

The storage possibilities are endless: tires, plants, evidence, archives and office supplies, specimens and artifacts, sporting equipment, medical supplies, tools and parts and much, much more.

Whether mechanical or electrical, this cost-effective, high-density, movable storage solution is designed to accommodate various leading edge Montel shelving products. A wide range of accessories is also available: reference pull-out working shelves, hanging rods, bins, garment rods, drawers, hanging files and more. Further customize your mobile shelving system via our broad selection of optional safety, security, design and aesthetic features.





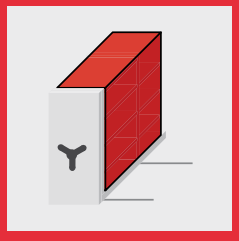
WHY MOBILEX®?

ONLY REQUIRES ABOUT 1 LB OF PRESSURE TO MOVE ONE OR MORE WHOLE UNITS AT ONCE. MOBILEX® IS ENGINEERED PRECISELY FOR HANDLING THE HEAVIEST WEIGHT WITH THE LIGHTEST EFFORT.

- DURABILITY & TROUBLE FREE MAINTENANCE
- BUILT FOR DECADES OF USE
- THE MOST USER-FRIENDLY HIGH-DENSITY MOBILE STORAGE SYSTEM
- A HIGHLY SECURE MOBILE STORAGE SYSTEM
- INCREASE PRODUCTIVITY BY SAVING TIME AND COSTS
- THE ONLY GOOD SOLUTION IS A CONFIGURABLE AND RECONFIGURABLE SOLUTION
- GROW FROM THE INSIDE

DID YOU KNOW?

MOBILEX® CARRIAGES HAVE A MAXIMUM LOAD CAPACITY OF 1,000 LB PER LINEAR FOOT (1,488 KG PER LINEAR METER)



EX: 25 FT (7.62 M) LONG CARRIAGES HOLDS 25,000 LB (11,340 KG)

MOBILEX®

MOBILEX® CARRIAGES CAN BE UP TO 45 FEET (13.7 M) LONG WITH A MAXIMUM LOAD CAPACITY OF 45,000 LB (20,412 KG). ELECTRICAL POWERED CARRIAGES CAN BE UP TO 100 FEET (30.5 M) LONG WITH A MAXIMUM LOAD CAPACITY OF 100,000 LB (45,359 KG).

THE CONCEPT

OPTIMIZE YOUR STORAGE SPACE

MONTEL HIGH-DENSITY STORAGE SYSTEMS MAXIMIZE THE USE OF AVAILABLE SPACE, WHETHER TO INCREASE STORAGE CAPACITY, FREE UP ROOM FOR PRODUCTION OR OTHER USES, OR GET RID OF SPACE YOU DO NOT NEED TO PAY FOR.

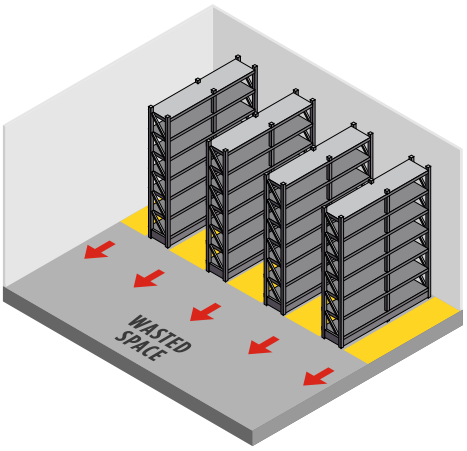
ELIMINATE THE NEED FOR MULTIPLE SPACE-WASTING STATIC AISLES.

1. Static units are mounted on mobile carriages.
2. Mobile carriages travel on tracks.
3. Open the desired aisle.
4. Press the aisle safety push-button located at the center of the handle.



WASTED SPACE CONVENTIONAL FIXED RACKING LAYOUT.

Conventional storage systems require space-wasting fixed aisles.



MODES OF OPERATION



Large SafeCrank Handle
with aisle safety push-button.

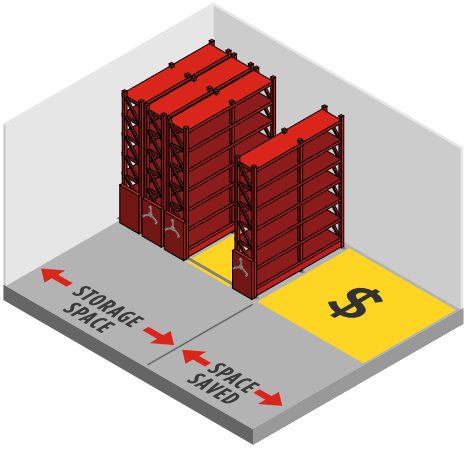


Small SafeCrank Handle
with aisle safety push-button. Ideal for narrow panels less than 20" wide (508 mm).



SPACE SAVED & INCREASED PROFITS MOBILE STORAGE LAYOUT.

50% of floor space saved within same footprint.



AVAILABLE WITH SAFEAISLE® MOBILE SYSTEMS*

REFER TO SAFEAISLE® BROCHURE FOR MORE INFORMATION



Powered mobile storage systems 3-button control.



Powered mobile storage systems control with PIN for restricted access.

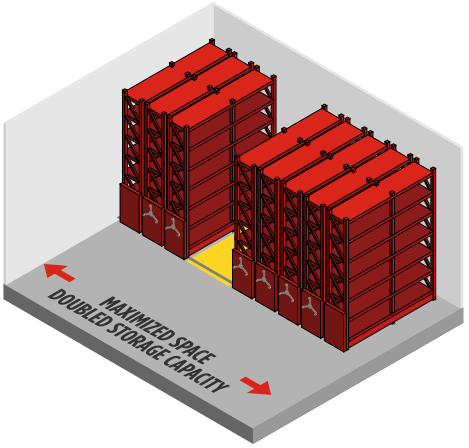


Powered mobile storage systems touchscreen tablet control with or without PIN code. Limitless customizable displays.



DOUBLED STORAGE CAPACITY. MAXIMIZED SPACE & INCREASED PROFITS MOBILE LAYOUT.

100% greater storage within same footprint.



* The optional and patented Aisle LED Guard™ guarantees complete safety coverage throughout the aisle protecting users and objects.

BEST-IN-CLASS SAFETIES

EXPERIENCE THE INDUSTRY'S SAFEST MECHANICAL-ASSIST MOBILE STORAGE SYSTEM

SAFECRANK AISLE SAFETY PUSH-BUTTON

STANDARD SAFETY

To operate the system, rotate the SafeCrank handle clockwise or counterclockwise. To lock or unlock the SafeCrank handle, simply press the aisle safety push-button located at the center of the handle. A locked handle prevents the engaged mobile unit from moving. Mobile units on both sides of an aisle in use must be locked to ensure user safety.



UNLOCKED



PUSH TO LOCK OR UNLOCK



LOCKED

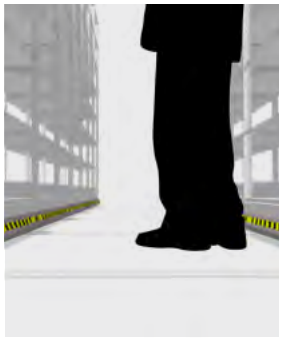
AISLE SAFETY PUSH-BUTTON LOCK

- Large round push-button lock easier to press and depress
- Visible red rim along the outer rim when locked
- Band acts as a color-coded visual indicator of its locked state

GRAVITY-FED MECHANICAL SAFETY BRAKE

OPTIONAL SAFETY

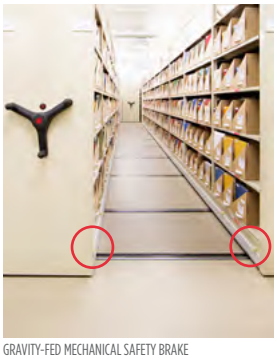
Montel's patented mechanical safety brake ensures complete protection for users and objects. The toe-level bar, when engaged, will automatically stop the carriage. Only light pressure is needed for the bar to activate the mechanism.



US PATENT # 7,645,000 / CANADA PATENT # 2,545,090



SHOCK ABSORBER COUPLING



GRAVITY-FED MECHANICAL SAFETY BRAKE

- Gravity-fed patented concept
- No brake adjustments needed after installation
- Shock absorber coupling
- Smooth braking

SAFECRANK ERGONOMIC 3-SPOKE HANDLE

EASY & SMOOTH ROTARY MOTION



AVAILABLE HANDLES

SafeCrank handles provide a convenient handgrip at a comfortable level of operation and an easy and smooth rotary motion from any starting position. SafeCrank handles are ADA Compliant.

LARGE SAFECRANK HANDLES



- Integrated aisle safety push-button safety
- Large SafeCrank handles are offered in Black, Montel Red, and Polar White

SMALL SAFECRANK HANDLES



- Ideal for narrow panels less than 20" wide (508 mm)
- Integrated aisle safety push-button safety
- Available in Black only

FEATURES & BENEFITS

THREE-LOCK HUBS



- Three-lock hubs secure the handle in locked position when circular hub is pressed
- Three round detents keep carriage movement locked down

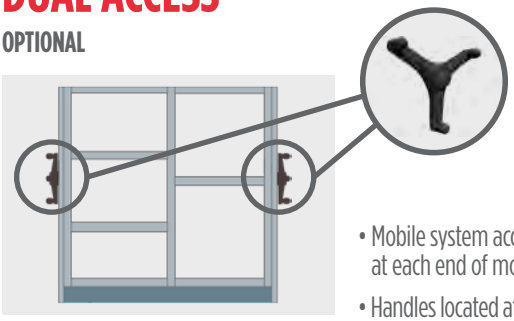
THREE SOFT-TOUCH ERGO GRIPS



- 1 3/4" (44.4 mm) Diameter x 2" long (50.8 mm)
- Ensures a comfortable and safe grip
- Made of comfort-grip fiberglass-filled polypropylene
- Ergonomic design to fit the hand
- Drive knob turns in your hand for easier carriage movement

DUAL ACCESS

OPTIONAL



- Mobile system accessible at each end of mobile units
- Handles located at each extremity

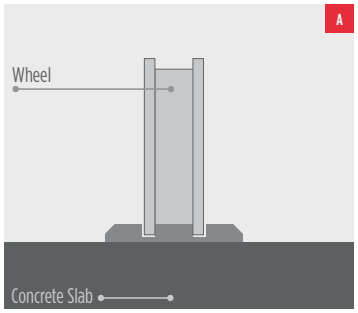
MOBILEX®

VALUE YOU CAN COUNT ON

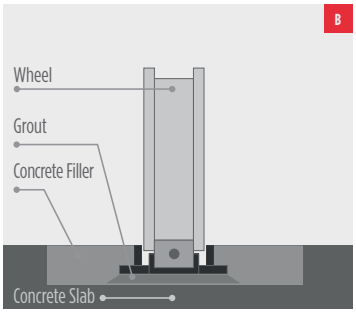
Of all the mobile storage system on the market, Mobilex® stands in a class of its own. This pioneering system with a proven design constantly evolving with changing needs. A wise investment anytime, it gives you incredible value for your storage dollar. Mobilex® adapts perfectly to your access, conservation, and safety priorities, regardless of the size, weight, dimensions, and value of your objects. Reliable, durable, and flexible, Mobilex® optimizes your storage space in complete safety.

TRACK & FLOOR SURFACE OPTIONS

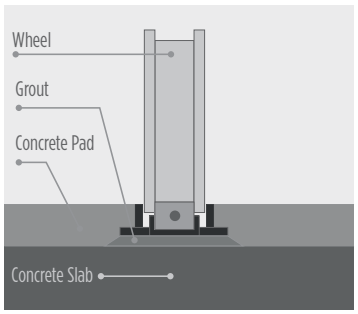
SURFACE MOUNTED RAIL
MOUNTED ON TOP OF A LEVELED CONCRETE FLOOR



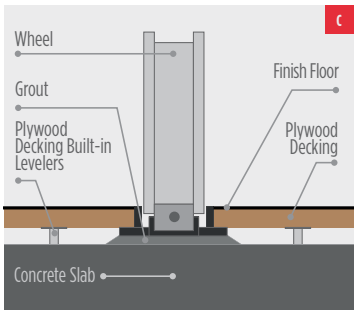
RECESSED TRACK
EMBEDDED IN CONCRETE

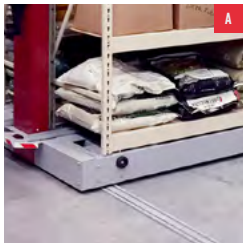


FLOOR MOUNTED TRACK
CONCRETE PAD



FLOOR MOUNTED TRACK
PLYWOOD DECKING

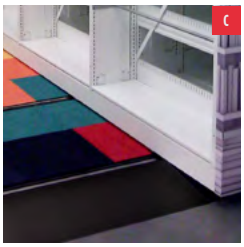




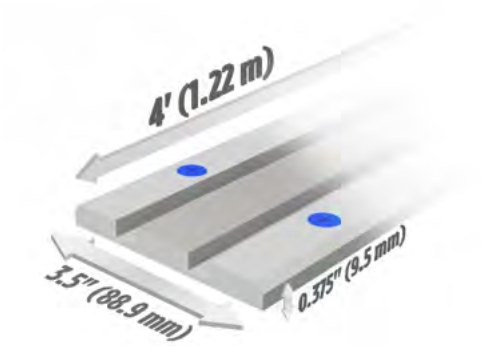
MONTEL PRODUCT SHOWN IS A HD 16MA WITH SURFACE MOUNTED STEEL RAIL ON CONCRETE FLOOR.



RECESSED TRACK EMBEDDED IN CONCRETE.



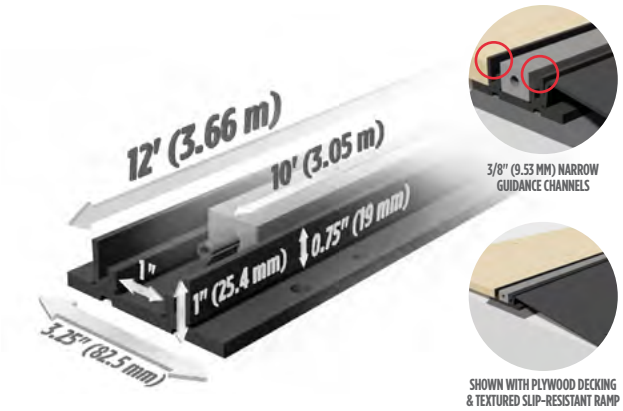
FLOOR COVERING MATERIALS SUCH AS CARPET, TILE, LAMINATE AND VINYL CAN BE APPLIED OVER PLYWOOD DECKING.



SURFACE MOUNTED RAIL

One-piece solid steel rail system for surface mount applications on a leveled slab. Anchored directly to the concrete slab with a chamfered edge flush fit design to reduce tripping hazards and allow carts to easily roll over. Steel rail treated against oxidation with a heavy-duty powder coated paint.

SURFACE MOUNTED RAILS ARE AVAILABLE IN 4-FOOT SECTIONS (122 CM)



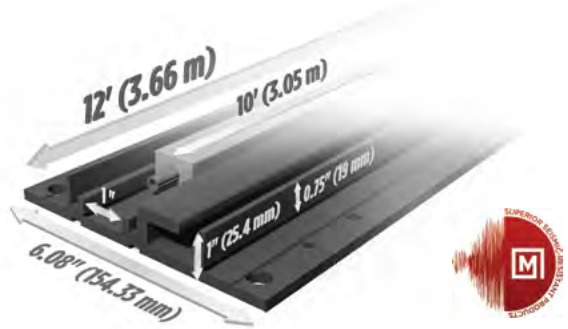
3/8" (9.53 MM) NARROW GUIDANCE CHANNELS

SHOWN WITH PLYWOOD DECKING & TEXTURED SLIP-RESISTANT RAMP

RECESSED OR FLOOR MOUNTED TRACK

Leveled track design with a solid steel rail embedded into grouted aluminum sub-rail for superior strength and load distribution to the concrete slab. Narrow guidance channels reduce tripping hazards and allow carts to easily roll over.

ALUMINUM SUB-RAILS ARE AVAILABLE IN 12-FOOT SECTIONS (3.66 M)
STEEL RAILS ARE AVAILABLE IN 10-FOOT SECTIONS (3.05 M)

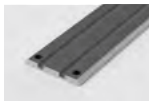
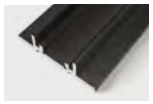
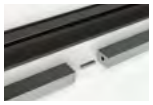
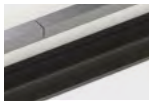
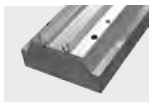


BUILT-IN ANTI-TIP RECESSED OR FLOOR MOUNTED TRACK

Built-in anti-tip leveled track design with a solid steel rail embedded into a grouted aluminum sub-rail with anti-tip channels for both seismic and high shelving applications which also provides for superior strength and load distribution to the concrete slab. Narrow guidance channels reduce tripping hazards and allow carts to easily roll over.

ALUMINUM SUB-RAILS ARE AVAILABLE IN 12-FOOT SECTIONS (3.66 M)
STEEL RAILS ARE AVAILABLE IN 10-FOOT SECTIONS (3.05 M)

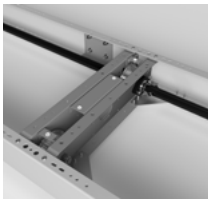
MOBILEX® FEATURES & BENEFITS & TRACK OPTIONS COMPARISON CHART

		SURFACE MOUNTED	RECESSED	FLOOR MOUNTED
SURFACE MOUNTED	 **SURFACE MOUNTED RAIL** • Unleveled surface mount rail for leveled floor • 3/8" (9.5 mm) high x 3 1/2" (88.9 mm) wide • Heavy-duty paint against oxydation caused by concrete • Easy installation • Beveled Edges design and narrow channels to reduce risk of tripping hazards • Wood floor, grout or shims are not required	✓		
	OR			
RECESSED OR FLOOR MOUNTED TRACK | OPTIONS	 **CORROSION-RESISTANT ALUMINUM SUB-RAIL** • Acts as barrier between the concrete and the hardened steel rail • Prevents rust in a corrosive concrete environment		✓	✓
	OR			
	 **BUILT-IN ANTI-TIP ALUMINUM SUB-RAIL** • Provides stability and safety • Meets the most severe seismic regulations • Provides safety for systems with a high height-to width ratio • Meets UBC requirements		✓	✓
RECESSED OR FLOOR MOUNTED TRACK	 **TWO ANTI-SLIP GROOVES** • Grout infiltrates under the sub-rail and inside the grooves thus preventing lateral movement if pouring concrete topping		✓	✓
	 **INTERLOCK STEEL RAIL CONNECTOR** • Eliminates rail separation • Ensures gradual transfer of the concentrated wheel point load to and from adjoining rail sections • Provides horizontal and vertical continuity between rail sections		✓	✓
	 **PIN ANCHORING AT EACH TRACK END** • Ensures perfect position of rail		✓	✓
	 **TWO-PIECE SPLICELESS TRACK** • Continuously supports the top hardened steel rail at the junction point • Eliminates track deflection • Provides a quiet operating system • Ensures smooth weight transfer from one track section to the other • Easy and instant removal and replacement of the top hardened steel rail compared to a one-piece rail • Ensures that all rail connection joints provide horizontal and vertical continuity between rail sections • Provides greater structural rigidity		✓	✓
	 **OFFSET SUB-RAIL AND RAIL SPLICE JOINTS FROM ONE ADJOINING** • Prevents the adjoining rail splice to be at the same location • Prevents the wheels of a same carriage to cross a rail splice joint at the same time • Ensures a better weight load distribution • Eliminates any rail deflection		✓	✓
	 **FULLY-GROUTED ALUMINIUM SUB-RAIL** • Fully supported to evenly distribute the weight on the existing slab • No shims needed		✓	✓
LEVELING & ANCHORING | FLOOR MOUNTED TRACK	 **PRECISION LEVELING SCREWS** • Provide more precision and adjustability versus shimming • Provide a quality rail installation which ensures long-term reliability		✓	✓
	 **PLYWOOD DECKING BUILT-IN LEVELERS** • Provide more precision and adjustability than shimming • Provide an accurate and continuous flush floor surface • Faster and more efficient to install			✓
TEXTURED SLIP-RESISTANT STEEL RAMPS | FLOOR MOUNTED TRACK	 **STEEL RAMP WITH TEXTURED SLIP-RESISTANT PAINT** • 8.8" (22.35 cm) wide steel ramp with textured anti-slip black paint • 10-degree slope • Made of 12 gauge cold rolled steel • Ramp makes a smooth transition from the floor to the mobile system's false floor to prevent tripping and allow carts to easily roll over • Ramp can be covered with carpet or vinyl flooring tiles • Optional 3M™ Safety-Walk™ slip-resistant tape			✓
	OR			
	 **ADA STEEL RAMP WITH TEXTURED SLIP-RESISTANT PAINT** • 19" (48.26 cm) wide ADA steel ramp with textured anti-slip black paint • 5-degree slope to meet ADA regulations • Made of 12 gauge cold rolled steel • Ramp makes a smooth transition from the floor to the mobile system's false floor to facilitate wheelchair access, prevent tripping, and allow carts to easily roll over • Ramp can be covered with carpet or vinyl flooring tiles • Optional 3M™ Safety-Walk™ slip-resistant tape			✓

SUPERIOR DURABILITY
& TROUBLE-FREE MAINTENANCE



CARRIAGES | WHEELS & GUIDANCE | SHELVING ANCHORING



ALL-RAIL DIRECT-DRIVE SYSTEM

- Direct drive mechanism
- Full length drive shaft wheel at every rail location. This creates uniformly distributed pulling forces
- Large diameter torque-resistant drive shaft provides power to **all wheels** connected to the line shaft
- No multiple internal chain mechanisms and drive shafts which would require more maintenance
- Prevents fishtail with unbalanced loads
- Reduces stress on the carriage structure
- Enhances stability and performance
- Provides positive tracking effect
- Extends life of the systems



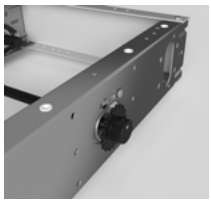
TORQUE-RESISTANT TUBULAR DRIVE SHAFT

- Most durable shaft in the industry
- Lighter, stiffer and stronger structure
- Torsion resistance of 11,773 lb-in (1,330 N-m)
- Tubular drive shaft inside diameter: 1.045"(26.5 mm)
- Tubular drive shaft external diameter: 1.315" (33.4 mm)



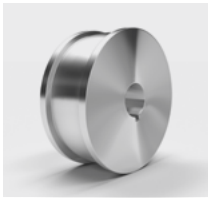
STEEL C-SHAPED CROSS MEMBERS & CARRIAGE JOINTS

- Steel C-shaped members provide great structural strength
- Carriage joints allow smaller carriage sections, which provide easier shipping and facilitate the installation of long carriages despite physical limitations such as elevators
- Allows the extension of existing carriages by adding sections
- Bolted from the inside to provide a clean exterior finish without visible hardware



AERONAUTICAL RIVET BONDING CARRIAGE ASSEMBLY

- Prevents play and looseness thereby consistent and precise
- Expands when seated thus filing the space completely and providing maximum strength
- Eliminates distortion and reduces material stress caused by welding
- Facilitates system relocation
- Allows easy and economical carriage modifications



ALL 5" DIAMETER HARDENED STEEL WHEELS

- Provides larger turning diameter minimizing the number of wheel rotations and lowers the wear to the wheel
- Ensures a long-lasting system
- Provides greater strength
- Provides smooth and easy movement
- Prevents uneven wear since all wheels are the same diameter, as opposed to systems using a combination of 3-inch (76.2 mm) and 5-inch (127 mm) wheels



DOUBLE-FLANGED PRECISION-MACHINED 1045 HARDENED STEEL WHEELS

- Enables the system to move smoothly
- Minimizes vibration
- Minimizes wear and tear on the wheel thus reducing risk of maintenance problems
- Secure guidance even with an unbalanced system
- Rolling friction coefficient of less than 0.0117



LIFETIME LUBRICATED & SHIELDED BALL BEARINGS

- Minimum load rating of 3,540 lb (1,605 kg) per wheel
- Ensures a long system life and a smooth movement
- Bearings are maintenance free and provide smooth and easy movement



BEST-IN-CLASS SHELVING ATTACHMENT TO MOBILE CARRIAGE

- Full C Channel construction
- Design allows no visible hardware on front face of carriage
- Montel SmartShelf® rests on 5" (127 mm) high steel carriage
- Montels bearing capacity is that of entire carriage
- SmartShelf® attached with two 4" (101.6 mm) bolts per frame versus only 3/4" (19 mm) tek screws as usually provided by other manufacturers

EXCEPTIONAL PERFORMANCE

DUE TO SUPERIOR QUALITY

A system's performance is proved over time, day after day, year after year. It's a matter of quality design, components, and installation. It's measured in superior durability and trouble-free maintenance. It's enhanced by the many special features that make our systems so pleasant to use. Simply put, we are performance professionals. Our systems are regularly tested by industrial research centers and independent laboratories. We continually invest in Research and Development to maintain and improve our reputation as a leader in quality. We capture the majority of bids where performance is the main selection criteria.

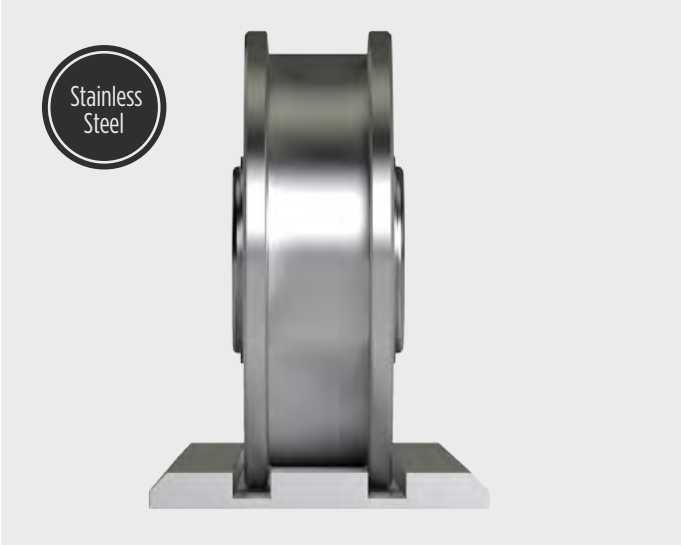
MOBILEX® OPTIONAL STAINLESS STEEL

Mobilex® Stainless Steel selective components can withstand rough corrosive conditions and is ideally suited for clean rooms found in hospitals, pharmaceutical manufacturing, and also corrosive environments such as cold storage applications, freezers, food manufacturing, kitchens, and even offshore platforms.

Mobilex® Stainless Steel components such as wheels and rails are made of stainless steel and drive shafts are treated with an anti-corrosion coating. Other components could be supplied in stainless steel on request upon factory's approval.

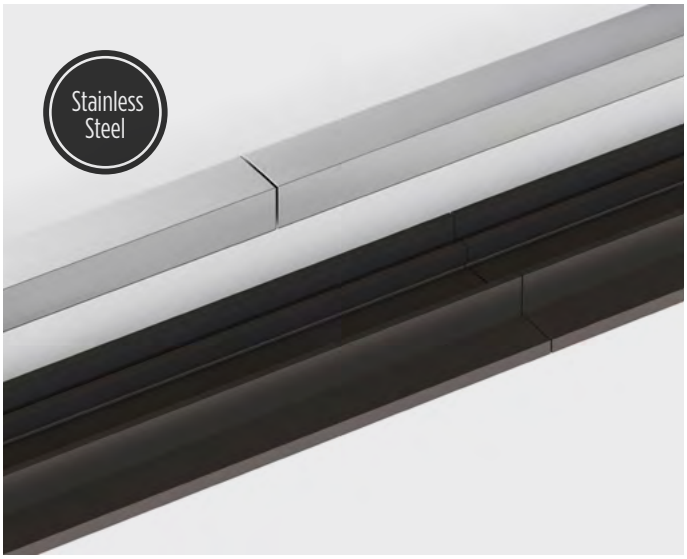
IDEAL FOR EXTREME CONDITIONS

STAINLESS STEEL LOW PROFILE RAIL & WHEEL



SURFACE MOUNTED

ALUMINUM SUB-RAIL & STAINLESS STEEL RAIL

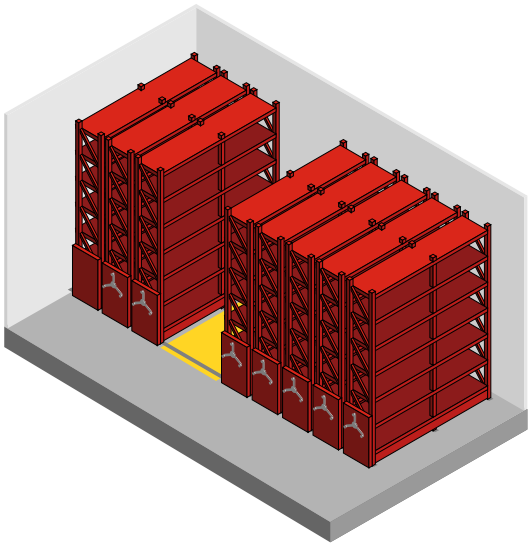


RECESSED OR FLOOR MOUNTED TRACK

WHEN FLEXIBILITY MEETS SPACE EFFICIENCY

SMART SHELF®

PATENT # 6,814,245

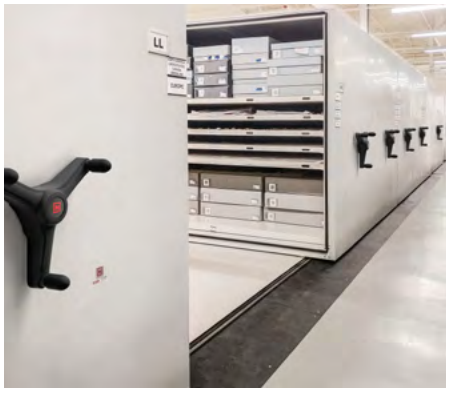


SmartShelf® 4-Post hybrid shelving system mounted on mechanical-assist mobile storage system

MOUNT SMARTSHELF® SHELVING SYSTEM ON MOBILEX® MECHANICAL-ASSIST MOBILE SYSTEM AND INSTANTLY REALIZE POSITIVE GAINS WITHIN YOUR AVAILABLE SQUARE FOOTAGE.

You can store anything with SmartShelf®. This new revolutionary shelving system was designed to be configured and reconfigured easily and efficiently. In fact, we offer the widest range of products in the market. We will go to any length, width or depth to optimize your space. The only good solution is a flexible solution.







YOU CAN ALSO MOUNT OTHER MONTEL SHELVING SYSTEMS ONTO MOBILEX® MOBILE CARRIAGES



4D-500, 4D-1000, 4D-1500 WIDE SPAN RACKING
IDEAL FOR BULK STORAGE. MAXIMUM LOAD CAPACITY PER TIER IS EITHER 500 LB (227 KG), 1,000 LB (454 KG) OR 1,500 LB (650 KG).



AETNASTAK
CANTILEVER SHELVING
IDEAL FOR LIBRARY SHELVING.



CABINET-STYLE
CASE-TYPE SHELVING
IDEAL FOR OFFICE & CORPORATE STORAGE.

GET MORE VERTICAL & HORIZONTAL SPACE

WITH SMARTSHELF® & MOBILEX®

PATENT # 6,814,245

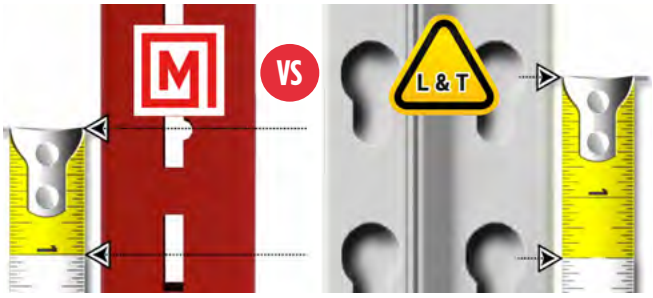


TAKE SPACE EFFICIENCY TO A NEW LEVEL | MAXIMIZE YOUR STORAGE | OPTIMIZE YOUR SPACE

Our continuous quest for space optimization has led us to develop SmartShelf®, a shelving system that exceeds industry standards.

MORE STORAGE VERTICALLY

ADJUSTABLE SHELVES IN 1" (25.4 MM) INCREMENTS

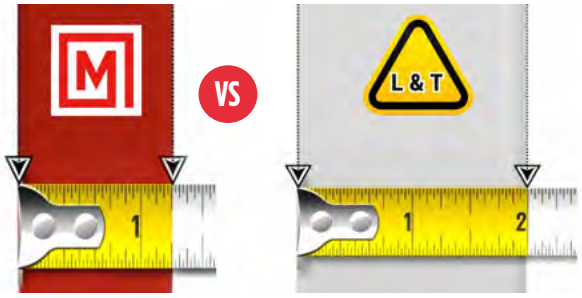


1" (25.4 MM)
SMARTSHELF® HYBRID SHELVING SYSTEM WITH HOOKS

1 1/2" (38.1 MM)
L&T COMMODITY SHELVING

MORE STORAGE HORIZONTALLY

3/4" (19 MM) MORE USABLE STORAGE PER SHELF



1 1/4" (31.75 MM)
SMARTSHELF® HYBRID SHELVING

2" (50.8 MM)
L&T COMMODITY SHELVING

DO THE SMARTSHELF® MATH

100 SECTIONS OF 97" (246.38 CM) HIGH WITH 8 TIERS OF BACK-TO-BACK SHELVING UNITS WOULD REPRESENT:

NOTE: WHAT ABOUT THE ADDITIONAL STORAGE VERTICALLY DUE TO THE 1" INCREMENTS VS. L&T AT 1 1/2" INCREMENTS. ADD THESE EXTRA LINEAR INCHES TO YOUR TOTAL.

8 TIERS
X 2 BACK-TO-BACK SHELVING UNITS
X 3/4" (19 MM) MORE STORAGE PER SHELF

= 12" (30.48 CM) MORE USABLE STORAGE PER SHELVING UNIT
X 100 SECTIONS

= 1,200" (30.48 M) ADDITIONAL LINEAR INCHES OF STORAGE WITH SMARTSHELF® VS. L&T

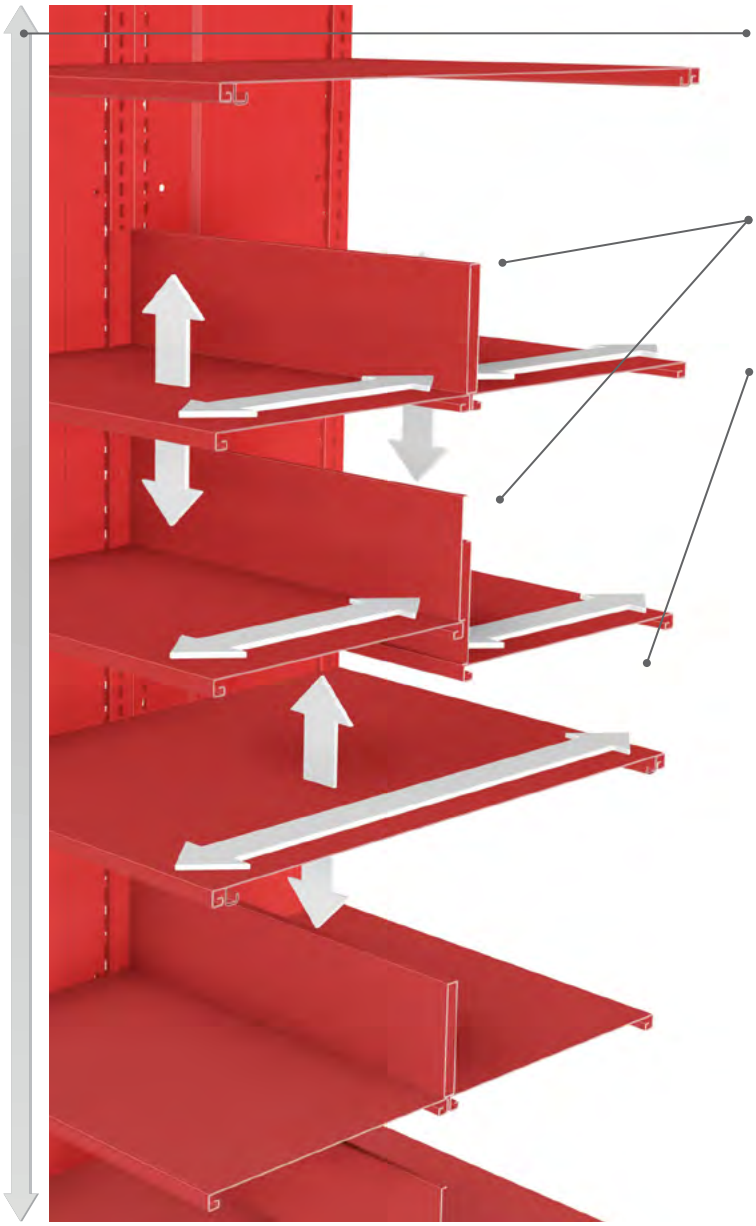
COMBINED FLEXIBILITY TO STORE VIRTUALLY ANYTHING

EVERYTHING IS NOW POSSIBLE WITH SMARTSHELF® TAKE SPACE EFFICIENCY TO A NEW LEVEL

SmartShelf® is designed to be configured and reconfigured easily and efficiently. Shelves and accessories are interchangeable. That way, they can grow and evolve according to your future storage needs.

SMART SHELF®

PATENT # 6,814,245



FROM ONE TIER TO THE NEXT

SmartShelf® is the only storage system that can be configured with back-to-back or double face full depth shelves, or any combination of both.

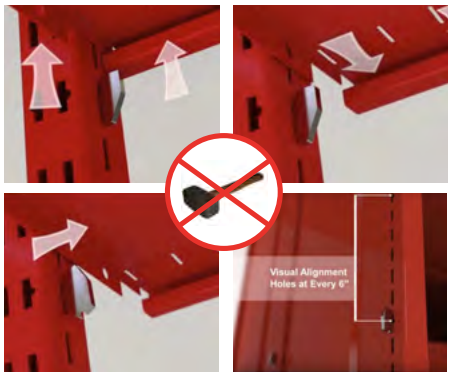
BACK-TO-BACK SHELVES

The shelf system is independently adjustable on both sides for many storage possibilities. Easy to assemble and reconfigure.

DOUBLE FACE FULL DEPTH SHELVES

For storing large objects of various lengths, shapes and sizes.

SHELVING SYSTEM WITH HOOKS: EASY TO RECONFIGURE & NO TOOLS REQUIRED



DID YOU KNOW?

Montel SmartShelf® shelving with hooks can hold up to 250 lb (113.4 kg) although can potentially withstand up to 500 lb (226.8 kg) depending on shelf dimensions.

SHELVING SYSTEM WITH SHELF SUPPORTS & REINFORCEMENTS | OPTIONAL



DID YOU KNOW?

Montel SmartShelf® shelving with supports and reinforcements can hold heavier objects than SmartShelf® shelving with hooks and can withstand up to 500 lb (226.8 kg).

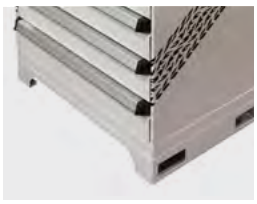
ACCESSORIES
UNLIMITED POSSIBILITIES


DRAWER CABINET WORKBENCH


SMARTSHELF® SHELVING RUN ON CASTERS WITH ROLLING SHUTTERS


BIN DIVIDERS


SLAT STEEL PANEL WITH UPFRONT DISPLAY SHELF & WORKING COMPUTER SHELF


FORKLIFT BASE



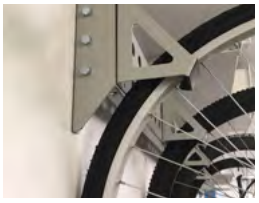
MOBILEX® WITH PATENTED AISLE SAFETY BRAKE (1) | PULL-OUT DRAWERS (2)


ADA COMPLIANT RAMP


LED AISLE LIGHTING

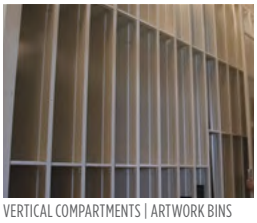

STURDY PULL-OUT REFERENCE SHELF


WHITEBOARD END PANELS


UNIVERSAL CROSSBARS WITH BIKE SUPPORT*


GARMENT RODS | BIN DIVIDERS | FRONT STOPS


WIRE SPOOL RODS

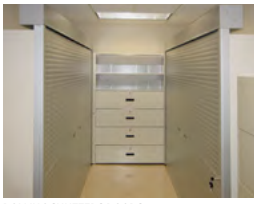

VERTICAL COMPARTMENTS | ARTWORK BINS


FRONT STOPS


UNIVERSAL CROSSBARS WITH HANGING RODS*


LARGE FRONT STOPS | GARMENT ROD


PULL-OUT DRAWERS


ROLLING SHUTTERS DOORS


SLIDING TRAY


COMPARTMENTS WITH HINGED DOORS | PERFORATED BACK PANELS


LOUVERED PANELS FOR PLASTIC BINS


ADJUSTABLE BINS ON EITHER SIDE


PERFORATED TRAY


MOBILE SYSTEM WITH UPFRONT STORAGE



SLATWALLS FACE PANELS (1). SLATWALLS BACK PANELS (2). ADJUSTABLE HANGING BINS UPFRONT (3)


PERFORATED SHELVES



SMARTSHELF® MOBILE CABINET ON CASTERS


PERFORATED PANELS

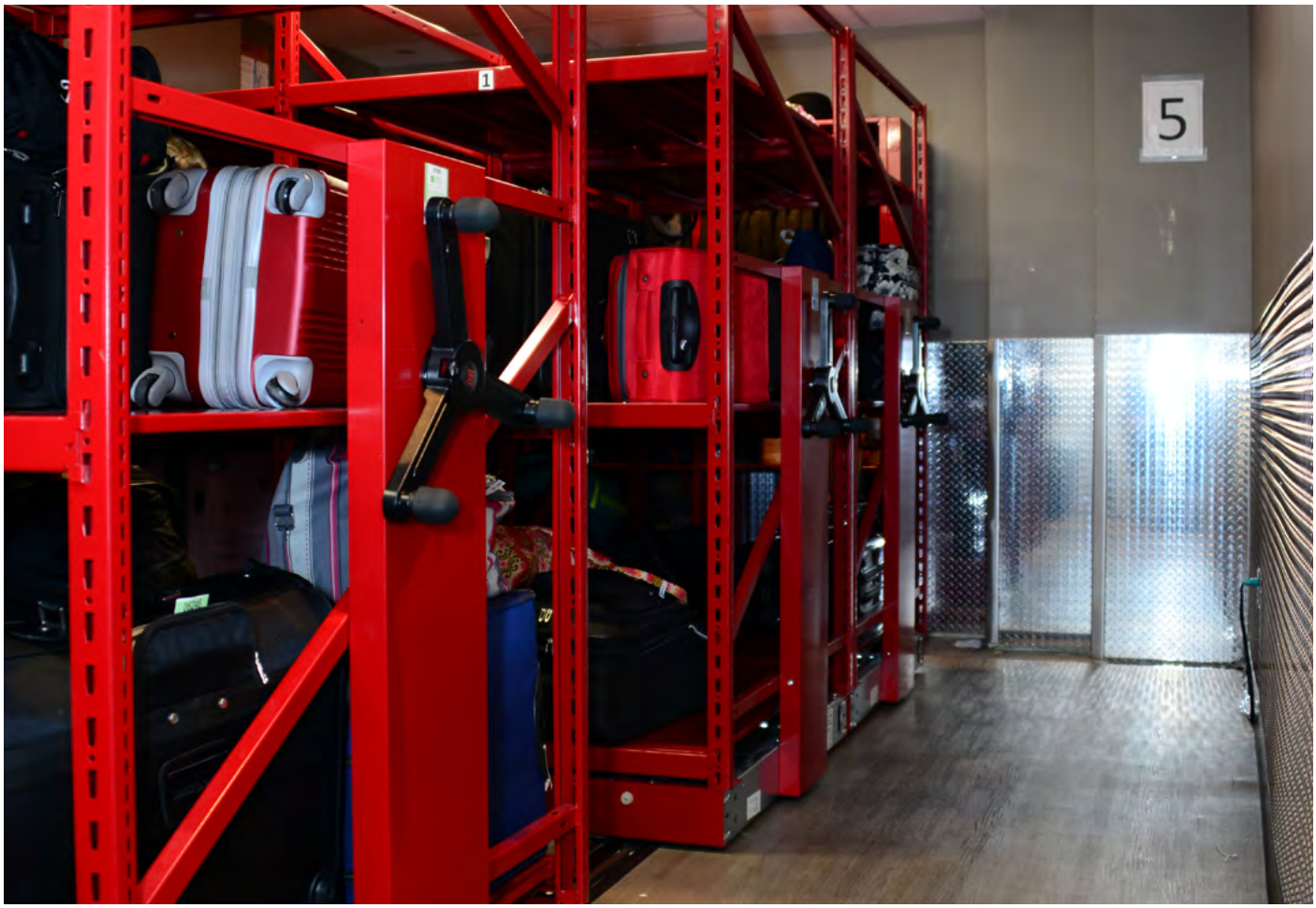

ADJUSTABLE HANGING BINS UPFRONT

* PROVIDED WITH AETNASTAK CANTILEVER SHELVING

CASE STUDY

HYATT REGENCY

HYATT REGENCY INDULGES ITS GUESTS WITH A NEW LUGGAGE ROOM FURNISHED WITH MOBILE SHELVING



HYATT REGENCY



MOBILEX® WITH SMARTSHELF® 4-POST SHELVING

HEALDSBURG, CALIFORNIA, USA

> “We can now double luggage storage capacity. We are able to retrieve luggage 75% faster.”

CHALLENGES

Hyatt Regency partnered with Montel to redesign its luggage storage room so its team of bellhops could more adequately provide for Hyatt guests.

SOLUTIONS

Even the fanciest establishments know a thing or two about the value of spatial economy. That’s why outfitting the luggage room with a 4D wide span Mobilex® mobile shelving installation makes the most sense. Thanks to its collapsible design, mobile shelving helps the Hyatt store more bags and other materials with half the storage footprint.

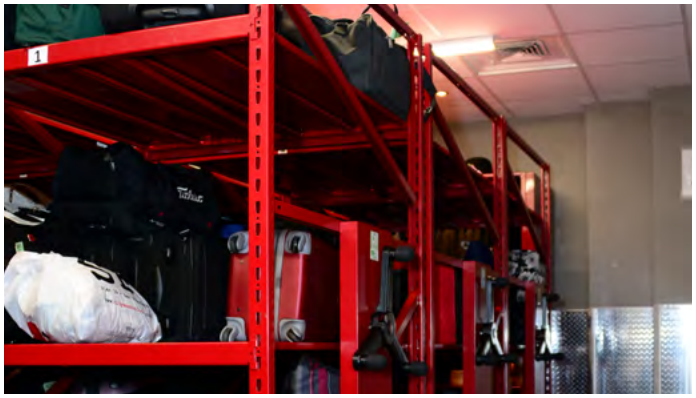
For Hyatt regency bellhops, the difference was night and day. The mobile shelving installation expanded the Hyatt’s luggage storage capacity by 250 percent, up to as many as 500 bags and suitcases. Hyatt Regency Bell Captains also told Montel their bellhops are now able to retrieve luggage 75 percent faster thanks to the organization achieved by their new mechanical-assist mobile shelving modules.

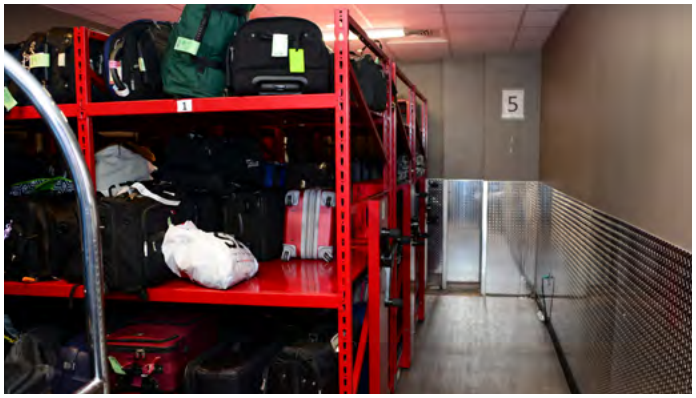
PRODUCT FEATURES

Mobilex® mobile shelving systems offer hotels the flexibility to reshape their luggage storage themselves without the need for tools or maintenance professionals. Heavy-duty wide span shelving can be adjusted in 1-inch increments to accommodate large suitcases or any unusually shaped objects visitors might have in tow.

Better still, Mobilex® shelving can include other kinds of storage features to create multipurpose spaces. A luggage room could also be a coat check if, like the Hyatt Regency, hotels added clothing racks with garment rods to their luggage storage installations. Furthermore, hotels could also tack on a few extra mobile shelving modules and use the additional space for general storage.

Even shelving has the power to knock guests off their feet if it makes a statement or blends well with the decor. The Hyatt chose a breathtaking shade of deep red for its luggage room storage, but other hotels can choose from an array of color options that suit their tastes.





CASE STUDY

WILLIAMS SELYEM WINERY

WILLIAMS SELYEM WINERY LEARNED WORLD-CLASS WINES PAIR WELL WITH SMARTER SHELVING



WILLIAMS SELYEM





MOBILEX® MOBILE SHELVING

HEALDSBURG, CALIFORNIA, USA

> “We’d like to personally thank Montel for a job well done.”

CHALLENGES

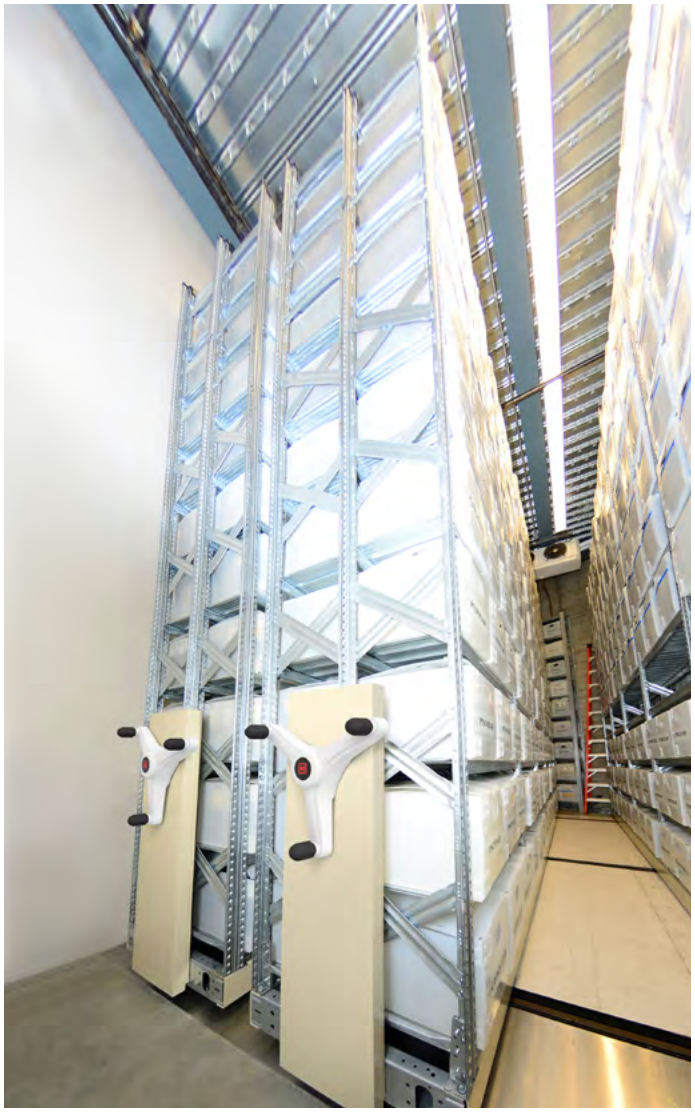
Wine libraries must be kept at an even temperature using heating, ventilation and air conditioning systems specifically designed to create an ideal environment. While these HVAC systems preserve the wine well, they do increase energy costs for the user as they must run constantly. Expanding the square footage of the library to make room for more storage would have not only cost a bundle in construction, but also raised the recurring energy costs for the winery.

SOLUTIONS

After partnering with Montel and installing six 16-foot Mobilex® mobile shelving modules across the wine library’s two rooms – along with freestanding racks along that back walls – Williams Selyem effectively quadrupled its storage potential to 2,000 cases, give or take a few dozen boxes of Magnum bottles. Instead, Williams Selyem trusted mobile shelving to grow its storage capabilities without increasing its energy consumption.

BENEFITS

Like traditional libraries, Williams Selyem Winery wine library serves a purpose beyond simple storage. Batches stored therein require frequent testing to determine whether they are mature enough for sale. Williams Selyem wine specialists need room to pull designated batches from the shelves and taste them. With that in mind, the space cannot be cramped or completely devoted to storage. Luckily, because of the collapsible Mobilex® mobile shelving units, Williams Selyem staff can open and close aisles to give themselves enough space to freely move about the wine library at their leisure.



MOBILEX® ROI RETURN ON INVESTMENT REPORT

COST OF MONTEL MOBILE STORAGE SYSTEM VS. ANNUAL COST OF STOCKROOM RENT

ESTIMATED COMMERCIAL LEASE – TOMBALL, TX
PRODUCT: MOBILEX® WITH 4D WIDE SPAN



MONTEL MOBILEX®
WITH 4D WIDE SPAN RACKING

ANNUAL STOCKROOM RENT	
Lease per sq. ft.	$17.00
HVAC Cost per sq. ft.	$1.50
Stockroom Taxes & Maintenance	$0.50
Total Annual Lease Per sq. ft.	**$19.00/sq. ft.**

Source: LoopNet - http://www.loopnet.com/Listing/19079406/27400-State-Highway-249-Tomball-TX/

	ROI IN 28 MONTHS
Montel Mobile Storage System Investment*	**$16,800**
Recovered Warehouse Space	**382 sq. ft.**
Yearly Rent on Freed Up Space (382 sq. ft.. x $17 annual rent per sq. ft.)	$6,494
HVAC & Utilities (382 x $1.50 annual cost per sq. ft.)	$573
Insurance, Maintenance, Taxes (382 sq. ft. x $0.50 annual cost per sq. ft.)	$191
Total Savings in Leasing per Year	**$7,258**
ROI	**28 Months**
ROI AFTER 10 YEARS = ($7,258 x 10 Years) - $16,800	**$55,780**

Warehouse costs were too expensive compared to a Montel mobilized racking solution.

* Pricing includes mobile system and installation cost.

MOBILEX® LEED RATINGS

LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN (LEED®) GREEN BUILDING RATING SYSTEMS IN NORTH AMERICA.

This document explores the potential contribution for the use of MONTEL HIGH-DENSITY STORAGE SYSTEMS for a LEED® (New Construction and Major Renovations) project. The LEED® Rating System has 110 points divided in seventeen topics for certifying the design and construction of commercial or institutional buildings and high-rise residential buildings of all sizes, both public and private. Montel's storage products can assist in earning points towards the various LEED rating system certification levels. In some cases, Montel's high-density mobile storage systems contribute directly to individual LEED points, but in other cases can only help meet the overall intent.

LEED® SUMMARY TABLE					MONTEL PRODUCT POTENTIAL CONTRIBUTION
CATEGORY		PREREQUISITES	CREDITS	POINTS	LEED®
SS	Sustainable Sites	1	8	26	0 points
WE	Water Efficiency	1	3	10	0 points
EA	Energy and Atmosphere	3	6	35	0 points
MR	Materials and Resources	1	8	14	6 points
IEQ	Indoor Environmental Quality	2	8	15	3 points
ID	Innovation in Design	0	2	6	3 points
RP	Regional Priority	0	1	4	4 points
TOTAL		**8**	**36**	**110**	**Up to 16 possible points**

WE BUILD SATISFACTION

Established in 1924, Montel pioneered high density mobile storage systems providing cost-efficient storage solutions using less space.

CUSTOM-BUILT FOR YOUR INDUSTRY

WE'VE MANUFACTURED AND INSTALLED THOUSANDS OF PROJECTS AROUND THE WORLD.



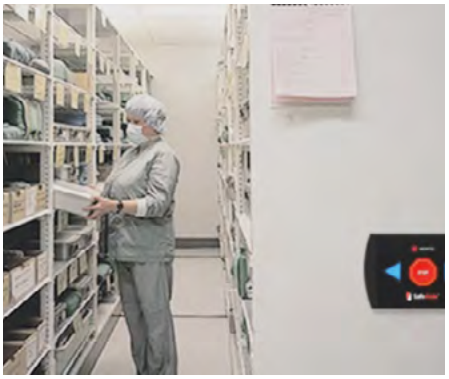
MOBILEX® MECHANICAL-ASSIST MOBILE SYSTEM WITH **4D** WIDE SPAN RACKING



SMARTSHELF® 4-POST HYBRID SHELVING SYSTEM



SAFEAISLE® POWERED MOBILE SHELVING SYSTEM



SAFEAISLE® POWERED MOBILE SHELVING SYSTEM



MOBILEX® MECHANICAL-ASSIST MOBILE SHELVING SYSTEM



SAFERAK® **32P** POWERED MOBILE RACKING SYSTEM FOR COLD STORAGE

WHAT ELSE DO WE DO?

STORAGE SOLUTIONS THAT HELP YOU TO GROW FROM THE INSIDE, OPTIMIZE AND GET RESULTS.



HEAVY-DUTY MOBILE STORAGE SYSTEMS



SHELVING SYSTEMS



INDUSTRIAL MODULAR DRAWERS



CABINETS



WORKBENCHES



HANGING STORAGE SCREENS & PANELS

WHY CHOOSE MONTEL STORAGE SOLUTIONS?

SAVE SPACE | SAVE TIME | SAVE MONEY



GET RESULTS FROM YOUR SQUARE FOOTAGE: FAST ROI

Save up to 50 % of your value generating space.



WORK WITH STORAGE-SAVVY EXPERTS

We manufacture the one and only solution. The best one.



TOTAL OFFER CUSTOMIZED TO YOUR NEEDS

We will go to any length, depth, width, height, and weight.



BETTER ORGANIZE YOUR SKUs

Gain productivity while inventory management & security are improved.



MEET YOUR ENVIRONMENTAL OBJECTIVES

Minimize your environmental impact by reducing your footprint.

OUR MISSION

THE EMPLOYEES OF MONTEL SET OUT A VERY PERSONAL OBJECTIVE: BUILD THE BEST STORAGE SYSTEMS IN THE WORLD.

Their talent, commitment and dedication have been put to the test numerous times.

At Montel, client satisfaction is an ongoing priority. Our highly competent Authorized Montel Distributors are specialists in providing turnkey project solutions including space planning, design and floor loading consulting services, and factory certified system installations. They are also committed to providing a high level of professionalism and an outstanding customer service before and after the sale.

MONTEL INTERNATIONAL PRESENCE



68 COUNTRIES

MONTEL ACHIEVED PRESTIGIOUS REALIZATIONS IN MORE THAN 68 COUNTRIES

65 DISTRIBUTORS

65 AUTHORIZED MONTEL DISTRIBUTORS AROUND THE WORLD

SINCE 1924

MORE THAN 9 DECADES OF INNOVATIVE STORAGE SOLUTIONS

ALSO AVAILABLE

INQUIRE ABOUT OTHER MONTEL HIGH-DENSITY MOBILE STORAGE SYSTEMS DESIGNED TO HOLD VARIOUS LOAD CAPACITIES. MOBILE SYSTEMS ARE EITHER POWERED ELECTRICALLY, OPERATED MECHANICALLY OR MANUALY.



SAFEAISLE®



RACK&ROLL 16MA



QUADRAL



SMARTSPACE 2M

CERTIFICATIONS & STANDARDS

MONTEL ISO 9001:2015

MONTEL ISO 14001:2015

UL

CONTINUING EDUCATION

CANADA GREEN BUILDING COUNCIL MEMBER

ADA COMPLIANT

FIRE PROTECTION COMPLIANT

SUPERIOR SAFETY RECORD

AUTODESK REVIT

SUPERIOR WARRANTY

RATED MACHINE SAFETY STANDARDS

GSA Contract Holder
with Contract # GS-28F-0017M

GSA Advantage!®

For the most recent version of this document, please go to the Montel website at www.montel.com/en/design-center. In case of discrepancy, the web version takes precedence over any printed literature.

MONTEL®
Intelligent Use of Space

877-935-0236
info@montel.com
www.montel.com

M01.023.001 03.2018 Printed in Canada

SECTION 10 56 26 - MOBILE STORAGE SHELVING

* ALL FIELDS IN [ ] MUST BE EDITED.

PART 1 - GENERAL

1.1. RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Related Specifications Sections, apply to this Section.

1.2. SUMMARY

A. This section includes the following:

1. High-density mobile storage units mounted on mechanically assisted carriage, support rails, fabrication and installation including leveling of support rails.

2. 4-Post shelving units, fabrication and installation on mobile carriage.

B. Related Work, Not Furnished:

1. Structural floor system capable of supporting live and dead loads required by prevailing building codes, including loads of storage units to be installed. Provide a maximum allowable sub floor deflection of [L/480] under specified mobile storage loads.

2. Finish floor covering and edging materials and installation on raised floors and ramps, or when on concrete with recessed rail installation.

3. Fire suppression system is by others.

C. Related Sections:

1. [Section 033000 – Concrete Work]

2. [Sections in Division 9 – Finishes, relating to finish floor and base materials.]

D. Allowances:

E. Alternates

1.3. PERFORMANCE REQUIREMENTS

A. Due to the user’s preference and requirements for safety, performance, and flexibility, all following specification line items are mandatory.

B. Seismic Performance: Provide mobile carriages and shelving capable of withstanding the effects of earthquake motions as determined according to IBC 2006 and local building codes.

C. Design Requirements: All mobile carriage and shelving elevations as [per attached drawings] or [described in the specifications].

D. Color Samples: Provide sample for each exposed product and for each color required.

E. Selection Samples: For selection of colors and textures, submit manufacturer’s color charts consisting of actual product samples, showing full range of colors and textures available. Vendors must provide a minimum of 12 color selections in powder coat paint finish.

F. Installer Qualifications: Hire an experienced installer who is the manufacturer’s authorized and

certified representative.

1. Minimum Qualifications: 1-year experience installing systems of similar size and complexity to specified project requirements.

2. Manufacturer Certification: Required by manufacturer on manufacturer’s letterhead required at time of bid. Certifications by sales representatives, dealers, or distributors are unacceptable. Qualification must include resume of certified installation supervisor.

3. Provide support within 24 hours for service call.

G. Warranty: Submit a written warranty, executed by the Contractor, Installer and Manufacturer, agreeing to repair or replace units that fail in materials or workmanship within the specified warranty period. This warranty shall be in addition to, not limitation of, other rights the Owner may have against the Contractor under Contract Documents.

LIFETIME LIMITED WARRANTY: for the lifetime of the shelving and mobile carriages ("structural frames"). For the purposes of this warranty, structural frames shall be deemed to exclude all moving parts, controls and guides that have immediate contact with any moving parts.

5-YEAR LIMITED WARRANTY: for five (5) years from the date written hereafter*, for all equipment, other than structural frames, carriage drivemotors, new electronic components installed for an electrical upgrade of systems, light fittings and these electronic components: emergency power system (UPS), routers and WIFI remote controls. During the 5-year warranty period, all parts are included at no cost for 5 years. Labor installation is included at no cost during the first year of the 5-year warranty period.

* 5-year limited warranty is applicable from the date of warranty registration completed by the end-user at www.montel .com. As indicated on the registration form, registration constitutes the customer's written acceptance of installation. If registration has not been activated by the end-user within sixty (60) days from date of factory shipping, the warranty shall be in force from the date of shipping.

H. Reference List: Provide a list of three (3) minimum installed mobile storage installations to be contacted or visited by owner, architect and contractor. Installation must be of similar size, scope of specified system. Visit is intended to inspect operation, quality of installation and verify the suitability of manufacturer’s products and comparison with materials and products specified. Manufacturer is required to address all issues raised by owner, architect and contractor. List must include contact names, phone numbers or e-mails, size and quantity of shelving units.

I. LEED Data: Provide complete environmental data including recycled material content, VOC data, and other product related information. Describe all manufacturing processes or policies that contribute to environmental sustainability

J. Project Schedule: Provide a project achievement plan detailing all critical elements necessary to plan, manufacture, ship, and install shelving product. Include critical project milestones and risk mitigation plan.

K. Manufacturer Qualifications:

1. ISO 9001:2015: Engage an experienced manufacturer who is ISO 9001:2015 certified for the design, production, installation and service of powered mobile systems. Submit manufacturer’s ISO 9001:2015 quality system registration certificate.

2. ISO 14001:2015: Engage an experienced manufacturer who is ISO 14001:2015 certified. This international standard defines a process for monitoring and improving an organization's environmental performance. This process minimizes adverse impacts on the environment caused by the activities of the enterprise and helps to continually improve the environmental performance of the organization. Submit manufacturer's ISO 14001:2015 registration certificate, certifying the environmental performance of manufacturer.

1.4. SUBMITTALS

A. Product Data: Submit manufacturer’s product literature, schematics, testing data, and other items as described in this specification. Include data substantiating that products to be furnished comply completely with requirements of the contract documents and specifications. Include installed weight, load criteria, furnished specialties, and accessories.

B. Shop Drawings: Prepared and detailing fabrication, assembly, and installation of mobile carriages and storage shelving, as well as procedures and diagrams. Include details of layout and installation, as well as clearances, spacing, relation to adjacent construction in plan, elevation, and section, components, assemblies, connections, attachments, reinforcements, and anchorage. Furnish floor layouts, technical, and installation manuals for every unit shipment.

1.5. QUALITY ASSURANCE (Submittals due from all bidding contractors at time of bid, failure to do so shall be cause for disqualification.)

A. Manufacturer Certifications: Providing separate written certifications by manufacturer on manufacturer’s letterhead at time of bid is required stating compliance with all specifications of shelving systems. Shelving certifications must confirm compliance with all shelf sizes and gauges as noted in these specifications. If bidding different manufacturers for mobile and shelving, two (2) certifications are required. Preference shall be given to one-source supplier.

1.6. PROJECT CONDITIONS

A. Field Measurements: Verify mobile carriages and shelving unit location by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work

1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating mobile carriage and shelving units without field measurements. Coordinate construction to ensure actual dimensions correspond to established dimensions.

B. Delivery, Storage, & Handling: Comply with instructions and recommendations of manufacturer for special delivery, storage and handling requirements.

C. Sequence & Scheduling: Sequence mobile carriage and storage shelving system installation with other work to minimize possibility of damage and soiling during remainder of construction period.

D. Pre-Installation Conference: Conduct conference at project site. Review methods and procedures related to installation of mobile carriage and storage units including, but not limited to, the following:

1. Inspect and discuss condition and levelness of flooring and other preparatory work performed under other contracts.

2. In addition to the Contractor and the installer, arrange for the attendance of the following:

a. Other Installers affected by the work of this section.

b. The Owner’s Representative.

c. The [Architect] [Architect/Engineer] [Engineer/Architect] [Engineer] [Designer].

d. Manufacturer’s representative.

PART 2 - PRODUCTS

2.1. MANUFACTURERS

A. General: Products are based on mobile shelving system products manufactured by Montel Inc. Contingent on meeting all specification requirements, other acceptable manufacturers may be included.

2.2. BASIC MATERIALS

A. Grout:

1. General: The compound shall be cementitious grout which, when mixed with water, will harden to produce a permanent bolt setting anchor. The compound shall conform to the following specifications, all of which are based on the performance of the test specimens at room temperature and in laboratory environment.

2. Linear Movement: It shall not shrink on setting, but shall exhibit a slight expansion of not more than .002 inch per linear inch.

3. Compression Strength: Two (2) inch cubes made in accordance with ASTM standards tested on a Baldwin-Southwark machine of 60,000 pounds capacity shall have the following minimum average compression strengths:
Age: 1 day - 4,500 PSI
7 days - 8,000 PSI

4. All tracks shall be grouted the entire length of each run, including all track joints. As the grout slightly expands during the cure process, it shall be in permanent contact with the grouted structural members. This provides a continuous support to the system, and optimal weight distribution on the existing floor slab.

2.3. MANUFACTURED COMPONENTS – MOBILE

A. Tracks:

1. Rails shall be designed and manufactured to carry loads of 1,000 pounds per linear foot (1,488kg/m) of carriage. Made of minimum cold rolled steel (CRS) rail assembly of ¾" (19mm) high x 1" (25mm) wide inserted in a surface treated aluminum sub-rail. Rail contact surface shall be minimum 1" (25mm) wide. The inserted steel rail shall be replaceable. One-piece rails with no sub-rails are not permitted.

2. Sub-rails shall be leveled with self-leveling screws above or below the walking surface. Shims shall not be accepted.

3. Sub-rails shall be designed to be anchored on top of structural concrete floor and to allow for adjustment so sub-rails can be leveled over an uneven floor.

4. In the sub-rail, the opening adjacent to rail which accommodate manufacturer’s carriages guidance system and/or anti-tip system shall not exceed 7/16" (11mm) wide x ¾" (19mm) deep.

5. All rail connections shall have interlock steel rail connectors. All sub-rail connections shall have interlock steel sub-rail connectors. All track connections shall be designed to provide horizontal and vertical continuity between rail/sub-rail sections, to gradually transfer the concentrated wheel point load to and from adjoining sections. To insure vertical and horizontal stability, tongue-and-groove connections are not permitted.

6. Tracks shall be layered and staggered to ensure a smooth weight transfer from one track to the other. Top-to-bottom track shall be without joints to support continuously the top steel rail at the junction point and provide greater structural rigidity. One-piece rails with tongue-and-groove joints and connections are not permitted.

7. Rail shall be located and positioned properly, leveled and grouted, allowing at least 3/8" (9.5mm) for grout under high point. Anti-slip grooves under sub-rail shall prevent track to

slip when grout is poured. Grout shall infiltrate inside the grooves to anchor the sub-rail to the cement. Grout to be worked under rail, any voids completely filled and trimmed upsides and flush with rails. This allows proper weight distribution from rail to existing slab.

8. Levelness of rails: 3/32" (2mm) maximum variation from true level within any system; 1/16" (1.5mm) maximum variation between adjacent rails, perpendicular to rail direction; 1/32" (0.76mm) maximum variation in 10’ 0" (3.05m) of rail length, along any rail.

9. Rails are to be verified for integrity of position and levelness, as well as anchored into structural concrete slab, using anchors in sizes and quantities as determined by manufacturer.

10. Sub-rail section shall be a minimum of 12’ foot (3.66m) each and rail section shall be provided in shorter section of 10’ foot (3.07m). Shorter sections are used to complete each individual rail assembly

11. [(Optional) Built-in anti-tip device sub-rail shall be provided to meet local building code and high height-to-width ratio.]

B. Floor/Ramp (Choose 1 or 2):

1. [Surface Mounted Floor / Ramp]:

a. Finished elevation of the raised floor shall be flush with the top of the rails.

b. The ramp shall not extend beyond the end of the carriages and shall have a maximum slope of nine (9) degrees. The vertical transition from the ramp edge to the floor shall be a maximum of 1/8". Ramps shall extend under all movable and stationary ranges except as noted differently. Ramps shall be made of 12-gauge steel.

c. Floor panels shall be constructed of a minimum [5/8" (16mm)] or [¾" (19mm)] thick, underlayment grade plywood. Floor panels must be provided between all rails the full-width of systems, except under stationary platforms.

d. Floor panels shall be provided with built-in floor anchor to provide a continuous leveled floor surface.

e. The floor and ramp shall be constructed in a manner preventing any warping or deformation of the floor panels in a normal operating environment.

f. Floor covering is to be installed and supplied by [the Owner] [others].

2. [Recessed]:

a. Finished elevation of the raised floor shall be flush with the top of the rails.

b. Track shall be protected with steel covers during the pouring process.

c. Concrete topping shall be poured in order to fill the gap between existing slab and top of the track (NIC).

C. Carriages:

1. All carriages shall be riveted-bonding construction for flexibility and potential reconfiguration. Welded carriages or carriages with formed lips are unacceptable. Carriages and stationary platforms shall be constructed of a full “C” shape profiles 1 ½" (38mm) deep x 5" (127mm) high, minimum 12-gauge steel, with 1,000 pounds (1,488kg/m) per linear foot maximum capacity. Wheel support sections shall be minimum 12-gauge

steel and shall be riveted between the main support face sections, one per aisle assembly. Support sections shall be embossed to eliminate the need of filler plates between the shelving/cabinet and the C shape supports.

2. Stationary carriages, as shown on the drawings, shall be of same construction and height as the mobile carriages and anchored to rails. Setting of shelving on floor at ends of mobile runs is unacceptable.

3. Necessary carriage splices shall be bolted type designed to maintain proper unit alignment and weight load distribution.

4. Carriage face sections shall provide a smooth, clean appearance without any assembly holes or protruding hardware.

5. Carriage straightness shall have no more than ¼" (6.35mm) maximum deviation from a true straight line. There shall be no permanent set or slippage in any spliced or welded joint when exposed to forces encountered in normal operating circumstances.

6. Carriage construction shall be designed to allow the shelving uprights to be secured to the carriage frame with two assembly kits per upright of vibration-proof graded 5" bolt, nut, and clamp anchor assemblies and so that there is no visible hardware on carriage face. Recess design carriages are not permitted. Self-drilling screw attachment is not acceptable method of attachment shelving units to the carriage. No shelving or cabinet attachment hardware shall be visible on exterior face of carriages

7. Each carriage shall have at least two wheels per rail.

8. Carriages shall have powder coat (1.5 mil) finish on all surfaces. Color selection by the [Owner] [Architect] [Architect/Engineer] [Engineer/Architect] [Engineer] [Designer] to match shelving. Powder coat paint finish is required for finish durability and elimination of any off gassing. Finish shall be inert, with no volatiles present in finished product. Visible galvanized steel structural carriage components are unacceptable.

D. Drive/Guide System:

1. Direct-Drive System: Provide with full-length drive shaft which prevents carriage whipping, binding and excessive wheel and rail wear under normal operation. All wheels shall be direct-driven at every rail location on one side of carriage. Synchronized drive with multiple chains, trolleys, and drive shafts are not acceptable.

2. Torque-Resistant Tubular Drive Shaft: Minimum of 1 5/16" (33mm) outside diameter by maximum 1 1/8" (29mm) inside diameter. Solid steel rod is not acceptable.

3. Dual-Flange Wheels: Provide positive guidance and tracking. Guidance requiring cam followers and ball bearings running on either side of the rail is unacceptable.

4. Narrow Guidance Channels: Provide a maximum 3/8" (9.5mm) between sub-rail and rail sections to reduce tripping hazards, allow carts to easily roll over, prevent debris accumulation, and facilitate cleaning.

E. Wheels:

1. Wheels shall be constructed of solid minimum 1045 cold rolled steel (CRS) for smooth operation. Minimum load capacity per wheel 3,200 pounds (1,452kg) Wheels shall be precision ground, balanced. All bearings shall be permanently shielded and lubricated.

2. All wheels shall be minimum 5" (127mm) diameter (outside dimension). They shall be dual-flanged and sloped to insure efficient guidance. Single center flanged wheels are not acceptable.

3. Due to carriage length and shelving/racking heights, guide wheels shall be at all wheel locations.

F. Face Panels:

1. Materials: All exposed face panels shall be steel. Face panels shall be located on all operating ends of ranges as shown on drawings.

2. Finishes: [Selected from manufacturer’s standard available colors and patterns.] [(Optional) Selected by the [Architect] [Architect/Engineer] [Engineer] [Designer]].

3. Face panels must cover the full height and width of shelving.

4. [(Optional) Laminated End Panels: The panel thickness shall be 11/16" (17.5mm) and it shall be installed over a regular metal face panel. It shall be constituted from a 5/8" (16mm) particleboard complying with ANSI A208.1 Grade M-2, and made of at least 90% of recycled wood fiber, covered on both side with a colored laminate grade 10/HGS. Edges shall be finished with a color matching edgebanding.]

5. [(Optional) Front Shelving Unit: The front end of each mobile shall be equipped with a shelving section. The shelving shall be cabinet style, cantilever installed on carriage and not deeper than 15" (381mm). The front shelving shall present a reserved space without shelf in the middle to hold the handle or the control.]

G. Movement Controls:

1. The system shall be of the mechanical assist type having a chain sprocket drive system. A driving system is required to provide uniform movement along the total length of the carriage even with unbalanced loads on the carriage. The system shall be a positive drive to ensure that there is no play in the drive handle and the carriage will stop without drifting. All components of the system shall be compatible for smooth non-jerking, even movement along the total length of the carriage. All bearings used in the drive mechanism shall be permanently shielded and lubricated.

2. Operating handles shall be three-spoke type (single spoke handle are unacceptable) of 18 3/4" diameter transmitting power through a chain drive to the drive wheels. Provide operating handles on drive end of carriages as noted on drawings. Each mechanical device shall come with a chain-tensioner. Handle must be mounted at 39 1/2" from the bottom of the carriage.

H. Safety Features:

1. Aisle Safety Push-Button Lock (for single access): Shall be located at the center of the handle. The user shall press the aisle safety push-button, which will lock the respective carriage. After being pressed, the aisle safety push-button shall protrude from the handle face to display a red band visible to users. After being re-pressed, the aisle safety push-button shall return to its unlocked state. Pull-out pins are unacceptable. Both carriages on either side of the aisle must be secured.

2. [(Optional) Toe-level Safety Sweep (for single or dual access): Consisting of hinged aluminum safety bar running full length of the mobile carriages, flush with bottom of carriage frame and on both sides of carriage. Upon activation of the sweep, an internal device shall interlock with drive train resulting in positive stop anywhere in the module. A one and a half (1.5) pound pressure applied on the safety bar will activate the safety. The safety shall automatically reset upon removal of the obstruction or if carriage is backed away from the obstruction. This active safety shall not require any electricity or battery to be activated (mandatory).]

I. Accessories:

1. [(Optional) Overhead Aisle Lighting: Each aisle shall be equipped with automatic or manual lighting. Lighting system shall illuminate upon activation of this device : [human presence detector] [magnetic proximity detector] [rocker switch].]

2.4. MANUFACTURED COMPONENTS – 4-POST SHELVING

A. Upright Frames: Upright frames are made of two or more cross members welded to the top and bottom (and center if necessary) of the post and forming a rectangular upright frame. Each post shall be made of 16-gauge 1 ¼" x 1 ½" rectangular shaped cold rolled steel. The lateral sides of the posts are slotted at every one inch increment. The slots are 3/16" wide x 5/8" long and are designed to accommodate a variety of shelf and roll-out drawer configurations. The back of the post is also slotted at every 1 ½" increment with two rows of slots side by side from top to bottom. They are 3/16" wide x 5/8" long with 3/8" between the two rows. The uprights must allow for component integration on either 1" or 1 ½" increment depending only on the selected shelf component. Due to aesthetic concerns, user's performance requirements, safety of users and stored materials, and to provide maximum flexibility, "L & T 4-Post" utility shelving system styles are unacceptable.

B. Cross Members: Cross members are 4" high x ½" wide. They are made of 16-gauge steel folded to create a "U" shape channel. At both ends, hook type design allows to snap the cross members in both rows of slots at the same time. The cross members shall be welded to the post. Non-welded frames must be available to minimize shipping volume, thus reducing truck pollution.

C. Levelers: Each post shall have an integrated leveler, inserted into formed upright tube, which allows for ¾" adjustment to accommodate for uneven floor surface. No temporary shims or other third party leveling device will be accepted.

D. Supported type:

1. Full-depth shelves: Full-depth shelves are made of box rolled formed 20-gauge steel, with "Four Bend" ¾" edge construction which adds additional strength and capacity as well as it creates a hidden safety edge to protect people and items. The full-depth shelves are supported by two longitudinal shelf supports and the appropriate number reinforcement channels. Shelves are also available in 18-gauge steel as an option.

2. Longitudinal supports: [¾" high supports] or [1 ¼" high supports for heavy duty application] are made of one "U" shaped 12-gauge steel channel. A standard formed steel claw is welded at each end to form a complete support. These supports are inserted into the slots located at the back of the post.

3. Front-to-back reinforcement channels: [¾" high reinforcement channels] or [1 ¼" high reinforcement channels for heavy duty application] are made of 12-gauge steel formed in a "U" shaped channel and are sitting on the longitudinal shelf supports.

4. Base support: A 12-gauge steel special "U" shaped channel is provided for the bottom shelf. The support is inserted at the bottom of each post and anchored to the floor or to the carriage, in compliance with seismic standards.

E. Hooked type:

1. All shelves and canopy tops shall be constructed of minimum 18-gauge steel with "Four Bend" ¾" edge construction and clipped on the uprights with use of steel hooks. No raw steel edge shall be visible or felt under each shelf's surface. Welded reinforcement can be added to accept heavier loads. Shelves floating on support are unacceptable. [1" thick shelf with 3 bends also available.] No portion of shelf storage capacity can be obstructed or otherwise blocked by support posts. (Shelves shall be installed between uprights for maximum unimpeded usage.)

2. All shelving shall be back-to-back shelves and must be designed in a manner that will allow removal of shelves, trays, and drawers without the use of tools or otherwise

disruptive actions. Shelves must have the ability to be individually added, removed, or adjusted without disrupting or otherwise impacting adjacent shelves' placement. Canopy tops required on all sections.

3. To provide maximum flexibility, all shelves must be adjustable on 1" centers along the entire height of upright.

4. Maximum deflection under load; must maintain L/140 based on a uniform distributed load of 50 pounds per square foot.

5. Each shelf shall be supported by four (4) steel hooks.

F. Sway Brace (required with hooked type): 1 1/8" wide sway braces are made of two 16-gauge steel bars, assembled with a rivet. Sway braces are connected to the posts by means of mechanical rivet or dowel pins. Sway braces are positioned where needed on taller shelving sections to add lateral stability.

G. End Panels: Shall be constructed of 20 gauge steel, 2" thick, they are bolted to bottom and top upright cross members.

H. Side Closure Panels (optional): Shall be constructed of 20-gauge steel, they are formed to be flush with the edge of the shelving upright and bolted to bottom and top upright cross members.

I. Full-Back Panel [optional for single sections]: Full-back panels are made of 20-gauge steel box formed ½" thick and affixed to the post to form an integral finished product.

J. Center Back Panel [optional on double face sections]: Center back panels are made of 20-gauge steel and constructed in such a way as to form and integral finished product.

K. Double Door: Constructed of 20-gauge steel, the double doors shall have a thickness of 5/8". A ½" thick reinforcement made of 20-gauge steel shall be welded to the back of the doors. A handle including a double lock with identical key shall be located on the right door, 39" from the bottom of the shelving. The double doors assembly is bolted to the shelving frame.

L. Plain Backstops (single entry): Shall be 5 17/32" high formed of 20-gauge steel with a 3/8" bend on top and bottom and a 1 3/16" bend on each side.

M. Slotted Backstops (single entry): Shall be 5 17/32" high formed of 20-gauge steel with a 3/8" bend on top and bottom and a 1 3/16" bend on each side. Slots are located on 1" increments for dividers adjustment.

N. Plain Center Stops (double entry): Shall be 4 3/16" high formed of 20-gauge steel with offsets bends to center on upright frame.

O. Slotted Center Stops (double entry): Shall be 4 3/1" high formed of 20-gauge steel with two offset bends. Slots are located on 1" increments for divider adjustment.

P. File Dividers: Shall be formed of 20-gauge steel with one lug at the top rear and two lugs on the bottom to engage slots in the shelf for easy adjustment on 1" horizontal centers. The front top corner of the divider is rounded with an approximate 2" radius.

Q. Adjustable Front Stop: Shall be a one-piece component and made of 16-gauge steel. Hooks shall be formed at each end and shall allow the Adjustable Front Stop to be adjusted every 1 1/2" without tools. Bends towards the inside of the Adjustable Front Stop shall hide all sharp edges on the exterior. Adjustable Front Stops shall be available from 2 1/4" to 5 1/4" high.

R. Sliding Reference Shelf: Shall be 11" deep and made of 18-gauge steel reinforced on each side with steel angles to secure slides. Shall operate on double extension ball bearing slides equipped with rubber bumpers on each end of travel. The assembly is securely attached to underneath the

storage shelf, flush with the front edge.

