



Planning Commission Agenda

Community Development Director:

Tom Boyatt, 541.744.3373

Interim Planning Manager:

Sandy Belson 541.736.7135

Management Specialist:

Brenda Jones 541.726.3610

City Attorney's Office:

Kristina Kraaz 541.744.4061

City Hall

225 Fifth Street

Springfield, Oregon 97477

541.726.3610

Online at www.springfield-or.gov

Planning Commissioners:

Sophie McGinley, Chair

Andrew Landen, Vice Chair

Kuri Gill

Grace Bergen

Michael Koivula

Matthew Salazar

Andrew Buck

Due to State-wide orders regarding social distancing and large gatherings, this meeting will be available via phone and internet using Zoom Meeting. Members of the public wishing to attend this meeting electronically can call in or attend virtually by following the directions below. This information can also be found on the City's website.

From your computer, tablet or smartphone

<https://zoom.us/j/99650109398?pwd=d1YzQVI0OUJwNmhzS2VlcXQ0U0NaUT09>

Meeting ID: 996 5010 9398; Passcode: 980449

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October 5, 2021

6:00 p.m. Planning Commission Work Session

Virtual

CALL TO ORDER**ATTENDANCE:**

Chair McGinley____, Vice Chair Landen____, Koivula____, Gill____,
Bergen____, Salazar____, and Buck____.

WORK SESSION ITEM(S)**1. Development Code Update Project – Draft Code Sections**

Staff: Mark Rust, AIC Current Planning Supervisor

60 Minutes

- ☐ Commission members declaration of potential conflicts of interest

ADJOURNMENT

**7:00 p.m. Planning Commission Regular Session
Virtual**

CONVENE AND CALL TO ORDER THE REGULAR SESSION OF THE SPRINGFIELD PLANNING COMMISSION

ATTENDANCE: Chair McGinley _____, Vice Chair Landen _____, Gill _____, Koivula _____, Bergen _____, Salazar _____, and Buck _____.

PLEDGE OF ALLEGIANCE

ADJUSTMENTS TO THE REGULAR SESSION AGENDA

In response to a request by a member of the Planning Commission, Staff or Applicant; by consensus

BUSINESS FROM THE AUDIENCE

Public comment is limited to 3 minutes per person; testimony may not discuss or otherwise address public hearings appearing on this Regular Session Agenda. If you wish to provide comment, please send a message to the “host” stating your name and the topic you’d like to address. The meeting host will ask those joining by phone if they wish to comment.

PUBLIC HEARINGS

- 1. Discretionary Use Application for Multi-Unit Residential Developments Located on Two Adjacent Sites on Horace Street Identified as Assessor’s Map 18-02-05-23, Tax Lot 202 and 204. Case No. 811-21-000196-TYP3.**

**Staff: Melissa Carino
10 Minutes**

CONDUCT OF QUASI-JUDICIAL PUBLIC HEARING BEFORE THE PLANNING COMMISSION

Those joining the meeting on-line who wish to testify during the public hearing may send a message to the “host” stating your name, mailing address, and whether you support, oppose, or are neutral with regard to the application. During the public hearing, the host will ask those joining by telephone if they wish to testify.

- ☐ Staff explanation of quasi-judicial hearing process (ORS 197.763 and Springfield Development Code 5.2-120 through 5.2-150)
- ☐ Chair opens the public hearing
- ☐ Commission members declaration of potential conflicts of interest; disclosure of “ex-parte” contact
- ☐ Any challenges to the impartiality of the Commissioners or objection to the jurisdiction of the Commission to hear the matter
- ☐ Staff report
- ☐ Testimony from the applicant
- ☐ Testimony in support of the application
- ☐ Testimony neither in support of nor opposed to the application
- ☐ Testimony opposed to the application
- ☐ Summation by staff
- ☐ Rebuttal from the applicant
- ☐ Planning Commission questions to staff or public
- ☐ Close or continue public hearing; close or extend written record (continuance or extension by motion)

- ☐ Planning Commission Deliberations – discussion of the proposal including testimony and evidence addressing the applicable approval criteria
- ☐ Motion to approve as presented, approve with modifications, or deny the application based on the findings of fact contained in the staff report, oral and written testimony, and all other evidence submitted into the record

2. Request for Type II Discretionary Use Permit and Site Plan Modification for a Proposed Sports Stadium (Baseball Field) Located at 326 Centennial Boulevard, Case No. 811-21-000168-TYP2 (Disc. Use) & 811-21-000169-TYP3 (Site Plan)

Staff: Andy Limbird
30 Minutes

CONDUCT OF QUASI-JUDICIAL PUBLIC HEARING BEFORE THE PLANNING COMMISSION

Those joining the meeting on-line who wish to testify during the public hearing may send a message to the “host” stating your name, mailing address, and whether you support, oppose, or are neutral with regard to the application. During the public hearing, the host will ask those joining by telephone if they wish to testify.

- ☐ Staff explanation of quasi-judicial hearing process (ORS 197.763 and Springfield Development Code 5.2-120 through 5.2-150)
- ☐ Chair opens the public hearing
- ☐ Commission members declaration of potential conflicts of interest; disclosure of “ex-parte” contact
- ☐ Any challenges to the impartiality of the Commissioners or objection to the jurisdiction of the Commission to hear the matter
- ☐ Staff report
- ☐ Testimony from the applicant
- ☐ Testimony in support of the application
- ☐ Testimony neither in support of nor opposed to the application
- ☐ Testimony opposed to the application
- ☐ Summation by staff
- ☐ Rebuttal from the applicant
- ☐ Planning Commission questions to staff or public
- ☐ Continue public hearing to October 19 at 7:00 pm

3. 2023-2027 Capital Improvement Program, A Community Reinvestment Plan

Staff: Jeff Paschal, City Engineer
30 Minutes

CONDUCT OF PUBLIC HEARING BEFORE THE PLANNING COMMISSION

Those joining the meeting on-line who wish to testify during the public hearing may send a message to the “host” stating your name, mailing address, and whether you support or oppose the projects listed, or if a project should be added to the list. During the public hearing, the host will ask those joining by telephone if they wish to testify.

- ☐ Chair opens the public hearing
- ☐ Staff report
- ☐ Public testimony
- ☐ Planning Commission questions to staff or public
- ☐ Close or continue public hearing; close or extend written record (continuance or extension by motion)

- ☐ Planning Commission Deliberations – discussion of the proposal including testimony
- ☐ Motion to recommend approval as presented, or approval with modifications

REPORT OF COUNCIL ACTION

BUSINESS FROM THE PLANNING COMMISSION

BUSINESS FROM THE DEVELOPMENT AND PUBLIC WORKS DEPARTMENT

ADJOURNMENT

AGENDA ITEM SUMMARY

Meeting Date: 10/5/2021
Meeting Type: Work Session
Staff Contact/Dept.: Mark Rust/DPW
Staff Phone No: 541-726-3654
Estimated Time: 60 minutes
Council Goals: Encourage Economic Development and Revitalization through Community Partnerships

**SPRINGFIELD
PLANNING COMMISSION**

ITEM TITLE: DEVELOPMENT CODE UPDATE PROJECT – DRAFT CODE SECTIONS

ACTION REQUESTED: Staff is asking the Planning Commission to provide input on the draft code sections for Phase 1 of the Development Code Update Project.

ISSUE STATEMENT: The Purpose of the Development Code Update Project is to change the Springfield Development Code to support efficient, timely, and clear development review. The updated Development Code will support Springfield’s economic development priorities and will honor Springfield’s hometown feel now and in the future.

At this meeting staff will be asking the Planning Commission to provide input and direction on making changes to the code sections to prepare the final public hearing drafts. Staff anticipates making changes to the code sections based on the Planning Commission feedback and incorporating the changes into the draft code sections for the next work session review.

Staff has also provided a Community Survey Report and can answer any questions about this report at the work session.

ATTACHMENTS: Attachment 1: Draft of New Code 3.2.200 Residential Zones
Attachment 2: Draft of New Code 4.7.300 Special Standards for Certain Uses
Attachment 3: Draft of New Code 6.1.100 Definitions
Attachment 4: Community Survey Report

DISCUSSION: **Background**
Staff last presented to the Planning Commission on September 21, 2021 where we began receiving recommendations from the Planning Commission on the Phase 1, Housing code sections.

Discussion

The Phase 1, Housing, draft code sections need to be revised and finalized based on the community engagement and Planning Commission input. Staff will be asking for the Planning Commission’s recommendation as to any changes to the draft code sections prior to releasing them for public hearing. There are areas of the code sections that still have unresolved questions or options associated with them that need input. Receiving the Planning Commission input and recommendation now for the public hearing code sections will facilitate a smoother public hearings process.

Next Steps

Staff will continue to conduct work sessions with the Planning Commission as necessary to finalize public hearing drafts of the code sections with the goal of completing the public hearing drafts by the end of November, to facilitate starting the formal public hearing process after the first of the year.

**Section 3.2.200 – Residential Districts
(R-1, R-2, R-3)**

Subsections:

- 3.2.205 Purpose, Applicability, and Location**
- 3.2.210 Permitted Land Use**
- 3.2.215 Lot Area and Dimensions**
- 3.2.220 Setbacks**
- 3.2.225 Impervious Surface Coverage Standards**
- 3.2.230 Height**
- 3.2.235 Density**
- 3.2.240 Panhandle Lot or Parcel Development Standards**

3.2.205 Purpose, Applicability, and Location

(A) Purpose. The purposes of the Residential Land Use Districts are to:

- (1) Accommodate a full range of housing types.
- (2) Implement the policies of the Springfield Comprehensive Plan and Metro Plan.
- (3) Make efficient use of land and public services.
- (4) Reduce reliance on the automobile for neighborhood travel and provide options for walking and bicycling.
- (5) Provide convenient access to Neighborhood Activity Centers.

(B) Applicability. The standards in this section apply to development in the R-1, R-2, and R-3 Land Use Districts. These districts are identified on the City's official Zoning Map.

Where there is a conflict between the Special Use Standards SDC 4.7.300 - 4.7.400 and the development standards in this SDC 3.3.200, the Special Use Standards prevail.

3.2.210 Permitted Land Uses

(A) Permitted Uses. The land uses listed in Table 3.2.210 are permitted in the Residential Districts, subject to the provisions of this chapter. Only land uses that are specifically listed in Table 3.2.210, land uses that are incidental and subordinate to a permitted use, and land uses that are approved as "similar" to those in Table 3.2.210 are permitted.

(B) Determination of Similar Land Use. Similar use determinations must be made in conformance with the procedures in SDC 5.11.100, Interpretations.

(C) Exceptions. Existing uses and buildings lawfully established under previously effective land use regulations can continue subject to SDC 5.8.100, Non-Conforming Uses – Determination, Continuance, Expansion and Modification, except as otherwise specified in this section.

Table 3.2.210 Permitted Uses

Uses	Districts			Special Use Standards
	R-1	R-2	R-3	
<u>Residential</u>				
Single-unit Dwelling; detached (SD-D)	P	N	N	
Duplex	P*	P*	N	SDC 4.7.310
Triplex/Fourplex	P*	P*	P*	SDC 4.7.315 and 4.7.320
Townhomes (Single Dwelling attached; e.g., row houses, etc.)	P*	P*	P*	SDC 4.7.315 and 4.7.330
Cottage Cluster Housing	P*	P*	P*	SDC 4.7.315 and 4.7.325
Recreational Vehicle for an Emergency Medical Hardship	P	P	P	SDC 4.7.400
Accessory Dwelling Units (ADUs)	P*	P*	P*	SDC 4.7.340
Single Room Occupancy (SROs)	P	P	P	See def???
Boarding or Rooming House	P*	P*	P*	SDC 4.7.395
Manufactured Dwelling Park	P, S*	P, S*	N	SDC 4.7.350
Multiple Unit Housing on one lot or parcel, 5 units or more	N	P*	P*	SDC 4.7.380 thru 4.7.390
Registered or Certified Family Child Care Home	P*	P*	P*	SDC 4.7.405
Child care facility	P	P	P	
Residential Care Facility; 5 or fewer people	P*	P*	P*	SDC 4.7.355
Residential Care Facility; 6 or more people	P, S*	P, S*	P, S*	SDC 4.7.355
<u>Public and Institutional*</u> (Sec. 4.7.380)				
Automobile Parking, Public Off-street Parking	N	D	D	
Club (see definition 6.1.110(F))	N	N	N	
Community Service; includes Governmental Offices	N	D	D	
Community Garden	D	D	D	
Educational facilities: elementary and middle schools	D*	D*	D*	SDC 4.7-195 and 5.9.110
Emergency Services; Police, Fire, Ambulance	D, S	D, S	D, S	
Parks and Open Space, including Playgrounds, Trails, Nature Preserves, Athletic Fields, Courts, Swim Pools, and similar uses	P/D*	P/D*	P/D*	SDC 4.7.200
Place of worship	D, S*	D, S*	D, S*	SDC 4.7.375

Commented [BS1]: I think adding RV to this would be helpful = "RVs as emergency medical hardship" unless you're wanting to allow things other than RVs for this purpose.

Commented [BS2]: I'd be interested in the definition of this and how it compares with Bed and Breakfast. I think of a Bed and Breakfast as short term stays whereas a Boarding or Rooming House could have people staying for more than a month.

Commented [RM3]: These need to be allowed as an outright permitted use in all residential and commercial zones? Specified in ORS 329A.440

Commented [BS4]: As I recall, typically we've allowed elementary schools in residential zones, but the middle and high schools are generally on public land. Are you intending to change that?

Commented [BS5R4]: I had time to check, and the Metro Plan calls out residential land as being available for elementary and junior high schools. Education as a category of public and semi-public is for high schools and colleges. In order to maintain that distinction in the policy, I think you need to be more specific in the types of educational facilities (schools) that are allowed in residential zones.

Table 3.2.210 Permitted Uses				
Uses	Districts			Special Use Standards
	<u>R-1</u>	<u>R-2</u>	<u>R-3</u>	
<u>Commercial</u>				
Bed and Breakfast	S*	S*	S*	SDC 4.7.360
Home Business	P*	P*	P*	SDC 4.7.370
Professional Office	S*	S*	S*	SDC 4.7.190
Mixed Use Buildings	S*	S*	S*	SDC 4.7.385

P = Permitted Use; S = Site Plan Review Required; D = Discretionary Use permit required;

N = Not Allowed;

*** = Permitted with Special Use Standards.**

3.2.215 Lot Area and Dimensions

- (A) In addition to applicable provisions contained elsewhere in this code, the development standards listed in this section apply to all development in residential districts. In cases of conflicts, standards specifically applicable in the residential land use district apply. In cases of conflicts in this section between the general standards and the area-specific standards, the area-specific standards apply.

Lot area and lot dimension standards for residential uses are listed in Table 3.2.215. For other residential uses listed in Table 3.2.210, the lot area and dimensions are subject to the type of residential structure being occupied. Lot development must be in conformance with SDC 3.2.235, Density.

The following Table 3.2.215 sets forth residential land use district development standards, subject to the special development standards in SDC 4.7.300-4.7.400.

Table 3.2.215-A: Residential District Density Standards			
Density (see 3.2.235 below)	R-1	R-2	R-3
Single unit dwelling, detached	6 units per net acre minimum 14 units per net acre maximum	N/A	
Duplex	6 units per net acre minimum No maximum density	14 units per net acre minimum 28 units per net acre maximum	28 units per net acre minimum 42 units per net acre maximum
Triplex and fourplex	6 units per net acre minimum No maximum density	14 units per net acre minimum 28 units per net acre maximum	28 units per net acre minimum 42 units per net acre maximum
Townhome	6 units per net acre minimum 25 units per net acre maximum	14 units per net acre minimum 28 units per net acre maximum	28 units per net acre minimum 42 units per net acre maximum

Commented [BS6]: Do we really require a site plan for all home businesses? What if it's entirely contained within the home – is that a home occupation rather than a home business? Again, I'm just speaking without having looked at the definitions or standards, just my initial reactions.

Commented [BS7]: My understanding is that middle housing is to be allowed similar to the single-unit dwelling. If that's true, why are there special use standards for the middle housing types? Instead of including this with an asterisk, maybe you just have the column with the standards (no special use).

Commented [RM8R7]: We can have standards for middle housing types, we just have to allow duplexes everywhere that SFD's are allowed. The duplex standard is just reflecting state allowances/requirements. I would rather reference the special standards section rather than add footnotes to this table.

Commented [BS9R7]: OK, makes sense.

Commented [RM10]:
Since we aren't required to allow middle housing provisions here since we aren't allowing SFD's in R-2 and R-3 any longer we can have a max density. We could consider a higher density threshold to incentivize affordable housing or for alley loaded development, or along transit corridors, or???

Commented [BS11R10]: I think given the density policy in the Metro Plan, we leave this as is now. When we update policies, we can consider some "bonuses" or changes to the approach.

Table 3.2.215-A: Residential District Density Standards			
Density (see 3.2.235 below)	R-1	R-2	R-3
Cottage cluster	4 units per net acre minimum No maximum density	14 units per net acre minimum 28 units per net acre maximum	28 units per net acre minimum 42 units per net acre maximum
Multiple unit housing	N/A	14 units per net acre minimum 28 units per net acre maximum	28 units per net acre minimum 42 units per net acre maximum
Density fractions will be rounded up to the next whole number.			