S. Flip-Up Door: Shall be the operable assembly of a shelf component and a door component. The shelf component shall be formed 2” high and made of 18 gauge steel. It can adjusted at 1” increments and shall be fixed to the shelving. The door component shall be made of 18 gauge steel and shall have a recessed handle. To open the Flip-Up Door, the door component shall be rotated 90 degrees upwards and slid underneath the shelf component. In the closed position, the Flip-Up Door shall cover the respective shelf content. [(Optional) The Flip-Up Door shall be equipped with a lock. Engaging the lock when in closed position shall restrict the access to the respective shelf content.]

T. Modular Drawers: All drawers shall be easily relocated at 1" increments without using any tools. They are made of 18-gauge steel with 3 bends at the front and side top-lips. Each top-lip shall have perforations on the inside upper edge at every 1" increments to receive partitions. A front cover made of 18-gauge steel shall be bolted to each drawer and shall incorporate a 5.7" wide x 1.83" high flush mounted handle. The clear inside space have to be as a minimum overall : nominal dimensions less 1/8" in height, 2" in depth and 4" in width. The load capacity shall be 180 pounds per drawer. Drawers shall be available in 1" height increments from 4" to 12" high. The sliding ball bearing support shall provide a smooth pull-out extension up to a maximum of 28" of stroke for deeper drawers. The sliding ball bearing glide shall be mounted on a hook-support made of 16-gauge steel. An interlock system can be incorporated to a group of drawers and will prevent to open more than one drawer at a time. A locking device can be added to a group or individual drawers.

U. Pendaflex Drawers: Pendaflex welded frame shall be constructed from 16-gauge steel and shall have a height of 2.750”. Two drawer supports of 2.156” high by 9.000” long shall be riveted to the welded frame. A front cover made of 18-gauge steel shall be riveted to each drawer and shall incorporate a 5.700" wide by 1.830” high black embedded handle. The load capacity shall be 180 pounds per drawer. The sliding ball bearing support shall provide a smooth pull-out extension and shall be mounted on a hook-support made of 16-gauge steel. A locking device, with individual or identical key, can be added to a group or individual drawers.

V. Modular Trays: All trays shall be easily relocated at 1" increments without using any tools. They are made of 18-gauge steel with 3 bends at the front and the side top-lips. Each side top-lip is designed to provide a smooth pull-out and push-in movement (using a nylon strip or a low friction coating). This 3-bend lip shall be 15/16" wide with two additional 9/16" bends to act as a reinforcement channel and support the tray pan. The front and back of the tray will incorporate a 5" wide x 1" high opening with a round edge which will act as pull handles. The front and the back of the top-lips will be formed of two 3/8" bends to provide adequate rigidity and a smooth finish. The clear inside space shall be as a minimum overall: nominal dimensions less ¼" in height, ¾" in depth and 4" in width. The load capacity shall be 75 pounds per tray. Trays shall be available on 1” height increments from 2" to 8" high. A pair of guide supports will provide the adjustability for the trays. Each support shall consist of a “U” channel welded to a 16-gauge steel plate and shall be designed to prevent the tray from tipping when pulled out.

W. Sliding Comicbook Box : All drawers shall be easily relocated at 1" increments without using any tools. Box part shall be formed of not less than 18 gauge steel box formed in one piece. Front and side faces shall be formed 3" high with 90-degree bends. Front side shall have an integrated handle with a 180-degree bend at the end for a smooth edge. The rear of the box shall be formed with a 95-degree flange 7" high, a 0.313" return to the rear, a 0.313" return down, and 0.313" side flanges returned to the front. The box shall be supported on its sides by two (2) ball-bearing drawer slides. The sliding ball bearing glide shall be mounted on a hook-support made of 16-gauge steel. The load capacity shall be 150 pounds (68 kg) per drawer.

X. Hand Gun Rack:

1. Plain back stops: Shall be 5 17/32" high formed of 20-gauge steel with a 3/8" bend on top and bottom and a 1 3/16" bend on each side.

2. Foam Bloc: Each shelf shall be delivered with a full width foam block, 4” high and 11” deep.

It shall be constructed from RBR 2080 Foam with a compressive strength of 70 to 90 lb/in. It shall have slots every 3” to properly store the guns.

Y. Long Gun Rack

1. Long Gun Backstop: Shall be formed of 3” high 18 gauge steel with “Four Bends” 3/8” edge construction. Formed hooks shall be located on both edges. The backstop shall be positively fastened to the upright frames with screws.

2. Foam block: Each backstop shall be delivered with a full width foam block, 3” high and 4” deep. It shall be constructed from RBR 45 Foam with a compressive strength of 30 to 35 lb/in. It shall have slots every 3” to properly store the guns.

Z. Hanging Bar: Constructed of EMT steel tube, the hanging bar shall have an outer diameter of 1.163” and an inner diameter of 1.049”. A steel spacer shall be welded to the two ends of the tube. The spacer shall have an outer diameter of 1.380", an inner diameter of 0.265” and a thickness of 0.120”. The bar is gravity held in place between two side supports that are clipped onto the upright frame. The support is a 3" high G-shaped profile made of 16 gauge steel.

2.5. FINISH SPECIFICATIONS

A. Shall be the finest of their respective kinds and those best adapted to the construction for which they are employed to meet ISO 9001:2015 quality standards. All steel shall be superior quality milled, cold rolled, pickled, and double annealed, free from scale and buckle. All gauges are U.S. standard. The design of all parts shall be such that the completed installation shall present a neat and finished appearance and shall be free from exposed sharp edges or projections. All other special materials shall be as hereinafter specified.

B. All components shall be painted with an electrostatically applied powder coat finish. All steel parts shall be machined smoothed and thoroughly cleaned by a process of completely washing in a phosphatizing solution to insure removal of oil, grease or other foreign material which could interfere with the adhesion of the priming coat in any way. Following the cleaning process, all parts shall be coated and confirming every part is thoroughly and completely covered with fine powder coat, and baked to the paint manufacturer’s recommendation. The finish for powder coat shall be medium gloss, giving a reading of 35 to 65 degrees on a standard gloss meter and must be capable of withstanding severe hammer and bending tests without flaking. The finish for epoxy-polyester hybrid powder coat shall be a minimum 1.2 mil thickness capable of resisting methyl ethyl ketone, salt spray, abrasion and printing, and all normal usage resistant requirements of a good finish. In addition, powder coat shall not be off gassing to prevent deterioration of collection and other stored materials. Colors to be selected by owner.

PART 3 - EXECUTION

3.1. EXAMINATION

A. Examine subfloor surfaces, with installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of mobile storage units.

1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of mobile storage units.

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

3.2. INSTALLATION

A. Install components and accessories after finishing operations, including painting, have been completed. Install shelving units to comply with final layout drawings, in strict compliance with manufacturer’s printed instructions and structural calculations. Position unit's level and plumb at proper location relative to adjoining units and related work

B. Field Quality Control: Remove and replace components that are chipped, scratched, or otherwise damaged and which do not match adjoining work. Provide new matching units, installed as specified and in manner to eliminate evidence of replacement.

C. Adjust: Adjust components and accessories to provide smoothly operating, visually acceptable installation.

D. Cleaning: Immediately upon completion of installation, clear components and surfaces. Remove surplus materials, rubbish and debris resulting from installation upon completion of work and leave areas of installation in neat, clean condition.

E. Protection: Protect system against damage during remainder of construction period. Advise Owner of additional protection required to ensure shelving units will be without damage or deterioration at time of substantial completion.

3.3. DEMONSTRATION/CUSTOMER TRAINING

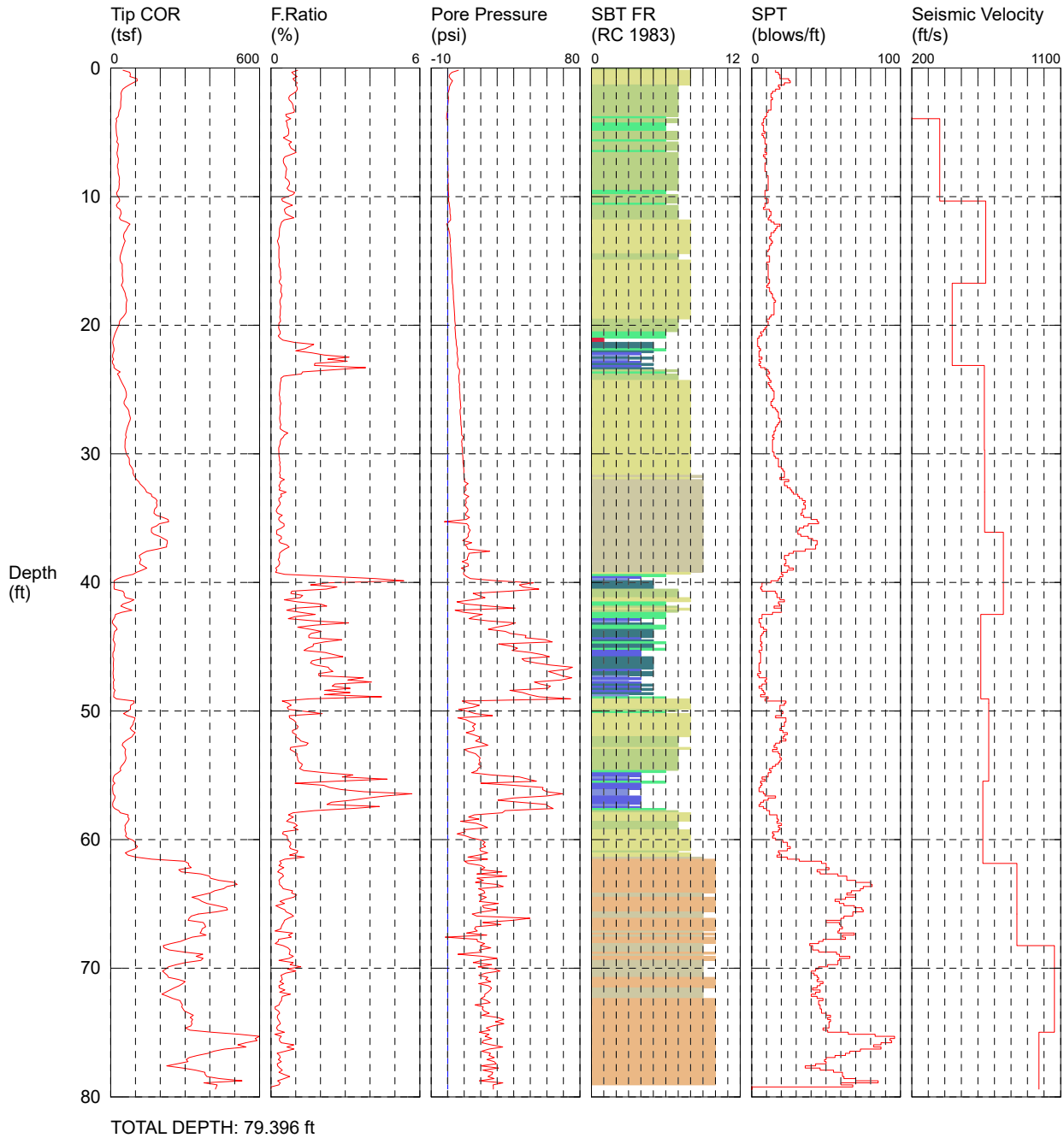
A. Provide complete training to end-user’s staff. Training shall include general safety and operation instructions, and basic preventative maintenance procedures.

END OF SECTION

sCPT-01

CPT CONTRUCTOR: In Situ Engineering
CUSTOMER: AESI
LOCATION: Mt Vernon
JOB NUMBER: 20190291E001
COMMENT: Skagit PUD
COMMENT:

OPERATOR: Okbay
CONE ID: DDG1369
TEST DATE: 9/10/2021 9:56:41 AM
PREDRILL: None
BACK FILL: 20% Grout + Bentonite Chips
SURFACE PATCH: None



TOTAL DEPTH: 79.396 ft

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

FILE: AESI_SkagitPUD_CPT-01.cpt

TEST DATE / TIME: 9/10/2021 9:56:41 AM

LOCATION: Mt Vernon

JOB #: 20190291E001

HOLE #: sCPT-01

CUSTOMER: AESI

CONE ID: DDG1369

OPERATOR: Okbay

WATER TABLE (ft): UNDEFINED

GPS (Lat, Lon, Elev): 0.00,0.00,0.0

Skagit PUD

Depth	Tip COR	Sleeve Stress	F.Ratio	Pore Pressure	Soil Behavior Type		SPT	Seismic Velocity
ft	(tsf)	(tsf)	(%)	(psi)	Zone	UBC-1983	(blows/ft)	(ft/s)
0.164	49.74	0.5348	1.075	6.496	7	silty sand to sandy silt	16	0
0.328	76.72	0.6411	0.836	2.589	8	sand to silty sand	18	0
0.492	79.69	0.7407	0.930	1.142	8	sand to silty sand	19	0
0.656	77.42	0.8144	1.052	0.850	8	sand to silty sand	19	0
0.820	105.82	0.9385	0.887	1.615	8	sand to silty sand	25	0
0.984	106.98	1.0176	0.951	2.864	8	sand to silty sand	26	0
1.148	89.82	0.9492	1.057	2.179	8	sand to silty sand	22	0
1.312	74.56	0.7440	0.998	1.497	8	sand to silty sand	18	0
1.476	60.21	0.6316	1.049	1.065	7	silty sand to sandy silt	19	0
1.640	48.63	0.5191	1.067	0.927	7	silty sand to sandy silt	16	0
1.804	44.12	0.4498	1.020	0.480	7	silty sand to sandy silt	14	0
1.969	41.43	0.3768	0.909	0.120	7	silty sand to sandy silt	13	0
2.133	42.14	0.3235	0.768	0.195	7	silty sand to sandy silt	13	0
2.297	42.35	0.3033	0.716	0.420	7	silty sand to sandy silt	14	0
2.461	41.51	0.3060	0.737	0.342	7	silty sand to sandy silt	13	0

2.625	40.10	0.3278	0.817	0.307	7 silty sand to sandy silt	13	0
2.789	40.13	0.3509	0.875	0.060	7 silty sand to sandy silt	13	0
2.953	39.91	0.3565	0.893	-0.040	7 silty sand to sandy silt	13	0
3.117	39.25	0.3539	0.902	-0.080	7 silty sand to sandy silt	13	0
3.281	35.46	0.3352	0.945	0.077	7 silty sand to sandy silt	11	0
3.445	32.87	0.3056	0.930	-0.295	7 silty sand to sandy silt	10	0
3.609	31.63	0.1893	0.599	-0.517	7 silty sand to sandy silt	10	0
3.773	29.41	0.1848	0.628	-0.642	7 silty sand to sandy silt	9	0
3.937	21.35	0.1709	0.800	-0.790	6 sandy silt to clayey silt	8	368.0446
4.101	23.71	0.1427	0.602	-0.050	7 silty sand to sandy silt	8	368.0446
4.265	22.16	0.1434	0.647	-0.040	7 silty sand to sandy silt	7	368.0446
4.429	21.42	0.1395	0.651	-0.017	6 sandy silt to clayey silt	8	368.0446
4.593	21.41	0.1424	0.665	-0.007	6 sandy silt to clayey silt	8	368.0446
4.757	21.93	0.1561	0.712	-0.005	6 sandy silt to clayey silt	8	368.0446
4.921	22.43	0.1605	0.716	0.002	6 sandy silt to clayey silt	9	368.0446
5.085	22.92	0.1647	0.718	0.007	7 silty sand to sandy silt	7	368.0446
5.249	24.41	0.1670	0.684	-0.042	7 silty sand to sandy silt	8	368.0446
5.413	26.71	0.1339	0.501	-0.047	7 silty sand to sandy silt	9	368.0446
5.577	26.90	0.1710	0.636	-0.065	7 silty sand to sandy silt	9	368.0446
5.741	23.83	0.1974	0.828	-0.007	6 sandy silt to clayey silt	9	368.0446
5.906	30.74	0.2223	0.723	0.015	7 silty sand to sandy silt	10	368.0446
6.070	30.03	0.2302	0.766	0.025	7 silty sand to sandy silt	10	368.0446
6.234	28.50	0.2307	0.809	-0.050	7 silty sand to sandy silt	9	368.0446
6.398	27.50	0.2630	0.956	0.035	7 silty sand to sandy silt	9	368.0446
6.562	25.19	0.2561	1.017	0.092	6 sandy silt to clayey silt	10	368.0446
6.726	25.61	0.2036	0.795	0.087	7 silty sand to sandy silt	8	368.0446
6.890	27.85	0.1585	0.569	-0.072	7 silty sand to sandy silt	9	368.0446
7.054	30.84	0.1563	0.507	-0.040	7 silty sand to sandy silt	10	368.0446
7.218	30.40	0.1506	0.495	0.065	7 silty sand to sandy silt	10	368.0446
7.382	29.64	0.1507	0.509	0.127	7 silty sand to sandy silt	9	368.0446
7.546	27.32	0.1518	0.556	0.100	7 silty sand to sandy silt	9	368.0446
7.710	26.63	0.1632	0.613	0.160	7 silty sand to sandy silt	9	368.0446
7.874	29.39	0.1864	0.634	0.217	7 silty sand to sandy silt	9	368.0446
8.038	29.94	0.1816	0.606	0.147	7 silty sand to sandy silt	10	368.0446
8.202	30.15	0.1811	0.601	0.190	7 silty sand to sandy silt	10	368.0446

8.366	32.92	0.1952	0.593	0.322	7 silty sand to sandy silt	11	368.0446
8.530	35.01	0.2004	0.572	0.230	7 silty sand to sandy silt	11	368.0446
8.694	34.38	0.2348	0.683	0.102	7 silty sand to sandy silt	11	368.0446
8.858	33.62	0.2497	0.743	0.090	7 silty sand to sandy silt	11	368.0446
9.022	34.48	0.2589	0.751	0.370	7 silty sand to sandy silt	11	368.0446
9.186	33.67	0.2372	0.705	0.307	7 silty sand to sandy silt	11	368.0446
9.350	33.04	0.2125	0.643	0.327	7 silty sand to sandy silt	11	368.0446
9.514	29.24	0.2095	0.717	0.365	7 silty sand to sandy silt	9	368.0446
9.678	24.19	0.2325	0.961	0.382	6 sandy silt to clayey silt	9	368.0446
9.843	24.64	0.2183	0.886	0.532	6 sandy silt to clayey silt	9	368.0446
10.007	29.35	0.1920	0.654	0.472	7 silty sand to sandy silt	9	368.0446
10.171	34.78	0.1491	0.429	0.460	7 silty sand to sandy silt	11	368.0446
10.335	35.67	0.1649	0.462	0.507	7 silty sand to sandy silt	11	646.0958
10.499	27.93	0.1832	0.656	0.987	7 silty sand to sandy silt	9	646.0958
10.663	22.61	0.1953	0.864	1.055	6 sandy silt to clayey silt	9	646.0958
10.827	26.41	0.1692	0.641	1.160	7 silty sand to sandy silt	8	646.0958
10.991	38.21	0.2049	0.536	1.300	7 silty sand to sandy silt	12	646.0958
11.155	40.85	0.2277	0.557	1.310	7 silty sand to sandy silt	13	646.0958
11.319	41.84	0.2486	0.594	1.395	7 silty sand to sandy silt	13	646.0958
11.483	38.46	0.2858	0.743	1.632	7 silty sand to sandy silt	12	646.0958
11.647	34.39	0.3160	0.919	1.622	7 silty sand to sandy silt	11	646.0958
11.811	40.15	0.2134	0.532	1.702	7 silty sand to sandy silt	13	646.0958
11.975	63.60	0.2722	0.428	0.600	8 sand to silty sand	15	646.0958
12.139	77.51	0.3105	0.401	-0.777	8 sand to silty sand	19	646.0958
12.303	69.99	0.2616	0.374	-0.152	8 sand to silty sand	17	646.0958
12.467	66.19	0.2271	0.343	0.417	8 sand to silty sand	16	646.0958
12.631	61.25	0.2075	0.339	0.782	8 sand to silty sand	15	646.0958
12.795	55.01	0.1854	0.337	1.045	8 sand to silty sand	13	646.0958
12.959	52.44	0.1760	0.336	1.217	8 sand to silty sand	13	646.0958
13.123	51.78	0.1683	0.325	1.367	8 sand to silty sand	12	646.0958
13.287	53.79	0.1618	0.301	1.535	8 sand to silty sand	13	646.0958
13.451	58.56	0.1516	0.259	1.640	8 sand to silty sand	14	646.0958
13.615	54.80	0.1550	0.283	1.322	8 sand to silty sand	13	646.0958
13.780	51.46	0.1610	0.313	1.530	8 sand to silty sand	12	646.0958
13.944	48.23	0.1586	0.329	1.655	8 sand to silty sand	12	646.0958

14.108	45.82	0.1464	0.320	1.737	8	sand to silty sand	11	646.0958
14.272	43.02	0.1373	0.319	1.825	8	sand to silty sand	10	646.0958
14.436	40.65	0.1301	0.320	1.897	8	sand to silty sand	10	646.0958
14.600	38.64	0.1217	0.315	1.959	7	silty sand to sandy silt	12	646.0958
14.764	37.21	0.1190	0.320	2.044	7	silty sand to sandy silt	12	646.0958
14.928	37.89	0.1264	0.334	2.109	7	silty sand to sandy silt	12	646.0958
15.092	40.94	0.1371	0.335	2.197	8	sand to silty sand	10	646.0958
15.256	46.32	0.1470	0.317	2.287	8	sand to silty sand	11	646.0958
15.420	45.97	0.1499	0.326	2.349	8	sand to silty sand	11	646.0958
15.584	45.94	0.1675	0.365	2.422	8	sand to silty sand	11	646.0958
15.748	47.55	0.1798	0.378	2.537	8	sand to silty sand	11	646.0958
15.912	46.71	0.1805	0.386	2.539	8	sand to silty sand	11	646.0958
16.076	46.53	0.1780	0.383	2.572	8	sand to silty sand	11	646.0958
16.240	47.20	0.1864	0.395	2.624	8	sand to silty sand	11	646.0958
16.404	48.82	0.1879	0.385	2.664	8	sand to silty sand	12	646.0958
16.568	49.84	0.1648	0.331	2.687	8	sand to silty sand	12	646.0958
16.732	47.05	0.1667	0.354	2.757	8	sand to silty sand	11	444.2913
16.896	42.66	0.1834	0.430	2.969	8	sand to silty sand	10	444.2913
17.060	48.23	0.1985	0.412	3.097	8	sand to silty sand	12	444.2913
17.224	51.61	0.2060	0.399	3.229	8	sand to silty sand	12	444.2913
17.388	55.89	0.2178	0.390	3.287	8	sand to silty sand	13	444.2913
17.552	58.91	0.2575	0.437	3.342	8	sand to silty sand	14	444.2913
17.717	60.38	0.2665	0.441	3.404	8	sand to silty sand	14	444.2913
17.881	62.90	0.2541	0.404	3.459	8	sand to silty sand	15	444.2913
18.045	65.90	0.2408	0.365	3.544	8	sand to silty sand	16	444.2913
18.209	63.58	0.2288	0.360	3.642	8	sand to silty sand	15	444.2913
18.373	61.90	0.2336	0.377	3.727	8	sand to silty sand	15	444.2913
18.537	62.25	0.2455	0.394	3.851	8	sand to silty sand	15	444.2913
18.701	61.48	0.2387	0.388	3.959	8	sand to silty sand	15	444.2913
18.865	62.62	0.2373	0.379	4.014	8	sand to silty sand	15	444.2913
19.029	61.28	0.2316	0.378	4.079	8	sand to silty sand	15	444.2913
19.193	56.32	0.2101	0.373	4.139	8	sand to silty sand	13	444.2913
19.357	49.46	0.1745	0.353	4.211	8	sand to silty sand	12	444.2913
19.521	41.40	0.1570	0.379	4.294	8	sand to silty sand	10	444.2913
19.685	35.75	0.1388	0.388	4.329	7	silty sand to sandy silt	11	444.2913

19.849	34.26	0.1108	0.323	4.484	7	silty sand to sandy silt	11	444.2913
20.013	32.63	0.1041	0.319	4.631	7	silty sand to sandy silt	10	444.2913
20.177	27.67	0.0850	0.307	4.364	7	silty sand to sandy silt	9	444.2913
20.341	23.91	0.0805	0.337	4.484	7	silty sand to sandy silt	8	444.2913
20.505	20.33	0.0768	0.378	4.584	7	silty sand to sandy silt	6	444.2913
20.669	17.11	0.0630	0.368	4.691	6	sandy silt to clayey silt	7	444.2913
20.833	14.25	0.0418	0.293	4.766	6	sandy silt to clayey silt	5	444.2913
20.997	11.61	0.0427	0.368	4.849	6	sandy silt to clayey silt	4	444.2913
21.161	9.16	0.0448	0.489	5.029	1	sensitive fine grained	4	444.2913
21.325	7.74	0.0721	0.931	5.141	1	sensitive fine grained	4	444.2913
21.490	9.11	0.1572	1.726	5.189	5	clayey silt to silty clay	4	444.2913
21.654	11.47	0.1774	1.547	5.441	5	clayey silt to silty clay	5	444.2913
21.818	13.11	0.1811	1.381	5.696	5	clayey silt to silty clay	6	444.2913
21.982	13.20	0.1316	0.997	5.783	6	sandy silt to clayey silt	5	444.2913
22.146	9.45	0.1564	1.654	5.599	5	clayey silt to silty clay	5	444.2913
22.310	8.00	0.1721	2.152	5.768	4	silty clay to clay	5	444.2913
22.474	7.15	0.2254	3.151	5.966	3	clay	7	444.2913
22.638	11.27	0.2582	2.290	6.216	5	clayey silt to silty clay	5	444.2913
22.802	6.41	0.1969	3.074	6.061	3	clay	6	444.2913
22.966	7.25	0.1281	1.766	5.808	4	silty clay to clay	5	444.2913
23.130	13.08	0.2299	1.757	5.986	5	clayey silt to silty clay	6	637.5984
23.294	13.52	0.5159	3.816	6.281	4	silty clay to clay	9	637.5984
23.458	22.37	0.5749	2.570	7.106	5	clayey silt to silty clay	11	637.5984
23.622	37.93	0.4822	1.271	7.126	7	silty sand to sandy silt	12	637.5984
23.786	27.28	0.3349	1.228	6.946	6	sandy silt to clayey silt	10	637.5984
23.950	33.10	0.1686	0.509	6.603	7	silty sand to sandy silt	11	637.5984
24.114	36.14	0.1463	0.405	6.741	7	silty sand to sandy silt	12	637.5984
24.278	41.02	0.1684	0.411	6.796	7	silty sand to sandy silt	13	637.5984
24.442	44.71	0.1701	0.380	6.871	8	sand to silty sand	11	637.5984
24.606	49.38	0.1808	0.366	7.261	8	sand to silty sand	12	637.5984
24.770	53.40	0.1944	0.364	7.048	8	sand to silty sand	13	637.5984
24.934	57.96	0.2118	0.365	7.093	8	sand to silty sand	14	637.5984
25.098	60.58	0.2139	0.353	7.193	8	sand to silty sand	15	637.5984
25.262	62.89	0.2128	0.338	7.316	8	sand to silty sand	15	637.5984
25.427	63.42	0.2115	0.334	7.363	8	sand to silty sand	15	637.5984

25.591	61.94	0.2218	0.358	7.413	8	sand to silty sand	15	637.5984
25.755	58.22	0.2074	0.356	7.428	8	sand to silty sand	14	637.5984
25.919	53.70	0.2030	0.378	7.638	8	sand to silty sand	13	637.5984
26.083	53.21	0.2158	0.406	7.720	8	sand to silty sand	13	637.5984
26.247	58.54	0.2196	0.375	7.763	8	sand to silty sand	14	637.5984
26.411	65.87	0.2410	0.366	7.915	8	sand to silty sand	16	637.5984
26.575	70.77	0.2608	0.369	7.461	8	sand to silty sand	17	637.5984
26.739	73.91	0.2741	0.371	7.481	8	sand to silty sand	18	637.5984
26.903	74.61	0.2729	0.366	7.608	8	sand to silty sand	18	637.5984
27.067	77.23	0.2753	0.356	7.705	8	sand to silty sand	18	637.5984
27.231	78.96	0.2752	0.349	7.775	8	sand to silty sand	19	637.5984
27.395	77.91	0.2787	0.358	7.855	8	sand to silty sand	19	637.5984
27.559	74.05	0.2766	0.373	7.923	8	sand to silty sand	18	637.5984
27.723	70.83	0.2865	0.404	8.030	8	sand to silty sand	17	637.5984
27.887	67.76	0.2505	0.370	8.208	8	sand to silty sand	16	637.5984
28.051	65.30	0.2467	0.378	8.288	8	sand to silty sand	16	637.5984
28.215	63.24	0.3174	0.502	8.355	8	sand to silty sand	15	637.5984
28.379	61.19	0.4163	0.680	8.378	8	sand to silty sand	15	637.5984
28.543	60.16	0.3227	0.536	8.470	8	sand to silty sand	14	637.5984
28.707	62.37	0.3070	0.492	9.742	8	sand to silty sand	15	637.5984
28.871	58.64	0.2361	0.403	8.803	8	sand to silty sand	14	637.5984
29.035	58.03	0.2158	0.372	8.358	8	sand to silty sand	14	637.5984
29.199	57.98	0.2156	0.372	8.595	8	sand to silty sand	14	637.5984
29.364	57.59	0.1998	0.347	8.548	8	sand to silty sand	14	637.5984
29.528	57.24	0.1799	0.314	8.883	8	sand to silty sand	14	637.5984
29.692	59.41	0.1870	0.315	8.835	8	sand to silty sand	14	639.9935
29.856	61.37	0.1961	0.320	8.920	8	sand to silty sand	15	639.9935
30.020	63.27	0.2017	0.319	8.975	8	sand to silty sand	15	639.9935
30.184	68.79	0.2242	0.326	9.103	8	sand to silty sand	16	639.9935
30.348	74.39	0.2557	0.344	9.168	8	sand to silty sand	18	639.9935
30.512	74.71	0.2528	0.338	9.275	8	sand to silty sand	18	639.9935
30.676	75.15	0.2779	0.370	9.218	8	sand to silty sand	18	639.9935
30.840	76.98	0.2707	0.352	9.455	8	sand to silty sand	18	639.9935
31.004	82.62	0.3110	0.376	9.550	8	sand to silty sand	20	639.9935
31.168	88.03	0.3272	0.372	9.707	8	sand to silty sand	21	639.9935

31.332	89.95	0.3379	0.376	9.780	8	sand to silty sand	22	639.9935
31.496	89.87	0.3064	0.341	9.735	8	sand to silty sand	22	639.9935
31.660	93.33	0.3457	0.370	9.780	8	sand to silty sand	22	639.9935
31.824	98.56	0.3478	0.353	9.810	9	sand	19	639.9935
31.988	103.61	0.5598	0.540	10.387	8	sand to silty sand	25	639.9935
32.152	113.01	0.4399	0.389	10.022	9	sand	22	639.9935
32.316	117.22	0.4388	0.374	12.377	9	sand	22	639.9935
32.480	125.73	0.4039	0.321	10.645	9	sand	24	639.9935
32.644	134.20	0.4960	0.370	10.935	9	sand	26	639.9935
32.808	140.76	0.4650	0.330	11.092	9	sand	27	639.9935
32.972	144.53	0.8852	0.612	9.772	9	sand	28	639.9935
33.136	163.57	0.6384	0.390	10.075	9	sand	31	639.9935
33.301	165.50	0.7142	0.432	12.777	9	sand	32	639.9935
33.465	179.91	0.5702	0.317	11.087	9	sand	34	639.9935
33.629	186.84	0.5953	0.319	10.955	9	sand	36	639.9935
33.793	183.91	0.6875	0.374	11.212	9	sand	35	639.9935
33.957	186.26	0.6703	0.360	10.485	9	sand	36	639.9935
34.121	185.48	0.5280	0.285	11.092	9	sand	36	639.9935
34.285	177.69	0.4133	0.233	12.202	9	sand	34	639.9935
34.449	175.37	0.3649	0.208	12.157	9	sand	34	639.9935
34.613	174.28	0.4664	0.268	10.942	9	sand	33	639.9935
34.777	183.35	0.8309	0.453	10.907	9	sand	35	639.9935
34.941	210.38	0.7004	0.333	13.167	9	sand	40	639.9935
35.105	231.04	0.7093	0.307	11.107	9	sand	44	639.9935
35.269	233.92	0.8793	0.376	-2.097	9	sand	45	639.9935
35.433	196.26	1.0255	0.522	11.522	9	sand	38	639.9935
35.597	184.97	0.9825	0.531	12.669	9	sand	35	639.9935
35.761	164.99	0.6977	0.423	12.542	9	sand	32	639.9935
35.925	163.86	0.3853	0.235	13.589	9	sand	31	639.9935
36.089	164.27	0.3699	0.225	12.974	9	sand	31	752.8871
36.253	174.20	0.3975	0.228	12.289	9	sand	33	752.8871
36.417	196.20	0.8164	0.416	12.487	9	sand	38	752.8871
36.581	213.08	0.9035	0.424	11.332	9	sand	41	752.8871
36.745	227.69	0.7134	0.313	9.018	9	sand	44	752.8871
36.909	228.37	0.8354	0.366	14.451	9	sand	44	752.8871

37.073	225.53	1.4270	0.633	10.520	9	sand	43	752.8871
37.238	224.96	1.6465	0.732	11.627	9	sand	43	752.8871
37.402	190.03	1.0757	0.566	12.172	9	sand	36	752.8871
37.566	145.90	0.6257	0.429	25.316	9	sand	28	752.8871
37.730	128.96	0.4427	0.343	12.802	9	sand	25	752.8871
37.894	115.23	0.3980	0.345	12.477	9	sand	22	752.8871
38.058	116.67	0.3919	0.336	11.929	9	sand	22	752.8871
38.222	121.69	0.3593	0.295	11.957	9	sand	23	752.8871
38.386	118.05	0.4015	0.340	8.758	9	sand	23	752.8871
38.550	116.44	0.4124	0.354	12.254	9	sand	22	752.8871
38.714	130.68	0.3951	0.302	12.487	9	sand	25	752.8871
38.878	145.73	0.2846	0.195	8.260	9	sand	28	752.8871
39.042	126.97	0.2962	0.233	10.540	9	sand	24	752.8871
39.206	103.91	0.1935	0.186	9.642	9	sand	20	752.8871
39.370	89.47	0.4964	0.555	9.625	8	sand to silty sand	21	752.8871
39.534	50.08	1.2445	2.485	11.422	6	sandy silt to clayey silt	19	752.8871
39.698	28.45	1.2000	4.218	13.766	4	silty clay to clay	18	752.8871
39.862	13.62	0.7296	5.356	29.810	3	clay	13	752.8871
40.026	14.28	0.3276	2.293	51.711	5	clayey silt to silty clay	7	752.8871
40.190	14.42	0.2303	1.597	43.376	5	clayey silt to silty clay	7	752.8871
40.354	12.65	0.3367	2.661	45.485	5	clayey silt to silty clay	6	752.8871
40.518	14.28	0.3171	2.220	55.088	5	clayey silt to silty clay	7	752.8871
40.682	49.42	0.4145	0.839	37.385	7	silty sand to sandy silt	16	752.8871
40.846	54.20	0.4336	0.800	15.293	7	silty sand to sandy silt	17	752.8871
41.011	53.59	0.6858	1.280	18.650	7	silty sand to sandy silt	17	752.8871
41.175	59.83	0.7002	1.170	22.617	7	silty sand to sandy silt	19	752.8871
41.339	92.97	0.4938	0.531	15.046	8	sand to silty sand	22	752.8871
41.503	76.68	0.8203	1.070	5.611	8	sand to silty sand	18	752.8871
41.667	49.15	0.9812	1.996	11.007	6	sandy silt to clayey silt	19	752.8871
41.831	40.44	0.9116	2.254	24.951	6	sandy silt to clayey silt	15	752.8871
41.995	61.38	0.6034	0.983	40.769	7	silty sand to sandy silt	20	752.8871
42.159	85.51	0.5427	0.635	4.409	8	sand to silty sand	20	752.8871
42.323	43.81	0.5253	1.199	9.962	7	silty sand to sandy silt	14	752.8871
42.487	19.34	0.3448	1.783	20.937	6	sandy silt to clayey silt	7	616.4698
42.651	17.22	0.1682	0.977	15.976	6	sandy silt to clayey silt	7	616.4698

42.815	13.04	0.0907	0.695	12.882	6	sandy silt to clayey silt	5	616.4698
42.979	7.09	0.1222	1.723	24.441	4	silty clay to clay	5	616.4698
43.143	6.54	0.2044	3.127	40.887	3	clay	6	616.4698
43.307	13.17	0.2364	1.795	36.510	5	clayey silt to silty clay	6	616.4698
43.471	21.27	0.2290	1.077	29.632	6	sandy silt to clayey silt	8	616.4698
43.635	25.76	0.4127	1.602	24.471	6	sandy silt to clayey silt	10	616.4698
43.799	16.12	0.3271	2.029	34.831	5	clayey silt to silty clay	8	616.4698
43.963	14.44	0.2342	1.622	37.847	5	clayey silt to silty clay	7	616.4698
44.127	12.02	0.1827	1.520	47.382	5	clayey silt to silty clay	6	616.4698
44.291	11.80	0.1801	1.526	46.810	5	clayey silt to silty clay	6	616.4698
44.455	9.42	0.2687	2.852	59.052	4	silty clay to clay	6	616.4698
44.619	13.81	0.2984	2.161	63.186	5	clayey silt to silty clay	7	616.4698
44.783	16.96	0.2902	1.712	30.742	6	sandy silt to clayey silt	6	616.4698
44.948	15.42	0.2625	1.702	38.405	5	clayey silt to silty clay	7	616.4698
45.112	14.10	0.2090	1.482	42.241	5	clayey silt to silty clay	7	616.4698
45.276	14.27	0.1895	1.327	38.885	6	sandy silt to clayey silt	5	616.4698
45.440	9.00	0.1961	2.180	49.807	4	silty clay to clay	6	616.4698
45.604	8.78	0.2231	2.540	57.200	4	silty clay to clay	6	616.4698
45.768	8.88	0.2576	2.903	61.486	4	silty clay to clay	6	616.4698
45.932	11.84	0.2445	2.066	44.921	5	clayey silt to silty clay	6	616.4698
46.096	11.57	0.1922	1.660	46.408	5	clayey silt to silty clay	6	616.4698
46.260	10.17	0.1624	1.596	53.586	5	clayey silt to silty clay	5	616.4698
46.424	10.20	0.1824	1.789	62.181	5	clayey silt to silty clay	5	616.4698
46.588	10.94	0.2530	2.313	75.358	5	clayey silt to silty clay	5	616.4698
46.752	11.45	0.2706	2.365	72.143	5	clayey silt to silty clay	5	616.4698
46.916	9.48	0.2367	2.496	60.834	4	silty clay to clay	6	616.4698
47.080	9.03	0.1740	1.928	65.088	5	clayey silt to silty clay	4	616.4698
47.244	10.09	0.1949	1.932	69.107	5	clayey silt to silty clay	5	616.4698
47.408	10.73	0.4000	3.727	75.030	3	clay	10	616.4698
47.572	14.08	0.4361	3.097	68.664	4	silty clay to clay	9	616.4698
47.736	10.39	0.4211	4.052	52.399	3	clay	10	616.4698
47.900	11.00	0.2833	2.575	56.060	4	silty clay to clay	7	616.4698
48.064	11.34	0.2796	2.465	62.071	5	clayey silt to silty clay	5	616.4698
48.228	10.86	0.3471	3.197	60.426	4	silty clay to clay	7	616.4698
48.392	17.48	0.3783	2.164	37.550	5	clayey silt to silty clay	8	616.4698

48.556	13.52	0.4309	3.186	45.326	4	silty clay to clay	9	616.4698
48.720	12.35	0.2657	2.151	49.184	5	clayey silt to silty clay	6	616.4698
48.885	11.40	0.5090	4.463	55.233	3	clay	11	616.4698
49.049	23.21	0.3596	1.549	74.323	6	sandy silt to clayey silt	9	664.8622
49.213	94.22	0.4236	0.450	8.778	8	sand to silty sand	23	664.8622
49.377	93.84	0.6531	0.696	12.817	8	sand to silty sand	22	664.8622
49.541	80.65	0.6563	0.814	19.090	8	sand to silty sand	19	664.8622
49.705	79.31	0.5196	0.655	15.156	8	sand to silty sand	19	664.8622
49.869	79.61	0.5624	0.706	6.566	8	sand to silty sand	19	664.8622
50.033	67.16	0.9303	1.385	12.314	7	silty sand to sandy silt	21	664.8622
50.197	51.66	1.0625	2.057	16.666	6	sandy silt to clayey silt	20	664.8622
50.361	67.50	0.4979	0.738	27.073	8	sand to silty sand	16	664.8622
50.525	97.94	0.7326	0.748	6.048	8	sand to silty sand	23	664.8622
50.689	96.17	0.8706	0.905	11.215	8	sand to silty sand	23	664.8622
50.853	91.34	0.9161	1.003	13.934	8	sand to silty sand	22	664.8622
51.017	90.24	0.8915	0.988	16.848	8	sand to silty sand	22	664.8622
51.181	84.01	0.9198	1.095	14.939	8	sand to silty sand	20	664.8622
51.345	77.95	0.8272	1.061	16.101	8	sand to silty sand	19	664.8622
51.509	85.95	0.7437	0.865	15.831	8	sand to silty sand	21	664.8622
51.673	98.91	0.8627	0.872	11.172	8	sand to silty sand	24	664.8622
51.837	90.92	0.9262	1.019	15.376	8	sand to silty sand	22	664.8622
52.001	85.96	0.8568	0.997	19.075	8	sand to silty sand	21	664.8622
52.165	71.45	0.8109	1.135	19.097	7	silty sand to sandy silt	23	664.8622
52.329	59.25	0.7110	1.200	16.836	7	silty sand to sandy silt	19	664.8622
52.493	48.99	0.7334	1.497	21.207	7	silty sand to sandy silt	16	664.8622
52.657	46.65	0.6640	1.423	24.256	7	silty sand to sandy silt	15	664.8622
52.822	53.78	0.4282	0.796	16.366	7	silty sand to sandy silt	17	664.8622
52.986	59.76	0.4621	0.773	10.040	8	sand to silty sand	14	664.8622
53.150	57.75	0.5400	0.935	12.684	7	silty sand to sandy silt	18	664.8622
53.314	57.97	0.6109	1.054	16.831	7	silty sand to sandy silt	19	664.8622
53.478	60.31	0.6298	1.044	18.238	7	silty sand to sandy silt	19	664.8622
53.642	61.45	0.6600	1.074	19.635	7	silty sand to sandy silt	20	664.8622
53.806	60.41	0.6528	1.081	19.020	7	silty sand to sandy silt	19	664.8622
53.970	56.02	0.6352	1.134	19.547	7	silty sand to sandy silt	18	664.8622
54.134	49.57	0.6262	1.263	18.645	7	silty sand to sandy silt	16	664.8622

54.298	42.42	0.5255	1.239	20.432	7	silty sand to sandy silt	14	664.8622
54.462	38.18	0.4409	1.155	18.413	7	silty sand to sandy silt	12	664.8622
54.626	40.39	0.5327	1.319	17.800	7	silty sand to sandy silt	13	664.8622
54.790	29.59	0.6372	2.153	14.501	6	sandy silt to clayey silt	11	664.8622
54.954	16.72	0.5518	3.300	26.058	4	silty clay to clay	11	664.8622
55.118	11.37	0.3265	2.872	43.376	4	silty clay to clay	7	664.8622
55.282	9.34	0.4375	4.684	48.482	3	clay	9	664.8622
55.446	9.01	0.2378	2.640	53.648	4	silty clay to clay	6	629.2651
55.610	17.15	0.1663	0.970	20.032	6	sandy silt to clayey silt	7	629.2651
55.774	8.84	0.1879	2.126	39.647	4	silty clay to clay	6	629.2651
55.938	7.21	0.1707	2.367	57.667	4	silty clay to clay	5	629.2651
56.102	7.62	0.2155	2.829	57.300	4	silty clay to clay	5	629.2651
56.266	8.74	0.3274	3.747	59.899	3	clay	8	629.2651
56.430	9.60	0.5452	5.680	69.324	3	clay	9	629.2651
56.594	17.05	0.7884	4.626	59.979	3	clay	16	629.2651
56.759	17.08	0.6642	3.888	39.709	4	silty clay to clay	11	629.2651
56.923	12.92	0.4190	3.244	30.332	4	silty clay to clay	8	629.2651
57.087	8.88	0.2164	2.438	43.578	4	silty clay to clay	6	629.2651
57.251	8.03	0.1811	2.257	59.572	4	silty clay to clay	5	629.2651
57.415	8.68	0.3792	4.370	61.096	3	clay	8	629.2651
57.579	16.08	0.5230	3.252	63.798	4	silty clay to clay	10	629.2651
57.743	32.10	0.5602	1.745	34.661	6	sandy silt to clayey silt	12	629.2651
57.907	38.82	0.3440	0.886	32.986	7	silty sand to sandy silt	12	629.2651
58.071	70.18	0.4983	0.710	16.101	8	sand to silty sand	17	629.2651
58.235	69.29	0.6270	0.905	12.614	8	sand to silty sand	17	629.2651
58.399	74.50	0.5508	0.739	18.888	8	sand to silty sand	18	629.2651
58.563	69.34	0.4359	0.629	7.785	8	sand to silty sand	17	629.2651
58.727	63.29	0.6070	0.959	17.285	7	silty sand to sandy silt	20	629.2651
58.891	57.46	0.6070	1.056	21.264	7	silty sand to sandy silt	18	629.2651
59.055	58.82	0.5393	0.917	24.059	7	silty sand to sandy silt	19	629.2651
59.219	57.56	0.6261	1.088	9.502	7	silty sand to sandy silt	18	629.2651
59.383	60.38	0.3001	0.497	10.600	8	sand to silty sand	14	629.2651
59.547	62.49	0.2928	0.468	5.703	8	sand to silty sand	15	629.2651
59.711	59.49	0.3923	0.659	10.740	8	sand to silty sand	14	629.2651
59.875	68.08	0.4494	0.660	14.786	8	sand to silty sand	16	629.2651

60.039	89.29	0.5934	0.665	20.552	8	sand to silty sand	21	629.2651
60.203	99.05	0.7767	0.784	22.644	8	sand to silty sand	24	629.2651
60.367	98.42	0.7873	0.800	21.232	8	sand to silty sand	24	629.2651
60.532	108.06	0.8035	0.744	22.829	8	sand to silty sand	26	629.2651
60.696	99.59	0.7866	0.790	19.405	8	sand to silty sand	24	629.2651
60.860	75.81	0.8194	1.081	19.782	8	sand to silty sand	18	629.2651
61.024	58.81	0.6167	1.049	24.179	7	silty sand to sandy silt	19	629.2651
61.188	68.93	0.5157	0.748	18.800	8	sand to silty sand	17	629.2651
61.352	101.36	1.3658	1.347	12.227	8	sand to silty sand	24	629.2651
61.516	164.63	0.9197	0.559	24.099	9	sand	32	629.2651
61.680	297.21	1.0549	0.355	10.167	10	gravelly sand to sand	47	629.2651
61.844	314.23	1.3126	0.418	12.344	10	gravelly sand to sand	50	834.9081
62.008	314.50	0.9913	0.315	20.155	10	gravelly sand to sand	50	834.9081
62.172	324.11	1.6793	0.518	22.484	10	gravelly sand to sand	52	834.9081
62.336	274.00	0.9582	0.350	19.977	10	gravelly sand to sand	44	834.9081
62.500	285.15	0.7721	0.271	32.731	10	gravelly sand to sand	46	834.9081
62.664	363.83	1.6540	0.455	17.635	10	gravelly sand to sand	58	834.9081
62.828	398.16	2.0144	0.506	35.771	10	gravelly sand to sand	64	834.9081
62.992	401.41	1.5623	0.389	17.745	10	gravelly sand to sand	64	834.9081
63.156	436.38	1.4134	0.324	21.569	10	gravelly sand to sand	70	834.9081
63.320	498.96	1.7122	0.343	16.766	10	gravelly sand to sand	80	834.9081
63.484	509.79	1.7430	0.342	29.782	10	gravelly sand to sand	81	834.9081
63.648	468.90	2.0444	0.436	33.549	10	gravelly sand to sand	75	834.9081
63.812	455.23	2.2360	0.491	18.613	10	gravelly sand to sand	73	834.9081
63.976	419.54	3.6414	0.868	21.832	10	gravelly sand to sand	67	834.9081
64.140	400.89	3.3309	0.831	22.402	10	gravelly sand to sand	64	834.9081
64.304	365.96	3.7887	1.035	18.788	9	sand	70	834.9081
64.469	327.33	2.9997	0.916	23.334	9	sand	63	834.9081
64.633	353.82	2.1008	0.594	20.772	10	gravelly sand to sand	56	834.9081
64.797	367.90	1.3329	0.362	19.105	10	gravelly sand to sand	59	834.9081
64.961	387.88	2.1217	0.547	30.569	10	gravelly sand to sand	62	834.9081
65.125	430.40	0.8415	0.196	21.024	10	gravelly sand to sand	69	834.9081
65.289	466.66	1.6847	0.361	21.694	10	gravelly sand to sand	74	834.9081
65.453	471.43	2.6409	0.560	30.062	10	gravelly sand to sand	75	834.9081
65.617	426.78	2.5835	0.605	20.947	10	gravelly sand to sand	68	834.9081

65.781	353.10	2.8168	0.798	14.849	9	sand	68	834.9081
65.945	324.48	2.9608	0.912	17.573	9	sand	62	834.9081
66.109	315.66	2.2042	0.698	49.717	9	sand	60	834.9081
66.273	312.02	1.7107	0.548	39.345	10	gravelly sand to sand	50	834.9081
66.437	372.70	1.9045	0.511	21.139	10	gravelly sand to sand	59	834.9081
66.601	378.77	1.7373	0.459	32.176	10	gravelly sand to sand	60	834.9081
66.765	382.96	1.6040	0.419	16.883	10	gravelly sand to sand	61	834.9081
66.929	368.30	1.4647	0.398	16.288	10	gravelly sand to sand	59	834.9081
67.093	365.29	0.6027	0.165	17.950	10	gravelly sand to sand	58	834.9081
67.257	360.19	3.1667	0.879	11.469	9	sand	69	834.9081
67.421	384.21	2.7150	0.707	23.554	10	gravelly sand to sand	61	834.9081
67.585	328.93	2.6803	0.815	-1.465	9	sand	63	834.9081
67.749	303.04	0.9346	0.308	17.820	10	gravelly sand to sand	48	834.9081
67.913	281.96	0.8187	0.290	17.938	10	gravelly sand to sand	45	834.9081
68.077	242.70	0.4076	0.168	22.349	10	gravelly sand to sand	39	834.9081
68.241	212.08	1.0445	0.493	19.757	9	sand	41	1062.106
68.406	215.40	1.4731	0.684	26.088	9	sand	41	1062.106
68.570	236.67	1.8285	0.773	19.160	9	sand	45	1062.106
68.734	295.56	2.2561	0.763	20.510	9	sand	57	1062.106
68.898	371.13	2.7256	0.734	6.128	10	gravelly sand to sand	59	1062.106
69.062	344.13	3.1193	0.906	20.992	9	sand	66	1062.106
69.226	372.53	2.7034	0.726	29.950	10	gravelly sand to sand	59	1062.106
69.390	363.23	1.1517	0.317	20.962	10	gravelly sand to sand	58	1062.106
69.554	301.38	2.7077	0.898	15.413	9	sand	58	1062.106
69.718	264.76	2.0419	0.771	26.578	9	sand	51	1062.106
69.882	232.71	2.8065	1.206	18.430	9	sand	45	1062.106
70.046	223.19	1.4745	0.661	28.275	9	sand	43	1062.106
70.210	209.42	2.1000	1.003	31.574	9	sand	40	1062.106
70.374	218.03	1.3028	0.598	23.006	9	sand	42	1062.106
70.538	228.37	0.9287	0.407	18.818	9	sand	44	1062.106
70.702	232.60	1.0134	0.436	24.281	9	sand	45	1062.106
70.866	273.88	1.2560	0.459	22.911	10	gravelly sand to sand	44	1062.106
71.030	300.27	1.0793	0.359	25.973	10	gravelly sand to sand	48	1062.106
71.194	289.88	1.4848	0.512	18.790	10	gravelly sand to sand	46	1062.106
71.358	276.24	0.8782	0.318	24.471	10	gravelly sand to sand	44	1062.106

71.522	255.97	0.8535	0.333	26.495	10	gravelly sand to sand	41	1062.106
71.686	238.97	1.3391	0.560	25.783	9	sand	46	1062.106
71.850	221.97	0.7608	0.343	24.311	9	sand	43	1062.106
72.014	206.77	1.6185	0.783	22.414	9	sand	40	1062.106
72.178	229.94	1.0616	0.462	22.327	9	sand	44	1062.106
72.343	249.44	1.0698	0.429	20.210	9	sand	48	1062.106
72.507	279.35	1.1854	0.424	23.759	10	gravelly sand to sand	45	1062.106
72.671	283.86	1.0121	0.357	25.681	10	gravelly sand to sand	45	1062.106
72.835	288.93	0.9526	0.330	16.563	10	gravelly sand to sand	46	1062.106
72.999	286.07	0.4793	0.168	21.472	10	gravelly sand to sand	46	1062.106
73.163	291.98	0.4942	0.169	20.924	10	gravelly sand to sand	47	1062.106
73.327	297.22	0.9064	0.305	22.064	10	gravelly sand to sand	47	1062.106
73.491	315.77	1.1180	0.354	25.078	10	gravelly sand to sand	50	1062.106
73.655	333.10	0.9062	0.272	20.705	10	gravelly sand to sand	53	1062.106
73.819	320.67	0.8110	0.253	30.122	10	gravelly sand to sand	51	1062.106
73.983	330.40	0.9769	0.296	33.936	10	gravelly sand to sand	53	1062.106
74.147	324.55	1.1359	0.350	28.810	10	gravelly sand to sand	52	1062.106
74.311	327.68	1.2451	0.380	33.911	10	gravelly sand to sand	52	1062.106
74.475	323.09	0.8497	0.263	27.263	10	gravelly sand to sand	52	1062.106
74.639	301.08	0.6818	0.226	23.349	10	gravelly sand to sand	48	1062.106
74.803	319.37	0.8793	0.275	25.656	10	gravelly sand to sand	51	1062.106
74.967	406.81	2.2032	0.542	19.062	10	gravelly sand to sand	65	968.5367
75.131	518.09	0.8229	0.159	24.911	10	gravelly sand to sand	83	968.5367
75.295	599.85	2.5219	0.420	22.589	10	gravelly sand to sand	96	968.5367
75.459	582.72	1.9706	0.338	26.665	10	gravelly sand to sand	93	968.5367
75.623	590.00	2.0121	0.341	21.504	10	gravelly sand to sand	94	968.5367
75.787	544.27	2.2414	0.412	20.740	10	gravelly sand to sand	87	968.5367
75.951	512.37	4.7134	0.920	26.128	10	gravelly sand to sand	82	968.5367
76.115	545.53	3.5194	0.645	33.314	10	gravelly sand to sand	87	968.5367
76.280	459.48	4.2375	0.922	25.051	10	gravelly sand to sand	73	968.5367
76.444	415.28	2.3801	0.573	20.577	10	gravelly sand to sand	66	968.5367
76.608	392.43	0.9693	0.247	25.858	10	gravelly sand to sand	63	968.5367
76.772	349.18	1.1962	0.343	24.933	10	gravelly sand to sand	56	968.5367
76.936	316.26	1.1969	0.378	28.108	10	gravelly sand to sand	50	968.5367
77.100	304.16	0.9045	0.297	23.726	10	gravelly sand to sand	49	968.5367

77.264	311.80	1.3109	0.420	28.060	10	gravelly sand to sand	50	968.5367
77.428	267.84	0.6805	0.254	29.367	10	gravelly sand to sand	43	968.5367
77.592	225.73	0.6105	0.270	20.025	10	gravelly sand to sand	36	968.5367
77.756	290.77	1.0317	0.355	30.737	10	gravelly sand to sand	46	968.5367
77.920	341.77	1.5678	0.459	21.317	10	gravelly sand to sand	55	968.5367
78.084	379.39	1.2009	0.317	27.210	10	gravelly sand to sand	61	968.5367
78.248	380.50	1.9724	0.518	26.745	10	gravelly sand to sand	61	968.5367
78.412	387.52	2.9290	0.756	24.351	10	gravelly sand to sand	62	968.5367
78.576	437.56	2.3096	0.528	28.053	10	gravelly sand to sand	70	968.5367
78.740	529.65	1.4258	0.269	19.150	10	gravelly sand to sand	85	968.5367
78.904	376.28	1.3999	0.372	33.354	10	gravelly sand to sand	60	968.5367
79.068	429.16	1.3797	0.321	27.470	10	gravelly sand to sand	68	968.5367
79.232	425.75	0.0000	0.000	27.568	0	<out of range>	0	968.5367
79.396	421.89	0.0000	0.000	27.565	0	<out of range>	0	968.5367

PART 1 - GENERAL

1.01 PROPOSAL

SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING

Project Location:
1415 FREEWAY DRIVE
MOUNT VERNON, WA 98273

TO: Board of Commissioners
Public Utility District No. 1 of Skagit County, Washington

Commissioners:

The undersigned has examined the site, specifications, plans, laws and ordinances covering the improvements contemplated. In accordance with the terms, provisions and requirements of the foregoing, the following lump sums and unit prices are tendered as an offer to perform the Work and furnish the labor, tools, equipment, materials, appurtenances, incidentals, and guarantees, where required, complete in place, in good working order.

As a guarantee of good faith and as required by law, a Bid Deposit in the form of a certified check, cashier's check, postal money order or surety bond made payable to the order of Public Utility District No. 1 of Skagit County ("District") is attached hereto. The undersigned understands and hereby agrees that, should this offer be accepted and the undersigned fail or refuse to enter into a Contract, furnish the required Payment and Performance Bond and required liability insurance, the undersigned shall forfeit to Skagit PUD an amount equal to five percent (5%) of the amount Bid as liquidated damages, all as provided for in this Invitation for Bids.

The undersigned hereby proposes to undertake and complete the work embraced in this improvement, in accordance with the terms of the Specifications and Contract Documents, at the following lump sum and unit prices, exclusive of any State of Local sales taxes:

1.02 TOTAL BASE BID

A. <u>BASE BID – BREAKDOWN</u>

1. MECHANICAL WORK

The subtotal for HVAC, Plumbing, Sprinklers, controls and related work.

$_____

2. BUILDING ELECTRICAL WORK

The subtotal for line voltage power, fire alarm, security, phone/data cabling, and related work.

$_____

3. BUILDING GENERAL CONSTRUCTION

The subtotal for Recreation Center general construction including all work related to the buildings not included in the mechanical and electrical base bids above.

$_____

4. AGGREGATE PIERS

The subtotal for all work related to the construction of the aggregate piers for soil improvements.

$_____

5. SITE WORK, UTILITIES, PAVING & LANDSCAPING

The subtotal for all site clearing, excavation & grading, utilities, paving, retaining wall, landscaping and all site related work not included in the other base sub-bids above.

$_____

Included in the above sub-bid are provisions for Trench Safety complying with the Washington Industrial Safety & Health Act, RCW Chapters 39.04 & 49.17. Bidder must include a lump sum dollar amount in blank (even if the value is $0.00) to be responsive: $_____

6. FORCE ACCOUNT

The subtotal for all site clearing, excavation & grading, utilities, paving, retaining wall, landscaping and all site related work not included in the other base sub-bids above.

$<u>200,000</u>_____

B. <u>GRAND TOTAL BASE BID</u>

The total of the Mechanical, Electrical, General Construction, Site Work and Force Account of the Building, representing all base bid work proposed under the Contract. This line includes the sum of Paragraphs A1 through A6 above. If there is a discrepancy between the below number and the number included on the Bid Proposal Form A previously submitted, the number on Bid Proposal Form A will govern.

$_____

1.03 FORCE ACCOUNT

A. Payment: The Force Account bid item has been included for any additional work directed by the Owner that is not identified by the original contract. The amount indicated in the proposal for this bid item is to provide a common bid amount. The actual amount paid under this bid item may vary from no payment to the full amount of the bid item. Work performed under this bid item will be initiated with a work directive issued by the Owner.

In lieu of the preceding prescribed method of determining payment for force account work, payment may be made at unit prices or lump sum prices agreed to by the Owner and the Contractor prior to beginning the Force Account work.

For the purpose of providing a common proposal for all bidders, and for that purpose only, the Owner has estimated an amount and included it in the bid item for force account work to become part of the total bid by the Contractor.

1.04 ALTERNATE BIDS

The undersigned proposes to perform the work called for in the Alternates, as listed below, and as described on the drawings and in the specifications, for the following additions/deletions to the Base Bid:

Alternate & Description		Addition	or	Deletion
A1	Remove Builder's Risk Insurance Requirement	$_____		$_____

1.05 UNIT PRICES

A. Also see Section 01 2200 for complete description of Unit Prices. Fill in the unit price amounts.

B. Unit Price No. 1 – Soil Over-Excavation / Disposal of Unsuitable Soil: The Bidder proposes to over-excavate and dispose of off site all unsuitable soil at the proposed building pad areas and the pavement areas, at the following unit price:

$_____ / **cubic yard**

C. Unit Price No. 2 – Imported Structural Fill: The Bidder proposes to import, place and compact Structural Fill in place of removed unsuitable material (Unit Price No. 1), at the following unit price:

$_____ / **ton**

1.06 BID ATTACHMENTS

A. Attach to the bid proposal the lists, forms, certifications and affidavits described in the "Instructions to Bidders" and the checklist below.

B. Exclude the Deposit or Bid Bond Form which was to be submitted with Bid Proposal Form A.

1.07 BID CONDITIONS

All bid conditions and other requirements contained in Section 00 4000, Bid Proposal Form A, remain applicable to the breakdown and unit prices under this Bid Proposal Form B.

SUBMITTED ON _____, 20_____.

1.08 SIGNATURE

A. We agree that this proposal as submitted will remain in force for sixty (60) days after the official opening of bids.

Date: _____ _____
Proper Name of Bidder

Contractor License Number: _____

Signature, By: _____

Printed Name: _____

Company: _____

Address: _____

_____

Phone Number: _____

E-mail Address: _____

1.09 BIDDER'S CHECKLIST FOR BID FORM B

The following list is offered as a partial checklist of items requiring the Bidder's signature and attention.

1. Is Bid Proposal Form B properly signed and all information present? ____
2. Does the Grand Total Base Bid include the $200,000 Force Account amount? ____
3. Does the Grand Total Base Bid match the amount inserted on Bid Proposal Form A? ____
4. Does the Grand Total Base Bid amount agree with the sum of the components? ____
5. ~~**Has the Bidder's Responsibility Criteria been filled out & submitted (00 4100)**~~ ____ **(Addendum #2)**
6. Has the Statement of Bidder's Qualifications been submitted? (00 4105) ____
7. Has the Subcontractor List been filled out & submitted? (00 4115) ____

END OF SECTION

PART 1 - STATEMENT OF BIDDER'S QUALIFICATIONS

1.01 GENERAL

Name of Contractor: _____

Address: _____

_____

Contact Person for this Bid: _____ Telephone _____

Email: _____

Number of years the Contractor has been engaged in the construction business under the present firm name indicated: _____

Gross dollar amount of work under contract: _____

Gross dollar amount of contracts not completed: _____

Wash. State Dept. of Labor and Industries Worker's Compensation Acct. #: _____

Wash. State Dept. of Licenses Contractor's Registration #: _____

IRS Employer Number : _____

Or, if individual, Social Security Number: _____

How many general superintendents or other responsible employees in a supervisory position do you have at this time and how long have they been with the Contractor?

_____

Bank References:

Bank (Institution): _____ Branch: _____

Contact: _____ Phone: _____ Email: _____

Bonding Company Contact::

Broker (Company): _____ City, State: _____

Contact: _____ Phone: _____ Email: _____

Have you changed bonding companies within the last three years? _____
If so, why? (optional)

_____

Who was the most recent bonding company prior to current? _____

Name of insurance company (include phone number, policy number and agent's name)

_____

_____

Have you reviewed the insurance requirements as stated in Section 00 7700, Special Condition, Article 11- Insurance & Bonds in addition to Section **00 4230 (Addendum #2)**, Insurance Endorsement? _____

Can you meet the insurance requirements as stated in Section 00 7700, Special Condition, Article 11- Insurance & Bonds in addition to Section **00 4230 (Addendum #2)**, Insurance Endorsement?

_____

What is your current insurance company's best rating? _____

Bidder confirms the below (or attached) is a full and complete list of all public works projects completed within the previous five (5) years.

_____
Initial

_____

_____

_____

_____

Bidder confirms that all answers in this document are complete and truthful to the best of their knowledge.

_____ _____ _____

Signature Printed Name Date

MUST ACCOMPANY EACH BID

END OF SECTION

SECTION 09 5423 - LINEAR METAL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes strip, linear metal pans and suspension systems for ceilings.

1.3 DEFINITIONS

A. LR: Light Reflectance coefficient.

B. NRC: Noise Reduction Coefficient.

1.4 COORDINATION

A. Coordinate layout and installation of linear metal pans and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

1.5 PREINSTALLATION MEETINGS

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

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of size indicated below:
   1. Suspension System Members: 12-inch- long Sample of each type.
   2. Exposed Molding and Trim: Set of 12-inch- long Samples of each type, finish, and color.
   3. Filler Strips: Set of 12-inch- long Samples of each type, finish, and color.
   4. Sound Absorber: 12 inches long.
   5. End Cap: Full size.

C. Delegated-Design Submittal: For design of **seismic restraints and** attachment devices.

1.7 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Linear pattern.
2. Joint pattern.
3. Ceiling suspension members.
4. Method of attaching hangers to building structure.

    a. Furnish layouts for cast-in-place anchors, clips, and other ceiling attachment devices whose installation is specified in other Sections.

5. Ceiling-mounted items including light fixtures, diffusers, grilles, speakers, sprinklers, and access panels.
6. Ceiling perimeter and penetrations through ceiling; trim and moldings.

B. Qualification Data: For testing agency.

C. Product Test Reports: For each linear metal ceiling, for tests performed by a qualified testing agency.

D. Evaluation Reports: For linear metal ceiling and components **and anchor and fastener type**.

E. Field quality-control reports.

1.8 CLOSEOUT SUBMITTALS

A. Maintenance Data: For finishes to include in maintenance manuals.

1.9 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Linear Metal Ceiling Components: Quantity of each pan, carrier, accessory, and exposed molding and trim equal to **2** percent of quantity installed.

1.10 QUALITY ASSURANCE

A. Testing Agency Qualifications: Accredited by National Voluntary Laboratory Accreditation Program for testing indicated.

B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and to set quality standards for materials and execution.

1. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.11 DELIVERY, STORAGE, AND HANDLING

A. Deliver linear metal pans, suspension system components, and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they are protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.

B. Handle linear metal pans, suspension system components, and accessories carefully to avoid damaging units and finishes in any way.

1.12 PROJECT CONDITIONS

A. Environmental Limitations: Do not install linear metal ceilings until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use

1.13 WARRANTY

A. Provide specified manufacturer's warranty against defects in workmanship, discoloration, or other defect considered undesirable by the Architect or Employer.

B. This warranty shall remain in effect for a minimum period of one (1) year from date of initial acceptance.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, to design **seismic restraints and** attachment devices.

B. Structural Performance: Exterior linear metal ceilings shall withstand exterior exposure and the effects of gravity loads and the following loads and stresses without showing permanent deformation of ceiling system components including pans and suspension system; noise or metal fatigue caused by vibration, deflection, and displacement of ceiling pans; or permanent damage to fasteners and anchors:

1. Wind Load: Uniform pressure **as indicated on Drawings**, acting inward or outward.
2. Seismic Criteria: Provide linear metal ceilings designed and installed to withstand the effects of earthquake motions according to the following:

    a. Standard for Ceiling Suspension Systems Requiring Seismic Restraint: Comply with ASTM E 580/E 580M.
    b. CISCA's Recommendations for Acoustical Ceilings: Comply with CISCA's "Recommendations for Direct-Hung Acoustical Tile and Lay-in Panel Ceilings - Seismic Zones 0-2."

c. CISCA's Guidelines for Systems Requiring Seismic Restraint: Comply with CISCA's "Guidelines for Seismic Restraint of Direct-Hung Suspended Ceiling Assemblies - Seismic Zones 3 & 4."
d. ASCE/SEI 7, "Minimum Design Loads for Buildings and Other Structures": Section 9, "Earthquake Loads."

C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F material surfaces

D. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: Comply with ASTM E 1264.

2.2 LINEAR METAL CEILINGS

A. Manufacturer
1. Basis of Design is Certainteed.

B. Exterior, MTL-3
1. Product: Box 6,
a. Roll formed,
b. Panel Thickness: **.032"** thick aluminum with square edges;
c. Panel Width: 5-5/32" wide, 5/8" deep with 27/32" reveal to form a 6" module. **Install 4” and/or 2” panels as needed at ends to maximize coverage of area**.
d. Panel Length: 12’ for Lobby and above Dais. 7’ for rest of Aqua Room.
e. Closure: **Flat Recessed Closure: 5/8" wide roll-formed aluminum hat-shaped closure panel to snap-fit between ceiling panels. (Addendum #2)**
1) Finish: Black (Addendum #2)
f. Perforations: **Non-Perforated (Addendum #2)**
g. Panel Finish:
1) Decorated Wood-Look Powder Coat
2) 8481 Penshaw Cherry
h. Trim: Wall Angle Trim
i. Acoustical Infill: None (Addendum #2)

C. Interior, MTL-8
a. Roll formed,
b. Panel Thickness: **.025"** thick aluminum with square edges;
c. Panel Width: 5-5/32" wide, 5/8" deep with 27/32" reveal to form a 6" module. **Install 4” and/or 2” panels as needed at ends to maximize coverage of area**.
d. Panel Length: 12’
e. Closure: **Open Reveal. (Addendum #2)**
f. Perforations: **#160 (Addendum #2)**
g. Panel Finish:
1) Decorated Wood-Look Powder Coat
2) 8481 Penshaw Cherry
h. Trim:

1) Lobby and above Dais: Wall Angle Trim
2) Aqua Room: End caps matching panel color.

i. **Acoustical Infill: Black Non-Woven and 1.5” Black Polywrapped (Addendum #2)**

D. Linear Suspension System:
   a. Carrier: Universal hat-shaped, .038" roll-formed aluminum section with hook-shaped tabs spaced to receive ceiling panels at 2" on-center and 27/32" apart. Support holes spaced 4" on-center. Finish: Factory-applied black enamel.
   b. Hanger Wire: 12 gage galvanized carbon steel hanger wire.
   c. Seismic/Wind Uplift Compression Struts: 1-1/2" deep, 16 Ga., cold-rolled steel "C" channels.

E. ACCESSORY MATERIALS
   1. Panel End Caps: Formed, stamped, or milled end caps with matching finish.
   2. Panel Splice: Formed aluminum insert designed to snap-fit between ends of two ceiling panels.
      a. Finish: To match panel
   3. Access Door: 2' x 2' aluminum access frame with hinges and retainer clip for downward-acting access panel to plenum space.
   4. Acoustic Material – Interior only: Non-woven black fabric with 1" thick glass fiber, 1-1/2 pcf density, polywrapped.
      a. NRC Rating: **.90 (Addendum #2)**

2.3 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.

C. High-Humidity Finish: Comply with ASTM C 635/C 635M requirements for "Coating Classification for Severe Environment Performance" where high-humidity finishes are indicated.

2.4 ALUMINUM FINISHES

A. Mill Finish: AA-M10C10.

B. Lacquered Mill Finish: AA-M10C10R1x with manufacturer's standard clear, organic coating.

C. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

D. Clear Mirror Anodic Finish: AA-M21C12A212, 0.005 mm or thicker.

E. Color-Coated Finish: Manufacturer's standard **powder-coat** baked paint finish complying with coating manufacturer's written instructions for surface preparation, pretreatment, application, baking, and minimum dry film thickness.

F. High-Performance Organic Finish: Two-coat fluoropolymer finish complying with **AAMA 2604** and containing not less than **50** 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.

G. Bright-Reflective Finish: Manufacturer's standard chemical/mechanical, bright-reflective metallic finish complying with finish manufacturer's written instructions for surface preparation, pretreatment, process, protective coating, and minimum thickness to produce a finish uniform in appearance and free of blisters, pits, roughness, nodules, burning, cracks, unfinished areas, and other visible defects.

2.5 GALVANIZED-STEEL SHEET FINISHES

A. Color-Coated Finish: Manufacturer's standard **powder-coat** baked paint finish complying with coating manufacturer's written instructions for surface preparation, pretreatment, application, baking, and minimum dry film thickness.

2.6 STEEL SHEET FINISHES

A. Electroplated Finish: Electroplating process complying with finish manufacturer's written instructions for surface preparation, pretreatment, process, and minimum thickness to produce a coating uniform in appearance and free of blisters, pits, roughness, nodules, burning, cracks, unplated areas, and other visible defects.

B. Bright-Reflective Finish: Manufacturer's standard chemical/mechanical, bright-reflective metallic finish complying with finish manufacturer's written instructions for surface preparation, pretreatment, process, protective coating, and minimum thickness to produce a finish uniform in appearance and free of blisters, pits, roughness, nodules, burning, cracks, unfinished areas, and other visible defects.

2.7 STAINLESS-STEEL FINISHES

A. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.

B. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.

1. Run grain of directional finishes with long dimension of each piece.
2. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, including structural framing and substrates to which linear metal ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of linear metal ceilings.

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

3.2 PREPARATION

A. Measure each ceiling area and establish layout of linear metal pans to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width pans at borders, and comply with layout shown on reflected ceiling plans and on Coordination Drawings.

3.3 INSTALLATION

A. Comply with ASTM C 636/C 636M and seismic requirement indicated, per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."

B. Suspend ceiling hangers from building's structural members and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
4. Secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure and appropriate for substrate to which hangers are attached and for type of hanger involved.
5. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both structure to which hangers are attached and type of hanger involved. Install hangers in a manner that does not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
6. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
7. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
8. Do not attach hangers to steel deck tabs.

9. Do not attach hangers to steel roof deck. Attach hangers to structural members.
10. Space hangers not more than 48 inches o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.
11. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.

C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers but without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or postinstalled anchors.

D. Install edge moldings and trim of type indicated at perimeter of linear metal ceiling area and where necessary to conceal edges and ends of linear metal pans.

1. Screw attach moldings to substrate at intervals not more than 16 inches o.c. and not more than 3 inches from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet. Miter corners accurately and connect securely.
2. Do not use exposed fasteners, including pop rivets, on moldings and trim.

E. Install suspension system carriers so they are aligned and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

F. Cut linear metal pans for accurate fit at borders and at interruptions and penetrations by other work through ceilings. Stiffen edges of cut units as required to eliminate evidence of buckling or variations in flatness exceeding referenced standards for stretcher-leveled metal sheet.

G. Install linear metal pans in coordination with suspension system and exposed moldings and trim.

1. Align joints in adjacent courses to form uniform, straight joints parallel to room axis in both directions unless otherwise indicated.
2. Fit adjoining units to form flush, tight joints. Scribe and cut units for accurate fit at borders and around construction penetrating ceiling.
3. Install pans with butt joints using internal pan splices and in the following joint configuration:

    a. Aligned.
    b. Aligned, every other pan length.
    c. Staggered a minimum of 12 inches.
    d. Random.
    e. As indicated.

4. Install directionally textured metal pans in directions indicated.
5. Where metal pan ends are visible, install end caps unless trim is indicated.
6. Install filler strips where indicated.
7. Install sound-absorbent pads at right angle to perforated metal pans so pads do not hang unsupported.

H. Install hold-down clips where indicated.

3.4 FIELD QUALITY CONTROL

A. Special Inspections: **Owner will engage** a qualified special inspector to perform the following special inspections:

1. Suspended ceiling system.
2. Hangers, anchors, and fasteners.

B. Testing Agency: **Owner will engage** a qualified testing agency to perform tests and inspections.

C. Tests and Inspections: Testing and inspecting of completed installations of linear metal ceiling hangers and anchors and fasteners shall take place in successive stages, in areas of extent and using methods as follows. Do not proceed with installations of linear metal ceiling hangers for the next area until test results for previously completed installations show compliance with requirements.

1. Extent of Each Test Area: When installation of ceiling suspension systems on each floor has reached 20 percent completion but no panels have been installed.

a. Within each test area, testing agency will select 1 of every 10 power-actuated fasteners and postinstalled anchors used to attach hangers to concrete and will test them for 200 lbf of tension; it will also select 1 of every 2 postinstalled anchors used to attach bracing wires to concrete and will test them for 440 lbf of tension.
b. When testing discovers fasteners and anchors that do not comply with requirements, testing agency will test those anchors not previously tested until 20 pass consecutively and then will resume initial testing frequency.

D. Linear metal ceiling hangers and anchors and fasteners will be considered defective if they do not pass tests and inspections.

E. Prepare test and inspection reports.

3.5 CLEANING

A. Clean exposed surfaces of linear metal ceilings, including trim and edge moldings after removing strippable, temporary protective covering if any. Comply with manufacturer's written instructions for stripping of temporary protective covering, cleaning, and touchup of minor finish damage. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage, including dented and bent units.

END OF SECTION 09 5423

SECTION 27 1300 - COMMUNICATIONS BACKBONE CABLING

PART 1 - GENERAL

1.1 SUMMARY

A. The work covered in this section consists of fiber optic patch panels and innerduct.

1.2 SYSTEM DESCRIPTION

A. All work shall be completed in accordance with ANSI/EIA/TIA and BICSI standards.

PART 2 - PRODUCTS

2.1 GENERAL

A. Pathways shall be provided in accordance with specification sections 260530 “Conduit”, 270529 “Hangers and Supports for Communications Systems”, 270533 “Conduits and Backboxes for Communications Systems”, and 270536 “Cable Tray for Communications Circuits.”

B. Telecommunications cabling system components such as cable, jack, termination blocks, and patch panels shall be of one manufacturer or product line.

2.2 FIBER OPTIC TERMINATIONS

A. The Contractor shall Provide and Install Fiber Optic Cable Termination enclosures and Closet Management Panels for this building. The enclosures shall be equal to Corning/LAN- scape, CCH-04U, rack-mounted distribution panel, shall be mounted immediately below the Closet Jumper Management Panel (CJP-01U), and shall use the following connectors:

1. LC Bulkhead Connectors for single-mode fiber strands shall be LC/UPC duplex ceramic inserts with composite housing.
2. All Fiber Optic Strands (backbone) shall be “Fusion Spliced” to respective Factory Terminated 24 in long pigtails equipped with the appropriate LC Connector at all termination points.

B. Fiber Optic Cable Termination enclosures for all Buildings shall be equal to Corning/LAN-scape Fiber Optic Distribution Unit (FODU), equipped with a Closet Jumper Management Panel (CJP-01U). The contractor shall Provide and Install all FODUs, and Connector Panels equipped with the appropriate Bulkheads (LC for Single-mode fiber strands).

2.3 OUTSIDE PLANT FIBER OPTIC CABLING

A. OSP Fiber Optic Cables:

1. OSP fiber optic cabling shall be provided and installed by the utility.

2.4 INNERDUCT

A. Intra-building innerduct shall be 1-1/4 inch size, orange, un-split, corrugated, with pull tape:

1. Carlon
2. Dura-line
3. Or approved equal

2.5 LABELING AND ADMINISTRATION

A. Labels:

1. As recommended in ANSI/TIA/EIA 606. Permanent (i.e. not subject to fading or erasure), permanently affixed, and created by a hand-carried label maker or a computer/software-based label making system. Handwritten labels are not acceptable.

a. Backbone Cable:

1) Panduit Marker Tie (or approved equal)

b. Labelling shall comply with ANSI/TIA 606B and BICSI TDMM standards.

B. Hand-carried label maker:

1. Brady: ID Pro Plus (or approved equal).

PART 3 - EXECUTION

3.1 FIBER TERMINATION

A. Fiber Optic Cable termination enclosures shall be placed at the top of the electronics rack, below the Upper Jumper Tray.

B. Rack-mounted Un-interruptible Power Systems (UPS) shall be mounted at the bottom of the rack that will house the network equipment and other electronics.

C. Cords for electrical service shall be separated from NIO station cables, and not be routed through station cable wire management devices.

3.2 SERVICE ENTRANCE FIBER OPTIC CABLES

A. All Fiber Optic Cable shall be provided by the utility.

3.3 TESTING

A. Provide test records on a form approved by the Owner and Designer. Include the test results for each cable in the system. Submit the test results for each cable tested with identification as discussed under LABELING AND ADMINISTRATION above. Include the cable identifier, outcome of test, indication of errors found, cable length, retest results, and name and signature of technician completing the tests. Provide test results to the Owner and Designer for review and acceptance within two weeks of Substantial Completion.

1. Print test records for each cable within the system directly from the tester and submit in paper form (in a binder) and in electronic PDF format (on flash drive or CDROM) to the Owner and Designer for review. Handwritten test results will not be accepted.

B. Test the SCS after installation for compliance to all applicable standards as follows:

1. Fiber: Test fiber optic cable on the reel upon delivery to the job site prior to installation, and again after installation.

a. Prior to testing, calculate the cable loss budget for each fiber optic cable and clearly show the result on the test documentation. Calculate maximum loss using the following formula, assuming no splices:

1) Horizontal Distribution:

a) Max Loss = 2.0db (per ANSI/TIA/EIA 568-B)

2) Backbone Distribution:

a) Max Loss = [(allowable loss/km) * (km of fiber)] + [(.3db) * (# of connectors)]
b) A mated connector to connector interface is defined as a single connector for the purposes of the above formula.
c) A given fiber strand shall not exceed its calculated maximum loss (per the above formula).

b. Test all strands using a bi-directional end-to-end optical transmission loss test instrument (such as an OTDR) trace performed per ANSI/TIA/EIA 455-61 or a bi-directional end-to end power meter test performed per ANSI/TIA/EIA 455-53A, and ANSI/TIA/EIA 568-B. Test the polarity of each pair of strands. Record the following measurements: length and attenuation.

1) Calculate attenuation loss numbers by taking the sum of the two bi-directional measurements and dividing that sum by two.
2) Provide test measurements as follows:

a) Multimode Cable: Test at both 850 and 1300nm.
b) Singlemode Cable: Test at both 1310 and 1550nm.

c. Test results shall conform to:

1) The criteria specified in ANSI/TIA/EIA-568B.
2) The Contractor’s calculated loss budget above.

3) The criteria specified in IEEE 802.3ae-2002 (10GBase-X 10 Gigabit Ethernet).

a) In addition to the above, perform tests both recommended and mandated by Corning. Tests shall confirm/guarantee compliance to Corning's performance standards and also IEEE 802.3ae-2002 for a maximum end-to-end dB loss of 2.5 dB.

4) The criteria specified in IEEE 802.3ae-2002 (10GBase-X 10 Gigabit Ethernet).

C. Identify cables and equipment that do not pass to the Owner and Designer. Determine the source of the non-compliance and replace or correct the cable or the connection materials. Retest the cable or connection materials at no additional expense to the Owner. Provide a complete revised set of all test results to the Owner and Designer, in the same manner as above. Remove original individual cable test reports that are unacceptable and insert the new corrected cable test reports. Do not simply resubmit the test reports for the corrected cabling only.

1. In addition to the above, if it is determined that the cable is faulty, remove the damaged cable and replace it with a new cable. Cable repairs are not acceptable. The procedure for removing the cable shall be as follows:

a. Prior to removal of damaged cable and installation of new cable:

1) Inform the Owner and Designer of the schedule for the removal and installation.
2) Test the new cable on the reel per paragraph B, above.
3) Test cables that occupy the same innerduct or conduit (if not in innerduct) as the damaged cable per paragraph B, above, regardless of whether or not they are new cables installed as part of this project or existing cables installed prior to this project.

b. Remove the damaged cable and provide new cable.
c. After the removal of the damaged cable and installation of the new cable:

1) Test the new cable per the paragraph titled TESTING.
2) Test cables that occupy the same innerduct or conduit (if not in innerduct) as the damaged cable per paragraph B, above, regardless of whether they are new cables installed as part of this project or existing cables installed prior to this project.