Table 3.2.215-B: Residential District Lot or Parcel Area Guidelines			
Lot or Parcel Area			
Minimum lot or parcel area for single unit dwellings, detached, is based on meeting the maximum net density in the zoning district. Approximate example lot sizes are shown below. Maximum lot or parcel area is based on meeting the minimum net density in the zoning district. Some approximate example lots sizes are shown below. Lot or parcel areas for some uses/housing types are not reflective of the density range above due to density not being applicable to certain middle housing types. Where the density standards and these lot or parcel area examples conflict, the density standards prevail.			
Housing type	R-1	R-2	R-3
Single unit dwelling, detached	3,000 sq. ft. minimum 7,260 sq. ft. maximum	N/A	
Duplex	3,000 sq. ft. minimum 7,260 sq. ft. maximum	3,000 sq. ft. minimum 6,000 sq. ft. maximum	2,000 sq. ft. minimum 4,000 sq. ft. maximum
Triplex	5,000 sq. ft. minimum 21,000 sq. ft. maximum	4,500 sq. ft. minimum 9,000 sq. ft. maximum	3,000 sq. ft. minimum 4,500 sq. ft. maximum
Fourplex	7,000 sq. ft. minimum 29,000 sq. ft. maximum	6,000 sq. ft. minimum 12,000 sq. ft. maximum	4,000 sq. ft. minimum 6,000 sq. ft. maximum
Townhome	1,000 sq. ft. minimum 7,260 sq. ft. maximum		
Cottage Cluster	5,000 sq. ft. minimum Maximum based on number of units and density		
Multiple Unit Housing	N/A	1,500 sq. ft. per unit minimum 3,000 sq. ft. per unit maximum	1,000 sq. ft. per unit minimum 1,500 sq. ft. per unit maximum

Commented [RM12]:

Should we limit the minimum size of the lots that a cottage cluster can be developed on?

Staff is recommending allowing cottages to be in individual lots within a cottage cluster development. Staff is envisioning that the individual lots for each unit could be as small as the footprint of the cottage. The 7,000 square feet is from the OAR's, should be limit the overall size of the property for a Cottage Cluster development to a minimum of 7,000?

3.2.220 Setbacks

- (A) **Setback Standards.** The following table summarized the minimum setback standards. The setback standards of this section apply to all structures, except as otherwise provided by this section.

Table 3.2.220 Setbacks	R-1	R-2	R-3
Front	10 feet, except for a garage or carport		
Garage or carport	18 feet from any property line or back of sidewalk, whichever is closer		
Side	5 feet	10 feet when abutting an R-1 district 5 feet when not abutting an R-1 district	
Rear	5 feet	10 feet when abutting an R-1 district 5 feet when not abutting an R-1 district	
Notes: Setbacks for certain housing types or uses are reduced as specified in SDC 4.7.300-4.7.400. (Ex. Zero-foot side setback for property line where townhome units attach.)			

Commented [RM13]: Comment from Dan Hill from Arbor South in regard to making set back in R-2 next to R-1 five feet since heights are similar. Same for rear setback. Makes sense for R-3 next to R-1 since R-3 has no height limit, but from a practical standpoint, is it needed if there is no R-3 adjacent to R-1???

(B) Front Setbacks

- (1) **R-1, R-2, and R-3 Districts.** The front setback requirement is a minimum of ten feet from the property line abutting the street used for address purposes or the back of sidewalk, whichever is closer, or for a panhandle lot, from the property line forming the pan portion of the lot.
- (2) **Garage or carport.** The front of a garage or carport must be set back a minimum of 18 feet from any property line or the back of sidewalk, whichever is closer.
- (3) **Special setbacks.** The Special Street Setbacks apply in conformance with SDC 4.2.105(M).

Commented [RM14]:
Setback for garage from any property line, not just front.

(D) Side Setbacks

- (1) **R-1 District.** The side setback requirement is a minimum of five feet.
- (2) **R-2 and R-3 Districts**
 - (a) The side setback requirement is a minimum of ten feet from any property line abutting the R-1 district.
 - (b) The side setback requirement is a minimum of five feet from any property line not abutting the R-1 district, or the edge of sidewalk for a corner lot or parcel, whichever is closer.
- (3) **For courtyard housing,** side setbacks must be in conformance with SDC 4.7.335.

(E) Rear Setbacks

- (1) R-1 District.** The rear setback requirement is a minimum of five feet from any property line.
- (2) R-2 and R-3 Districts**
 - (a)** The rear setback requirement is a minimum of ten feet from any property line abutting the R-1 district.
 - (b)** The rear setback requirement is a minimum of five feet from any property line not abutting the R-1 district.

(F) Special Setback Requirements

- (1) Alley.** Where an existing alley is less than 20 feet in width, the setback requirement is 20 feet from the property line abutting the alley, notwithstanding any other setback requirement that is less.
- (2) Townhomes.** Common wall setbacks where units are attached is zero feet from the property line abutting the next attached unit, in conformance with SDC 4.7.330.
- (3) Vision Clearance Areas.** All structures must comply with SDC 4.2.130, Vision Clearance, notwithstanding any other setback requirement that.
- (4) Bridges.** Bridges that form a driveway or pedestrian access from the abutting street or alley are permitted within the setbacks.
- (5) Setback Encroachments.** An encroachment into a setback that meets the following standards is permitted in the R-1, R-2, and R-3 Districts. No portion of the structures and architectural features listed in this section can encroach closer than five feet to the front property line or edge of sidewalk, whichever is closer. No other encroachments into a setback are permitted unless approved through a variance.
 - (a) Architectural Features.** Eaves, chimneys including fireplace enclosures and chimney chases, bay windows up to eight feet in width, and window wells up to eight feet in width are allowed to encroach into the front, side, and rear setbacks by no more than two feet, provided there is a minimum setback of three feet from the property line.
 - (b) Front Porches.** An unenclosed covered or uncovered porch, patio, deck, or stoop with a maximum floor height not exceeding 18 inches is allowed to be set back a minimum of six feet from the front property line, as long as it does not encroach into a public utility easement.
 - (c)** An uncovered and unenclosed porch, patio, deck, or stoop located above finished grade with a maximum floor height not exceeding 18 inches must be set back a minimum of 18 inches from the side and rear property lines. Additionally, it must not encroach into a public utility easement.

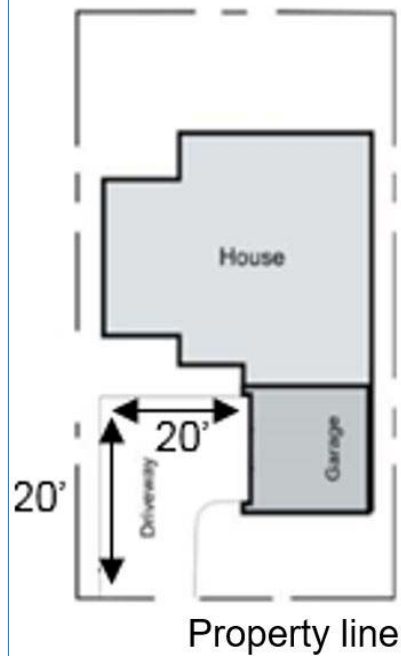
Commented [RM15]:
Still allow a variance?

- (d) Uncovered patios at finished grade are exempt from setbacks as long as it does not encroach into a public utility easement.
- (e) Stairs, ramps, and landings that are uncovered may be in the front setback up to the front property line.

(6) Garage and Carport Setback

- (a) The 18-foot setback requirement for the front of a garage or carport is measured along the centerline of the driveway from the property line or back of sidewalk, whichever is closer, to either the garage door or to the support post at the vehicle entry of a carport closest to the property line.
- (b) For a garage on a corner lot or parcel that is accessed from an alley, or a garage where the side or rear wall of the garage faces the street, the setback for the garage side or rear wall is a minimum of ten feet from the property line. In this case, the garage must have at least one window in the side or rear wall facing the street that is a minimum of six square feet. As shown in Figure 3.2-A, a side entry garage must have a driveway with a minimum length of 18 feet from the front and side property lines.

Figure 3.2-A Garage or Carport Setback



Commented [RM16]:

Michael comment

Michael would like to see a figure showing setback from curb return for driveways on corner lots.

Discuss with Kristina and Michael. Where is the standard for this? Can we apply to middle housing?

Commented [RM17]: Need to change this diagram to show 18 feet rather than 20 feet.

(G) **Prohibited in Setbacks.** In addition to structures, the following are prohibited within the following setbacks:

- (1) **Front Setbacks.** Satellite dishes greater than 18 inches in diameter, heat pumps, and other similar above ground objects.
- (2) **Side and Rear Setbacks.** Satellite dishes greater than 18 inches in diameter, heat pumps, and other similar objects, unless screened for visual and noise abatement by a solid enclosure two feet higher than the object/use being screened.
- (3) **All Setbacks.** Balconies.

Commented [RM18]:
Standards for this??? Refer screening and fencing section of code??

3.2.225 Impervious Surface Coverage Standards

- (A) The amount of impervious surface may not exceed the standards listed in this section 3.2.225. Stormwater treatment facilities required under SDC 4.3.110 or other development standards may result in less impervious surface area than these maximums.
- (B) The following Impervious Surface standards apply to all development in Residential Districts.

- (1) On lots or parcels with more than average 15 percent slope or above 670 feet in elevation, as determined in SDC 3.3.500, the impervious surface area must not exceed 35 percent.
- (2) On lots or parcels of less than 4,500 square feet in size, the impervious surface area must not exceed 60 percent of the lot or parcel area.
- (3) On lots or parcels of 4,500 square feet or larger in size, the impervious surface area must not exceed 65 percent of the lot or parcel area.

Commented [RM19]:
KSK comment. Is this an average slope across the lot/parcel or any portion of the lot that has more than 15% slope?

Commented [RM20]:
These are existing standards in 3.2.215, footnote (3). Keep? Or modify amounts? Should lot coverage in general be switched to a total impervious surface area standard?

Table 3.2.225 Impervious Surface Coverage	R-1	R-2	R-3
Lots or parcels with more than 15% slope or above 670 feet in elevation	35% maximum		
Lots or parcels of less than 4,500 square feet in size	60% maximum		
Lots or parcels of 4,500 square feet or larger in size	65% maximum		

3.2.230 Height

- (A) The following "building height" standards, as defined in SDC 6.1.100, are intended to facilitate allowed residential densities while promoting land use compatibility.

Table 3.2.230 Height	R-1	R-2	R-3
All Lots, except where specifically addressed below	35 feet	50 feet	none

- (B) Incidental equipment, as defined in SDC 6.1.110 may exceed the height standard.
- (C) Within the Hillside Development Overlay District, the maximum Building Height, as defined and calculated in SDC 6.1.110, is 45 feet.

3.2.235 Density

- (A) The following net density standards apply to all new development in the R-1, R-2, and R-3 districts, except as specified in subsection (B) of this section. The net density standards shown in Table 3.2.215 are intended to ensure efficient use of buildable lands and provide for a range of needed housing, in conformance with the Springfield Comprehensive Plan. Where the density standard apply, the net density must be within the density range for the respective zoning district, except that density fractions 0.5 units per net acre or greater will be rounded up to the next whole number, and less than 0.5 unit per net acre will be rounded down to the preceding whole number.

The density standards may be averaged over more than one development phase (i.e., as in a subdivision or Master Planned Development).

- (B) The net density requirements specified in Table 3.2.215 do not apply as follows:
 - (1) Residential care homes/facilities.
 - (2) Accessory dwelling units (ADUs).
 - (3) Duplexes when developed on a lot or parcel that is in a residential land use district and allows a detached single unit dwelling.
 - (4) Bed and breakfast inns.
 - (5) Nonresidential uses, including neighborhood commercial uses, public and institutional uses, and miscellaneous uses that do not include a dwelling unit.
 - (6) Buildings that are listed in the Inventory of Historic Sites within the Springfield Area Comprehensive Plan Exhibit "A" or buildings designated on the Historic National Landmarks Register.
 - (7) Manufactured home parks within the R-1 district are exempt from the maximum density standards of the district; as long as the standards of SDC 4.7.355 are met.
 - (8) Residential infill, as defined in SDC 6.1.100, is exempt from minimum density standards.
 - (9) Partitions on properties that are large enough to be divided into five or more lots are exempt from minimum density standards as long as the size of the resulting parcels and siting of dwellings allow future development on these parcels at minimum densities.
- (C) Net density is defined in SDC 6.1.100 as the number of dwelling units for each acre of land in residential use, excluding: dedicated streets; dedicated parks; dedicated sidewalks; and other public facilities.
- (D) For the purpose of calculating residential net density:
 - (1) Where a property is within multiple zoning districts, the minimum and maximum number of units is calculated based on the acreage in each residential district that is subject to the density standard as specified above multiplied by the applicable minimum and maximum density standards. Areas with nonresidential districts are excluded from the density calculation.

Commented [RM21]:
Redundant with (D)(3) below.

- (2) Except as provided in subsection (D)(3) of this section, the following areas are subtracted from the gross area of the property:

- (a) Area not in residential use as provided in subsection (D)(4) of this section;
- (b) Area for dedicated streets;
- (c) Area for dedicated sidewalks;
- (d) Area for dedicated parks;
- (e) Area for other public facilities.

After subtracting these areas from the gross area, then the remaining area is the net area used to calculate the net density.

- (3) The following areas are not subtracted from the gross area to calculate net density:

- (a) Area within a public easement less than ten feet in width;
- (b) Area within a private street;
- (c) Area within a private park; and
- (d) Area for other private facilities.

- (4) **Residential use** – Any area not in residential use is subtracted from the gross area. The term “residential use” is considered to mean “of, relating to, or connected with a residence or residences”. Examples of residential use include the following: off street parking and vehicle circulation areas, maintenance or storage areas, and residential leasing offices, if these uses are related to or connected with a residence or residences.

Examples of uses that would not be considered to be in residential use include the following: any commercial uses, accessory uses that are not related to or connected with a residence or residences, and unbuildable areas as described below.

- (a) **Unbuildable.** This category includes land that is undevelopable. It includes tax lots or areas within tax lots with one or more of the following attributes:

- (i) Slopes greater than 25 percent as calculated in SDC 3.3.520(A);
- (ii) Within the floodway, as designated by the FP Overlay District;
- (iii) In areas with severe landslide potential as shown on an adopted City of Springfield inventory or map;
- (iv) Within locally significant wetlands and locally significant riparian areas and their setbacks as specified in SDC 4.3.117;
- (v) Within the riparian area boundary of a Water Quality Limited Watercourse as specified in SDC 4.3.115;
- (vi) Within the easement area of a 230 kV or greater transmission line;
- (vii) Small irregularly shaped lots¹; and
- (viii) Publicly-owned land as described in (5), (6), (7), and (8) below.

- (5) **Streets** - Any street or roadway dedicated as public right of way is subtracted from the gross area to calculate net density. The area does not take into account to what degree the street or roadway area is improved. This does not include private streets or

Commented [RM22]:
Redundant with (C) above.

¹ Only lots that were counted as unbuildable in an adopted Housing Needs Analysis, can be subtracted from the gross density as “small irregularly shaped lots”.

driveways. The area for any private street would remain in the net area considered to be in residential use.

- (6) **Sidewalks** – Any sidewalk dedicated as public right of way is subtracted from the gross area to calculate net density. A public sidewalk located in an easement is not subtracted from the gross area. Private sidewalks (e.g. for multifamily housing developments, etc.) are not subtracted from the gross area.
- (7) **Parks** – Any public park area including a publicly-owned Regional Park, Community Park, Neighborhood Park, or Linear Park is subtracted from the gross area to calculate the net density. Any Private Park, or private open space, if not dedicated would remain in the net area.
- (8) **Other public facilities** – Any area for a public facility dedicated to the City of Springfield or other public agency is subtracted from the gross area to calculate net density. This includes storm water tracts dedicated to the City; however, it does not include private storm water facilities.

Additionally, any area, including easement areas, for a public facility that is adopted into the Eugene-Springfield Metropolitan Area Public Facilities and Services Plan (PFSP) is subtracted from the gross area. Any other public utility easement (PUE) that contains public utilities that are not adopted into the PFSP are not subtracted from the gross area (except as provided above under unbuildable land for 230 kV transmission lines).

“Public facility projects” adopted in the PFSP include:

- (a) **Water:** Source, reservoirs, pump stations, and primary distribution systems. Primary distribution systems are transmission lines 12 inches or larger for Springfield Utility Board (SUB) and 24 inches or larger for Eugene Water & Electric Board (EWEB).
- (b) **Wastewater:** Pump stations and wastewater lines 24 inches or larger.
- (c) **Stormwater:** Drainage/channel improvements and/or piping systems 36 inches or larger; stormwater detention and/or treatment facilities; outfalls; water quality projects; and waterways and open systems.
- (d) Specific projects adopted as part of the Metro Plan are described in the project lists and their general location is identified in the planned facilities maps in Chapter II of the Eugene-Springfield Metropolitan Public Facilities and Services Plan (Public Facilities and Services Plan).

3.2.240 **Panhandle Lot or Parcel Development Standards**

(A) Special provisions for lots/parcels with panhandle driveways:

- (1) Panhandle driveways are permitted where dedication of public right-of-way is not required to meet the Street Network Standards contained in SDC 4.2.105(D) or (E) or to comply with the density standards in the applicable zoning district. Panhandle driveways are not permitted in lieu of a public street required to meet the Street Network Standards contained in SDC 4.2.105(D) or (E).

Commented [RM23]:

Michael and Emma both commented and have concern. Discuss with Michael, Kristina, Emma, and possibly Jim D.

Commented [RM24]:

Michael comment.

Would this cover accessways and other transportation facilities not specifically labeled as sidewalk?

Commented [RM25]:

Michael comment.

Would this cover a tract.

Commented [RM26]:

Dennis Covert on the Res. TAC asked about density related to storm water retention areas. Does this answer the question? Or address the concern?

Commented [RM27]: Michael comment

A diagram explaining showing the general dimensional elements of panhandle for paving and area assumptions for easement and etc. may be helpful.

- (2) The area of the pan portion does not include the area in the “panhandle” driveway.
- (3) The minimum paving standards for panhandle driveways are:
 - (a) Twelve feet wide for a single panhandle driveway from the front property line to a distance of 18 feet, where there is an unimproved street; and from the front property line to the pan of the rear lot or parcel, where there is an improved street; and
 - (b) Eighteen feet wide for a multiple panhandle driveway from the front property line to the pan of the last lot or parcel. This latter standard takes precedence over the driveway width standard for multiple unit dwelling driveways specified in Table 4.2.2.
- (B) Buildable lots/parcels do not need to have frontage on a public street when access has been guaranteed via a private street or driveway with an irrevocable joint use/access easement as specified in SDC 4.2.120(A). In the residential districts, when a proposed land division includes single or multiple panhandle lots/parcels and the front lot or parcel contains an existing primary or secondary structure, an irrevocable joint use/access easement is allowed in lieu of the panhandles when the required areas to meet both the applicable panhandle street frontage standard and the required five foot wide side yard setback standard for the existing structure is available. In this case, the irrevocable access easement width standard is as follows:
 - (1) Fourteen feet wide for a single panhandle lot or parcel in the R-1 District; or
 - (2) Twenty feet wide for a single panhandle in the R-2 and R-3 District, or where multiple panhandles are proposed in any residential district.

Section 4.7.300 – 4.7.400 - Special Standards and Regulations for Certain Uses in Residential Districts

Subsections:

- 4.7.310 Duplex**
- 4.7.315 Middle Housing**
- 4.7.320 Triplex or Fourplex**
- 4.7.325 Cottage Cluster Housing**
- 4.7.330 Townhomes**
- 4.7.335 Courtyard Housing**
- 4.7.340 Accessory Dwelling Units (ADU's)**
- 4.7.345 Manufactured Dwelling Parks**
- 4.7.350 Residential Facility**
- 4.7.355 Bed and Breakfast**
- 4.7.360 Accessory Structures and Uses**
- 4.7.365 Home Business**
- 4.7.370 Place of Worship**
- 4.7.375 Architectural Design Standards**
- 4.7.380 Multiple unit housing (Clear and Objective Standards)**
- 4.7.385 Multiple unit housing (Discretionary option)**
- 4.7.390 Multiple unit housing Variances**
- 4.7.395 Boarding and rooming houses**
- 4.7.400 Emergency Medical Hardship**
- 4.7.405 Registered or Certified Family Child Care Home**

4.7.310 Duplex

- (A)** In instances where a development can meet the definition of a duplex and also meets the definition of a primary single unit dwelling with an Accessory Dwelling Unit (ADU), the applicant must specify at the time of application whether the development is a duplex or a primary single unit dwelling with an ADU. The application will be reviewed according to the standards and criteria applicable to the applicant's election.
- (B)** Additions to or conversion of an existing detached single-unit dwelling to a duplex is allowed provided that the conversion does not increase nonconformance with applicable clear and objective standards.
- (C)** A duplex in the R-2 district must be within the minimum and maximum density range for the applicable district.

4.7.315 Middle Housing

(A) Relationship to Other Code Standards

- (1) Conflicts.** In the event of a conflict between middle housing code provisions in this section and other code standards applicable to middle housing, the standards in this section prevail.
- (2) Public Works Standards.** Clear and objective exceptions to public works standards granted to detached single-unit dwellings (SD-Ds) must also be granted to duplexes.

(B) **Sufficient Infrastructure.** For all middle housing types (except duplexes) in the R-1, R-2, and R-3 districts applicants must demonstrate that Sufficient Infrastructure is provided or will be provided. The applicant must provide the information to demonstrate that Sufficient Infrastructure will be provided with the submittal of the development application for the proposed middle housing. The sufficient infrastructure must be provided prior to occupancy of the proposed middle housing. Sufficient Infrastructure must meet the established service levels as specified below.

- (1) Sanitary Sewer. The subject property and any existing and proposed dwellings must be connected to sanitary sewer. The sanitary sewer must be designed and constructed in conformance with SDC 4.3.105, and Chapter 2 of the *Engineering Design Standards and Procedures Manual* (EDSPM).
- (2) Stormwater. The subject property and any existing and proposed dwellings must have a Stormwater management system that is sufficient to detain, on the lot or parcel of origin, any increase in on-site surface water drainage, including roof drainage or other impervious surface drainage, to not increase flows from the lot or parcel above the flow levels that existed from the lot or parcel prior to the development of new middle housing
- (3) Water. The subject property as well as any existing and proposed dwellings must be connected to a public water system. The public water system must be capable of meeting established service levels as determined by the Springfield Utility Board (SUB). Documentation must be submitted from SUB with the development application demonstrating that the water system meets the established service levels or what improvements must be completed by the applicant prior to occupancy of the proposed middle housing to ensure established service levels are met.
- (4) Streets. The subject property must have access via public or private streets that meet the fire apparatus access road standards as required by and in compliance with the Oregon Fire Code.

(C) **Master Planned Areas.** Middle housing may be regulated or limited within development areas that are subject to an adopted Master Plan, as follows:

- (1) If a Master Plan has been adopted by the city after January 1, 2021, all middle housing types must be allowed as provided in this code.
 - (a) The City must plan to provide urban water, sanitary sewer, stormwater, and transportation systems that accommodate at least 15 dwelling units per net acre.
 - (b) If proposed middle housing development exceeds the planned public service capacity of a master plan, the City may require the applicant to demonstrate, through amended public plan or similar mechanism, the sufficient provision of public services needed to serve the proposed development.
 - (c) The city may require a mix of two or more middle housing types within a master plan or portions of a master plan.

Commented [RM1]: Are these all clear and objective standards that can be approved through a type 1 process? Sufficient infrastructure? What is the established service level?

Can we reference the EDSPM? Ask Kristina.

Commented [RM2]: Michael comment

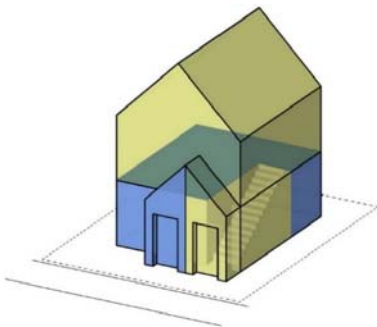
Assuming private streets include access easements? Do we need to better match similar language in the driveway section of the code? SDC 4.2-120 A

(d) The city may designate areas within the master plan exclusively for other types of housing, such as multiple unit housing residential structures or manufactured dwelling parks.

(2) If a master plan has been adopted by the city before January 1, 2021, it may limit the development of middle housing other than duplexes provided that the Master Plan authorizes in the entire master plan area a net residential density of at least eight dwelling units per net acre and allows all dwelling units, at minimum, to be detached single-unit dwellings or duplexes. This restriction applies to portions of the area not developed as of January 1, 2021.

(D) **Examples of Duplex, Triplex, and Fourplex configurations.** The following figures illustrate examples of possible configurations for duplexes, triplexes, and fourplexes. Other configurations are also possible and acceptable, provided the development meets the definitions and development standards for middle housing.

Stacked duplex



Duplex attached by breezeway



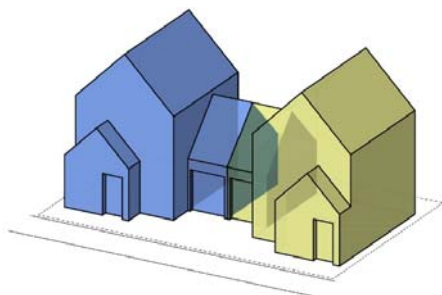
Side-by-side duplex



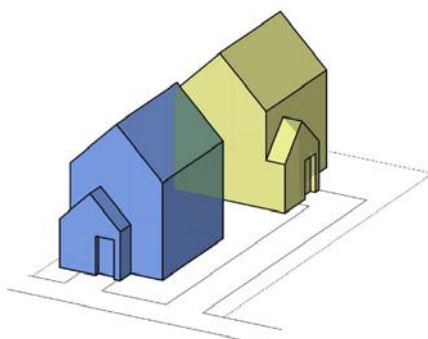
Detached duplex units side-by-side



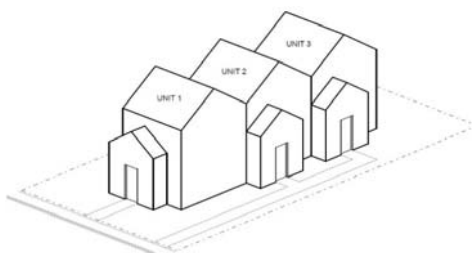
Duplex attached by garage wall



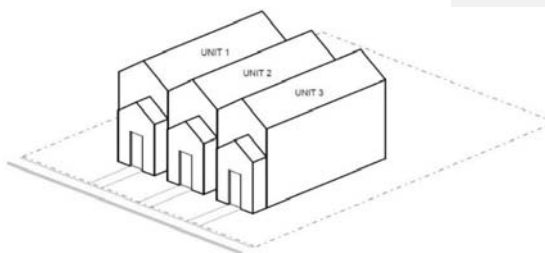
Detached duplex units front and back



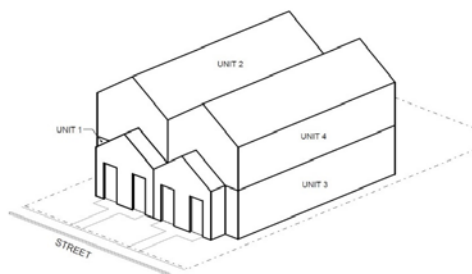
Attached triplex front and back



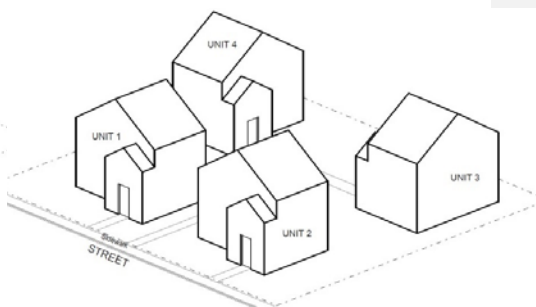
Attached triplex side-by-side



Stacked fourplex



Detached fourplex



4.7.320 Triplex and Fourplex

New triplexes and fourplexes, including those created by adding building square footage on a site occupied by an existing dwelling, must comply with the standards listed below. These standards do not apply to creation of a triplex or fourplex through conversion of a detached single-unit dwelling.

Commented [RM3]: OAR 660-046-0225(2)

(A) Entry Orientation. At least one main entrance for each triplex or fourplex structure must meet the standards in subsections (1) and (2) below. Any detached structure for which more than 50 percent of its street-facing façade is separated from the street property line by a dwelling is exempt from meeting these standards.

- (1) The main entrance must be within eight feet of the longest street-facing wall of the dwelling unit; and
- (2) The main entrance must either:
 - (a) Face the street. See Figure 4.7-A;
 - (b) Be at an angle of up to 45 degrees from the street. See Figure 4.7-B;
 - (c) Face a common open space that is adjacent to the street and is abutted by dwellings on at least two sides. See Figure 4.7-C; or
 - (d) Open onto a porch (see Figure 4.7-D). The porch must:
 - (i) Be at least 25 square feet in area; and
 - (ii) Have at least one entrance facing the street or have a roof.

Figure 4.7-A. Main Entrance Facing the Street

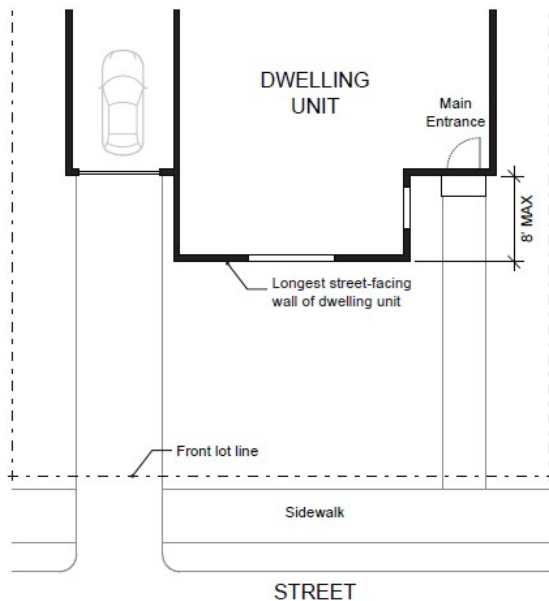


Figure 4.7-B. Main Entrance at 45 Degree Angle from the Street

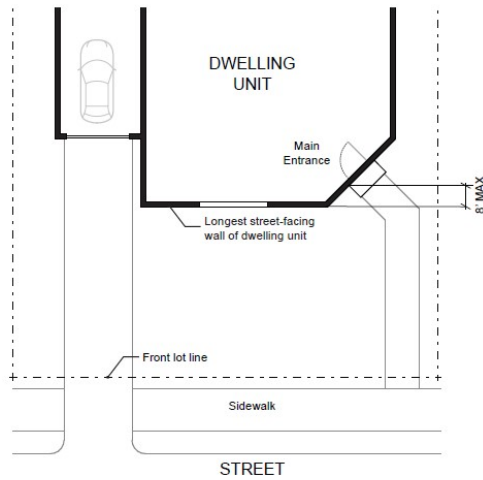


Figure 4.7-C. Main Entrance Facing Common Open Space

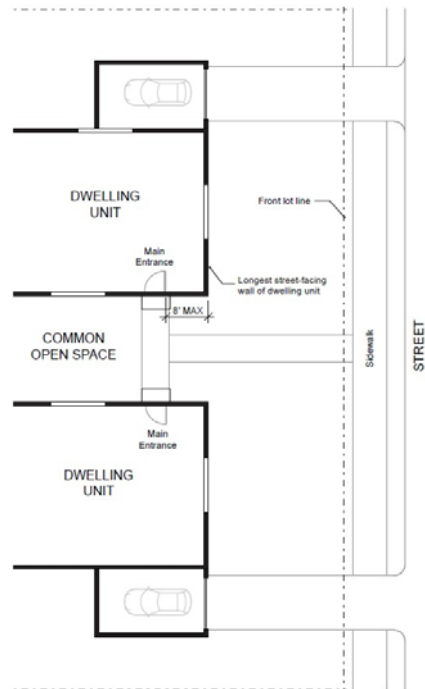
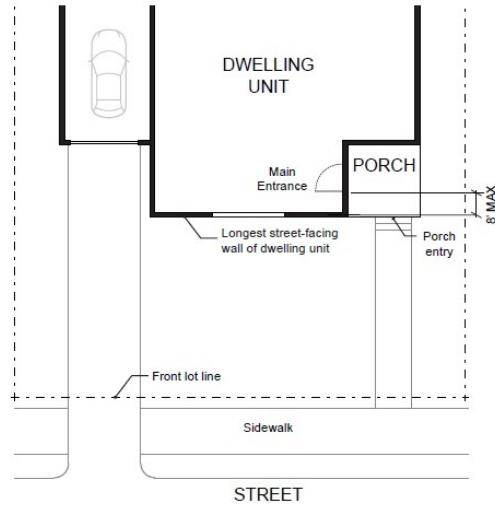


Figure 4.7-D. Main Entrance Opening onto a Porch



(B) Window and Door Coverage. A minimum of 15 percent of the area of all street-facing elevations must include windows or entrance door. Elevations separated from the street property line by a dwelling are exempt from meeting this standard. See Figure 4.7-E.

Figure 4.7-E. Window and Door Coverage

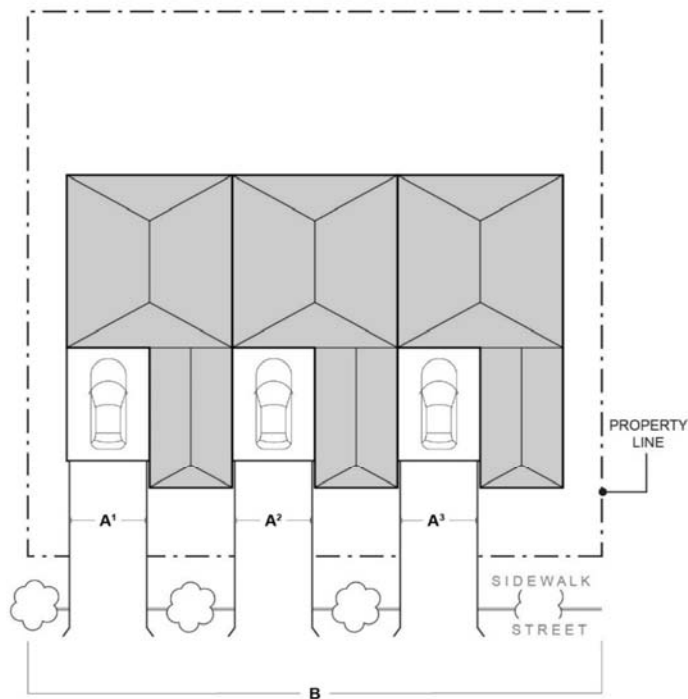


(C) **Garages and Off-Street Parking Areas.** Garages and off-street parking areas must not be located between a building and a public street (other than an alley), except in compliance with the standards in subsection (1) and (2) of this subsection.

(1) The garage of off-street parking area is separated from the street property line by a dwelling; or

(2) The combined width of all garages and outdoor on-site parking and maneuvering areas does not exceed a total of 50 percent of the street frontage. See Figure 4.7-F.

Figure 4.7-F. Width of Garages and Off-Street Parking Areas



(A) Garage and on-site parking and maneuvering areas

(B) Total street frontage

$$\frac{A^1 + A^2 + A^3}{B} \leq 50\%$$

(D) **Driveway Approach.** Driveway approaches must comply with the following standards.

- (1) The total width of all driveway approaches must not exceed 32 feet per frontage, as measured at the property line. See Figure 4.7-G. For lots or parcels with more than one frontage, see (3) below of this subsection.
- (2) Driveway approaches may be separated when located on a local street. See Figure 4.7-G. If approaches are separated, they must meet the driveway spacing standards of SDC 4.2.120.

Commented [RM4]: Comment from Michael L.

Let talk about how we go to this access density standard. I think the figure that is implied would help.