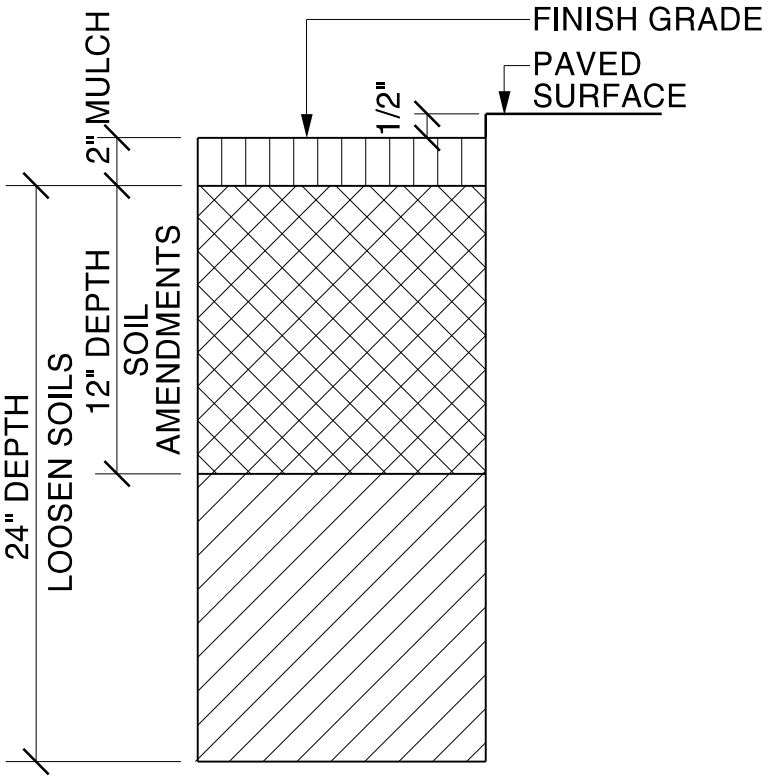
d. If any of the cables requiring testing are in use, coordinate with the Owner to schedule an outage opportunity during which the testing can be performed.
e. If a cable which occupies the same innerduct or conduit (if not in innerduct) as a damaged cable is damaged by the extraction and installation process, replace the cable at no additional expense to the Owner.

1) Damaged cables which are replaced shall be subject to the testing procedures of the paragraph titled TESTING.

3.4 CLOSE-OUT

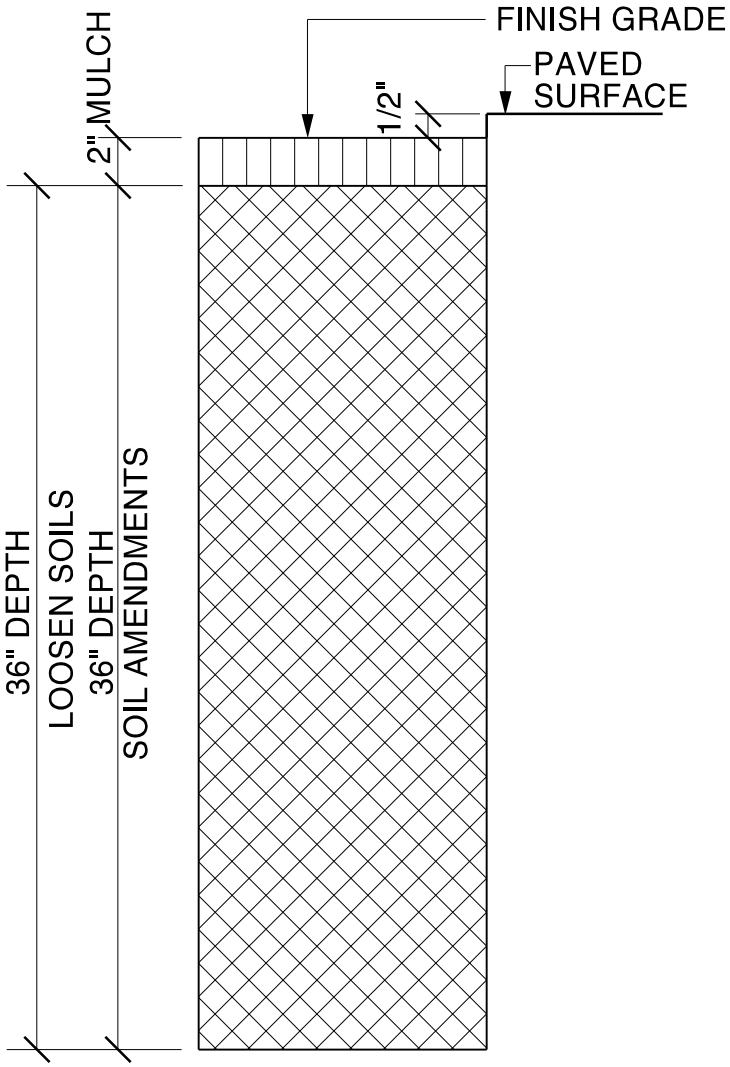
A. Furnish uninstalled fiber optic cable reel remnants to the Owner.

END OF SECTION 27 1300



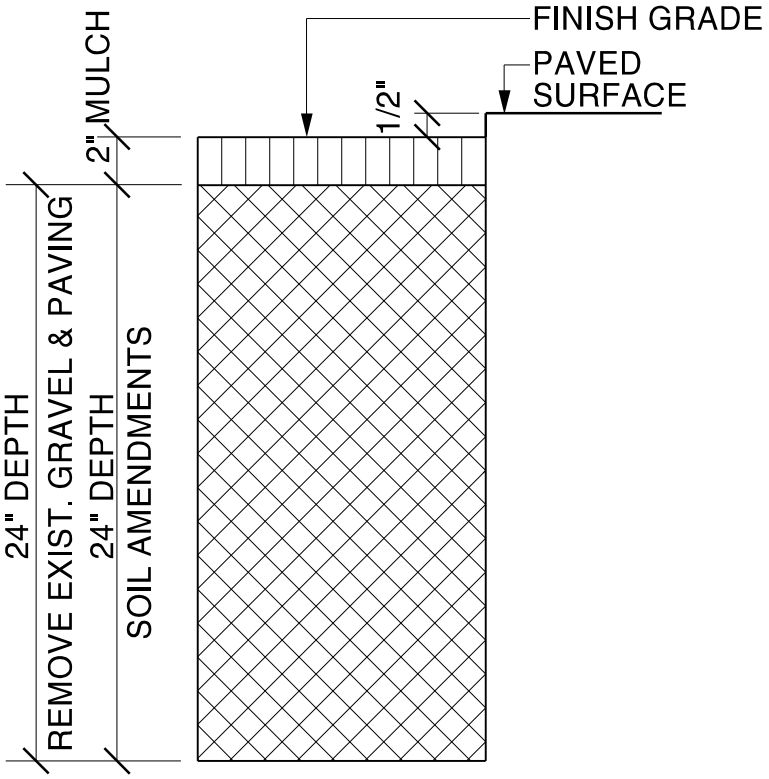
SOIL PREPARATION SECTION - LAWN & PLANTING AREAS

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



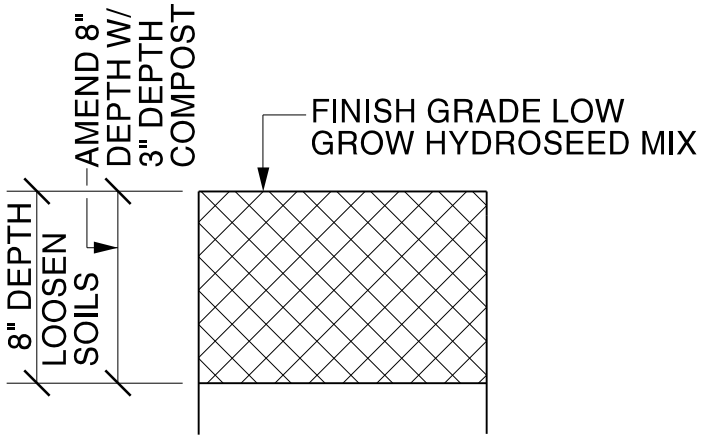
SOIL PREPARATION SECTION - PARKING LOT ISLANDS & WITHIN 10' OF TREE PLANTINGS

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



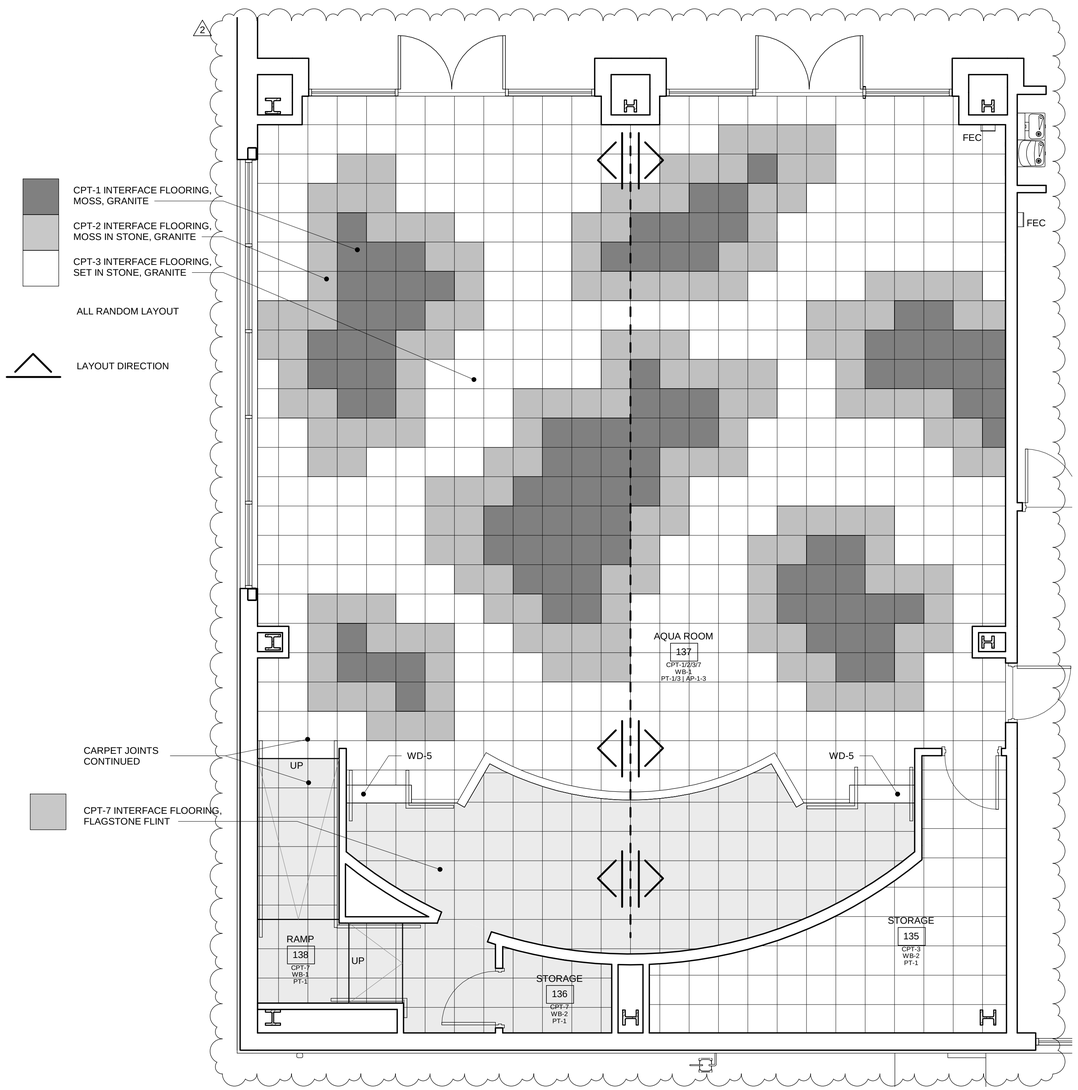
SOIL PREPARATION SECTION - LAWN/PLANTING AREAS AT EXIST. GRAVEL AND PAVING AREAS

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

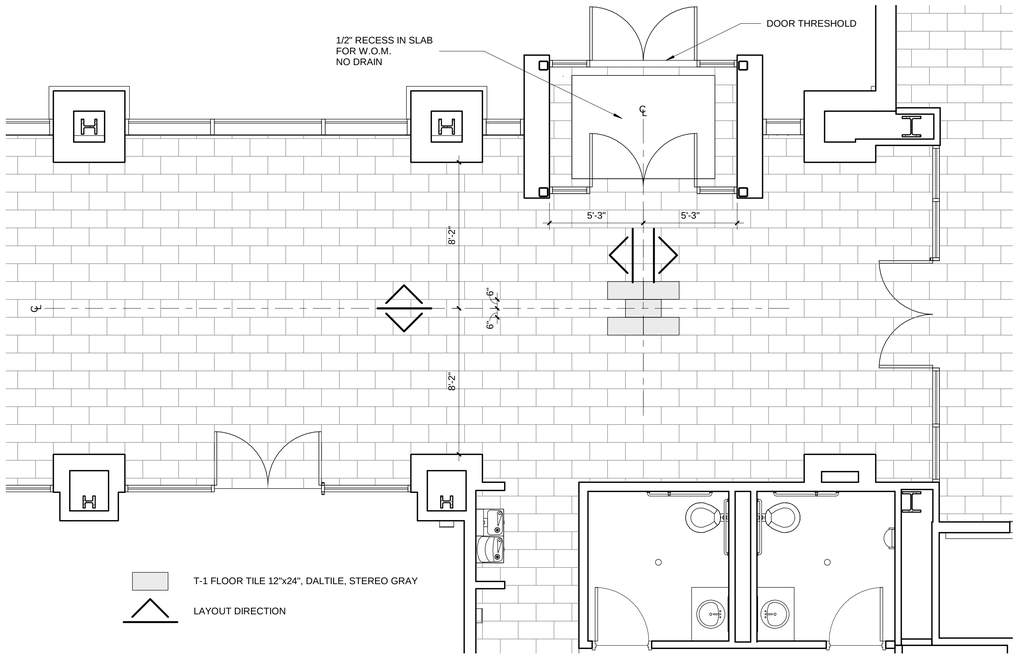


SOIL PREPARATION SECTION - HYDROSEEDING OF INFIL-TRATION FACILITIES

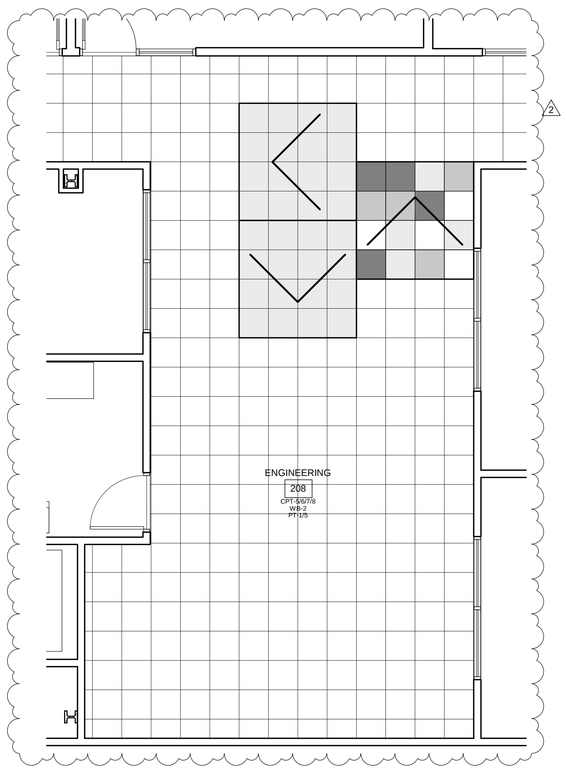
SCALE 1-1/2"=1'-0"

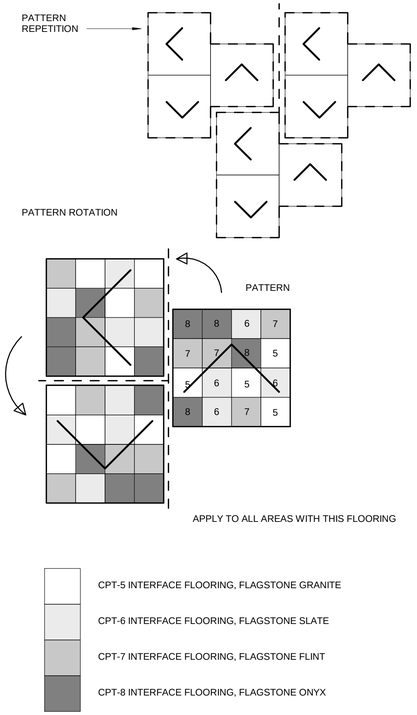


AQUA ROOM CARPET | SCALE 1/4" = 1'-0" | 9



LOBBY TILE | SCALE 1/4" = 1'-0" | 1





OPEN OFFICE & HALLWAY CARPET | SCALE 1/4" = 1'-0" | 3

DRIFTMIER ARCHITECTS
7983 LEARY WAY NE, REDMOND, WA 98052
(425) 881-7506 MAIL@DRIFTMIER.COM

SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
MOUNT VERNON, WA 98273

11629 REGISTERED ARCHITECT
Hans Richard Driftmier
STATE OF WASHINGTON

REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
2	ADDENDUM #2	06-20-23

ISSUE:	BID SET
ISSUE DATE:	5/23/2023
DRAWN BY:	HB
PROJECT MANAGER:	LRD
PROJECT NUMBER:	21726

SHEET NAME:
FLOORING DETAILS

SHEET NUMBER:
A8.04

6/15/2023 10:05:37 AM

DESIGN CODES AND LOADING:
2018 INTERNATIONAL BUILDING CODE

LIVE LOADS:
ROOF: 20 PSF
FLOORS & STAIRS: 100 PSF

ROOF SNOW LOAD:
FLAT ROOF SNOW: 25 PSF

LATERAL LOADS:
WIND: V3S =98 MPH, EXP B, Kzt = 1.0
SEISMIC: Ss=1.094, S1=0.390, Sds= 0.775, Sd1= n/a, Ie=1.0
RISK CATEGORY II
SEISMIC SOIL SITE CLASS D
SEISMIC DESIGN CATEGORY D
SEISMIC COEFFICIENT, Cs = 0.097
RESPONSE MODIFICATION FACTOR, R = 8.0

BASIC LATERAL FORCE RESISTING SYSTEM VERTICAL ELEMENT: SPECIAL MOMENT FRAMES
BASIC LATERAL FORCE RESISTING SYSTEM HORIZONTAL ELEMENT: METAL DECK FOR ROOF AND FLOORS
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE (2-STORY BUILDING)
DESIGN BASE SHEAR : EAST/WEST = 76.4 KIPS (ASD), NORTH/SOUTH = 76.4 KIPS (ASD)
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE (SINGLE STORY BUILDING)
DESIGN BASE SHEAR: EAST/WEST = 11.8 KIPS (ASD), NORTH/SOUTH = 11.8 KIPS (ASD)

MISC LOADS:
PARTITION: 5 PSF

GENERAL:

THE INTERNATIONAL BUILDING CODE AND STANDARDS SHALL GOVERN ALL MATERIALS AND WORKMANSHIP.

ALL TEMPORARY SHORING OR BRACING IS THE RESPONSIBILITY OF THE CONTRACTOR. THE DRAWINGS REFLECT THE FINAL FINISHED CONDITION OF THE STRUCTURE.

THESE DRAWINGS ARE NOT INTENDED TO SHOW EACH AND EVERY CONDITION, BUT INDICATE THE GENERAL CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY DETAILED, SIMILAR CONDITIONS SHALL BE USED AT THE DISCRETION AND APPROVAL OF THE ARCHITECT AND ENGINEER.

THE CONTRACTOR IS RESPONSIBLE FOR ALL JOB SITE SAFETY AS WELL AS ALL MEANS, METHODS, AND SEQUENCES OF CONSTRUCTION TO SAFELY PERFORM THE WORK. AUE ENGINEERS HAS NO EXPERTISE IN NOR HAS BEEN RETAINED TO PROVIDE REVIEW OF THE CONTRACTORS SAFETY PRECAUTIONS AS THEY RELATE TO THE CONSTRUCTION OF THIS PROJECT.

IF ANY ERROR OR OMISSION APPEARS IN THESE DRAWINGS, SPECIFICATIONS, OR OTHER DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING OF SUCH OMISSION OR ERROR BEFORE PROCEEDING WITH THE WORK, OR ACCEPT FULL RESPONSIBILITY FOR THE COST TO RECTIFY SAME. VERIFY AND COORDINATE OPENINGS IN FLOORS, WALLS AND ROOF WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.

THE ARCHITECTURAL DRAWINGS SHALL BE REFERENCED FOR WALLS, FINISHES AND DIMENSIONS. DIMENSIONS PROVIDED ON THE STRUCTURAL DRAWINGS ARE FOR REFERENCE ONLY AND SHALL BE VERIFIED BY THE ARCHITECTURAL DRAWINGS.

DRAWINGS ARE NOT TO BE SCALED.

SHOP DRAWINGS:

SHOP DRAWINGS ARE SPECIFICALLY REQUIRED FOR THE FOLLOWING ITEMS.

- REINFORCING STEEL FOR CONCRETE & MASONRY CONSTRUCTION
- STRUCTURAL STEEL
- METAL DECKING
- PREFABRICATED TRUSSES
- CONCRETE MIX DESIGN(S)
- LIGHT GAUGE FRAMING
- MASONRY MORTAR & GROUT MIX DESIGN(S)
- MASONRY UNIT MATERIAL CERTIFICATE(S)

THESE DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND ARCHITECT FOR REVIEW. THE REVIEW WILL BE FOR THE DESIGN INTENT ONLY. THE SHOP DRAWINGS SHALL BE SUBMITTED BEFORE PROCEEDING WITH FABRICATION AND SHALL ALLOW TWO WEEKS MINIMUM FOR REVIEW. WE WILL REVIEW ONLY ONE REPRODUCIBLE SET AND ONE COPY TO BE RETAINED BY AUE.

DEFERRED SUBMITTAL:

DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH HAVE NOT BEEN PERMITTED UNDER THE BASE BUILDING APPLICATION AND WHICH ARE REQUIRED TO BE SUBMITTED TO THE BUILDING OFFICIAL FOR APPROVAL. SUBMITTALS SHALL NOT BE INSTALLED PRIOR TO APPROVAL BY THE BUILDING OFFICIAL. ALL SUBMITTALS SHALL BEAR THE STAMP OF A REGISTERED STRUCTURAL WASHINGTON STATE PROFESSIONAL ENGINEER. SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER OF RECORD PRIOR TO THE SUBMISSION TO BUILDING OFFICIAL. SUBMITTAL WILL BE REVIEWED FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT ONLY. ALL NECESSARY ANCHORAGE, BRACING, TIES AND CONNECTION MATERIAL SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. THESE ELEMENTS INCLUDE BUT ARE NOT LIMITED TO:
- EXTERIOR ROOF AND WALL CLADDING SYSTEMS INCLUDING CURTAINWALL, VENEER ANCHORAGE SYSTEM
- STEEL STAIRS AND RAILINGS
- INTERIOR SUSPENDED CEILINGS
- HANDRAILS AND GUARD RAILS
- TEMPORARY SHORING SYSTEM
- FLAGPOLES, ANTENNAS AND SATELLITE DISH
- MECHANICAL, ELECTRICAL, PLUMBING AND SPRINKLER SUPPORT
- EQUIPMENT ANCHORAGE

FOOTING AND FOUNDATION LOADING:

SOILS REPORT: NO. 20190291E001, FILED BY ASSOCIATED EARTH SCIENCS. INC, DATED 05/27/2020 (REVISED 10/07/2021)

ALLOWABLE SOIL BEARING PRESSURE: ----------5000 PSF (GC TO PERFORM SOIL IMPROVEMENT WORK PER SOILS REPORT)
ALLOWABLE SOIL FRICTION COEFFICIENT: ----------0.35
ALLOWABLE EQUIVALENT ACTIVE YIELDING FLUID PRESSURE: ----------35 PCF
ALLOWABLE EQUIVALENT ACTIVE RESTRAINED FLUID PRESSURE: ----------55 PCF
SPECIFIED SOIL DENSITY: ----------120 PCF (ASSUMED)
ALLOWABLE PASSIVE EARTH PRESSURE: ----------250 PCF
SPECIFIED SOIL SITE CLASS: ----------D

ALL SOIL CRITERIA MUST BE VERIFIED IN THE FIELD. ALL DATA LISTED WAS ASSUMED PER INFORMATION PROVIDED.

THE CONTRACTOR IS TO REVIEW THE SOILS REPORT BEFORE BEGINNING CONSTRUCTION AND IS TO BE FAMILIAR WITH ALL RECOMMENDATIONS NOTED WITHIN THE REPORT.

ALL FOOTING DIMENSIONS ARE MINIMUMS.

ALL FOOTINGS SHALL REST ON COMPACTED STRUCTURAL FILL OR UNDISTURBED EARTH WHERE SHOWN IN THE SOILS REPORT.

SUBGRADE WALLS ARE DESIGNED ASSUMING A "DRAINED" CONDITION, SEE CIVIL AND MECHANICAL DRAWINGS FOR SUBGRADE DRAINAGE SYSTEM. SUBGRADE WALLS SHALL ATTAIN THEIR DESIGN STRENGTH PRIOR TO PLACING BACKFILL. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACES FOR WALLS IF BACKFILL IS PLACED BEFORE WALLS AND SLABS ACHIEVE THEIR DESIGN STRENGTH OR IF WALL RELIES ON UPPER SLAB FOR SUPPORT.

REINFORCED CONCRETE:

MINIMUM CONCRETE PROPERTIES:
ALL CONCRETE EXPOSURE CATEGORIES PER ACI 318 TABLE 19.3.1.1
- STRUCTURAL CONCRETE (EXPOSURE F1/F2): f'c = 4,500 psi, (28-DAY STRENGTH (f'c))
- INTERIOR SLAB ON GRADE (EXPOSURE F0): f'c = 2,500 psi

GENERAL REQUIREMENTS:
ALL CONCRETE WITH EXPOSURES EXCEEDING F0 SHALL HAVE AIR ENTRAINMENT PER ACI 318 TABLE 19.3.3.1 OR AS NOTED:
- CONCRETE EXPOSED (F1) TO MOISTURE AND FREEZING/THAWING SHALL HAVE 5% AIR ENTRAINMENT +/-1.5%
- CONCRETE EXPOSED (F2/F3) TO CONTINUOUS MOISTURE OR SOIL AND FREEZING/THAWING SHALL HAVE 6% AIR ENTRAINMENT +/-1.5%

CONCRETE SLUMP SHALL BE 3" MAX (A TARGET SLUMP OF 5" FOR POST TENSIONED SLABS WITH A MAXIMUM OF 6") PRIOR TO ADDITION OF ADMIXTURES AND 8" MAX SLUMP AFTER ADDITION.

CALCIUM CHLORIDE MAY NOT BE USED.

NOMINAL AGGREGATE SIZE SHALL BE LIMITED TO 3/4" MAXIMUM, U.N.O. OR AS APPROVED BY THE ENGINEER.

ALL CONCRETE SHALL HAVE 5 1/2 SACKS MINIMUM OF CEMENT PER CUBIC YARD AND A MAXIMUM WATER/CEMENT RATIO =0.45.

FLYASH MAY BE USED TO REPLACE UP TO A MAXIMUM OF 25% OF CEMENT BY WEIGHT.

CONCRETE SUPPLIER SHALL COORDINATE EXPECTED WATER VAPOR TRANSMISSION RATES DURING CURING OF THE CONCRETE WITH CONTRACTOR AND ARCHITECT TO ALLOW FOR FLOORING/ROOFING TO BE INSTALLED.

FOR ALL AUGER CAST PILING, PROVIDE NOT LESS THAN 9 SACKS OF CEMENT PER CUBIC YARD OF GROUT.

ELECTRICAL CONDUIT PLACED IN CONCRETE SHALL BE RIGID STEEL OR FLEXIBLE PLASTIC CONDUIT, NO ALUMINUM IS ALLOWED. FOR CONDUIT PLACED IN SLABS THE MAXIMUM OUTSIDE DIAMETER SHALL NOT EXCEED 1/6 TIMES SLAB THICKNESS AND IT SHALL BE LOCATED IN THE MIDDLE THIRD. NO MORE THAN ONE LAYER OF CONDUIT MAY BE USED, ANCHOR CONDUIT TO A MINIMUM OF #4 @ 12" O.C. PERPENDICULAR TO CONDUIT AND EXTENDING 12" MINIMUM BEYOND. FOR CONDUIT PLACED IN CONCRETE OVER METAL DECKING, CONDUIT MAY RUN IN THE VALLEY OF THE DECK FLUTES ONLY WITH A MINIMUM OF 1" COVER ABOVE AND NO MORE THAN ONE CONDUIT PER DECK FLUTE. CONDUIT SHALL NOT BE LOCATED IN FOOTINGS, BEAMS OR GIRDERS WITHOUT PRIOR APPROVAL OF THE ENGINEER.

NON-SHRINK GROUT FOR BASE PLATES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 6,000 PSI. GROUT SHALL BE AN APPROVED CEMENTITIOUS MATERIAL WITH NATURAL AGGREGATES AND INSTALLED PER THE MANUFACTURES DIRECTIONS. IF FLOWABLE GROUT MIX IS NOT ADEQUATE FOR COVERAGE AN EPOXY GROUT MAY BE USED.

CONCRETE PLACED DURING FREEZING OR NEAR-FREEZING WEATHER SHALL COMPLY WITH REQUIREMENTS OF ACI 318-26.5.4. CONCRETE PLACED DURING HOT WEATHER SHALL COMPLY WITH ACI 318-26.5.5.

CONCRETE CLEAR COVER FOR REINFORCING STEEL IS AS FOLLOWS:
FOOTINGS AND OTHER UNFORMED SURFACES, EARTH FACE: 3"
FORMED SURFACES IN DIRECT CONTACT WITH EARTH OR WEATHER: 2" FOR #6-#18, 1-1/2" FOR UP TO #5 BAR
SLABS, WALLS AND JOISTS NOT EXPOSED TO EARTH OR WEATHER: 1-1/2" FOR #14-#18, 3/4" FOR UP TO #5 BAR
BEAMS AND COLUMNS NOT EXPOSED TO EARTH OR WEATHER: 1-1/2"

REINFORCING STEEL:

GENERAL REQUIREMENTS:
STANDARDS FOR ALL REINFORCING STEEL: ASTM A615 GRADE 60.
EPOXY COATED REINFORCING STEEL: ASTM A775 GRADE 60.

DETAILING (BENDS, HOOKS, SPLAYS, ETC) SHALL BE IN ACCORDANCE WITH ACI 315 AND 318 (LATEST EDITION).

MINIMUM LAP AT ALL CONTINUOUS REINFORCEMENT: 30 BAR DIAMETERS OR 1'-6" U.N.O., SEE TABLE FOR REQUIRED LENGTHS

CORNER BARS SHALL BE PROVIDED AT ALL CORNERS AND WALL OR FOOTING INTERSECTIONS. CORNER BAR LAPS SHALL BE A MINIMUM OF 30 BAR DIAMETERS OR 1'-6", SEE TABLE FOR REQUIRED LENGTHS.

ALL OPENINGS IN CONCRETE SLABS, WALLS, ETC. MUST HAVE (2) #5 MIN. U.N.O. TRIM BARS ALL AROUND THE OPENING. TRIM BARS MUST EXTEND 2'-6" PAST EVERY CORNER.

FIELD BENDING OF BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE IS NOT ALLOWED UNLESS APPROVED BY THE STRUCTURAL ENGINEER.

STANDARD FOR ALL WELDED WIRE MESH: ASTM A-185. LAP ALL EDGES 1 1/2 MESH MINIMUM.

ALL REINFORCING STEEL SHALL BE FREE OF GREASE, OIL, OR MUD, ETC. AT THE TIME OF CONCRETE PLACEMENT. INTENDED COATINGS SHALL BE PER PLANS OR APPROVED BY ENGINEER.

ALL BOLTS SHALL BE TIED IN PLACE SO THAT THEY ARE HELD IN THE CORRECT FINAL POSITION THROUGHOUT THE CONCRETE PLACEMENT, DO NOT "WET STICK" BOLTS.

WELDING REQUIREMENTS:
STANDARDS FOR WELDING OF REINFORCING BARS: ANSI/AWS D1.4-98.

REINFORCEMENT SHALL NOT BE WELDED UNTIL A CHEMICAL ANALYSIS SUFFICIENT TO DETERMINE THE CARBON EQUIVALENT IS PERFORMED. THE CARBON EQUIVALENT OF REINFORCING STEEL BARS SHALL BE CALCULATED FROM THE CHEMICAL COMPOSITION AS SHOWN IN THE MILL TEST REPORT. IF MILL TEST REPORTS ARE NOT AVAILABLE, A CHEMICAL ANALYSIS SHALL BE MADE OF BARS REPRESENTATIVE OF THE BARS TO BE WELDED. THE CARBON EQUIVALENT (C.E.) SHALL NOT EXCEED .55. REINFORCEMENTS MEETING ASTM A706 DEEMED TO MEET THE WELDABILITY REQUIREMENTS MAY BE USED IN LIEU OF TESTING. SPECIAL INSPECTION IS REQUIRED FOR ALL FIELD WELDING.

STRUCTURAL STEEL:

GENERAL REQUIREMENTS:
TUBE COLUMNS: ASTM A1085 (Fy=50,000 psi).
PIPE COLUMNS: ASTM A53 GRADE B (Fy=35,000 psi).
ALL 'W' AND 'H' SHAPES: A992, (Fy=50,000 psi).
ALL OTHER STEEL: ASTM A36.
ALL STAINLESS STEEL 316L (Fy=30,000 psi).
ALL BOLTS: ASTM F3125 GRADE A325 (N) U.N.O.
ALL ANCHOR BOLTS: ASTM F1554 GRADE 36, U.N.O. FURNISH ANCHOR RODS WITH MATCHING DOUBLE HEAVY HEX NUTS AT THE END EMBEDDED IN CONCRETE.

CAST-IN HEADED BOLTS SHALL BE PLACED ACCURATELY INTO FINAL POSITION PRIOR TO POURING CONCRETE. ADDING BOLTS AFTER A POUR OR 'WET STICKING' IS NOT ALLOWED.

PROVIDE WASHERS FOR ALL BOLTS AS REQUIRED BY AISC. AS A MINIMUM PROVIDE STANDARD CUT WASHERS UNDER ALL NUTS.

ONE COAT OF APPROVED SHOP PAINT MINIMUM TO ALL STEEL NOT EMBEDDED IN CONCRETE. FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC (ASD) SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS. STEEL NOTED AS GALVANIZED SHALL BE HOT-DIP GALVANIZED UNO.

CONTRACTOR SHALL DESIGN AND SUPPLY ALL ADDITIONAL MISCELLANEOUS METALS THAT ARE INDICATED IN THE ARCHITECTURAL DRAWINGS OR THOSE METALS WHICH ARE FOUND TO BE NECESSARY TO SUPPORT THE ARCHITECTURAL FINISHES OR OTHER BUILDING SYSTEMS. ALL FRAMING AND CONNECTIONS DESIGNED BY THE CONTRACTOR SHALL NOT RESULT IN ECCENTRIC LOADS BEING APPLIED TO THE PRIMARY STRUCTURE OR LATERAL LOADS BEING APPLIED TO THE BOTTOM FLANGE OF STEEL BEAMS. SUBMIT CALCULATIONS STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT ALONG WITH SHOP DRAWINGS NOTING THE LOADING IMPOSED ON THE PRIMARY STRUCTURE.

WELDING REQUIREMENTS:
ALL WELDING SHALL MEET AWS/WABO CODES FOR ARC WELDING IN BUILDING CONSTRUCTION.

EXCEPT AS SPECIFIED IN THE SPECIAL PROCEDURE OF THIS SECTION, ELECTRODES MAY BE E70 (70 KSI MINIMUM). ELECTRODES MUST BE KEPT DRY AT ALL TIMES.

MINIMUM WELDS SHALL BE 3/16" OR AS NOTED IN SECTION J.2b OF AISC (WHICHEVER IS LARGER)

ALL WELDING OF STAINLESS STEEL SHALL USE E309 ELECTRODES WITH A GMAC PROCESS

FIELD AND SHOP WELDING SHALL BE PERFORMED BY AWS/WABO CERTIFIED WELDERS.

SPECIAL PROCEDURES REQUIRED IN SEISMIC DESIGN CATEGORIES D, E AND F:
ALL WELDING ELECTRODES FOR LATERAL FORCE RESISTING SYSTEMS - WHICH INCLUDE BUT ARE NOT LIMITED TO - MOMENT FRAMES, BRACED FRAMES, DRAGS, ETC. SHALL BE AS FOLLOWS:

SHOP WELDS AND FIELD WELDS: E70TG-K2 OR E70T6 WITH A MINIMUM SPECIFIED CVN OF 20 ft-lbs AT -20 DEGREES FAHRENHEIT AND 40 ft-lbs AT 70 DEGREES FAHRENHEIT.

THE BOTTOM FLANGE WELD TAB AT MOMENT FRAME CONNECTION MUST BE REMOVED AND REINFORCED WITH A 5/16"' FILLET WELD MINIMUM IN CONFORMANCE WITH FEMA-353 RECOMMENDATIONS.

ALL WELD ACCESS HOLE DETAILING AT MOMENT FRAME CONNECTIONS SHALL CONFORM WITH FEMA-350 AND FEMA-353 RECOMMENDATIONS.

POST INSTALLED ANCHORS:

MASONRY INSTALLATION: U.N.O., INSTALLATION SHALL BE IN GROUTED CELLS ONLY. IF EMBEDMENT MUST BE PROVIDED IN AN UN-GROUTED CELL, NEW GROUT SHALL BE ADDED AT THAT CELL EXTENDING TO THE HORIZONTAL BOND BEAM BELOW. ONE EMBEDDED ITEM ONLY PER GROUTED CELL IS ALLOWED AND NO EMBEDDED ITEMS ARE ALLOWED WITHIN 8" OF A FREE EDGE. (INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARD INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY AN APPLICABLE CERTIFICATION PROGRAM.)

MANUFACTURER'S RECOMMENDATIONS AND ICC/IAPMO EVALUATION REPORT SHALL BE FOLLOWED DURING THE PREPARATION AND INSTALLATION OF ALL GROUTED BOLTS, RODS AND REINFORCING BARS.

NO REINFORCING SHALL BE CUT TO INSTALL ANCHORS. DEFECTIVE OR ABANDONED HOLES SHALL BE FILLED WITH NON-SHRINK GROUT THAT AS A MINIMUM MATCHES THE ADJACENT CONCRETE/MASONRY GROUT STRENGTH.

ADHESIVE MASONRY ANCHORS:
- GROUTED MASONRY: HILTI HIT HY-270 (ICC ESR-4143) OR APPROVED EQUAL
- UN-GROUTED MASONRY: HILTI HIT HY-270 (ICC ESR-4144) OR APPROVED EQUAL

MECHANICAL MASONRY ANCHORS:
- GROUTED MASONRY: HILTI KWIK BOLT TZ (KB-TZ) (ICC ESR-3785) OR APPROVED EQUAL
- GROUTED MASONRY: HILTI KWIK HUS-EZ (KH-EZ) (ICC ESR-3056) OR APPROVED EQUAL

ADHESIVE CONCRETE ANCHORS:
- HILTI HIT HY-200 (ICC ESR-3187, LARR-26077) OR APPROVED EQUAL

MECHANICAL CONCRETE ANCHORS:
- HILTI KWIK BOLT TZ (KB-TZ) (ICC ESR-1917, LARR-25701) OR APPROVED EQUAL
- HILTI KWIK HUS-EZ (KH-EZ) (ICC ESR-3027, LARR-25897) OR APPROVED EQUAL

WHERE SPECIAL INSPECTIONS ARE REQUIRED PER THE ANCHOR ICC/IAPMO EVALUATION REPORT, INSPECTIONS SHOULD BE AS FOLLOWS:
1. FOR ALL ANCHORS PRIOR TO CONCEALMENT, VERIFY: ANCHOR TYPE, ANCHOR DIMENSIONS, ANCHOR SPACING AND EDGE DISTANCE

2) FOR EACH ANCHOR TYPE AND SIZE, THE INSPECTOR SHALL BE ONSITE TO CONTINUOUSLY INSPECT A MINIMUM OF (10) ANCHORS INSTALLED BY EACH INSTALLER FOR CONFORMANCE WITH THE APPLICABLE ICC/IAPMO EVALUATION REPORT.

IF THE TOTAL NUMBER OF ANCHORS INSTALLED BY EACH INSTALLER IS LESS THAN (10) THEN ALL ANCHORS INSTALLED BY EACH INSTALLER SHALL BE INSPECTED FOR CONFORMANCE WITH THE APPLICABLE ICC/IAPMO EVALUATION REPORT

PROVIDED ALL ANCHORS ARE INSTALLED CORRECTLY PER MANUFACTURER'S INSTRUCTIONS, PROVIDE PERIODIC INSPECTION ON A MINIMUM OF 10 PERCENT OF THE NEXT 1000 ANCHORS BY EACH INSTALLER AND A MINIMUM OF 5 PERCENT OF THE REMAINING ANCHORS BY EACH INSTALLER. INSPECTIONS SHOULD OCCUR ONCE A WEEK AT A RANDOM TIME WHILE ANCHOR INSTALLATION IS ONGOING. ANY NON-COMPLIANCE ISSUES SHALL RESET THE INSPECTION REQUIREMENTS TO THE BEGINNING OF THIS SECTION. ALL NON-COMPLIANT ANCHORS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD FOR REVIEW AND SHALL BE BROUGHT INTO COMPLIANCE EITHER THRU TESTING OR REINSTALLATION

3) FREQUENCY OF TESTING BEYOND THOSE LISTED IN ITEM 2 SHALL BE PER THE (ICC/IAPMO EVALUATION REPORT REQUIREMENTS) (SECTION 1901.3.4 OR 1910A.5 OF THE CBC).

4) THE SPECIAL INSPECTOR SHALL PROVIDE DOCUMENTATION AT THE END OF ANCHOR INSTALLATIONS STATING THE MINIMUM NUMBER OF ANCHORS WERE INSPECTED.

POWDER ACTUATED FASTENERS:

MANUFACTURERS RECOMMENDATIONS AND ICC REPORTS SHALL BE FOLLOWED DURING THE PREPARATIONS AND INSTALLATION OF ALL PAF'S. ALL REINFORCEMENT IN CONCRETE MUST BE LOCATED PRIOR TO INSTALLATION TO PREVENT DAMAGE DURING INSTALLATION. WASHERS ARE REQUIRED WHEN PAF'S ARE USED WITH WOOD MEMBERS.

HILTI X-U (POWDER ACTUATED FASTENER):
WHERE X-U PAF'S ARE SPECIFIED PER PLAN 0.157" DIAM. HILTI X-U ## PAF'S (ESR-2269, LARR 25675) SHALL BE USED OR APPROVED EQUAL.

AT CONCRETE SUBSTRATES, X-U PAF'S SHALL BE INSTALLED IN THE FOLLOWING MANNER UNO. 1-1/4" MINIMUM PAF EMBEDMENT. 4" MINIMUM SPACING BETWEEN PAF'S. 3" MINIMUM CONCRETE EDGE DISTANCE. MINIMUM CONCRETE SUBSTRATE THICKNESS EQUAL TO 3X THE EMBEDMENT DEPTH OF THE FASTENER.

AT CONCRETE METAL DECK SUBSTRATES, X-U PAF'S SHALL BE INSTALLED AS SPECIFIED PER PLAN.

AT STRUCTURAL STEEL SUBSTRATES, X-U PAF'S SHALL BE INSTALLED IN THE FOLLOWING MANNER UNO. AT STEEL SUBSTRATES WITH A THICKNESS LESS THAN 1/2" PROVIDE FULL EMBED OF PAF TO STEEL (POINT OF FASTENER TO PENETRATE THROUGH STEEL BASE MATERIAL). AT STEEL SUBSTRATES WITH A THICKNESS GREATER THAN OR EQUAL TO 1/2" PROVIDE MIN 1/2" POINT PENETRATION OF PAF TO STEEL. 1" MINIMUM SPACING BETWEEN PAF'S. 1/2" MINIMUM STEEL EDGE DISTANCE.

HILTI X-P (POWER ACTUATED FASTENER):
WHERE X-P PAF'S ARE SPECIFIED PER PLAN 0.118" DIAM. HILTI X-P ## G3 (GAS DRIVEN) OR 0.118" DIAM. HILTI X-P ## B3 (ELECTRI-MECHANICALLY DRIVEN) PAF'S (ESR-1752, LARR 25662) SHALL BE USED OR APPROVED EQUAL.

AT CONCRETE SUBSTRATES, X-P PAF'S SHALL BE INSTALLED IN THE FOLLOWING MANNER UNO. 5/8" PAF EMBEDMENT. 4" MINIMUM SPACING BETWEEN PAF'S. 3" MINIMUM CONCRETE EDGE DISTANCE. MINIMUM CONCRETE SUBSTRATE THICKNESS EQUAL TO 3X THE EMBEDMENT DEPTH OF THE FASTENER.

AT CONCRETE METAL DECK SUBSTRATES, X-P PAF'S SHALL BE INSTALLED AS SPECIFIED PER PLAN.

AT STRUCTURAL STEEL SUBSTRATES, X-P PAF'S SHALL BE INSTALLED IN THE FOLLOWING MANNER UNO. AT STEEL SUBSTRATES WITH A THICKNESS LESS THAN OR EQUAL TO 3/8" PROVIDE FULL EMBED. OF PAF TO STEEL (POINT OF FASTENER TO PENETRATE THROUGH STEEL BASE MATERIAL). AT STEEL SUBSTRATES WITH A THICKNESS GREATER THAN 3/8" X-P PAF'S ARE NOT PERMITTED FOR INSTALLATION. 1" MINIMUM SPACING BETWEEN PAF'S. 1/2" MINIMUM STEEL EDGE DISTANCE.

STEEL OPEN WEB JOISTS:

STANDARD SPECIFICATION:
THE "STANDARD SPECIFICATIONS FOR OPEN WEB STEEL JOISTS AND JOIST GIRDERS" BY THE STEEL JOIST INSTITUTE (SJI) SHALL APPLY.

GENERAL REQUIREMENTS:
MEMBERSHIP IN THE STEEL JOIST INSTITUTE SHALL BE REQUIRED FOR ALL MANUFACTURERS OF OPEN WEB STEEL JOISTS.

MANUFACTURERS SHALL FURNISH TO THE BUILDING OFFICIAL A CERTIFICATE INDICATING COMPLIANCE WITH 2018 IBC SECTION 2207

THE CERTIFICATE OF COMPLIANCE SHALL BE FURNISHED BEFORE INSTALLATION.

PROVIDE SLOPED BEARING SHOES AS REQUIRED. ROOF JOISTS SHALL BE DESIGNED FOR A MINIMUM NET UPLIFT LOAD OF 15 PSF DUE TO WIND UNLESS NOTED OTHERWISE ON THE PLANS.

ALL "K" SERIES JOISTS SHALL BE FIELD WELDED TO SUPPORTS WITH 1 1/4" OF 1/8" FILLET EACH SIDE MINIMUM.

ADDITIONAL LOADING WHICH INCLUDES SNOW DRIFTING, MECHANICAL & ELECTRICAL EQUIPMENT, AXIAL LOADS, LOADS NOTED IN DETAILS, ETC. SHALL BE INCLUDED IN THE DESIGN OF JOISTS.

JOISTS SHALL BE DESIGNED FOR A DEFLECTIONS TO NOT EXCEED; ROOF TOTAL LOAD OF L/240, ROOF LIVE LOAD OF L/360, FLOOR TOTAL LOAD OF L/240 AND FLOOR LIVE LOAD OF L/480.

MEMBER VARIATIONS OR ADDITIONAL MEMBERS MAY BE PROVIDED TO CARRY THE MECHANICAL/ELECTRICAL LOADS IF APPROVED BY ARCHITECT AND ENGINEER FIRST.

ALL DESIGN CALCULATIONS FOR "K" AND "LH" SERIES JOISTS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW OF DESIGN INTENT PRIOR TO FABRICATION
STATE OF **WASHINGTON** CIVIL ENGINEERING SEAL FROM THE MANUFACTURER SHALL BE ON ALL CALCULATIONS AND DRAWINGS.

PRIOR TO THE CONTRACTOR SUBMITTING THE PREFABRICATED STEEL SHOP DRAWINGS TO DCLU, THE ENGINEER OF RECORD IS REQUIRED TO REVIEW STAMP THESE DRAWINGS. (CITY OF SEATTLE PROJECTS ONLY)

AB, A.B.	ANCHOR BOLT	CJ, C.J.	CONTRACTUAL JOINT	EJ, E.J.	EXPANSION JOINT	GRD	GRADE	MAT'L	MATERIAL	REF.	REFERENCE	TJ	TRUSS JOIST MACMILLAN
ABV.	ABOVE	CL	CENTER LINE	EMBED.	EMBEDMENT	GWB	GYPSUM WALL BOARD	MB	MACHINE BOLT (A307)	REINF.	REINFORCEMENT	TMPRY	TEMPORARY
ADD'L	ADDITIONAL	CLR	CLEAR	EL, ELEV.	ELEVATION	HDR	HEADER	MD	MID-DEPTH	REQ'D	REQUIRED	TN, T.N.	TOE NAIL
ADJ.	ADJACENT	CMU	CONC. MASONRY UNIT	EN, E.N.	EDGE NAIL	HF, H.F.	HEM-FIR	MRF	MOMENT RESISTING FRAME	RO, R.O.	ROUGH OPENING	T.O.	TOP OF
ALT.	ALTERNATE	COL.	COLUMN	ENG	ENGINEER	HGR	HANGER	MFR	MANUFACTURER	SCHD	SCHEDULE	TRANS.	TRANSVERSE
APPRX.	APPROXIMATE	CONC.	CONCRETE	EQ	EQUAL	HORZ.	HORIZONTAL	MTL	METAL	SHT	SHEET	TYP.	TYPICAL
ARCH	ARCHITECTURAL	CONN.	CONNECT(ION)	ES, E.S.	EACH SIDE	HSB	HIGH STRENGTH BOLT	(N)	NEW MEMBER	SHTG	SHEATHING	UNO	UNLESS OTHERWISE NOTED
@	AT	CONST.	CONSTRUCTION	EXIST	EXISTING		(A325 UNO)	NS, N.S.	NEAR SIDE	SIM.	SIMILAR	VERT.	VERTICAL
BOT.	BOTTOM	CONT.	CONTINUOUS	EXT.	EXTERIOR	HT	HEIGHT	NTS	NOT TO SCALE	SKW	SKEW(ED)	VFY	VERIFY
BF, B.F.	BRACED FRAME	CTSK	COUNTERSINK	FFE	FINISH FLOOR ELEV.	I.F.	INSIDE FACE	OC, O.C.	ON CENTER	SOG	SLAB ON GRADE	W/	WITH
BEL.	BELOW	d	PENNY (NAILS)	FAB.	FABRICATION	INT.	INTERIOR	OF, O.F.	OUTSIDE FACE	SPC	SPACING	WHS	WELDED HEADED STUD
BLDG	BUILDING	DET.	DETAIL	FND	FOUNDATION	JST	JOIST	OH	OVER HANG	SQ.	SQUARE	WP	WORK POINT
BLKG	BLOCKING	DBL	DOUBLE	FIN.	FINISH(ED)	JT	JOINT	OPN'G	OPENING	SS	SELECT STRUCTURAL	WS	WESTERN SERIES
BN, B.N.	BOUNDARY NAIL	DF, D.F.	DOUGLAS FIR	FLG	FLANGE	K	KIPS (1,000 POUNDS)	ORNT	ORIENTATE(ION)	STD	STANDARD	WTS	WELDED THREADED STUD
BNDRY	BOUNDARY	∅, DIA.	DIAMETER	FLR	FLOOR	LAT.	LATERAL	OWJ	OPEN WEB JOIST	STGR	STAGGER	WWF	WELDED WIRE FABRIC
BM	BEAM	DIAG.	DIAGONAL	FN, F.N.	FACE NAIL	LDGR	LEDGER	PAR	PARALLEL	STIFF.	STIFFENER	X-STG	EXTRA STRONG
B.O.	BOTTOM OF	DIAPH.	DIAPHRAGM	FO, F.O.	FACE OF	LF	LINEAL FEET	P/C	PRECAST CONCRETE	STIR.	STIRRUP	XX-STG	DOUBLE EXTRA STRONG
BRDG	BRIDGE (ING)	do	DITTO (DO OVER)	FRM'G	FRAMING	LLH	LONG LEG HORIZ.	PERP.	PERPENDICULAR	STL	STEEL		
BRG	BEARING	D	DEPTH	FS, F.S.	FAR SIDE	LLV	LONG LEG VERTICAL	PL	PLATE	STRUC.	STRUCTURE(AL)		
B/W	BETWEEN	DWG	DRAWING	FTG	FOOTING	LS	LAG SCREW	PLYWD	PLYWOOD	SYM.	SYMETRICAL		
CAM	CAMBER(ED)	DWL	DOWEL	GA	GAGE	LSL	TIMBER STRAND BEAM	PSL	PARALLAM BEAM	T	TOP		
CANT.	CANTILEVER(ED)	(E)	EXISTING MEMBER	GALV.	GALVANIZED	LT WT	LIGHT WEIGHT	PT, P.T.	PRESSURE TREATED	T&G	TONGUE AND GROOVE		
CG	CENTER OF GRAVITY	EA.	EACH	GB, G.B.	GRADE BEAM	LVL	MICROLLAM BEAM	P/T	POST TENSIONED	THR'D	THREAD(ED)		
CIP	CAST IN PLACE	EF, E.F.	EACH FACE	GLB	GLU-LAM. BEAM	MAS.	MASONR

ROOF DECK AND WELDING:

ROOF DECK ----------1 1/2" DEEP 20 GAUGE X 36" WIDE.

ALL DECKS TO BE CONTINUED OVER AT LEAST THREE SPANS UNLESS OTHERWISE SO INDICATED ON THE DRAWINGS.

PROVIDE (4) 5/8" DIA. PUDDLE WELDS PER 36" WIDTH OF DECK OVER EACH SUPPORT. PROVIDE 1 1/2" LONG TOP SEAM WELDS @ 24" O.C. PROVIDE 5/8" DIA. MARGINAL PUDDLE WELDS @ 12" O.C.

USE E60 SERIES ELECTRODES FOR DECK WELDING.

FLOOR DECK WELDING:

FLOOR DECK ----------1 1/2" DEEP 20 GAUGE X 36" WIDE

ALL DECKS TO BE CONTINUED OVER AT LEAST THREE SPANS UNLESS OTHERWISE SO INDICATED ON THE DRAWINGS.

PROVIDE (4) 5/8" DIA. PUDDLE WELDS PER 36" WIDTH OF DECK OVER EACH SUPPORT. PROVIDE 1 1/2" LONG TOP SEAM WELDS @ 24" O.C. PROVIDE 5/8" DIA. MARGINAL PUDDLE WELDS @ 12" O.C.

FLOOR DECKS TO HAVE 2 1/2" OF CONCRETE TOPPING (CONCRETE WGT TO NOT EXCEED 145 PCF) WITH 6x6 W1.4 x W1.4 WWF U.N.O. ON DRAWINGS. CONCRETE SUPPLIER SHALL COORDINATE EXPECTED WATER VAPOR TRANSMISSION RATES DURING CURING OF THE CONCRETE WITH CONTRACTOR AND ARCHITECT TO ALLOW FOR FLOORING/ROOFING TO BE INSTALLED.

STEEL STUDS AND JOISTS:

GENERAL REQUIREMENTS:
STEEL STUD MANUFACTURERS ASSOCIATION, LATEST EDITION SHALL GOVERN FOR ALL STEEL STUDS & JOISTS SPECIFIED.

DEPTH, GAUGE, AND SECTION PROPERTIES OF STEEL STUDS AND JOISTS SHALL MEET OR EXCEED THOSE OF THE SECTIONS SPECIFIED. SEE ICC ESR-3064P FOR ADDITIONAL MATERIAL INFORMATION.

G-60 GALVANIZED COATING PER ASTM A653 IS REQUIRED FOR ALL STEEL STUDS AND JOISTS

ALL SCREWS SHALL BE SELF-TAPPING / SELF-DRILLING FASTENERS THAT ARE ZINC COATED AS MANUFACTURED BY HILTI KWIK-FLEX (ICC ESR-2196, LARR 25095) OR APPROVED EQUAL. THE MINIMUM SCREW SIZE TO BE #8-18 (#2 POINT) OR #10-16 (#2 POINT) FOR 54 MIL (16 GA) OR LESS AND #10-16 (#3 POINT) OR #12-14 (#2 OR #3 POINT) FOR MATERIAL HEAVIER THAN 54 MIL (16 GA) U.N.O. ON THE DRAWINGS. SCREWS FOR SHEATHING CONNECTIONS SHALL BE OF THE PROPER SIZE AND TYPE FOR A POSITIVE SHEATHING TO METAL CONNECTION. ALL SCREW CONNECTIONS SHALL BE MADE FROM THE LIGHTER MATERIAL INTO THE HEAVIER MATERIAL U.N.O. SCREWS SHALL HAVE A MINIMUM PROJECTION OF 3 THREADS THROUGH THE LAST MATERIAL JOINED AND SHALL HAVE MINIMUM EDGE DISTANCES AND CENTER TO CENTER SPACINGS OF 1/2 INCH. ALL SCREWS SHALL CONFORM TO SAE J78 AND SHALL BE COATED WITH A CORROSIVE RESISTANT COATING. THE SCREW MANUFACTURER SHALL PROVIDE VERIFICATION OF THE FASTENERS RESISTANCE TO HYDROGEN EMBRITTLEMENT.

ALL FRAMING COMPONENTS SHALL BE SQUARE CUT FOR ATTACHMENT TO PERPENDICULAR MEMBERS.

STUDS SHALL BE INSTALLED IN A MANNER WHICH WILL ASSURE THAT ENDS OF THE STUDS ARE POSITIONED AGAINST THE INSIDE TRACK WEB PRIOR TO STUD AND TRACK ATTACHMENT.

PROVIDE WALL BRIDGING PER "TYP. WALL BLOCKING/BRACING" DETAIL, "ALT. WALL BLOCKING/BRACING" DETAIL, OR MANUFACTURER'S SPECIFICATIONS WHERE WALL IS NOT SHEATHED CONTINUOUSLY ON BOTH SIDES AND AS SHOWN IN DRAWINGS. PROVIDE WALL BRIDGING PER MANUFACTURER'S SPECIFICATIONS FOR WALLS DURING THE CONSTRUCTION PROCESS WHERE THEY ARE NOT SHEATHED PRIOR TO RESISTING LOADS.

SEE "TYP. STUD/JOIST PUNCHOUTS" DETAIL FOR PUNCHOUT REQUIREMENTS.

JOISTS SHALL BE LOCATED DIRECTLY OVER STUDS, TYPICAL.

NO SPLICES ARE PERMITTED IN STUDS.

ALL SECTIONS SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE FOLLOWING REQUIREMENTS:
97, 68 & 54 MIL. THICKNESS (GAGES 12, 14 & 16) ---- ASTM A-653 GRADE D, YIELD 50 KSI, Fu= 65KSI
43, 33 & 27 MIL. THICKNESS (GAGES 18, 20 & 22) ---- ASTM A-635 GRADE A, YIELD 33 KSI, Fu= 45KSI

ALL TRACKS, BRIDGING, STRAPS ETC. ARE TO BE FORMED FROM STEEL OF THE SAME THICKNESS AS THE STUDS OR JOISTS TO WHICH THEY ARE ATTACHED, U.N.O.

METAL STUD DESIGNATION IS THUS:
'600' - MEMBER DEPTH IN 1/100 INCH (6")
'S' - STYLE OF MEMBER (S = STUD/JOIST, T = TRACK, U = CHANNEL, F = FURRING CHANNEL)
'162' - MEMBER FLANGE WIDTH IN 1/100 INCH (1.625" = 1-5/8")
'54' - MINIMUM STEEL THICKNESS IN MILS (54 MILS. = 0.054", OLD DESIGNATION OF 16 GA.)

WIND LOADING FOR NON-STRUCTURAL WINDOW/CURTAIN WALL COMPONENT CONNECTIONS:

STRUCTURAL SUPPORT COMPONENTS AND CONNECTIONS NOT SHOWN ON STRUCTURAL DRAWINGS INCLUDING MULLIONS, HEADS AND SILLS SHALL BE DESIGNED BY THE SUPPLIER OR FABRICATOR

CALCULATIONS SHALL BEAR THE SEAL OF A WASHINGTON STATE PROFESSIONAL ENGINEER.

MINIMUM DESIGN WIND LOADS PER 2018 IBC AND ASCE 7-16, CHAPTER 30.

THE SUPPORTING CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW PRIOR TO FABRICATION.

MASONRY VENEER TIES:

GENERAL REQUIREMENTS:
TIES SHALL HAVE A MINIMUM WIRE SIZE OF W1.7 OR 22 GAUGE CORRUGATED SHEET METAL AND BE SPACED AT 16" O.C. MAX. VERTICALLY AND HORIZONTALLY UNLESS OTHERWISE ALLOWED BY CODE.

HORIZONTAL VENEER REINFORCEMENT ---------- NO. 9 WIRE, GALVANIZED FINISH.

LINTEL ANGLE (OPENING 6'-0" WIDE OR LESS) --------- L3 1/2" X 3 1/2" X 1/4" MINIMUM

ALL LINTELS SHALL BE HOT DIP GALVANIZED U.N.O

ALL LINTEL ANGLES SHALL BEAR ON A MINIMUM OF 4" OF MASONRY EACH END

PROVIDE VERT. EXPANSION JOINTS IN CONTINUOUS VENEER @ 25' O.C. MAX. TYPICAL.

SUPPORTING STRUCTURE TO BE DESIGNED FOR A MINIMUM OUT OF PLANE AND IN PLANE DEFLECTION OF L/600.

WHERE VENEER HEIGHTS EXCEED 30 FEET FROM FOUNDATION OR IN SEISMIC DESIGN CATEGORY E OR F VENEER SHALL BE SUPPORTED AT EACH BUILDING LEVEL (DOES NOT INCLUDE ROOF) PER DETAILS ON THE DRAWINGS.

MASONRY VENEER TO STEEL STUD FRAMING:
ADJUSTABLE WALL ANCHOR/TIES; PINTLE AND EYE TYPE, GALV. FINISH, FURNISH LENGTH OF TIES AS RECOMMENDED BY MANUFACTURER FOR PARTICULAR CONDITIONS OF INSTALLATION IN EACH CASE. TIES SHALL HAVE A LIP OR HOOK FOR POSITIVE ENGAGEMENT WITH HORIZONTAL VENEER REINFORCEMENT. ANCHOR TO STEEL STUD FRAMING WITH CORROSION RESISTANT SCREWS THAT HAVE A MINIMUM SHANK DIAMETER OF 0.19 INCH. FOR CORRUGATED SHEET METAL ANCHORS, LOCATE FASTENER WITHIN 1/2 INCH OF BEND.

MECHANICAL/ ELECTRICAL/ PLUMBING SYSTEM SUPPORTS:

THE CONTRACTOR SHALL DESIGN AND SUPPLY ALL ADDITIONAL MISCELLANEOUS METAL AND SYSTEM SUPPORT COMPONENTS THAT ARE REQUIRED TO SUPPORT AND SEISMICALLY BRACE/RESTRAINT THE MECHANICAL/ELECTRICAL AND PLUMBING SYSTEMS. THE CONTRACTOR SHALL VERIFY THAT ALL CONNECTIONS DO NOT RESULT IN ADVERSE LOCAL CONNECTION STRESSES WITHIN THE PRIMARY STRUCTURE. CALCULATIONS STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF WASHINGTON AND SHOP DRAWINGS INDICATING IMPOSED LOADS ON THE PRIMARY STRUCTURE SHALL BE SUBMITTED FOR REVIEW TO THE SEOR PRIOR TO BEGINNING OF THE WORK.
PERFORMANCE REQUIREMENTS
MAPPED GROUND ACCELERATION COEFFICIENT Ss = 1.094
MAPPED LONG PERIOD GROUND ACCELERATION COEFFICIENT S1 = 0.390
SPECTRAL ACCELERATION SHORT PERIOD Sds = 0.775
SEISMIC SITE CLASS= D, SEISMIC DESIGN CATEGORY D
IMPORTANCE FACTOR Ip= 1.5
COMPONENT AMPLIFICATION FACTOR ap AND RESPONSE MODIFICATION FACTOR Rp PER ASCE 7-16 TABLE 13.6-1
CONFORM TO ALL REQUIREMENTS NOTED IN ASCE 7-16 SECTION 13.6 FOR MECHANICAL AND ELECTRICAL COMPONENTS

SPECIAL INSPECTION FOR M/E/P SYSTEM SUPPORTS:
SPECIAL INSPECTION OR TESTING IS REQUIRED FOR THE FOLLOWING ITEMS FOR BUILDINGS IN SEISMIC DESIGN CATEGORY C, D, E OR F:
HEATING, VENTILATING AND AIR CONDITIONING (HVAC) DUCTWORK CONTAINING HAZARDOUS MATERIAL AND ANCHORAGE OF SUCH DUCT WORK
PIPING SYSTEMS AND MECHANICAL UNITS CONTAINING FLAMMABLE, COMBUSTIBLE OR HIGHLY TOXIC MATERIALS
ANCHORAGE OF ELECTRICAL EQUIPMENT USED FOR EMERGENCY OR STANDBY POWER SYSTEMS
BRACING AND ANCHORAGE OF FIRE SUPPRESSION EQUIPMENT AND PIPING

SPECIAL INSPECTIONS FOR SEISMIC DESIGN CATEGORY C, D, E OR F SHALL CONSIST OF:
PERIODIC SPECIAL INSPECTION OF ANCHORAGE FOR ELECTRICAL EQUIPMENT.
PERIODIC SPECIAL INSPECTION DURING INSTALLATION OF PIPING SYSTEMS WITH THEIR ASSOCIATED MECHANICAL UNITS, HVAC DUCTWORK AND VIBRATION ISOLATION SYSTEMS WHEN THE NOMINAL CLEARANCE IS 0.25" OR LESS BETWEEN THE RESTRAINT AND EQUIPMENT FRAME.

SPECIAL INSPECTIONS:

GENERAL REQUIREMENTS:
ALL SPECIAL INSPECTIONS SHALL MEET THE REQUIREMENTS OF THE 2018 IBC, CHAPTER 17.

ALL INSPECTIONS AS REQUIRED BY SECTION 110 OF THE 2018 INTERNATIONAL BUILDING CODE ARE REQUIRED. INSPECTIONS SPECIFIED IN THESE NOTES ARE IN ADDITION TO THESE INSPECTIONS.

CITY INSPECTION IS NOT A SUBSTITUTE FOR SPECIAL INSPECTION.

ANY WORK WHICH HAS BEEN COVERED BUT NOT PROPERLY INSPECTED BY THE SPECIAL INSPECTOR AND/OR THE CITY INSPECTOR IS SUBJECT TO REMOVAL OR EXPOSURE.

WHERE SPECIFICALLY REQUIRED, CONTINUOUS INSPECTION IS REQUIRED DURING THE PERFORMANCE OF THE WORK. THIS MAY BE A REQUIREMENT OF THE BUILDING CODE / LOCAL JURISDICTION OR THE MANUFACTURER.

THE SPECIAL INSPECTOR MUST BE CERTIFIED TO PERFORM THE TYPES OF INSPECTION SPECIFIED AND SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL.

THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING AND INFORMING THE SPECIAL INSPECTOR OR CITY INSPECTOR AT LEAST ONE WORKING DAY BEFORE THE WORK IS TO BE PERFORMED UNLESS OTHER CONDITIONS ARE AGREED UPON.

REQUIREMENTS OF THE SPECIAL INSPECTOR:
THE SPECIAL INSPECTOR MUST WORK UNDER THE SUPERVISION OF A WASHINGTON LICENSED CIVIL ENGINEER.

THE SPECIAL INSPECTOR MUST PERSONALLY BE FAMILIAR WITH THE DRAWINGS AND MUST PERSONALLY OBSERVE ALL OF THE WORK REPORTED ON.

THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING DEPARTMENT AND ENGINEER. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION; THEN, IF NOT CORRECTED, TO THE BUILDING DEPARTMENT AND ENGINEER.

THE FINAL REPORT SHALL BE SIGNED BY A WASHINGTON LICENSED CIVIL ENGINEER AND SHALL STATE THAT THE WORK WAS IN CONFORMANCE WITH THE APPROVED DRAWINGS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF IBC.

SPECIFIC SPECIAL INSPECTIONS REQUIRED:

SEE SHEETS S-003 TO S-005 FOR A LIST OF THE REQUIRED SPECIAL INSPECTIONS

DISCLAIMER:

THESE DOCUMENTS AND THE DESIGN ARE SPECIFIC TO THIS PROJECT ONLY AND MAY NOT BE REUSED IN ANY WAY WITHOUT WRITTEN APPROVAL OF AUE. IT IS OUR INTENT THAT THIS DESIGN MEETS THE NORMAL STANDARD OF CARE WITHIN THIS INDUSTRY. NO OTHER WARRANTY IS PROVIDED OR IMPLIED.

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06/12/2023

SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
GENERAL NOTES, CONT'D

SHEET NUMBER:
S-002

5/16/2023 4:24:37 PM

FABRICATION: REQUIRED SPECIAL INSPECTIONS

APPLICABLE TO PROJECT (Y/N)	VERIFICATION / INSPECTION / TESTING	IBC CODE REFERENCE	CODE OR REFERENCED STANDARD	FREQUENCY (NOTE 2)	REMARKS
Yes	1) INSPECTION IN FABRICATION SHOP	1704.2.5	-	PERIODIC	WHERE FABRICATION OF STRUCTURAL LOAD-BEARING MEMBERS AND ASSEMBLIES IS BEING PERFORMED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTION OF THE FABRICATED ITEMS SHALL BE AS REQUIRED ELSEWHERE IN THE STATEMENT OF SPECIAL INSPECTIONS. REFERENCE SECTION 1704.2.5.1 FOR APPROVED FABRICATOR EXCEPTION.

CONCRETE CONSTRUCTION: REQUIRED TESTS & SPECIAL INSPECTIONS

APPLICABLE TO PROJECT (Y/N)	VERIFICATION / INSPECTION / TESTING	IBC CODE REFERENCE	CODE OR REFERENCED STANDARD	FREQUENCY (NOTE 2)	REMARKS
Yes	1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT	1705.3, 1908.4	ACI 318: CH. 20, 25.2, 25.3, 26.6.1-26.6.3	PERIODIC	TOLERANCE AND REINFORCING PLACEMENT PER ACI 318: 26.6
Yes	2. REINFORCING BAR WELDING:				
Yes	a. MATERIAL VERIFICATION OF WELD FILLER METALS	1705.2.2.1.2	AWS D1.4:7 ACI 318: 26.6.4	PERIODIC	MANUFACTURER'S CERTIFIED TEST REPORTS
Yes	b. VERIFYING USE OF PROPER WELDING PROCEDURE SPECIFICATIONS			PERIODIC	COPY OF WELDING PROCEDURE SPECIFICATIONS
Yes	c. VERIFYING WELDER QUALIFICATIONS			PERIODIC	COPY OF QUALIFICATION CARDS
Yes	d. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706			PERIODIC	CERTIFIED MILL TEST REPORTS
Yes	e. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"			PERIODIC	
Yes	f. INSPECT ALL OTHER WELDS			CONTINUOUS	ALL WELDS VISUALLY INSPECTED PER AWS D1.4: 7.5
Yes	3. INSPECT ANCHORS CAST IN CONCRETE	-	ACI 318: 17.8.2	PERIODIC	
Yes	4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS				
Yes	a. ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	-	ACI 318: 17.8.2.4 ICC/IAPMO EVALUATION REPORT	CONTINUOUS	REFER TO ANCHOR CALLOUTS FOR SUSTAINED TENSION DESIGN
Yes	b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.		ACI 318: 17.8.2 ICC/IAPMO EVALUATION REPORT	PERIODIC (NOTE 3)	ALL ANCHORS TO BE VISUALLY INSPECTED
Yes	5. VERIFY USE OF REQUIRED DESIGN MIX	1705.3, 1904.1, 1904.2, 1908.2, 1908.3	ACI 318: CH 19, 26.4.3, 26.4.4	PERIODIC	
Yes	6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	1908.10	ASTM C172 ASTM C31 ACI 318: 26.4, 26.12	CONTINUOUS	
Yes	7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	1908.6, 1908.7, 1908.8	ACI 318: 26.5	CONTINUOUS	
Yes	8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE & TECHNIQUES	1908.9	ACI 318: 26.5.3-26.5.5	PERIODIC	
No	9. INSPECT PRESTRESSED CONCRETE FOR:				
No	a. APPLICATION OF PRESTRESSING TENDONS	-	ACI 318: 26.10	CONTINUOUS	
No	b. GROUTING OF BONDED PRETRESSING TENDONS			CONTINUOUS	
No	10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS	-	ACI 318: CH. 26.8	PERIODIC	
No	11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAM AND STRUCTURAL SLABS	-	ACI 318: 26.11.2	PERIODIC	
Yes	12. INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSION FOR CONCRETE MEMBER BEING FORMED	-	ACI 318: 26.11.1.2(b)	PERIODIC	

SOIL CONSTRUCTION: REQUIRED TESTS & SPECIAL INSPECTIONS

APPLICABLE TO PROJECT (Y/N)	VERIFICATION / INSPECTION / TESTING	IBC CODE REFERENCE	CODE OR REFERENCED STANDARD	FREQUENCY (NOTE 2)	REMARKS
Yes	1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	1705.6 TABLE 1705.6	GEOTECHNICAL REPORT	PERIODIC	BY THE GEOTECHNICAL ENGINEER
Yes	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL			PERIODIC	
Yes	3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS			PERIODIC	
Yes	4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL, INCLUDING THAT SUPPORT SLABS ON GRADE			CONTINUOUS	
Yes	5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY			PERIODIC	
Yes	6. VERIFY USE OF PROPER MATERIALS, DENSITIES, LIFT THICKNESSES, AND PLACEMENT TECHNIQUES FOR BACKFILL BEHIND STRUCTURAL WALLS			CONTINUOUS	

STEEL CONSTRUCTION - WELDING: REQUIRED TESTS & SPECIAL INSPECTIONS

APPLICABLE TO PROJECT (Y/N)	VERIFICATION / INSPECTION / TESTING	IBC CODE REFERENCE	CODE OR REFERENCED STANDARD	FREQUENCY (NOTE 2)	REMARKS
	INSPECTION TASKS PRIOR TO WELDING:				
Yes	1. WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE	1705.2	AISC 360: N5.4, TABLE N5.4-1	CONTINUOUS	-
Yes	2. MANUFACTURERS CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE			CONTINUOUS	-
Yes	3. MATERIAL IDENTIFICATION (TYPE/GRADE)			PERIODIC	-
Yes	4. WELDER IDENTIFICATION SYSTEM			PERIODIC	-
Yes	5. FIT-UP OF GROOVE JOINTS (INCLUDING JOINT GEOMETRY):				
	a. JOINT PREPARATION			PERIODIC	-
	b. DIMENSIONS (ALIGNMENT, ROOF OPENING, ROOT FACE, BEVEL)				
	c. CLEANLINESS (CONDITION OF STEEL SURFACES)				
	d. TACKING (TACK WELD QUALITY AND LOCATION)				
	e. BACKING TYPE AND FIT (IF APPLICABLE)				
Yes	6. CONFIGURATION AND FINISH OF ACCESS HOLES				
Yes	7. FIT-UP OF FILLET WELDS:				
	a. DIMENSIONS (ALIGNMENT, GAPS AT ROOT)			PERIODIC	-
	b. CLEANLINESS (CONDITION OF STEEL SURFACES)				
	c. TACKING (TACK WELD QUALITY AND LOCATION)				
Yes	8. CHECK WELDING EQUIPMENT:			PERIODIC	FABRICATOR OR ERECTOR SHALL OBSERVE
	INSPECTION OF TASKS DURING WELDING:				
Yes	1. USE OF QUALIFIED WELDERS	1705.2	AISC 360: N5.4, TABLE N5.4-2	PERIODIC	-
Yes	2. CONTROL AND HANDLING OF WELDING CONSUMABLES:				
	a. PACKAGING			PERIODIC	-
	b. EXPOSURE CONTROL				
Yes	3. NO WELDING OVER CRACKED TACK WELDS			PERIODIC	-
Yes	4. ENVIRONMENTAL CONDITIONS:				
	a. WIND SPEED WITHIN LIMITS			PERIODIC	-
	b. PRECIPITATION AND TEMPERATURE				
Yes	5. WPS FOLLOWED:				
	a. SETTINGS ON WELDING EQUIPMENT			PERIODIC	-
	b. TRAVEL SPEED				
	c. SELECTED WELDING MATERIAL				
	d. SHIELDING GAS TYPE/FLOW RATE				
	e. PREHEAT APPLIED				
	f. INTERPASS TEMPERATURE MAINTAINED (MIN./MAX)				
	g. PROPER POSITION (F,V,H,OH)				
Yes	6. WELDING TECHNIQUES:				
	a. INTERPASS AND FINAL CLEANING			PERIODIC	-
	b. EACH PASS WITHIN PROFILE LIMITATIONS				
	c. EACH PASS MEETS QUALITY REQUIREMENTS				
	INSPECTION OF TASKS AFTER WELDING:				
Yes	1. WELDS CLEANED	1705.2	AISC 360: N5.4, TABLE N5.4-3	PERIODIC	-
Yes	2. SIZE, LENGTH, LOCATION OF WELDS			CONTINUOUS	-
Yes	3. WELDS MEET VISUAL ACCEPTANCE CRITERIA:				
	a. CRACK PROHIBITION			CONTINUOUS	-
	b. WELD/BASE-METAL FUSION				
	c. CRATER CROSS SECTION				
	d. WELD PROFILES				
	e. WELD SIZE				
	f. UNDERCUT				
	g. POROSITY				
Yes	4. ARC STRIKES			CONTINUOUS	-
Yes	5. K-AREA			CONTINUOUS	-
Yes	6. BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)			CONTINUOUS	-
Yes	7. REPAIR ACTIVITIES			CONTINUOUS	-
Yes	8. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER			CONTINUOUS	-

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06/12/2023

SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
SPECIAL INSPECTIONS

SHEET NUMBER:
S-003

5/16/2023 4:24:38 PM

STEEL CONSTRUCTION - HIGH STRENGTH BOLTING: REQUIRED TESTS & SPECIAL INSPECTIONS

APPLICABLE TO PROJECT (Y/N)	VERIFICATION / INSPECTION / TESTING	IBC CODE REFERENCE	CODE OR REFERENCED STANDARD	FREQUENCY (NOTE 2)	REMARKS
Yes	INSPECTION TASKS PRIOR TO BOLTING:				
Yes	1. MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	1705.2	AISC 360: N5.6, TABLE N5.6-1	CONTINUOUS	-
Yes	2. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS			PERIODIC	-
Yes	3. PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IN THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)			PERIODIC	-
Yes	4. PROPER BOLTING PROCEDURE SELECTED FOR THE JOINT DETAIL			PERIODIC	-
Yes	5. CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET THE APPLICABLE REQUIREMENTS			PERIODIC	-
Yes	6. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED			PERIODIC	-
Yes	7. PROPER STORAGE PROVIDED FOR BOLTS, NUTS, AND WASHERS AND OTHER FASTENER COMPONENTS			PERIODIC	-
	INSPECTION TASKS DURING BOLTING:				
Yes	1. FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS, IF REQUIRED, ARE POSITIONED AS REQUIRED	1705.2	AISC 360: N5.6, TABLE N5.6-2	PERIODIC	-
Yes	2. JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION			PERIODIC	-
Yes	3. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATED			PERIODIC	-
Yes	4. FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TO THE FREE EDGES			PERIODIC	-
	INSPECTION TASKS AFTER BOLTING:				
Yes	1. DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	1705.2	AISC 360: N5.6, TABLE N5.6-3	CONTINUOUS	-

STEEL CONSTRUCTION - STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT: REQUIRED TESTS & SPECIAL INSPECTIONS

APPLICABLE TO PROJECT (Y/N)	VERIFICATION / INSPECTION / TESTING	IBC CODE REFERENCE	CODE OR REFERENCED STANDARD	FREQUENCY (NOTE 2)	REMARKS
Yes	1. PLACEMENT AND INSTALLATION OF STEEL DECK	1705.2	AISC 360: N6.1, TABLE N6.1	CONTINUOUS	-
Yes	2. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS			CONTINUOUS	-
Yes	3. DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS			CONTINUOUS	-

STEEL CONSTRUCTION - OPEN-WEB STEEL JOISTS AND JOIST GIRDERS: REQUIRED TESTS & SPECIAL INSPECTIONS

APPLICABLE TO PROJECT (Y/N)	VERIFICATION / INSPECTION / TESTING	IBC CODE REFERENCE	CODE OR REFERENCED STANDARD	FREQUENCY (NOTE 2)	REMARKS
	1. INSTALLATION OF OPEN-WEB JOISTS AND JOIST GIRDERS				
Yes	a. END CONNECTIONS - WELDED OR BOLTS	-	SJI SPECIFICATIONS LISTED IN SECTION 2207.1	PERIODIC	-
	b. BRIDGING - HORIZONTAL OR DIAGONAL				
Yes	i) STANDARD BRIDGING	-	SJI SPECIFICATIONS LISTED IN SECTION 2207.1	PERIODIC	-
Yes	ii) BRIDGING THAT DIFFERS FROM SJI SPECIFICATION REFERENCED	-	SJI SPECIFICATIONS LISTED IN SECTION 2207.1	PERIODIC	-

STEEL DECK CONSTRUCTION: REQUIRED TESTS & SPECIAL INSPECTIONS

APPLICABLE TO PROJECT (Y/N)	VERIFICATION / INSPECTION / TESTING	IBC CODE REFERENCE	CODE OR REFERENCED STANDARD	FREQUENCY (NOTE 2)	REMARKS
	INSPECTION OR EXECUTION TASKS PRIOR TO DECK PLACEMENT:				
Yes	1. VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH CONSTRUCTION DOCUEMENTS, INCLUDING PROFILES, MATERAIL PROPERTIES, AND BASE THICKNESS	1705.2.2	2017 SDI QA/QC: APP. 1	PERIODIC	-
Yes	2. DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES			PERIODIC	-
	INSPECTION OF EXECUTION TASKS AFTER DECK PLACEMENT				
Yes	1. VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION WITH CONSTRUCTION DOCUMENTS	1705.2.2	2017 SDI QA/QC: APP. 1	PERIODIC	-
Yes	2. VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS			PERIODIC	-
Yes	3. DOCUMENT ACCEPTANCE OR REJECTION OF INSTALLATION OF DECK AND DECK ACCESSORIES			PERIODIC	-
	INSPECTION OR EXECUTION TASKS PRIOR TO WELDING:				
Yes	1. WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE	1705.2.2	2017 SDI QA/QC: APP. 1	CONTINUOUS	-
Yes	2. MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE			CONTINUOUS	-
Yes	3. MATERIAL IDENTIFICATION (TYPE/GRADE)			CONTINUOUS	-
Yes	4. CHECK WELDING EQUIPMENT			CONTINUOUS	FABRICATOR OR ERECTOR SHALL OBSERVE
	INSPECTION OR EXECUTION TASKS DURING WELDING:				
Yes	1. USE OF QUALIFIED WELDERS	1705.2.2	2017 SDI QA/QC: APP. 1	CONTINUOUS	
Yes	2. CONTROL AND HANDLING OF WELDING CONSUMABLES			CONTINUOUS	
Yes	3. ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE)			CONTINUOUS	
Yes	4. WPS FOLLOWED			CONTINUOUS	
	INSPECTION OR EXECUTION TASKS AFTER WELDING:				
Yes	1. VERIFY SIZE AND LOCATION OF WELDS INCLUDING SUPPORT, SIDELAP, AND PERIMETER WELDS	1705.2.2	2017 SDI QA/QC: APP. 1	PERIODIC	-
Yes	2. WELDS MEET VISUAL ACCEPTANCE CRITERIA			PERIODIC	-
Yes	3. VERIFY REPAIR ACTIVITIES			PERIODIC	-
Yes	4. DOCUMENT ACCEPTANCE OR REJECTION OF WELDS			PERIODIC	-

STEEL DECK CONSTRUCTION: REQUIRED TESTS & SPECIAL INSPECTIONS

APPLICABLE TO PROJECT (Y/N)	VERIFICATION / INSPECTION / TESTING	IBC CODE REFERENCE	CODE OR REFERENCED STANDARD	FREQUENCY (NOTE 2)	REMARKS
	INSPECTION OR EXECUTION TASKS PRIOR TO DECK PLACEMENT:				
Yes	1. VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH CONSTRUCTION DOCUEMENTS, INCLUDING PROFILES, MATERAIL PROPERTIES, AND BASE THICKNESS	1705.2.2	2017 SDI QA/QC: APP. 1	PERIODIC	-
Yes	2. DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES			PERIODIC	-
	INSPECTION OR EXECUTION TASKS AFTER DECK PLACEMENT				
Yes	1. VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION WITH CONSTRUCTION DOCUMENTS	1705.2.2	2017 SDI QA/QC: APP. 1	PERIODIC	-
Yes	2. VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS			PERIODIC	-
Yes	3. DOCUMENT ACCEPTANCE OR REJECTION OF INSTALLATION OF DECK AND DECK ACCESSORIES			PERIODIC	-
	INSPECTION OR EXECUTION TASKS PRIOR TO MECHANICAL FASTENING:				
Yes	1. MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS	1705.2.2	2017 SDI QA/QC: APP. 1	CONTINUOUS	-
Yes	2. PROPER TOOLS AVAILABLE FOR MECHANICAL FASTENERS			CONTINUOUS	-
Yes	3. PROPER STORAGE FOR MECHANICAL FASTENERS			CONTINUOUS	-
	INSPECTION OR EXECUTION TASKS DURING MECHANICAL FASTENING:				
Yes	1. FASTENERS ARE POSITIONED AS REQUIRED.	1705.2.2	2017 SDI QA/QC: APP. 1	CONTINUOUS	
Yes	2. FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS			CONTINUOUS	
	INSPECTION OR EXECUTION TASKS AFTER WELDING:				
Yes	1. CHECK SPACING, TYPE, AND INSTALLATION OF SUPPORT FASTENERS	1705.2.2	2017 SDI QA/QC: APP. 1	PERIODIC	-
Yes	2. CHECK SPACING, TYPE, AND INSTALLATION OF SIDELAP FASTENERS			PERIODIC	-
Yes	3. CHECK SPACING, TYPE, AND INSTALLATION OF PERIMETER FASTENERS			PERIODIC	-
Yes	4. VERIFY REPAIR ACTIVITIES			PERIODIC	-
Yes	5. DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS			PERIODIC	-

SEISMIC RESISTANCE - STRUCTURAL STEEL: REQUIRED TESTS & SPECIAL INSPECTIONS

APPLICABLE TO PROJECT (Y/N)	VERIFICATION / INSPECTION / TESTING	IBC CODE REFERENCE	CODE OR REFERENCED STANDARD	FREQUENCY (NOTE 2)	REMARKS
Yes	1. REFERENCE "STEEL CONSTRUCTION - WELDING: REQUIRED TESTS & SPECIAL INSPECTIONS" TABLE FOR TYPICAL WELDING REQUIREMENTS	1705.2, 1705.12.1	AISC 341: J6, TABLE J6-1 -> J6-3	-	-
Yes	2. REFERENCE "STEEL CONSTRUCTION - HIGH STRENGTH BOLTING: REQUIRED TESTS & SPECIAL INSPECTIONS" TABLE FOR TYPICAL BOLTING REQUIREMENTS	1705.2, 1705.12.1	AISC 341: J7, TABLE J7-1 -> J7-3	-	-
	3. RBS REQUIREMENTS, IF APPLICABLE				
Yes	a. CONTOUR AND FINISH	1705.12.1	AISC 341: J8, TABLE J8-1	PERIODIC	-
Yes	b. DIMENSIONAL TOLERANCES	1705.12.1	AISC 341: J8, TABLE J8-1		-
Yes	4. PROTECTED ZONE: NO HOLES AND UNAPPROVED ATTACHMENTS MADE BY FABRICATOR OR ERECTOR, AS APPLICABLE	1705.12.1	AISC 341: J8, TABLE J8-1	PERIODIC	THE "PROTECTED ZONE" SHOULD BE INSPECTED BY OTHERS FOLLOWING COMPLETION OF THE WORK OF OTHER TRADES, INCLUDING THOSE INVOLVING CURTAINWALL, MECHANICAL, ELECTRICAL, PLUMBING, AND INTERIOR PARTITIONS

SEISMIC RESISTANCE - DESIGNATED SEISMIC SYSTEM VERIFICATIONS: REQUIRED TESTS & SPECIAL INSPECTIONS

APPLICABLE TO PROJECT (Y/N)	VERIFICATION / INSPECTION / TESTING	IBC CODE REFERENCE	CODE OR REFERENCED STANDARD	FREQUENCY (NOTE 2)	REMARKS
Yes	1. EXAMINE DESIGNATED SEISMIC SYSTEMS REQUIRING SEISMIC QUALIFICATION IN ACCORDANCE WITH SECTION 13.2.2 OF ASCE 7 TO VERIFY THAT THE LABEL, ANCHORAGE, AND MOUNTING CONFORM TO THE CERTIFICATE OF COMPLIANCE	1705.12.4	ASCE 7 13.2.2	PERIODIC	-

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06/12/2023

PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING

1415 FREEWAY DR
MT VERNON, WA 98273

REVISION SCHEDULE

NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:

SPECIAL INSPECTIONS

SHEET NUMBER:

S-004

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WIND RESISTING COMPONENTS: REQUIRED TESTS & SPECIAL INSPECTIONS					
APPLICABLE TO PROJECT (Y/N)	VERIFICATION / INSPECTION / TESTING	IBC CODE REFERENCE	CODE OR REFERENCED STANDARD	FREQUENCY (NOTE 2)	REMARKS
Yes	ROOF COVERING, ROOF DECK, AND ROOF FRAMING CONNECTIONS	1705.11.3	-	PERIODIC	-
Yes	EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING			PERIODIC	-

MASONRY "LEVEL 2" CONSTRUCTION: REQUIRED TESTS & SPECIAL INSPECTIONS					
APPLICABLE TO PROJECT (Y/N)	VERIFICATION / INSPECTION / TESTING	IBC CODE REFERENCE	CODE OR REFERENCED STANDARD	FREQUENCY (NOTE 2)	REMARKS
Yes	1. PRIOR TO CONSTRUCTION, COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED.	1705.4	TMS 602: ART. 1.5	PERIODIC	-
Yes	2. PRIOR TO CONSTRUCTION, VERIFICATION OF f'm AND f'AAC, EXCEPT WHERE SPECIFICALLY EXEMPTED BY THE THIS CODE		TMS 602: ART. 1.4 B	PERIODIC	-
Yes	3. DURING CONSTRUCTION, VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) WHEN SELF-CONSOLIDATING GROUT IS DELIVERED TO THE PROJECT SITE		TMS 602: ART. 1.5 & 1.6.3	PERIODIC	-
Yes	4. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:				
Yes	a. PROPORTIONS OF SITE-PREPARED MORTAR	1705.4	TMS 602: ART. 2.1, 2.6 A & 2.6 C	PERIODIC	-
No	b. GRADE AND SIZES OF PRESTRESSING TENDONS AND ANCHORAGES		TMS 602: ART. 2.4 B & 2.4 H	PERIODIC	-
Yes	c. GRADE, TYPE AND SIZE OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES		TMS 602: ART. 3.4 & 3.6 A	PERIODIC	-
No	d. PRESTRESSING TECHNIQUE		TMS 602: ART. 3.6 B	PERIODIC	-
No	e. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY (FIRST 5,000 SQUARE FEET)		TMS 602: ART. 2.1 C.1	CONTINUOUS	-
No	f. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY (AFTER FIRST 5,000 SQUARE FEET)		TMS 602: ART. 2.1 C.1	PERIODIC	-
Yes	g. SAMPLE PANEL CONSTRUCTION		TMS 602: ART. 1.6 D	PERIODIC	-
Yes	5. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:				
Yes	a. GROUT SPACE	1705.4	TMS 602: ART. 3.2 D & 3.2 F	PERIODIC	-
No	b. PLACEMENT OF PRESTRESSING TENDONS AND ANCHORAGES		TMS 402: 10.8 & 10.9 TMS 602: ART. 2.4 & 3.6	PERIODIC	-
Yes	c. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS		TMS 402: 6.1, 6.3.1, 6.3.6 & 6.3.7 TMS 602: ART. 3.2 & 3.4	PERIODIC	-
Yes	d. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS		TMS 602: ART. 2.6 B & 2.4 G.1.b	PERIODIC	-
Yes	6. VERIFY COMPLIANCE OF THE FOLLOWING DURING CONSTRUCTION:				
Yes	a. MATERIALS AND PROCEDURES WITH THE APPROVED SUBMITTALS	1705.4	TMS 602: ART. 1.5	PERIODIC	-
Yes	b. PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION		TMS 602: ART. 3.3 B	PERIODIC	-
Yes	c. SIZE AND LOCATION OF STRUCTURAL MEMBERS		TMS 602: ART. 3.3 F	PERIODIC	-
Yes	d. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION		TMS 402: 1.2.1 (e), 6.2.1 & 6.3.1	PERIODIC	-
No	e. WELDING OF REINFORCEMENT		TMS 402: 6.1.6.1.2	CONTINUOUS	-
Yes	f. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40° F) OR HOT WEATHER (TEMPERATURE ABOVE 90° F)		TMS 602: ART. 1.8 C & 1.8 D	PERIODIC	-
No	g. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE		TMS 602: ART. 3.6 B	CONTINUOUS	-
Yes	h. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE		TMS 602: ART. 3.5 & 3.6 C	CONTINUOUS	-
No	i. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS (FIRST 5,000 SQUARE FEET)		TMS 602: ART. 3.3 B.9 & 3.3 F.1.b	CONTINUOUS	-
No	j. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS (AFTER FIRST 5,000 SQUARE FEET)		TMS 602: ART. 3.3 B.9 & 3.3 F.1.b	PERIODIC	
Yes	7. OBSERVE PREPARTIONS OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS		TMS 602: ART. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3 & 1.4 B.4	PERIODIC	-

STATEMENT OF SPECIAL INSPECTION AND TESTING NOTES:
1. REFERENCE THE "SPECIAL INSPECTIONS" SECTION OF THE GENERAL NOTES FOR ADDITIONAL INFORMATION / REQUIREMENTS

2. FREQUENCY DEFINITIONS:
   2.1. PERIODIC: SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED
   2.2. CONTINUOUS: SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS PRESENT CONTINUOUSLY WHEN AND WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED

3. REFERENCE THE "POST-INSTALLED ANCHORS" SECTION OF THE GENERAL NOTES FOR SPECIAL INSPECTION REQUIREMENTS OF ANCHORS INSTALLED INTO HARDENED CONCRETE.

4. GC TO VERIFY OTHER SPECIAL INSPECTION REQUIREMENTS WITH THE ARCHITECT AND CIVIL ENGINEERS.

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06/12/2023

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ADMINISTRATION BUILDING
1415 FREEWAY DR
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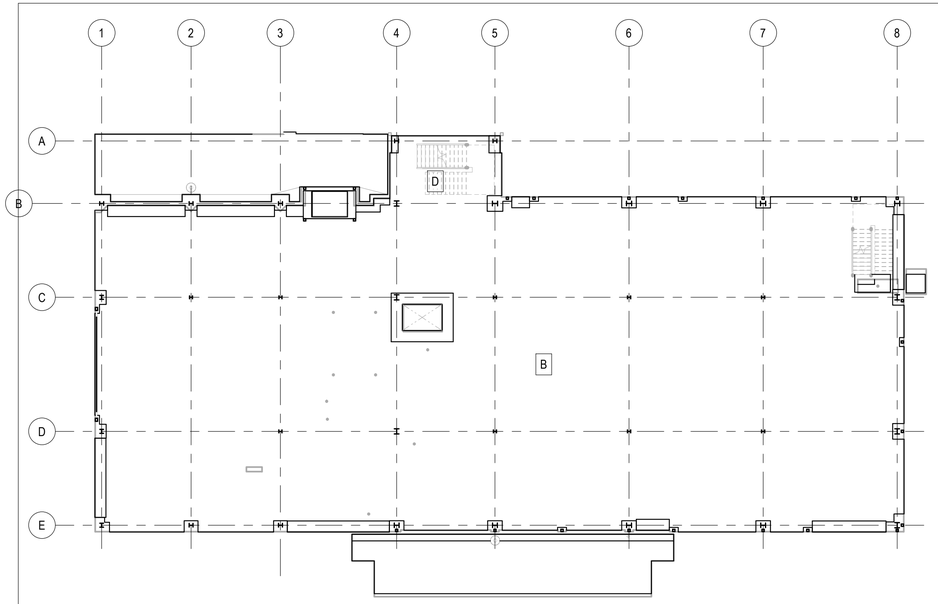
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NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

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ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

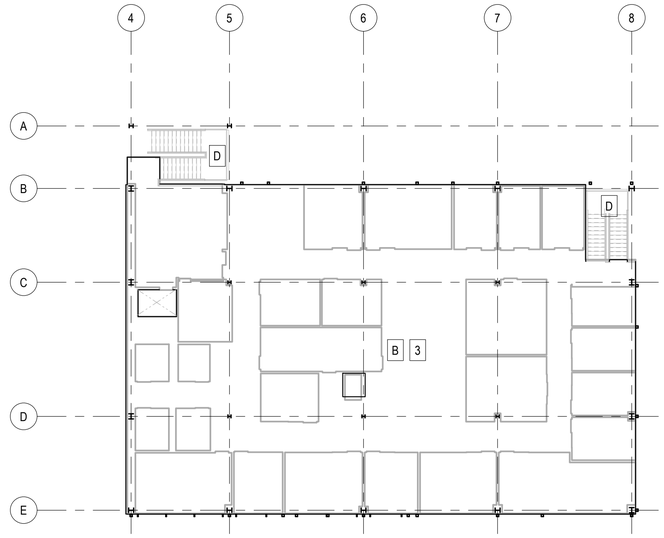
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SPECIAL INSPECTIONS

SHEET NUMBER:
S-005

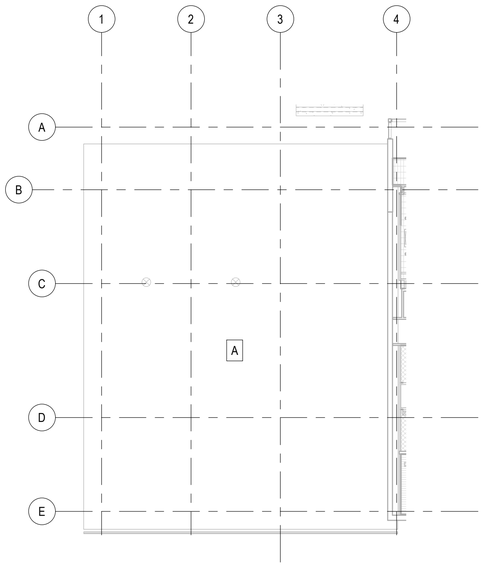
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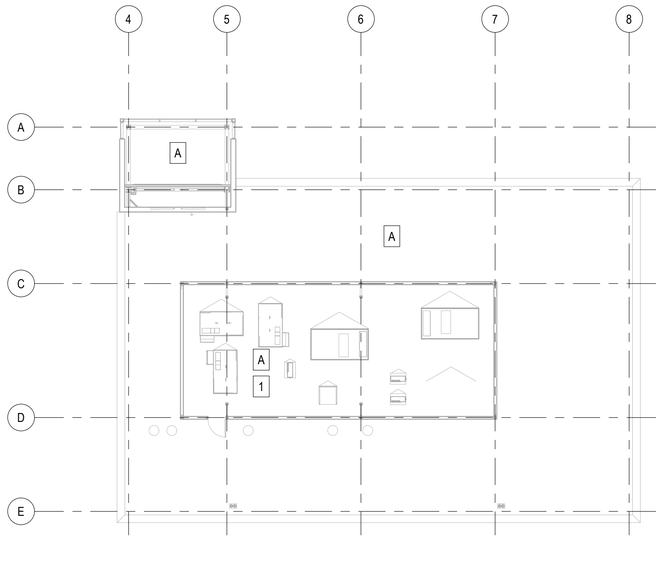
6 S-006 LVL 1 - LIVE AND SUPERIMPOSED DEAD LOAD MAP
1/16" = 1'-0"



9 S-006 LVL 2 - LIVE AND SUPERIMPOSED DEAD LOAD MAP
1/16" = 1'-0"



16 S-006 LOWER ROOF - LIVE AND SUPERIMPOSED DEAD LOAD MAP
N.T.S.



18 S-006 MAIN ROOF - LIVE AND SUPER IMPOSED DEAD LOAD MAP
1/16" = 1'-0"

LIVE LOAD (LL) DESIGNATIONS		
MARK	USE	LIVE LOAD
A	ROOF	20 PSF
B	CORRIDOR/OFFICE	100 PSF
D	FEATURE STAIR	100 PSF

SUPERIMPOSED DEAD LOAD (SDL) DESIGNATIONS					
MARK	TYPE	TOTAL SDL (K)	CEILING/ MEP LOAD (PSF)	FLOOR FINISH LOAD (PSF)	SUPERIMPOSED DEAD LOAD DESCRIPTION
1	ROOF W/ MEP ZONE	(2) 2K	4	0	MAX. PT. LOADS ON JOIST FROM UNITS
2	ROOF W/ CEILING	0	4	0	
3	INTERIOR SLAB	0	4	5	

20 S-006 LIVE & SUPERIMPOSED DEAD LOAD SHEDULE
1/16" = 1'-0"

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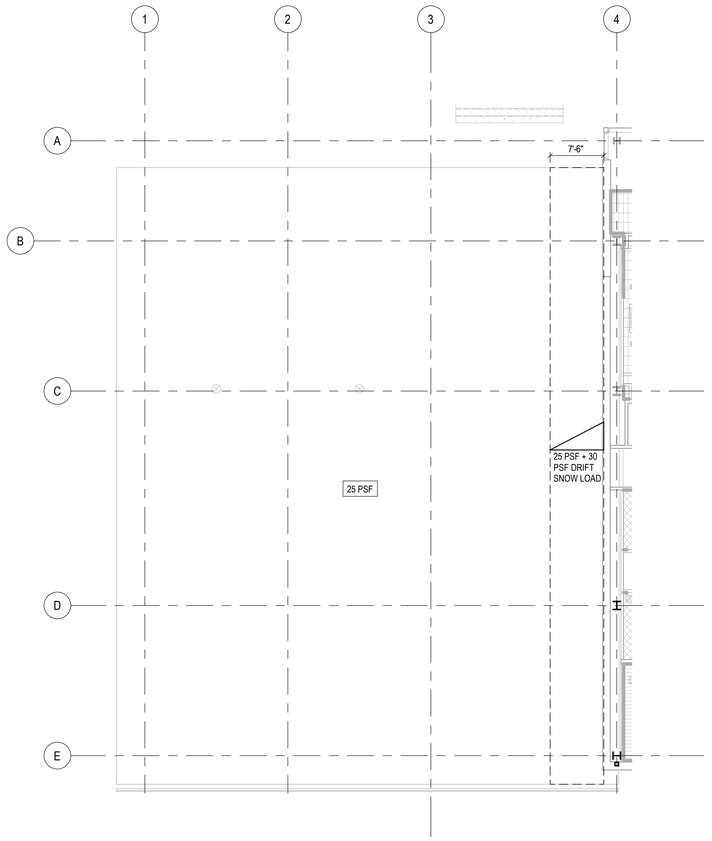
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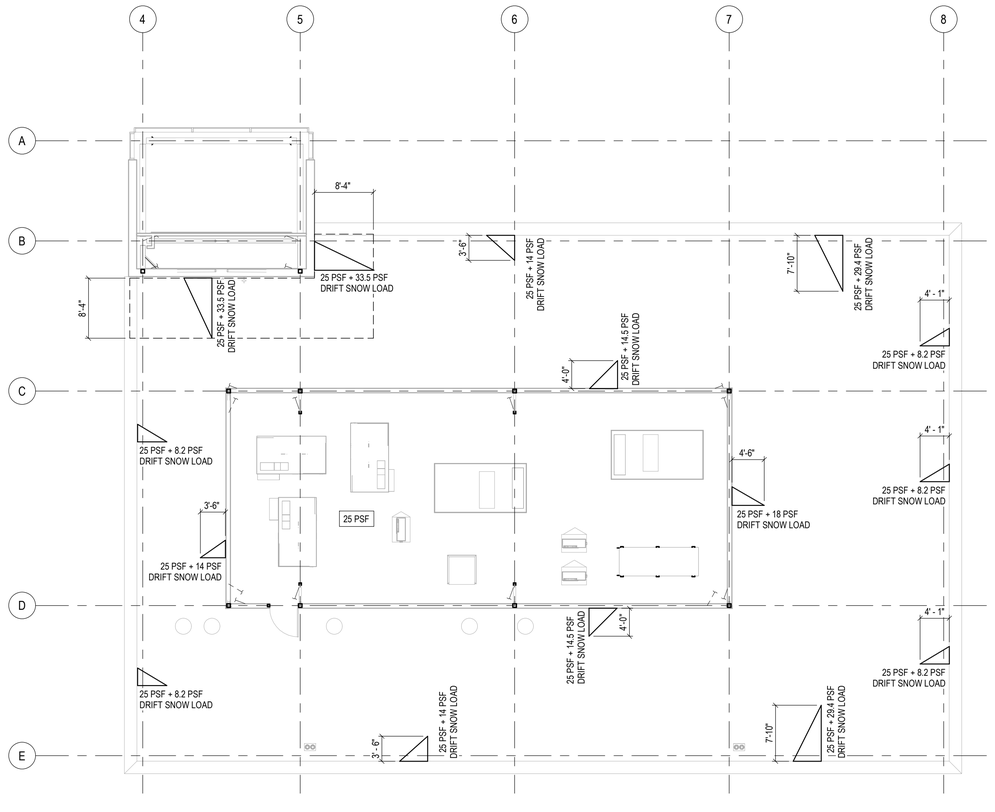
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LIVE AND SUPERIMPOSED DL MAPS

SHEET NUMBER:
S-006

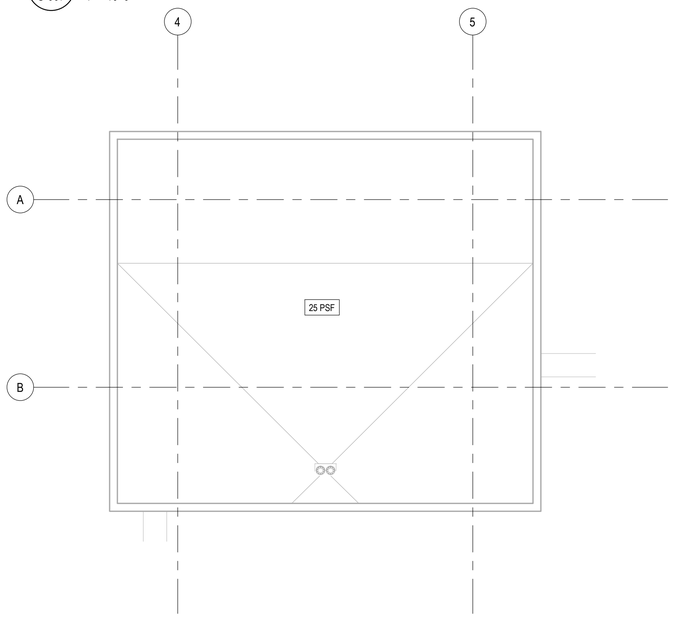
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6 S-007 LOWER ROOF - SNOW LOAD MAP
1" = 10'-0"



8 S-007 MAIN ROOF - SNOW LOAD MAP
1" = 10'-0"



10 S-007 STAIR ROOF - SNOW LOAD
3/16" = 1'-0"

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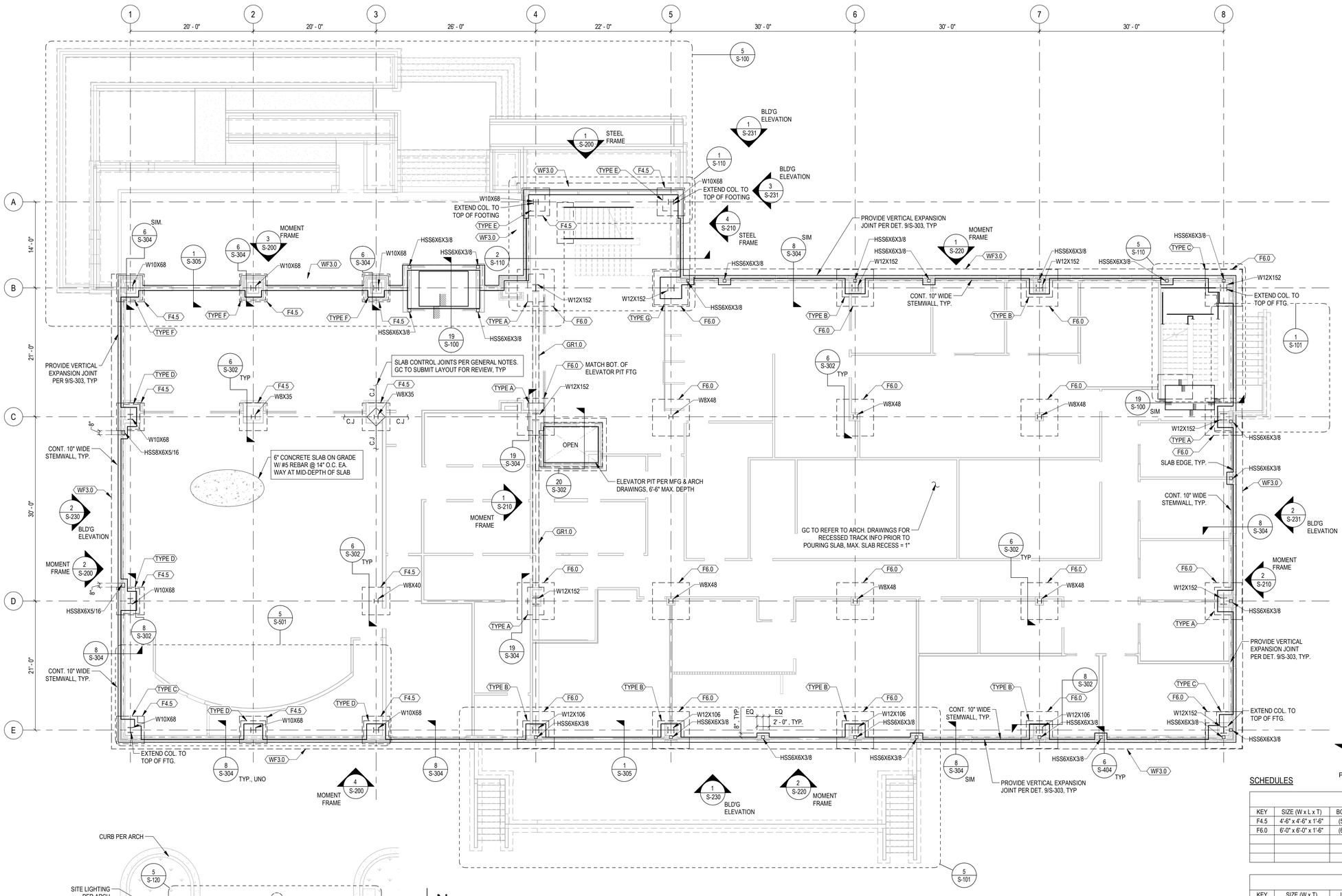
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ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	SAH
PROJECT MANAGER:	BU
PROJECT NUMBER:	19342

SHEET NAME:
SNOW LOAD MAP

SHEET NUMBER:
S-007

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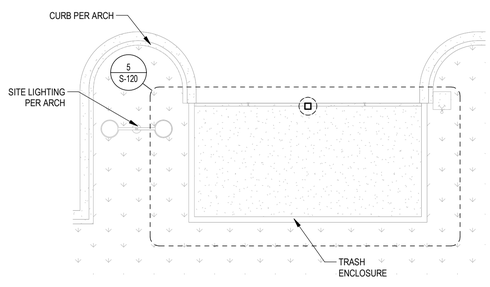


N

PLAN NORTH

FIRST LEVEL / FOUNDATION PLAN

SCALE: 1/8" = 1'-0"



N

PLAN NORTH

TRASH ENCLOSURE PLAN

SCALE: 1/8" = 1'-0"

N

PLAN NORTH

MONUMENT SIGN PLAN

SCALE: 1/8" = 1'-0"

NOTE:
SPECIAL INSPECTION APPLIES TO THIS PROJECT PER THE GENERAL NOTES. IF THE SPECIAL INSPECTIONS LISTED ARE NOT PROVIDED, TESTING OR REWORK WILL BE REQUIRED FOR FINAL SIGN OFF.

GENERAL PLAN NOTES

1. SEE SHEETS S-001 & S-002 FOR STRUCTURAL GENERAL NOTES, ABBREVIATIONS.
2. ALL DIMENSIONS SHOWN ON THESE STRUCTURAL PLANS ARE FOR GENERAL REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER IMMEDIATELY.
3. SEE SHEETS S-003 TO S-005 FOR REQUIRED SPECIAL INSPECTIONS.
4. GC TO PROVIDE GROUND IMPROVEMENT WORK PER THE SOILS REPORT PRIOR TO PLACING ANY FOUNDATION WORK SHOWN IN THE PLAN.

FOUNDATION NOTES

1. SEE DET. 1/S-301 FOR TYP. SLAB ON GRADE JOINTS.
2. SEE DET. 2/S-301 FOR TYP. COLUMN BLOCK-OUT.
3. SEE DET. 4/S-301 FOR REINFORCEMENT BENDING SCHEDULE.
4. SEE DET. 19/S-301 FOR TYP. EXTERIOR SLAB EDGE.
5. SEE DET. 18/S-301 FOR TYP. THICKENED SLAB.
6. SEE DET. 11/S-301 FOR REINF. DEVELOPMENT & SPLICE SCHEDULE.
7. SEE DET. 13/S-301 FOR TYP. SLAB ON GRADE STEP.
8. SEE DET. 5/S-303 FOR CURBS & EQUIPMENT PADS ON SLAB ON GRADE.
9. SEE DET. 16/S-301 FOR TYP. SLAB ON GRADE TRIM REINF.
10. SEE DET. 1/S-302 FOR TYP. PIPE / CONDUIT AT FOUNDATION.
11. SEE DET. 3/S-302 FOR TYP. FOOTING CORNER REINF.
12. SEE DET. 4/S-302 FOR TYP. STEPPED FOOTING.
13. SEE DET. 11/S-302 FOR SUMP PIT.
14. SEE DET. 12/S-302 FOR ELEVATOR DOOR SUPPORT.
15. SEE DET. 13/S-302 FOR IN-PIT ELEVATOR RAIL SUPPORT.
16. SEE DET. 16/S-302 FOR TYP. WALL CORNER REINF.
17. SEE DET. 18/S-302 FOR TYP. CONC. WALL REINF.
18. SEE DET. 14/S-301 FOR TYP. ANCHOR BOLTS IN CONCRETE
19. SEE. DET. 2/S-303 FOR TYP. INSULATION AT SLAB EDGE
20. SEE DET. 3/S-303 FOR FLAG POLE FOOTING DETAIL.

LIGHT GAUGE FRAMING NOTES

A. SEE DET. 1/S-501 OR 2/S-501 FOR TYP. BLOCKING / BRACING.
B. SEE DET. 3/S-501 FOR TYP. JOIST BLOCKING.
C. SEE DET. 4/S-501 FOR TYP. JOIST PUNCHOUTS.
D. SEE DET. 16/S-502, 17/S-502, & 18/S-502 FOR STANDARD WALL OPENINGS.
E. SEE DET. 7/S-501 FOR TYP. INTERIOR PARTIAL HEIGHT WALL.
F. SEE DET. 12/S-501 FOR TYP. INTERIOR FULL HEIGHT WALL.
G. SEE DET. 8/S-503 FOR TYP. CEILING SUPPORT
H. SEE DET. 10/S-503 WHEN CEILING JOISTS EXCEED 20'-0"

EQUIPMENT PAD:

* SEE DET. 10/S-303 FOR EXTERIOR EQUIPMENT PAD. GC TO COORDINATE WITH ARCH AND MEP DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

SCHEDULES

SPREAD FOOTING SCHEDULE (FX.X)

KEY	SIZE (W x L x T)	BOTTOM REINF	TOP REINF	NOTES
F4.5	4'-6" x 4'-6" x 1'-6"	(5) #5 EA WAY	(5) #5 EA WAY	CENTER ON COLUMN
F6.0	6'-0" x 6'-0" x 1'-6"	(6) #5 EA WAY	(6) #5 EA WAY	CENTER ON COLUMN

GRADE BEAM SCHEDULE (GRX.X)

KEY	SIZE (W x T)	LONG REINF	TRANS REINF	NOTES
GR1.0	1'-0" x 5'-6"	(2) LAYERS OF (4) #7 REBAR @ T & B	#4 STIRRUPS @ 12" O.C.	TOTAL OF (8) LONG. BARS @ TOP & BOT. EA., (16) OVERALL

WALL FOOTING SCHEDULE (WFX.X)

KEY	SIZE (W x T)	LONG REINF	TRANS REINF	NOTES
WF2.0	2'-0" x 1'-2"	(3) #4	#4 @ 12" O.C.	TOP & BOT., CENTER FTG ON WALL
WF3.0	3'-0" x 1'-6"	(4) #5	#5 @ 12" O.C.	TOP & BOT., CENTER FTG ON WALL

PILASTER SCHEDULE (TYPE X)

KEY	SIZE
TYPE A	54" L X 32" W
TYPE B	51" L X 32" W
TYPE C	28" W (LENGTH TO EXTEND TO FTG EDGE, EA. SIDE)
TYPE D	49" L X 32" W
TYPE E	32" L X 32" W
TYPE F	48" L X 48" W
TYPE G	66" L X 66" W

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06/12/2023

SKAGIT PUD
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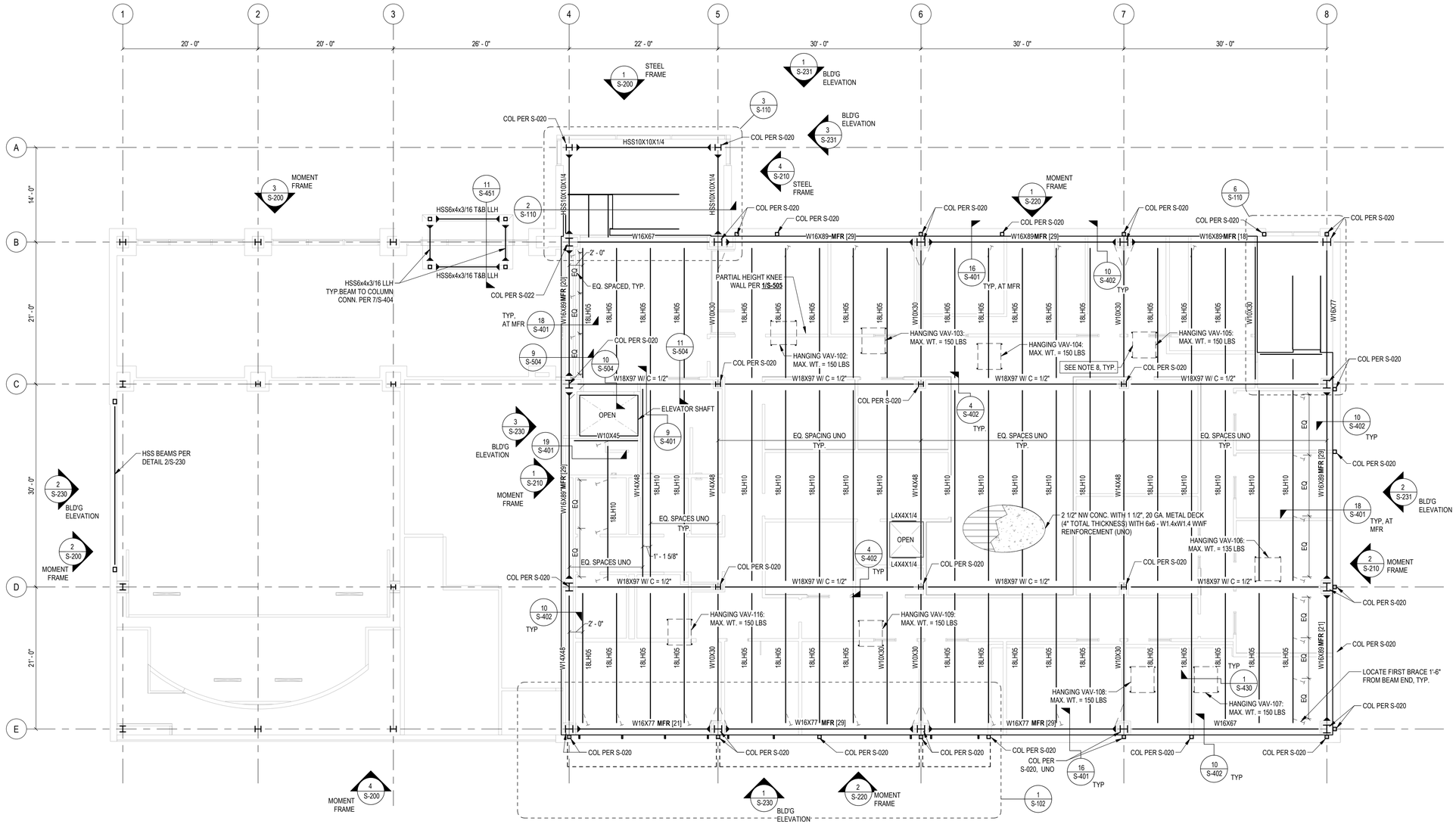
REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
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ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
FOUNDATION PLAN

SHEET NUMBER:
S-020

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SECOND LEVEL FLOOR FRAMING PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

NOTE:
SPECIAL INSPECTION APPLIES TO THIS PROJECT PER THE GENERAL NOTES. IF THE SPECIAL INSPECTIONS LISTED ARE NOT PROVIDED, TESTING OR REWORK WILL BE REQUIRED FOR FINAL SIGN OFF.

GENERAL PLAN NOTES

1. SEE SHEETS S-001 & S-002 FOR STRUCTURAL GENERAL NOTES, ABBREVIATIONS.
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3. SEE SHEETS S-003 TO S-005 FOR REQUIRED SPECIAL INSPECTIONS.
4. PROVIDE (1) SHEAR STUD CONNECTOR (3/4" DIA. X 4-1/2" LONG) @ 12" O.C. ON ALL M.F. BEAM MEMBERS (NOT SUPPORTING FLOOR JOISTS). FOR M.F. BEAMS SUPPORTING FLOOR JOISTS, PROVIDE SHEAR STUDS ON BLOCKING UNLESS NOTED OTHERWISE ON PLAN

FRAMING NOTES

1. SEE DET. 1/S-402 FOR OWSJ CONCRETE POINT LOAD REINF..
2. SEE DET. 6/S-402 FOR METAL DECK PROPERTIES.
3. SEE DET. 9/S-402 FOR METAL DECK FASTENING.
4. SEE DET. 10/S-402 FOR TYP. FLOOR DECK EDGE.
5. SEE DET. 6/S-401 FOR TYP. SHEAR PLATE CONNECTION SCHEDULE.
6. SEE DET. 4/S-401 FOR TYP. W-BEAM PENETRATION.
7. SEE DET. 11/S-401 FOR TYP. BEAM TO BEAM CONNECTION.
8. SEE DET. 1/S-430 FOR TYP. HANGING MEP UNIT SUPPORT.

LIGHT GAUGE FRAMING NOTES

A. SEE DET. 1/S-501 OR 2/S-501 FOR TYP. BLOCKING / BRACING.
B. SEE DET. 3/S-501 FOR TYP. JOIST BLOCKING.
C. SEE DET. 4/S-501 FOR TYP. JOIST PUNCHOUTS.
D. SEE DET. 16/S-502, 17/S-502, & 18/S-502 FOR STANDARD WALL OPENINGS.
E. SEE DET. 7/S-501 FOR TYP. INTERIOR PARTIAL HEIGHT WALL.
F. SEE DET. 12/S-501 FOR TYP. INTERIOR FULL HEIGHT WALL.
G. SEE DET. 8/S-503 FOR TYP. CEILING SUPPORT.
H. SEE DET. 10/S-503 WHEN CEILING JOISTS EXCEED 20'-0".

AUE
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BELLEVUE, WA 98005
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AUE JOB: 19342



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SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

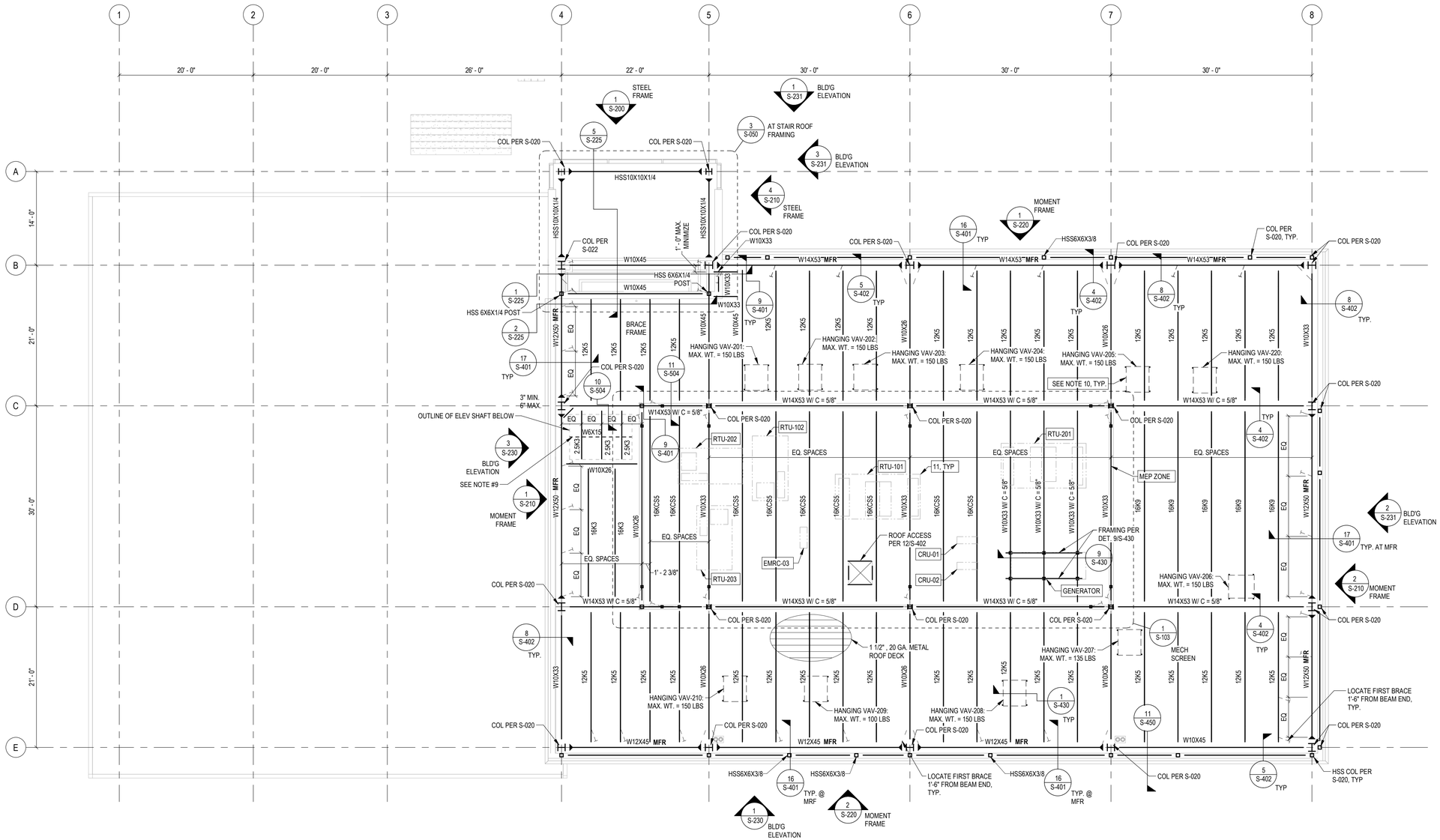
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NO.	TYPE REVISION	DATE
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	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
SECOND LEVEL FLOOR FRAMING PLAN

SHEET NUMBER:
S-030

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PLAN NORTH

ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"

NOTE:
SPECIAL INSPECTION APPLIES TO THIS PROJECT PER THE GENERAL NOTES. IF THE SPECIAL INSPECTIONS LISTED ARE NOT PROVIDED, TESTING OR REWORK WILL BE REQUIRED FOR FINAL SIGN OFF.

GENERAL PLAN NOTES

1. SEE SHEETS S-001 & S-002 FOR STRUCTURAL GENERAL NOTES, ABBREVIATIONS.
2. ALL DIMENSIONS SHOWN ON THESE STRUCTURAL PLANS ARE FOR GENERAL REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER IMMEDIATELY.
3. SEE SHEETS S-003 TO S-005 FOR REQUIRED SPECIAL INSPECTIONS.

FRAMING NOTES

1. SEE DET. 1/S-402 FOR OWSJ CONCRETE POINT LOAD REINF..
2. SEE DET. 6/S-402 FOR METAL DECK PROPERTIES.
3. SEE DET. 7/S-402 FOR METAL DECK FASTENING.
4. SEE DET. 8/S-402 FOR TYP. ROOF DECK EDGE.
5. SEE DET. 6/S-401 FOR TYP. SHEAR PLATE CONNECTION SCHEDULE.
6. SEE DET. 4/S-401 FOR TYP. W-BEAM PENETRATION.
7. SEE DET. 11/S-401 FOR TYP. BEAM TO BEAM CONNECTION.
8. SEE DET. 17/S-401, & 18/S-401 FOR PERIMETER W-BEAM BOTTOM FLANGE BRACE AT ALL MFR BEAMS, TYP.
9. LOCATE ELEVATOR HOIST BEAM 2 1/2" BELOW BOTTOM OF JOIST. GC TO COORDINATE WITH VENDOR DRAWINGS FOR EXACT BEAM LOCATION.
10. SEE DET. 1/S-430 FOR TYP. HANGING MEP UNIT SUPPORT.
11. SEE DET. 11/S-430 FOR TYP. RTU UNIT ANCHORAGE DETAIL.
12. SEE DET. 9/S-430 FOR ROOF MOUNTED GENERATOR UNIT.
13. SEE DETAIL 11/S-405 FOR ROOF PENETRATION REQUIREMENTS

ROOF TOP UNITS (MAX. WEIGHTS)

SYSTEM / UNIT	UNIT WT.	MFG. CURB WT.	VIBRATION CURB WT.	MAX. TOTAL WEIGHT
RTU-101	2,768 #	255 #	345 #	3400 #
RTU-102	1,787 #	255 #	345 #	2400 #
RTU-201	2,623 #	255 #	345 #	3250 #
RTU-202	1,787 #	255 #	345 #	2400 #
RTU-203	1,787 #	255 #	345 #	2400 #
GENERATOR	5,000 #	-	-	5000 #
5000# EMRC-03	160 #	40 #	-	200 #
CRU-01 & CRU-02	160	40 #	-	200 #

AUE
13228 NE 20TH ST SUITE #100
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AUE JOB: 19342



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SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	SAH
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
MAIN ROOF FRAMING PLAN

SHEET NUMBER:
S-040

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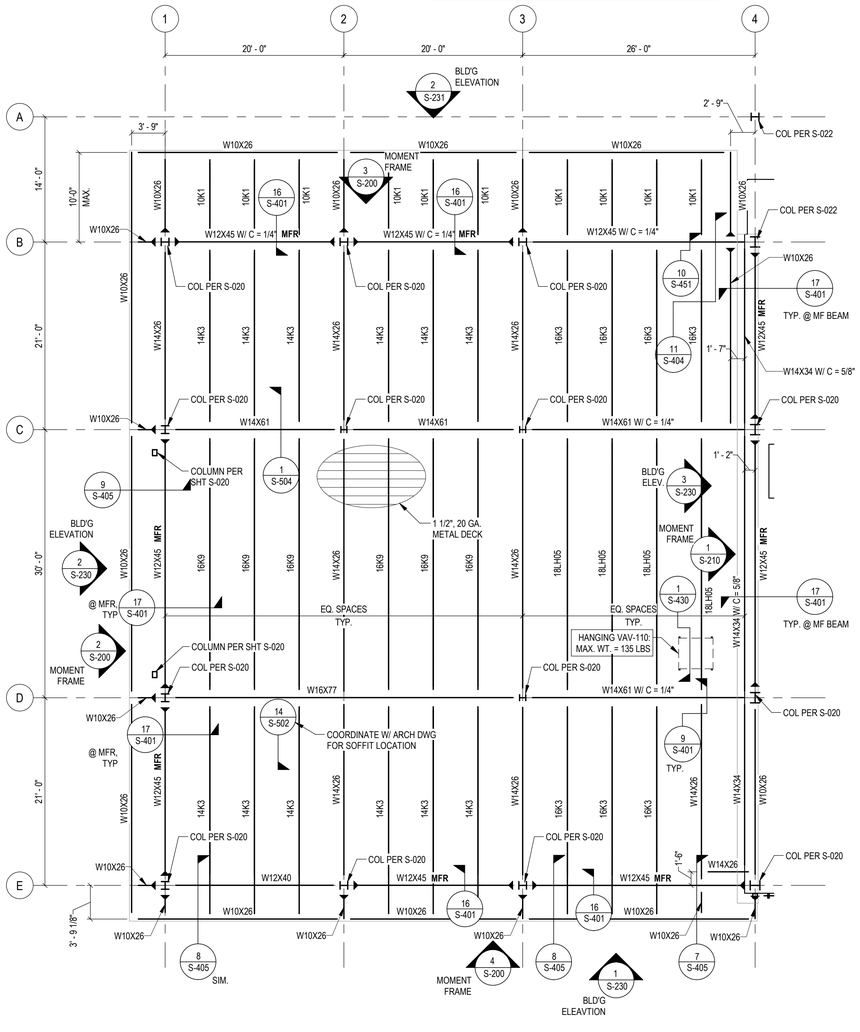
NOTE:
SPECIAL INSPECTION APPLIES TO THIS PROJECT PER THE GENERAL NOTES. IF THE SPECIAL INSPECTIONS LISTED ARE NOT PROVIDED, TESTING OR REWORK WILL BE REQUIRED FOR FINAL SIGN OFF.

GENERAL PLAN NOTES

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3. SEE SHEETS S-003 TO S-005 FOR REQUIRED SPECIAL INSPECTIONS.

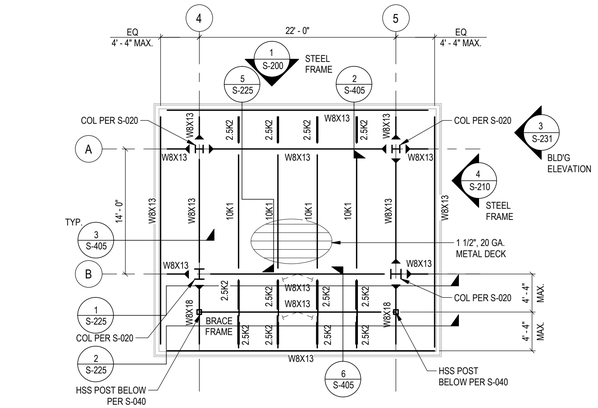
FRAMING NOTES

1. SEE DET. 1/S-402 FOR OWSJ CONCRETE POINT LOAD REINF..
2. SEE DET. 6/S-402 FOR METAL DECK PROPERTIES..
3. SEE DET. 7/S-402 FOR METAL DECK FASTENING.
4. SEE DET. 8/S-402 FOR TYP. ROOF DECK EDGE.
5. SEE DET. 6/S-401 FOR TYP. SHEAR PLATE CONNECTION SCHEDULE.
6. SEE DET. 4/S-401 FOR TYP. W-BEAM PENETRATION.
7. SEE DET. 11/S-401 FOR TYP. BEAM TO BEAM CONNECTION.
8. SEE DET. 17/S-401 & 18/S-401 FOR PERIMETER M.F. W-BEAM BOTTOM FLANGE BRACE.
9. SEE DETAIL 11/S-405 FOR ROOF PENETRATION REQUIREMENTS



N
PLAN NORTH

11 S-050 LOW ROOF FRAMING PLAN
1/8" = 1'-0"



N
PLAN NORTH

3 S-050 STAIR ROOF FRAMING PLAN
1/8" = 1'-0"

NOTE:
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3. SEE SHEETS S-003 TO S-005 FOR REQUIRED SPECIAL INSPECTIONS.

AUE
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AUE JOB: 19342



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ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

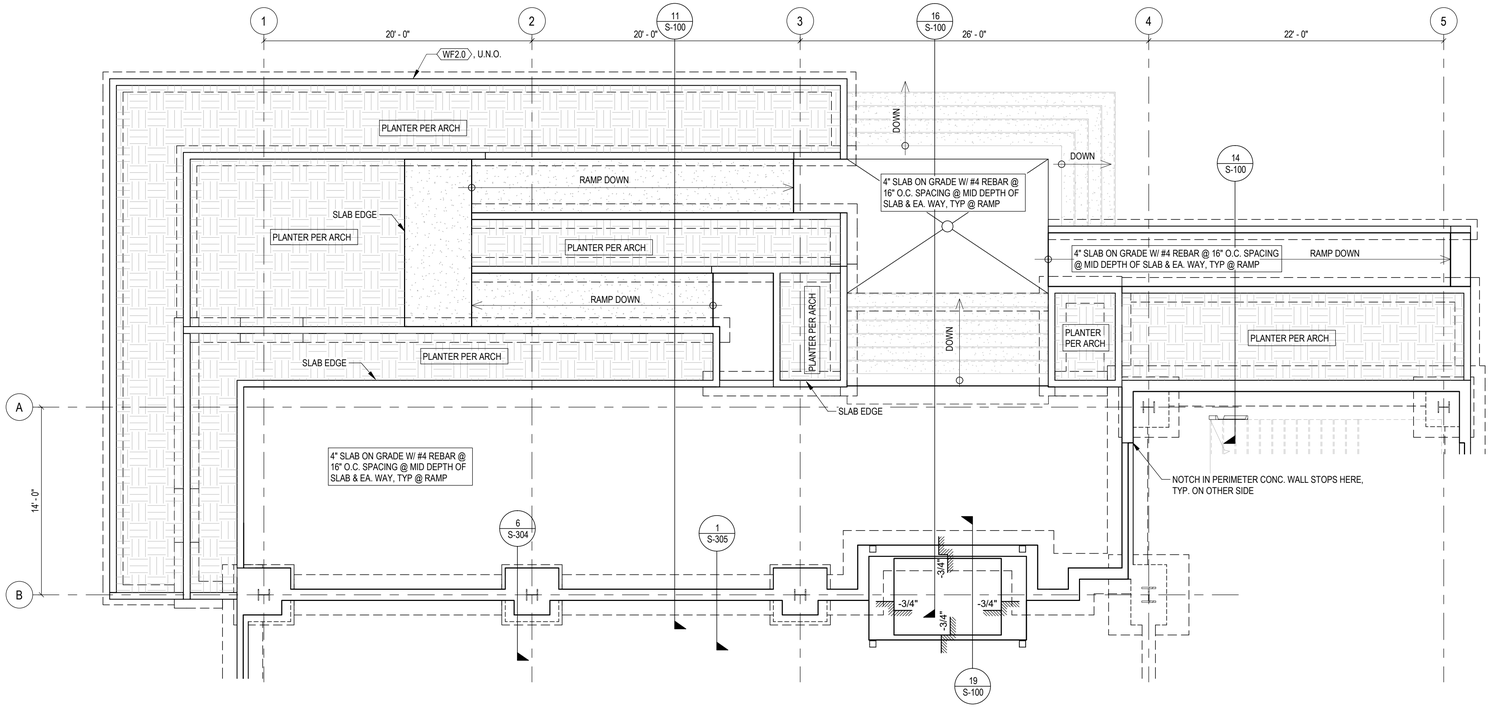
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	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
LOWER ROOF AND STAIR ROOF FRAMING PLAN

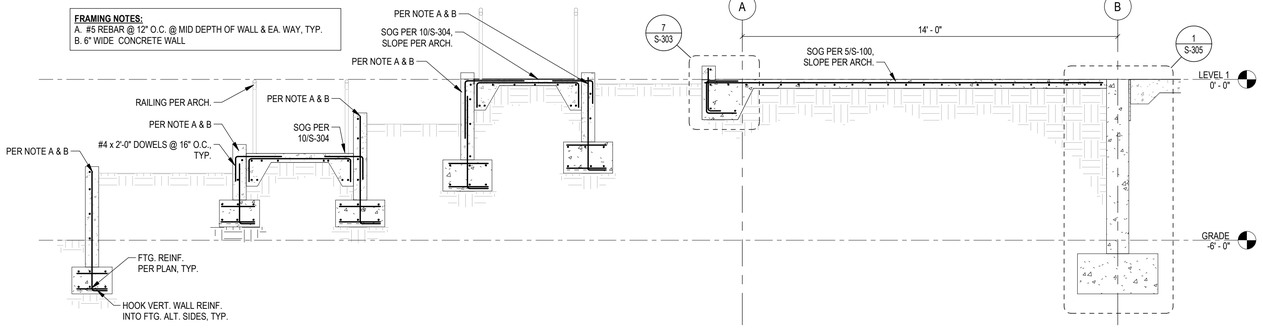
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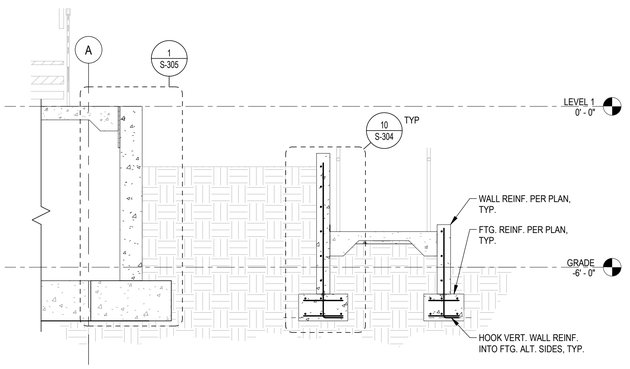
5 S-100 ENLARGED FRONT ENTRANCE FOUNDATION PLAN

3/16" = 1'-0"



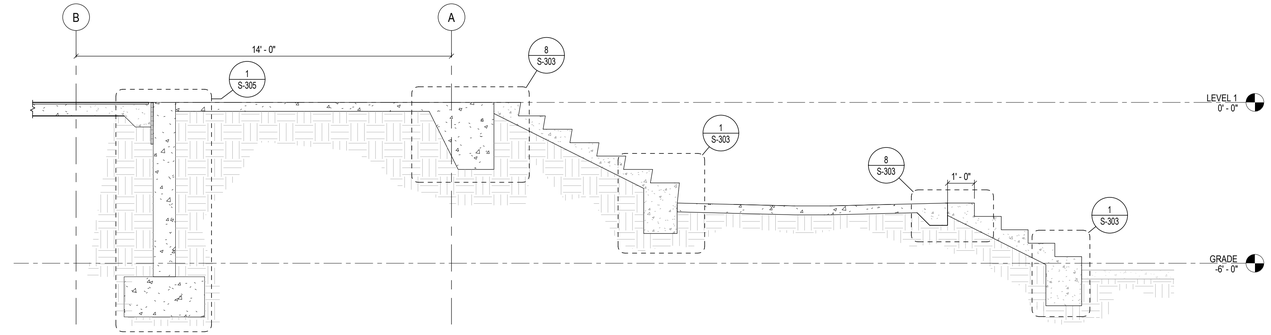
11 S-100 SECTION AT ENTRY UPPER RAMPS

3/8" = 1'-0"



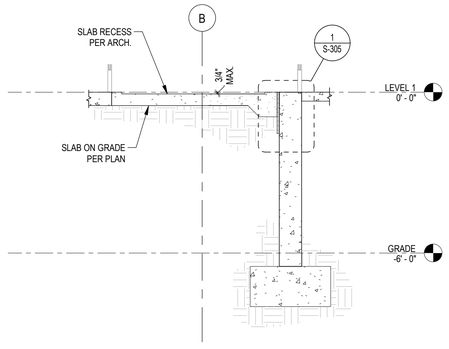
14 S-100 SECTION AT ENTRY LOW RAMP

3/8" = 1'-0"



16 S-100 SECTION AT ENTRY STEPS

3/8" = 1'-0"



19 S-100 SECTION AT ENTRY LOW RAMP

3/8" = 1'-0"

AUE
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BELLEVUE, WA 98005
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AUE JOB: 19342



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SKAGIT PUD
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ADMINISTRATION BUILDING

1415 FREEWAY DR
MT VERNON, WA 98273

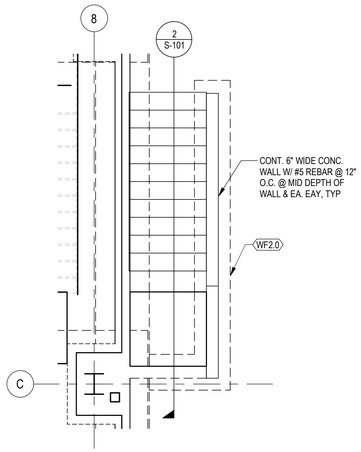
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NO.	TYPE REVISION	DATE
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ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

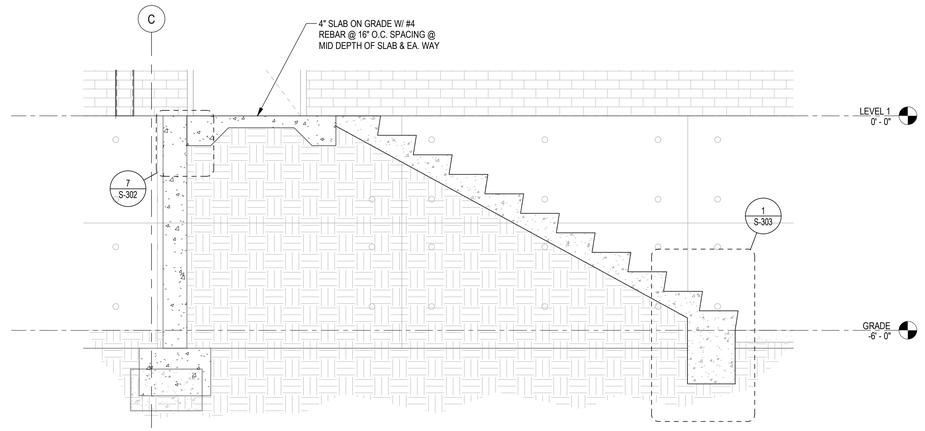
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ENLARGED PLANS & SECTIONS

SHEET NUMBER:
S-100

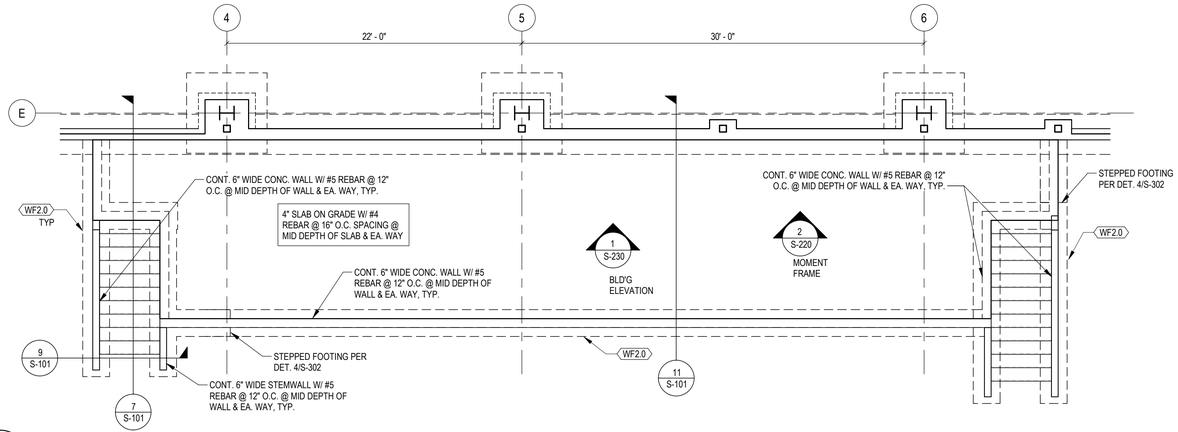
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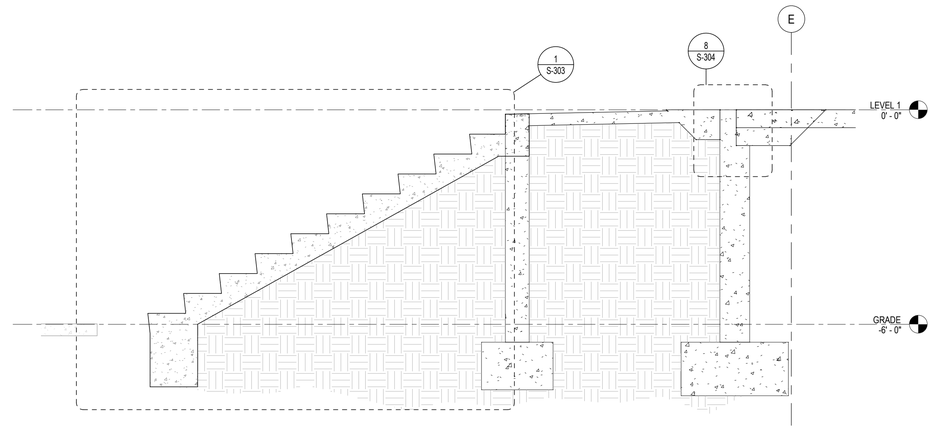
1 S-101 ENLARGED SIDE ENTRANCE FOUNDATION PLAN
1/4" = 1'-0"



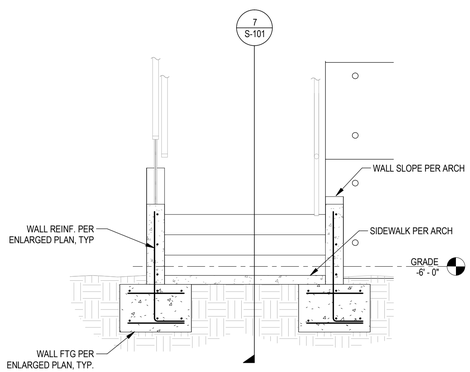
2 S-101 SECTION AT SIDE STEPS
1/2" = 1'-0"



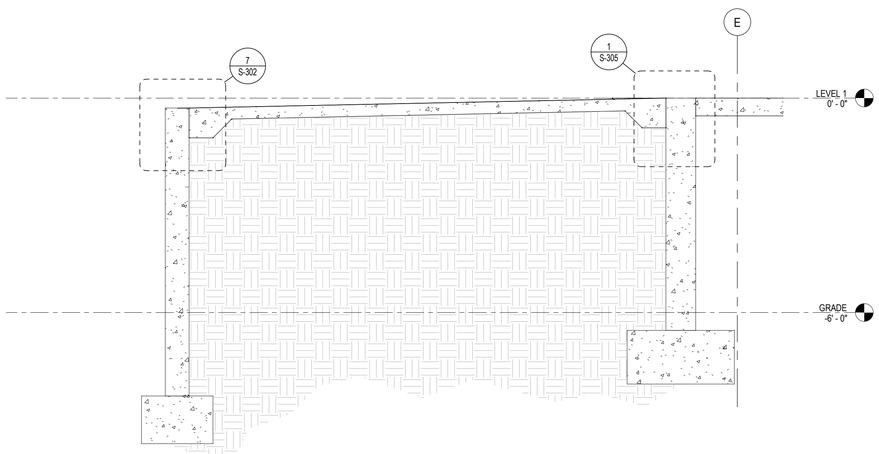
5 S-101 ENLARGED REAR ENTRANCE FOUNDATION
3/16" = 1'-0"



7 S-101 SECTION AT REAR ENTRANCE STEPS
1/2" = 1'-0"



9 S-101 SECTION AT REAR ENTRANCE STAIR
1/2" = 1'-0"



11 S-101 SECTION AT REAR ENTRANCE PLATFORM
1/2" = 1'-0"

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AUE JOB: 19342



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SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING

1415 FREEWAY DR
MT VERNON, WA 98273

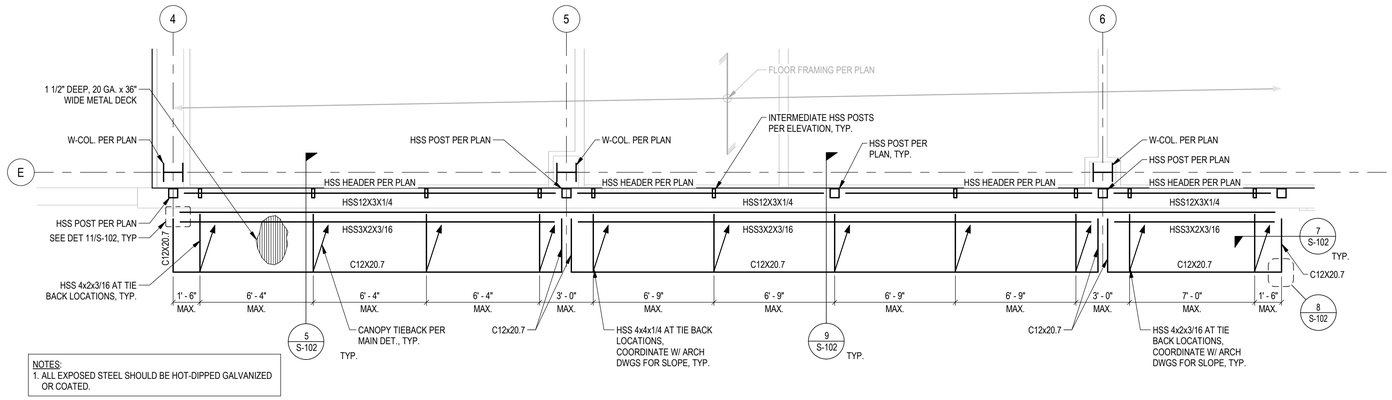
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PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

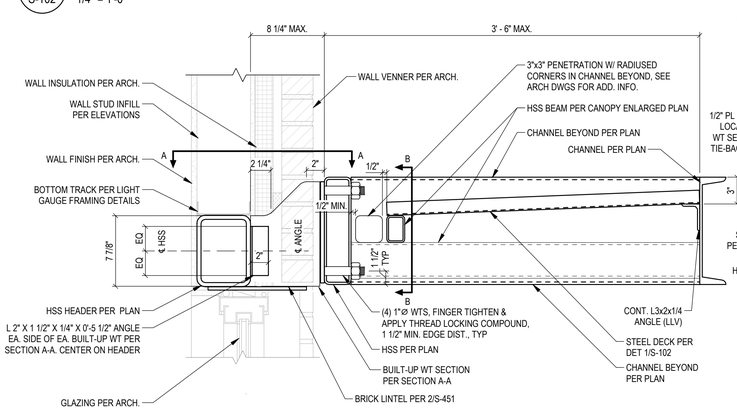
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ENLARGED PLANS & SECTIONS

SHEET NUMBER:
S-101

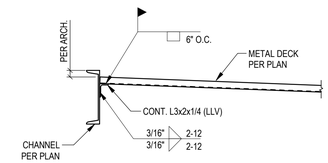
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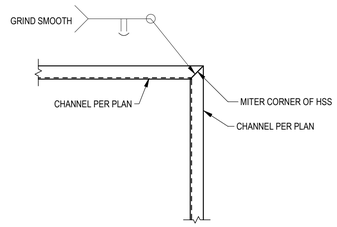
1 S-102 ENLARGED REAR ENTRY CANOPY PLAN
1/4" = 1'-0"



NOTES:
1. ALL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED OR PAINTED TO PREVENT DAMAGE TO STEEL.



NOTES:
1. ALL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED OR PAINTED TO PREVENT DAMAGE TO STEEL.

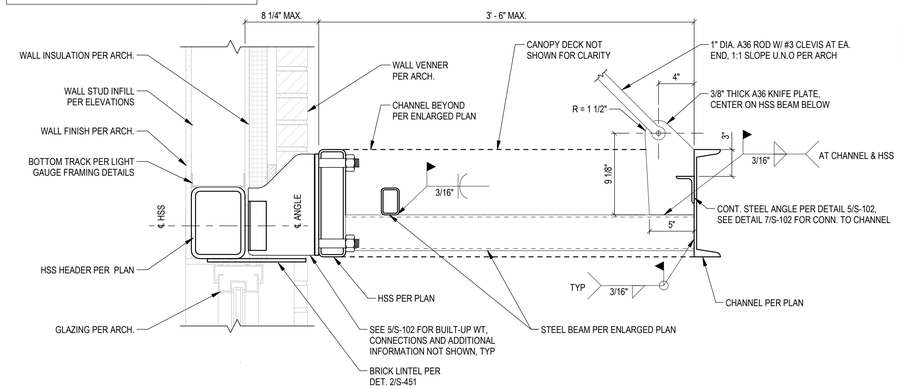


5 S-102 CANOPY SECTION, TYPICAL CONDITION
1 1/2" = 1'-0"

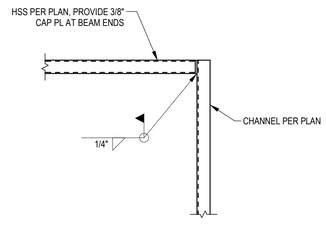
7 S-102 METAL DECK @ SIDE CHANNEL
3/4" = 1'-0"

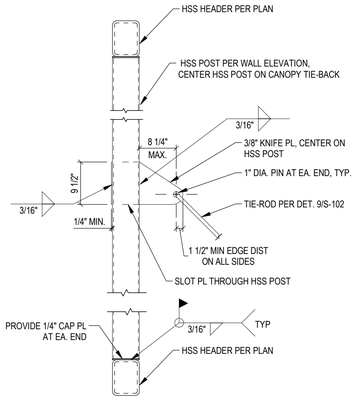
8 S-102 CHANNEL TO CHANNEL @ CORNER
3/4" = 1'-0"

NOTES:
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NOTES:
1. ALL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED OR PAINTED TO PREVENT DAMAGE TO STEEL.