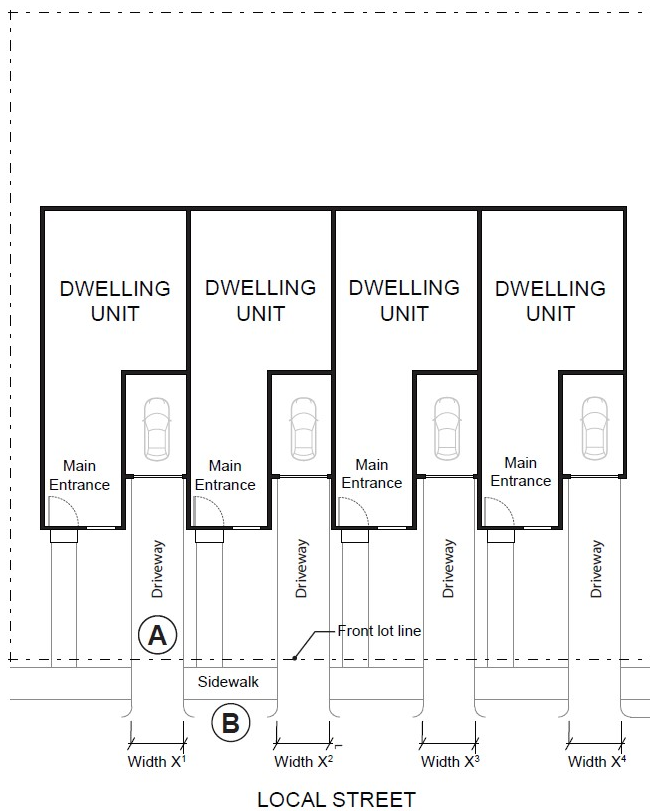
Commented [RM5]: Ask Michael L. about this.

His comment.

Requiring combined driveways on collectors and arterials to minimize conflicts is loosely covered in the code, but we also have issues with these developments getting street trees, streetlights, and other frontage amenities without combining driveways.

Commented [RM6R5]: My read is that we can't require street trees etc. for middle housing types. The emphasis on equity and providing housing for all is overriding livability when it comes things that are nice to have such as street trees, as mandated by the state.

Figure 4.7-G. Driveway Approach Width and Separation on Local Street



(A) $X^1 + X^2 + X^3 + X^4$ must not exceed 32 feet per frontage,

(B) Driveway approaches may be separated when located on a local street

- (3) In addition, lots or parcels with more than one frontage must comply with the following:
- (a) Lots or parcels must access the street with the lowest transportation classification for vehicle traffic.
 - (b) For lots or parcels abutting an improved alley as specified in SDC 4.2.105, access must be taken from the alley. See Figure 4.7-H.
 - (c) Lots or parcels with frontage only on collector and/or arterial streets must meet the Site Access and Driveway Standards in SDC 4.2.120 applicable to collectors and/or arterials.
 - (d) Triplexes and fourplexes on lots or parcels with frontages only on local streets may have either:
 - (i) Two driveway approaches not exceeding 32 feet in total width on one frontage; or
 - (ii) One maximum 16-foot wide driveway approach per frontage. See Figure 4.7-I.

Commented [RM7]: Michael L comment

Let's chat about issues with our existing alley width standard as it relates to parking dimensions.

Commented [RM8]: Are there other standards that should be sited here also?

Commented [RM9]: Cite the code section for this.

Commented [RM10]: Comment from Michael.

Code Section 4.2-120 calls out minimizing conflicts when having to take access from arterials or collectors, but we do not have specific access density standards for arterials and collectors.

Commented [RM11]: Comment from Michael

Our current for Duplex is 24 with and Ove width application you can go up to 30. Figure below essentially shows a duplex.

Figure 4.7-H. Alley Access

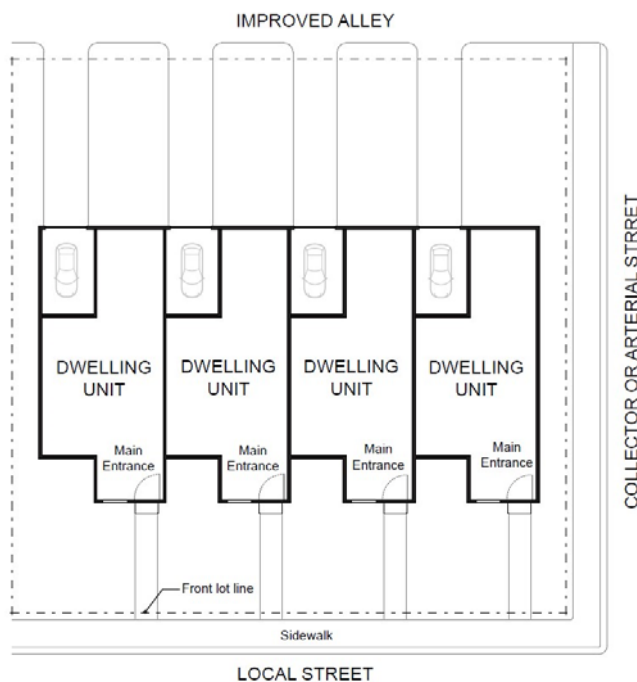
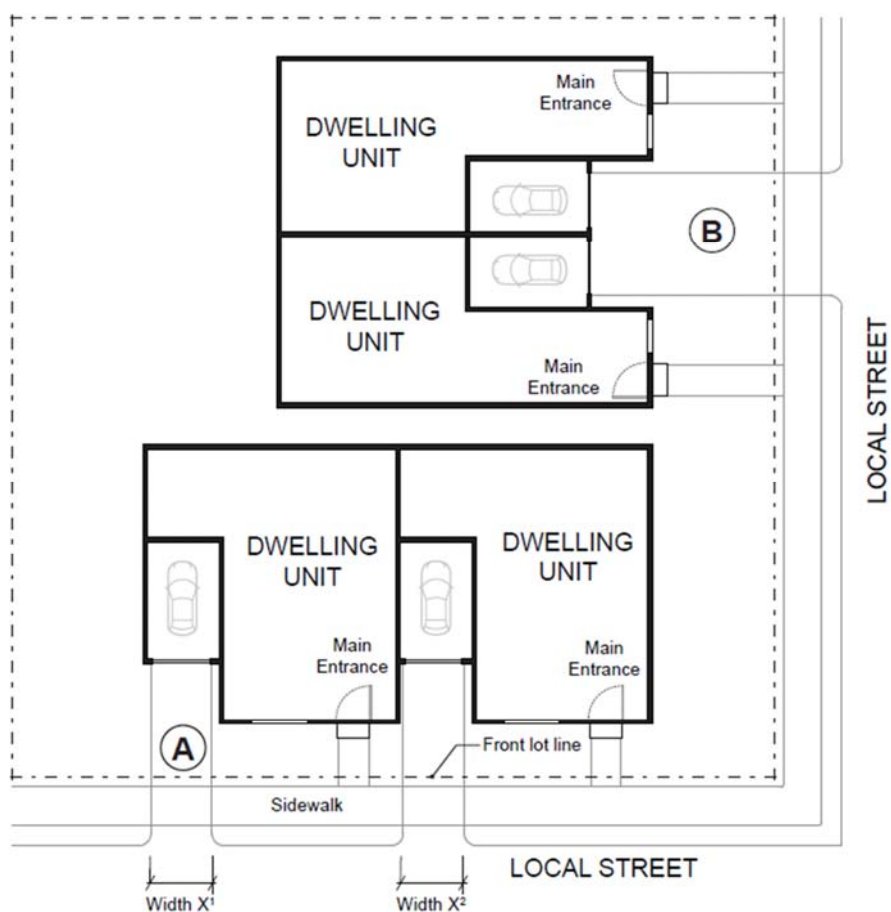


Figure 4.7-I. Driveway Approach Options for Multiple Local Street Frontages



Options for site with more than one frontage on local streets:

- A** Two driveway approaches not exceeding 32 feet in total width on one frontage (as measured $X_1 + X_2$); or
- B** One maximum 16-foot-wide driveway approach per frontage.

(Note: Both options are depicted here for illustrative purposes only. The standards do not allow both Options A and B on the same site.)

- (E) **Conversions to Triplex and Fourplex.** Internal conversion of an existing detached single unit structure or duplex to a triplex or fourplex is allowed provided that the conversion does not increase nonconformance with applicable clear and objective standards, unless increasing nonconformance is otherwise permitted by the development code.

4.7.325 Cottage Cluster Housing

(A) Purpose and Title

Cottage Cluster Housing is a type of flexible site development or subdivision that allows four or more small-scale dwelling units, either attached or detached, grouped together around shared open space.

The Cottage Cluster provisions allow the use as an outright permitted use through a Type 1 ministerial process in all the residential land use districts if the development meets the following standards in (B) below. However, if the cottage cluster proposes a land division, the land division must also go through the land division process as specified in SDC 5.12.100.

(B) Density

- (1) Minimum density of at least four units per net acre must be met.
- (2) There is not maximum density for a cottage cluster housing project.

(C) Number of Dwelling Units

- (1) A Cottage Cluster development must include a minimum of four dwelling units.

(D) Lot Size and Dimensions

- (1) The minimum lot or parcel size for a cottage cluster housing development is 5,000 square feet for the entire project site.
- (2) The minimum lot or parcel size for individual cottages in a cottage cluster housing project, when a land division divides the cottages onto their own lots or parcels, may be as small as the footprint of the cottage.
- (3) There are no minimum dimensions for individual cottage lots or parcels.

(E) Dwelling Unit Size

- (1) The maximum building footprint size for each dwelling unit is 900 square feet. For each dwelling unit, 200 square feet for an attached garage or carport is exempt from the 900 square foot maximum.
- (2) Detached garages, carports, or other accessory structures are exempt from the 900 square foot maximum footprint.

Commented [RM12]: Could require up to 7,000 square feet.

- (F) **Accessory Structures.** Accessory structures must not exceed 400 square feet in floor area.
- (G) **Setbacks.** The following perimeter setbacks apply to the perimeter of a Cottage Cluster Project site.
- (1) **Front setbacks:** Ten feet.
 - (2) **Side setbacks:** Five feet.
 - (3) **Rear setbacks:** Five feet.
- (H) **Building Separation.** The minimum distance between structures must be in accordance with the building code requirements.
- (I) **Building Height.** The maximum height of structures in a Cottage Cluster Project is 35 feet.
- (J) **Orientation.** Cottages must be clustered around a common courtyard, meaning they abut the associated common courtyard or are directly connected to it by a pedestrian path, and must meet the following standards. See Figure 4.7-J.
- (1) Each cottage within a cluster must either abut the common courtyard or must be directly connected to it by a pedestrian path.
 - (2) A minimum of 50 percent of cottages within a cluster must be oriented to the common courtyard by meeting the following:
 - (a) Have a main entrance facing the common courtyard;
 - (b) Be within ten feet from the common courtyard, measured from the façade of the cottage to the nearest edge of the common courtyard; and
 - (c) Be connected to the common courtyard by a pedestrian path.
 - (3) Cottages within 20 feet of a street property line may have their entrances facing the street.
 - (4) Cottages not facing the common courtyard, or the street must have their main entrances facing a pedestrian path that is directly connected to the common courtyard.
- (K) **Common Courtyard Design Standards.** Each cottage cluster must share a common courtyard to provide a sense of openness and community of residents. Common courtyards must meet the following standards. See Figure 4.7-J.
- (1) The common courtyard must be a single, contiguous piece.
 - (2) Cottages must abut the common courtyard on at least two sides of the courtyard.

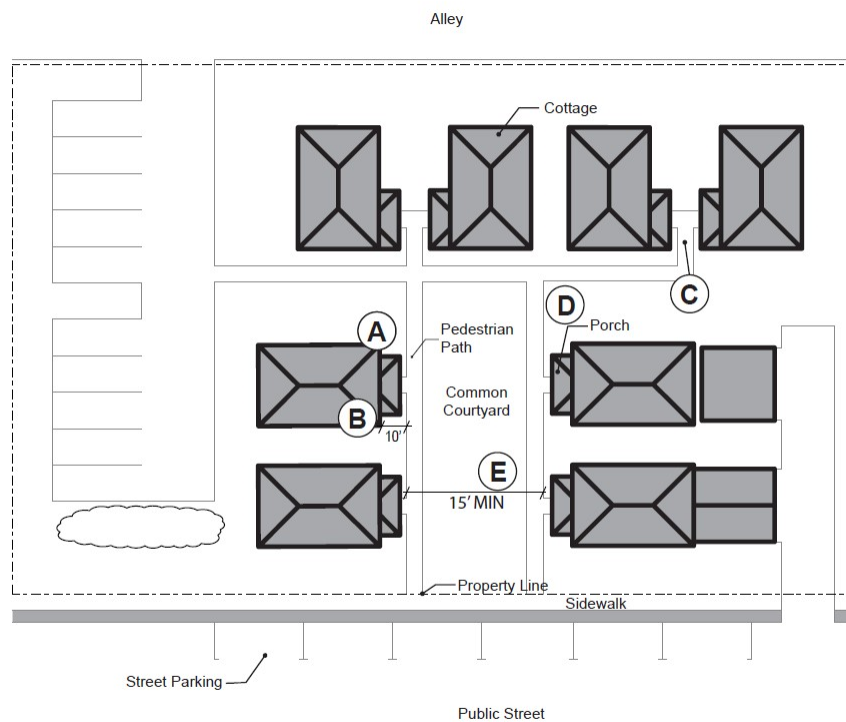
Commented [RM13]: Could be a max of 10 feet.

Commented [RM14]: Needed? Regulated by building code. Not checked through planning?

Commented [RM15]: Could be lower. Rules are silent on this. We have to allow at least 25 feet or two story (from model code).

- (3) The common courtyard must contain a minimum of 150 square feet per cottage within the associated cluster.
 - (4) The common courtyard must be a minimum of 15 feet wide at its narrowest dimension.
 - (5) The common courtyard must be developed with a mix of landscaping, lawn area, pedestrian paths, and/or paved courtyard area, and may also include recreational amenities. Impervious elements of the common courtyard must not exceed 75 percent of the total common courtyard area.
 - (6) Pedestrian paths must be included in a common courtyard. Paths that are contiguous to a courtyard count toward the courtyard's minimum dimension and area. Parking areas, and driveways do not qualify as part of a common courtyard.
- (L) **Community Buildings.** Cottage cluster projects may include community buildings for the shared use of residents that provide space for accessory uses such as community meeting rooms, guest housing, exercise rooms, day cares, or community eating areas. If community buildings are provided, they must meet the following standards.
- (1) Each cottage cluster is permitted one community building.
 - (2) A community building that meets the development code's definition of a dwelling unit must meet the maximum 900 square foot footprint limitation that applies to cottages, unless a covenant is recorded against the property stating that the structure is not a legal dwelling unit and will not be used as a dwelling.

Figure 4.7-J. Cottage Cluster Orientation and Common Courtyard Standards



- (A)** A minimum of 50% of cottages must be oriented to the common courtyard.
- (B)** Cottages oriented to the common courtyard must be within 10 feet of the courtyard.
- (C)** Cottages must be connected to the common courtyard by a pedestrian path.
- (D)** Cottages must abut the courtyard on at least two sides of the courtyard.
- (E)** The common courtyard must be at least 15 feet wide at its narrowest width.

(M) Pedestrian Access

- (1) An ADA accessible pedestrian path must be provided that connects the main entrance of each cottage to the following:
 - (a) The common courtyard;
 - (b) Shared parking areas;
 - (c) Community buildings; and
 - (d) Sidewalks in public rights-of-way abutting the site or rights-of-way if there are not sidewalks.
- (2) The pedestrian path must be hard-surfaced and a minimum of four feet wide.

Commented [RM16]: Question from Emma.

ADA accessible?

Commented [RM17]: ADA?

- (N) Windows.** Cottages within 20 feet of a street property line must meet any window coverage requirement that applies to detached single-unit dwellings in the same residential land use district.

(O) Parking

- (1) The minimum number of required off-street parking spaces for a cottage cluster project is one space per dwelling unit.
- (2) Off street parking spaces may be provided in a garage or carport.
- (3) Off street parking space credits are allowed in conformance with the standards of SDC 4.6.110.

(P) Parking Design. See Figure 4.7-K.

- (1) **Clustered parking.** Off-street parking may be arranged in clusters, subject to the following standards.
 - (a) A cottage cluster project with fewer than 16 cottages is permitted to have parking clusters of not more than five contiguous spaces in each parking cluster.
 - (b) A cottage cluster projects with 16 cottages or more is permitted to have parking clusters of not more than eight contiguous spaces in each parking cluster.
 - (c) Parking clusters must be separated from other spaces and other parking clusters by at least four feet of landscaping.
 - (d) Clustered parking areas may be covered.
- (2) **Parking location and access.**
 - (a) Off-street parking spaces and vehicle maneuvering areas must not be located:

Commented [RM18]: Emma asked about editing this language. To what? We can be more permissive but not more restrictive. We can reword if the requirement stays the same.

Commented [RM19]: Clayton comment

This can cause some difficulties with stormwater treatment since a bunch of widely dispersed parking areas are much more expensive to treat than a single larger area-and more expensive to build also. It can result in a much larger paved area as the driveways between these dispersed parking areas also take up a lot of space.

(i) Within five feet from any street property line, except alley property lines; or

(ii) Between a street property line and the front façade of cottages located closest to the street property line. This standard does not apply to alleys.

(b) Off-street parking spaces must not be located within five feet of any other property line, except alley property lines. Driveways and drive aisles are permitted within ten feet of other property lines.

(3) **Screening.** Landscaping, fencing, or walls at least three feet tall must separate clustered parking areas and parking structures from common courtyards and public streets.

(4) **Garages and carports**

(a) Garages and carports (whether shared or individual) must not abut common courtyards.

(b) Individual attached garages up to 200 square feet in size are exempt from the calculation of maximum building footprint for cottages.

(c) Individual detached garages must not exceed 400 square feet in floor area.

(d) Garage doors for attached and detached individual garages must not exceed 20 feet in width.

(Q) **Existing Structures.** On a lot or parcel to be used for a cottage cluster project, an existing detached single unit dwelling on the same lot or parcel at the time of proposed development of the cottage cluster may remain within the cottage cluster project area under the following conditions:

(1) The existing dwelling may be nonconforming with respect to the requirements of this code.

(2) The existing dwelling may be expanded up to the maximum height in (I) above or the maximum building footprint in (E) above; however, existing dwellings that exceed the maximum height and/or footprint of this code cannot be expanded.

(3) The floor area of the existing dwelling does not count towards the maximum average floor area of a cottage cluster.

(4) The existing dwelling is excluded from the calculation of orientation toward the common courtyard.

Commented [RM20]:

This seems excessive. Parking in a driveway should be allowed similar to a SFD??? We could reduce this dimension.

Comment from Michael

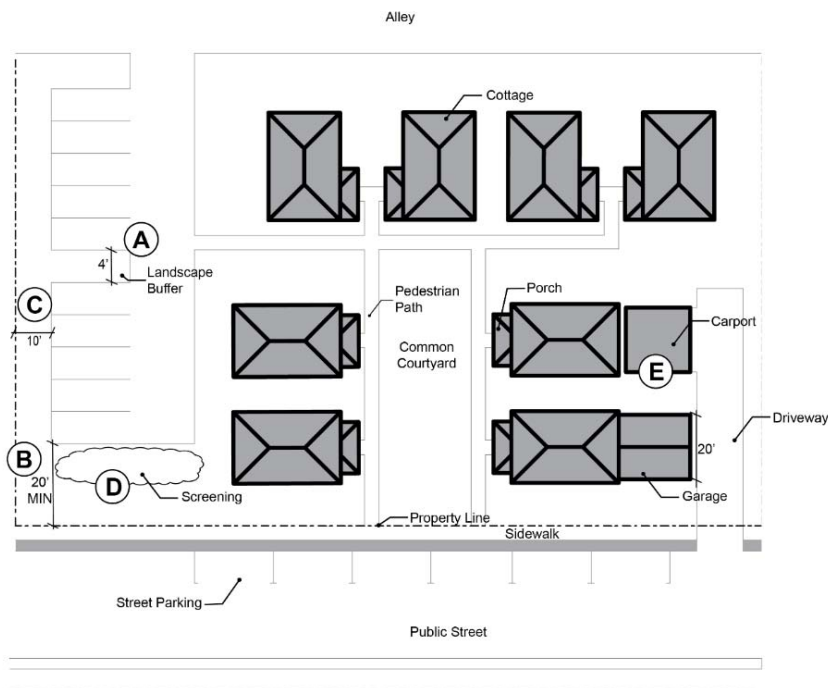
Is this driveway throat depth. Should it match our Table 4.2-2 language and dimension?

Commented [RM21]:

Comment from Michael

Are we okay on corners having parking between the street and a Side Façade? Looks like we account for that with the screening requirement below?

Figure 4.7-K. Cottage Cluster Parking Design Standards



- (A)** Parking allowed in clusters of up to 5 spaces. Clusters separated by minimum 4 feet of landscaping.
- (B)** No parking or vehicle area within 20 feet from street property line (except alley).
- (C)** No parking within 10 feet from other property lines (except alley). Driveways and drive aisles permitted within 10 feet.
- (D)** Screening required between clustered parking areas or parking structures and public streets or common courtyards.
- (E)** Garages and carports must not abut common courtyards. Garage doors for individual garages must not exceed 20 feet in width.

(R) Accessory Structures. Accessory Structures must not exceed 400 square feet in floor area.

(S) Home Types

- (1)** Detached or attached dwelling unit types containing one to four dwelling units are allowed.

Commented [RM22]: This is optional. Could limit size of detached garage.

- (2) Accessory dwelling units (ADUs) (either within, attached, or detached) are allowed for any detached or attached dwelling in a cluster housing development.

4.7.330 Townhomes

- (A) New townhome units must comply with the requirements in subsections (A)(1) through (4) of this section.

For purpose of this section, a "Townhome" means (as defined in SDC 6.1.100) a dwelling unit that is part of a row of two or more attached dwelling units, where each unit is located on an individual Lot or Parcel and shares at least one common wall with an adjacent dwelling unit. Single unit attached homes may have detached garages or ADUs that share a common wall between the two lots or parcels.

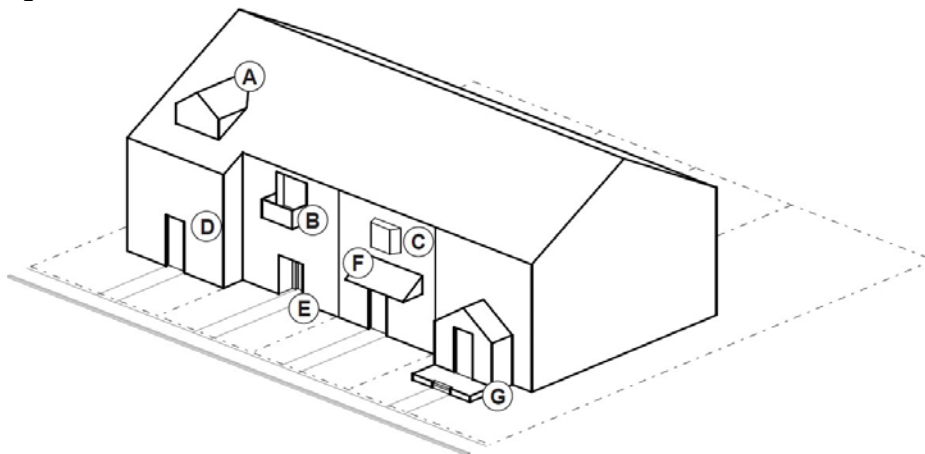
- (1) **Areas Owned in Common.** Common areas must be maintained by a homeowner's association or other legal entity. A homeowner's association may also be responsible for exterior building maintenance. A copy of any applicable covenants, restrictions, and conditions must be recorded and provided to the jurisdiction prior to issuance of building permits.
- (2) **Entry Orientation.** The main entrance of each townhouse must:
 - (a) Be within eight feet of the longest street-facing wall of the dwelling unit, if the lot has public street frontage; and
 - (b) Either:
 - (i) Face the street. See Figure 4.7-A;
 - (ii) Be at an angle of up to 45 degrees from the street. See Figure 4.7-B;
 - (iii) Face a common open space or private access or driveway that is abutted by dwellings on at least two sides; or
 - (iv) Open onto a porch. See Figure 4.7-C. The porch must:
 - (aa) Be at least 25 square feet in area; and
 - (bb) Have at least one entrance facing the street or have a roof.
- (3) **Unit Definition.** Each townhouse must include at least one of the following on at least one street-facing façade. See Figure 4.7-L:
 - (a) A roof dormer a minimum of four feet in width; or
 - (b) A balcony a minimum of two feet in depth and four feet in width and accessible from an interior room; or
 - (c) A bay window that extends from the façade a minimum of two feet; or

- (d) An offset of the façade that is a minimum of two feet in depth, either from the neighboring townhouse or within the façade of a single townhouse; or
- (e) An entryway that is recessed a minimum of three feet; or
- (f) A covered entryway with a minimum depth of four feet; or
- (g) A porch meeting the standards of subsection (1)(b)(iv) of this section (C).

Balconies and bay windows may encroach into a required setback area.

- (4) **Windows.** A minimum of 15 percent of the area of all street-facing elevations on each individual unit must include windows or entrance doors. Half of the window area in the door of an attached garage may count toward meeting this standard. See Figure 4.7-E.

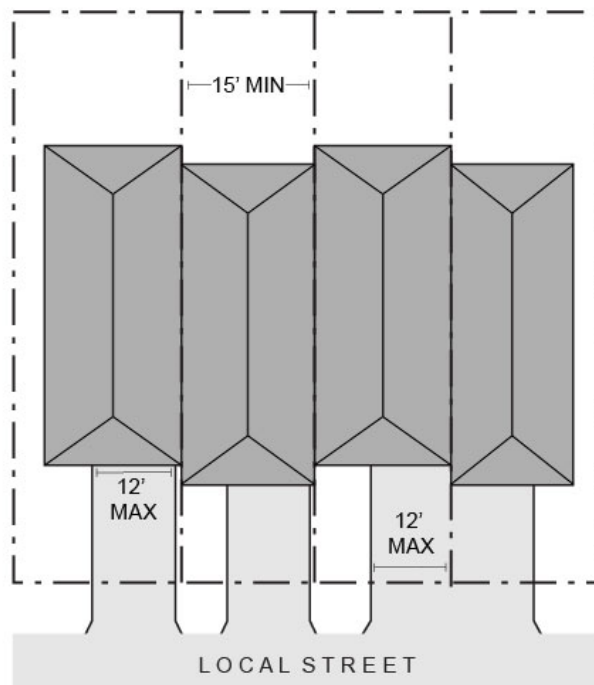
Figure 4.7-L. Townhouse Unit Definition



- (A) Roof dormer, minimum of 4 feet wide
- (B) Balcony, minimum 2 feet deep and 4 feet wide. Accessible from interior room.
- (C) Bay window extending minimum of 2 feet from facade
- (D) Facade offset, minimum of 2 feet deep
- (E) Recessed entryway, minimum 3 feet deep
- (F) Covered entryway, minimum of 4 feet deep
- (G) Porch, meets standards of subsection (1)(b)(iv) of section (C)

- (5) **Driveway Access and Parking.** Townhouses with frontage on a public street must meet the following standards:
- (a) Garage on the front façade of a townhouse, off-street parking areas in the front yard, and driveways in front of a townhouse are allowed if they meet the following standards. See Figure 4.7-M.
- (i) Each townhouse lot has a street frontage of at least 15 feet on a local street.
 - (ii) A maximum of one driveway approach is allowed for each townhouse. Driveway approaches and/or driveways may be shared.
 - (iii) Outdoor on-site parking and maneuvering areas do not exceed 12 feet wide on any lot.
 - (iv) The garage width must not exceed 12 feet, as measured from the inside of the garage door frame.

Figure 4.7-M. Townhouses with Parking in Front Yard



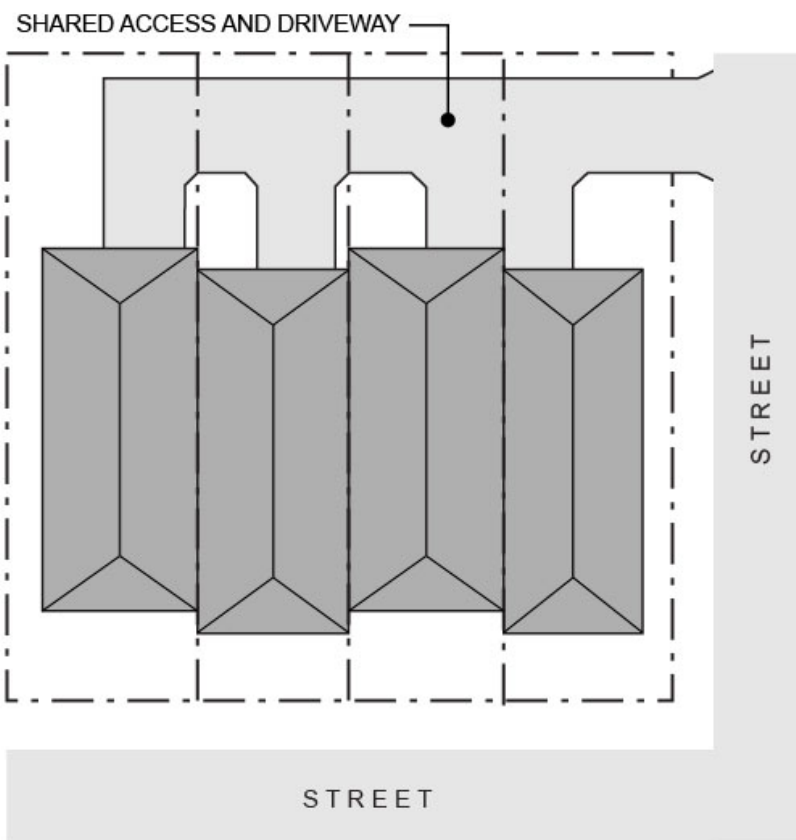
Commented [RM23]:

Michaels comment

Need to show on a corner for driveway setback from curb return.

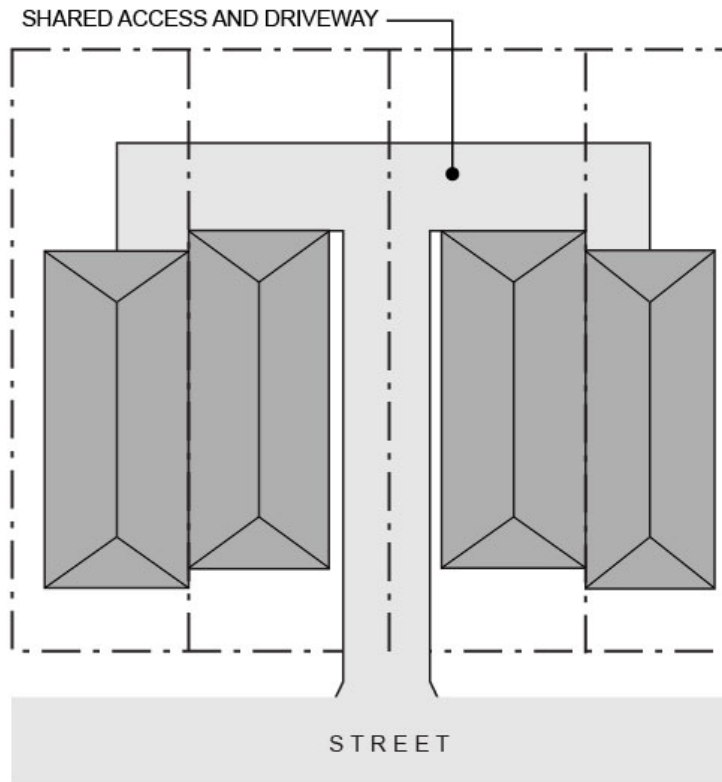
- (b) The following standards apply to driveways and parking areas for townhouse projects that do not meet all the standards in subsection (a) in this section.
- (i) Off-street parking areas must be accessed on the back façade or located in the rear yard. No off-street parking is allowed in the front yard or side yard of a townhouse.
 - (ii) A townhouse project that includes a corner lot must take access from a single driveway approach on the side of the corner lot. See Figure 4.7-N.

Figure 4.7-N. Townhouses on Corner Lot with Shared Access



- (iii) Townhouse projects that do not include a corner lot must consolidate access for all lots into a single driveway. The driveway and approach are not allowed in the area directly between the front façade and front lot line of any of the townhouses. See Figure 4.7-O.

Figure 4.7-O. Townhouses with Consolidated Access



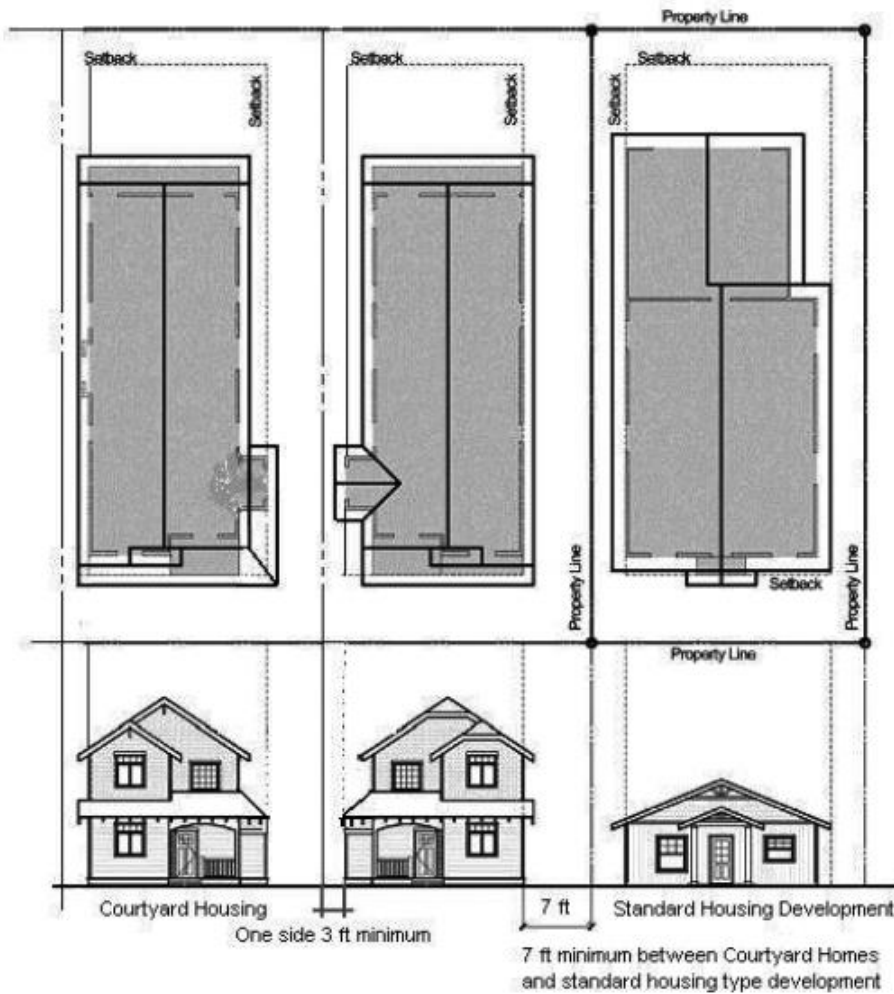
- (iv) A townhouse project that includes consolidated access or shared driveways must grant access easements to allow normal vehicular access and emergency access.
- (c) Townhouse projects in which all units take exclusive access from a rear alley are exempt from compliance with subsection (b) of this section.