9 S-102 CANOPY SECTION, AT TIE-BACK
1 1/2" = 1'-0"

11 S-102 CHANNEL TO HSS AT END
3/4" = 1'-0"

12 S-102 HSS POST TO TIEBACK CONN.
3/4" = 1'-0"

AUE
13228 NE 20TH ST SUITE #100
BELLEVUE, WA 98005
PHONE: 425 614-0949
AUE JOB: 19342

DALLINI DAVID PROCHAZKA — STATE OF WASHINGTON — 60173 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER

06/12/2023

SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

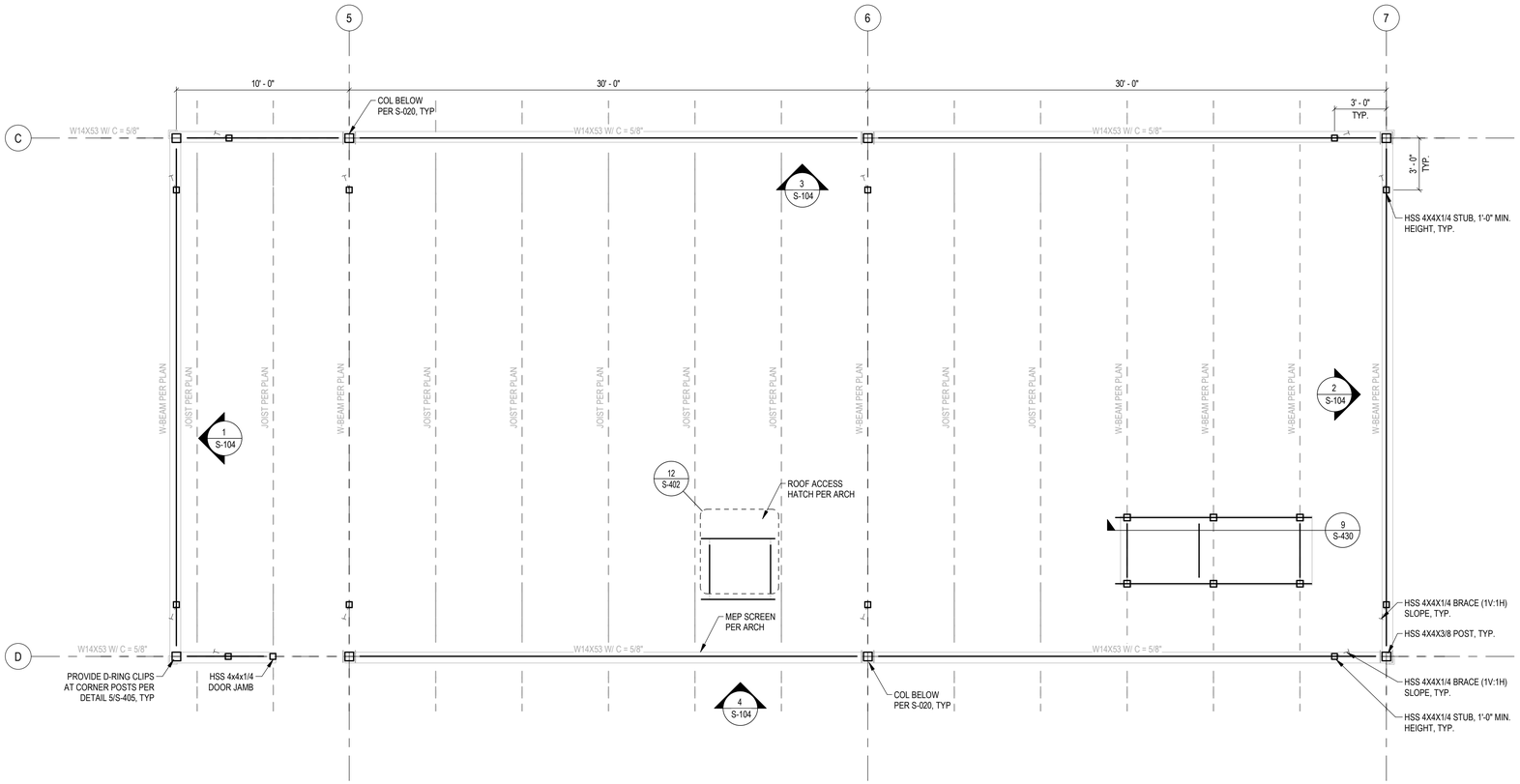
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NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
ENLARGED PLANS & SECTIONS

SHEET NUMBER:
S-102

5/16/2023 4:24:45 PM



1 S-103 ENLARGED ROOF SCREEN PLAN

1/4" = 1'-0"

AUE
13228 NE 20TH ST SUITE #100
BELLEVUE, WA 98005
PHONE: 425.614-0949
AUE JOB: 19342

DALLAN J. DAVID PROCHAZKA
STATE OF WASHINGTON
60173
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

06/12/2023

PN 3675 CAMPUS REPLACEMENT ADMINISTRATION BUILDING

SKAGIT PUD
1415 FREEWAY DR
MT VERNON, WA 98273

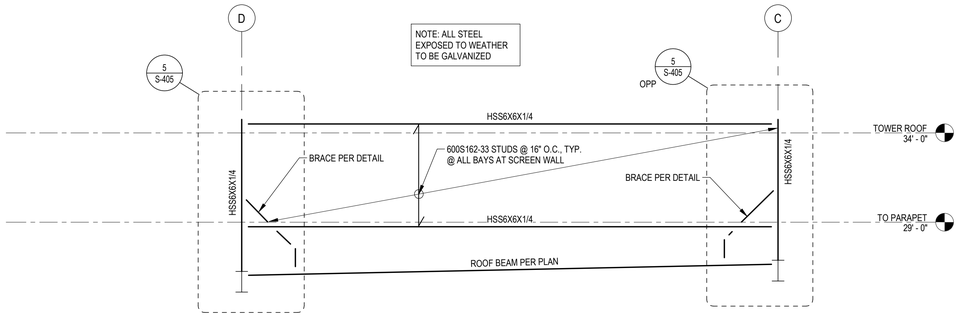
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NO.	TYPE REVISION	DATE
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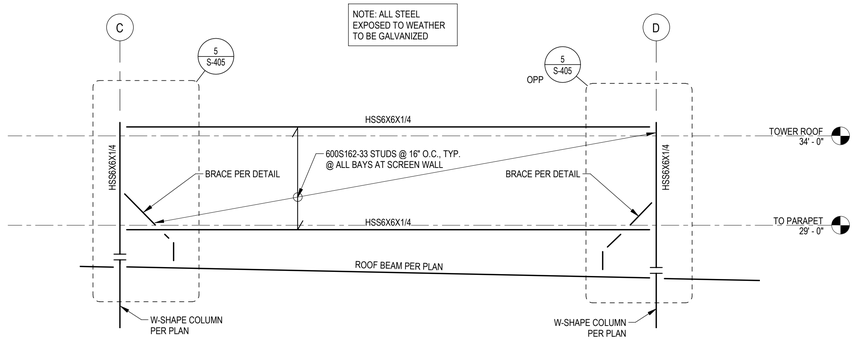
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ENLARGED PLANS AND SECTIONS

SHEET NUMBER:
S-103

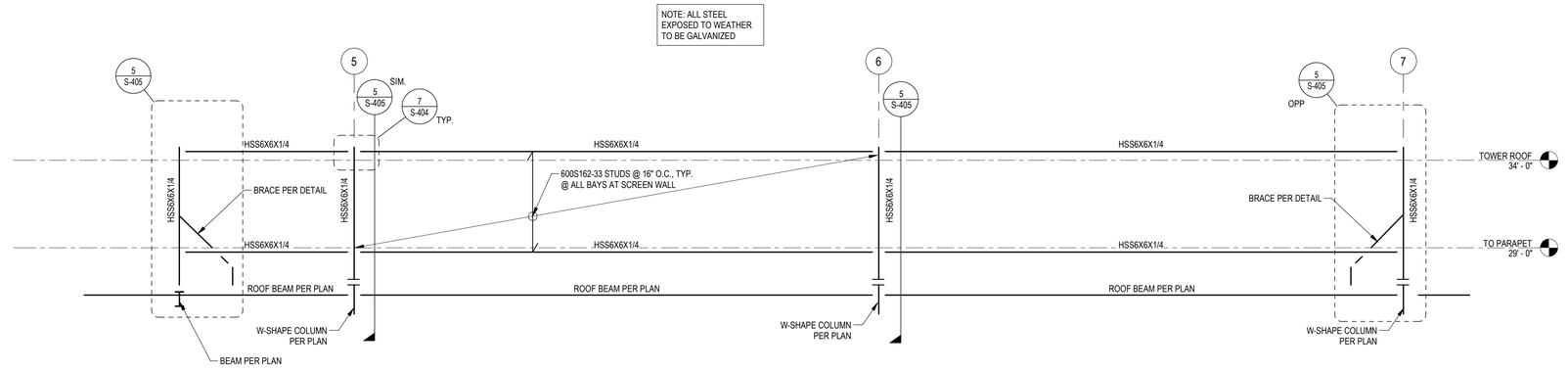
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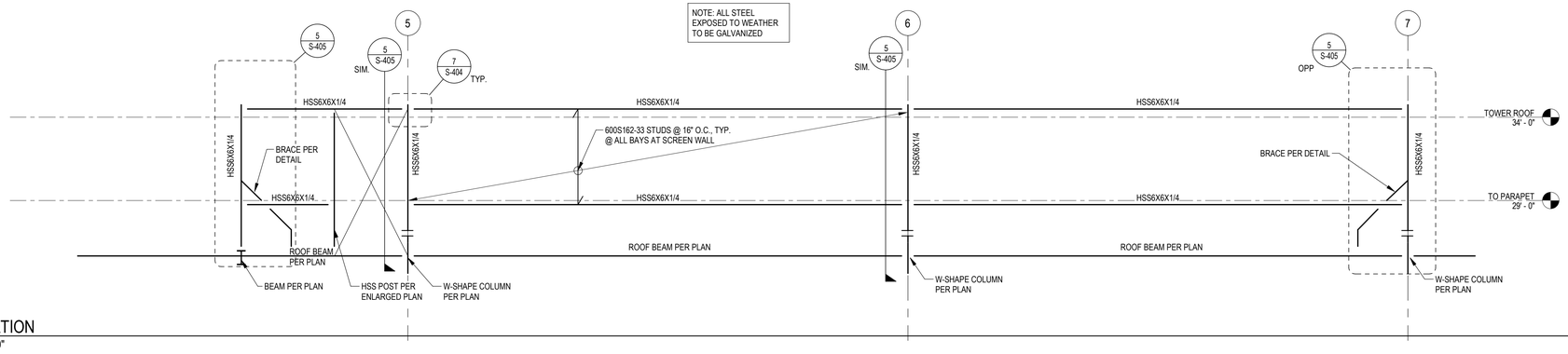
1 S-104 ELEVATION
1/4" = 1'-0"



2 S-104 ELEVATION
1/4" = 1'-0"



3 S-104 ELEVATION
1/4" = 1'-0"



4 S-104 ELEVATION
1/4" = 1'-0"

AUE
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BELLEVUE, WA 98005
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AUE JOB: 19342

BALLINI, DAVID PROCKNOW
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SKAGIT PUD
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ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

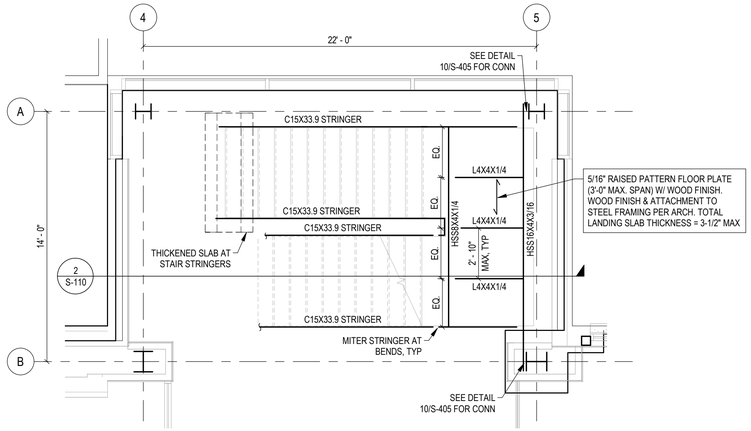
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NO.	TYPE REVISION	DATE
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	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

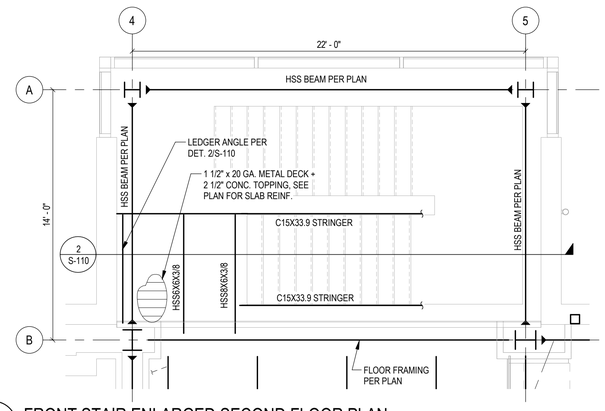
SHEET NAME:
STEEL AT ROOF SCREEN WALL

SHEET NUMBER:
S-104

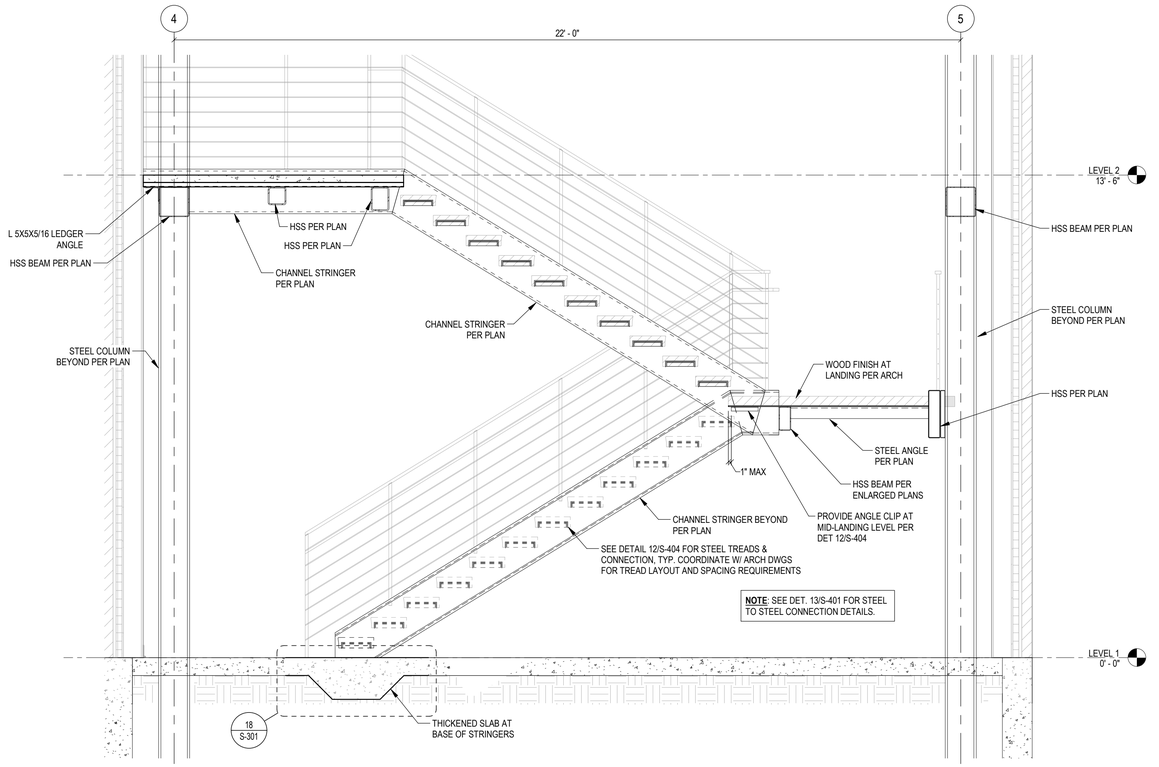
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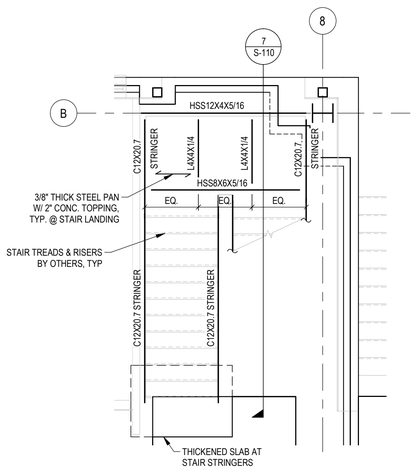
1 S-110 FRONT STAIR ENLARGED FOUNDATION PLAN
1/4" = 1'-0"



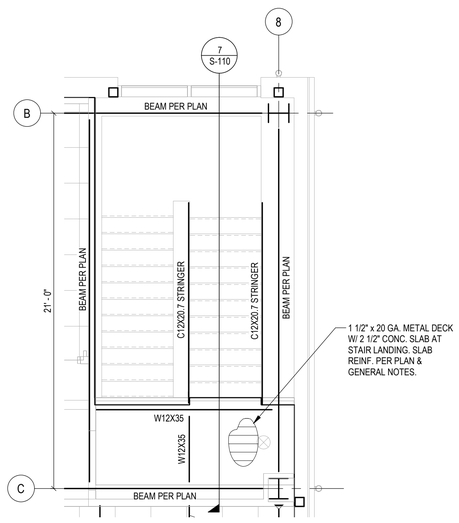
3 S-110 FRONT STAIR ENLARGED SECOND FLOOR PLAN
1/4" = 1'-0"



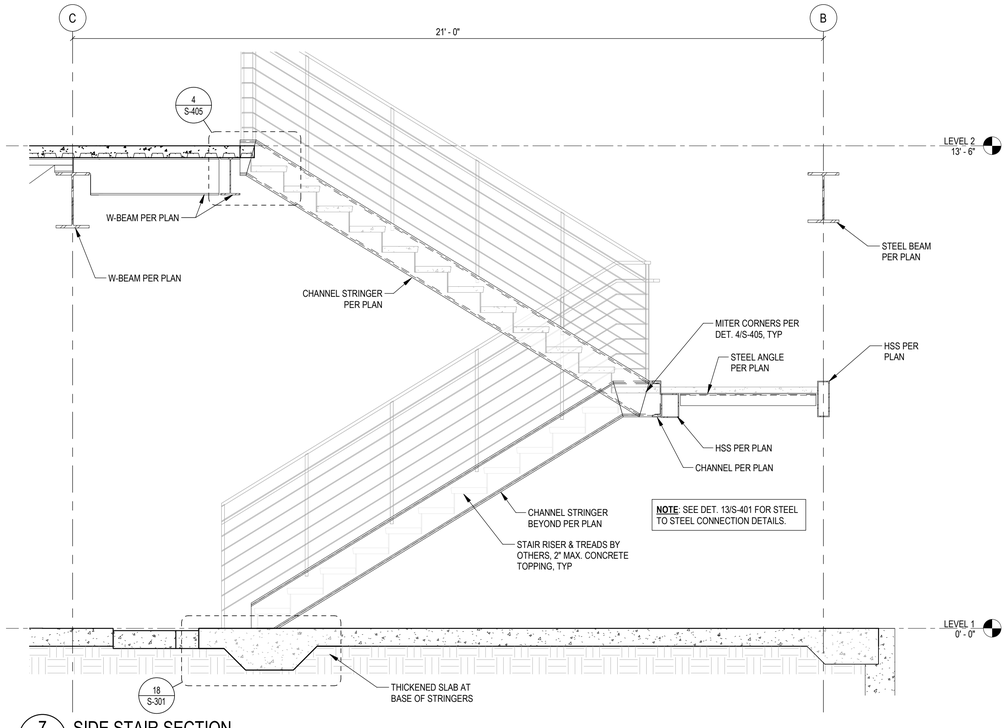
2 S-110 FRONT STAIR SECTION
1/2" = 1'-0"



5 S-110 SIDE STAIR ENLARGED FOUNDATION PLAN
1/4" = 1'-0"



6 S-110 SIDE STAIR ENLARGED SECOND FLOOR PLAN
1/4" = 1'-0"



7 S-110 SIDE STAIR SECTION
1/2" = 1'-0"

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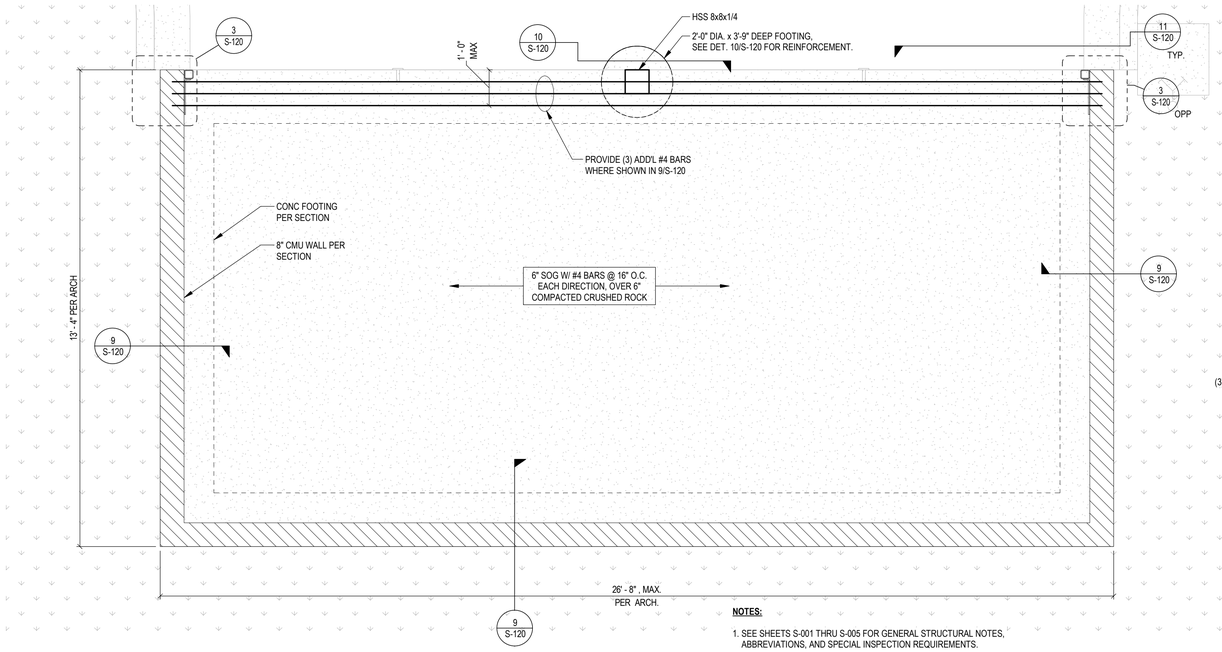
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NO.	TYPE REVISION	DATE
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	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
STEEL STAIR PLANS & ELEVATIONS

SHEET NUMBER:
S-110

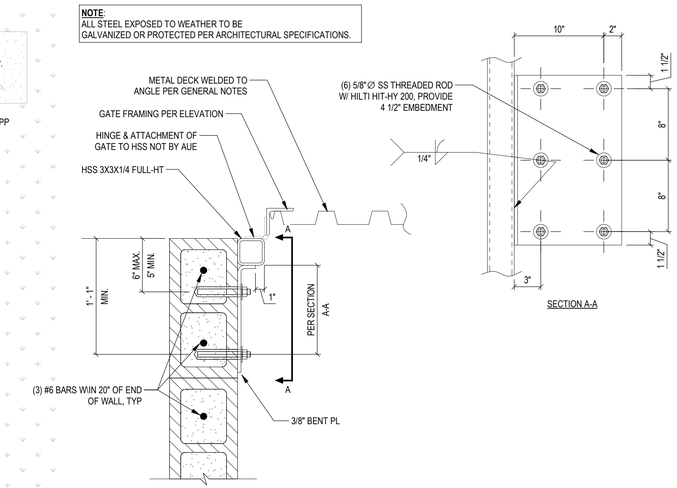
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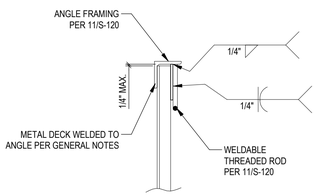
NOTES:

1. SEE SHEETS S-001 THRU S-005 FOR GENERAL STRUCTURAL NOTES, ABBREVIATIONS, AND SPECIAL INSPECTION REQUIREMENTS.
2. SEE DETAIL 1/S-350 FOR TYPICAL MASONRY REINFORCEMENT SPLICE & DEVELOPMENT LENGTH SCHEDULE.
3. SEE DETAIL 5/S-350 FOR TYPICAL CMU CORNER BAR DETAIL

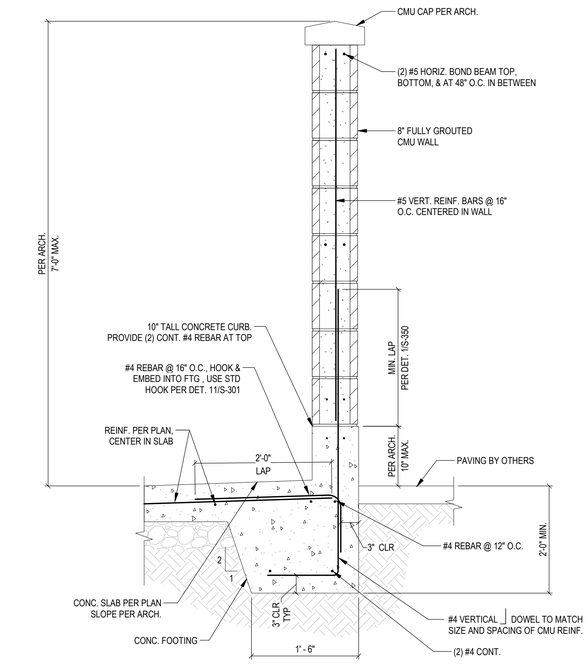
5 S-120 ENLARGED TRASH ENCLOSURE PLAN
1/2" = 1'-0"



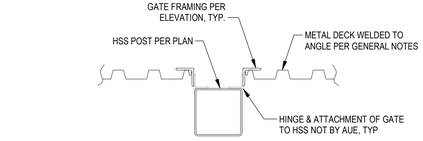
3 S-120 TRASH ENCLOSURE GATE CONN
1 1/2" = 1'-0"



4 S-120 THREADED ROD TO GATE FRAMING
1 1/2" = 1'-0"

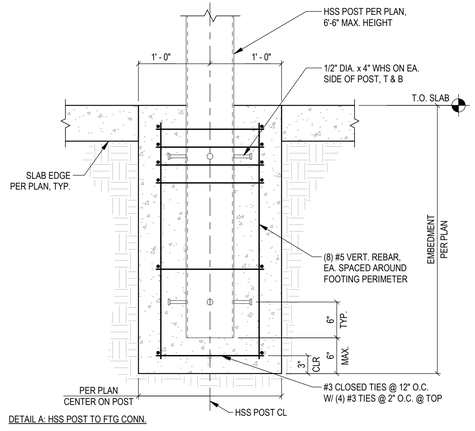


9 S-120 TRASH ENCLOSURE WALL SECTION
1" = 1'-0"



DETAIL B: HSS POST DOOR FRAMING CONN.

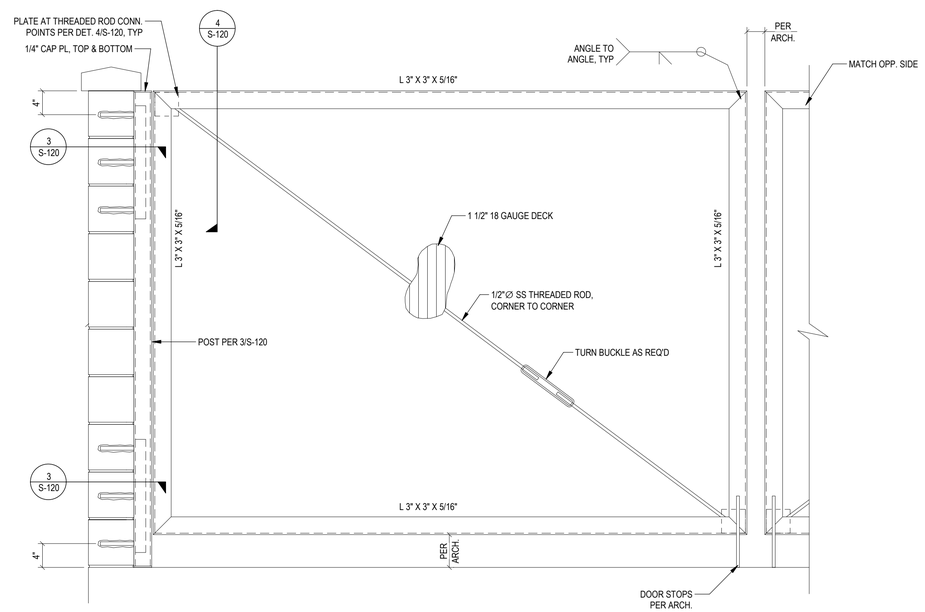
NOTE:
ALL STEEL EXPOSED TO MOISTURE
SHALL BE HOT DIPPED GALVANIZED.



DETAIL A: HSS POST TO FTG CONN.

10 S-120 HSS POST CONNECTIONS
1" = 1'-0"

NOTE:
ALL STEEL EXPOSED TO WEATHER TO BE
GALVANIZED OR PROTECTED PER
ARCHITECTURAL SPECIFICATIONS.



11 S-120 TRASH ENCLOSURE WALL ELEVATION
1" = 1'-0"

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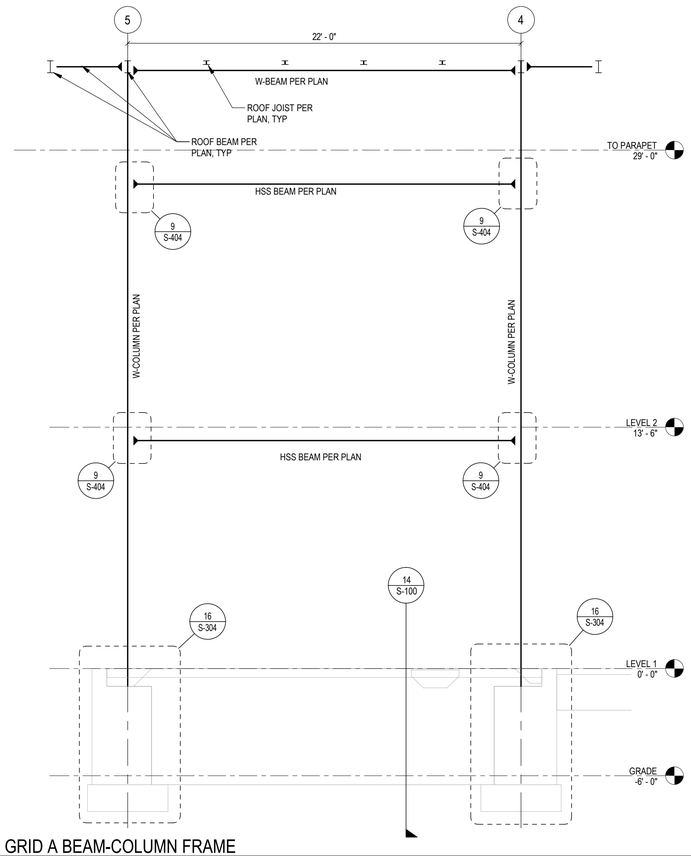
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NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

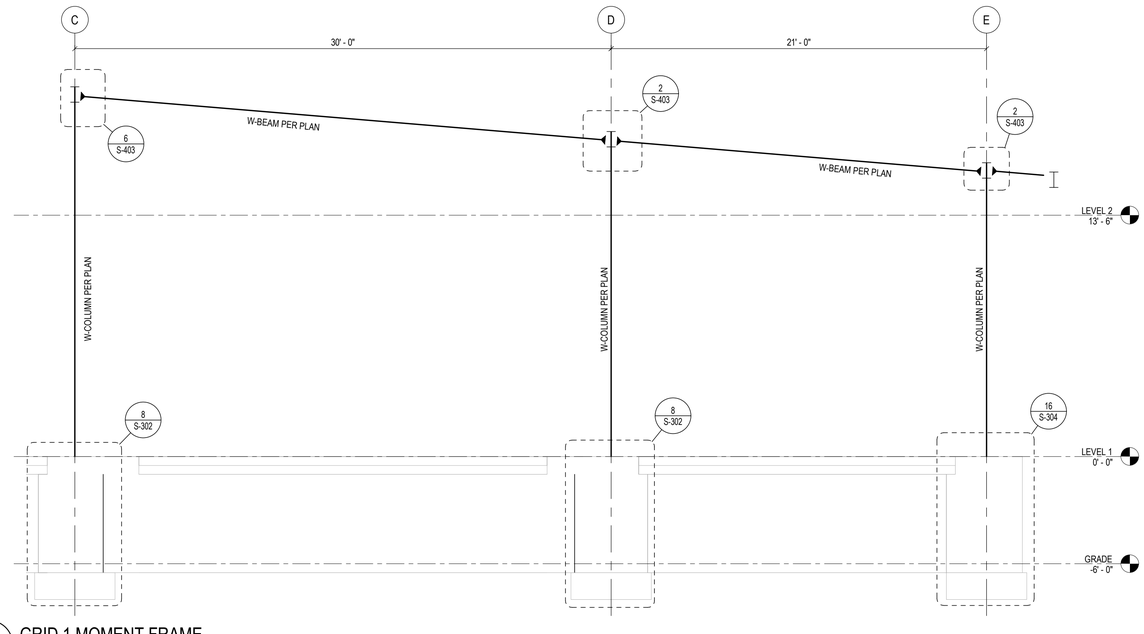
SHEET NAME:
TRASH ENCLOSURE PLAN & DETAILS

SHEET NUMBER:
S-120

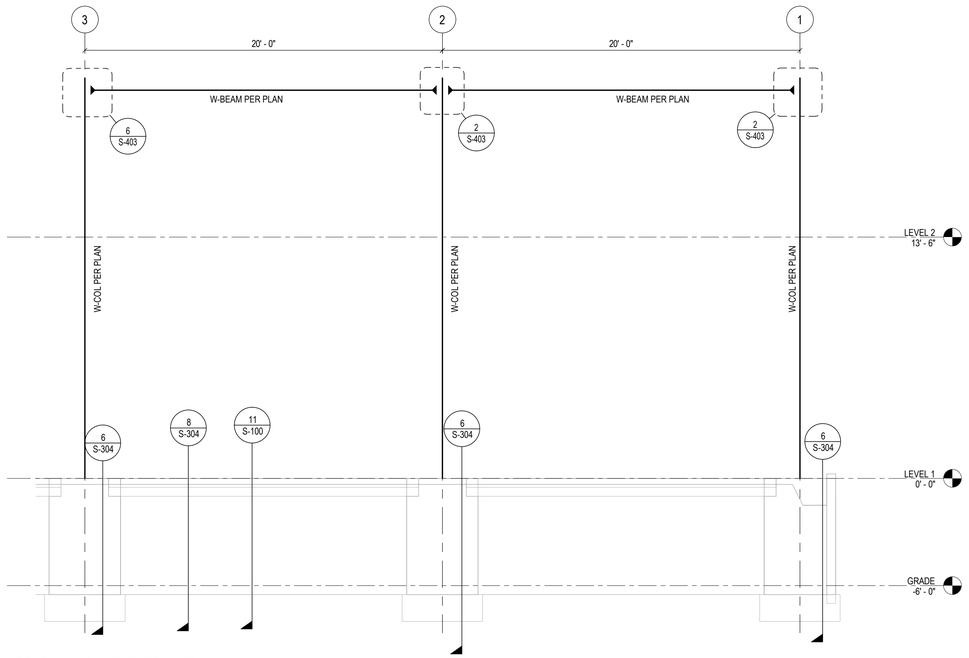
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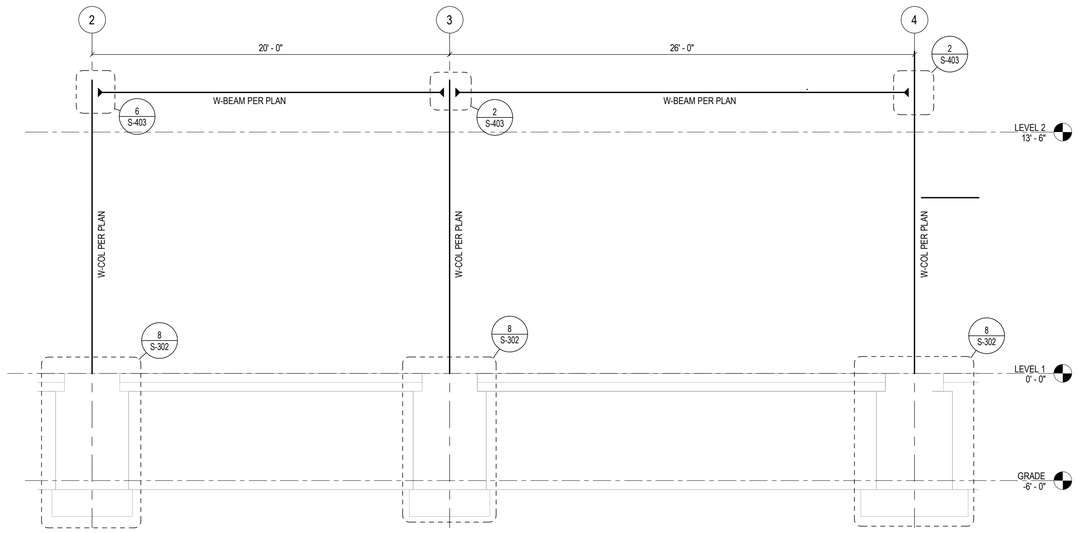
1 S-200 GRID A BEAM-COLUMN FRAME
1/4" = 1'-0"



2 S-200 GRID 1 MOMENT FRAME
1/4" = 1'-0"



3 S-200 GRID B MOMENT FRAME
1/4" = 1'-0"



4 S-200 GRID E MOMENT FRAME
1/4" = 1'-0"

AUE
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ERLING DAVID PROCHAZKA
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06/12/2023

PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING

1415 FREEWAY DR
MT VERNON, WA 98273

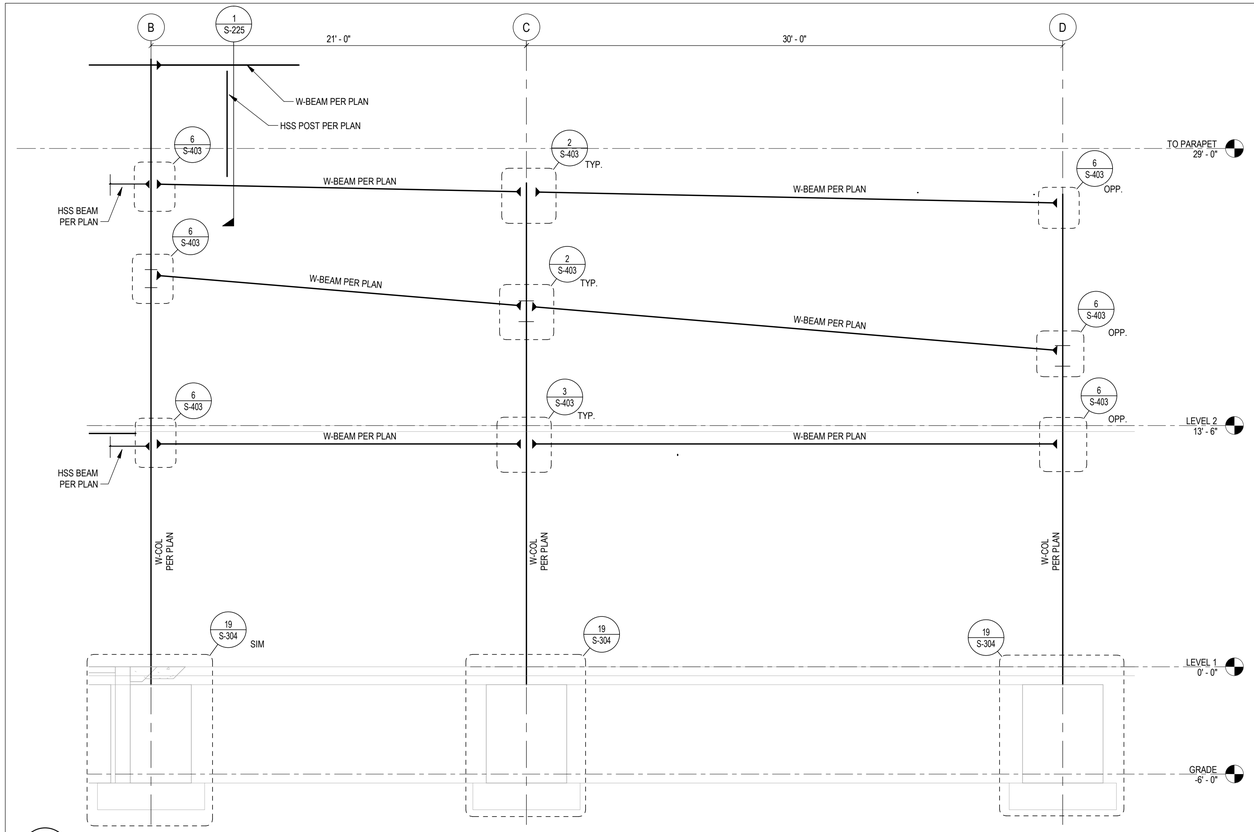
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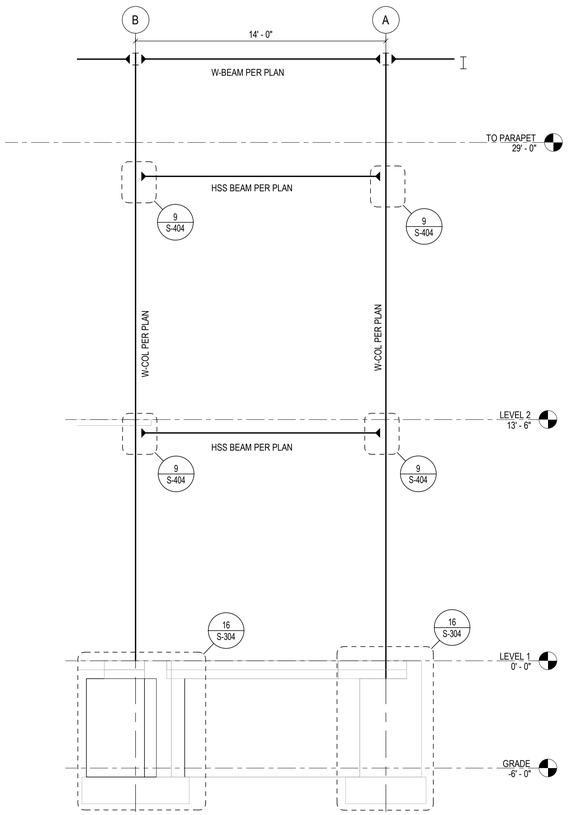
SHEET NAME:
STEEL FRAMES

SHEET NUMBER:
S-200

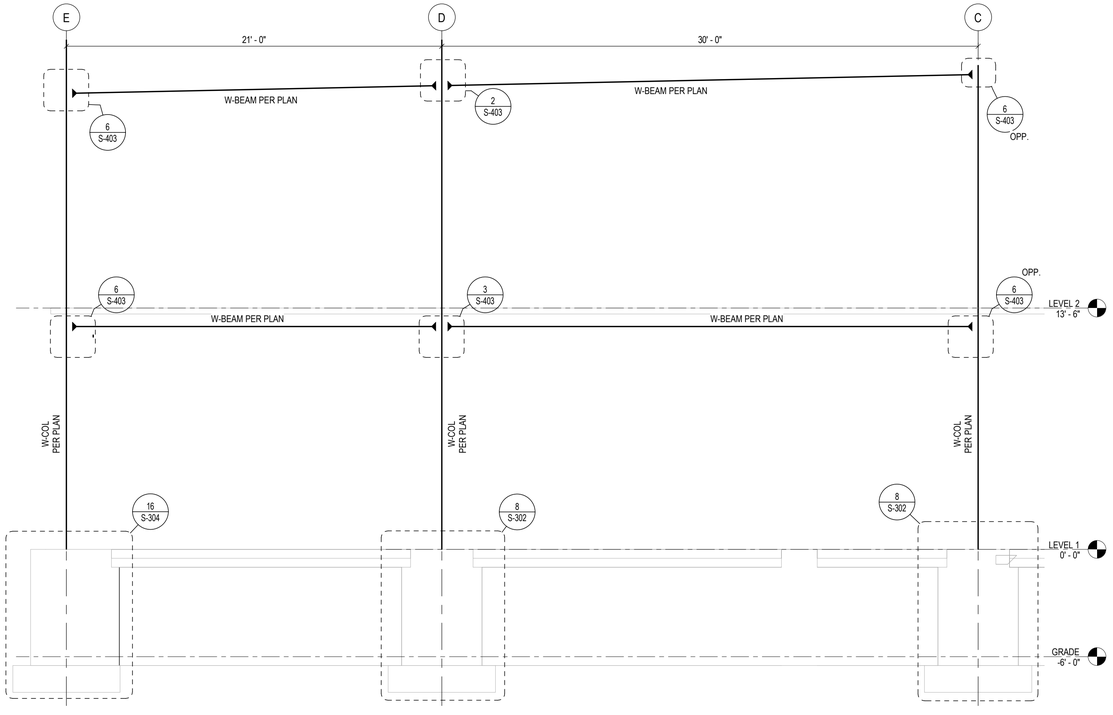
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1 S-210 GRID 4 MOMENT FRAME
1/4" = 1'-0"



4 S-210 GRID 5 BEAM-COLUMN FRAME
1/4" = 1'-0"



2 S-210 GRID 8 MOMENT FRAME
1/4" = 1'-0"

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1415 FREEWAY DR
MT VERNON, WA 98273

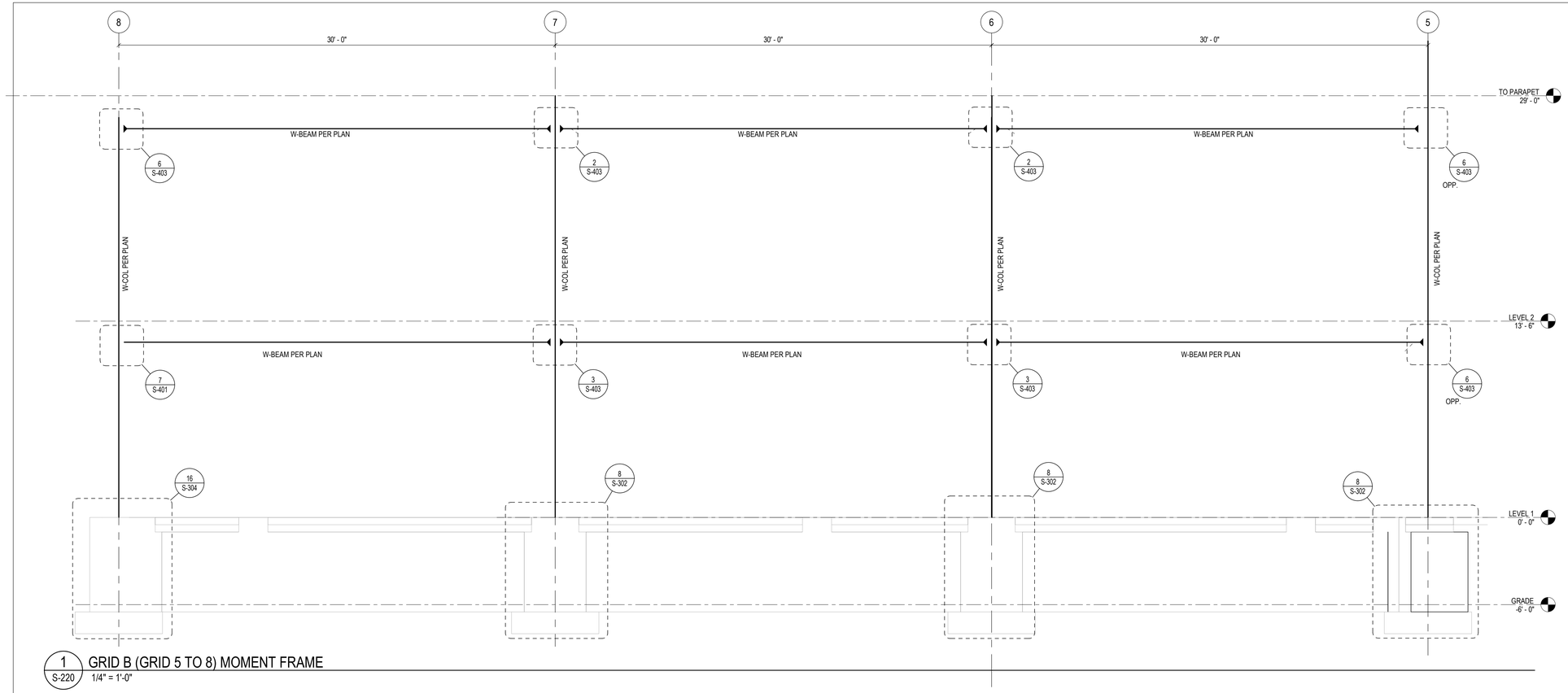
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ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
STEEL FRAMES

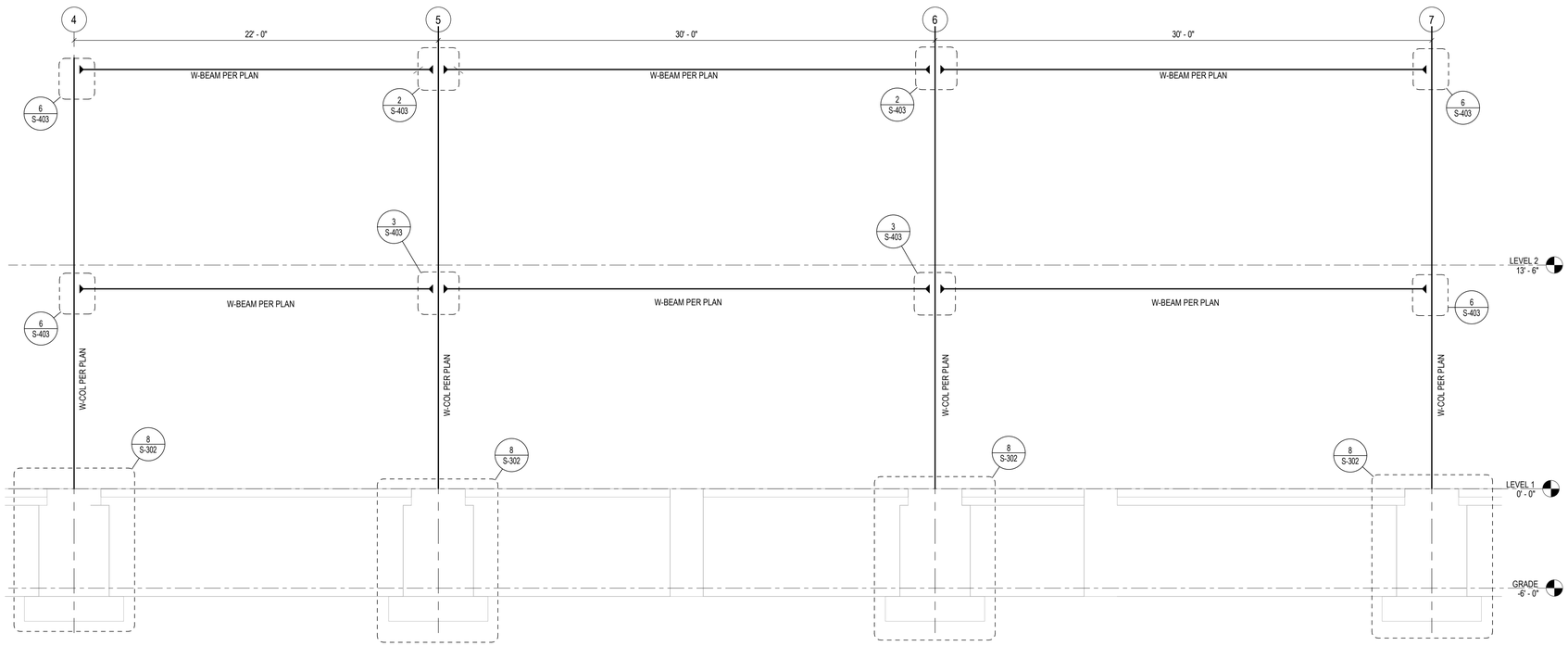
SHEET NUMBER:
S-210

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1 S-220 GRID B (GRID 5 TO 8) MOMENT FRAME

1/4" = 1'-0"



2 S-220 GRID E (GRID 4 TO 7) MOMENT FRAME

1/4" = 1'-0"

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PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

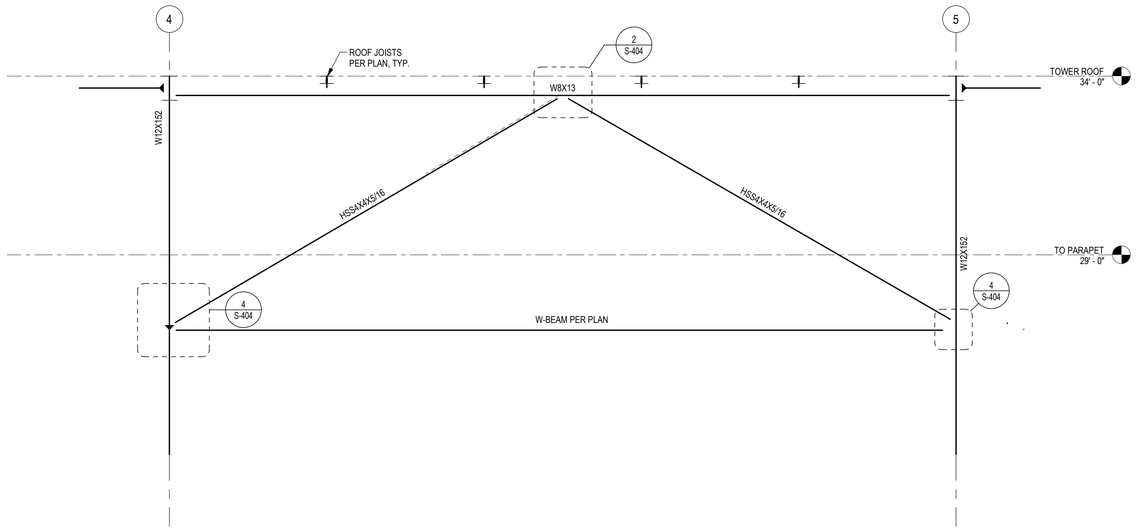
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STEEL FRAMES

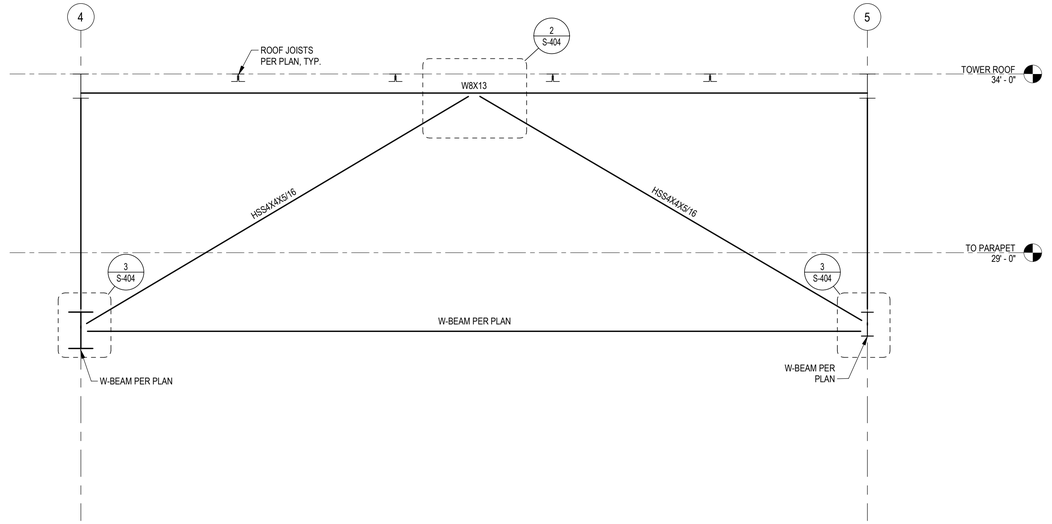
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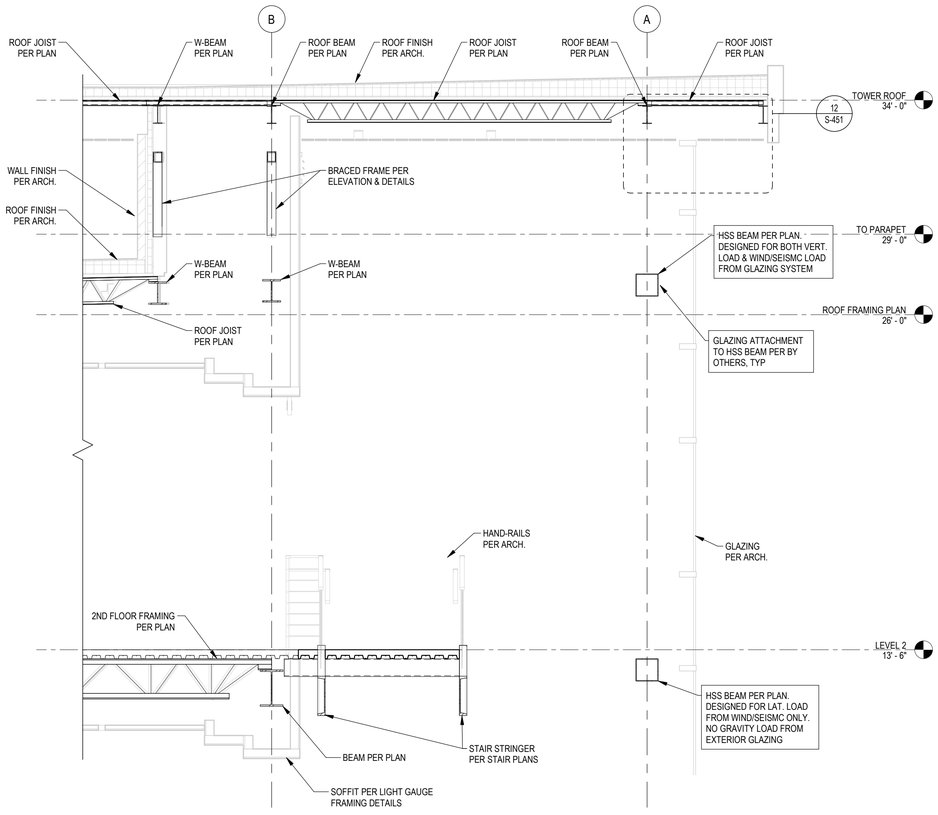
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1 S-225 GRID B (GRID 4 TO 5) BRACE FRAME
1/2" = 1'-0"



2 S-225 STAIR TOWER (GRID 4 TO 5) BRACE FRAME
1/2" = 1'-0"



5 S-225 SECTION
3/8" = 1'-0"

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STATE OF WASHINGTON
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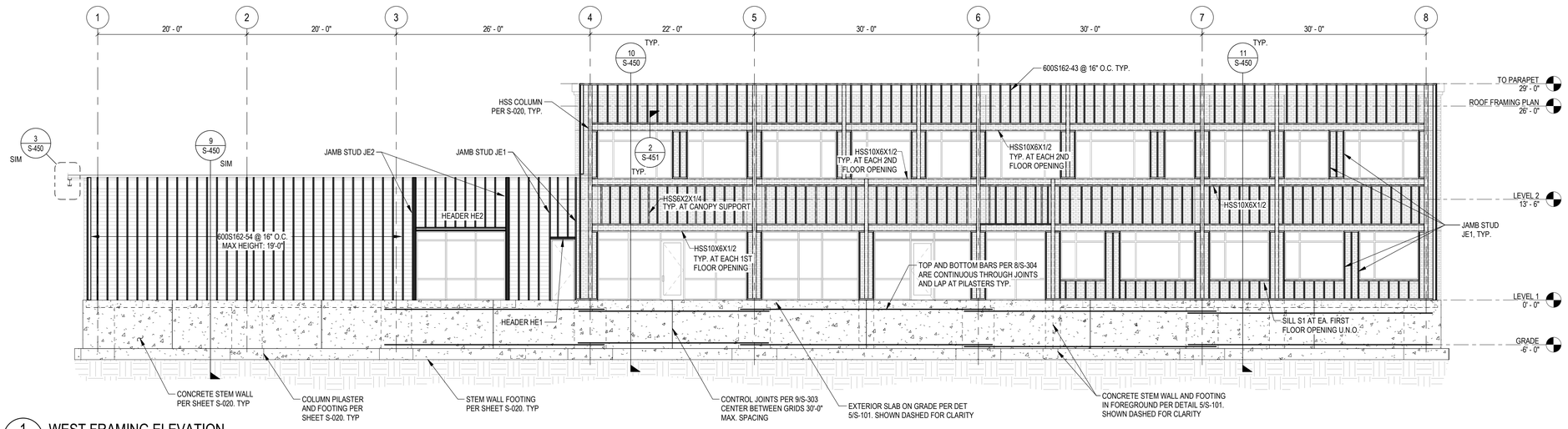
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DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
STEEL FRAMES

SHEET NUMBER:
S-225

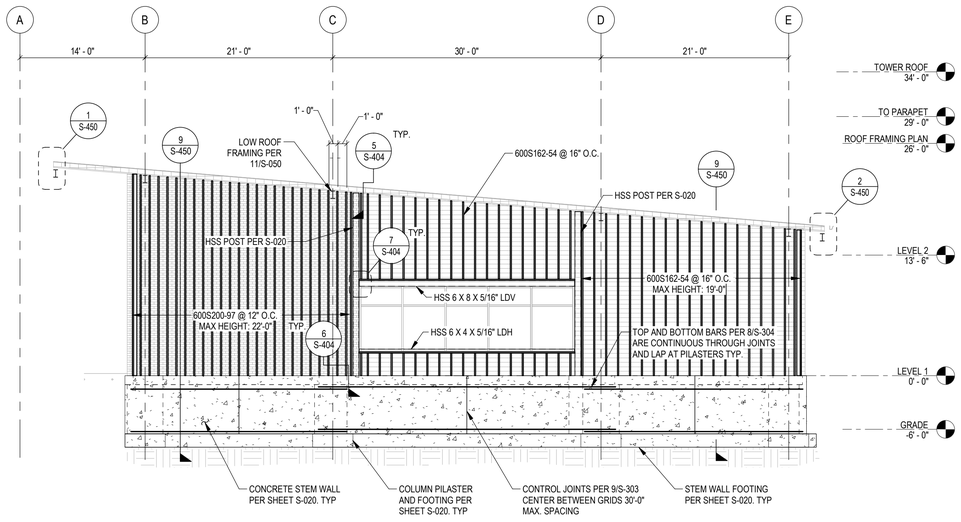
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NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501
- SEE DETAIL 1/S-451 FOR CFS OPENING MEMBER SCHEDULE
- SEE DETAIL 5/S-404 FOR TYP. HSS COL. CONN. AT EA. LEVEL
- SEE DETAIL 6/S-404 FOR TYP. HSS BASE CONN.
- SEE DETAIL 7/S-404 FOR TYP. HSS BEAM TO HSS COLUMN CONN.



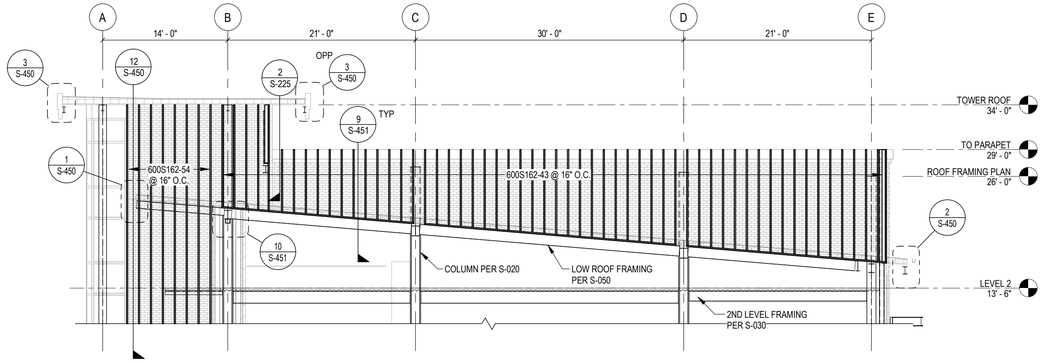
1 S-230 WEST FRAMING ELEVATION
1/8" = 1'-0"

NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501



2 S-230 NORTH FRAMING ELEVATION
1/8" = 1'-0"

NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501



3 S-230 GRID 4 NORTH FRAMING ELEVATION
1/8" = 1'-0"

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1415 FREEWAY DR
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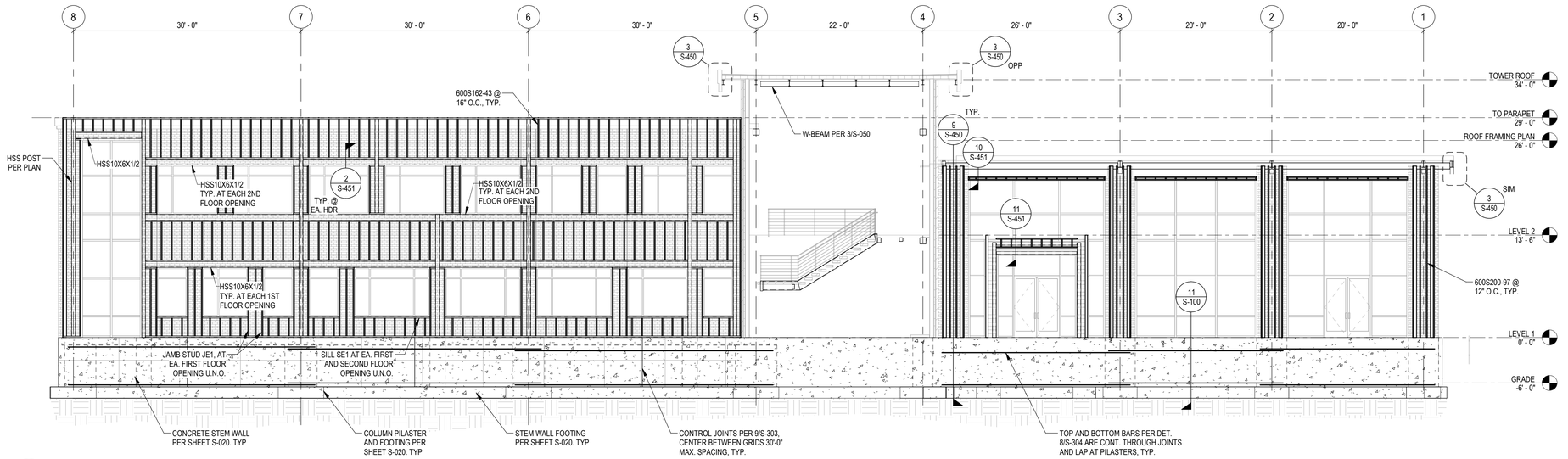
ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
NORTH AND WEST FRAMING ELEVATION

SHEET NUMBER:
S-230

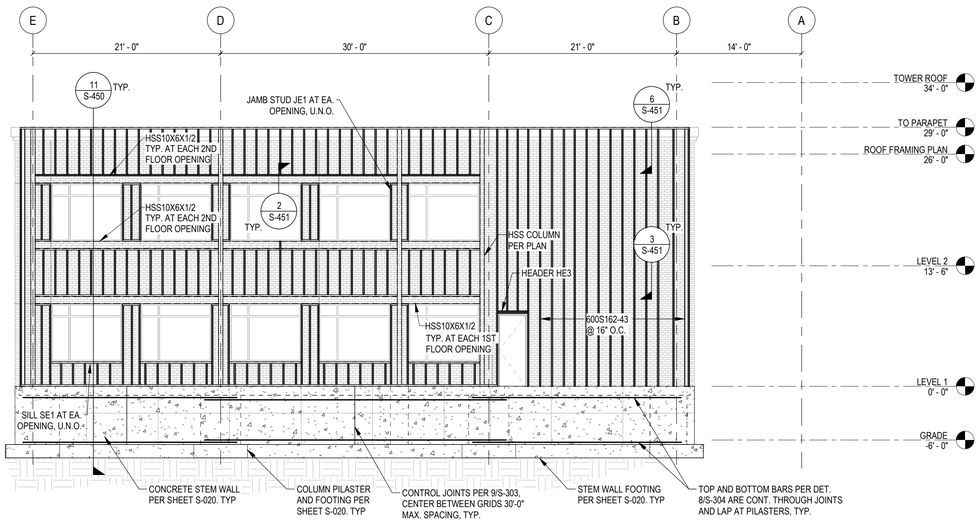
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NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501
- SEE DETAIL 1/S-451 FOR CFS OPENING MEMBER SCHEDULE
- SEE DETAIL 5/S-404 FOR TYP. HSS COL. CONN. AT EA. LEVEL
- SEE DETAIL 6/S-404 FOR TYP. HSS BASE CONN.
- SEE DETAIL 7/S-404 FOR TYP. HSS BEAM TO HSS COLUMN CONN.



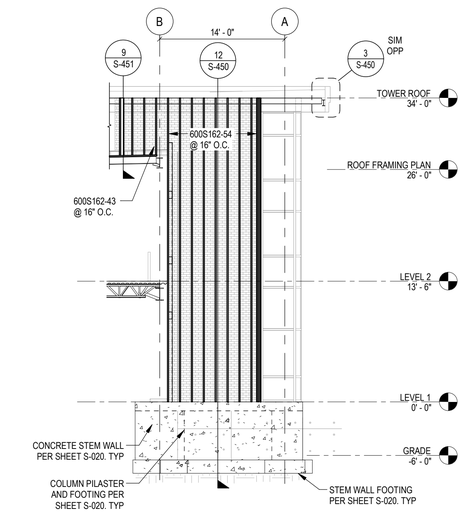
1 S-231 EAST FRAMING ELEVATION
1/8" = 1'-0"

NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501
- SEE DETAIL 1/S-451 FOR CFS OPENING MEMBER SCHEDULE
- SEE DETAIL 5/S-404 FOR TYP. HSS COL. CONN. AT EA. LEVEL
- SEE DETAIL 6/S-404 FOR TYP. HSS BASE CONN.
- SEE DETAIL 7/S-404 FOR TYP. HSS BEAM TO HSS COLUMN CONN.



2 S-231 SOUTH FRAMING ELEVATION
1/8" = 1'-0"

NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501



3 S-231 GRID 5 STAIR TOWER SOUTH FRAMING ELEVATION
1/8" = 1'-0"

AUE
13228 NE 20TH ST SUITE #100
BELLEVUE, WA 98005
PHONE: 425.614-0949
AUE JOB: 19342

DANIEL DAVID PROCHAZKA — STATE OF WASHINGTON — 60173 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER

06/12/2023

SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

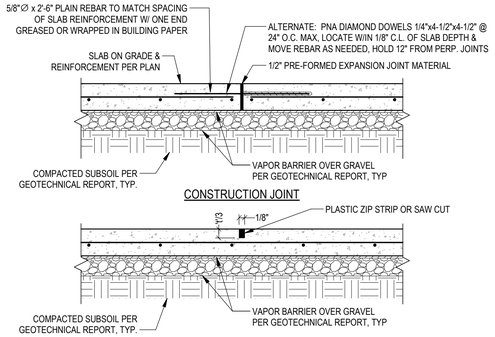
REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
SOUTH AND EAST FRAMING ELEVATIONS

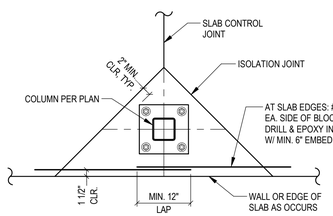
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S-231

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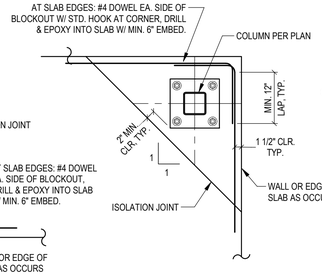


NOTES:
1. JOINTS SHALL BE LOCATED TO PRODUCE SQUARE PANELS WHENEVER POSSIBLE. RATIO OF SIDES SHALL NOT EXCEED 1.5:1

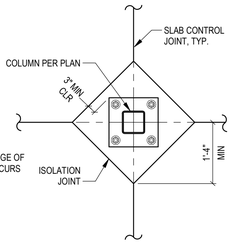
NOTES:
1. CONCRETE IN BOX OUT SECTIONS SHALL BE POURED AT LEAST 24 HOURS AFTER SLAB AND AFTER COLUMN DEAD LOADS HAVE BEEN APPLIED.



CASE A: BUILDING EDGE COLUMN



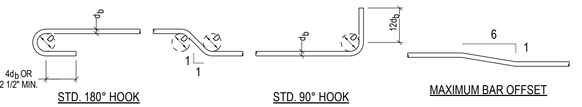
CASE B: BUILDING CORNER COLUMN



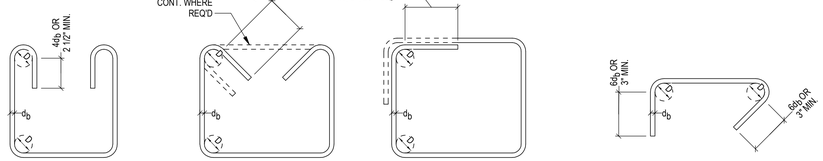
CASE C: INTERIOR COLUMN

REBAR BENDING SCHEDULE		
	'D' = FINISHED INSIDE BEND DIAMETER	
BAR SIZES	STANDARD HOOKS	STIRRUP / TIE HOOKS
#3, #4, #5	6d	$4d_b$
#6, #7, #8	6d	$6d_b$
#9, #10, #11	$8d_b$	N/A
#14, #18	$10d_b$	N/A

'D' = INSIDE BEND DIAMETER
'd_b' = BAR DIAMETER



STD. 180° HOOK | STD. 90° HOOK | MAXIMUM BAR OFFSET



STIRRUP W/ 180° HOOK | STIRRUP/TIE W/ 135° HOOK | STIRRUP/TIE W/ 90° HOOK | BEAM/COLUMN CROSSTIE W/ 90° HOOK
MAX BAR SIZE: #3 THRU #5

1 S-301 TYPICAL SLAB ON GRADE JOINTS
NTS

2 S-301 TYPICAL COLUMN BLOCKOUT
NTS

4 S-301 REINFORCEMENT BENDING SCHEDULE
NTS

TYPICAL STRAIGHT (Ld) AND HOOKED (Ldh) REINFORCEMENT DEVELOPMENT LENGTH SCHEDULE																					
			BAR SIZE:	#3		#4		#5		#6		#7		#8		#9		#10		#11	
			BAR DIAMETER, d_b:	d_b = 0.375 in		d_b = 0.500 in		d_b = 0.625 in		d_b = 0.625 in		d_b = 0.875 in		d_b = 1.000 in		d_b = 1.128 in		d_b = 1.270 in		d_b = 1.410 in	
DEVLOPMENT TYPE	CATEGORY	DESCRIPTION	N.W. CONCRETE f'c (psi)	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
STRAIGHT	1	MIN. COVER >= 1 1/2" MIN. CLEAR SPACING >= 3"	3,000	13"	12"	18"	14"	22"	17"	26"	20"	43"	33"	54"	42"	66"	51"	81"	63"	97"	75"
			4,500	12"	12"	14"	12"	18"	14"	21"	17"	35"	27"	44"	34"	54"	42"	66"	51"	79"	61"
			5,000	12"	12"	14"	12"	17"	13"	20"	16"	33"	26"	42"	32"	52"	40"	63"	49"	75"	58"
			6,000	12"	12"	13"	12"	16"	12"	19"	14"	30"	23"	38"	30"	47"	36"	58"	44"	69"	53"
	2	MIN. COVER >= 3/4" MIN. CLEAR SPACING >= 2"	3,000	13"	12"	22"	17"	32"	25"	43"	33"	69"	53"	86"	66"	104"	80"	125"	96"	146"	113"
			4,500	12"	12"	18"	14"	26"	20"	35"	27"	57"	44"	70"	54"	85"	65"	102"	79"	120"	92"
			5,000	12"	12"	17"	13"	25"	19"	34"	26"	54"	42"	67"	51"	81"	62"	97"	75"	114"	87"
			6,000	12"	12"	16"	12"	23"	18"	31"	24"	49"	38"	61"	47"	74"	57"	88"	68"	104"	80"
HOOKED	STANDARD	ALL OTHERS	3,000	9"		11"		14"		17"		20"		22"		25"		28"		31"	
			4,500	7"		9"		12"		14"		16"		18"		21"		23"		26"	
			5,000	7"		9"		11"		13"		15"		17"		20"		22"		24"	
			6,000	6"		8"		10"		12"		14"		16"		18"		20"		22"	

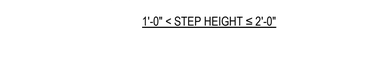
TYPICAL REINFORCEMENT LAP SPLICE (Lst) DEVELOPMENT LENGTH SCHEDULE																					
			BAR SIZE:	#3		#4		#5		#6		#7		#8		#9		#10		#11	
			BAR DIAMETER, d_b:	d_b = 0.375 in		d_b = 0.500 in		d_b = 0.625 in		d_b = 0.625 in		d_b = 0.875 in		d_b = 1.000 in		d_b = 1.128 in		d_b = 1.270 in		d_b = 1.410 in	
LAP CLASS	CATEGORY	DESCRIPTION	N.W. CONCRETE f'c (psi)	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
CLASS B	1	MIN. COVER >= 1 1/2" MIN. CLEAR SPACING >= 3"	3,000	17"	16"	24"	19"	29"	23"	34"	26"	56"	43"	71"	55"	86"	67"	106"	82"	127"	98"
			4,500	16"	16"	19"	16"	24"	19"	28"	23"	46"	36"	58"	45"	71"	55"	86"	67"	103"	80"
			5,000	16"	16"	19"	16"	23"	17"	26"	21"	43"	34"	55"	42"	68"	52"	82"	64"	98"	76"
			6,000	12"	12"	16"	12"	23"	18"	31"	24"	49"	38"	61"	47"	74"	57"	88"	68"	104"	80"
	2	MIN. COVER >= 3/4" MIN. CLEAR SPACING >= 2"	3,000	17"	16"	29"	23"	42"	33"	56"	43"	90"	69"	112"	86"	136"	104"	163"	125"	190"	147"
			4,500	16"	16"	24"	19"	34"	26"	46"	36"	75"	58"	91"	71"	111"	85"	133"	103"	156"	120"
			5,000	16"	16"	23"	17"	33"	25"	45"	34"	71"	55"	88"	67"	106"	81"	127"	98"	149"	114"
			6,000	16"	16"	21"	16"	30"	24"	41"	32"	64"	50"	80"	62"	97"	75"	115"	89"	136"	104"

GENERAL NOTES:
1. ALL DEVELOPMENT AND LAP SPLICE LENGTHS SPECIFIED IN SCHEDULES ARE FOR REINFORCING STEEL WITH A Fy = 60,000 psi.
2. "TOP" - HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST BELOW THE BAR.
3. "OTHER" - ALL VERTICAL BARS AND HORIZONTAL BARS THAT DO NOT MEET THE "TOP" BAR DESIGNATION.
4. UNLESS NOTED OTHERWISE, ALL HOOKED BARS SHALL EXTEND TO THE FAR FACE W/ MIN COVER BEYOND PER "NOTE 5.2"
5. ALL HOOKED BAR LENGTHS SPECIFIED IN SCHEDULE ARE FOR REINFORCING WITH:
   5.1 SIDE COVER >= 2 1/2",
   5.2 COVER BEYOND >= 2"

LAP SPLICE NOTES:
1. ALL SPLICES SHALL BE WIRED IN CONTACT AND STACKED VERTICALLY.
2. SMALLER BAR LAP LENGTH SHALL BE USED WHEN SPLICING DIFFERENT SIZED BARS.
3. LAP LENGTHS SPECIFICALLY DETAILED IN DRAWINGS SHALL GOVERN IN LIEU OF LAP LENGTHS SCHEDULED.

ADJUSTMENTS TO SPECIFIED STRAIGHT DEVELOPMENT AND LAP SPLICE LENGTHS:
1. LIGHTWEIGHT CONCRETE: MULTIPLY THE LENGTHS SPECIFIED IN THE SCHEDULE BY 1.33
2. EPOXY-COATED REINFORCEMENT:
   2.1. "TOP" BARS: MULTIPLY THE LENGTHS SPECIFIED IN THE SCHEDULE BY 1.3
   2.2. "OTHER" BARS: MULTIPLY THE LENGTHS SPECIFIED IN THE SCHEDULE BY 1.5
3. COMBINATIONS OF EFFECTS DUE TO CONCRETE WEIGHT AND EPOXY COATING ARE CUMULATIVE. L_d / L_{st} SHALL BE MULTIPLIED BY EACH FACTOR TO FIN THE CORRECT VALUE

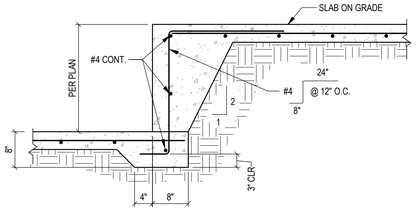
ADJUSTMENTS TO SPECIFIED HOOK DEVELOPMENT LENGTHS:
1. LIGHTWEIGHT CONCRETE: MULTIPLY THE LENGTHS SPECIFIED IN THE SCHEDULE BY 1.33
2. EPOXY-COATED REINFORCEMENT: MULTIPLY THE LENGTHS SPECIFIED IN THE SCHEDULE BY 1.2
3. SIDE COVER < 2 1/2": MULTIPLY THE LENGTHS SPECIFIED IN THE SCHEDULE BY 0.7



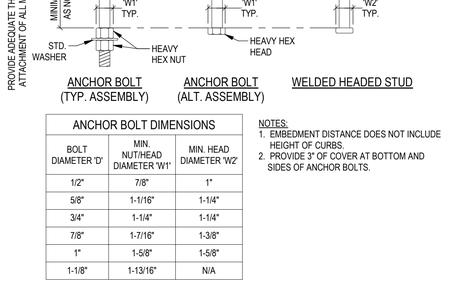
STEP HEIGHT ≤ 4"



4" < STEP HEIGHT ≤ 1'-0"



1'-0" < STEP HEIGHT ≤ 2'-0"

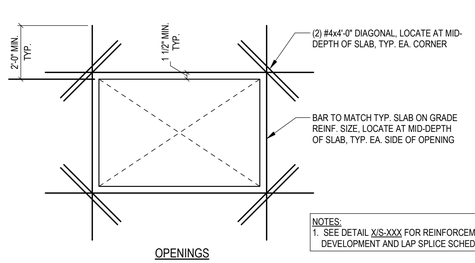


ANCHOR BOLT (TYP. ASSEMBLY) | ANCHOR BOLT (ALT. ASSEMBLY) | WELDED HEADED STUD

ANCHOR BOLT DIMENSIONS		
BOLT DIAMETER 'D'	MIN. NUT/HEAD DIAMETER 'W1'	MIN. HEAD DIAMETER 'W2'
1/2"	7/8"	1"
5/8"	1-1/16"	1-1/4"
3/4"	1-1/4"	1-1/4"
7/8"	1-7/16"	1-3/8"
1"	1-5/8"	1-5/8"
1-1/8"	1-13/16"	N/A

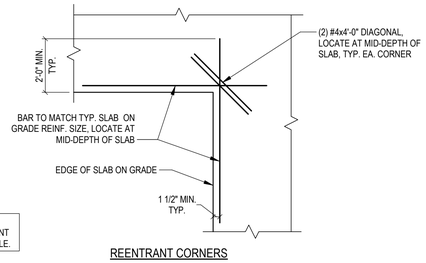
NOTES:
1. EMBEDMENT DISTANCE DOES NOT INCLUDE HEIGHT OF CURBS.
2. PROVIDE 3" OF COVER AT BOTTOM AND SIDES OF ANCHOR BOLTS.

11 S-301 REINFORCEMENT DEVELOPMENT & SPLICE SCHEDULE
NTS



NOTES:
1. SEE DETAIL X/S-XXX FOR REINFORCEMENT DEVELOPMENT AND LAP SPLICE SCHEDULE.

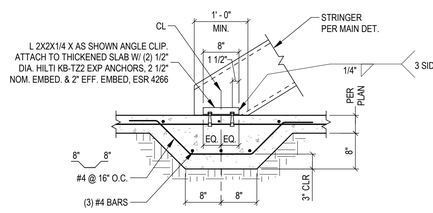
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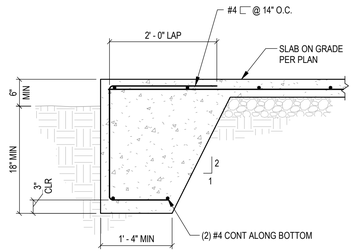


REENTRANT CORNERS

13 S-301 TYPICAL SLAB ON GRADE STEP
3/4" = 1'-0"

14 S-301 TYPICAL CAST-IN-PLACE ANCHOR BOLTS
NTS





16 S-301 TYPICAL SLAB ON GRADE TRIM REINFORCEMENT
NTS

18 S-301 TYPICAL THICKENED SLAB
3/4" = 1'-0"

19 S-301 TYPICAL EXTERIOR SLAB EDGE
3/4" = 1'-0"

AUE
13228 NE 20TH ST SUITE #100
BELLEVUE, WA 98005
PHONE: 425.614-0949
AUE JOB: 19342

DALLAS DAVID PROCHAZKA — STATE OF WASHINGTON — 60173 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER

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SKAGIT PUD
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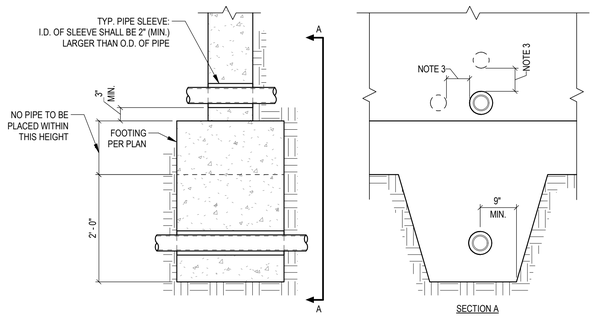
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NO.	TYPE REVISION	DATE
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	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
CONCRETE DETAILS

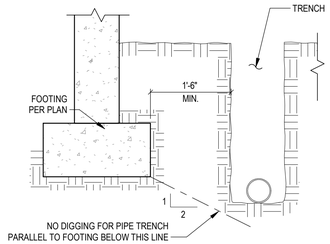
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S-301

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PIPES THRU FOUNDATION

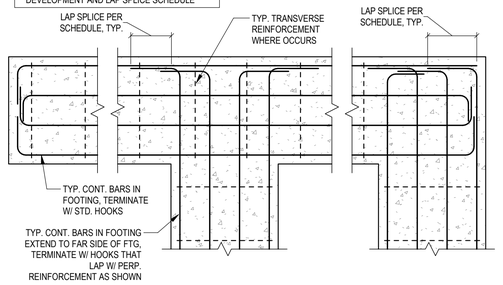
NOTES:
1. SEE NOTES ON FOUNDATION PLAN FOR ADDITIONAL INFORMATION.
2. PIPE & CONDUIT MUST RUN PERPENDICULAR THRU FOUNDATION WALL.
3. VERTICAL AND HORIZONTAL CLEAR SPACE BETWEEN ADJACENT PIPE SLEEVES SHALL NOT BE LESS THAN THE DIAMETER OF THE LARGER SLEEVE.



PIPE AND TRENCH AT FOUNDATION

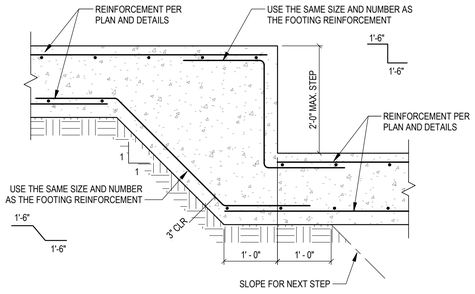
1 S-302 TYPICAL PIPE/CONDUIT AT FOUNDATION DETAILS
NTS

NOTES:
1. SEE DETAIL X/S-XXX FOR REINFORCEMENT DEVELOPMENT AND LAP SPLICE SCHEDULE

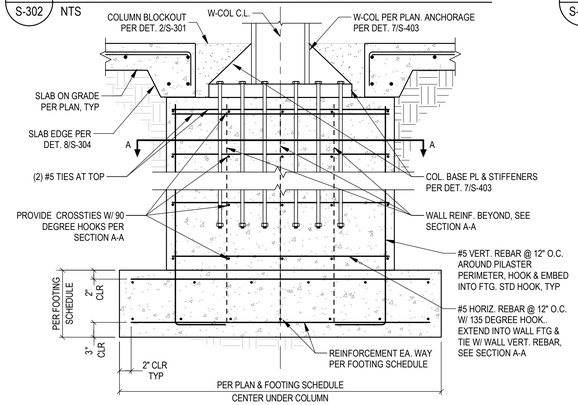


END CONDITION INTERSECTION CORNER

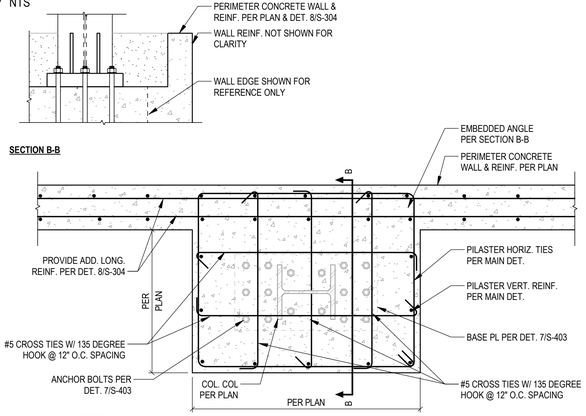
NOTES:
1. FOUNDATION WALL IS NOT SHOWN FOR REFERENCE.
2. SEE FOUNDATION PLAN FOR LOCATION OF FOOTING STEPS.



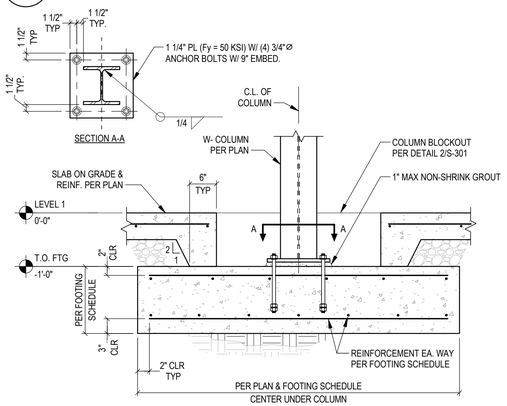
3 S-302 TYPICAL FOOTING CORNER REINFORCING
NTS



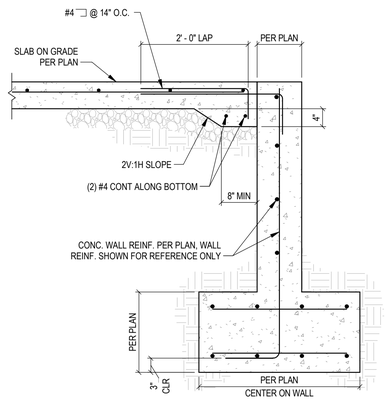
4 S-302 TYPICAL STEPPED FOOTING
NTS



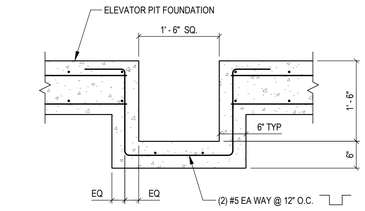
6 S-302 TYP. INTERIOR SPREAD FTG
N.T.S.



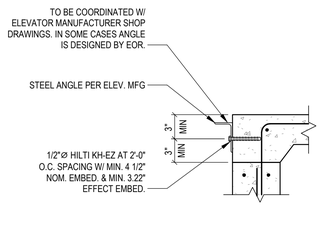
7 S-302 SLAB EDGE TO CONC. WALL CONN.
3/4" = 1'-0"



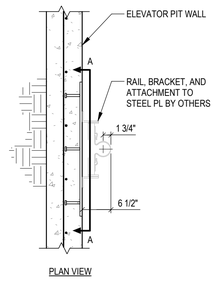
8 S-302 TYP. PERIMETER CONC. SPREAD FTG W/ PILASTER
N.T.S.



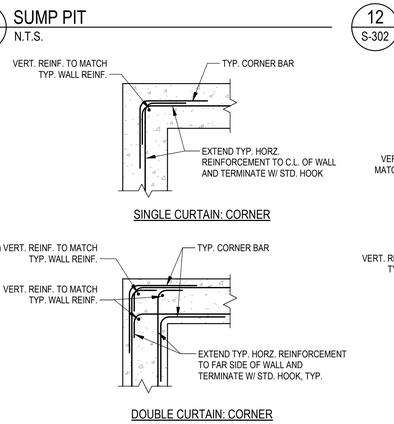
11 S-302 SUMP PIT
N.T.S.



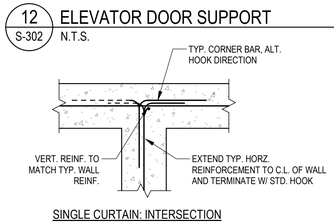
12 S-302 ELEVATOR DOOR SUPPORT
N.T.S.