4.7.335 Courtyard Housing

- (A) Detached courtyard houses on individual lots are subject to the same standards as single unit detached housing, except that a three foot minimum side yard setback is allowed on one side of a typical lot and a seven foot setback is required on the other side of the lot. As shown in Figure 4.7-P, this type of housing is permitted to allow development on narrow lots and still provide usable outdoor living area in side-oriented courtyards. The following standards are intended to promote compatibility and privacy between adjacent buildings and allow for building maintenance.
- (1) **Setbacks Adjacent to Non-Courtyard Housing Development.** When a courtyard house shares a side property line with a non-courtyard development (including vacant lots), the courtyard building must be set back from the common property line by a minimum of seven feet.
 - (2) **Construction and Maintenance Easement.** Prior to building permit approval, the applicant must submit a copy of a recorded easement for every courtyard house that guarantees rights for the purpose of construction and maintenance of structures and yards. The easement must stipulate that no fence or other obstruction can be placed in a manner that would prevent maintenance of structures on the subject lot.
 - (3) **Buffering.** The building placement and design of windows must provide a buffer for the occupants of abutting courtyard lots. This standard is met by:
 - (a) Placing ground-floor windows along the courtyard side of the house where views are directed into the yard(s) for the subject house;
 - (b) By directing views away from neighboring lots yards (e.g., bay window); or
 - (c) By using frosted glass or other permanent window covering that obscures any view to the exterior but allows light into the interior.

These standards do not apply to adjoining non-zero lot line lots.

Figure 4.7-P – Courtyard Housing



4.7.340 Accessory Dwelling Unit (ADU)

(A) **Purpose.** An accessory dwelling unit is intended to:

- (a) Provide the opportunity to add accessible and affordable units to existing neighborhoods and new residential areas;

- (b) Provide flexibility to accommodate changes in household size or composition over the course of time, allowing for intergenerational living and on-site caretakers or assistants;
- (c) Make efficient use of residential land; and
- (d) Fit into the neighborhood while maintaining stability, property values.

(B) An accessory dwelling unit may be established by:

- (1) Converting an attic, basement, or garage or any other portion of the primary dwelling;
- (2) Adding floor area to the primary dwelling, including a second story;
- (3) Constructing a detached accessory dwelling unit on a lot or parcel with a primary single unit dwelling; or
- (4) Converting an existing dwelling unit to the accessory dwelling unit (if it is less than 800 square feet) and building a primary dwelling unit.

(C) Applicability

- (1) Accessory dwelling units are permitted on R-1 properties with a primary dwelling.
 - (a) In instances where a development can meet the definition of a duplex and also meets the definition of a primary single unit dwelling with an Accessory Dwelling Unit (ADU), the applicant must specify at the time of application whether the development is a duplex or a primary single unit dwelling with an ADU.
- (2) Accessory dwelling units are permitted on R-2 properties with a primary dwelling, according to the following standards.
 - (a) On a lot or parcel with area 6,650 square feet or less, one or two accessory dwelling units are permitted.
 - (b) On a lot or parcel with area greater than 6,650 square feet but not greater than 10,000 square feet, a minimum of two accessory dwelling units must be constructed..
 - (c) An accessory dwelling unit is not permitted on a lot or parcel with area greater than 10,000 square feet.
 - (d) If two accessory dwellings are constructed, at least one must be detached from the primary dwelling.
- (3) Accessory dwelling units are permitted on R-3 properties with a primary dwelling, according to the following standards.
 - (a) On a lot or parcel with area 3,200 square feet or less, one or two accessory dwelling units are permitted.

(b) On a lot or parcel with area greater than 3,200 square feet but not greater than 4,800 square feet, a minimum of two accessory dwelling units are permitted.

(c) An accessory dwelling unit is not permitted on a lot or parcel with area greater than 4,800 square feet.

(d) If two accessory dwellings units are constructed, at least one must be detached from the primary dwelling.

(4) Accessory dwelling units are permitted within the Historic Overlay District subject to the provisions of SDC 3.3.910 through SDC 3.3.945.

(D) Review

(1) An accessory dwelling unit is reviewed under Type 1 procedure except in the Historic Overlay District or except as provided in SDC 4.7.340(F) and SDC 4.7.340(H)(3) when the accessory dwelling unit is reviewed under a Type 2 procedure.

(E) Submittal Requirements

(1) A plan drawn to scale and dimensioned showing:

(a) The proposed accessory dwelling unit and its relation to the property lines;

(b) The primary dwelling and other structures on the lot or parcel including fences and walls;

(c) Existing and proposed trees and landscaping;

(d) Lot or parcel area and dimensions, percent of lot or parcel coverage, building height, entrance locations; location of utilities and meters, curb cuts, sidewalks (public and private) and off-street parking area;

(e) Stormwater destination and/or facility;

(f) A detailed floor plan of the accessory dwelling unit, drawn to scale with labels on rooms indicating uses or proposed uses; and

(g) A separate written response demonstrating how the required development standards listed in SDC 4.7-340(G) can be met.

(F) Development Standards. An accessory dwelling unit must meet the following standards:

(1) The accessory dwelling unit must meet all applicable standards in this Code including, but not limited to; setbacks, height, lot or parcel coverage, and building codes in effect at the time of construction.

(2) The accessory dwelling unit must contain a kitchen, bathroom, living, and sleeping area that are completely independent from the primary dwelling.

Commented [RM24]: See same comment above. Must be provided/constructed????

- (3) The accessory dwelling unit must not exceed 800 square feet or the square footage of the primary dwelling (exclusive of the garage for the primary dwelling), whichever is less.
- (4) The accessory dwelling unit must have an outside entrance that is separate from the entrance to the primary dwelling.
- (5) A hard surface walkway, a minimum of three feet wide, must be provided from the primary entrance of the accessory dwelling unit to the street or walkway serving the primary dwelling.
- (6) Each dwelling unit must have its own address.
- (7) Outdoor storage and garbage areas must be screened from view from adjacent properties and those across the street or alley with a minimum 42-inch tall 100-percent sight obscuring fence or enclosure on at least three (3) sides.
- (8) If a Type 2 manufactured home or a towable structure (that is permitted, inspected and approved by the local authority having jurisdiction) is brought to the site as an accessory dwelling unit, it must have its tongue and towing apparatus removed

(G) Design Standards. An accessory dwelling unit within or attached to the main dwelling must either match the primary dwelling or meet the alternative standards. A newly constructed detached accessory dwelling unit must match the primary dwelling, meet clear and objective standards, or meet the alternative standards. Conversion of a structure permitted under SDC 4.7.105(A) to an accessory dwelling unit is not required to meet the design standards and may be approved under a Type 1 procedure; however, exterior alterations such as those necessary to meet building codes must meet relevant design standards below (match primary dwelling or meet clear and objective standards).

- (1) **Match Primary Dwelling.** An accessory dwelling unit may be approved under Type 1 procedure if it meets the following design standards except that these standards may be altered when necessary to meet current fire or building codes:
 - (a) Exterior finish materials must be the same as or visually match those of the primary dwelling in terms of type, size, and placement.
 - (b) Roof pitch must be the same as the predominant roof pitch of the primary dwelling.
 - (c) The trim around the doors and windows must be the same type and finish as the primary dwelling.
 - (d) Windows must match those of the primary dwelling in terms of proportion (height and width ratio) and orientation (vertical vs. horizontal).
 - (e) Eaves must project from the accessory dwelling unit addition the same distance as the eaves on the primary dwelling.
- (2) **Meet Clear and Objective Standards.** A detached accessory dwelling unit may be approved under Type 1 procedure if it meets the following design standards:

Commented [RM25]:

This is an existing standard for ADU's in 5.5.125(D).

What if there was one main shared entrance into a "lobby" and then two internal entrances, one to each unit. Why prohibit that flexibility.

- (a) Only non-reflective siding and roofing materials are allowed.
 - (b) Minimum roof pitch is 3 in 12.
 - (c) Eaves must project from the accessory dwelling unit at least one foot on all elevations.
 - (d) The primary entry must have a covered or roofed entrance with a minimum depth and width of three feet.
- (3) Meet Alternative Standards. An accessory dwelling may be approved under Type 2 procedure if it meets the following design standards:
- (a) Siding, roofing materials, and windows must be similar to those used on residential dwellings in the surrounding neighborhood.
 - (b) Entrances, windows, and balconies must be designed and located with consideration of the privacy of residential neighbors.

(H) Non-Conforming Lot or Parcel Sizes

- (1) Accessory dwelling units are not permitted on lots/parcels that do not meet the applicable minimum lot or parcel size stated in SDC 3.2.215.

(I) Prohibited Use

- (1) Mobile homes, recreational vehicles, motor vehicles, and travel trailers cannot be used as an accessory dwelling unit. Type 2 Manufactured Homes and towable structures that are permitted, inspected, and approved by the local authority having jurisdiction are allowed.

4.7.345 Manufactured Dwelling Park

A manufactured dwelling park is subject to site plan review, and the following criteria:

- (A) **Minimum Area Required.** A manufactured dwelling park must consist of a minimum area of one acre.
- (B) **Space Size.** The average area of a manufactured dwelling site must not be less than 4,000 square feet excluding roadway, recreation areas, and other accessory facilities. No manufactured dwelling site can be less than 2,000 square feet in area.
- (C) **Access.** A manufactured dwelling park access must be located on public streets improved to meet minimum standards and which are improved to a point intersecting a collector or arterial street.
- (D) **Permitted Uses.** A manufactured dwelling park may contain manufactured homes and accessory structures permitted in this chapter, community laundry and recreation facilities, and other common buildings for use by park residents only, and one residence other than a manufactured dwelling for the use of a caretaker or a manager responsible for maintaining or operating the property.
- (E) **Access Improvement Standards**

- (1) **Park Streets.** The minimum paved surface width of the roadway within an access way must be 24 feet if there is no parking allowed and 30 feet if parking is allowed on both sides. The first 50 feet of the access way measured from the public street must be surfaced to a minimum width of 30 feet and must be connected to the existing public street according to plans approved by the City.
- (2) **Improvement Standards.** The improvement of driveways, walkways, streets, drainage, and other utilities must conform to adopted State standards for such or must conform to the City's Standards and Specifications manual, whichever is more restrictive.

4.7.350 Residential Facility

A Residential Facility must comply with the following standards.

- (A) **Licensing.** All residential care homes and facilities must be licensed by the State of Oregon.
- (B) **Site Plan Review.** Site Plan Review is required for new structures to be used as a residential facility, to ensure compliance with the licensing, parking, and other requirements of this code. A Residential Training Home is exempt from this requirement.

4.7.355 Bed and Breakfast

A bed and breakfast use is permitted in all Residential Districts within a structure used as a residence and must comply with the following standards.

Commented [RM26]: Must be clear and objective

Commented [RM27]: Delete?

Commented [RM28]: See ORS 197.314(5)

Commented [RM29]: Not sure state law (ORS 197.314) allows us to regulate space size.

Commented [RM30]: lot

Commented [RM31]: Should this number be changed? Seems high. Lower to 3000 (or less) to match R-1 lot size reduction.

Commented [RM32]: Review against TSP changes and street standards.

Commented [RM33]: Comment from Melissa
What about parking on one side?

Commented [RM34]: Michael comment.

We allow 20 foot curb to curb streets and when we add parking it is 8 feet for each side. Fire code needs to be checked on this one!

Commented [RM35]: Michael comment

Should be paved throughout for emergency access and a host of other reasons.

Commented [RM36]: Cant ref. this. These standards need revised.

Commented [RM37]: Will this push us to requiring our urban curb gutter and sidewalk standard?

Commented [RM38]: Defined and regulated by ORS 443.400-.455

- (A) **Maximum Size.** The bed and breakfast use is limited to a maximum of four bedrooms for guests and a maximum of eight guests per night.
- (B) **Employees.** The bed and breakfast use may have up to one full time equivalent nonresident employee for the facility.
- (C) **Food Service.** Food services may be provided only to overnight guests of the bed and breakfast use.
- (D) **Owner- or Operator-Occupied.** The bed and breakfast inn must be owner- or operator-occupied and must maintain the exterior physical characteristics of a single unit dwelling.
- (E) **Location.** There must be at least 400 feet of separation along the same street between bed and breakfast uses.
- (F) **Signs.** Signs must meet the standards of City of Springfield Municipal Code 8.200, Signs.
- (G) **Monitoring.** All bed and breakfast uses must register with the City of Springfield for Transient Room Tax and must maintain a guest logbook. It must include the names and home addresses of guests, guests' license plate numbers if traveling by car, dates of stay and the room number of each guest. The log must be available for inspection by City staff upon request.

4.7.360 Accessory Uses and Structures

Accessory uses and structures are those of a nature customarily incidental and subordinate to the primary use or structure on the same lot. Typical accessory structures include detached garages, sheds, workshops, greenhouses, and similar structures. This section does not apply to accessory dwelling units (ADUs). For standards applicable to ADUs, see SDC 4.7.340. Accessory structures must comply with all the following standards and the applicable land use district. Where conflicting or more permissive standards exist in this section, these standards prevail.

- (A) **Primary Use Required.** An accessory structure or use is only allowed on a lot or parcel after the primary use is established. The accessory use must be a permitted use in the land use district.
- (B) **Restrictions**
 - (1) A kitchen is not allowed.
 - (2) A wet bar is not allowed to be installed within an accessory structure unless the property owner signs a City of Springfield compliance form stating that the structure will not be used as a dwelling unit.
- (C) **Floor Area.** The maximum floor area of an accessory structure in a residential land use district must not exceed 1,500 square feet.
- (D) **Building Height.** The building height of a detached accessory structure must not exceed 25 feet. In order to consider the accessory structure to be attached to the primary dwelling

Commented [RM39]: Michaels comment

Maybe this is how we account for parking? If not should be have a siting requirement for parking?

Commented [RM40]: Define?

Commented [RM41]: Define?

unit, it must be attached by one of the following options and there must be an opening that allows for internal access through livable space to the primary portion of the dwelling unit:

- (1) The accessory structure must share a common wall for at least 25 percent of the length of the common wall of the primary dwelling unit; or
- (2) The entire length of one elevation of the accessory structure must be attached to the primary dwelling unit.

The shared or attached wall must be the wall of an enclosed interior space, and does not include porches, patios, decks, or stoops.

4.7.365 Home Business

A home business is a lawful activity carried on within a dwelling or accessory structure by a permanent occupant of the dwelling. A home business is permitted provided that meets all the following standards.

- (A) The primary use of the building is a dwelling.
- (B) The business is a secondary use that does not significantly affect the residential character of the dwelling or neighborhood.
- (C) Compliance with the following standards must always be maintained.
 - (1) There must not be any display which would indicate from the exterior that the building is being used for any purpose other than a residential dwelling.
 - (2) There must not be any outside storage of materials visible from public property or adjacent private property.
 - (3) Mechanical equipment, unless compatible with residential purposes, is prohibited.
 - (4) There must not be any offensive noise, vibration, smoke, dust, odors, heat, or glare noticeable at or beyond the property line resulting from the home business.
 - (5) The home business must not create hazardous traffic conditions or utilize on-street parking of nearby properties.
 - (6) If the proposed home business requires any modification to the dwelling or accessory structure of a nature that is not typically found in a residential district, the proposed home business is considered inappropriate and prohibited.
 - (7) No merchandise, other than what is produced on-site, can be sold to the public from premises.
 - (8) The use or storage of heavy equipment or heavy vehicles is not permitted. Heavy equipment and heavy vehicles includes but is not limited to semi-truck, truck and trailer, backhoe, tracked excavator, skid steer, refrigerator truck, livestock truck, commercial bus, farm tractor, garbage truck, tow truck, and log truck.

Commented [RM42]: Check muni code? Can we ref. muni code for noise standard?

- (9) Any home business, which requires more than one vehicle for its operation is prohibited. The one vehicle permitted is limited to a passenger vehicle, passenger van, or light-duty pick-up truck.
- (10) No residence is allowed to be used as a headquarters or dispatch center where employees or subcontractors report to the residence to be dispatched elsewhere.
- (11) Customers are not allowed to physically access a home business beyond the hours of 7 a.m. to 6 p.m.
- (12) The applicant must sign an agreement with the City acknowledging any applicable standards listed in Subsections (1) through (11), above.
- (D) The following uses are prohibited as a home business:
- (1) Automobile repair, including, but not limited to tune-ups, alignments, body-fender work, painting, detailing, and upholstery.
 - (2) Health salons, gyms, dance studios, aerobic exercise studios, karate, and judo instruction.
 - (3) Medical or dental offices.
 - (4) Mortician, hearse services.
 - (5) Tow truck services.
 - (6) Veterinary uses (including care, grooming, and boarding).
 - (7) Wholesale distribution taking up more than the equivalent of 40 percent of the primary residence.
 - (8) Gun dealers involving the storage of guns for sale or customers visiting the residence.
- (E) Any home business:
- (1) Which has been approved by the Planning Commission is subject to revocation by the Planning Commission if the home business is found to be in violation of the approval standards. The revocation will be sent to the applicant in writing. The home business must cease within 30 days of the receipt of the revocation notice. The revocation decision may be appealed to the City Council as specified in SDC 5.3.100.

Commented [RM43]: Emma comment
Does this negatively impact carpooling capabilities? Currently my neighbor meets up in the morning and one of their employees leaves his car in on-street parking during the work day.

Commented [RM44]: Emma Comment
Physical access? I assume virtual/online computer customer access is OK 24/7? Maybe need to update for telecommuting?

Commented [RM45]: Check hours compared to Washburn overlay?? 8 to 6. Comment from TAC 4/8/21.

Commented [RM46]: Discussed with Emp TAC on 4/8/21. Generally keep this list.

Commented [RM47]: One on one versus multiple "customers" at once??? Comment from TAC 4/8/21.

Commented [RM48]: Emma comment.
Why? It seems as if some of these could fit well for home based small businesses. Perhaps consider removing this?

ASK Jim D.

Commented [RM49]: Chemicals used for use? Check with Amy C. from SUB???