13 S-302 IN PIT ELEVATOR RAIL SUPPORT
3/4" = 1'-0"

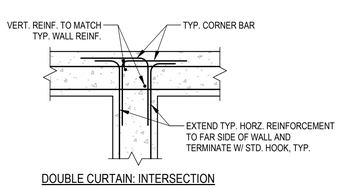


SINGLE CURTAIN: CORNER



SINGLE CURTAIN: INTERSECTION

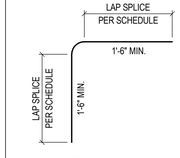
DOUBLE CURTAIN: CORNER



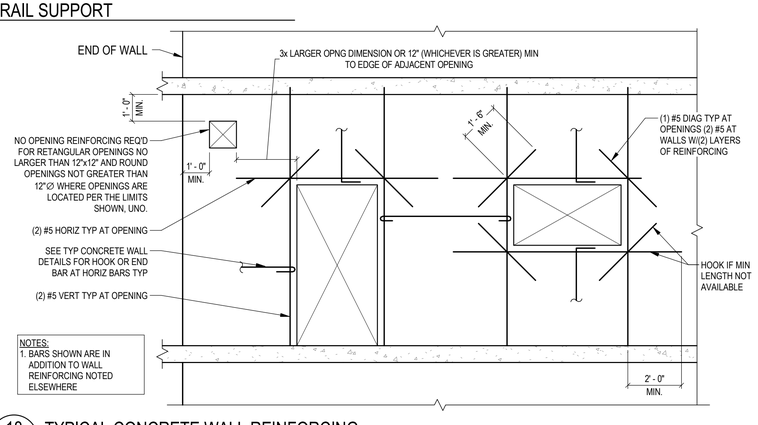
DOUBLE CURTAIN: INTERSECTION

16 S-302 TYPICAL WALL CORNER REINFORCEMENT
NTS

NOTES:
1. TYPICAL WALL REINFORCEMENT NOT SHOWN FOR CLARITY.
2. CORNER BARS SIZE AND SPACING TO MATCH TYP. HORZ. WALL REINFORCEMENT.
3. CORNER BAR GEOMETRY:



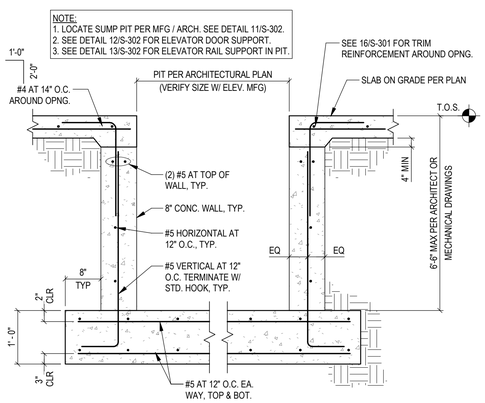
4. IF WALL IS RETAINING SOIL MIN. BAR LENGTH = 3'-6"
5. SEE DETAIL 11/S-301 FOR REINFORCEMENT DEVELOPMENT AND LAP SPLICE SCHEDULE



NOTES:
1. BARS SHOWN ARE IN ADDITION TO WALL REINFORCING NOTED ELSEWHERE

18 S-302 TYPICAL CONCRETE WALL REINFORCING
3/8" = 1'-0"

NOTE:
1. LOCATE SUMP PIT PER MFG / ARCH. SEE DETAIL 11/S-302.
2. SEE DETAIL 12/S-302 FOR ELEVATOR DOOR SUPPORT.
3. SEE DETAIL 13/S-302 FOR ELEVATOR RAIL SUPPORT IN PIT.



20 S-302 ELEVATOR PIT DETAIL
N.T.S.

AUE
13228 NE 20TH ST SUITE #100
BELLEVUE, WA 98005
PHONE: 425.614-0949
AUE JOB: 19342

DALLAS DAVID PROCHAZKA
STATE OF WASHINGTON
20173
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

06/12/2023

SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

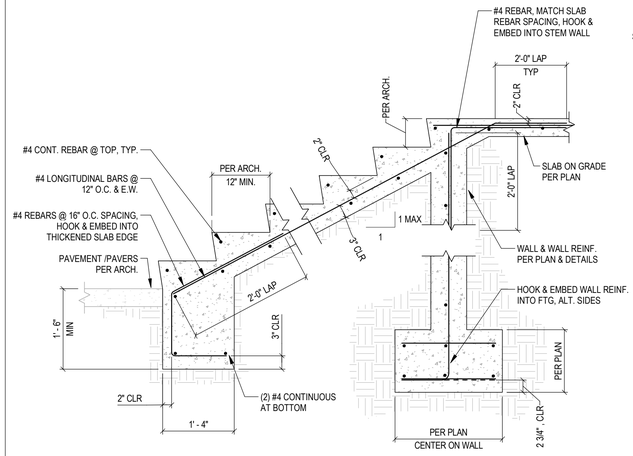
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NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
CONCRETE DETAILS

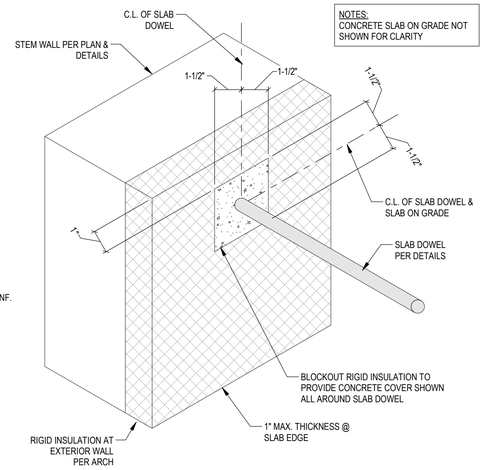
SHEET NUMBER:
S-302

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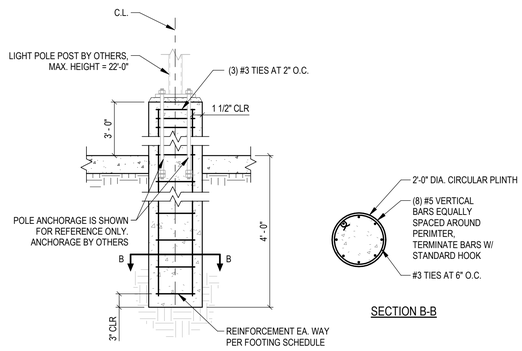
1 S-303 STAIR ON GRADE SECTION

3/4" = 1'-0"



2 S-303 TYP. FOOTING INSULATION

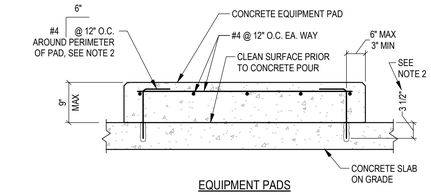
N.T.S.



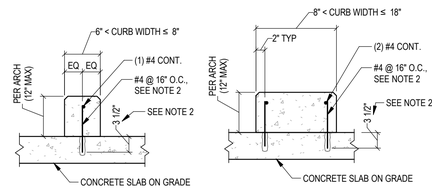
SECTION B-B

3 S-303 TYP. POLE FTG

N.T.S.



EQUIPMENT PADS

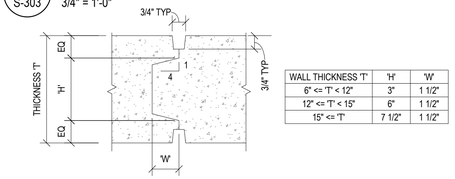


WALL OR EQUIPMENT CURBS

NOTES:
1. EQUIPMENT PAD SIZE TO BE 6" LARGER THAN EQUIPMENT ON ALL SIDES, UNLESS NOTED OTHERWISE.
2. ATTACH REBAR TO SLAB WITH ADHESIVE ANCHORING SYSTEM PER GENERAL NOTES.

5 S-303 CURBS & EQUIPMENT PADS ON SLABS ON GRADE

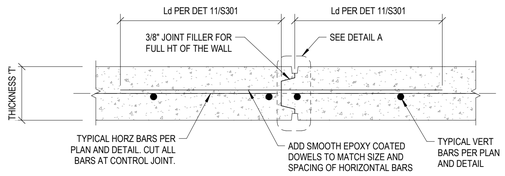
3/4" = 1'-0"



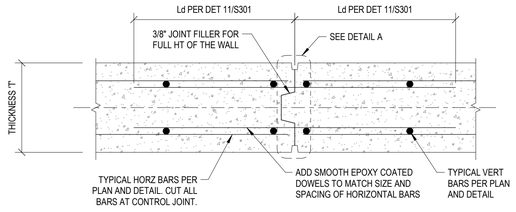
WALL THICKNESS 'T'	'H'	'W'
6" <= 'T' < 12"	3"	1 1/2"
12" <= 'T' < 15"	6"	1 1/2"
15" <= 'T'	7 1/2"	1 1/2"

DETAIL A: KEY DIMENSIONS

NOTE:
MAX. SPACING OF VERT. JOINT IS 30'-0" O.C., JOINTS SHOULD NOT OCCUR AT GRIDLINES OR PILASTERS. SEE ARCH DWG FOR ADDITIONAL INFO.



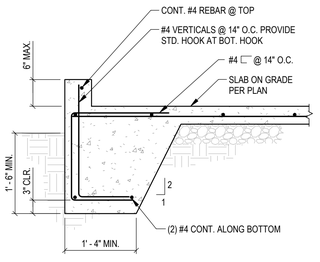
CASE 1: WALL WITH SINGLE LAYER REINFORCEMENT



CASE 2: WALL WITH DOUBLE LAYER REINFORCEMENT

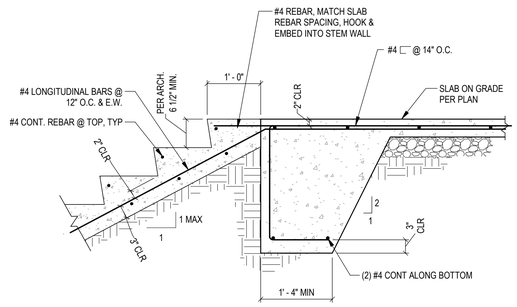
9 S-303 TYPICAL CONTROL JOINT IN CAST-IN-PLACE CONCRETE WALL

1 1/2" = 1'-0"



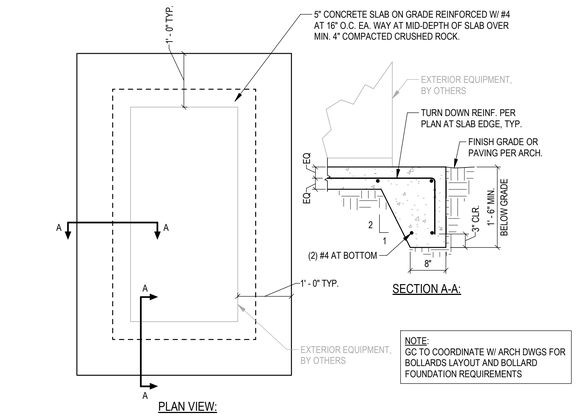
7 S-303 EXTERIOR SLAB EDGE W/ 6" CURB

3/4" = 1'-0"



8 S-303 STAIR ON GRADE SECTION

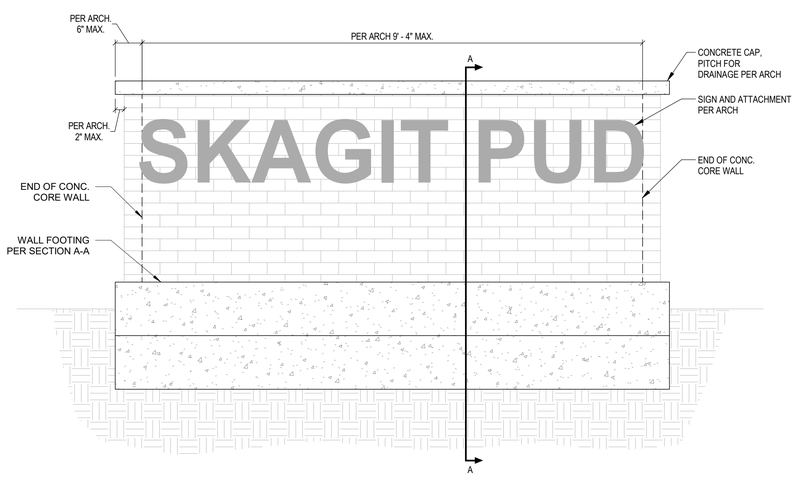
3/4" = 1'-0"



NOTE:
GC TO COORDINATE W/ ARCH DWGS FOR BOLLARDS LAYOUT AND BOLLARD FOUNDATION REQUIREMENTS

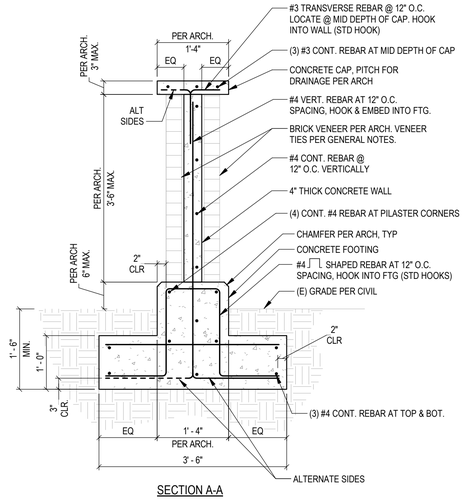
10 S-303 EXTERIOR EQUIPMENT PAD

3/4" = 1'-0"



11 S-303 MONUMENT SIGN DETAIL

3/4" = 1'-0"



SECTION A-A

AUE
13228 NE 20TH ST SUITE #100
BELLEVUE, WA 98005
PHONE: 425 614-0949
AUE JOB: 19342



06/12/2023

PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING

SKAGIT PUD
1415 FREEWAY DR
MT VERNON, WA 98273

REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

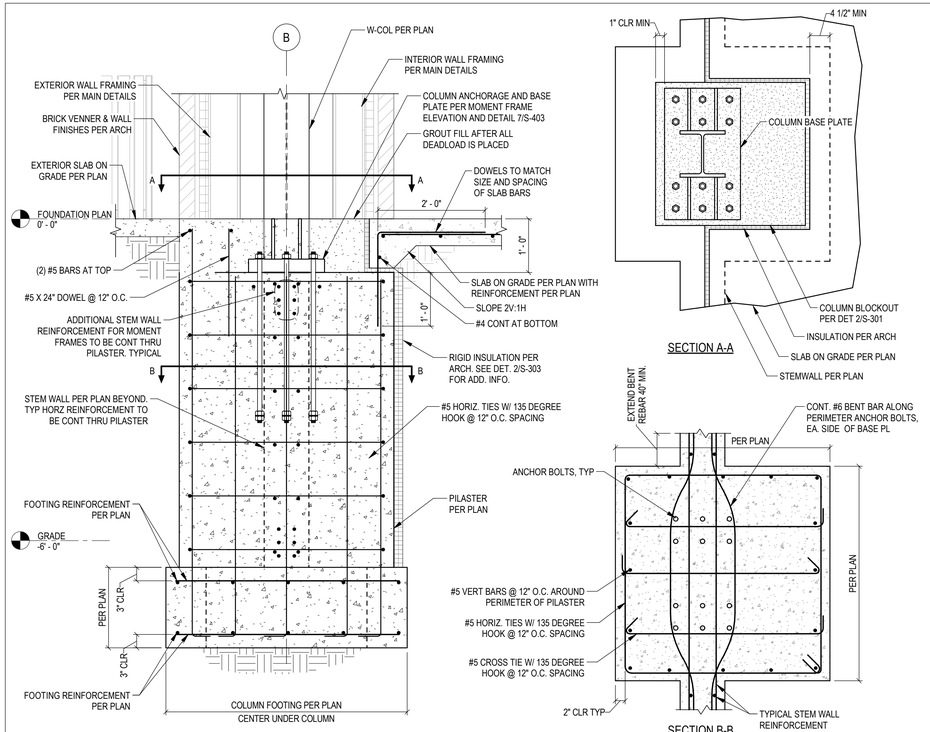
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CONCRETE DETAILS

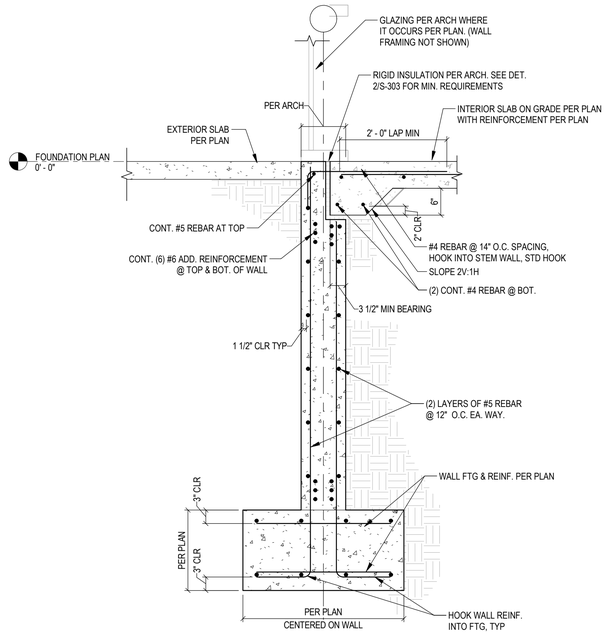
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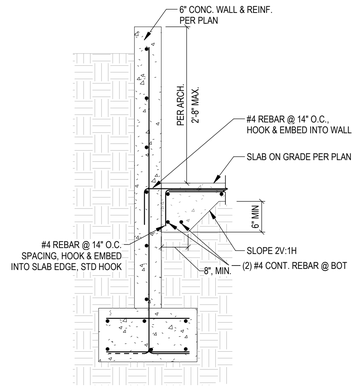
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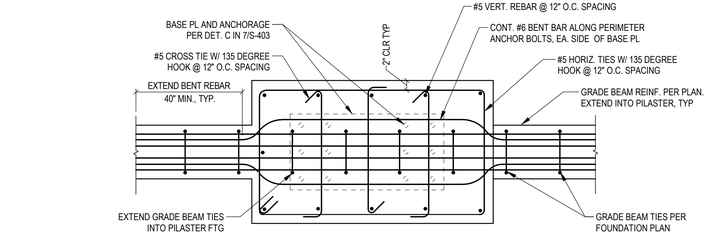
6 S-304 SECTION AT PILASTER
3/4" = 1'-0"



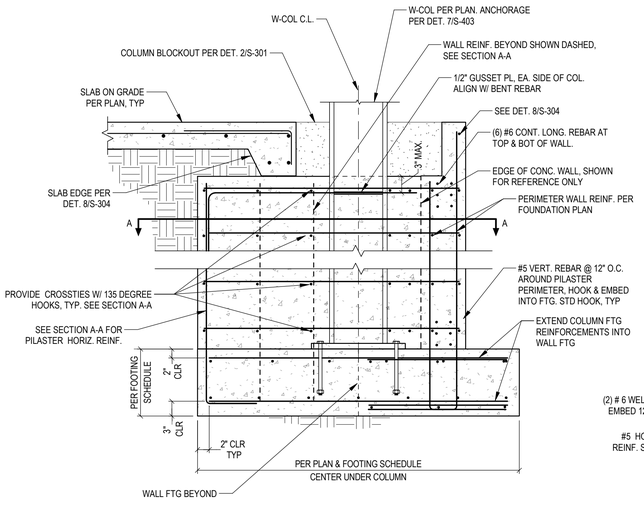
8 S-304 SECTION AT WALL TO SLAB EDGE CONNECTION
3/4" = 1'-0"

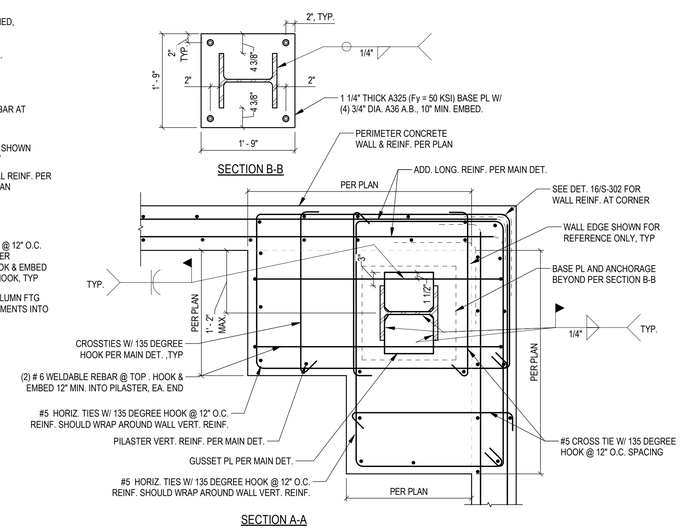


10 S-304 SECTION AT CONCRETE RAMP
3/4" = 1'-0"

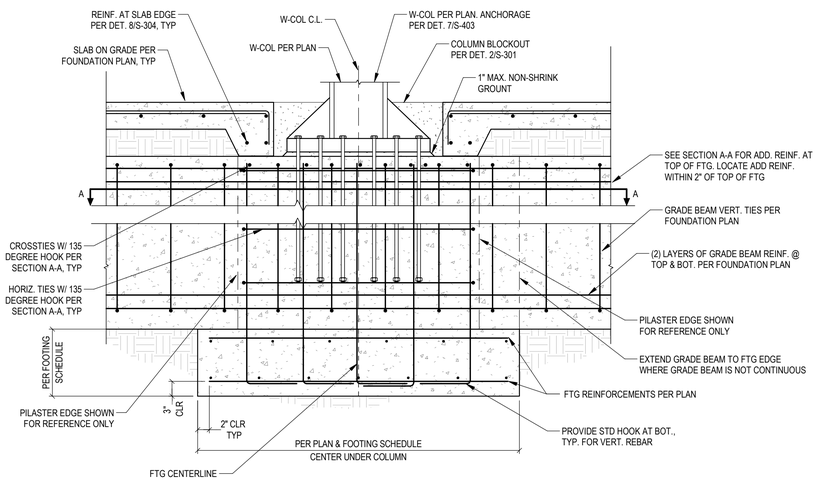


SECTION A-A





16 S-304 CONC. SPREAD FTG W/ PILASTER - EDGE CONDITION
N.T.S.



19 S-304 CONCRETE SPREAD FOOTING WITH PILASTER - AT GRADE BEAM
N.T.S.

AUE
13228 NE 20TH ST SUITE #100
BELLEVUE, WA 98005
PHONE: 425.614-0949
AUE JOB: 19342



06/12/2023

SKAGIT PUBLIC UTILITY DISTRICT
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

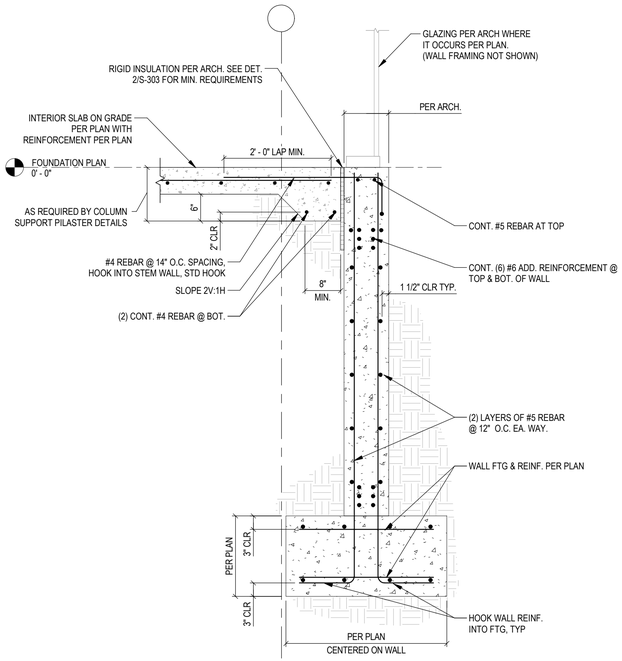
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NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
CONCRETE DETAILS

SHEET NUMBER:
S-304

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1 / S-305 SECTION AT WALL TO SLAB EDGE CONNECTION

3/4" = 1'-0"

AUE

13228 NE 20TH ST SUITE #100
BELLEVUE, WA 98005
PHONE: 425 614-0949
AUE JOB: 19342



06/12/2023

SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING

1415 FREEWAY DR
MT VERNON, WA 98273

REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
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	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:

CONCRETE DETAILS

SHEET NUMBER:

S-305

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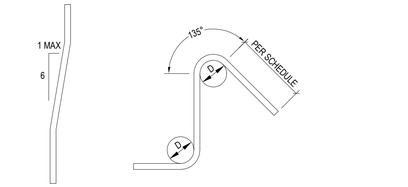
TYPICAL STRAIGHT (Ld) AND HOOKED (Ldh) REINFORCEMENT DEVELOPMENT LENGTH & LAP SPLICE SCHEDULE									
CMU COMPRESSIVE STRENGTH, f'm = 2,500 PSI:			BAR SIZE:	#3	#4	#5	#6	#7
REINFORCEMENT PLACEMENT	REINFORCEMENT DIAGRAM	DEVELOPMENT OR LAP TYPE	NOMINAL CMU BLOCK WIDTH	d_b = 0.375 in	d_b = 0.500 in	d_b = 0.625 in	d_b = 0.750 in	d_b = 0.875 in
SINGLE CURTAIN VERTICAL & HORIZONTAL REINFORCEMENT	1	STRAIGHT DEVELOPMENT OR LAP SLICE	6"	12"	19"	-	-	-
			8"	12"	14"	22"	41"	57"
			10"	12"	12"	16"	30"	42"
			12"	12"	12"	13"	24"	33"
		STRAIGHT DEVELOPMENT WITH STD HOOKS	6"	12"	13"	-	-	-
			8"	12"	12"	14"	32"	46"
			10"	12"	12"	12"	21"	31"
			12"	12"	12"	12"	15"	22"
DOUBLE CURTAIN VERTICAL REINFORCEMENT	2	STRAIGHT DEVELOPMENT OR LAP SLICE	6"	-	-	-	-	-
			8"	12"	20"	31"	44"	64"
			10"	12"	20"	31"	44"	60"
			12"	12"	20"	31"	44"	60"
		STRAIGHT DEVELOPMENT WITH STD HOOKS	6"	-	-	-	-	-
			8"	12"	14"	23"	35"	53"
			10"	12"	14"	23"	35"	49"
			12"	12"	14"	23"	35"	49"
DOUBLE CURTAIN HORIZONTAL REINFORCEMENT	2	STRAIGHT DEVELOPMENT OR LAP SLICE	6"	-	-	-	-	-
			8"	14"	29"	31"	44"	64"
			10"	12"	20"	31"	44"	60"
			12"	12"	20"	31"	44"	60"
		STRAIGHT DEVELOPMENT WITH STD HOOKS	6"	-	-	-	-	-
			8"	12"	23"	47"	-	-
			10"	12"	14"	23"	35"	49"
			12"	12"	14"	23"	35"	49"

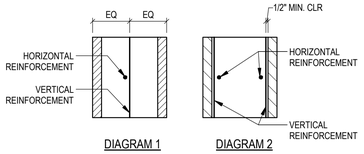
GENERAL NOTES:
1. ALL DEVELOPMENT AND LAP SPLICE LENGTHS SPECIFIED IN SCHEDULE ARE FOR REINFORCING STEEL WITH:
   1.1 Fy = 60,000 PSI
   1.2 MIN. COVER FOR ALL BARS: 2"
   1.3 MIN. CLEAR SPACING BETWEEN REINFORCEMENT OF THE LARGER OF 1" OR 1 x BAR DIAMETER (d_b).
2. UNLESS NOTED OTHERWISE, ALL HOOKED BARS SHALL EXTEND TO THE FAR FACE W/ MIN COVER BEYONDPER "NOTES 1.2 THRU 1.3"

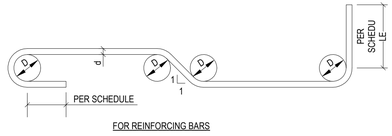
LAP SPLICE NOTES:
1. ALL SPLICES SHALL BE WIRED IN CONTACT AND STACKED VERTICALLY.
2. SMALLER BAR LAP LENGTH SHALL BE USED WHEN SPLICING DIFFERENT SIZED BARS.
3. LAP LENGTHS SPECIFICALLY DETAILED IN DRAWINGS SHALL GOVERN IN LIEU OF LAP LENGTHS SCHEDULED.
4. STAGGER HORIZONTAL REINFORCEMENT LAP SPLICES A MINIMUM OF 60 BAR DIAMETERS, U.N.O.

ADJUSTMENTS TO SPECIFIED STRAIGHT DEVELOPMENT AND LAP SPLICE LENGTHS:
1. EPOXY-COATED REINFORCMENT:
   1.1. MULTIPLY THE LENGTHS SPECIFIED IN THE SCHEDULE BY 1.5

ADJUSTMENTS TO SPECIFIED HOOK DEVELOPMENT LENGTHS:
1. EPOXY-COATED REINFORCMENT:
   1.1. MULTIPLY THE LENGTHS SPECIFIED IN THE SCHEDULE BY 1.5

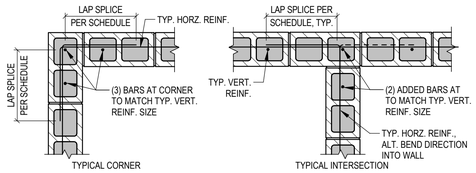




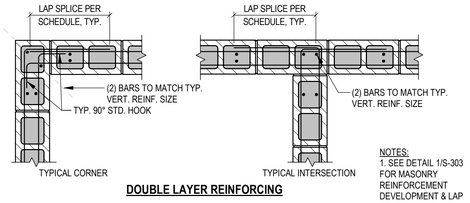


1 S-350 MASONRY REINFORCEMENT DEVELOPMENT & LAP SPLICE SCHEDULE
3/4" = 1'-0"

3 S-350 CMU REBAR BENDING SCHEDULE
3/4" = 1'-0"



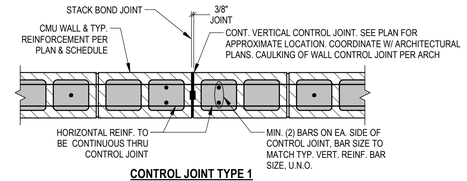
SINGLE LAYER REINFORCING



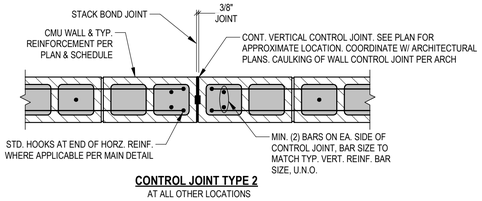
DOUBLE LAYER REINFORCING

NOTES:
1. SEE DETAIL 1/S-303 FOR MASONRY REINFORCEMENT DEVELOPMENT & LAP SPLICE SCHEDULE

5 S-350 TYP. CMU CORNER BAR DETAILS
3/4" = 1'-0"



CONTROL JOINT TYPE 1
ROOF ELEVATIONS, FLOOR ELEVATIONS, LINTELS



CONTROL JOINT TYPE 2
AT ALL OTHER LOCATIONS

8 S-350 TYPICAL MASONRY CONTROL JOINTS
1" = 1'-0"

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PAULINI DAVID PROCHAZKA — STATE OF WASHINGTON — 60173 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER

06/12/2023

SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

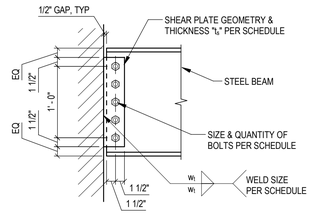
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MASONRY DETAILS

SHEET NUMBER:
S-350

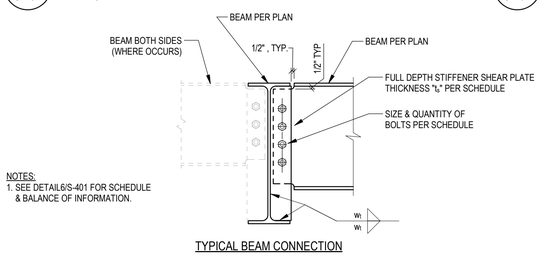
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SINGLE SHEAR PLATE CONNECTION SCHEDULE			
BOLT SPECIFICATION: ASTM A325-SC			
BEAM SIZE	NUMBER & SIZE OF BOLTS REQUIRED	PLATE THICKNESS 't$_p$'	WELD SIZE, 'w'
W6, C6, C7	(2) 3/4"∅	5/16"	1/4"
W8, C8, C9	(2) 3/4"∅	5/16"	1/4"
W10, C10	(2) 3/4"∅	5/16"	1/4"
W12, C12	(3) 3/4"∅	5/16"	1/4"
W14, C15	(3) 3/4"∅	5/16"	1/4"
W16	(4) 3/4"∅	5/16"	1/4"
W18	(4) 3/4"∅	5/16"	1/4"
W21	(5) 3/4"∅	3/8"	5/16"
W24	(6) 3/4"∅	3/8"	5/16"
W27	(7) 3/4"∅	3/8"	5/16"
W30	(8) 3/4"∅	3/8"	5/16"
W33	(9) 3/4"∅	1/2"	3/8"
W36	(10) 3/4"∅	1/2"	3/8"
W40	(11) 3/4"∅	1/2"	3/8"
W44	(12) 3/4"∅	1/2"	3/8"

NOTES:
1. ALTERNATE CONNECTIONS MAY BE SUBSTITUTED FOR SINGLE TAB CONNECTION PLATES OUTLINED ABOVE AND IN THE ACCOMPANYING DETAILS. PROVIDED THE MEET OR EXCEED THE REQUIREMENTS OF THE AISC. ALTERNATE CONNECTIONS MUST BE SUBMITTED FOR REVIEW PRIOR TO SHOP DRAWING REVIEW.
2. BEAMS SHALL HAVE STANDARD ROUND HOLES AND CONNECTION PLATES MAY HAVE HORIZONTAL SHORT-SLOTTED HOLES. WHERE SHORT-SLOTTED HOLES ARE USED PROVIDE HARDENED WASHERS PER AISC SECTION J3.2.
3. BOLT QUANTITIES LISTED ARE FOR BOLTS ATTACHED TO THE SHEAR TAB AND MAY NOT BE THE SAME AS THE TOTAL NUMBER OF BOLTS IN THE CONNECTION. SEE THE SPECIFIC CONNECTION DETAIL FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

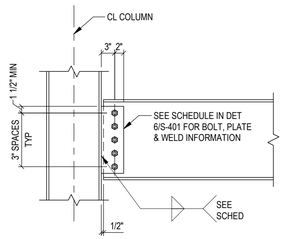


6 TYPICAL SHEAR PLATE CONNECTION SCHEDULE
S-401 1" = 1'-0"

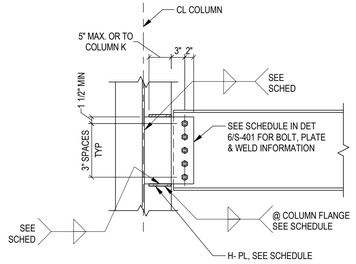


NOTES:
1. SEE DETAIL6/S-401 FOR SCHEDULE & BALANCE OF INFORMATION.

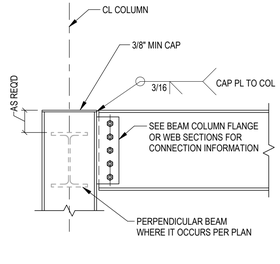
TYPICAL BEAM CONNECTION



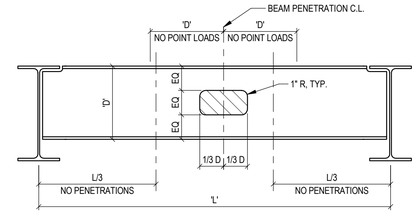
BEAM - COLUMN FLANGE CONNECTION



BEAM - COLUMN WEB CONNECTION

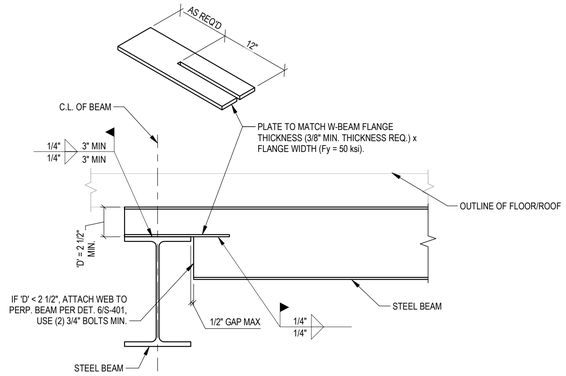


CONNECTIONS AT TOP OF COLUMN



NOTES:
1. THIS DETAIL MAY BE USED AS A GUIDELINE FOR FIELD MODIFICATIONS TO BEAMS CAUSED BY UTILITY PENETRATIONS
2. PENETRATIONS MAY BE CREATED UP TO AND INCLUDING FULL SIZE OF CROSS HATCHED AREA WITHOUT PRIOR APPROVAL OF STRUCTURAL ENGINEER AND WITHOUT STIFFENERS BEING ADDED
3. NO POINT LOADS SHALL BE LOCATED OVER THE PENETRATION OR WITHIN "D" OF EITHER SIDE OF THE PENETRATION
4. PENETRATIONS OF ANY SIZE IN ANY OTHER AREA OF THE BEAM MUST BE APPROVED BY THE STRUCTURAL ENGINEER.

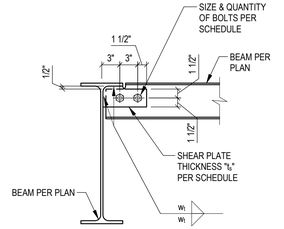
4 TYPICAL W-BEAM WEB PENETRATION
S-401 1" = 1'-0"



6 TYPICAL SHEAR PLATE CONNECTION SCHEDULE
S-401 1" = 1'-0"

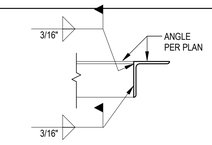
NOTES:
1. SEE DETAIL6/S-401 FOR SCHEDULE & BALANCE OF INFORMATION.

TYPICAL BEAM CONNECTION

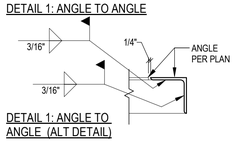


7 TYPICAL BEAM TO COL. CONNECTIONS
S-401 3/4" = 1'-0"

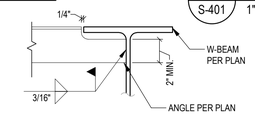
TYPICAL W6, C6, C7 CONNECTION



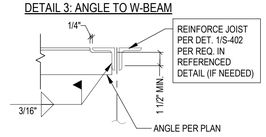
DETAIL 1: ANGLE TO ANGLE



DETAIL 1: ANGLE TO ANGLE (ALT DETAIL)

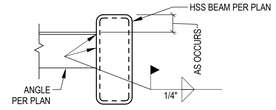


DETAIL 3: ANGLE TO W-BEAM

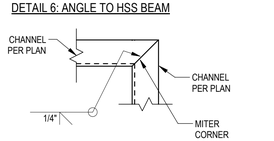


DETAIL 4: ANGLE TO OWSJ

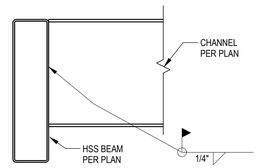
9 TYPICAL COPED BEAM TO BEAM
S-401 1" = 1'-0"



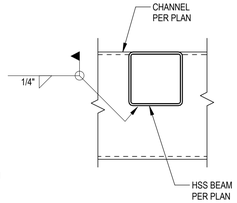
DETAIL 6: ANGLE TO HSS BEAM



DETAIL 5: CHANNEL TO CHANNEL

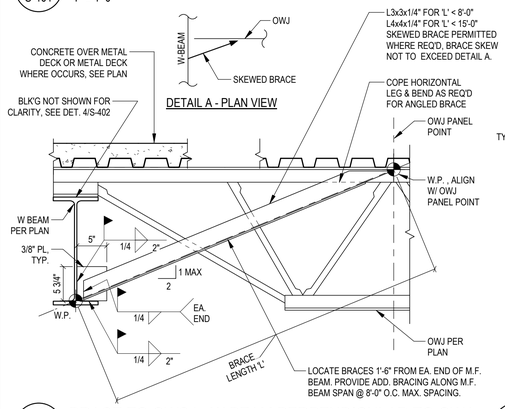


DETAIL 7: CHANNEL TO HSS BEAM (TYPE 1)



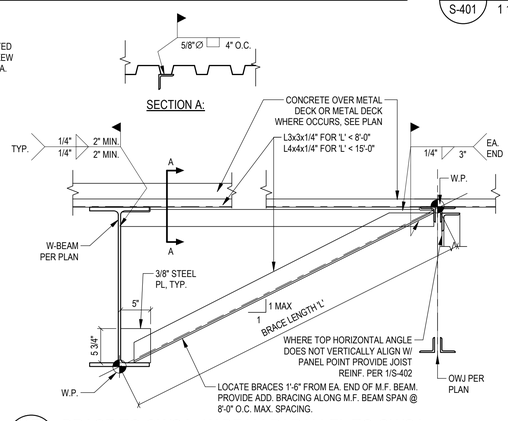
DETAIL 8: HSS TO CHANNEL BEAM (TYPE 2)

11 TYPICAL BEAM TO BEAM CONNECTION
S-401 1" = 1'-0"



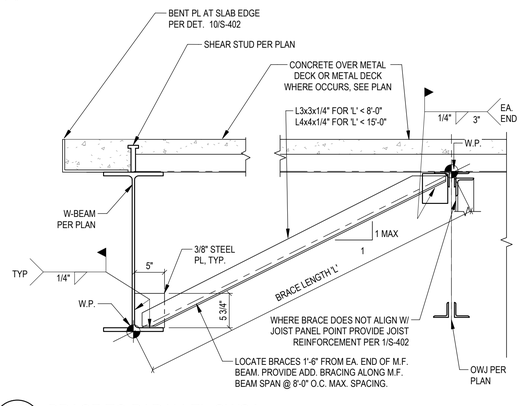
DETAIL A - PLAN VIEW

16 BRACE TO OWSJ - W BEAM PERPENDICULAR TO OWJ
S-401 1" = 1'-0"

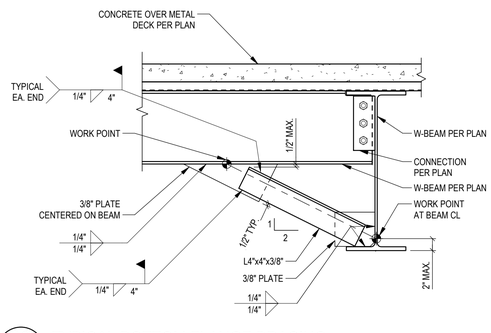


17 BRACE TO OWSJ - W BEAM PARALLEL TO OWSJ
S-401 1" = 1'-0"

13 TYP. STEEL TO STEEL CONN.
S-401 1 1/2" = 1'-0"



18 BRACE TO PARALLEL OWSJ
S-401 1" = 1'-0"



19 TYPICAL BOTTOM FLANGE BRACING
S-401 1" = 1'-0"

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06/12/2023

SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

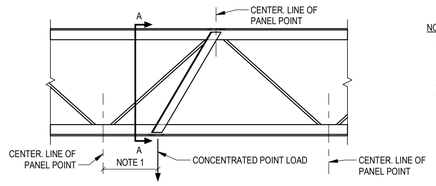
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NO.	TYPE REVISION	DATE
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	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
STEEL DETAILS

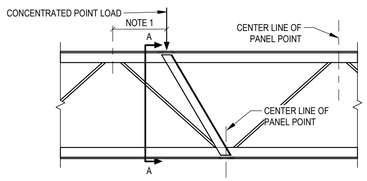
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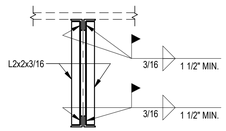


NOTES:
1. WHERE CONCENTRATED POINT LOAD OF 75 LBS OR GREATER IS LOCATED (DIMENSION 'A') MORE THAN 3" FROM A PANEL POINT CENTERLINE FOR A K-SERIES JOIST & 6" FOR A LH-SERIES JOIST, REINFORCE THE JOIST WITH ANGLES EACH SIDE EXTENDING FROM THE POINT LOAD TO THE NEAREST PANEL POINT ON THE OPPOSITE CHORD. SEE SECTION A-A.
2. DO NOT PLACE LOAD UNTIL REINFORCEMENT HAS BEEN INSTALLED.
3. DO NOT CUT OR DRILL THOUGH ANY OPEN WEB JOIST MEMBERS.

REQ'D REINFORCEMENT FOR CONCENTRATED POINT LOAD AT BOTTOM CHORD:

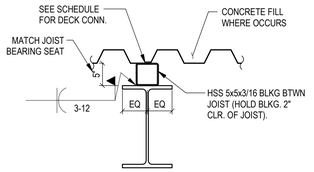


REQ'D REINFORCEMENT FOR CONCENTRATED POINT LOAD AT TOP CHORD:

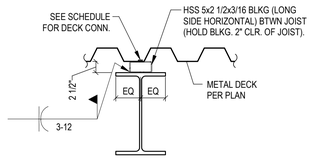


SECTION A-A:

1 S-402 OWSJ CONCENTRATED POINT LOAD REINFORCEMENT
3/4" = 1'-0"



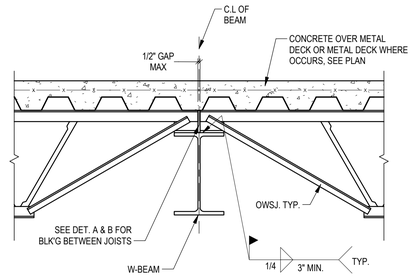
DETAIL A: CONDITION BTWN OWSJ (AT 2ND FL)



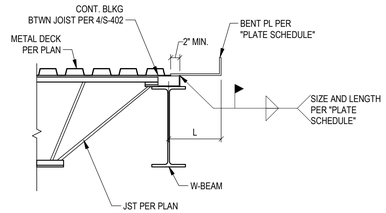
DETAIL B: CONDITION BTWN OWSJ (AT ROOF LVL)

PLATE SCHEDULE		
L (INCH)	PLATE THICKNESS "T" (INCH)	WELD SIZE AND LENGTH
0 - 12	1/4"	1/4" 3-12

NOTE:
1. FIELD INSTALL BENT PLATE WHERE REQUIRED TO SATISFY ARCHITECTURAL TOLERANCES.
2. SPLICE BENT PLATES GREATER THAN 3/8" THICK WITH 1/4" (MIN EFFECTIVE THROAT SIZE) PJP WELD. FOR BENT PLATES 3/8" THICK OR LESS, USE 1/8" (MIN EFFECTIVE THROAT SIZE) PJP WELD.



4 S-402 OWSJ AT W-BEAM
3/4" = 1'-0"

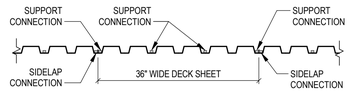


5 S-402 METAL ROOF DECK EDGE - TYPE 2
3/4" = 1'-0"



METAL DECK PROPERTIES				
(GAGE) TYPE	THICKNESS (IN.)	S_{p+} (IN³/FT.)	S_{p-} (IN³/FT.)	F_y (KSI)
(20 GAGE) PLB-36	0.0358	0.224	0.229	50
(20 GAGE) 1.5C-36	0.0358	0.229	0.224	50

6 S-402 METAL DECK PROPERTIES
3/4" = 1'-0"



TYPICAL FASTENER PATTERN DIAGRAM:

ROOF DIAPHRAGM SCHEDULE				
(GAGE) TYPE	SUPPORT ATTACHMENT PATTERN	SUPPORT CONNECTION (NOTE 6)	SIDE-LAP CONNECTION	DIAPHRAGM SHEAR CAPACITY (ASD)
(20 GAGE) PLB-36	36/4	(4) 5/8" VISIBLE DIAMETER ARC SPOT WELD (NOTE 5)	PUNCHLOK II CONN. (VSC2) AT 18" O.C.	831 PLF

METAL DECK NOTES:
1. METAL DECK SHEETS SHALL BE CONTINUOUS OVER 3 OR MORE SPANS UNO PER PLAN.
2. THE DIMENSION FROM THE FIRST AND LAST SIDE-LAP CONNECTION WITHIN EACH SPAN IS TO BE NO MORE THAN ONE-HALF OF THE SPECIFIED SPACING IN THE ROOF DIAPHRAGM SCHEDULE ABOVE.
3. DECK MUST BEAR ON SUPPORTS A MINIMUM OF 2".
4. METAL DECK FASTENING REQUIREMENTS TO LEDGERS, BLOCKING AND DRAG MEMBERS PER PLAN.
5. SUPPORT WELDS AT INTERLOCKING SIDELAPS MAY BE 3/8" X 1 1/4" ARC SEAM WELDS IN LIEU OF ARC SPOT WELDS.
6. DECK CONN. SHOWN IN TABLE TO SUPPORTS PER BELOW
   A. FOR SUPPORTS PARALLEL TO DECK FLUTES USE 5/8" EFF. PUDDLE WELDS @ 12" O.C. AT TYP. SUPPORTS. USE 6" O.C. SPACING AT DRAG LINES, AND LATERAL RESISTING SYSTEMS

7 S-402 ROOF METAL DECK FASTENING
3/4" = 1'-0"

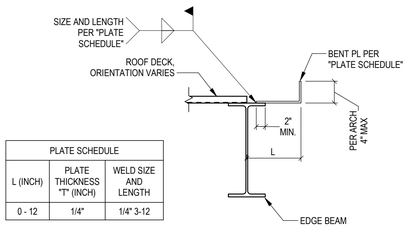
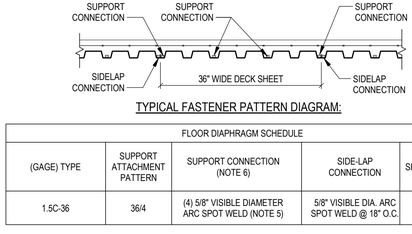


PLATE SCHEDULE		
L (INCH)	PLATE THICKNESS "T" (INCH)	WELD SIZE AND LENGTH
0 - 12	1/4"	1/4" 3-12

NOTE:
1. FIELD INSTALL BENT PLATE WHERE REQUIRED TO SATISFY ARCHITECTURAL TOLERANCES.
2. SPLICE BENT PLATES GREATER THAN 3/8" THICK WITH 1/4" (MIN EFFECTIVE THROAT SIZE) PJP WELD. FOR BENT PLATES 3/8" THICK OR LESS, USE 1/8" (MIN EFFECTIVE THROAT SIZE) PJP WELD.

8 S-402 METAL ROOF DECK EDGE - TYPE 1
3/4" = 1'-0"



TYPICAL FASTENER PATTERN DIAGRAM:

FLOOR DIAPHRAGM SCHEDULE				
(GAGE) TYPE	SUPPORT ATTACHMENT PATTERN	SUPPORT CONNECTION (NOTE 6)	SIDE-LAP CONNECTION	DIAPHRAGM SHEAR CAPACITY (ASD)
1.5C-36	36/4	(4) 5/8" VISIBLE DIAMETER ARC SPOT WELD (NOTE 5)	5/8" VISIBLE DIA. ARC SPOT WELD @ 18" O.C.	2070 PLF

NOTES:
1. CMD DECK SHEETS SHALL BE CONTINUOUS OVER 3 OR MORE SPANS UNO PER PLAN.
2. THE DIMENSION FROM THE FIRST AND LAST SIDE-LAP CONNECTION WITHIN EACH SPAN IS TO BE NO MORE THAN ONE-HALF OF THE SPECIFIED SPACING IN THE ROOF DIAPHRAGM SCHEDULE ABOVE.
3. CMD MUST BEAR ON SUPPORTS A MINIMUM OF 2".
4. CMD FASTENING REQUIREMENTS TO LEDGERS, BLOCKING AND DRAG MEMBERS PER PLAN.
5. SUPPORT WELDS AT INTERLOCKING SIDELAPS MAY BE 3/8" X 1 1/4" ARC SEAM WELDS IN LIEU OF ARC SPOT WELDS
6. DECK CONN. SHOWN IN TABLE TO SUPPORTS PER BELOW
   A. FOR SUPPORTS PARALLEL TO DECK FLUTES USE 5/8" EFF. PUDDLE WELDS @ 12" O.C. AT TYP. SUPPORTS. USE 4" O.C. SPACING AT DRAG LINES, AND LATERAL RESISTING SYSTEMS

9 S-402 CORRUGATED METAL DECKING (CMD) FASTENING
3/4" = 1'-0"

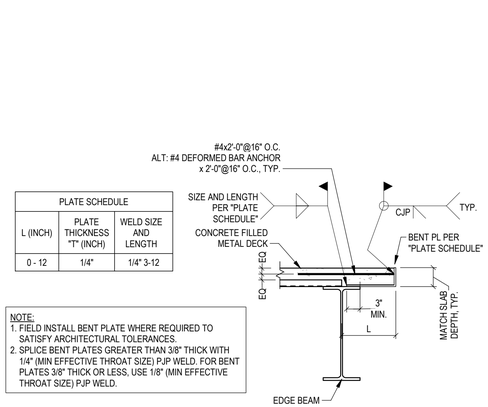
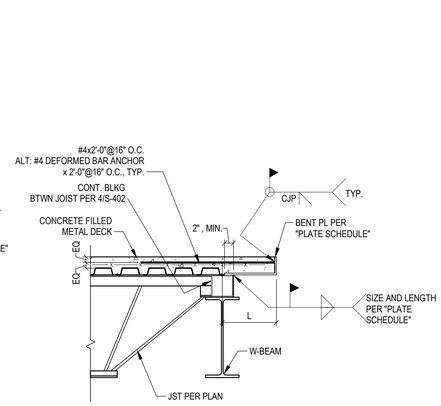


PLATE SCHEDULE		
L (INCH)	PLATE THICKNESS "T" (INCH)	WELD SIZE AND LENGTH
0 - 12	1/4"	1/4" 3-12

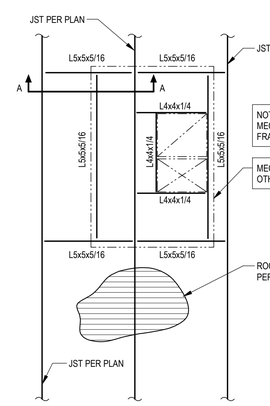
NOTE:
1. FIELD INSTALL BENT PLATE WHERE REQUIRED TO SATISFY ARCHITECTURAL TOLERANCES.
2. SPLICE BENT PLATES GREATER THAN 3/8" THICK WITH 1/4" (MIN EFFECTIVE THROAT SIZE) PJP WELD. FOR BENT PLATES 3/8" THICK OR LESS, USE 1/8" (MIN EFFECTIVE THROAT SIZE) PJP WELD.

CASE 1: DECK EDGE AT W BEAM

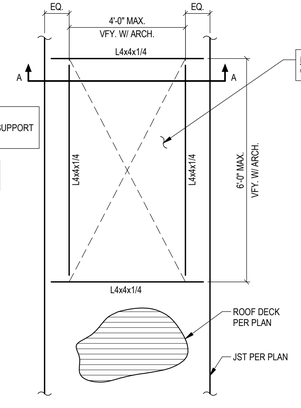


CASE 2: DECK EDGE AT OWSJ

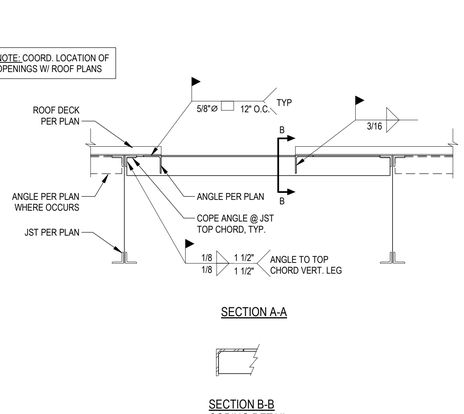
10 S-402 TYPICAL CONCRETE FILLED METAL DECK EDGE
3/4" = 1'-0"



TYPICAL EQUIPMENT SUPPORT & OPENING
N.T.S.



TYPICAL ROOF HATCH
N.T.S.



SECTION A-A

SECTION B-B
COPING DETAIL

12 S-402 TYPICAL OPENING IN ROOF DECK
3/4" = 1'-0"

AUE
13228 NE 20TH ST SUITE #100
BELLEVUE, WA 98005
PHONE: 425.614-0949
AUE JOB: 19342



06/12/2023

PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

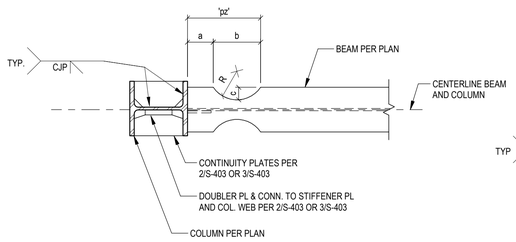
ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
STEEL DETAILS

SHEET NUMBER:
S-402

5/16/2023 4:25:00 PM

BEAM SIZE	a	b	c	pz
W10 X 45	6"	10"	1 1/4"	16"
W12 X 45	6"	10"	1 1/4"	16"
W12 X 50	6"	10"	1 1/4"	16"
W14 X 53	6"	10"	1 1/4"	16"
W16 X 77	6"	12"	1 1/4"	18"
W16 X 89	6"	12"	1 1/4"	18"

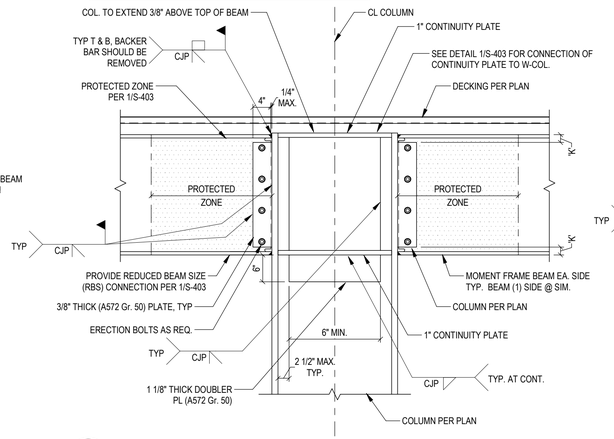


NOTE: PROTECTED ZONE TO BE PAINTED OR OTHERWISE MARKED AS SUCH. IT SHALL NOT HAVE WELDING, PENETRATIONS OR DAMAGE. PROTECTED ZONES MUST BE EXPOSED DURING STRUCTURAL OBSERVATION OF THE SEISMIC FORCE RESISTING SYSTEM.

1 S-403 TYPICAL RBS CONNECTION
3/4" = 1'-0"

NOTE:
- JOIST CONNECTION TO BEAM NOT SHOWN FOR CLARITY
- 'K' = 1 3/4" MAX FOR A W16 BEAM
- 'K' = 1 5/8" MAX. FOR A W12 BEAM
- 'K' = 1 3/8" MAX FOR A W10 BEAM

NOTE: UNLESS NOTED "STD. WELD", ALL WELDS THIS DETAIL SHALL MEET THE LATERAL LOAD RESISTING SYSTEM REQUIREMENTS PER GENERAL NOTES.

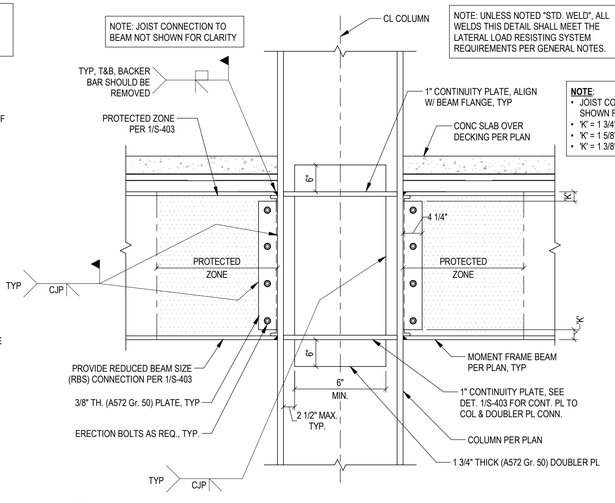


2 S-403 BEAM TO COLUMN CONNECTION AT ROOF MOMENT FRAME
3/4" = 1'-0"

NOTE: JOIST CONNECTION TO BEAM NOT SHOWN FOR CLARITY

NOTE: UNLESS NOTED "STD. WELD", ALL WELDS THIS DETAIL SHALL MEET THE LATERAL LOAD RESISTING SYSTEM REQUIREMENTS PER GENERAL NOTES.

NOTE:
- JOIST CONNECTION TO BEAM NOT SHOWN FOR CLARITY
- 'K' = 1 3/4" MAX FOR A W16 BEAM
- 'K' = 1 5/8" MAX. FOR A W12 BEAM
- 'K' = 1 3/8" MAX FOR A W10 BEAM

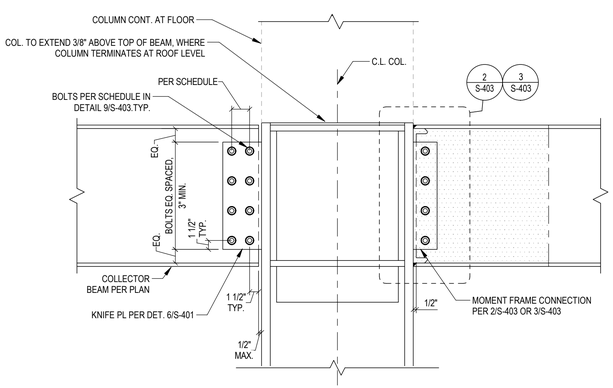


3 S-403 BEAM TO COLUMN CONNECTION AT 2ND FLOOR MOMENT FRAME
3/4" = 1'-0"

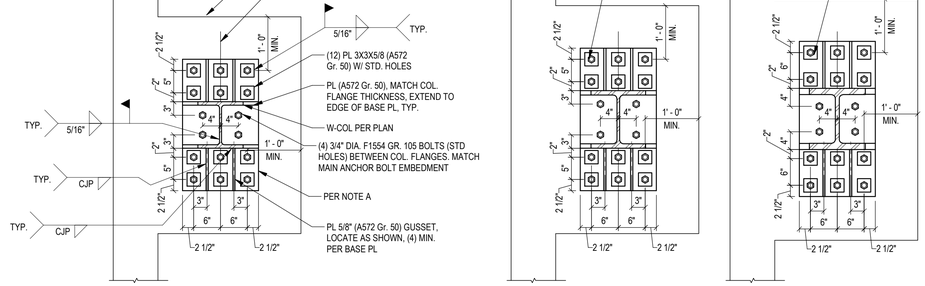
BEAM SIZE	DETAIL
W10X68	DETAIL A
W12X106	DETAIL B
W12X152	DETAIL C

FRAMING NOTE:
ALL ANCHOR BOLTS SHOULD HAVE 3X3X1 (A572 Gr. 50) WASHER PL AT BOT. OF ANCHOR W/ NUT @ TOP & BOT.
A. 3" THICK PL (A572 Gr. 50) W/ (12) 1" DIA. F1554 GR. 105 BOLTS (1 13/16" DIA. HOLE SIZE). EMBED 32" INTO PILASTER.
B. 3" THICK PL (A572 Gr. 50) W/ (12) 1 1/4" DIA. F1554 GR. 105 BOLTS (2 1/16" DIA. HOLE SIZE). EMBED 45" INTO PILASTER
C. 3" THICK PL (A572 Gr. 50) W/ (12) 1 1/2" DIA. F1554 GR. 105 BOLTS (2 5/16" DIA. HOLE SIZE). EMBED 60" INTO PILASTER

NOTE: UNLESS NOTED "STD. WELD", ALL WELDS THIS DETAIL SHALL MEET THE LATERAL LOAD RESISTING SYSTEM REQUIREMENTS PER GENERAL NOTES.



6 S-403 COLLECTOR CONNECTION TO MOMENT FRAME COLUMN
1" = 1'-0"



7 S-403 MOMENT FRAME BASE PLATES
3/4" = 1'-0"

ROOF LEVEL COLLECTOR SCHEDULE						
GRID	BOLT COUNT	BOLT DIA.	# ROWS	DIST. BTWN ROWS	KNIFE PL THICKNESS	WELD SIZE
E/2 (LOWER RF)	6	1"	2	3"	5/16"	1/4"
B/3 (LOWER RF)	6	1"	2	3"	5/16"	1/4"
1/C (LOWER RF)	6	1"	2	3"	5/16"	1/4"
4/D (LOWER RF)	4	1"	2	3"	5/16"	1/4"
B/5 (UPPER RF)	4	1"	2	3"	5/16"	1/4"
4/D (UPPER RF)	4	1"	2	3"	5/16"	1/4"
E/7 (UPPER RF)	4	1"	2	3"	5/16"	1/4"
8/C (UPPER RF)	4	1"	2	3"	5/16"	1/4"

FLOOR/LOWER ROOF LEVEL COLLECTOR SCHEDULE						
GRID	BOLT COUNT	BOLT DIA.	# ROWS	DIST. BTWN ROWS	KNIFE PL THICKNESS	WELD SIZE
B/5 (2ND FL)	8	1"	2	3"	5/16"	1/4"
4/D (2ND FL)	6	1"	2	3"	5/16"	1/4"
E/7 (2ND FL)	8	1"	2	3"	5/16"	1/4"
8/C (2ND FL)	8	1"	2	3"	5/16"	1/4"

NOTES:
1. GRIDS ARE LISTED BY PARALLEL GRID FIRST, PERPENDICULAR GRID SECOND.
2. USE A325 (N) SLIP CRITICAL BOLTS AT COLLECTORS

9 S-403 COLLECTOR CONNECTION SCHEDULE
3/4" = 1'-0"

AUE
13228 NE 20TH ST SUITE #100
BELLEVUE, WA 98005
PHONE: 425.614-0949
AUE JOB: 19342



06/12/2023

SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

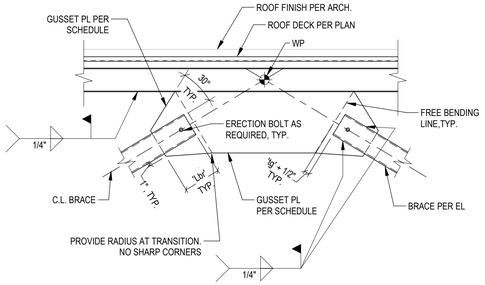
SHEET NAME:
STEEL DETAILS

SHEET NUMBER:
S-403

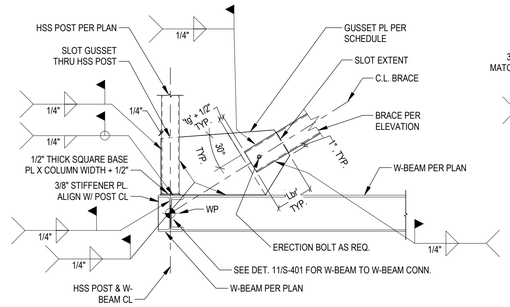
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GUSSET CONNECTION SCHEDULE:				
PLATE	GUSSET PL THICKNESS "t$_g$"	WELD TO BRACE "Wbr"	WELD LAP LENGTH "Lbr"	NOTES
G-1	1/2"	5/16"	12"	-

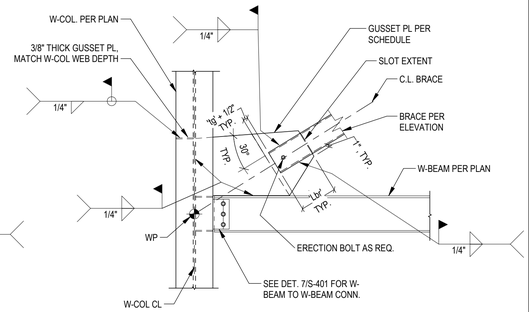
NOTES:
1. AT SLOTTED CONNECTIONS, PROVIDE SLOT WITH RADIUSED END. SLOT WIDTH SHALL BE THICKNESS OF GUSSET PLATE + 1/8".
2. MATERIAL:
   3.1. GUSSET PLATES SHALL BE ASTM A572 GRADE 50 STEEL, UNLESS NOTED OTHERWISE.
4. GUSSET PLATE ANGLE, θ, SHALL BE 30 DEGREES, UNLESS NOTED OTHERWISE.



NOTES:
1. SEE 1/S-404 FOR ADDITIONAL INFORMATION.



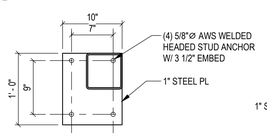
NOTES:
1. SEE 1/S-404 FOR ADDITIONAL INFORMATION.



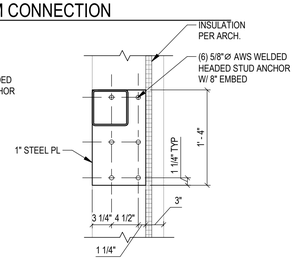
NOTES:
1. SEE 1/S-404 FOR ADDITIONAL INFORMATION.

1 S-404 SCHEDULE & NOTES GUSSET CONNECTION
1 1/2" = 1'-0"

2 S-404 HSS BRACING TO WF BEAM CONNECTION
1/2" = 1'-0"



EXTERIOR COLUMN SUPPORTING VESTIBULE CASE 2 SECTION A-A

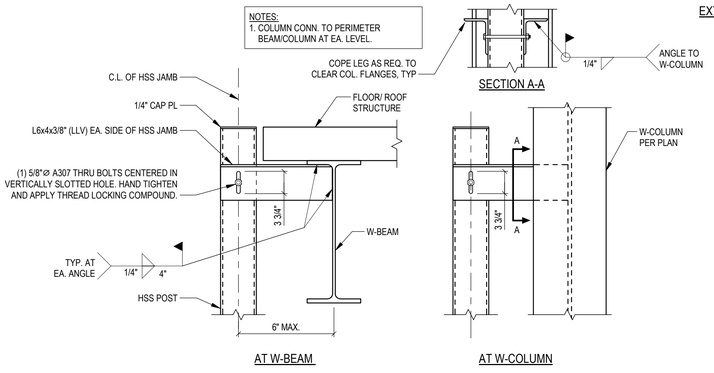


EXTERIOR COLUMN SUPPORTING VESTIBULE CASE 1 SECTION A-A

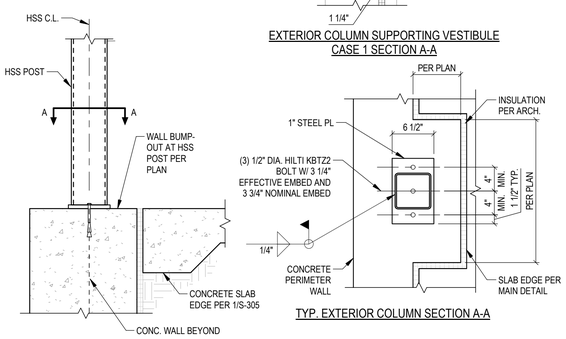
3 S-404 HSS BRACE BOT. CONN. - TYPE A
1/2" = 1'-0"

4 S-404 HSS BRACE BOT. CONN. - TYPE B
1/2" = 1'-0"

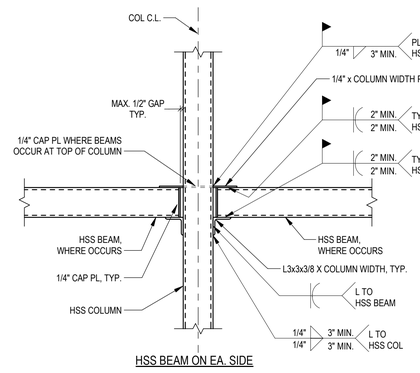
NOTES:
1. COLUMN CONN. TO PERIMETER BEAM/COLUMN AT EA. LEVEL.



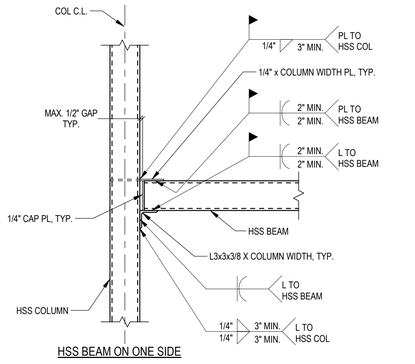
AT W-BEAM AT W-COLUMN



TYP. EXTERIOR COLUMN SECTION A-A

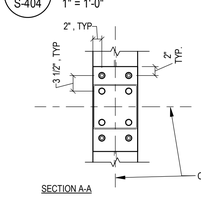


HSS BEAM ON EA. SIDE

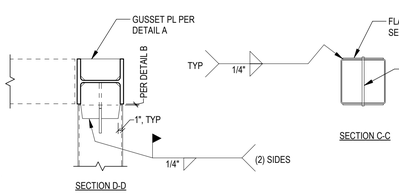


HSS BEAM ON ONE SIDE

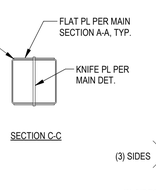
5 S-404 HSS COLUMN CONN. AT PERIMETER BEAM
1" = 1'-0"



SECTION A-A

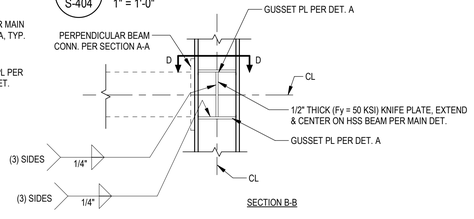


SECTION D-D

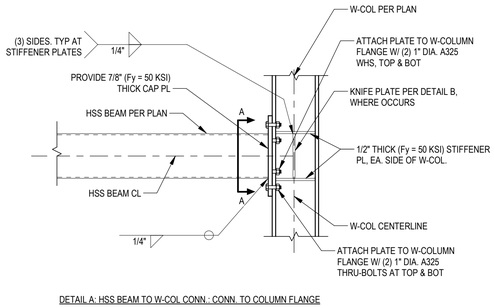


SECTION C-C

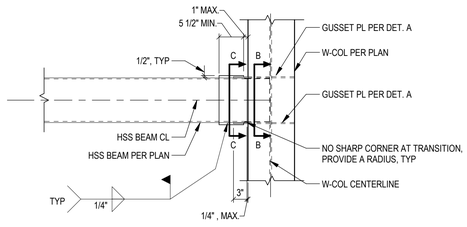
6 S-404 HSS POST BASE CONN.
1" = 1'-0"



SECTION B-B

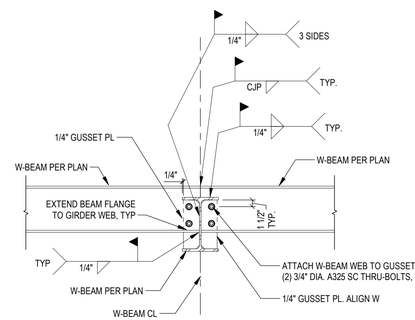


DETAIL A: HSS BEAM TO W-COL CONN.: CONN. TO COLUMN FLANGE



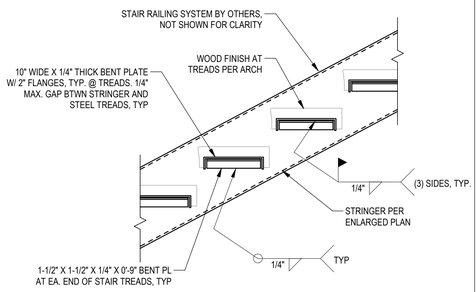
DETAIL B: HSS BEAM TO W-COL CONN.: CONN. TO COLUMN WEB

7 S-404 HSS BEAM TO HSS COL. CONN.
1" = 1'-0"



9 S-404 HSS BEAM TO W-COLUMN CONN.
3/4" = 1'-0"

11 S-404 W-BEAM TO W-BEAM MOM. CONN.
3/4" = 1'-0"



12 S-404 SECTION AT TREAD ATTACHMENT
1" = 1'-0"

AUE
13228 NE 20TH ST SUITE #100
BELLEVUE, WA 98005
PHONE: 425 614-0949
AUE JOB: 19342



06/12/2023

PN 3675 SKAGIT PUD
CAMPUS REPLACEMENT
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1415 FREEWAY DR
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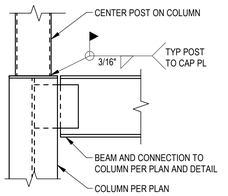
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NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

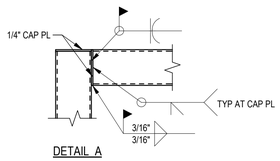
SHEET NAME:
STEEL DETAILS

SHEET NUMBER:
S-404

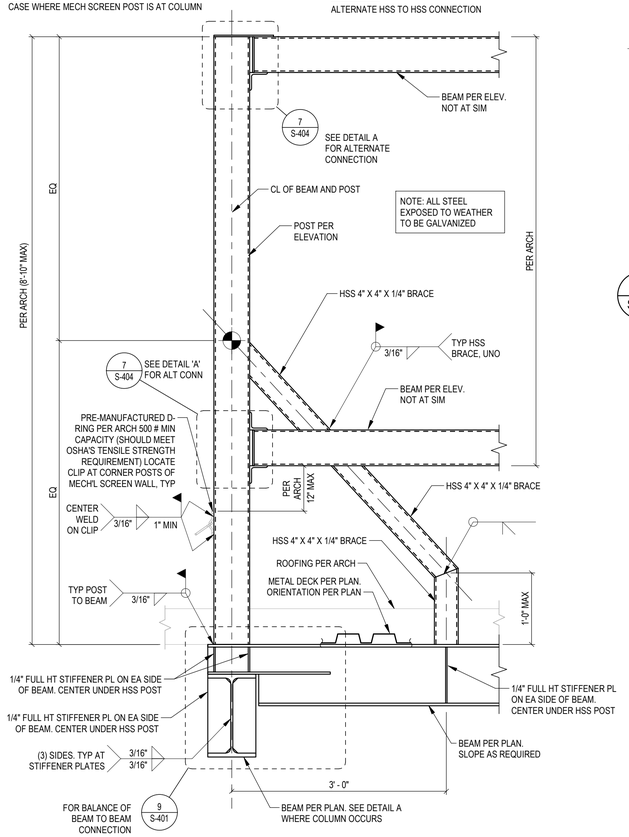
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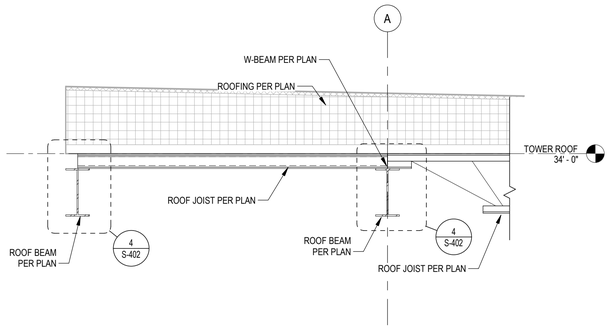
DETAIL B
CASE WHERE MECH SCREEN POST IS AT COLUMN



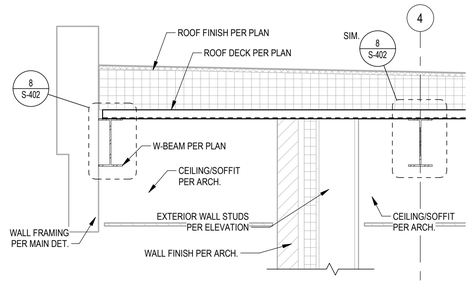
DETAIL A
ALTERNATE HSS TO HSS CONNECTION



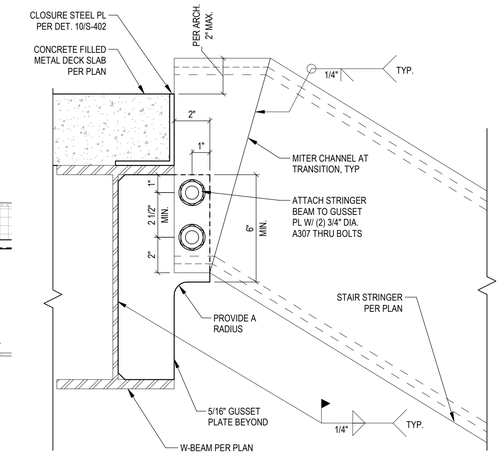
5 S-405 TYPICAL MECHANICAL SCREEN FRAMING
1" = 1'-0"



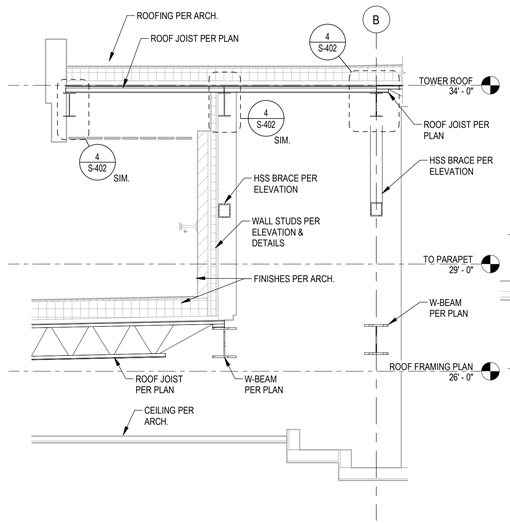
2 S-405 SECTION
1" = 1'-0"



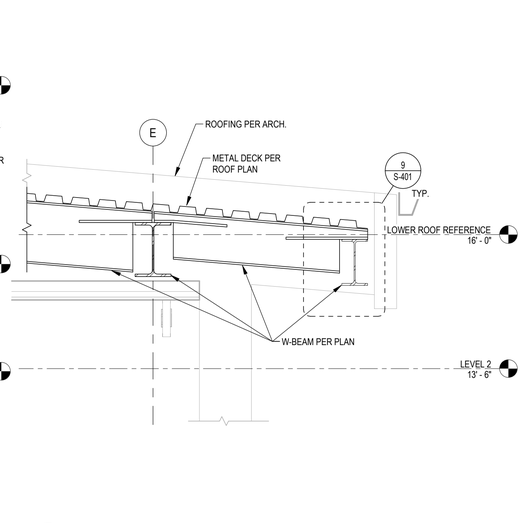
3 S-405 SECTION
1" = 1'-0"



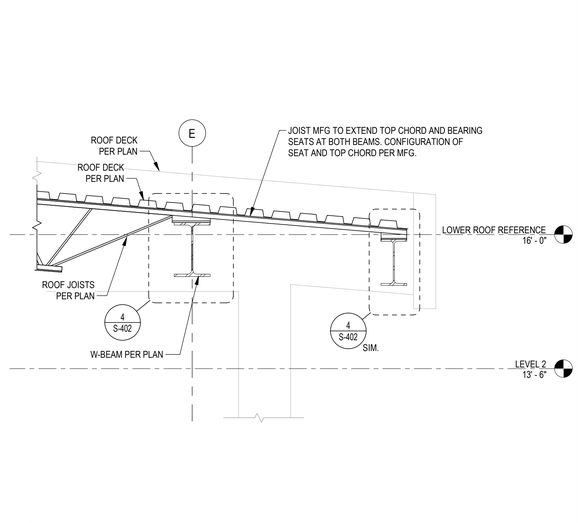
4 S-405 STRINGER BEAM TO W-BEAM CONN.
3" = 1'-0"



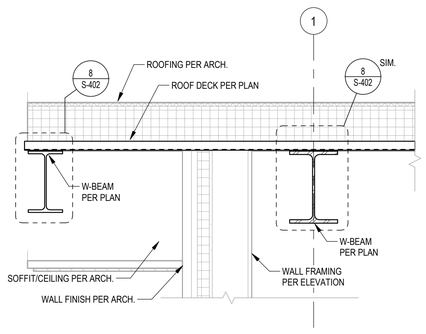
6 S-405 SECTION
1/2" = 1'-0"



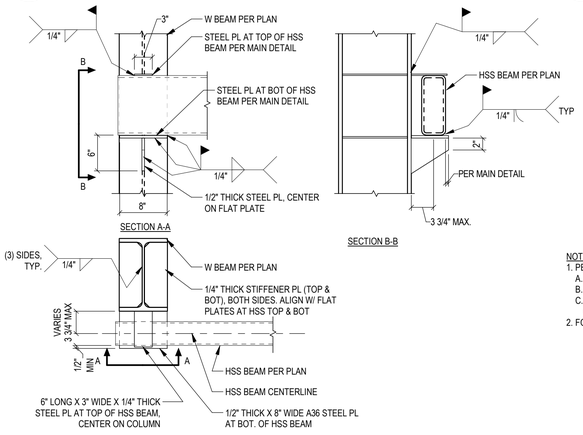
7 S-405 W-BEAM CONNECTIONS AT ROOF OVERHANG
3/4" = 1'-0"



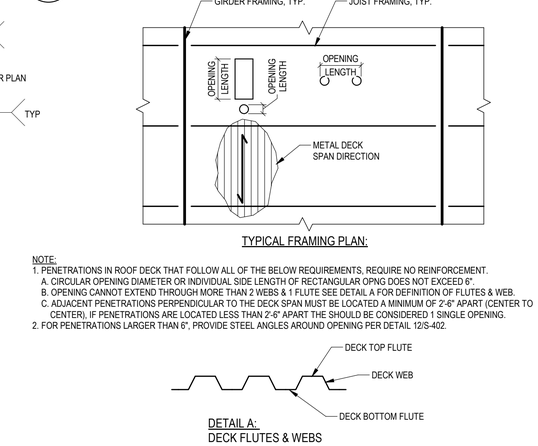
8 S-405 OWSJ CONNECTIONS AT ROOF OVERHANG
3/4" = 1'-0"



9 S-405 SECTION
1" = 1'-0"



10 S-405 HSS BEAM TO W COLUMN CONNECTION
1" = 1'-0"



TYPICAL FRAMING PLAN:

NOTE:
1. PENETRATIONS IN ROOF DECK THAT FOLLOW ALL OF THE BELOW REQUIREMENTS, REQUIRE NO REINFORCEMENT.
   A. CIRCULAR OPENING DIAMETER OR INDIVIDUAL SIDE LENGTH OF RECTANGULAR OPNG DOES NOT EXCEED 6".
   B. OPENING CANNOT EXTEND THROUGH MORE THAN 2 WEBS & 1 FLUTE SEE DETAIL A FOR DEFINITION OF FLUTES & WEB.
   C. ADJACENT PENETRATIONS PERPENDICULAR TO THE DECK SPAN MUST BE LOCATED A MINIMUM OF 2'-6" APART (CENTER TO CENTER), IF PENETRATIONS ARE LOCATED LESS THAN 2'-6" APART THE SHOULD BE CONSIDERED 1 SINGLE OPENING.
2. FOR PENETRATIONS LARGER THAN 6", PROVIDE STEEL ANGLES AROUND OPENING PER DETAIL 12/S-402.