4.7.370 Place of worship

- (A) A place for people to gather for religious activity. Examples include church, synagogue, mosque, chapel, or meeting house. Includes the following associated uses (ORS 227.500).
- (1) Worship services.
 - (2) Religion classes.
 - (3) Weddings.
 - (4) Funerals.
 - (5) Meal programs.
 - (6) Childcare, but not including private or parochial school education for prekindergarten through grade 12 or higher education.
 - (7) Providing housing or space for housing in a building or buildings that are detached from the place of worship provided:
 - (a) At least 50 percent of the residential units provided under this paragraph are affordable to households with incomes equal to or less than 60 percent of the median family income for Lane County.
 - (b) The real property is in a residential land use district and is located within the urban growth boundary.
 - (c) The housing or space for housing complies with applicable land use regulations and meets the standards and criteria for residential development for the underlying land use district; and
 - (d) The housing or space for housing is subject to a covenant appurtenant to the property. The covenant must restrict the owner and each successive owner of a building or any residential unit contained in a building from selling or renting any residential unit that is required to be affordable, as defined below, to a household with an income greater than the established affordability level for a period of 60 years from the date of the certificate of occupancy. The established affordability level is the household income is equal to or less than 60 percent of the median family income for Lane County.
- (B) A place of worship must meet the following approval standards:
- (1) Site Plan approval standards of SDC 5.17.100, including landscape requirements.
 - (2) Discretionary Use standards of SDC 5.9.100 – 5.9.125, as applicable.
 - (3) Must abut and take access from an arterial or collector street.

4.7.375 Architectural Design Standards

(A) **Purpose.** The architectural standards are intended to provide detailed, human-scale design, while affording flexibility to use a variety of building styles for certain types of development.

(B) **Applicability.** This section applies to the following.

Deleted: types of buildings

(1) Multiple unit housing.

Deleted: building

(2) Public and institutional building(s) in Residential Districts.

(3) Commercial building(s) in Neighborhood Commercial District.

(4) Mixed-use building(s) in Residential Districts; and

(5) All other types of permitted/conditional nonresidential use buildings listed in Table 3.2.210 when built in a Residential District.

(C) **Standards (Clear and objective).** All buildings that are subject to this section must comply with all the following standards. The graphics provided with each standard are intended to show examples of how to comply and are for illustrative purposes only. Other building styles and designs can be used to comply, so long as they are consistent with the text of this section. An architectural feature may be used to comply with more than one standard.

(1) **Building Form.** All buildings must incorporate design features such as offsets, balconies, projections, window reveals, or similar elements to preclude large expanses of uninterrupted building surfaces, as shown in Figure 4.7-Q below. Along the vertical face of a structure, such features must occur at a minimum of every 40 feet, on each floor, and must contain at least two of the following features.

(a) Recess (e.g., deck, patio, courtyard, entrance, or similar feature) that has a minimum depth of six feet.

(b) Extension (e.g., floor area, deck, patio, entrance, or similar feature) that projects a minimum of two feet and runs horizontally for a minimum length of four feet; and/or

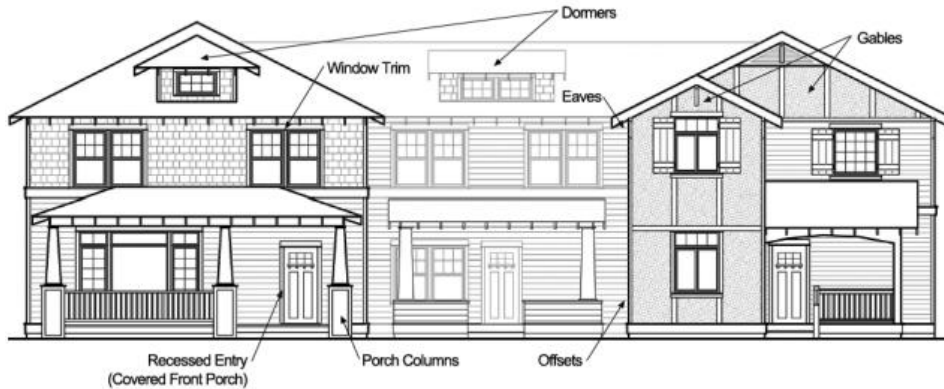
(c) Offsets or breaks in roof elevation of two feet or greater in height.

Figure 4.7-Q Building Form (Multiple unit housing example)



- (2) **Building Orientation.** All building elevations adjacent to a street right-of-way must provide doors, porches, balconies, and/or windows. A minimum of 40 percent of street-facing elevations, and a minimum of 30 percent of side and rear building elevations, must meet this standard. Percent of elevation is measured as the horizontal plane (lineal feet) containing doors, porches, balconies, terraces and/or windows. The standard applies to each full and partial building story.
- (3) **Detailed Design.** All buildings must provide detailed design along all elevations which are visible from the street(s) adjacent to the property (i.e., front, rear and sides).
 - (a) Menu Option (Type 1). Detailed design must be provided by using at least six of the following 12 architectural features on all applicable elevations, as appropriate for the proposed building type and style (may vary features on rear/side/front elevations).
 - (i) Dormers.
 - (ii) Gables.
 - (iii) Recessed entries.
 - (iv) Covered front porches.
 - (v) Pillars or posts.
 - (vi) Eaves (minimum 12-inch projection).
 - (vii) Window trim (minimum 3 1/2 inches wide).
 - (viii) Bay windows.
 - (ix) Balconies.
 - (x) Offsets in the building face by a minimum of 18 inches.
 - (xi) Offsets or breaks in roof elevation of two feet or greater in height.
 - (xii) Decorative patterns on the exterior finish using shingles, wainscoting, and/or board and batten.
 - (xiii) Variation in façade building materials, including, but not limited to, tile, brick, and wood.

Figure 4.7-R Examples of Architectural Details



(b) Design Review Option (Type 2). Detailed design may be provided by showing compliance with the following design criteria through a Type 2 application process in accordance with SDC 5.1.130.

- (i)** The general size, shape, and scale of the structure(s) are architecturally compatible with the site and with the surrounding neighborhood, unless such compatibility with existing structures does not reflect the long-term purpose or intent of the underlying land use district of the subject site.
- (ii)** If the project includes a structure or structures greater than 20,000 square feet in floor area, the design must incorporate changes in direction and divide large masses into varying heights and sizes by breaking up building sections, or by the use of such elements as variable planes, projections, bays, dormers, setbacks, canopies, awnings, parapets, changes in the roofline, materials, color, or textures.
- (iii)** Exterior finish on vertical surfaces must be primarily of materials such as masonry/wood siding, shingles, or stucco. The use of sheet metal or plywood must not exceed 50 percent of the wall area. No smooth-faced cinder block construction is permitted on front elevations. Cinder block construction for side and rear elevations is permitted by approval through the review process.

4.7.380 Multiple Unit Housing (Clear and objective standards)

(A) Purpose. The purpose of the multiple unit housing standards is to provide for higher density housing in locations that are convenient to commercial uses and future transit opportunities.

(B) Review. Type 1 review process.

(C) **Development Standards for Multiple Unit Housing Developments.** The following standards apply to multiple unit housing developments unless otherwise stated. These standards do not apply to Cottage Cluster Housing development.

Deleted: in the R-2 and R-3 Districts

(1) **Common Open Space**

- (a) Ten percent of the site area, for large scale (20 units or more) multiple unit housing developments, must be designated and permanently reserved as common open space. This standard is in addition to the required setback yard areas and any stormwater facilities.
- (b) Five percent of the site area, for multiple unit housing developments under 20 units in size, must be designated and permanently reserved as common open space. This standard is in addition to the required setback yard areas and any stormwater facilities.
- (c) For multiple unit housing developments that are part of a mixed-use building, there is no Common Open Space requirement.
- (d) For multiple unit housing developments that have a net density of 20 dwellings units per acre in the R-2 district, or 30 dwelling units per net acre in the R-3 district the Common Open Space standard does not apply.

(2) **Site area.** The site area is defined as the lot(s) or parcel(s) on which the development is planned, after subtracting any required dedication of street right-of-way and other land for public purposes (e.g., public park or school grounds, etc.). Inventoried Natural Resources and historic buildings or landmarks open to the public and designated by the Springfield Comprehensive Plan may be counted toward meeting the Common Open Space requirements.

(3) **Credit for Proximity to a Park.** A common open space credit as specified below is allowed when the development is located within walking distance of a public park. There must be a direct, accessible, and maintained trail or sidewalk between the development and the park, and the walking route must not cross an arterial street to use this credit.

Commented [RM50]: ADA? What does this mean? Is this clear?

Commented [RM51]: Improvement standard for "trail"? ADA?

- (a) A 100 percent credit is allowed when the development is located within one-quarter mile walking distance.
- (b) A 50 percent credit is allowed when the development is located within three-quarters mile walking distance.

(4) **Trash and Recycling Receptacle Storage.** Trash and recycling receptacle storage must not be located within setbacks for property lines shared with R-1 district property and must be covered and screened on at least three sides with an evergreen hedge or sight obscuring fence or wall. The screening must be at least five feet in height. Receptacles must be located for access by trash pick-up vehicles.

Commented [RM52]: Reference other section where these standards are contained. Solid waste disposal....

(5) **Landscaping, Fences, and Walls.** Multiple unit housing developments must provide landscaping as specified in the following standards and in compliance with SDC 4.4.105.

- (a) A minimum of 15 percent of the site must be landscaped with a mix of vegetative ground cover, shrubbery, and trees. Trees, a minimum two inches (dbh – diameter at breast height) in caliper, and shrubbery, a minimum of 24 inches in height, must be planted. Bark mulch, rocks and similar non-plant material may be used to compliment the cover requirement but is not considered a sole substitute for the vegetative ground cover requirement.
 - (b) Street trees, a minimum two inches (dbh) caliper, must be placed within the planter strips between the curb and the sidewalk. Street trees must be planted a minimum of one per every 30 linear feet of street frontage, as specified in SDC 4.2.140.
 - (c) Fences in front yards and along any frontage used to comply with the building orientation standard are limited to three feet in height. Fences in other yards must comply with the fence standards specified in SDC 4.4.115, and the vision clearance standards specified in SDC 4.2.130; and
 - (d) The use of native and/or drought-tolerant landscaping is encouraged. All landscaping must be irrigated with a permanent irrigation system unless a licensed landscape architect submits written verification that the proposed plant materials do not require irrigation. The property owner must maintain all landscaping.
- (6) **Pedestrian Circulation.** Multiple unit housing developments with more than 20 units must provide pedestrian circulation as specified in the following standards.
- (a) Continuous internal sidewalks must be provided throughout the site. Discontinuous internal sidewalks are permitted only where stubbed to a future internal sidewalk on abutting properties, future phases on the subject property, or abutting recreation areas and pedestrian trails.
 - (b) Internal sidewalks must be separated a minimum of five feet from dwellings, measured from the sidewalk edge closest to any dwelling unit.
 - (c) The internal sidewalk system must connect all abutting streets to primary building entrances.
 - (d) The internal sidewalk system must connect all buildings on the site and must connect the dwelling units to the parking areas, bicycle parking, storage areas, all recreational facilities, common areas, and abutting public sidewalks and pedestrian trails.
 - (e) Surface treatment of internal sidewalks must be concrete, asphalt, or masonry pavers. The sidewalks must be at least five feet wide. Multi-use accessways (e.g., for bicycles, pedestrians, and emergency vehicles) must be of the same materials, and at least ten feet wide. Where emergency vehicle access is required, there must be an additional five feet on either side of the accessway to provide for a clear accessway of 20 feet in width. The additional five-foot area may be turf-block, grass-crete, or similar permeable material on a base of gravel capable of supporting fire equipment weighing 80,000 pounds.

Commented [RM53]: Add diagram from existing code Figure 3.2-R.

- (f) Where internal sidewalks cross a vehicular circulation area or parking aisle, they must be clearly marked with contrasting paving materials, elevation changes, **speed humps**, or striping. Speed humps are subject to review and approval by the Fire Marshal. Internal sidewalk design must comply with Americans with Disabilities Act (ADA) requirements.
- (g) Where the internal sidewalks are parallel and abutting to a vehicular circulation area, the sidewalk must be raised or be separated from the vehicular circulation area by a raised curb, bollards, landscaping, or other physical barrier. If a raised sidewalk is used, the ends of the raised portions must be equipped with curb ramps.
- (h) All on-site internal sidewalks must be lighted to a minimum of two foot-candles.
- (7) **Parking.** Multiple unit housing developments must provide parking as specified in SDC 4.6.100 – 4.6.155.
- (8) **Vehicular Circulation.** Multiple unit housing developments must provide vehicular circulation as specified in the following standards. See Figure 3.2-R.
 - (a) The on-site driveway, or private street, system must connect with public streets abutting the site.
 - (b) Site access and driveways must conform to SDC 4.2.120.

Commented [RM54]: Emma comment
Do we mean speed humps or should this be changed to “raised crosswalks”? Or both?

Discuss with Emma and Michael

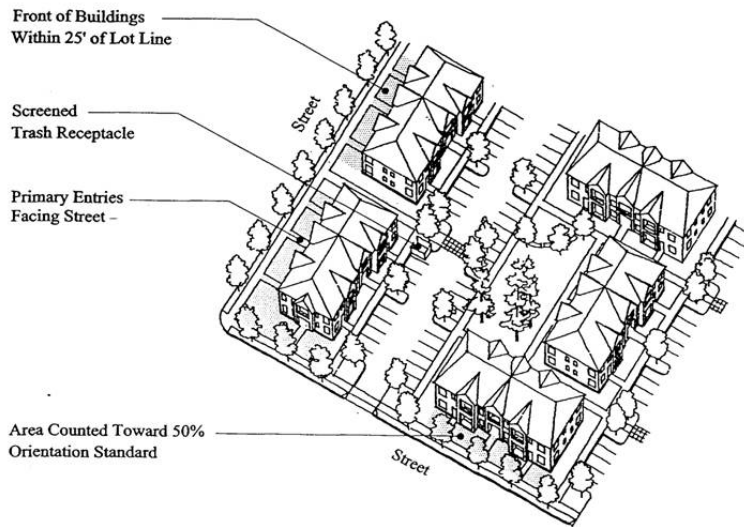
4.7.385 **Multiple Unit Housing (Discretionary option)**

Commented [RM55]: Still need to look over/revise this section.

- (A) Description. The Planning Commission may approve adjustments to the clear and objective multiple unit housing design standards listed in SDC 4.7.380 that preclude compliance under SDC 4.7.390. In addition, the applicant may choose this Type III Discretionary Use procedure when proposing an innovative design that may preclude compliance with one or more of the design standards under SDC 4.7.380. The multiple unit housing design standards are: Building Orientation; Building Form; Storage; Transition and Compatibility Between Multiple unit housing and R-1 Development; Open Space; Landscaping; Pedestrian Circulation; Parking; and Vehicular Circulation. The Planning Commission must find that the application complies with or exceeds the criteria for each applicable design standard. Criteria for design standards not relevant to the application do not require a finding by the Planning Commission, unless the guidelines in Subsections (B) through (I) are implemented.
- (B) Building Orientation. The Planning Commission must find that the proposed design contributes positively to the neighborhood and overall streetscape by carefully relating building mass, frontages, entries, and yards to streets and to adjacent properties. This criterion may be met by complying with either (1) or (2) below, or by meeting SDC 4.7.390.
 - (1) Building Oriented to the street along a minimum of 50 percent of the site's frontage (See Figure 4.7-M). The “orientation” standard is met when all of the following criteria are met:
 - (a) Primary building entrances must face the street.

- (b) The front of the buildings must be within 25 feet of the front lot/parcel line, However, open, courtyard space in excess of 25 feet may be placed in front of building entrances. Open courtyard space is defined as usable, hard-surfaced space with pedestrian amenities including benches, seating walls or similar furnishings.
- (c) Off-street parking or vehicular circulation must not be placed between buildings and streets used to comply with this standard.
- (d) Wetlands, slopes over 15 percent as specified in SDC 3.3.500, and wooded areas protected by SDC 5.19.100, must not be counted as "frontage" for determining required building orientation. For example, if jurisdictional wetlands and/or wetland buffer occupy 100 feet out of a total of 400 feet, then only 300 feet is counted as "frontage" for determining required building orientation. In this example, 150 feet (50 percent) is the required amount of frontage to meet the building orientation requirement.

Building Orientation and Storage
Figure 4.7-M

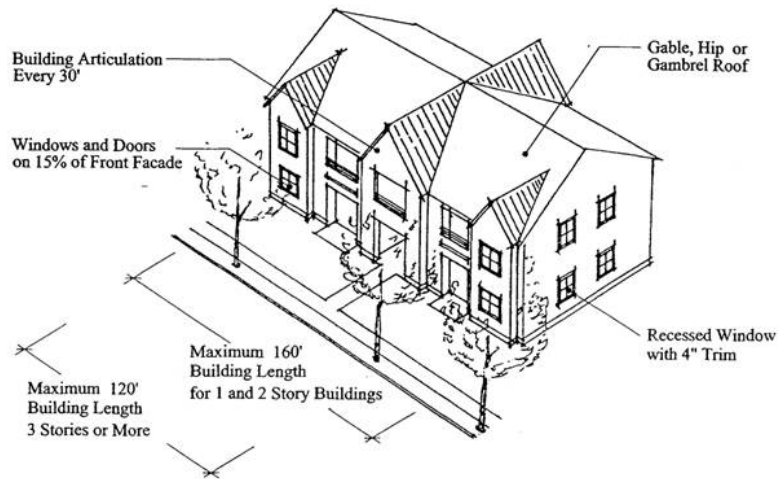


- (2) Considering the following guidelines:
 - (a) Orient buildings to an internal circulation system that mimics a public street in appearance (including, but not limited to sidewalks, landscaping, cross-walks, lighting, parallel parking), and does not diminish the appearance and safety of abutting primary public streets. Examples of "diminished appearance" include a fence along the sidewalk that isolates pedestrians between it and the street;

the location of trash receptacles, utility vaults, etc. in the "rear" yard (abutting a public street); and similar impacts on the streetscape.