DETAIL A:
DECK FLUTES & WEBS

11 S-405 SMALL ROOF DECK PENETRATIONS (< 0'- 6")
N.T.S.

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ADMINISTRATION BUILDING
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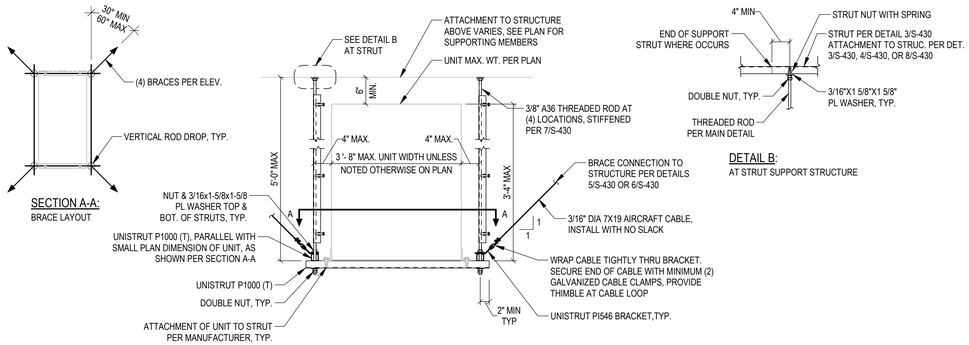
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NO.	TYPE REVISION	DATE
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	BID SET	05.23.2023

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ISSUE DATE:	05.23.2023
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STEEL DETAILS

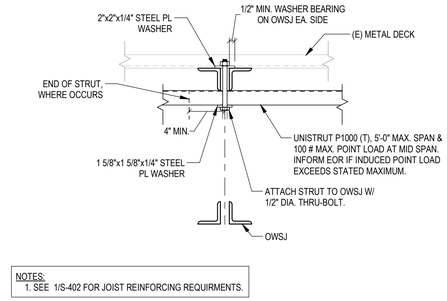
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1 S-430 TYPICAL CABLE BRACED HANGING MECHANICAL UNIT

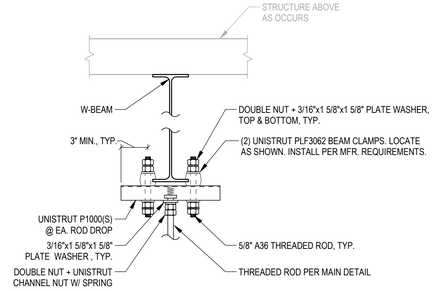
3/4" = 1'-0"



NOTES:
1. SEE 1/S-402 FOR JOIST REINFORCING REQUIRMENTS.

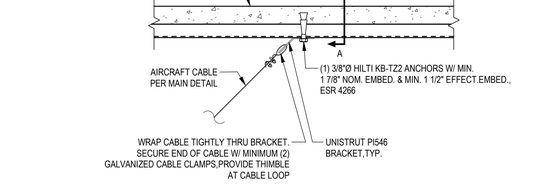
3 S-430 STRUT TO OWSJ TOP CHORD

1 1/2" = 1'-0"



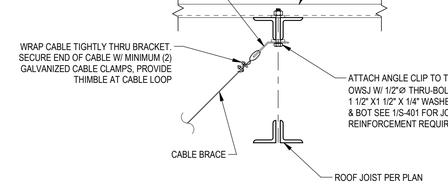
4 S-430 ROD DROP BELOW W-BEAM

1 1/2" = 1'-0"



5 S-430 CABLE BRACE CONNECTION TO 1 1/2" CMD

1 1/2" = 1'-0"



6 S-430 CABLE BRACE TO OWJ

1 1/2" = 1'-0"

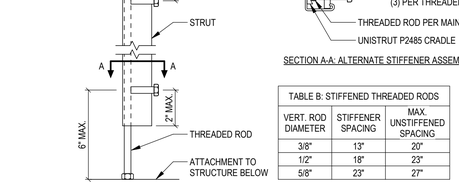
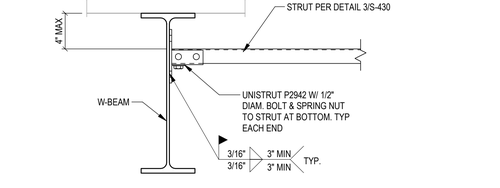


TABLE B: STIFFENED THREADED RODS

VERT. ROD DIAMETER	STIFFENER SPACING	MAX. UNSTIFFENED SPACING
3/8"	13"	20"
1/2"	18"	23"
5/8"	23"	27"

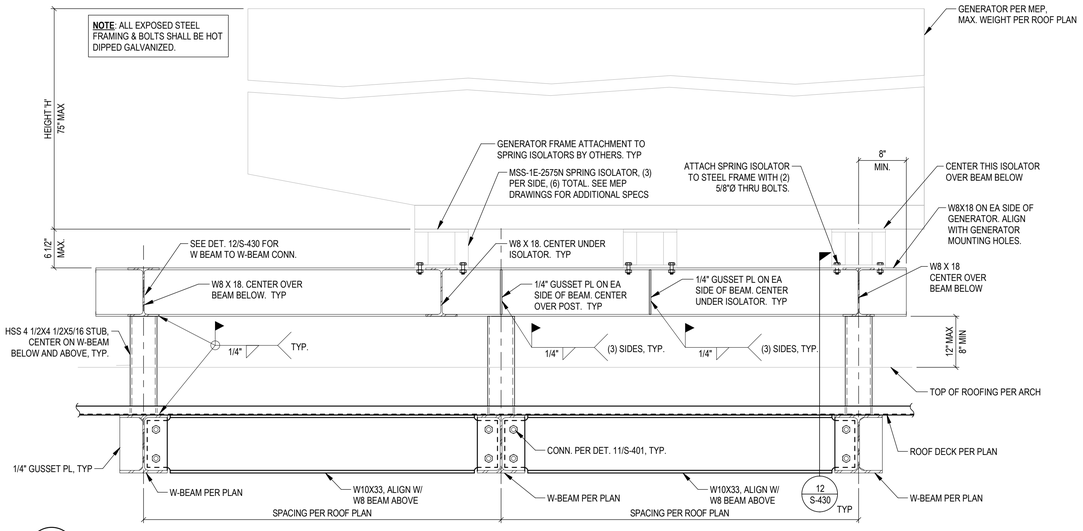
7 S-430 STIFFENED ROD ASSEMBLY

3" = 1'-0"



8 S-430 STRUT TO W-BEAM

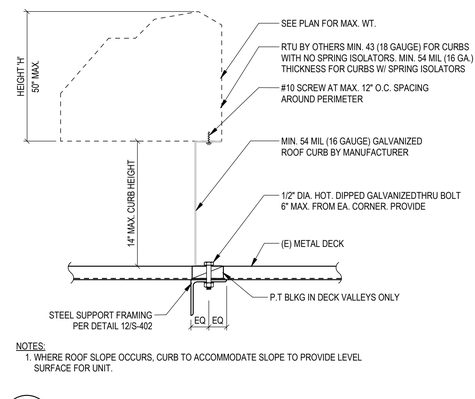
1 1/2" = 1'-0"



9 S-430 SECTION AT DUNNAGE

1" = 1'-0"

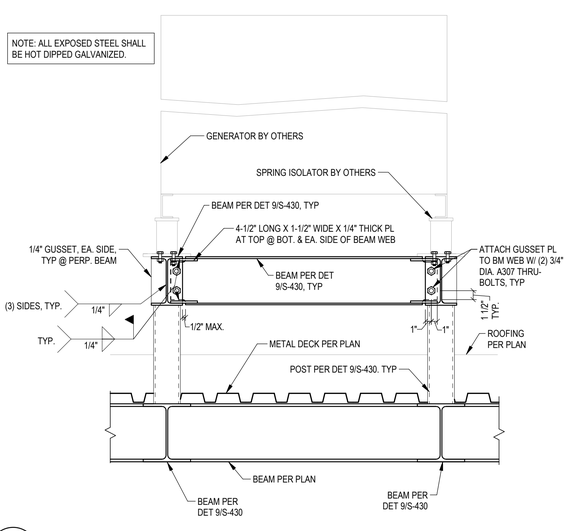
NOTE:
- SEE DETAIL 13/S-401 FOR STEEL TO STEEL CONNECTION.
- SEE DETAIL 1/S-401 FOR JOIST REINFORCEMENT REQUIREMENT WHEN ANGLE LANDS AWAY FROM A JOIST PANEL POINT.



NOTES:
1. WHERE ROOF SLOPE OCCURS, CURB TO ACCOMMODATE SLOPE TO PROVIDE LEVEL SURFACE FOR UNIT.

11 S-430 ROOF TOP MEP UNIT ATTACHMENT

1 1/2" = 1'-0"



12 S-430 SECTION AT DUNNAGE

1" = 1'-0"

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06/12/2023

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	BID SET	05.23.2023

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DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

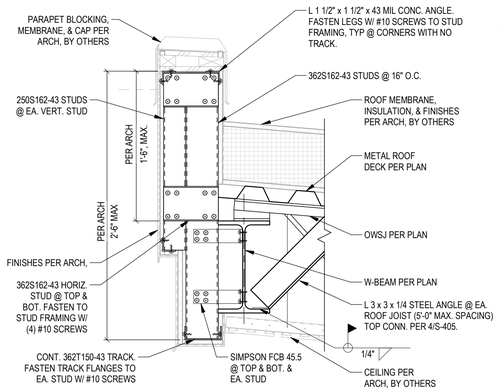
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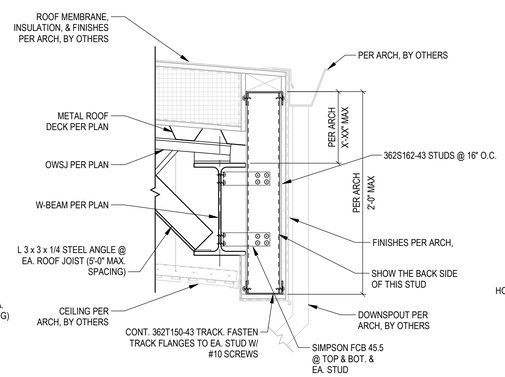
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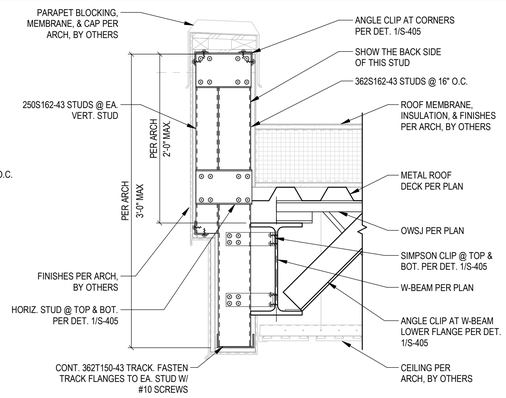
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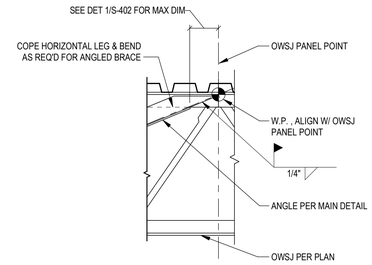
1 S-450 ROOF EDGE FASCIA AT LOW ROOF
1 1/2" = 1'-0"



2 S-450 ROOF EDGE FASCIA AT LOW ROOF W/ GUTTER
1 1/2" = 1'-0"

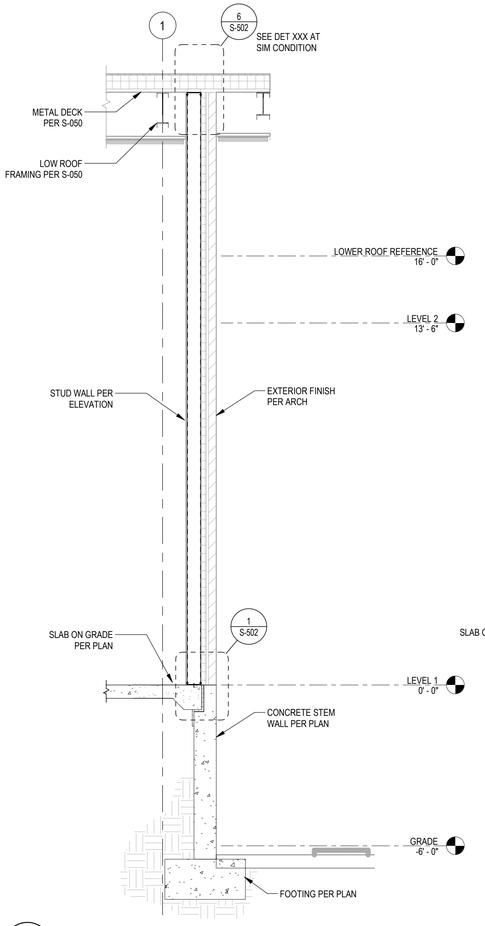


3 S-450 ROOF EDGE FASCIA AT STAIR TOWER ROOF
1 1/2" = 1'-0"



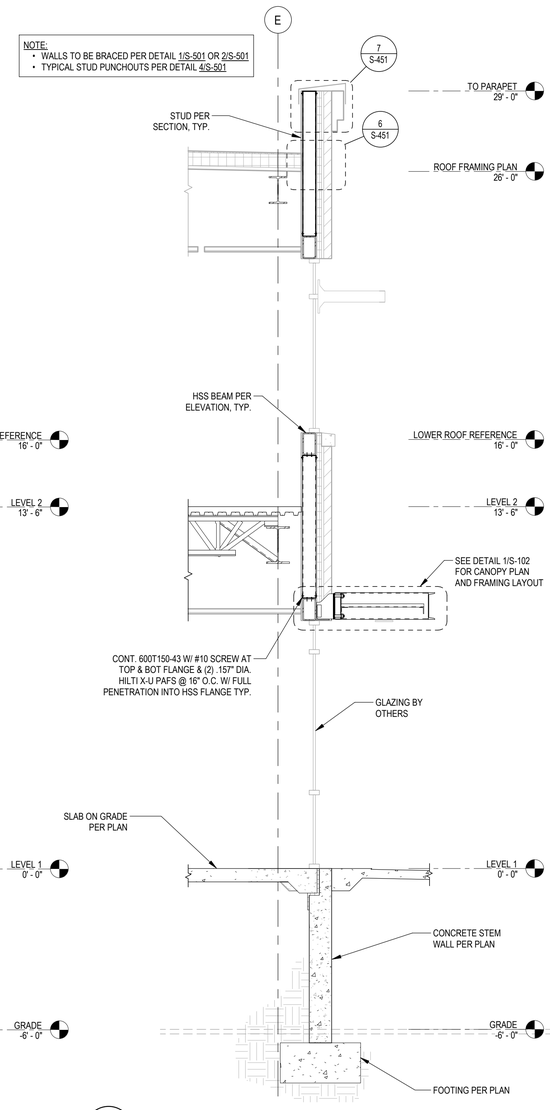
4 S-450 ANGLE BRACE CONNECTION TO OWSJ
1" = 1'-0"

NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501



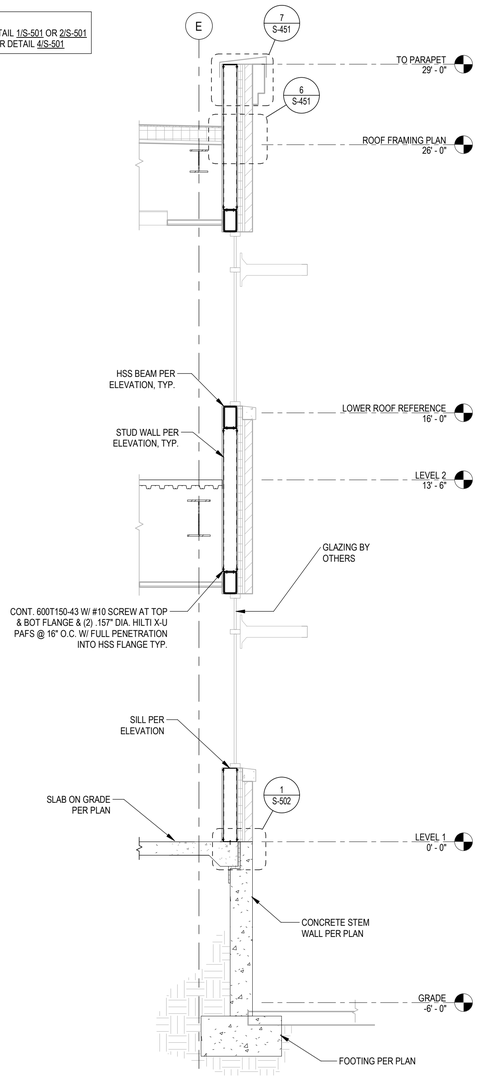
9 S-450 EXTERIOR WALL SECTION I
3/8" = 1'-0"

NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501



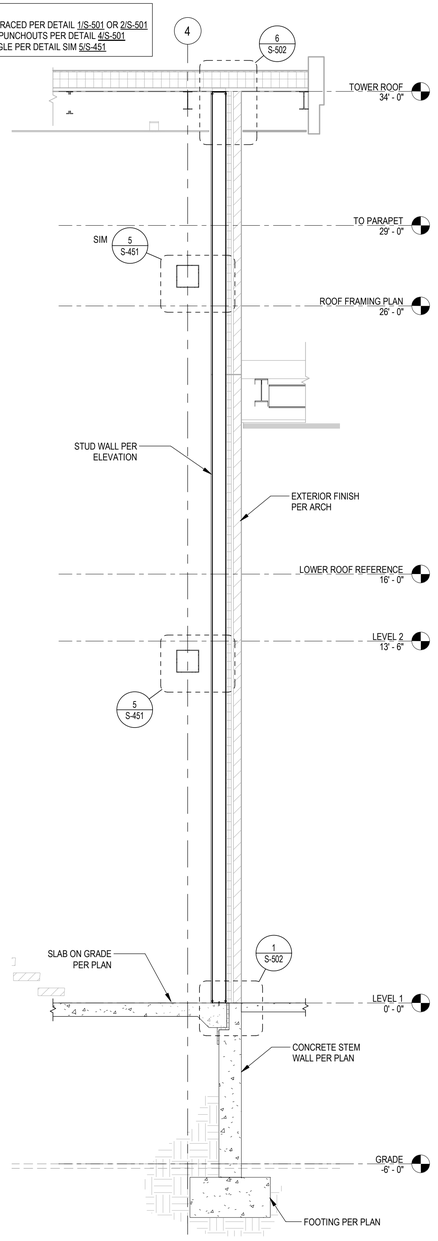
10 S-450 EXTERIOR WALL SECTION II
3/8" = 1'-0"

NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501



11 S-450 EXTERIOR WALL SECTION III
3/8" = 1'-0"

NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501
- ADD SHELF ANGLE PER DETAIL SIM 5/S-451



12 S-450 EXTERIOR WALL SECTION IV
3/8" = 1'-0"

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06/12/2023

SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

REVISION SCHEDULE		
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	PERMIT SET	10.14.2022
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ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
EXTERIOR WALL FRAMING DETAILS

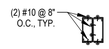
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S-450

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HEADER SCHEDULE			
HEADER	ASSEMBLY	MEMBERS	HEADER CONN. DET
HE1	PER CONN.	600S162-43 + 600T150-43	2/S-503
HE2	PER CONN.	(2) 600S162-54 + (2) 600T150-54 (50KSI)	7/S-406 OR 4/S-503
HE3	PER CONN.	(2) 362S162-68 + (2) 600T150-68	7/S-406 OR 4/S-503

JAMB SCHEDULE				
JAMB	ASSEMBLY	MEMBERS	BOTTOM CONN.	TOP CONN.
JE1	J-B	600S162-68 + 600T150-68 (50KSI)	SEE NOTE 1	SEE NOTE 2
JE2	J-A	(2) 600S162-54 + (2) 600T150-54	SEE NOTE 1	SEE NOTE 2

SILL SCHEDULE			
SILL	ASSEMBLY	MEMBERS	SILL CONN. DET
SE1	PER CONN.	600T200-68 (50KSI)	7/S-503



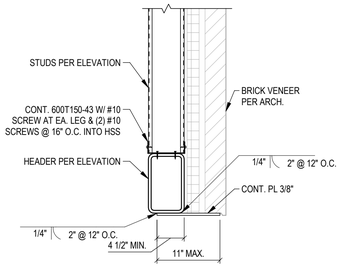
DETAIL J-A
JAMB STUD SECTION
MEMBER SIZES PER SCHEDULE



DETAIL J-B
JAMB STUD SECTION
MEMBER SIZES PER SCHEDULE

NOTES:
1. SEE DETAIL 20/S-502 FOR BOTTOM CONNECTION AT SLAB ON GRADE. SEE DETAIL 4/S-452 FOR BOTTOM CONNECTION AT HSS HEADER.
2. SEE DETAIL 1/S-452 FOR TOP CONNECTIONS

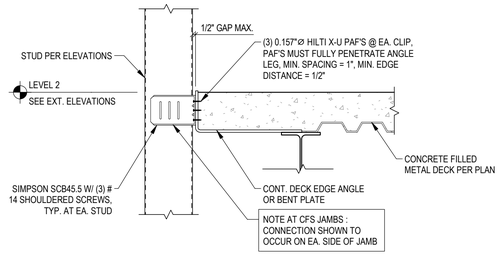
1 S-451 EXTERIOR CFS WALL OPENING MEMBER SCHEDULE
1" = 1'-0"



2 S-451 SECTION AT LINTEL
1" = 1'-0"

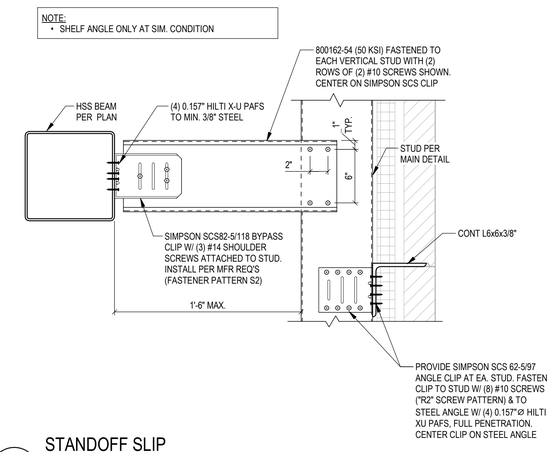
NOTE:
- ALL WALLS ARE REQUIRED TO BE BLOCKED / BRACED PER DETAILS 1/S-502 OR 2/S-502.

TRACK NOTATION KEY:
XXX = MATCH DEPTH OF STUD

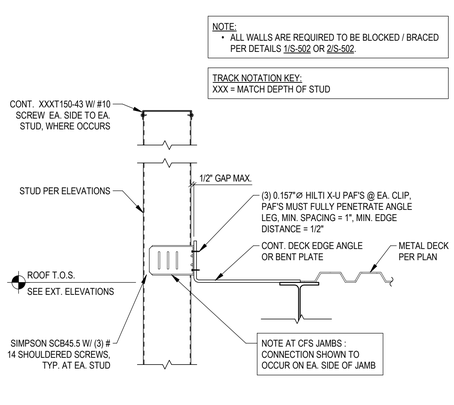


3 S-451 TYP BYPASS CLIP TO LEVEL 2
1" = 1'-0"

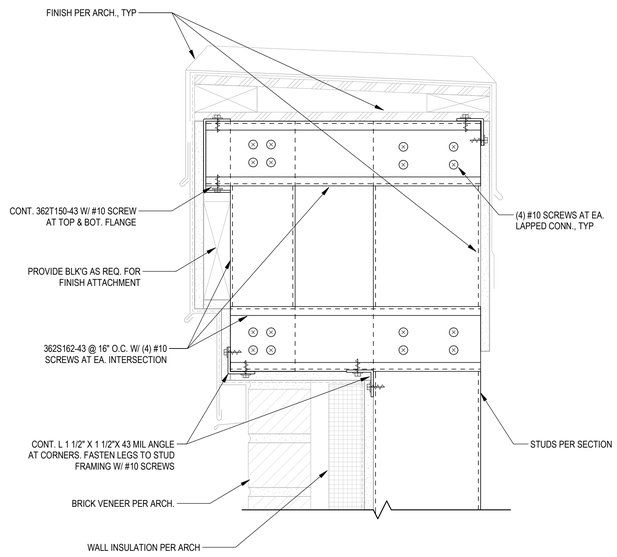
NOTE:
- SHELF ANGLE ONLY AT SIM. CONDITION



5 S-451 STANDOFF SLIP BYPASS CONN. TO HSS-BEAM
1 1/2" = 1'-0"

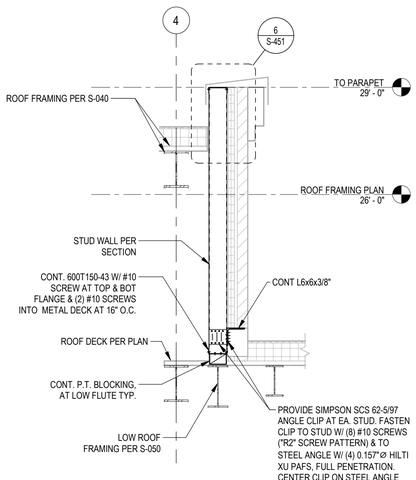


6 S-451 TYP BYPASS CLIP TO ROOF
1" = 1'-0"

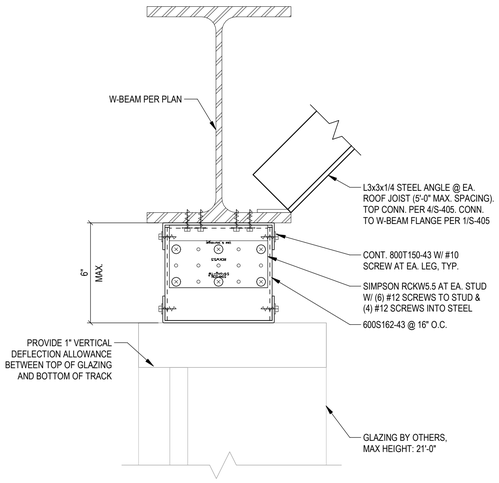


7 S-451 BRICK @ PARAPET
3" = 1'-0"

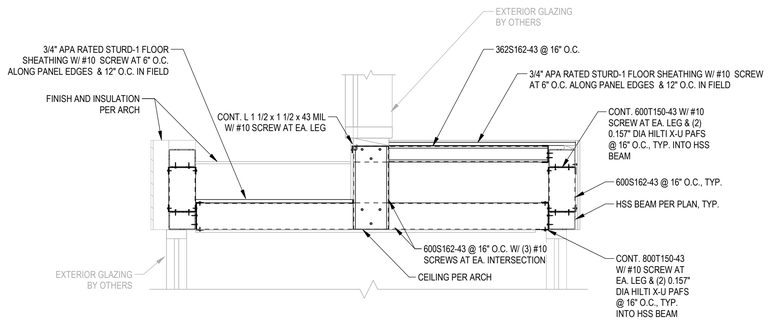
NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501



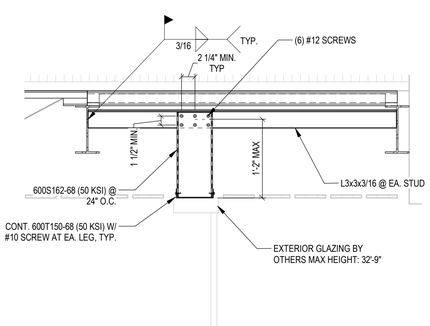
9 S-451 EXTERIOR WALL SECTION V
1/2" = 1'-0"



10 S-451 EXTERIOR WALL SECTION VI
3" = 1'-0"



11 S-451 SECTION AT VESTIBULE
3/4" = 1'-0"



12 S-451 C.W. TOP CONN.
1" = 1'-0"

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SKAGIT PUD

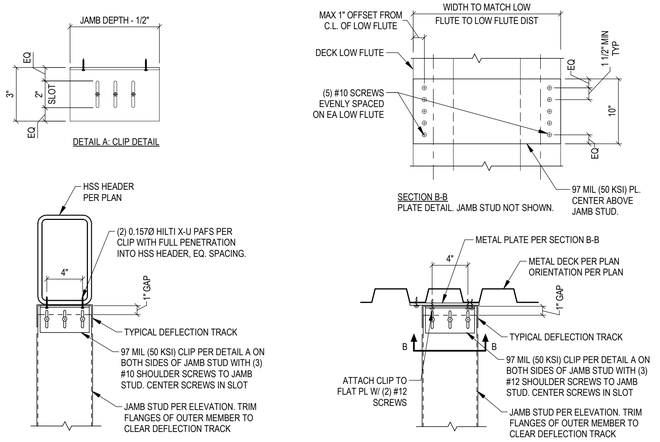
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DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
EXTERIOR WALL FRAMING DETAILS

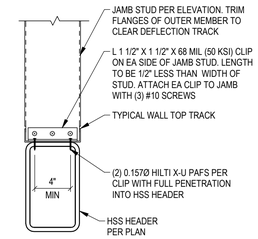
SHEET NUMBER:
S-451

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1 S-452 EXTERIOR JAMB STUD TOP CONNECTIONS

1 1/2" = 1'-0"



4 S-452 EXTERIOR JAMB STUD BOTTOM CONNECTION AT HSS

1 1/2" = 1'-0"

AUE
13228 NE 20TH ST SUITE #100
BELLEVUE, WA 98005
PHONE: 425 614-0949
AUE JOB: 19342



06/12/2023

SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING

1415 FREEWAY DR
MT VERNON, WA 98273

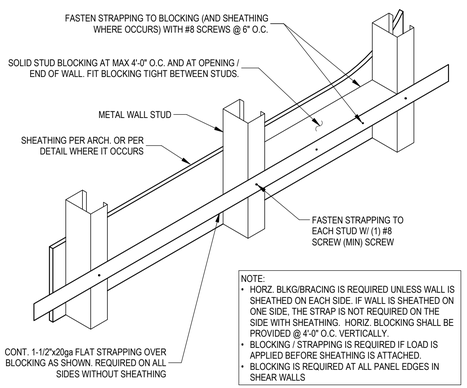
REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

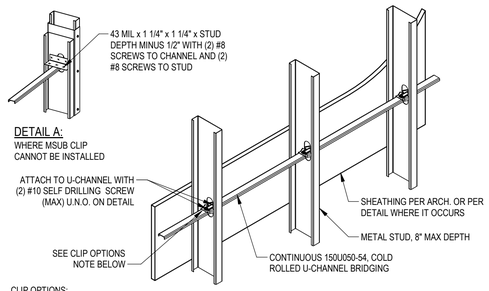
SHEET NAME:
EXTERIOR WALL FRAMING DETAILS

SHEET NUMBER:
S-452

5/16/2023 4:25:05 PM



NOTE:
- HORZ. BLKG/BRACING IS REQUIRED UNLESS WALL IS SHEATHED ON EACH SIDE. IF WALL IS SHEATHED ON ONE SIDE, THE STRAP IS NOT REQUIRED ON THE SIDE WITH SHEATHING. HORIZ. BLOCKING SHALL BE PROVIDED @ 4'-0" O.C. VERTICALLY.
- BLOCKING / STRAPPING IS REQUIRED IF LOAD IS APPLIED BEFORE SHEATHING IS ATTACHED.
- BLOCKING IS REQUIRED AT ALL PANEL EDGES IN SHEAR WALLS



CLIP OPTIONS:
- SIMPSON STRONG-TIE MSUBH3.25 BRIDGING CONNECTOR FOR METAL STUDS 68MIL & 97 MIL
- SIMPSON STRONG-TIE SUBH3.25 BRIDGING CONNECTOR FOR METAL STUDS 33MIL TO 54MIL
- AT INTERIOR WALLS USE SIMPSON STRONG-TIE DBC2.5 BRIDGING CONNECTOR FOR METAL STUDS 20EQ, 30MIL AND 33MIL
- SEE DETAIL A WHERE BRIDGING CLIP CANNOT BE INSTALLED.

- HORZ. BLKG/BRACING IS REQUIRED UNLESS WALL IS SHEATHED ON EACH SIDE.
- IF WALL IS NOT SHEATHED ON ONE SIDE, HORIZ. CHANNEL SHALL BE PROVIDED @ 4'-0" O.C. VERTICALLY.
- BLOCKING / STRAPPING IS REQUIRED IF LOAD IS APPLIED BEFORE SHEATHING IS ATTACHED.
- ALTERNATIVE WALL BLOCKING SHALL NOT BE USED IN SHEAR WALLS

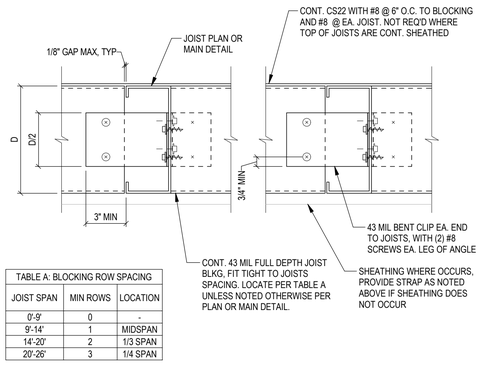
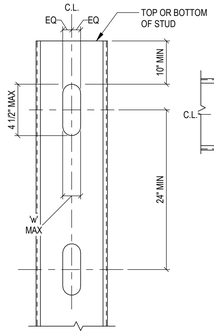
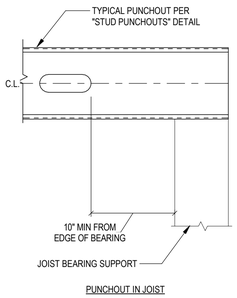


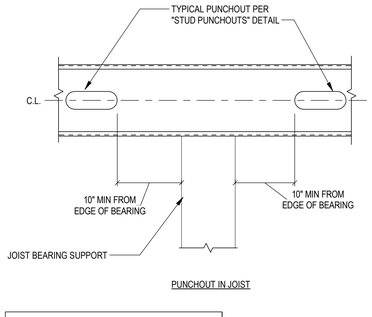
TABLE A: BLOCKING ROW SPACING		
JOIST SPAN	MIN ROWS	LOCATION
0'-9'	0	-
9'-14'	1	MIDSPAN
14'-20'	2	1/3 SPAN
20'-26'	3	1/4 SPAN



TYPICAL STUD PUNCHOUTS



PUNCHOUT IN JOIST



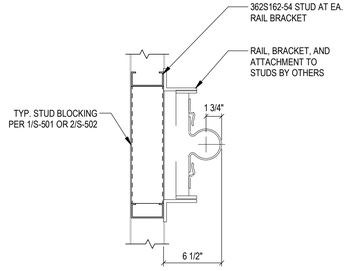
PUNCHOUT IN JOIST

STUD PUNCHOUT SCHEDULE	
STUD DEPTH 'D'	PUNCHOUT WIDTH 'W'
'D' > 2 1/2"	1 1/2"
'D' <= 2 1/2"	3/4"

1 S-501 TYPICAL WALL BLOCKING / BRACING
NTS

2 S-501 ALTERNATE WALL BLOCKING / BRACING
NTS

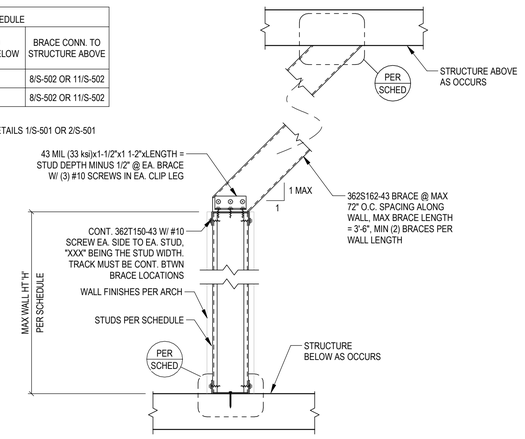
3 S-501 TYPICAL JOIST BLOCKING
NTS

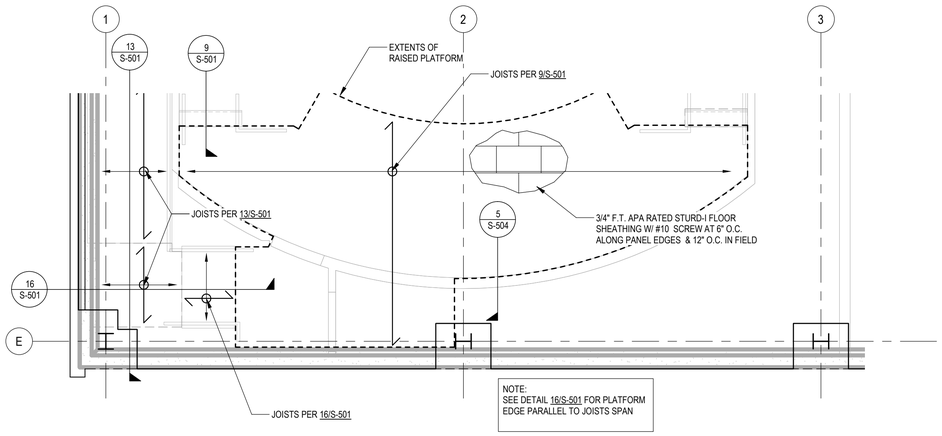


4 S-501 TYPICAL JOIST PUNCHOUTS
NTS

PARTIAL HEIGHT BRACED WALL SCHEDULE				
MAX WALL HEIGHT 'H'	STUD SIZE	STUD SPACING	CONN. TO STRUCTURE BELOW	BRACE CONN. TO STRUCTURE ABOVE
14'-3"	362S125-30	16" O.C.	1/S-502	8/S-502 OR 11/S-502
10'-0"	362S125-27	24" O.C.	1/S-502	8/S-502 OR 11/S-502

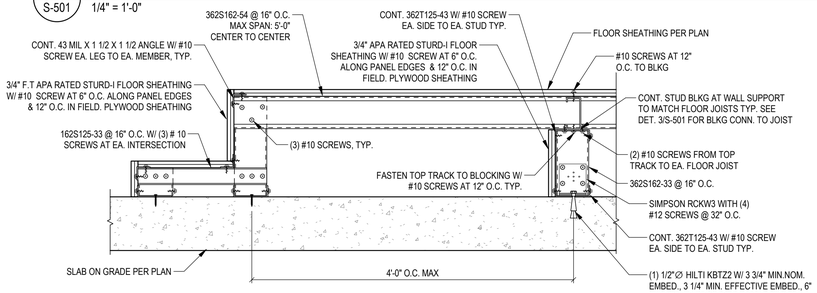
NOTES:
1. ALL WALLS ARE REQUIRED TO BE BLOCKED / BRACED PER DETAILS 1/S-501 OR 2/S-501



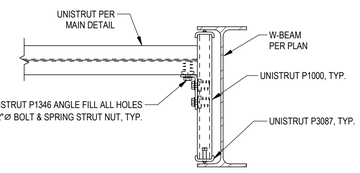


NOTE:
SEE DETAIL 16/S-501 FOR PLATFORM EDGE PARALLEL TO JOISTS SPAN

5 S-501 RAISED PLATFORM FRAMING PLAN
1/4" = 1'-0"



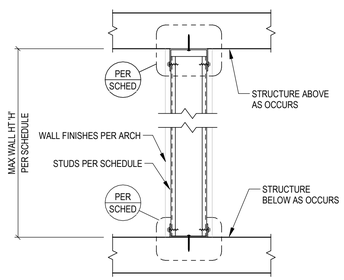
7 S-501 METAL STUD RAIL SUPPORT
1 1/2" = 1'-0"



8 S-501 INTERIOR PARTIAL HEIGHT BRACED WALL
1 1/2" = 1'-0"

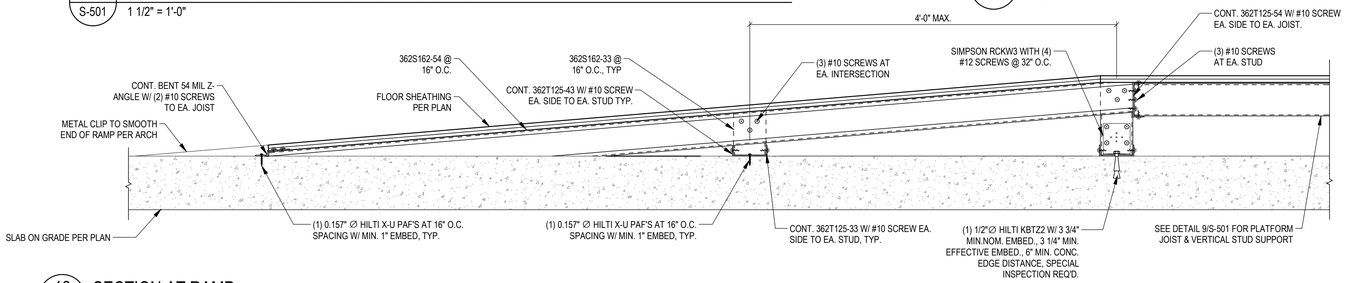
FULL HEIGHT WALL SCHEDULE				
MAX WALL HEIGHT 'H'	STUD SIZE	STUD SPACING	CONNECTION TO STRUCTURE BELOW	CONNECTION TO STRUCTURE ABOVE
18'-3"	362S200-33	16" O.C.	1/S-502	6/S-502
13'-6"	362S125-30	16" O.C.	1/S-502	3/S-502 OR 6/S-502
20'-0"	600S125-33	16" O.C.	1/S-502	3/S-502 OR 6/S-502
20'-0"	600S200-33 W/ BRICK VENEER FINISH	16" O.C.	1/S-502	6/S-502
13'-6"	250S162-43	16" O.C.	1/S-502	3/S-502 OR 6/S-502

NOTES:
1. ALL WALLS ARE REQUIRED TO BE BLOCKED / BRACED PER DETAILS 1/S-501 OR 2/S-501

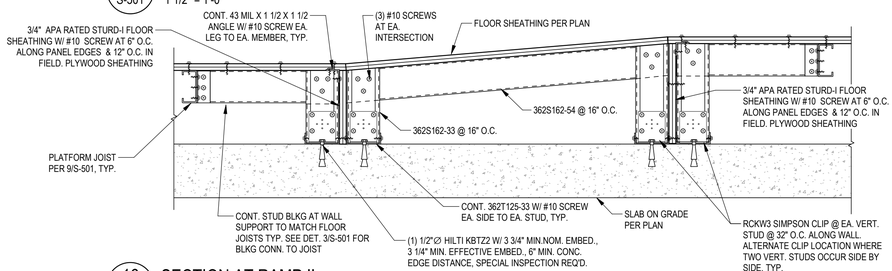


9 S-501 TYPICAL STAIR SECTION & PLATFORM SUPPORT
1 1/2" = 1'-0"

11 S-501 UNISTRUT CONNECTION TO W-BEAM
1 1/2" = 1'-0"



12 S-501 INTERIOR FULL HEIGHT WALL
1 1/2" = 1'-0"



13 S-501 SECTION AT RAMP
1 1/2" = 1'-0"

16 S-501 SECTION AT RAMP II
1 1/2" = 1'-0"

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06/12/2023

PN 3675 CAMPUS REPLACEMENT
SKAGIT PUD ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

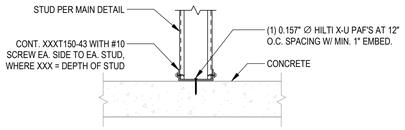
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NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
METAL STUD DETAILS

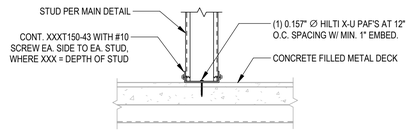
SHEET NUMBER:
S-501

5/16/2023 4:25:06 PM



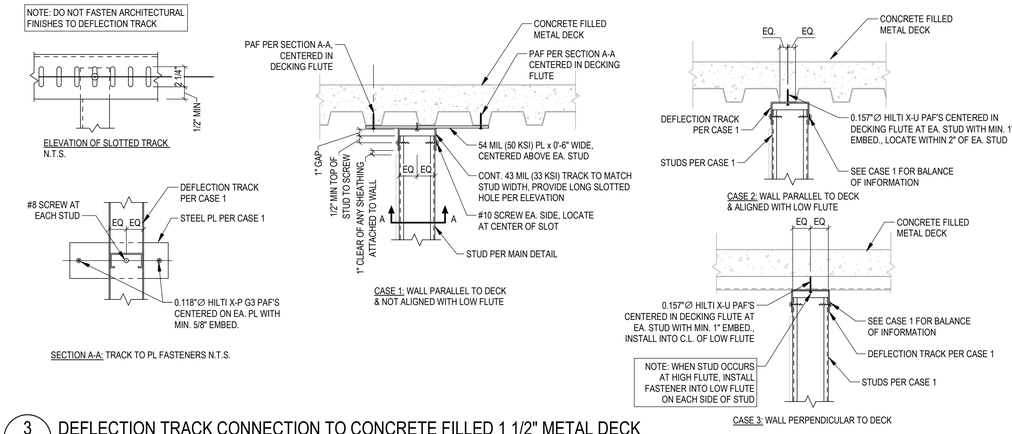
1 S-502 BOTTOM OF STUD WALL CONNECTION TO CONCRETE SLAB

1 1/2" = 1'-0"



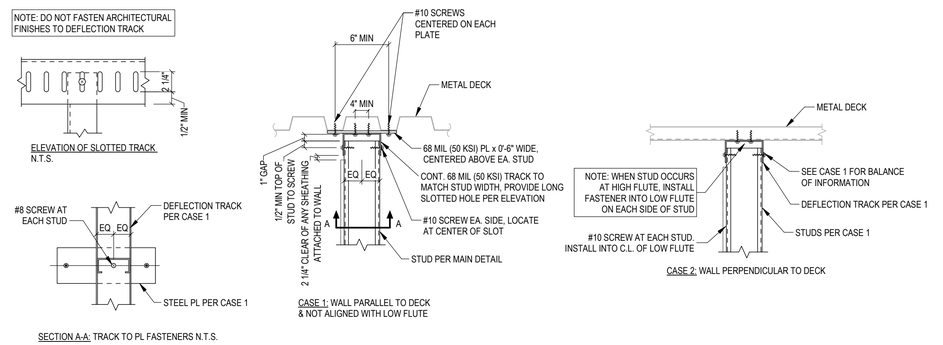
2 S-502 BOTTOM OF STUD WALL CONNECTION TO CONCRETE FILLED METAL DECK

1 1/2" = 1'-0"



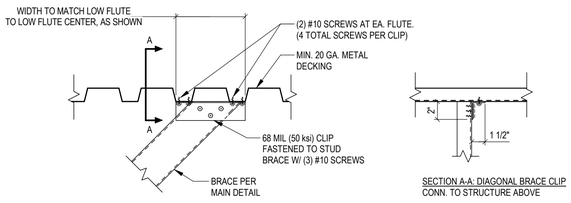
3 S-502 DEFLECTION TRACK CONNECTION TO CONCRETE FILLED 1 1/2" METAL DECK

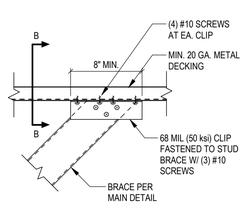
1 1/2" = 1'-0"

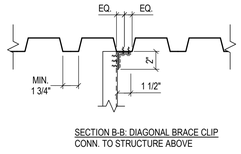


6 S-502 DEFLECTION TRACK CONNECTION TO 1 1/2" METAL DECK

1 1/2" = 1'-0"

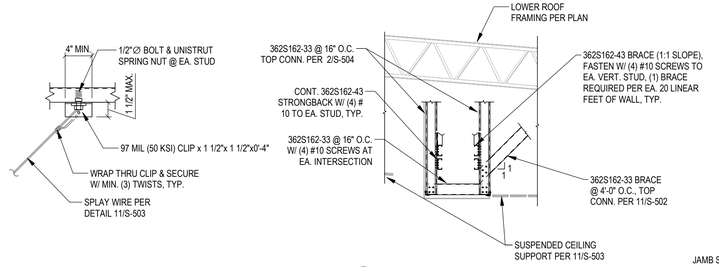






8 S-502 BRACE TO 1 1/2" CONC. METAL DECK

1 1/2" = 1'-0"

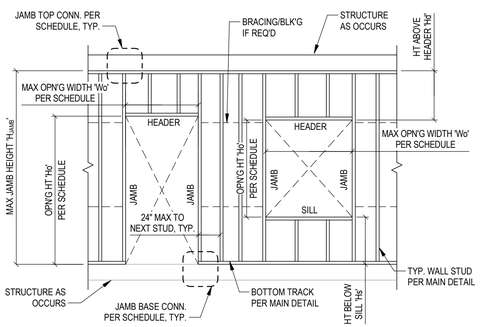


11 S-502 BRACE TO 1 1/2" METAL DECK

1 1/2" = 1'-0"

WALL OPENING SCHEDULE:									
OPNG #	REF. & NOTES	MAX JAMB HEIGHT 'H$_{JAMB}$'	MAX OPENING HEIGHT 'H$_o$'	MAX OPENING WIDTH 'W$_o$'	HEIGHT BELOW SILL 'H$_s$'	MAX HEIGHT ABOVE HEADER 'H$_d$'	HEADER	SILL	JAMB
OPNG-1.2	-	10'-6"	2'-0"	8'-0"	6'-2"	2'-0"	H12	S11	J12
OPNG-1.3	-	10'-6"	8'-0"	6'-6"	-	1'-6"	H12	-	J12
OPNG-1.4	-	10'-6"	8'-0"	3'-4"	-	1'-6"	H13	-	J12

NOTES:
1. FOR BALANCE OF INFORMATION SEE 17/S-502 & 18/S-502.



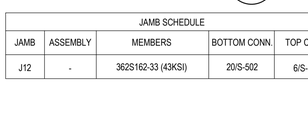
13 S-502 SPLAY WIRE BRACE CONN. TO UNISTRUT

1 1/2" = 1'-0"

HEADER SCHEDULE			
HEADER	ASSEMBLY	MEMBERS	HEADER CONN. DET
H12	PER CONN.	(2) 362S162-43 + (2) 362T150-43	4/S-503
H13	PER CONN.	362S162-33 + 362T150-33	2/S-503

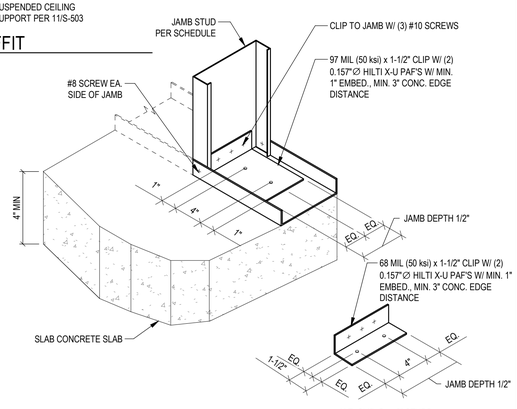
SILL SCHEDULE			
SILL	ASSEMBLY	MEMBERS	SILL CONN. DET
S11	PER CONN.	362T150-33 (43 KSI)	7/S-503

JAMB SCHEDULE				
JAMB	ASSEMBLY	MEMBERS	BOTTOM CONN.	TOP CONN.
J12	-	362S162-33 (43KSI)	20/S-502	6/S-502



14 S-502 SECTION AT SOFFIT

1/2" = 1'-0"



16 S-502 WALL OPENING SCHEDULE

1" = 1'-0"

17 S-502 WALL OPENING SCHEMATIC

1" = 1'-0"

18 S-502 WALL OPENING MEMBER SCHEDULE

1" = 1'-0"

20 S-502 JAMB BASE CLIP TO REINF. CONCRETE

1 1/2" = 1'-0"

AUE
13228 NE 20TH ST SUITE #100
BELLEVUE, WA 98005
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AUE JOB: 19342



06/12/2023

SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
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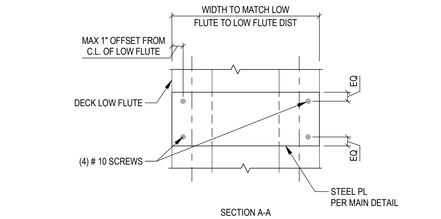
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	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

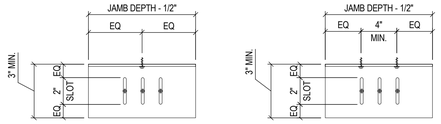
SHEET NAME:
METAL STUD DETAILS

SHEET NUMBER:
S-502

5/16/2023 4:25:07 PM

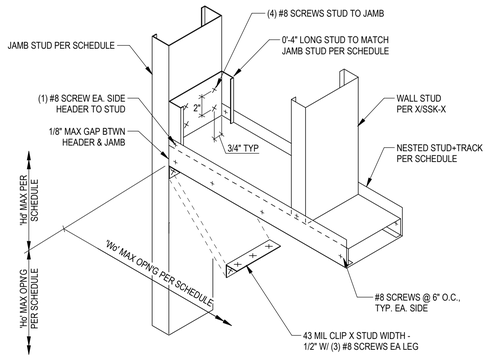


SECTION A-A

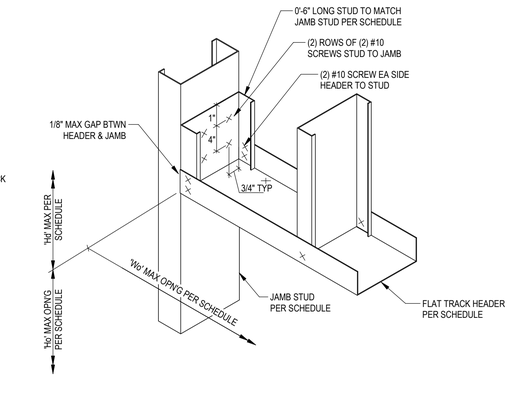


CLIP DETAIL TYPE 1

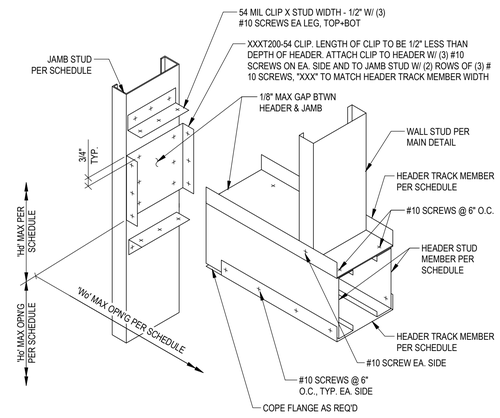
CLIP DETAIL TYPE 2



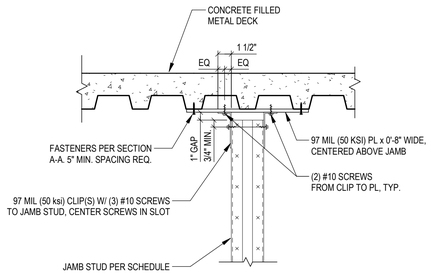
2 S-503 NESTED STUD+TRACK TO JAMB
NTS



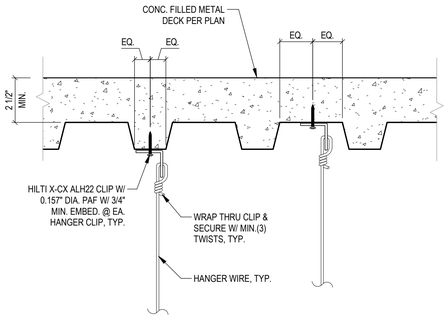
3 S-503 TRACK HEADER TO JAMB
NTS



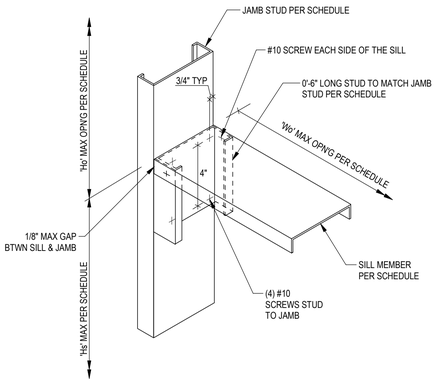
4 S-503 BOX BEAM TO JAMB
NTS



5 S-503 JAMB TOP CLIP TO 1 1/2" CONCRETE FILLED METAL DECK
1 1/2" = 1'-0"

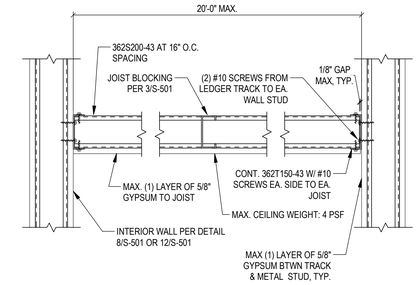


6 S-503 TYP. HANGER WIRE TO 1 1/2" CONC. FILLED DECK
3" = 1'-0"

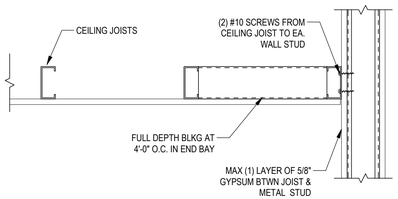


7 S-503 TRACK SILL TO JAMB
NTS

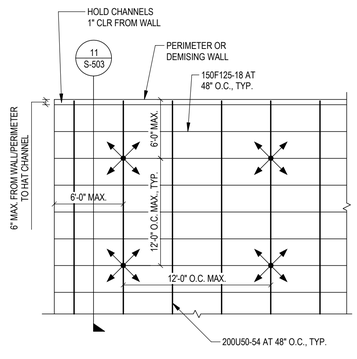
NOTE:
- SEE DETAIL 10/S-503 WHEN CEILING JOISTS EXCEED 20'-0".
- SEE DETAIL 9/S-503 FOR CEILING FRAMING AT END BAY.
- CEILING JOISTS ARE NOT DESIGNED FOR ANY LIVE LOAD.



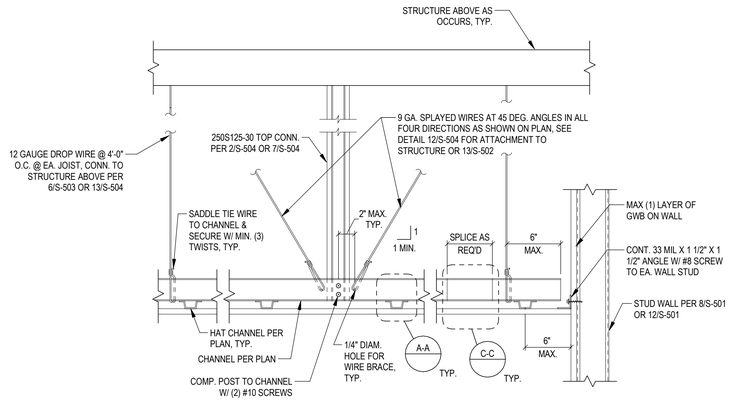
8 S-503 CEILING JOISTS BETWEEN WALLS
1 1/2" = 1'-0"



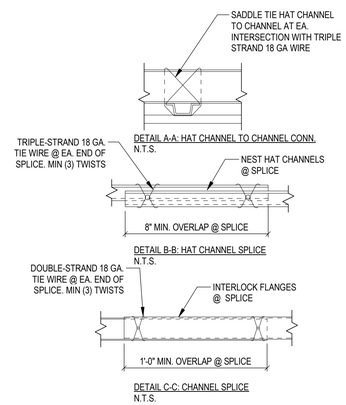
9 S-503 CEILING FRAMING AT END BAY
1 1/2" = 1'-0"



10 S-503 HAT CHANNEL HANGING CEILING PLAN
1" = 1'-0"



11 S-503 HAT CHANNEL HANGING CEILING - SECTION
1 1/2" = 1'-0"



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06/12/2023

PN 3675 CAMPUS REPLACEMENT
SKAGIT PUD ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

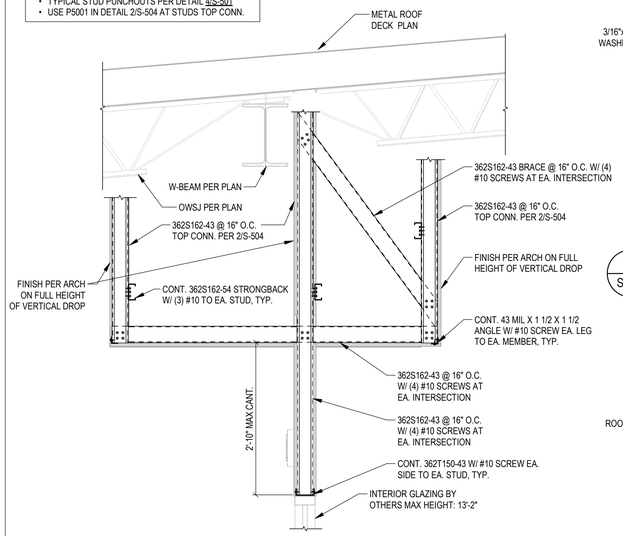
ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
METAL STUD DETAILS

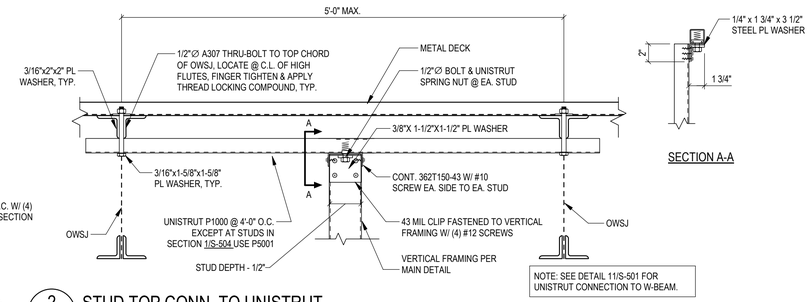
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S-503

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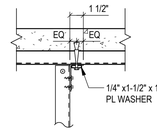
NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501
- USE P5001 IN DETAIL 2/S-504 AT STUDS TOP CONN.



1 S-504 SECTION AT INTERIOR SOFFIT I
3/4" = 1'-0"

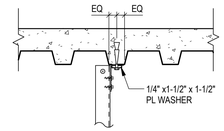


2 S-504 STUD TOP CONN. TO UNISTRUT
1 1/2" = 1'-0"

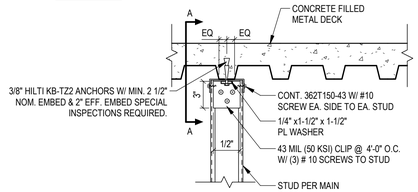


SECTION A-A

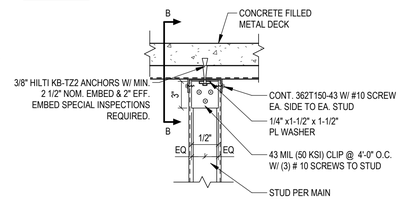
SECTION A-A



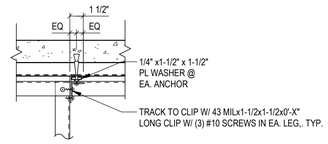
SECTION B-B



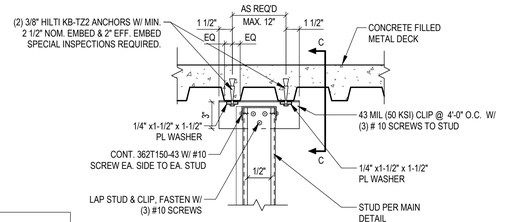
CASE 1: WALL PARALLEL TO DECK & ALIGNED W/ LOW FLUTE



CASE 2: WALL PERPENDICULAR TO DECK



SECTION C-C

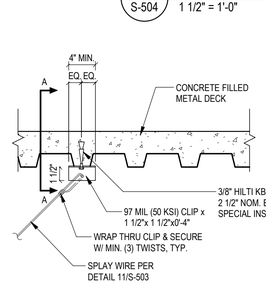


CASE 3: WALL PARALLEL TO DECK NOT ALIGNED W/ LOW FLUTE

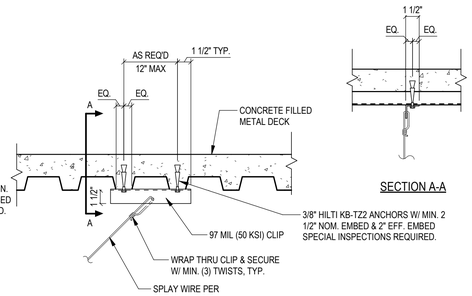
NOTE:

CEILING COMPRSSION STRUT TOP CONN. SPACING TO MATCH SPACING ON 10/S-503

7 S-504 STUD TOP CONN. TO CONCRETE
1 1/2" = 1'-0"

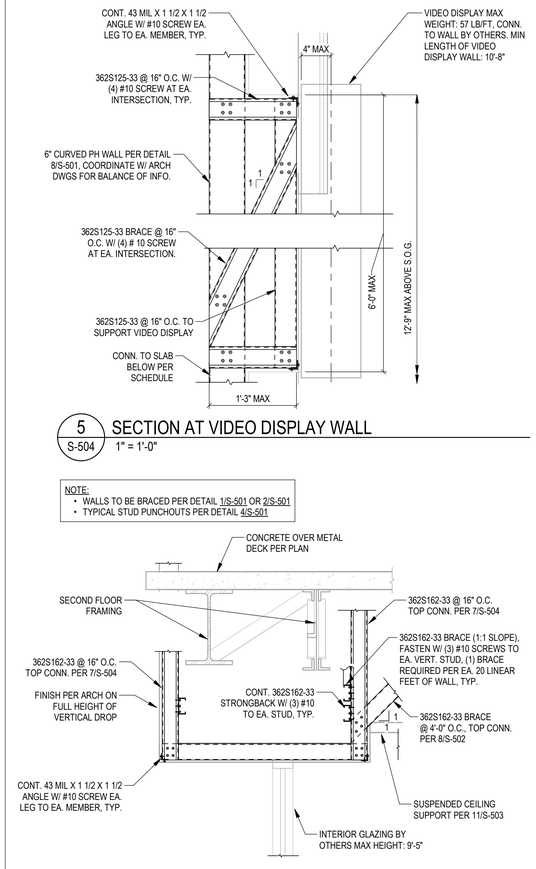


(1) SCREW ANCHOR CONN.



(2) SCREW ANCHOR CONN.

12 S-504 SPLAY WIRE BRACE TO 1 1/2" CONCRETE FILLED METAL DECK
1 1/2" = 1'-0"

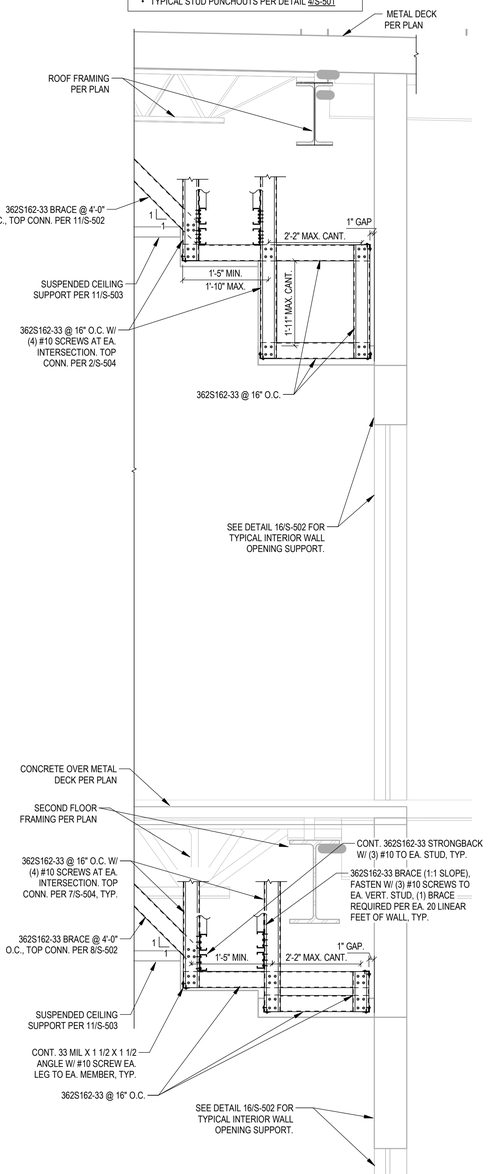


5 S-504 SECTION AT VIDEO DISPLAY WALL
1" = 1'-0"

NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501

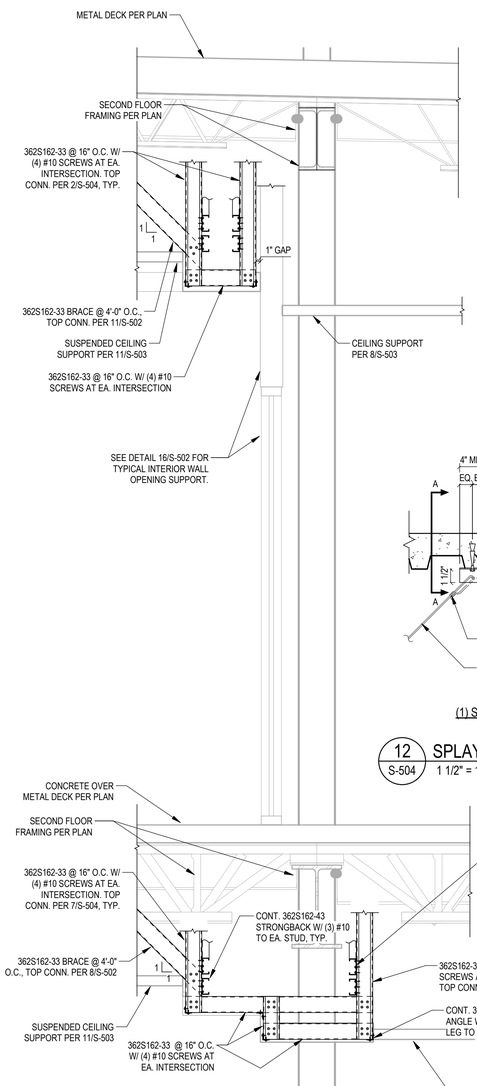
9 S-504 SECTION AT INTERIOR SOFFIT II
3/4" = 1'-0"

NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501

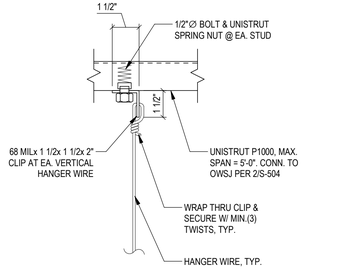


10 S-504 SECTION AT INTERIOR SOFFIT III
3/4" = 1'-0"

NOTE:
- WALLS TO BE BRACED PER DETAIL 1/S-501 OR 2/S-501
- TYPICAL STUD PUNCHOUTS PER DETAIL 4/S-501



11 S-504 SECTION AT INTERIOR SOFFIT IV
3/4" = 1'-0"



13 S-504 DROP WIRE CONN. TO UNISTRUT
3" = 1'-0"

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ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WA 98273

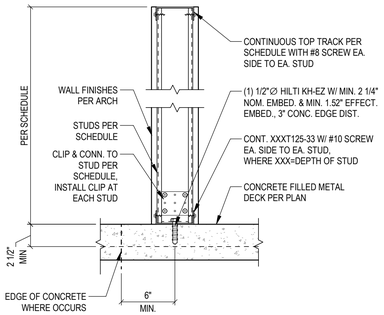
REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
	90% SET	04.15.2022
	PRICING SET	05.20.2022
	PERMIT SET	10.14.2022
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
METAL STUD DETAILS

SHEET NUMBER:
S-504

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KNEE WALL SCHEDULE				
WALL TYPE PER PLAN	STUD SIZE	MAX STUD O.C. SPACING	MAX WALL HEIGHT	CLIP AT BASE OF WALL STUD
KW - 3.1	362S162-43	16" O.C.	4'-0"	SIMPSON RCKW3 + RCKW3S (STIFFENER) WITH (4) #12 SCREWS

NOTES:
1. ALL WALLS ARE REQUIRED TO BE BLOCKED / BRACED PER DETAILS 1/S-501 OR 2/S-501

1 / S-505 INTERIOR PARTIAL HEGHT KNEE WALL

1 1/2" = 1'-0"

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SKAGIT PUD
PN 3675 CAMPUS REPLACEMENT
ADMINISTRATION BUILDING
1415 FREEWAY DR
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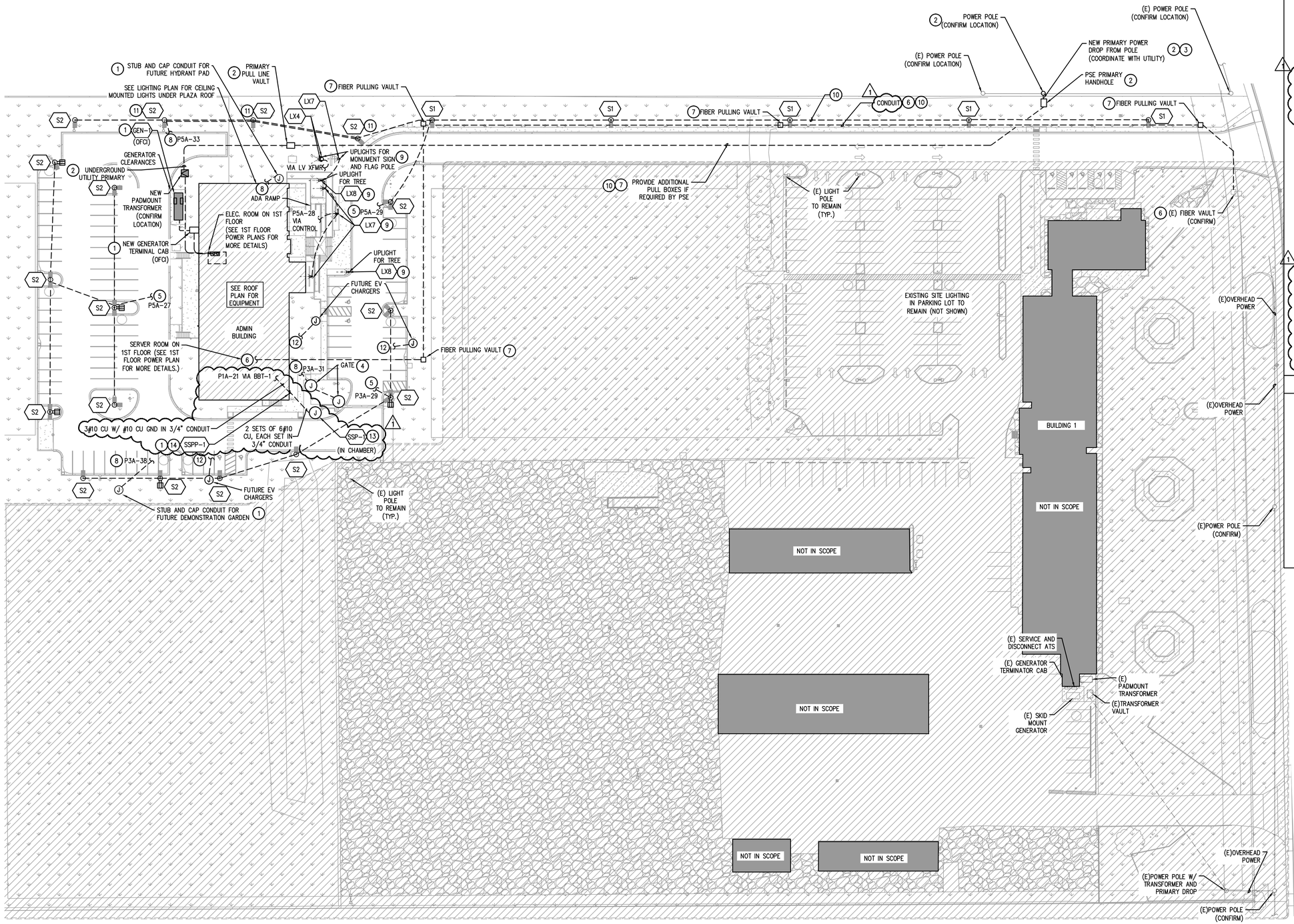
REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
	BID SET	05.23.2023

ISSUE:	BID SET
ISSUE DATE:	05.23.2023
DRAWN BY:	Author
PROJECT MANAGER:	Checker
PROJECT NUMBER:	19342

SHEET NAME:
METAL STUD DETAILS

SHEET NUMBER:
S-505

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ELECTRICAL SITE POWER PLAN

SCALE: 1"=40'

0 20' 40' 80'

KEY NOTES

1. COORDINATE WITH ARCHITECT, GC, AND OTHER TRADES FOR EXACT LOCATION AND REQUIREMENTS FOR EQUIPMENT.
2. COORDINATE WITH PSE FOR INSTALLATION OF NEW PRIMARY EXTENSION FOR NEW SERVICE AND REQUIREMENTS. CONFIRM FOR EASEMENT, DEPTH/ROUTE OF CONDUIT, AND BACKFILL.
3. ADD PRIMARY DROP TO HAND HOLE (CONFIRM W/ UTILITY). PROVIDE HAND HOLE AT PROPERTY LINE AND EXTEND PRIMARY POWER UNDERGROUND AS SHOWN TO NEW PAD MOUNT TRANSFORMER.
4. GATE: PROVIDE 1" CONDUIT FOR COMMUNICATION AND 3/4" CONDUIT FOR POWER TO GATE.
5. ROUTE BELOW GRADE TO ELECTRICAL ROOM LIGHTING CONTROL PANEL.
6. RUN 3 - 2" CONDUITS FOR FIBER AND DATA. COMMUNICATION CONDUITS FOR FIBER LINES SHALL BE RUN FROM THE EXISTING FIBER VAULT TO THE ADMIN BUILDING SERVER ROOM AS SHOWN. EACH RUN SHALL NOT EXCEED 500 FT. CONFIRM ROUTING AND OTHER REQUIREMENTS WITH UTILITY PROVIDER. A PULL ROPE SHALL BE INSTALLED IN EACH CONDUIT WITH A MIN OF 10' OF SLACK IN THE ROPES.
7. PROVIDE ADDITIONAL PULL BOXES IF REQUIRED BY UTILITY. CONFIRM WITH UTILITY FOR NUMBER AND SIZE OF CONDUITS. ALL PULL VAULTS SHALL BE LOCATED OUTSIDE OF DRIVE AISLE, PROVIDE OFFSETS AS NEEDED.
8. ROUTE BELOW GRADE TO PANEL INSIDE BUILDING.
9. UPLIGHT: COORDINATE LOCATION WITH ARCHITECT.
10. COORDINATE UNDERGROUND CONDUIT ROUTE WITH ARCHITECT AND GC FOR EXACT ROUTE AND CLEARANCES OF OTHER LINES INCLUDING WATER AND SEWER.
11. ADD A WEATHERPROOF, GFCI RECEPTACLE TO THE LIGHT POLE.
12. FUTURE EV CHARGERS: ROUTE (3) SETS OF 1" CONDUIT UNDERGROUND FROM THE ELECTRICAL ROOM TO EACH LOCATION INDICATED.
13. SANITARY SEWER PUMPS: DUPLEX SEWER PUMPS INSTALLED IN SUMP PUMP CHAMBER FED THROUGH PUMP CONTROL PANEL. SEE CIVIL PLANS FOR PUMP AND CHAMBER DETAILS. ROUTE 2 SETS OF CONDUIT (1 FOR EACH PUMP) UNDERGROUND TO PUMPS. PROVIDE SEAL OFF FITTINGS PER CODE. COORDINATE WITH CIVIL FOR EXACT LOCATION AND REQUIREMENTS
14. SANITARY SEWER PUMP PANEL: MOUNT PUMP CONTROL PANEL ON EXTERIOR OF BUILDING IN SIGHT OF THE PUMP CHAMBER. COORDINATE WITH CIVIL FOR PANEL SPECS. CONFIRM PANEL PROVIDES A SEPARATE DISCONNECT FOR EACH PUMP AND THE ALARM CIRCUIT SO THAT PUMP OVERCURRENT PROTECTION ACTING WILL NOT DISCONNECT THE ALARM FUNCTION.

GENERAL NOTES

A. ALL IS NEW UNLESS NOTED OTHERWISE. EXISTING SHOWN FADED OR WITH (E).

B. CONTRACTOR IS RESPONSIBLE FOR SITE INVESTIGATION PRIOR TO START OF WORK TO REVEAL FULL SCOPE OF WORK.

C. A LOCATING SERVICE SHALL BE USED TO LOCATE ALL EXISTING UNDERGROUND UTILITIES PRIOR TO EXCAVATING.

D. REVIEW ALL CIVIL DRAWINGS AND COORDINATE WITH G.C. FOR TRENCHING ROUTES, LANDSCAPE REPAIR, ASPHALT PATCHING AS NEEDED. CONFIRM BACKFILL AND COMPACTION REQUIREMENTS WITH CIVIL ENGINEER.

E. COORDINATE WITH UTILITY FOR THEIR REQUIREMENTS FOR SECONDARY CONDUCTOR/CONDUIT INSTALLATIONS. SCHEDULE CONSTRUCTION, SHUT DOWN AND CHANGE OVER WITH UTILITY INSTALLATION TIMELINE TO MINIMIZE POWER OUTAGE DOWNTIME.

F. SEE INTERIOR PLANS FOR MORE DETAILS & CONTINUATION OF POWER FOR EXTERIOR EQUIPMENT.

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SEAL

TIMOTHY PATRICK CARR STATE OF WASHINGTON 55668 REGISTERED PROFESSIONAL ENGINEER

PROJECT
NEW CONSTRUCTION
SKAGIT PUD PN 3675 CAMPUS REPLACEMENT ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WASHINGTON 98273

REVISIONS

1	ADDENDUM #2	06-20-2023

DATE
5/23/2023

SHEET TITLE
ELECTRICAL SITE POWER PLAN

BID SET

DRAWN BY: Salvador Campos
DESIGNER: Josh Ensley
CHECKED BY: Tim Carr
SHEET

E1.00

6/20/2023 12:20 PM
E1.00 ELECTRICAL SITE POWER PLAN.DWG

GENERAL NOTES

A. ALL IS NEW UNLESS NOTED OTHERWISE.

B. WIRE QUANTITIES ARE NOT SHOWN. FURNISH & INSTALL PER NOTES, CODE AND AS NEEDED WITH DEDICATED NEUTRALS FOR ALL GFI BREAKER PROTECTED CIRCUITS (TO PREVENT FALSE TRIPS). INSTALL A NEUTRAL CONDUCTOR FOR ALL CIRCUITS INCLUDING 240V 1-PHASE LOADS TO ALLOW FOR CONTROL POWER AND FOR FUTURE UPGRADES.

C. VERIFY ACTUAL RATINGS/LISTINGS OF EQUIPMENT AND ADJUST BREAKER, OUTLET & CIRCUIT SIZES/RATINGS AS MAY BE NEEDED PER CODE.

D. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES (PLUMBING, MECHANICAL, SECURITY, ETC) FOR ELECTRICAL REQUIREMENTS FOR THEIR EQUIPMENT, EVEN IF NOT SHOWN. VERIFY EXACT LOCATION, POWER AND CONTROL REQUIREMENTS AND ADJUST AS NEEDED.

E. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GC FOR CUTTING, CORING, NOTCHING, AND OTHER MODIFICATIONS THAT MAY BE REQUIRED TO COMPLETE THE WORK.

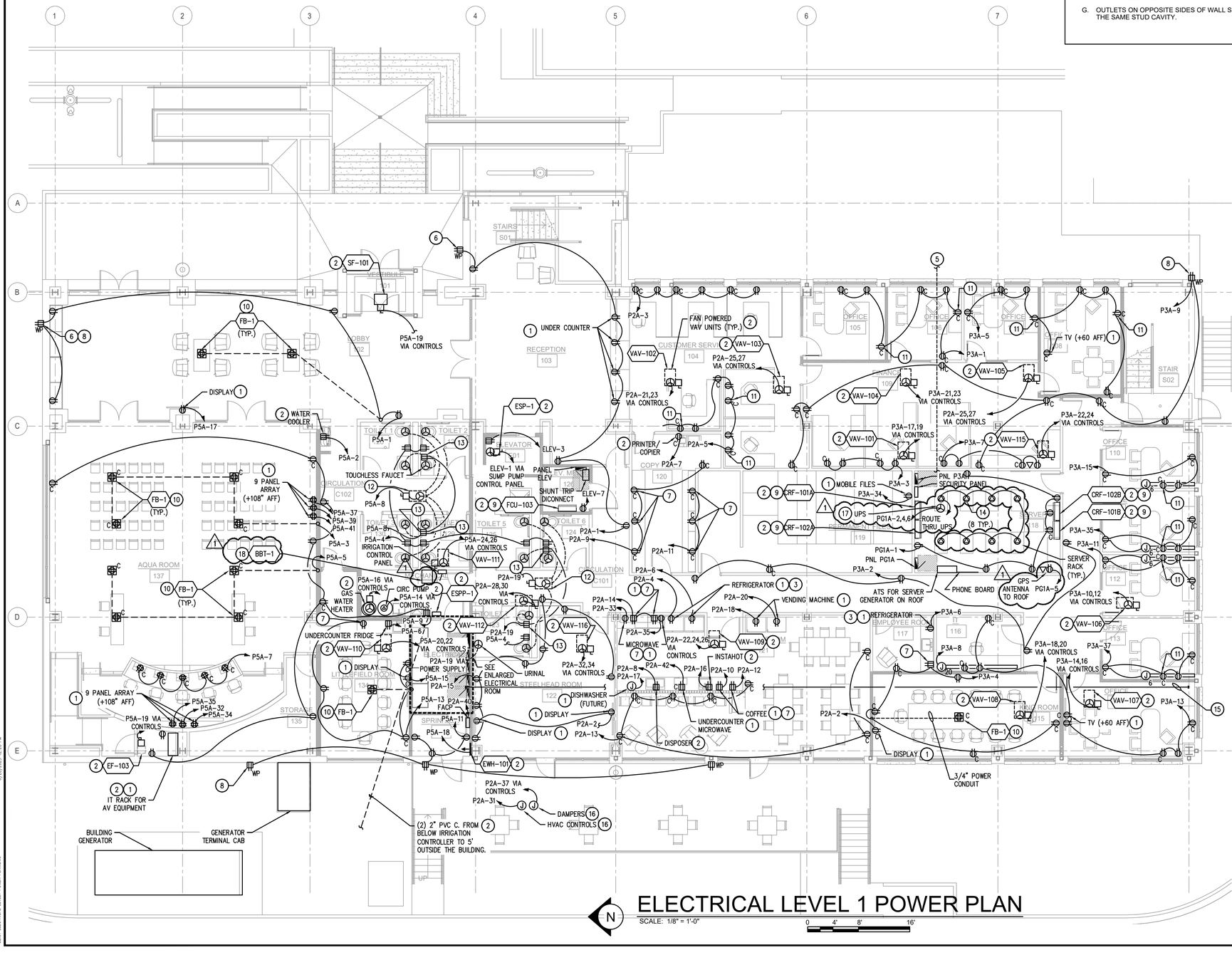
F. ALL RECEPTACLES SHALL BE COORDINATED WITH ARCHITECT AND GET SIGN OFF BEFORE ROUGHING IN.

G. OUTLETS ON OPPOSITE SIDES OF WALL SHALL NOT BE INSTALLED ON THE SAME STUD CAVITY.

KEY NOTES

1. COORDINATE WITH ARCHITECT FOR EXACT LOCATION AND REQUIREMENTS FOR EQUIPMENT.
2. COORDINATE WITH G.C. AND OTHER TRADES FOR EXACT LOCATION AND REQUIREMENTS FOR EQUIPMENT.
3. REFRIGERATOR RECEPTACLE AT AFF +56"
4. NOTE NOT USED.
5. STUB CONDUIT TO ADMIN BUILDING SERVER ROOM FROM THE UTILITY FOR FUTURE FIBER OPTICS. ALL ELBOWS SHALL BE LONG RADIUS.
6. EXTERIOR RECEPTACLE SHALL HAVE A LOCKABLE COVER.
7. INSTALL ABOVE COUNTERTOP AVOIDING BACKSPLASH, ETC. COORDINATE WITH ARCHITECT FOR EXACT MOUNTING HEIGHT.
8. LOCATE EXTERIOR RECEPTACLES 36" ABOVE GRADE.
9. EQUIPMENT POWERED FROM ROOFTOP UNITS. SEE EQUIPMENT CONNECTION SCHEDULE.
10. FLOOR BOX RECEPTACLES AND FLOOR BOX DATA OUTLETS SHALL BE INCLUDED IN THE SAME FLOOR BOX. SEE POWER PLAN AND TELECOM PLAN FOR LOCATIONS.
11. LOCATE RECEPTACLE ABOVE DESK.
12. FLUSH VALVE & POWER CONVERTER: MOUNT MANUFACTURER SUPPLIED POWER CONVERTER AND POWER JUNCTION BOX ABOVE ACT CEILING, WITH 10' OF FLUSH VALVES OR ADD FACTORY MADE 10' EXTENSION (CONFIRM). LOW VOLTAGE CABLE SHOWN BY DASHED LINE. POWER CONVERTER & FLUSH VALVES TO BE INSTALLED PER MANUFACTURER INSTRUCTIONS. COORDINATE WITH PLUMBING CONTRACTOR FOR EXACT ROUTE AND AND INSTALLATION REQUIREMENTS.
13. FAUCET SENSOR: MOUNT MANUFACTURER SUPPLIED POWER SUPPLY AND RECEPTACLE OUT OF VIEW OF CUSTOMER AT THIS LOCATION, WITH 10' OF FAUCET SENSOR OR ADD FACTORY MADE EXTENSION. LOW VOLTAGE CABLE SHOWN BY DASHED LINE. POWER CONVERTER AND FAUCET SENSOR SHALL BE INSTALLED PER MANUFACTURER INSTRUCTIONS. COORDINATE WITH PLUMBING CONTRACTOR FOR EXACT ROUTE AND INSTALLATION REQUIREMENTS.
14. RACK CONNECTION; CONFIRM EXACT RACK CONNECTION TYPE, VOLTAGE, ETC WITH RACK MANUFACTURER AND PROVIDE ACCORDINGLY.
15. CONDUIT FOR FUTURE EXPANSION: THREE (3) - 3" CONDUIT ROUTED ABOVE THE CEILING FROM THE ELECTRICAL ROOM TO THE SOUTH WALL. CAP AND STUB WITH PULLSTRING THE CONDUITS FOR FUTURE EXPANSION. FIELD ROUTE AND ENSURE THE CONDUIT ROUTE DOES NOT CONFLICT WITH CLEARANCE REQUIREMENTS FOR HVAC EQUIPMENT IN THE CEILING AND DISCONNECT SWITCHES.
16. HVAC CONTROLS AND DAMPERS: NOT ALL SHOWN. COORDINATE LOCATIONS OF EQUIPMENT AND CIRCUIT TERMINATIONS WITH MC.
17. UPS: UPS SHALL BE DESIGN-BUILD IN COORDINATION WITH IT VENDOR. ROUTE ALL RACK POWER THRU UPS. COORDINATE WITH IT DESIGNER FOR REQUIREMENTS AND RECEPTACLE/PLUG TYPES.
18. PROVIDE 9 KVA 208/240V, 1-PHASE BUCK-BOOST TRANSFORMER MOUNTED IN MECHANICAL ROOM TO FEED 240V PUMPS. CONFIRM PUMP AND CONTROL PANEL RATINGS WITH ACTUAL EQUIPMENT AND ADJUST ACCORDINGLY.

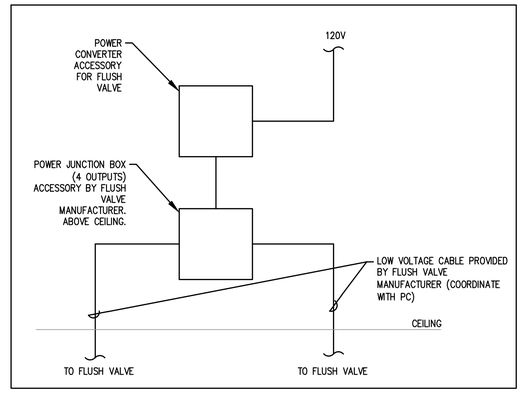
1



ELECTRICAL LEVEL 1 POWER PLAN

SCALE: 1/8" = 1'-0"

0 4' 8' 16'



4

FLUSH VALVE DETAIL

SCALE: NTS

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SEAL

TIMOTHY PATRICK CARR — STATE OF WASHINGTON — 55668 — REGISTERED PROFESSIONAL ENGINEER

PROJECT
NEW CONSTRUCTION
SKAGIT PUD PN 3675 CAMPUS
REPLACEMENT ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WASHINGTON 98273

REVISIONS

1	ADDENDUM #2	06-20-2023

DATE
5/23/2023

SHEET TITLE
ELECTRICAL LEVEL 1 POWER PLAN

BID SET

DRAWN BY: Salvador Campos
DESIGNER: Josh Ensley
CHECKED BY: Tim Carr
SHEET

E2.01

6/20/2023 12:20 PM
E2.01 ELECTRICAL LEVEL1 POWER PLAN.DWG

GENERAL NOTES

A. ALL IS NEW UNLESS NOTED OTHERWISE.

B. WIRE QUANTITIES ARE NOT SHOWN. FURNISH & INSTALL PER NOTES, CODE AND AS NEEDED WITH DEDICATED NEUTRALS FOR ALL GFI BREAKER PROTECTED CIRCUITS (TO PREVENT FALSE TRIPS). INSTALL A NEUTRAL CONDUCTOR FOR ALL CIRCUITS INCLUDING 240V 1-PHASE LOADS TO ALLOW FOR CONTROL POWER AND FOR FUTURE UPGRADES.

C. VERIFY ACTUAL RATINGS/LISTINGS OF EQUIPMENT AND ADJUST BREAKER, OUTLET & CIRCUIT SIZES/RATINGS AS MAY BE NEEDED PER CODE.

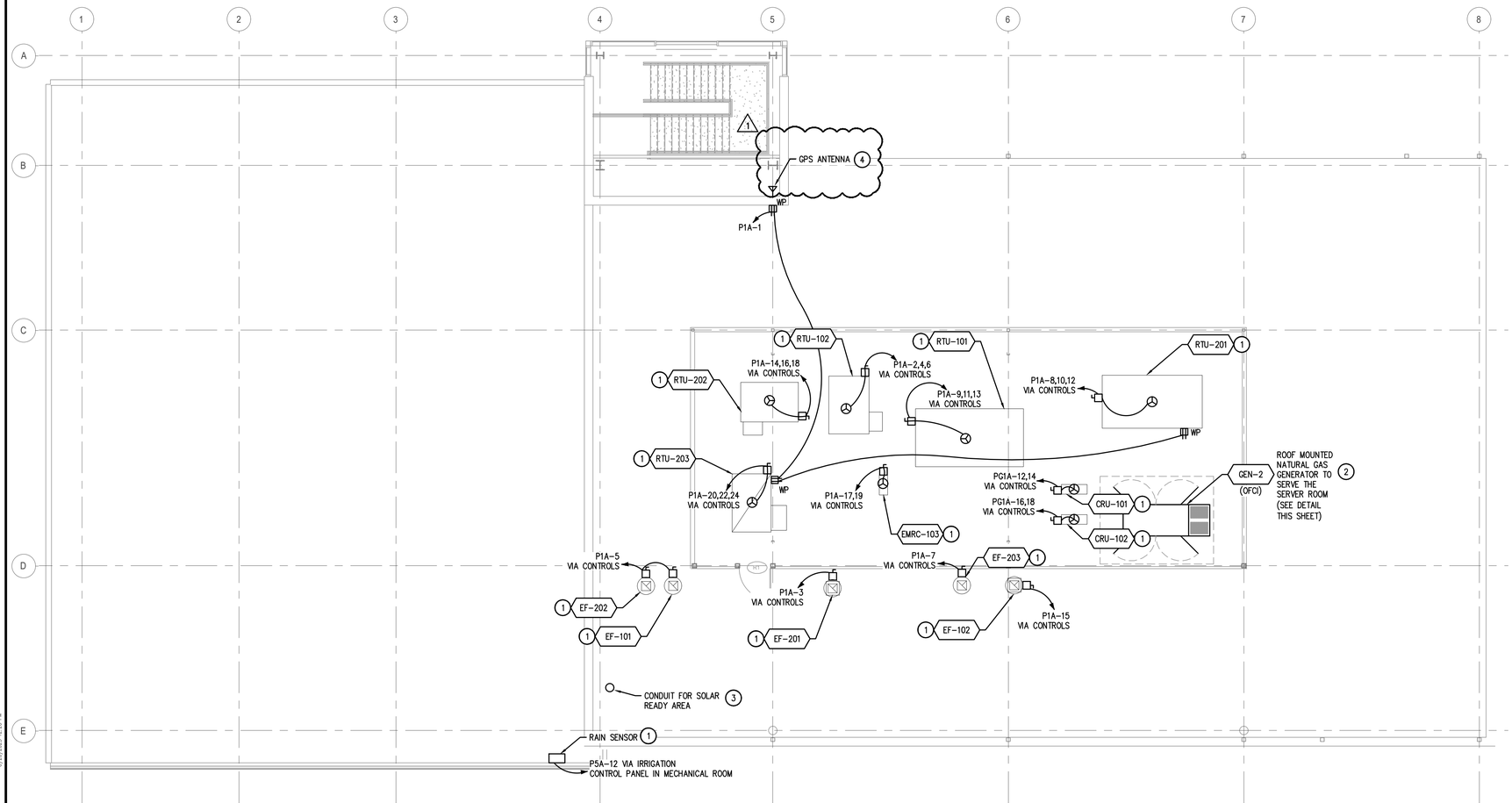
D. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES (PLUMBING, MECHANICAL, SECURITY, ETC) FOR ELECTRICAL REQUIREMENTS FOR THEIR EQUIPMENT, EVEN IF NOT SHOWN. VERIFY EXACT LOCATION, POWER AND CONTROL REQUIREMENTS AND ADJUST AS NEEDED.

E. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GC FOR CUTTING, CORING, NOTCHING, AND OTHER MODIFICATIONS THAT MAY BE REQUIRED TO COMPLETE THE WORK.

KEY NOTES

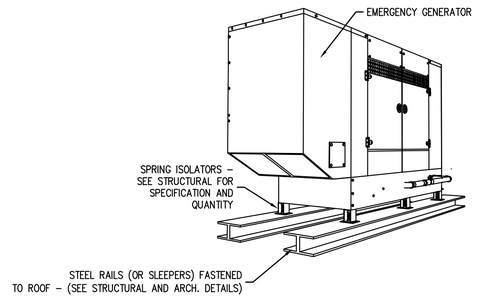
1. CONFIRM WITH MECHANICAL AND / OR PLUMBING FOR EXACT LOCATIONS AND REQUIREMENTS.
2. COORDINATE W/ ARCH. FOR FINAL LOCATION SCREENING REQUIREMENTS AND STRUCTURAL.
3. SOLAR READY AREA: 2" CONDUIT FOR SOLAR READY AREA SHALL BE FIELD ROUTED FROM THE ELECTRICAL ROOM. CONTRACTOR SHALL PROVIDE SOLAR READY AREA AND COORDINATE WITH ARCHITECT FOR LOCATION.
4. GPS ANTENNA: ROUTE CABLING FOR DATA AND POWER FROM GPS ANTENNA TO THE IT ROOM VIA THE RECEIVER. MOUNT GPS ANTENNA TO THE STAIR TOWER ROOF. GROUNDING FOR THE GPS ANTENNA SHALL BE PROVIDED PER CODE. LIGHTNING ARRESTOR SHALL BE INSTALLED. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND PROVIDE A COMPLETE AND OPERATIONAL SYSTEM. CONFIRM MANUFACTURER'S REQUIREMENTS. COORDINATE WITH ARCHITECT FOR EXACT LOCATIONS.

1



1

NOTE REMOVED



1 GEN SET ISOLATION CONCEPT
SCALE: NTS

N

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

0 4' 8' 16'

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TIMOTHY PATRICK CARR
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PROJECT
NEW CONSTRUCTION
SKAGIT PUD PN 3675 CAMPUS
REPLACEMENT ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WASHINGTON 98273

REVISIONS

1	ADDENDUM #2	06-20-2023

DATE
5/23/2023

SHEET TITLE
ELECTRICAL ROOF POWER PLAN

BID SET

DRAWN BY: Salvador Campos
DESIGNER: Josh Ensley
CHECKED BY: Tim Carr
SHEET
E2.03

6/20/2023 12:20 PM
E2.03 ELECTRICAL ROOF POWER PLAN.DWG

MECHANICAL EQUIPMENT CONNECTION SCHEDULE

EQUIP. TAG	DESCRIPTION/SERVES	LOCATION	EQUIPMENT RATINGS					LOAD	CIRCUIT OVERCURRENT PROTECTION			BRANCH CIRCUIT CONNECTION			
			VOLTAGE (V) [5]	PHASE	AMPS (enter FLA or MCA, not both) FLA [3]	AMPS (enter FLA or MCA, not both) MCA [2]	MOTOR HP (IF APPLICABLE)	VA	BREAKER/FUSE SIZE [6]	MOCP [2]	TYPE [1]	COPPER WIRE SIZE	CONDUIT SIZE (EMT)	TYPE OF CONNECTION	COMMENTS
RTU-101	ALL FLOOR 1 VAV TERMINALS	ROOF	208 V	3		141	11 HP	50,798		175	FUSE	2/0	2"	HARDWIRED	DEDICATED CIRCUIT
RTU-201	ALL FLOOR 2 VAV TERMINALS	ROOF	208 V	3		119	7 HP	42,872		150	FUSE	1/0	1-1/2"	HARDWIRED	DEDICATED CIRCUIT
RTU-102	AQUA ROOM (CONF.)	ROOF	208 V	3		43	2 HP	15,491		50	FUSE	# 8	1"	HARDWIRED	DEDICATED CIRCUIT
RTU-202	STAIR ATRIUM	ROOF	208 V	3		43	2 HP	15,491		50	FUSE	# 8	1"	HARDWIRED	DEDICATED CIRCUIT
RTU-203	LOBBY	ROOF	208 V	3		54	3 HP	19,454		60	FUSE	# 6	1"	HARDWIRED	DEDICATED CIRCUIT
SF-101	INLINE SUPPLY FAN	VESTIBULE	115 V	1	1.5		82 W	173	20		BREAKER	# 12	1/2"	HARDWIRED	
EF-101	INLINE EXHAUST FAN	FLOOR 1 RESTROOMS	115 V	1	3		184 W	345	20		BREAKER	# 12	1/2"	HARDWIRED	
EF-102	FLOOR 1 LUNCHROOM EXHAUST FAN	ROOF	115 V	1	5.8		1/4 HP	667	20		BREAKER	# 12	1/2"	HARDWIRED	
EF-103	AQUA ROOM AV CLOSET	AQUA ROOM AV CLOSET	115 V	1	0.29			33	20		BREAKER	# 12	1/2"	HARDWIRED	
EF-201	FLOOR 2 RESTROOMS EXHAUST FAN	ROOF	115 V	1	1.5		1/3 HP	173	20		BREAKER	# 12	1/2"	HARDWIRED	
EF-202	FLOOR 2 RESTROOMS EXHAUST FAN	ROOF	115 V	1	4.4		1/6 HP	506	20		BREAKER	# 12	1/2"	HARDWIRED	
EF-203	FLOOR 2 COPY ROOM EXHAUST FAN	ROOF	115 V	1	4.4		1/6 HP	506	20		BREAKER	# 12	1/2"	HARDWIRED	
EWH-101	WALL MOUNTED FAN FORCED ELEC HEATER	SPRINKLER ROOM	120 V	1	2.1			252	20		BREAKER	# 12	1/2"	HARDWIRED	
CRU-101	SERVER ROOM SPLIT SYSTEM HEAT PUMP	ROOF	208 V	1	38			7,904	40		BREAKER	# 8	1"	HARDWIRED	DEDICATED CIRCUIT
CRU-102	SERVER ROOM SPLIT SYSTEM HEAT PUMP	ROOF	208 V	1	38			7,904	40		BREAKER	# 8	1"	HARDWIRED	DEDICATED CIRCUIT
EMRC-103	ELEVATOR MACHINE ROOM HEAT PUMP	ROOF	208 V	1	28			5,824	30		BREAKER	# 10	3/4"	HARDWIRED	DEDICATED CIRCUIT
CRF-101A	WALL MOUNTED DUCTLESS FAN COIL UNIT	SERVER ROOM			0.86										POWERED FROM OUTDOOR UNIT CRU-101
CRF-101B	WALL MOUNTED DUCTLESS FAN COIL UNIT	SERVER ROOM			0.86										POWERED FROM OUTDOOR UNIT CRU-101
CRF-102A	WALL MOUNTED DUCTLESS FAN COIL UNIT	SERVER ROOM			0.86										POWERED FROM OUTDOOR UNIT CRU-102
CRF-102B	WALL MOUNTED DUCTLESS FAN COIL UNIT	SERVER ROOM			0.86										POWERED FROM OUTDOOR UNIT CRU-102
FCU-103	WALL MOUNTED DUCTLESS FAN COIL UNIT	ELEVATOR MACHING RM			0.625										POWERED FROM OUTDOOR UNIT EMRC-103
VAV-101	SINGLE DUCT VAV TERMINAL	FINANCE OFFICE	208 V	1		6.01		1,250		15	BREAKER	# 12	1/2"	HARDWIRED	
VAV-102	SERIES FAN POWERED VAV W/ELEC HEAT	COPY ROOM	208 V	1		43.17	1 HP	8,979		45	BREAKER	# 8	1"	HARDWIRED	
VAV-103	SERIES FAN POWERED VAV W/ELEC HEAT	CUSTOMER SERVICE	208 V	1		49.18	1 HP	10,229		50	BREAKER	# 8	1"	HARDWIRED	
VAV-104	SERIES FAN POWERED VAV W/ELEC HEAT	OFFICE	208 V	1		49.18	1 HP	10,229		50	BREAKER	# 8	1"	HARDWIRED	
VAV-105	SERIES FAN POWERED VAV W/ELEC HEAT	OFFICE	208 V	1		10.26	1/10 HP	2,134		15	BREAKER	# 12	1/2"	HARDWIRED	
VAV-106	SERIES FAN POWERED VAV W/ELEC HEAT	OFFICE	208 V	1		55.19	1 HP	11,480		60	BREAKER	# 6	1"	HARDWIRED	
VAV-107	SERIES FAN POWERED VAV W/ELEC HEAT	OFFICE	208 V	1		31.15	1 HP	6,479		35	BREAKER	# 8	1"	HARDWIRED	
VAV-108	SERIES FAN POWERED VAV W/ELEC HEAT	CONFERENCE	208 V	1		40.17	1 HP	8,355		45	BREAKER	# 8	1"	HARDWIRED	
VAV-109	SERIES FAN POWERED VAV W/ELEC HEAT	LUNCHROOM	208 V	3		49.56	1 HP	17,855		50	BREAKER	# 8	1"	HARDWIRED	
VAV-110	SERIES FAN POWERED VAV W/ELEC HEAT	CONFERENCE	208 V	1		37.16	1 HP	7,729		40	BREAKER	# 8	1"	HARDWIRED	
VAV-111	SINGLE DUCT VAV TERMINAL	RESTROOMS	208 V	1		15.02		3,124		20	BREAKER	# 12	1/2"	HARDWIRED	
VAV-112	SINGLE DUCT VAV TERMINAL	RESTROOM / CIRC	208 V	1		9.01		1,874		15	BREAKER	# 12	1/2"	HARDWIRED	
VAV-115	SINGLE DUCT VAV TERMINAL	IT / CIRCULATION	208 V	1		15.02		3,124		20	BREAKER	# 12	1/2"	HARDWIRED	
VAV-116	SERIES FAN POWERED VAV W/ELEC HEAT	EXERCISE / MISC	208 V	1		46.18	1 HP	9,605		50	BREAKER	# 8	1"	HARDWIRED	
VAV-201	SERIES FAN POWERED VAV W/ELEC HEAT	ENGINEERING LOBBY	208 V	1		16.27	1/10 HP	3,384		20	BREAKER	# 12	1/2"	HARDWIRED	
VAV-202	SERIES FAN POWERED VAV W/ELEC HEAT	ENGINEERING COUNTER	208 V	1		19.28	1/10 HP	4,010		20	BREAKER	# 12	1/2"	HARDWIRED	
VAV-203	SERIES FAN POWERED VAV W/ELEC HEAT	OFFICE	208 V	1		13.27	1/10 HP	2,760		15	BREAKER	# 12	1/2"	HARDWIRED	
VAV-204	SERIES FAN POWERED VAV W/ELEC HEAT	OFFICE	208 V	1		13.27	1/10 HP	2,760		15	BREAKER	# 12	1/2"	HARDWIRED	
VAV-205	SERIES FAN POWERED VAV W/ELEC HEAT	OFFICE	208 V	1		52.19	1 HP	10,856		60	BREAKER	# 6	1"	HARDWIRED	
VAV-206	SERIES FAN POWERED VAV W/ELEC HEAT	OFFICE	208 V	1		42.62	1 HP	8,865		45	BREAKER	# 8	1"	HARDWIRED	
VAV-207	SERIES FAN POWERED VAV W/ELEC HEAT	OFFICE/ CORNER	208 V	1		37.16	1 HP	7,729		40	BREAKER	# 8	1"	HARDWIRED	
VAV-208	SERIES FAN POWERED VAV W/ELEC HEAT	OFFICE	208 V	1		52.19	1 HP	10,856		60	BREAKER	# 6	1"	HARDWIRED	
VAV-209	SERIES FAN POWERED VAV W/ELEC HEAT	OFFICE	208 V	1		13.27	1/10 HP	2,760		15	BREAKER	# 12	1/2"	HARDWIRED	
VAV-210	SERIES FAN POWERED VAV W/ELEC HEAT	OFFICE	208 V	1		13.27	1/10 HP	2,760		15	BREAKER	# 12	1/2"	HARDWIRED	
VAV-211	SERIES FAN POWERED VAV W/ELEC HEAT	CONFERENCE	208 V	1		37.16	1 HP	7,729		40	BREAKER	# 8	1"	HARDWIRED	
VAV-212	SINGLE DUCT VAV TERMINAL	RESTROOM / CIRC	208 V	1		15.02		3,124		20	BREAKER	# 12	1/2"	HARDWIRED	
VAV-213	SINGLE DUCT VAV TERMINAL	CONFERENCE	208 V	1		12.02		2,500		20	BREAKER	# 12	1/2"	HARDWIRED	
VAV-216	SINGLE DUCT VAV TERMINAL	OFFICE INTERIOR	208 V	1		9.01		1,874		15	BREAKER	# 12	1/2"	HARDWIRED	
VAV-217	SINGLE DUCT VAV TERMINAL	OFFICE INTERIOR	208 V	1		9.01		1,874		15	BREAKER	# 12	1/2"	HARDWIRED	
VAV-218	SINGLE DUCT VAV TERMINAL	OFFICE INTERIOR	208 V	1		12.02		2,500		15	BREAKER	# 12	1/2"	HARDWIRED	
VAV-219	SINGLE DUCT VAV TERMINAL	CIRC / KITCH/ OFFICE	208 V	1		12.02		2,500		15	BREAKER	# 12	1/2"	HARDWIRED	
VAV-220	SERIES FAN POWERED VAV W/ELEC HEAT	STAIR CO2	208 V	1		37.16	1 HP	7,729		40	BREAKER	# 8	1"	HARDWIRED	

NOTES:
1. CONFIRM ALL SHOWN IN FIELD WITH ACTUAL NAMEPLATES/SUBMITTALS AND ADJUST CIRCUIT RATINGS PER CODE AS MAY BE NEEDED.
2. MCA AND MOCP VALUES ARE BASED ON NAMEPLATE VALUES CALCULATED FOR COMBINATION EQUIPMENT SUCH AS HVAC, OR MULTI-MOTOR EQUIPMENT.
3. RATED AMPS OR FULL LOAD AMPS (FLA) OF EQUIPMENT.
4. CONFIRM ALL CONTROL REQUIREMENTS WITH MECHANICAL CONTRACTOR.
5. CONFIRM EQUIPMENT VOLTAGE RATING IS COMPATIBLE WITH THE AVAILABLE CIRCUIT VOLTAGE AND IF NOT, NOTIFY RENSCH ENGINEERING FOR A SOLUTION BEFORE CONNECTING EQUIPMENT.
6. OVERCURRENT PROTECTION REQUIRED AT THE UNIT OR BASED ON MANUFACTURER'S REQUIREMENTS. THE BRANCH CIRCUIT OCPD MAY BE USED IF ALLOWED BY THE MANUFACTURER AND SIZED PER CODE.

OTHER EQUIPMENT CONNECTION SCHEDULE

1

EQUIP. TAG	DESCRIPTION/SERVES	LOCATION	EQUIPMENT RATINGS					LOAD	CIRCUIT OVERCURRENT PROTECTION			BRANCH CIRCUIT CONNECTION			
			VOLTAGE (V) [5]	PHASE	AMPS (enter FLA or MCA, not both) FLA [3]	AMPS (enter FLA or MCA, not both) MCA [2]	MOTOR HP (IF APPLICABLE)	VA	BREAKER/FUSE SIZE [6]	MOCP [2]	TYPE [1]	COPPER WIRE SIZE	CONDUIT SIZE (EMT)	TYPE OF CONNECTION	COMMENTS
BBT-1	BUCK BOOST TRANSFORMER	MECHANICAL ROOM	208 V	1	83.2741			30,000	125		BREAKER	# 1	2"	HARDWIRED	9KVA, 208/240V, 1-PHASE
ESP-1	ELEVATOR SUMP PUMP	ELEVATOR PIT	120 V	1	9.3			1,116	20		BREAKER	# 12	1/2"	HARDWIRED	
ESPP-1	ELEVATOR SUMP PUMP CONTROL PANEL	MECHANICAL ROOM	120 V	1					20		BREAKER	# 12	1/2"	HARDWIRED	CONFIRM
SSP-1	SANITARY SEWER PUMP	EXTERIOR	240 V	1	8		1 HP	1,920	15		BREAKER	# 10	3/4"	HARDWIRED	VIA BBT-1
SSPP-1	SANITARY SEWER PUMP ALARM PANEL	EXTERIOR	240 V	1	24			5,760	30		BREAKER	# 10	3/4"	HARDWIRED	VIA BBT-1

NOTES:
1. CONFIRM ALL SHOWN IN FIELD WITH ACTUAL NAMEPLATES/SUBMITTALS AND ADJUST CIRCUIT RATINGS PER CODE AS MAY BE NEEDED.
2. MCA AND MOCP VALUES ARE BASED ON NAMEPLATE VALUES CALCULATED FOR COMBINATION EQUIPMENT SUCH AS HVAC, OR MULTI-MOTOR EQUIPMENT.
3. RATED AMPS OR FULL LOAD AMPS (FLA) OF EQUIPMENT.
4. CONFIRM ALL CONTROL REQUIREMENTS WITH MECHANICAL CONTRACTOR.
5. CONFIRM EQUIPMENT VOLTAGE RATING IS COMPATIBLE WITH THE AVAILABLE CIRCUIT VOLTAGE AND IF NOT, NOTIFY RENSCH ENGINEERING FOR A SOLUTION BEFORE CONNECTING EQUIPMENT.
6. OVERCURRENT PROTECTION REQUIRED AT THE UNIT OR BASED ON MANUFACTURER'S REQUIREMENTS. THE BRANCH CIRCUIT OCPD MAY BE USED IF ALLOWED BY THE MANUFACTURER AND SIZED PER CODE.

FLOOR BOX SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL	FLOOR TYPE	DEVICE MOUNTING	# OF DUPLEX	# OF DATA	ACCESSORIES	NOTES
FB-1	4 GANG FLUSH FLOOR BOX	HUBBELL SYSTEM ONE	CFB4G25CR	CONCRETE	FLUSH	2	4	WITH COVER MATCHED TO FLOOR TYPE, DEVICE PLATES FOR 2 DUPLEX AND 4 DATA	RECEPTACLES USED IN FLOOR BOXES SHALL BE TAMPER PROOF AND RATED FOR FLOOR BOX INSTALLATION AND FACE UP USE. CONFIRM COLOR AND FINISH WITH OWNER.

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REGISTERED PROFESSIONAL ENGINEER

PROJECT
NEW CONSTRUCTION
SKAGIT PUD PN 3675 CAMPUS
REPLACEMENT ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WASHINGTON 98273

REVISIONS

1	ADDENDUM #2	06-20-2023

DATE
5/23/2023

SHEET TITLE
ELECTRICAL CONNECTION SCHEDULE

BID SET

DRAWN BY: Adrian Caple
DESIGNER: Josh Ensley
CHECKED BY: Tim Carr

SHEET
E5.02

PANEL P2A

VOLTAGE: 208V / 120V 3 Ph/4 W
FED FROM: MSB
BUS RATING: 400 AMP
HIGH LEG? No
MOUNTING: SURFACE
OPTIONS:
OF SPACES: 42
MAINS DEVICE: MLO
MAIN OCPD RATING:
AIC RATING: SEE RISER
LOCATION: ELECTRICAL ROOM
FEED THRU LUGS: No

NOTES	SERVES	TYPE LOAD	CKT BRKR AMP	CKT BRKR POLE	CKT NO.	CKT LOAD	PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	CKT LOAD	CKT NO.	CKT BRKR AMP	CKT BRKR POLE	TYPE LOAD	SERVES	NOTES
	GENERAL REC RECEPTION	R	20	/1	1	1,720	2,170			450	2	20	/1	CL	DISPLAYS STEELHEAD/KING	
	WORK STATION CUST SRVC 1	NC	20	/1	3	1,500		3,000		1,500	4	20	/1	K	REFRIGERATOR	GFCI
	WORK STATION CUST SRVC 2	NC	20	/1	5	1,860			3,360	1,500	6	20	/1	K	REFRIGERATOR	GFCI
	COPIER/PRINTER	NC	20	/1	7	1,920	3,120			1,200	8	20	/1	NC	DISPOSER	
	GENERAL RECEPTACLE COPY 1	R	20	/1	9	720		2,220		1,500	10	20	/1	K	COFFEE	
	GENERAL RECEPTACLE COPY 2	R	20	/1	11	540			2,040	1,500	12	20	/1	K	COFFEE	
	GENERAL REC LUNCH RM	R	20	/1	13	1,260	2,260			1,000	14	20	/1	K	COUNTERTOP REC	
	GENERAL REC STEALHEAD	R	20	/1	15	1,440		2,940		1,500	16	20	/1	K	INSTAHOT	
	DISHWASHER (FUTURE)	K	20	/1	17	1,200			2,700	1,500	18	20	/1	CL	VENDING	
	TOUCHLESS FAUCETS & FLUSH	NC	20	/1	19	21	1,521			1,500	20	20	/1	CL	VENDING	
	VAV-102	NC	45	/2	21	4,490		10,441		5,952	22	50	/3	NC	VAV-109	
		NC			23	4,490			10,441	5,952	24			NC		
	VAV-103	NC	50	/2	25	5,115	11,066			5,952	26			NC		
		NC			27	5,115		6,052		937	28	15	/2	NC	VAV-112	
	GENERATOR CONTROLS	NC	20	/1	29	500			1,437	937	30			NC		
	HVAC CONTROLS	NC	20	/1	31	500	5,303			4,803	32	50	/2	NC	VAV-116	
GFCI	MICROWAVE	K	20	/1	33	1,500		6,303		4,803	34			NC		
GFCI	MICROWAVE	K	20	/1	35	1,500			2,000	500	36	20	/1	NC	LCS	
	DAMPERS	NC	20	/1	37	500	1,500			1,000	38	20	/1	NC	SECURITY PANEL	
	SPARE		20	/1	39			500		500	40	20	/1	NC	FACP	
	SPARE		20	/1	41				1,500	1,500	42	20	/1	K	MICROWAVE	
	PANEL PHASE CONNECTED VA =						26,940	31,455	23,478	95% OF BREAKER SPACES USED (SPARES NOT COUNTED)						
	TOTAL PHASE CONNECTED AMPS =						224	262	196	USED TO SHOW PHASE BALANCE ONLY						

		CONN. KVA		DEMAND FACTOR		DEMAND KVA	
TOTAL KITCHEN LOAD	=	14.20	X	0.65	=	9.23	
TOTAL LIGHTING LOAD	=	0.00	X	1.25	=	0.00	
TOTAL NON-CONT. LOAD	=	58.54	X	1.0	=	58.54	
TOTAL RECEPTACLE LOAD *	=	5.68	X	1.0	=	5.68	UNDER 10KW
TOTAL CONTINUOUS LOAD	=	3.45	X	1.25	=	4.31	
TOTAL HVAC LOAD	=	0.00	X	1.0	=	0.00	
LARGEST MOTOR LOAD**	=	0.00	X	1.25	=	0.00	
ELECTRIC VEHICLE CHARGING	=	0.00	X	1.25	=	0.00	
USER DEFINED	=	0.00	X	1	=	0.00	
TOTAL KVA	=	81.87			=	77.77	
		CONNECTED AMPS				DEMAND AMPS	
TOTAL AMPS	=	227.53	AMPS		=	216.11	AMPS @208/120 3 Ph/4 W (54% OF BUS RATING)

LOAD TYPE KEY:

SP	=	SUBPANEL
K	=	KITCHEN LOAD
L	=	LIGHTING LOAD
NC	=	NON-CONTINUOUS LOAD
R	=	RECEPTACLE LOAD
CL	=	CONTINUOUS LOAD
H	=	HVAC LOAD
LM	=	LARGEST MOTOR LOAD
EV	=	ELECTRIC VEHICLE CHARGING
USR1		USER DEFINED

NOTES:
* IF RECEPTACLE LOAD IS OVER 10KW THEN THE AMOUNT OVER 10KW IS COUNTED AS 50% FOR NON-DWELLING UNITS PER NEC 220.44.
** THE LARGEST MOTOR OF THIS PANEL OR THE LARGEST MOTOR OF ANY SUBPANEL IS TAKEN AT 125%, ANY OTHER MOTORS ARE TAKEN AT 100%.
GFCI - GFCI BREAKER WITH SEPARATE DEDICATED CIRCUIT NEUTRAL.

SWITCHBOARD MSB

VOLTAGE: 208V / 120V 3 Ph/4 W
FED FROM: MSB
BUS RATING: 2000 AMP
HIGH LEG? No
MOUNTING: FREESTANDING
OPTIONS:
OF SPACES:
MAINS DEVICE: MCB
MAIN OCPD RATING: 2000 AMPS
AIC RATING: SEE RISER
LOCATION: ELECTRICAL ROOM

NOTES	SERVES	TYPE LOAD	CKT BRKR AMP	CKT BRKR POLE	CKT LOAD (VA)	PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	CKT LOAD (VA)	CKT BRKR AMP	CKT BRKR POLE	TYPE LOAD	SERVES	NOTES
	SECTION 1, BUS RATING 2000 AMPS, SECTION RATING 2000 AMPS								SECTION 1, LOADING 635.537 KVA, 597 AMPS					
	P3A	SP	400	/3	17,489		63,975		46,486	400	/3	SP	P4A	
		SP			25,086			67,105	42,019			SP		
		SP			24,636	66,279			41,643			SP		
	P1A	SP	600	/3	51,993		65,936		13,943	400	/3	SP	P5A	
		SP			50,315			64,048	13,733			SP		
		SP			53,238	64,783			11,545			SP		
	P2A	SP	400	/3	26,940		28,166		1,226	100	/3	SP	ELEV	
		SP			31,455			32,005	550			SP		
		SP			23,478	23,781			303			SP		
	PG1A	SP	200	/3	15,212		38,508		23,296	225	/3	SP	FUTURE EV	
		SP			14,572			34,540	19,968			SP	PROV. ONLY	
		SP			18,404	35,044			16,640			SP		
	ELEVATOR	NC	200	/3	17,122		17,122		0				SPACE	
		NC			17,122			17,122	0					
		NC			17,122	17,122			0					
	SPACE				0			0	0	400	/3		FUTURE SOLAR	SOLAR
					0	0			0				PROV. ONLY	
					0		0		0					
	TOTAL PHASE CONNECTED VA =				207,010	213,707	214,820							
	TOTAL PHASE CONNECTED AMPS =				1725	1781	1790		USED TO SHOW PHASE BALANCE ONLY					

		CONN. KVA		DEMAND FACTOR		DEMAND KVA	
TOTAL KITCHEN LOAD	=	21.85	X	0.65	=	14.20	
TOTAL LIGHTING LOAD	=	17.09	X	1.25	=	21.36	
TOTAL NON-CONT. LOAD	=	299.81	X	1.0	=	299.81	
TOTAL RECEPTACLE LOAD *	=	30.70	* see below		=	20.35	OVER 10KW
TOTAL CONTINUOUS LOAD	=	100.34	X	1.25	=	125.43	
TOTAL HVAC LOAD	=	165.74	X	1.0	=	165.74	
LARGEST MOTOR LOAD**	=	0.00	X	1.25	=	0.00	
ELECTRIC VEHICLE CHARGING	=	0.00	X	1.25	=	0.00	
USER DEFINED	=	0.00	X	1.0	=	0.00	
TOTAL KVA	=	635.54			=	646.90	
		CONNECTED AMPS				DEMAND AMPS	
TOTAL AMPS	=	1766.16	AMPS		=	1797.74	AMPS @208/120 3 Ph/4 W

LOAD TYPE KEY:

SP	=	SUBPANEL
K	=	KITCHEN LOAD
L	=	LIGHTING LOAD
NC	=	NON-CONTINUOUS LOAD
R	=	RECEPTACLE LOAD
CL	=	CONTINUOUS LOAD
H	=	HVAC LOAD
LM	=	LARGEST MOTOR LOAD
EV	=	ELECTRIC VEHICLE CHARGING
USR1		USER DEFINED

NOTES:
* IF RECEPTACLE LOAD IS OVER 10KW THEN THE AMOUNT OVER 10KW IS COUNTED AS 50% FOR NON-DWELLING UNITS PER NEC 220.44.
** THE LARGEST MOTOR OF THIS PANEL OR THE LARGEST MOTOR OF ANY SUBPANEL IS TAKEN AT 125%, ANY OTHER MOTORS ARE TAKEN AT 100%.
SOLAR - RESERVE SPACE FOR FUTURE SOLAR PANEL SYSTEM FUTURE OVERCURRENT DEVICE AT THE END OF THE BUS OPPOSITE THE SERVICE DISCONNECT

PANEL P3A

VOLTAGE: 208V / 120V 3 Ph/4 W
FED FROM: MSB
BUS RATING: 400 AMP
HIGH LEG? No
MOUNTING: SURFACE
OPTIONS:
OF SPACES: 42
MAINS DEVICE: MLO
MAIN OCPD RATING:
AIC RATING: SEE RISER
LOCATION: SERVER ROOM
FEED THRU LUGS: No

NOTES	SERVES	TYPE LOAD	CKT BRKR AMP	CKT BRKR POLE	CKT NO.	CKT LOAD	PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	CKT LOAD	CKT NO.	CKT BRKR AMP	CKT BRKR POLE	TYPE LOAD	SERVES	NOTES
	WORK STATION FINANCE 1	NC	20	/1	1	1,540	2,800			1,260	2	20	/1	R	GENERAL RECEPTACLE HALL	
	WORK STATION FINANCE 2	NC	20	/1	3	1,000		2,440		1,440	4	20	/1	R	GENERAL RECEPTACLE KING	
	WORK STATION FINANCE 3	NC	20	/1	5	1,720			2,120	400	6	20	/1	K	UNDERCOUNTER FRIDGE	
	WORK STATION FINANCE 4	NC	20	/1	7	1,000	2,800			1,800	8	20	/1	R	IT PLUG MOLD	
	GENERAL REC FINANCE	R	20	/1	9	1,620		7,360		5,740	10	60	/2	NC	VAV-106	
	WORK STATION OFFICE 112	NC	20	/1	11	1,260			7,000	5,740	12			NC		
	WORK STATION OFFICE 114	NC	20	/1	13	720	3,960			3,240	14	35	/2	NC	VAV-107	
	WORK STATION OFFICE 110	NC	20	/1	15	1,260		4,500		3,240	16			NC		
	VAV-101	NC	15	/2	17	625			4,803	4,178	18	45	/2	NC	VAV-108	
		NC			19	625	4,803			4,178	20			NC		
	VAV-104	NC	50	/2	21	5,115		6,677		1,562	22	20	/2	NC	VAV-115	
		NC			23	5,115			6,677	1,562	24			NC		
	VAV-105	NC	15	/2	25	1,067	1,067				26					
		NC			27	1,067		2,693		1,626	28	20	/1	L	LIGHTING EAST OFFICES	
	SOUTH PARKING POLE LIGHTS	L	20	/1	29	560			2,277	1,717	30	20	/1	L	LIGHTING WEST OFFICES	
	SOUTH GATE	NC	20	/1	31	200	800			600	32	20	/1	NC	PHONE BOARD	
	EXTERIOR BUILDING LIGHTS	L	20	/1	33	217		1,417		1,200	34	20	/1	NC	MOBILE FILES	
	WORK STATION OFFICE 111	NC	20	/1	35	1,260			1,760	500	36	20	/1	NC	HVAC CONTROLS & DAMPERS	
	WORK STATION OFFICE 113	NC	20	/1	37	1,260	1,260				38	20	/1		(FUTURE) DEMONSTATION GARDEN	
	SPARE		20	/1	39			0			40	20	/1		SPARE	
	SPARE		20	/1	41						42	20	/1		SPARE	
	PANEL PHASE CONNECTED VA =						17,489	25,086	24,636	86% OF BREAKER SPACES USED (SPARES NOT COUNTED)						
	TOTAL PHASE CONNECTED AMPS =						146	209	205	USED TO SHOW PHASE BALANCE ONLY						

		CONN. KVA		DEMAND FACTOR		DEMAND KVA	
TOTAL KITCHEN LOAD	=	0.40	X	0.65	=	0.26	
TOTAL LIGHTING LOAD	=	4.12	X	1.25	=	5.15	
TOTAL NON-CONT. LOAD	=	56.57	X	1.0	=	56.57	
TOTAL RECEPTACLE LOAD *	=	6.12	X	1.0	=	6.12	UNDER 10KW
TOTAL CONTINUOUS LOAD	=	0.00	X	1.25	=	0.00	
TOTAL HVAC LOAD	=	0.00	X	1.0	=	0.00	
LARGEST MOTOR LOAD**	=	0.00	X	1.25	=	0.00	
ELECTRIC VEHICLE CHARGING	=	0.00	X	1.25	=	0.00	
USER DEFINED	=	0.00	X	1	=	0.00	
TOTAL KVA	=	67.21			=	68.10	
		CONNECTED AMPS				DEMAND AMPS	
TOTAL AMPS	=	186.78	AMPS		=	189.25	AMPS @208/120 3 Ph/4 W (47% OF BUS RATING)

LOAD TYPE KEY:

SP	=	SUBPANEL
K	=	KITCHEN LOAD
L	=	LIGHTING LOAD
NC	=	NON-CONTINUOUS LOAD
R	=	RECEPTACLE LOAD
CL	=	CONTINUOUS LOAD
H	=	HVAC LOAD
LM	=	LARGEST MOTOR LOAD
EV	=	ELECTRIC VEHICLE CHARGING
USR1		USER DEFINED

NOTES:
* IF RECEPTACLE LOAD IS OVER 10KW THEN THE AMOUNT OVER 10KW IS COUNTED AS 50% FOR NON-DWELLING UNITS PER NEC 220.44.
** THE LARGEST MOTOR OF THIS PANEL OR THE LARGEST MOTOR OF ANY SUBPANEL IS TAKEN AT 125%, ANY OTHER MOTORS ARE TAKEN AT 100%.

PANEL P1A

VOLTAGE: 208V / 120V 3 Ph/4 W
FED FROM: MSB
BUS RATING: 600 AMP
HIGH LEG? No
MOUNTING: SURFACE
OPTIONS:
OF SPACES: 42
MAINS DEVICE: MLO
MAIN OCPD RATING:
AIC RATING: SEE RISER
LOCATION: ELECTRICAL ROOM
FEED THRU LUGS: No

NOTES	SERVES	TYPE LOAD	CKT BRKR AMP	CKT BRKR POLE	CKT NO.	CKT LOAD	PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	CKT LOAD	CKT NO.	CKT BRKR AMP	CKT BRKR POLE	TYPE LOAD	SERVES	NOTES
	EXTERIOR REC ROOF	R	20	/1	1	540	5,704			5,164	2	50	/3	H	RTU-102	
	EF-201	NC	20	/1	3	173		5,337		5,164	4			H		
	EF-202, EF-101	NC	20	/1	5	851			6,015	5,164	6			H		
	EF-203	NC	20	/1	7	506	14,797			14,291	8	150	/3	H	RTU-201	
	RTU-101	H	175	/3	9	16,933		31,223		14,291	10			H		
		H			11	16,933			31,223	14,291	12			H		
		H			13	16,933	22,096			5,164	14	50	/3	H	RTU-202	
	EF-102	NC	20	/1	15	667		5,831		5,164	16			H		
	EMRC-103	H	30	/2	17	2,912			8,076	5,164	18			H		
1		H			19	2,912	9,397			6,485	20	60	/3	H	RTU-203	
	SSPP-1	NC	30	/2	21	1,440		7,925		6,485	22			H		
		NC			23	1,440			7,925	6,485	24			H		
	SPARE		20	/1	25		0				26	20	/1		SPARE	
	SPARE		20	/1	27			0			28	20	/1		SPARE	
	SPARE		20	/1	29				0		30	20	/1		SPARE	
					31		0				32					
					33			0			34					
					35				0		36					
					37		0				38					
					39			0			40					
					41				0		42					
	PANEL PHASE CONNECTED VA =						51,993	50,315	53,238	57% OF BREAKER SPACES USED (SPARES NOT COUNTED)						
	TOTAL PHASE CONNECTED AMPS =						433	419	444	USED TO SHOW PHASE BALANCE ONLY						

		CONN. KVA		DEMAND FACTOR		DEMAND KVA	
TOTAL KITCHEN LOAD	=	0.00	X	0.65	=	0.00	
TOTAL LIGHTING LOAD	=	0.00	X	1.25	=	0.00	
TOTAL NON-CONT. LOAD	=	5.08	X	1.0	=	5.08	
TOTAL RECEPTACLE LOAD *	=	0.54	X	1.0	=	0.54	UNDER 10KW
TOTAL CONTINUOUS LOAD	=	0.00	X	1.25	=	0.00	
TOTAL HVAC LOAD	=	149.93	X	1.0	=	149.93	
LARGEST MOTOR LOAD**	=	0.00	X	1.25	=	0.00	
ELECTRIC VEHICLE CHARGING	=	0.00	X	1.25	=	0.00	
USER DEFINED	=	0.00	X	1	=	0.00	
TOTAL KVA	=	155.55			=	155.55	
		CONNECTED AMPS				DEMAND AMPS	
TOTAL AMPS	=	432.27	AMPS		=	432.27	AMPS @208/120 3 Ph/4 W (72% OF BUS RATING)

LOAD TYPE KEY:

SP	=	SUBPANEL
K	=	KITCHEN LOAD
L	=	LIGHTING LOAD
NC	=	NON-CONTINUOUS LOAD
R	=	RECEPTACLE LOAD
CL	=	CONTINUOUS LOAD
H	=	HVAC LOAD
LM	=	LARGEST MOTOR LOAD
EV	=	ELECTRIC VEHICLE CHARGING
USR1		USER DEFINED

NOTES:
* IF RECEPTACLE LOAD IS OVER 10KW THEN THE AMOUNT OVER 10KW IS COUNTED AS 50% FOR NON-DWELLING UNITS PER NEC 220.44.
** THE LARGEST MOTOR OF THIS PANEL OR THE LARGEST MOTOR OF ANY SUBPANEL IS TAKEN AT 125%, ANY OTHER MOTORS ARE TAKEN AT 100%.

ALL RECEPTACLES IN KITCHEN AREAS AND BATHROOMS SHALL BE GFCI PROTECTED.

RENSCH ENGINEERING
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SEAL

TIMOTHY PATRICK RENSCH — STATE OF WASHINGTON — 55668 — REGISTERED PROFESSIONAL ENGINEER

PROJECT
NEW CONSTRUCTION
SKAGIT PUD PN 3675 CAMPUS
REPLACEMENT ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WASHINGTON 98273

REVISIONS

1	ADDENDUM #2	06-20-2023

DATE
5/23/2023

SHEET TITLE
ELECTRICAL PANEL SCHEDULES

BID SET

DRAWN BY: Adrian Caple
DESIGNER: Josh Ensley
CHECKED BY: Tim Carr

SHEET
E6.02

E6.02 ELECTRICAL HEATER MATRIX & PANEL SCHEDULES.DWG
6/20/2023 12:21 PM

PANEL P5A

VOLTAGE: 208V / 120V 3 Ph/4 W
FED FROM: MSB
BUS RATING: 400 AMP
HIGH LEG? No
MOUNTING: SURFACE
OPTIONS:
OF SPACES: 42
MAINS DEVICE: MLO
MAIN OCPD RATING:
AIC RATING: SEE RISER
LOCATION: ELECTRICAL ROOM
FEED THRU LUGS: No

NOTES	SERVES	TYPE LOAD	CKT BRKR AMP	CKT BRKR POLE	CKT NO.	CKT LOAD	PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	CKT LOAD	CKT NO.	CKT BRKR AMP	CKT BRKR POLE	TYPE LOAD	SERVES	NOTES
	GENERAL RECEPTACLE LOBBY	R	20	/1	1	1,620	2,120			500	2	20	/1	NC	WATER COOLER	
	GENERAL RECEPTACLE AQUA 1	R	20	/1	3	1,440		2,520		1,080	4	20	/1	R	TOILET FLUSH VALVE	
	GENERAL RECEPTACLE AQUA 2	R	20	/1	5	1,440			1,840	400	6	20	/1	NC	U/C REF	
	GENERAL RECEPTACLE AQUA 3	R	20	/1	7	1,800	1,821			21	8	20	/1	NC	TOUCHLESS FAUCETS & FLUSH	
	GENERAL REC AQUA 4/HALL	R	20	/1	9	1,440		1,440			10	20	/1		SPARE	
	GEN REC SPRINK/EXTER WEST	R	20	/1	11	1,440			1,640	200	12	20	/1	NC	IRRIGATION CONTROLS	
	GEN REC LITTLEFIELD	R	20	/1	13	1,260	1,467			207	14	20	/1	NC	CIRCULATION PUMP	
	DISPLAYS AQUA/LITTLE	CL	20	/1	15	450		630		180	16	20	/1	NC	WATER HEATER	
	DISPLAYS LOBBY	CL	20	/1	17	450			702	252	18	20	/1	NC	EWH-101	LOCK
	SF-101, EF-103	NC	20	/1	19	206	4,071			3,865	20	40	/2	NC	VAV-110	
	LIGHTING CORRIDOR	L	20	/1	21	1,723		5,588		3,865	22			NC		
	LIGHTING LOBBY	L	20	/1	23	1,596			3,158	1,562	24	20	/2	NC	VAV-111	
	LIGTHING AQUA	L	20	/1	25	1,402	2,964			1,562	26			NC		
	WEST PARKING POLE LIGHTS	L	20	/1	27	770		1,515		745	28	20	/1	L	EXTERIOR BUILDING LIGHTS	
	DRIVEWAY POLE LIGHTS	L	20	/1	29	1,345			1,805	460	30	20	/1	L	EXTERIOR RAIL LIGHTS VIA XFMRS	
	SPARE		20	/1	31		1,200			1,200	32	20	/1	CL	9 PANEL ARRAY	
	EXTERIOR RECS ON POLE LGTS	R	20	/1	33	540		840		300	34	20	/1	CL	9 PANEL ARRAY	
	9 PANEL ARRAY	CL	20	/1	35	1,200			1,200		36	20	/1		SPARE	
	9 PANEL ARRAY	CL	20	/1	37	300	300				38	20	/1		SPARE	
	9 PANEL ARRAY	CL	20	/1	39	1,200		1,200			40	20	/1		SPARE	
	9 PANEL ARRAY	CL	20	/1	41	1,200			1,200		42	20	/1		SPARE	
	PANEL PHASE CONNECTED VA =						13,943	13,733	11,545	86% OF BREAKER SPACES USED (SPARES NOT COUNTED)						
	TOTAL PHASE CONNECTED AMPS =						116	114	96	USED TO SHOW PHASE BALANCE ONLY						

		CONN. KVA		DEMAND FACTOR		DEMAND KVA	
TOTAL KITCHEN LOAD	=	0.00	X	0.65	=	0.00	
TOTAL LIGHTING LOAD	=	8.04	X	1.25	=	10.05	
TOTAL NON-CONT. LOAD	=	12.82	X	1.0	=	12.82	
TOTAL RECEPTACLE LOAD *	=	12.06	* see below		=	11.03	OVER 10KW
TOTAL CONTINUOUS LOAD	=	6.30	X	1.25	=	7.88	
TOTAL HVAC LOAD	=	0.00	X	1.0	=	0.00	
LARGEST MOTOR LOAD**	=	0.00	X	1.25	=	0.00	
ELECTRIC VEHICLE CHARGING	=	0.00	X	1.25	=	0.00	
USER DEFINED	=	0.00	X	1	=	0.00	
TOTAL KVA	=	39.22			=	41.78	
		CONNECTED AMPS				DEMAND AMPS	
TOTAL AMPS	=	108.99	AMPS		=	116.09	AMPS @208/120 3 Ph/4 W (29% OF BUS RATING)

LOAD TYPE KEY:
SP = SUBPANEL
K = KITCHEN LOAD
L = LIGHTING LOAD
NC = NON-CONTINUOUS LOAD
R = RECEPTACLE LOAD
CL = CONTINUOUS LOAD
H = HVAC LOAD
LM = LARGEST MOTOR LOAD
EV = ELECTRIC VEHICLE CHARGING
USR1 USER DEFINED

NOTES:
* IF RECEPTACLE LOAD IS OVER 10KW THEN THE AMOUNT OVER 10KW IS COUNTED AS 50% FOR NON-DWELLING UNITS PER NEC 220.44.
** THE LARGEST MOTOR OF THIS PANEL OR THE LARGEST MOTOR OF ANY SUBPANEL IS TAKEN AT 125%, ANY OTHER MOTORS ARE TAKEN AT 100%.
LOCK - BREAKER SHALL BE LOCKABLE OPEN

PANEL P4A

VOLTAGE: 208V / 120V 3 Ph/4 W
FED FROM: MSB
BUS RATING: 400 AMP
HIGH LEG? No
MOUNTING: SURFACE
OPTIONS:
OF SPACES: 42
MAINS DEVICE: MLO
MAIN OCPD RATING:
AIC RATING: SEE RISER
LOCATION: ELECTRICAL ROOM
FEED THRU LUGS: Yes
FEED THRU LUGS SERVE? Panel

NOTES	SERVES	TYPE LOAD	CKT BRKR AMP	CKT BRKR POLE	CKT NO.	CKT LOAD	PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	CKT LOAD	CKT NO.	CKT BRKR AMP	CKT BRKR POLE	TYPE LOAD	SERVES	NOTES
	GEN REC LOBBY/COHO	R	20	/1	1	1,080	2,580			1,500	2	20	/1	NC	WORK STATION ENGINEERING 1	
	WORK STATION COUNTER	NC	20	/1	3	1,360		2,860		1,500	4	20	/1	NC	WORK STATION ENGINEERING 2	
	WORK STATION OFFICE 207/209	NC	20	/1	5	1,440			2,940	1,500	6	20	/1	NC	WORK STATION ENGINEERING 3	
	WORK STATION OFFICE 211/212	NC	20	/1	7	1,620	3,120			1,500	8	20	/1	NC	WORK STATION ENGINEERING 4	
	WORK STATION OFFICE 213/214	NC	20	/1	9	1,620		3,540		1,920	10	20	/1	NC	PRINTER/COPIER	
	WORK STATION OFFICE 216/217	NC	20	/1	11	1,440			3,360	1,920	12	20	/1	NC	PLOTTER	
	WORK STATION OFFICE 219/220	NC	20	/1	13	1,440	1,440				14	20	/1		SPARE	
	WORK STATION ADMINHR	NC	20	/1	15	1,440		1,440			16	20	/1		SPARE	
	WORK STATION OFFICE 218	NC	20	/1	17	1,260			1,281	21	18	20	/1	NC	TOUCHLESS FAUCETS & FLUSH	
	GENERAL REC SOCKEYE	R	20	/1	19	1,080	2,580			1,500	20	20	/1	K	REFRIGERATOR	GFCI
	DISP SOCKEYE/COHO/LOBBY	CL	20	/1	21	450		1,950		1,500	22	20	/1	K	REFRIGERATOR	GFCI
	WORK STATION OFFICE 205/206	NC	20	/1	23	1,540			2,740	1,200	24	20	/1	NC	DISPOSER	
	WORK STATION OFFICE 226	NC	20	/1	25	900	1,650			750	26	20	/1	K	INSTAHOT	
	GENERAL REC KITCH/PLOT	R	20	/1	27	720		1,220		500	28	20	/1	NC	WATER COOLER	
	VAV-201	NC	20	/2	29	1,692			3,697	2,005	30	20	/2	NC	VAV-202	
		NC			31	1,692	3,697			2,005	32			NC		
	VAV-218	NC	15	/2	33	1,250		2,186		936	34	20	/1	L	LIGHTING CENTER OFFICES	
		NC			35	1,250			2,750	1,500	36	20	/1	K	MICROWAVE	
	VAV-219	NC	15	/2	37	1,250	2,426			1,176	38	20	/1	L	LIGHTING CORRIDOR	
		NC			39	1,250		2,386		1,136	40	20	/1	L	LIGHTING WEST OFFICES	
	DUCT SMOKE DETECTORS	CL	20	/1	41	240			1,469	1,229	42	20	/1	L	LIGHTING EAST OFFICES	
	PANEL P4B		FEED THRU LUG			28,993	28,993									
			FEED THRU LUG			26,437		26,437								
			FEED THRU LUG			23,406			23,406							
	PANEL PHASE CONNECTED VA =						46,486	42,019	41,643	95% OF BREAKER SPACES USED (SPARES NOT COUNTED)						
	TOTAL PHASE CONNECTED AMPS =						387	350	347	USED TO SHOW PHASE BALANCE ONLY						

		CONN. KVA		DEMAND FACTOR		DEMAND KVA	
TOTAL KITCHEN LOAD	=	7.25	X	0.65	=	4.71	
TOTAL LIGHTING LOAD	=	4.48	X	1.25	=	5.60	
TOTAL NON-CONT. LOAD	=	113.05	X	1.0	=	113.05	
TOTAL RECEPTACLE LOAD *	=	4.68	X	1.0	=	4.68	UNDER 10KW
TOTAL CONTINUOUS LOAD	=	0.69	X	1.25	=	0.86	
TOTAL HVAC LOAD	=	0.00	X	1.0	=	0.00	
LARGEST MOTOR LOAD**	=	0.00	X	1.25	=	0.00	
ELECTRIC VEHICLE CHARGING	=	0.00	X	1.25	=	0.00	
USER DEFINED	=	0.00	X	1	=	0.00	
TOTAL KVA	=	130.15			=	128.90	
		CONNECTED AMPS				DEMAND AMPS	
TOTAL AMPS	=	361.68	AMPS		=	358.22	AMPS @208/120 3 Ph/4 W (89% OF BUS RATING)

LOAD TYPE KEY:
SP = SUBPANEL
K = KITCHEN LOAD
L = LIGHTING LOAD
NC = NON-CONTINUOUS LOAD
R = RECEPTACLE LOAD
CL = CONTINUOUS LOAD
H = HVAC LOAD
LM = LARGEST MOTOR LOAD
EV = ELECTRIC VEHICLE CHARGING
USR1 USER DEFINED

NOTES:
* IF RECEPTACLE LOAD IS OVER 10KW THEN THE AMOUNT OVER 10KW IS COUNTED AS 50% FOR NON-DWELLING UNITS PER 2014 NEC 220.44.
** THE LARGEST MOTOR OF THIS PANEL OR THE LARGEST MOTOR OF ANY SUBPANEL IS TAKEN AT 125%, ANY OTHER MOTORS ARE TAKEN AT 100%.
GFCI - GFCI BREAKER WITH SEPARATE DEDICATED CIRCUIT NEUTRAL.

PANEL PG1A

VOLTAGE: 208V / 120V 3 Ph/4 W
FED FROM: MSB
BUS RATING: 200 AMP
HIGH LEG? No
MOUNTING: SURFACE
OPTIONS:
OF SPACES: 42
MAINS DEVICE: MCB
MAIN OCPD RATING: 200 AMPS
AIC RATING: SEE RISER
LOCATION: SERVER ROOM
FEED THRU LUGS: No

NOTES	SERVES	TYPE LOAD	CKT BRKR AMP	CKT BRKR POLE	CKT NO.	CKT LOAD	PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	CKT LOAD	CKT NO.	CKT BRKR AMP	CKT BRKR POLE	TYPE LOAD	SERVES	NOTES
	GENERAL RECEPTACLE	R	20	/1	1	1,260	11,260			10,000	2	120	/3	CL	UPS	
	LIGHTING SERVER ROOM	L	20	/1	3	120		10,120		10,000	4			CL		
	GPS ANTENNA	NC	20	/1	5	500			10,500	10,000	6			CL		
	SPARE		20	/1	7		0				8	20	/1		SPARE	
					9			500		500	10	20	/1	NC	GENERATOR CONTROLS	
					11				3,952	3,952	12	40	/2	H	CRU-101	
					13		3,952			3,952	14			H		
					15			3,952		3,952	16	40	/2	H	CRU-102	
					17				3,952	3,952	18			H		
					19		0				20					
					21			0			22					
					23				0		24					
					25		0				26					
					27			0			28					
					29				0		30					
					31		0				32					
					33			0			34					
					35				0		36					
					37		0				38					
					39			0			40					
					41				0		42					
	PANEL PHASE CONNECTED VA =						15,212	14,572	18,404	26% OF BREAKER SPACES USED (SPARES NOT COUNTED)						
	TOTAL PHASE CONNECTED AMPS =						127	121	153	USED TO SHOW PHASE BALANCE ONLY						

		CONN. KVA		DEMAND FACTOR		DEMAND KVA	
TOTAL KITCHEN LOAD	=	0.00	X	0.65	=	0.00	
TOTAL LIGHTING LOAD	=	0.12	X	1.25	=	0.15	
TOTAL NON-CONT. LOAD	=	1.00	X	1.0	=	1.00	
TOTAL RECEPTACLE LOAD *	=	1.26	X	1.0	=	1.26	UNDER 10KW
TOTAL CONTINUOUS LOAD	=	30.00	X	1.25	=	37.50	
TOTAL HVAC LOAD	=	15.81	X	1.0	=	15.81	
LARGEST MOTOR LOAD**	=	0.00	X	1.25	=	0.00	
ELECTRIC VEHICLE CHARGING	=	0.00	X	1.25	=	0.00	
USER DEFINED	=	0.00	X	1	=	0.00	
TOTAL KVA	=	48.19			=	55.72	
		CONNECTED AMPS				DEMAND AMPS	
TOTAL AMPS	=	133.92	AMPS		=	154.84	AMPS @208/120 3 Ph/4 W (77% OF BUS RATING)

LOAD TYPE KEY:
SP = SUBPANEL
K = KITCHEN LOAD
L = LIGHTING LOAD
NC = NON-CONTINUOUS LOAD
R = RECEPTACLE LOAD
CL = CONTINUOUS LOAD
H = HVAC LOAD
LM = LARGEST MOTOR LOAD
EV = ELECTRIC VEHICLE CHARGING
USR1 USER DEFINED

NOTES:
* IF RECEPTACLE LOAD IS OVER 10KW THEN THE AMOUNT OVER 10KW IS COUNTED AS 50% FOR NON-DWELLING UNITS PER NEC 220.44.
** THE LARGEST MOTOR OF THIS PANEL OR THE LARGEST MOTOR OF ANY SUBPANEL IS TAKEN AT 125%, ANY OTHER MOTORS ARE TAKEN AT 100%.

PANEL P4B

VOLTAGE: 208V / 120V 3 Ph/4 W
FED FROM: P4A
BUS RATING: 400 AMP
HIGH LEG? No
MOUNTING: SURFACE
OPTIONS:
OF SPACES: 42
MAINS DEVICE: MLO
MAIN OCPD RATING:
AIC RATING: SEE RISER
LOCATION: ELECTRICAL ROOM
FEED THRU LUGS: No

NOTES	SERVES	TYPE LOAD	CKT BRKR AMP	CKT BRKR POLE	CKT NO.	CKT LOAD	PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	CKT LOAD	CKT NO.	CKT BRKR AMP	CKT BRKR POLE	TYPE LOAD	SERVES	NOTES
	VAV-203	NC	15	/2	1	1,380	6,808			5,428	2	60	/2	NC	VAV-208	
		NC			3	1,380		6,808		5,428	4			NC		
	VAV-204	NC	15	/2	5	1,380			2,760	1,380	6	15	/2	NC	VAV-209	
		NC			7	1,380	2,760			1,380	8			NC		
	VAV-205	NC	60	/2	9	5,428		6,808		1,380	10	15	/2	NC	VAV-210	
		NC			11	5,428			6,808	1,380	12			NC		
	VAV-206	NC	45	/2	13	4,433	8,297			3,865	14	40	/2	NC	VAV-211	
		NC			15	4,433		8,297		3,865	16			NC		
	VAV-207	NC	40	/2	17	3,865			5,427	1,562	18	20	/2	NC	VAV-212	
		NC			19	3,865	5,427			1,562	20			NC		
	VAV-216	NC	20	/2	21	937		2,187		1,250	22	20	/2	NC	VAV-213	
		NC			23	937			2,187	1,250	24			NC		
	VAV-217	NC	20	/2	25	937	937				26	20	/1		SPARE	
		NC			27	937		937			28	20	/1		SPARE	
	SPARE		20	/1	29				3,865	3,865	30	40	/2	NC	VAV-220	
	GENERAL RECEPTACLE HALL 1	R	20	/1	31	900	4,765			3,865	32			NC		
	GENERAL RECEPTACLE HALL 2	R	20	/1	33	900		1,400		500	34	20	/1	K	APPLIANCE	
	WORKSTATION OFFICE 229	NC	20	/1	35	860			2,360	1,500	36	20	/1	K	COFFEE	
					37		0				38	20	/1		SPARE	
					39			0			40	20	/1		SPARE	
					41				0		42	20	/1		SPARE	
	PANEL PHASE CONNECTED VA =						28,993	26,437	23,406	79% OF BREAKER SPACES USED (SPARES NOT COUNTED)						
	TOTAL PHASE CONNECTED AMPS =						242	220	195	USED TO SHOW PHASE BALANCE ONLY						

		CONN. KVA		DEMAND FACTOR		DEMAND KVA	
TOTAL KITCHEN LOAD	=	2.00	X	0.65	=	1.30	
TOTAL LIGHTING LOAD	=	0.00	X	1.25	=	0.00	
TOTAL NON-CONT. LOAD	=	75.04	X	1.0	=	75.04	
TOTAL RECEPTACLE LOAD *	=	1.80	X	1.0	=	1.80	UNDER 10KW
TOTAL CONTINUOUS LOAD	=	0.00	X	1.25	=	0.00	
TOTAL HVAC LOAD	=	0.00	X	1.0	=	0.00	
LARGEST MOTOR LOAD**	=	0.00	X	1.25	=	0.00	
ELECTRIC VEHICLE CHARGING	=	0.00	X	1.25	=	0.00	
USER DEFINED	=	0.00	X	1	=	0.00	
TOTAL KVA	=	78.84			=	78.14	
		CONNECTED AMPS				DEMAND AMPS	
TOTAL AMPS	=	219.09	AMPS		=	217.14	AMPS @208/120 3 Ph/4 W (54% OF BUS RATING)

LOAD TYPE KEY:
SP = SUBPANEL
K = KITCHEN LOAD
L = LIGHTING LOAD
NC = NON-CONTINUOUS LOAD
R = RECEPTACLE LOAD
CL = CONTINUOUS LOAD
H = HVAC LOAD
LM = LARGEST MOTOR LOAD
EV = ELECTRIC VEHICLE CHARGING
USR1 USER DEFINED

NOTES:
* IF RECEPTACLE LOAD IS OVER 10KW THEN THE AMOUNT OVER 10KW IS COUNTED AS 50% FOR NON-DWELLING UNITS PER NEC 220.44.
** THE LARGEST MOTOR OF THIS PANEL OR THE LARGEST MOTOR OF ANY SUBPANEL IS TAKEN AT 125%, ANY OTHER MOTORS ARE TAKEN AT 100%.

RENSCH ENGINEERING
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SEAL

TIMOTHY PATRICK CARR
STATE OF WASHINGTON
55668
REGISTERED PROFESSIONAL ENGINEER

PROJECT
NEW CONSTRUCTION
SKAGIT PUD PN 3675 CAMPUS
REPLACEMENT ADMINISTRATION BUILDING
1415 FREEWAY DR
MT VERNON, WASHINGTON 98273

REVISIONS
1 ADDENDUM #2 06-20-2023

DATE
5/23/2023

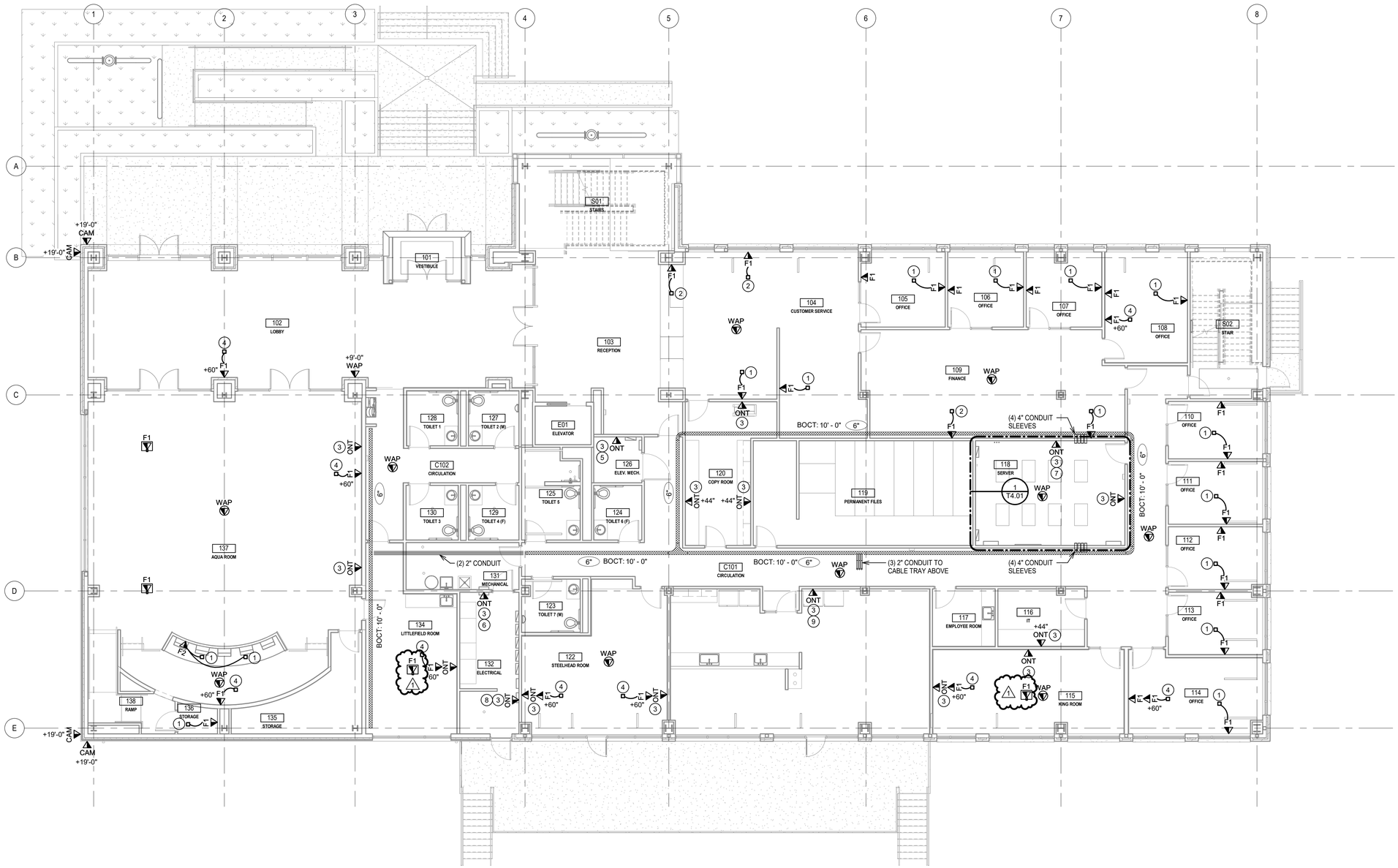
SHEET TITLE
ELECTRICAL PANEL SCHEDULES

BID SET

DRAWN BY: Adrian Caple
DESIGNER: Josh Ensley
CHECKED BY: Tim Carr
SHEET

E6.03

6/20/2023 12:21 PM
E6.03 ELECTRICAL PANEL SCHEDULES.DWG



LEVEL 1 FLOOR PLAN - TELECOMMUNICATIONS

1/8" = 1'-0"

(#) KEY NOTES:

1. PROVIDE 4-PORT ONT AND 6' SC/APC TO SC/APC FIBER OPTIC PATCH CORD THIS LOCATION.
2. PROVIDE 8-PORT ONT AND 6' SC/APC TO SC/APC FIBER OPTIC PATCH CORD THIS LOCATION.
3. PROVIDE IN-WALL 4-PORT ONT THIS LOCATION.
4. PROVIDE 4-PORT ONT AND 3' SC/APC TO SC/APC FIBER OPTIC PATCH CORD THIS LOCATION. MOUNT ONT BEHIND WALL MOUNTED DISPLAY.
5. OUTLET PROVIDED FOR ELEVATOR CONTROL PANEL. COORDINATE WITH VERTICAL TRANSIT DRAWINGS FOR PANEL HEIGHT AND LOCATION PRIOR TO ROUGH-IN.
6. OUTLET PROVIDED FOR LIGHTING CONTROL PANEL. COORDINATE WITH ELECTRICAL DRAWINGS FOR PANEL HEIGHT AND LOCATION PRIOR TO ROUGH-IN.
7. OUTLET PROVIDED FOR ACCESS CONTROL PANEL. COORDINATE WITH ELECTRICAL DRAWINGS FOR PANEL HEIGHT AND LOCATION PRIOR TO ROUGH-IN.
8. OUTLET PROVIDED FOR FIRE ALARM CONTROL PANEL. COORDINATE WITH ELECTRICAL DRAWINGS FOR PANEL HEIGHT AND LOCATION PRIOR TO ROUGH-IN.
9. OUTLET PROVIDED FOR VENDING MACHINES.

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CAMPUS REPLACEMENT
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1415 FREEWAY DR
MT VERNON, WA 98273

DYLAN J. CUNNINGHAM
STATE OF WASHINGTON
35310
REGISTERED
PROFESSIONAL ENGINEER

05/16/2023

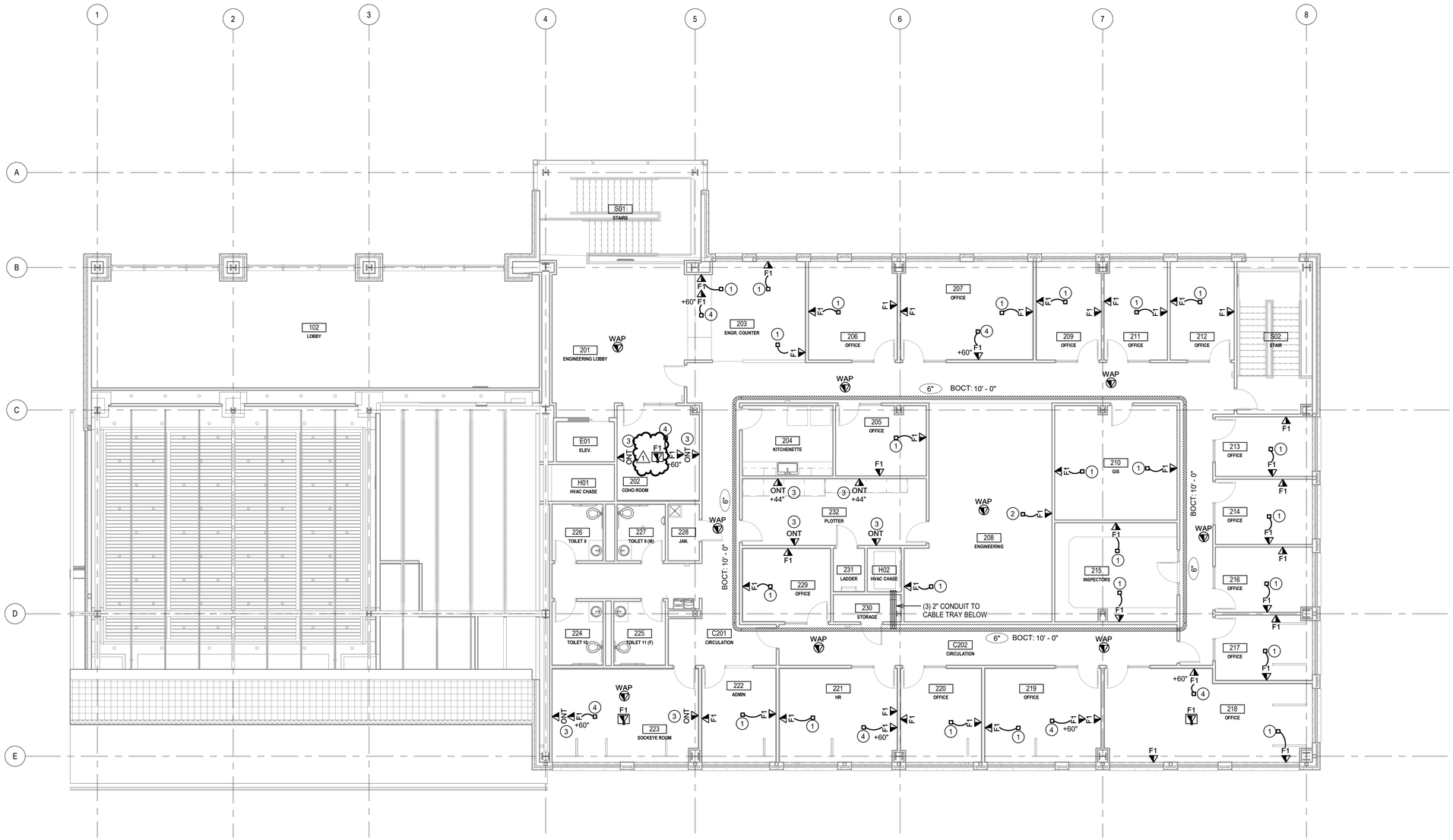
REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
1	Addendum #2	06/20/2023

ISSUE:	BID SET
ISSUE DATE:	05/23/2023
DRAWN BY:	JWN
PROJECT MANAGER:	JWN
PROJECT NUMBER:	21726

SHEET NAME:
LEVEL 1 FLOOR PLAN - TELECOM

SHEET NUMBER:
T2.01

6/19/2023 8:40:55 AM



LEVEL 2 FLOOR PLAN - TELECOMMUNICATIONS

1/8" = 1'-0"

(#) KEY NOTES:

1. PROVIDE 4-PORT ONT AND 6' SC/APC TO SC/APC FIBER OPTIC PATCH CORD THIS LOCATION.
2. PROVIDE 8-PORT ONT AND 6' SC/APC TO SC/APC FIBER OPTIC PATCH CORD THIS LOCATION.
3. PROVIDE IN-WALL 4-PORT ONT THIS LOCATION.
4. PROVIDE 4-PORT ONT AND 3' SC/APC TO SC/APC FIBER OPTIC PATCH CORD THIS LOCATION. MOUNT ONT BEHIND WALL MOUNTED DISPLAY.

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PROFESSIONAL ENGINEER
05/16/2023

REVISION SCHEDULE		
NO.	TYPE REVISION	DATE
1	Addendum #2	06/20/2023

ISSUE:	BID SET
ISSUE DATE:	05/23/2023
DRAWN BY:	JWN
PROJECT MANAGER:	JWN
PROJECT NUMBER:	21726

SHEET NAME:
LEVEL 2 FLOOR PLAN - TELECOM

SHEET NUMBER:
T2.02

6/19/2023 8:40:00 AM