- (b) Other design elements that provide exceptional design, and on balance, justify approval of the development with less than full compliance with the building orientation standard. Examples of such design elements include protection of natural and cultural resources; minimization of slope and tree cutting impacts; provision of pedestrian amenities along the public street; and similar public benefits that effectively accomplish the intent of the standard.
- (C) Building Form. The Planning Commission must find that the proposed design promotes building forms that contribute positively to a sense of neighborhood and to the overall streetscape. This criterion may be met by complying with either (1) or (2) below or by meeting SDC 4.7.390.
 - (1) Option 1 (See Figure 4.7-N).
 - (a) Structures that have one or two stories must not have continuous horizontal distance exceeding 160 feet (measured from end wall to end wall). However, as specified in Subsection 3.d., below, structures that have three or greater stories must not have a continuous horizontal distance exceeding 120 feet (measured from end wall to end wall).
 - (b) A minimum of 15 percent of the front façade (area measurement) shall contain windows or doors. All windows and doors shall provide four-inch trim or be recessed (i.e., into the front façade) to provide shadowing.
 - (c) Garages attached to living units and accessed from the street (front setback) shall be recessed at least four feet behind the front façade of a dwelling structure; and
 - (d) Exterior building elevations must incorporate design features including offsets, balconies, projections, window reveals, or similar elements to preclude large expansions of uninterrupted building surfaces. Along the vertical face of a structure, the features must occur at a minimum of every 30 feet, and on each floor shall contain a minimum of two of the following features:
 - (i) Recesses (e.g., deck, patio, courtyard, entrance, window reveals) that have a minimum depth of 3 feet;
 - (ii) Extensions (e.g., floor area, deck, patio, entrance) that have a minimum depth of 2 feet and minimum length of 4 feet; and/or
 - (iii) Offsets or breaks in roof elevation of 2 feet or greater in height.

Building Form
Figure 4.7-N



(2) Option 2

- (a)** Design exterior building elevations to avoid large expanses of uninterrupted building surfaces.
- (b)** Depict building scale consistent with nearby buildings; “scale” relates to the size of various features (including, but not limited to entries, roof surfaces, façades, windows and materials) as compared to those features on nearby buildings.
- (c)** Provide transitions to nearby buildings by massing; “mass” relates to the overall size or bulk of a building or its principal parts.
- (d)** Provide porches, bays, and balconies that compliment nearby buildings.
- (e)** Provide roof variations through offsets, breaks and/or extensions.
- (f)** Provide transition between the multiple unit housing and R-1 districts.
- (g)** Protect on-site and off-site natural and designated historic features.
- (h)** Provide human-scaled architectural detail.
- (i)** Provide visual variety in elevations, architectural details, colors, and materials, compatible with existing development

(D) Storage. The Planning Commission must find that unsightliness, noise and odor of exterior utilities, trash receptacle storage, and roof-mounted mechanical equipment is minimized by providing site facilities that are adequate and convenient for residents' needs and ensuring that site facilities are practical, attractive, and easily maintained. This criterion may be met by complying with either (1) or (2) below or by meeting SDC 4.7.390.

(1) Option 1 (See Figure 4.7-M)

- (a)** Adequate, accessible, and secure storage space must be provided for each dwelling. A minimum of 112 cubic feet of enclosed storage is required separate from the living unit. Garages and storage units adjoining a dwelling (e.g., attached to decks and patios) qualify as storage space.
- (b)** Trash receptacles must be screened from view by placement of a solid wood fence, masonry wall, or similar sight-obscuring, gated enclosure, from 5 to 6 feet in height. Obscuring landscaping must be planted a minimum 24 inches in height at planting around all exposed sides of the wall or fence, unless breaks are provided for gates. The required screening must meet the standards of SDC 4.4.100.
- (c)** No trash receptacles are allowed in any front yard setback, or within 25 feet of property lines abutting R-1 land use district or designated properties; and
- (d)** Ground-mounted equipment, including exterior transformers, utility pads, cable television, telephone boxes, and similar utility services, must be placed underground. Alternatively, equipment placed above ground, must be placed to minimize visual impact; or screened with a wall or landscaping. When walls are used they must be tall enough to completely screen the equipment at the time of the equipment installation. Landscaping must be planted tall enough to attain 50 percent coverage after 2 years and 100 percent coverage within 4 years.

(2) Option 2

- (a)** Provide trash receptacle areas that are adequately signed, accessible to residents and collection service, separated or buffered from living areas in order to avoid noise and odor problems
- (b)** Provide mailboxes large enough to accommodate large envelopes, packages, and newspapers.
- (c)** Keep the number and size of television and other receiving structures to a minimum. Screen or locate these structures to minimize visibility to on-site residents, residents of adjacent properties and the public, to the extent practicable.
- (d)** Provide adequate, accessible, and secure storage space for each dwelling.
- (e)** Provide ground or interior mounted mechanical equipment with screening as an alternative to roof-mounted equipment.

- (f) Group together roof penetrations such as plumbing and exhaust vents, air conditioner units and transformer boxes whenever practicable. Use ridge vents on pitched roofs that are in public view.
- (E) Transition and Compatibility Between Multiple unit housing and R-1 District development. The Planning Commission must find that the development is located and designed in a manner compatible with surrounding development by creating reasonable transitions between multiple unit housing and sites and adjacent R-1 districts. This criterion may be met by complying with either (1) or (2) below or by meeting SDC 4.7.390.
 - (1) Option 1: Multi-unit developments adjacent to properties designated R-1 district must comply with the transition area and compatibility standards listed below, unless it can be demonstrated that adjacent R-1 district property is committed to a non-residential use e.g., church) that is unlikely to change. In evaluating the status of an adjacent property, the Metro Plan designation shall take precedent over the current zone or use.
 - (a) When a single unit dwelling is within 75 feet of the subject multiple unit housing development site and the single unit dwelling is on the same side of the street and same block as the multiple unit housing site, a setback similar to that of the nearest single unit dwelling must be used for the front yard. "Similar" means the multiple unit housing development setback is within 5 feet of the setback provided by the nearest single unit dwelling. For example, if the single unit dwelling setback is 20 feet, then the multiple unit housing building must be set back by 15 to 25 feet. The minimum front yard setback is 10 feet, as specified in SDC 3.2.220; and
 - (b) A 25-foot buffer area must be provided between multiple unit housing development and property lines abutting an R-1 district property line, not including those property lines abutting right-of-ways. Within the 25-foot buffer area, the following standards apply:
 - (i) No vehicular circulation (i.e., driveways, drive lanes, maneuvering areas, and private streets) is allowed within the buffer, unless driveway placement within a buffer is required in order to comply with City, County or ODOT access management standards;
 - (ii) Site obscuring landscaping is required and must meet the standards of SDC 4.4.100;
 - (iii) Building encroachments are allowed, provided no building may encroach more than 10 feet into the 25 foot buffer and no primary entrance can face the abutting R-1 district property. Buildings must not exceed one story or 21 feet within the buffer, and must comply with all other applicable setbacks and transition areas specified elsewhere in this Code;
 - (iv) No active recreation areas (including, but not limited to: tot lots, swimming pools) are allowed within the 25-foot buffer (garden spaces are not considered active recreation areas);
 - (v) Lighting must meet the standards in SDC 4.5.100;

- (vi) Mechanical equipment must be screened from view in conformance with the standards of SDC 4.4.100, and must be buffered so that noise does not typically exceed 45 to 50 decibels as measured at the R-1 property line. The City may require a noise study certified by a licensed acoustical engineer; and
 - (vii) All rooftop equipment must be hidden behind parapets or other structures designed into the building.
 - (c) Buildings, or portions of buildings abutting an R-1 district property line or designation (i.e., side or rear lot/parcel line) outside of the 25-foot buffer described above, shall not exceed a building height greater than one foot for each foot distance from the R-1 district property line. For example, a building or portion of a building 30 feet in height shall be 30 feet from the R-1 district property line. This standard applies up to a distance of 50 feet from the R-1 district property line.
 - (d) Structures within 50 feet of an R-1 district must not have a continuous horizontal distance exceeding 120 feet (measured from end wall to end wall).
- (2) Option 2
- (a) Setbacks, building heights, and massing are similar to, and/or promote a visual gradient between the multiple unit housing site and adjacent R-1 district.
 - (b) Screen with landscaping or place balconies and windows to maintain the privacy of abutting R-1 districts and multiple unit housing residents on-site and in abutting developments.
 - (c) Window treatments and other building components are similar in size, scale, and placement to those in the adjacent R-1 districts, unless variation aids in transition.
 - (d) On site vehicular circulation and parking guides traffic away from abutting R-1 districts.
 - (e) Orient buildings along street frontages shared by the R-1 district, particularly when such orientation aids in transition.
 - (f) Use site obscuring landscaping, shade trees planted a minimum of six feet from property lines, or a minimum six foot high fence, when such screening aids in transition.
 - (g) Locate components of the multiple unit housing, which generate noise (such as recreation areas, parking lots, trash receptacles, heating and cooling equipment, etc.) where they will least disturb an abutting R-1 district.
 - (h) Locate and screen lights and mechanical equipment to minimize glare and noise to an adjoining R-1 district.

- (i) Allow enclosed garage structures (not carports) between multiple unit housing buildings and abutting R-1 properties as a transition device when the width and height of proposed garage structures are similar to (or subordinate to) the width and height of adjacent R-1 garage structures.

(F) Open Space

- (1) The Planning Commission must find that the open space component is located and designed in a manner compatible with surrounding development when:
 - (a) On-site and abutting natural features are integrated into the open space system of the multiple unit housing development.
 - (b) Amenities such as seating, children's play areas, lighting, and recreation facilities are provided within common open space areas and proportional to the needs of the development.
 - (c) A range of usable open space types (general, common, and private) is provided and they are integrated with abutting public open space, if it exists.
 - (d) Negative impacts to on-site or abutting wetlands, waterways, and natural areas are negligible.
- (2) This criterion may be met by complying with either (a) or (b) below or by meeting SDC 4.7.390.
 - (a) Option 1. Multiple unit housing developments must provide both Common Open Space and Private Open Space as specified in the following standards (See Figure 4.7-Q).
 - (i) General. Inclusive of required yards, a minimum of 15 percent of the gross site area must be designated and permanently reserved an open space. The total required open space is the sum of setbacks, common open space, and private open space. Inventoried natural features (including regulated wetlands) and/or historic features on-site may be counted toward up to 50 percent of common open space requirements. See Chapter 6 for definitions of open space; open space, common; and open space, private.
 - (aa) Multiple unit housing developments in mixed-use buildings are exempt from these standards.
 - (ba) Multiple unit housing developments at densities exceeding 30 units per gross acre must include a minimum of 10 percent of the gross site as open space, which may be any combination of yards, common open space and private open space.
 - (ca) Multiple unit housing developments at densities less than 30 units per gross acre must provide open space as specified in the amounts specified below.

Commented [RM56]: Add figure Q from existing code???

- (ii) Common Open Space must be provided in all newly constructed multiple unit housing development as specified in the following standards:
- (aa) A minimum of 0.25 square feet of common open space must be required for each square foot of gross residential floor area;
 - (ba) Common open space areas provided to comply with this standard must be at least 500 square feet with no horizontal dimension less than 15 feet;
 - (ca) A maximum of 15 percent of the required common open space can be on slopes greater than 25 percent; and
 - (da) Multiple unit housing developments must designate within common open space a minimum of 250 square feet of active recreation area (including, but not limited to: children's play areas, play fields, swimming pools, sports courts) for every 20 units or increment thereof. For example, a 60-unit development shall provide a minimum area of 750 square feet for active recreation. No horizontal dimension can be less than 15 feet. Alternatively, as determined by the Director, qualified senior housing developments may be excluded from this requirement; however, all other common open space requirements apply;
 - (ea) Placement of children's play areas must not be allowed in any required yard setback or transition area;
 - (fa) Landscaping and/or natural vegetation must occupy a minimum of 50 percent of required common open space. On-site natural resources and historic features which are accessible to residents (including, but not limited to: by trails, boardwalks) may be used to partially or fully satisfy this requirements; and
 - (ga) Indoor or covered recreational space (including, but not limited to: swimming pools, sports courts, weight rooms) must not exceed 30 percent of the required common open space area.
 - (ha) Exemptions to the common open space standard may be granted for multi-unit developments of up to 60 units (or for the first 60 units of a larger project) when the developments are within 1/4 mile (measured walking distance) to a public park; and there is a direct, improved, permanent, public, Americans with Disabilities Act (ADA)-accessible, lighted, maintained pedestrian trail or sidewalk between the site and the park. An exemption will be granted only when the nearby park provides active recreation area, as defined by Subsection (da), above.
 - (ia) Phasing must not be used to circumvent common open space standards.

- (ja) Common Open Space does not include required yards or transition areas unless authorized under SDC 4.7.385(F)(2)(b) or SDC 4.7.390.
- (iii) Private Open Space must be provided in all newly constructed multiple unit housing developments, to comply with the following standards:
 - (aa) All private open space must be directly accessible from the dwelling unit through a doorway;
 - (ba) Dwelling units located at or below finished grade, or within five feet of finished grade, must provide a minimum of 96 square feet of private open space, with no dimension less than six feet; and
 - (ca) Private Open Space provided may be deducted from the required amount of Common Open Space. For example, a project with 37,500 square feet of gross floor area requires 9,375 square feet of Common Open Space under Subsection (ii)(aa), above. If 2,400 square feet of Private Open Space is provided, the minimum Common Open Space requirement may be reduced to 6,975 square feet (9,375 — 2,300)
- (b) Option 2. Alternatively, this criterion may be found to be met by complying with the following guidelines:
 - (i) Locate buildings, parking, and circulation to minimize adverse impacts on natural features.
 - (ii) The amount of common recreation area is equal to the SDC 4.7.380(F)(2)(a) standard unless adjacent public recreation facilities, unique on-site facilities, or other similar open space/recreation facilities will be available to all residents of the site.
 - (iii) Provide linkages between on-site common open space and abutting public open spaces when open space uses are compatible.
 - (iv) The amount of private open space is equal to the SDC 3.2.240(D)(5)(c) standard unless equivalent opportunities for common open space are demonstrated (e.g., individual units enjoy common open space).
- (G) Landscaping. The Planning Commission must find that landscaping, fences, and walls contribute to a quality living environment for all residents, improve the appearance of multiple unit housing developments, and promote transition between multiple unit housing development and surrounding land uses. This criterion may be met by complying with either (1) or (2) below or by meeting SDC 4.7.390.
- (1) Option 1. This criterion may be met by meeting the following standards. (See Figure 4.7-Q)
 - (a) A minimum of 15 percent of the site shall be landscaped with a mix of vegetative ground cover, shrubbery and trees. Trees, a minimum two inches

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(dbh) in caliper, and shrubbery, a minimum of 24 inches in height, must be planted. Bark mulch, rocks and similar non-plant material may be used to compliment the cover requirement, but must not be considered a sole substitute for the vegetative ground cover requirement;

- (b) Street trees, a minimum two inches (dbh) caliper, must be placed within the planter strips between the curb and the sidewalk. Street trees must be planted one per every 30 linear feet (minimum) of street frontage, as specified in SDC 4.2.140;
 - (c) Fences in front yards and along any frontage used to comply with the building orientation standard shall be limited to three feet in height. Fences in other yards shall comply with the fence standards specified in SDC 4.4.115, and the vision clearance standards specified in SDC 4.2.130; and
 - (d) The use of native and/or drought-tolerant landscaping is encouraged. All landscaping must be irrigated with a permanent irrigation system unless a licensed landscape architect submits written verification that the proposed plant materials do not require irrigation. The property owner must maintain all landscaping.
- (2) Option 2. Alternatively, this criterion may be found to be met by complying with the following guidelines:
- (a) Plant outdoor spaces around multiple unit housing developments with a mix of ground cover, shrubbery and trees. Also incorporate hard landscaping elements (e.g., paved sidewalks, courtyards) into the development.
 - (b) Use plants to provide visual relief along blank exterior walls, reduce building mass and bulk, define and shelter open space, provide privacy, break up and shade parking areas and help define building entries and sidewalks.
 - (c) Include enhancements, such as plazas, galleries, courtyards, widened sidewalks, benches, shelters, street furniture, artwork or kiosks for pedestrian amenities.
 - (d) Use vegetation, grade changes and low fences to define open space areas. Plant transition areas between multiple unit housing dwellings and surrounding R-1 and less intensive uses to minimize the visual impact of the development.
 - (e) Incorporate a planting design that emphasizes:
 - (i) Visual surveillance by residents of common open space, parking areas, internal sidewalks, dwelling unit entries, abutting streets and public open spaces (i.e., mature plants do not block views of these areas);
 - (ii) Climate controls for summer shading and solar access during winter, and/or shielding from winter winds. Balance this guideline with visual surveillance objectives, above.

- (f) Preserve significant trees and shrubbery on the site as reasonable. Significant trees mean trees which measure 5 inches DBE or greater. Significant shrubbery means shrubbery that is greater than 40 inches in height and is a native, noninvasive species. Trees and shrubs preserved to meet this standard must be identified on a Tree Protection Plan, in conformance with SDC 5.19.100.
 - (g) Provide small ornamental plants or other landscape features in coordination with the building's architecture to define the primary entry of a dwelling unit.
 - (h) Avoid high solid fences and walls along streets (e.g., fences greater than 3 feet in height), unless required for noise abatement or retaining walls.
 - (i) Incorporate landscaping, fences and walls that clearly delineate the public, communal and private areas of a development.
 - (j) Provide street tree planting, as required by SDC 3.2.240(D)(6) standards.
 - (k) Incorporate landscaping, fences and walls that do not conflict with sight lines for vehicles and pedestrians, and comply with the vision clearance standards specified in SDC 4.2.130.
 - (l) Choose landscape species for efficient maintenance. Incorporate native, drought-resistant species.
 - (m) Use noise-reducing, ornamental walls (e.g., masonry), as necessary, to minimize the transmission of noise.
 - (n) Incorporate landscaping, fencing and/or walls with dwellings that are close to high noise sources such as active recreation, busy streets, railway lines, or industry.
 - (o) Obscure or screen outlooks from windows, balconies, stairs, landings, terraces and decks or other private, communal or public areas within a multiple unit housing development. This can be accomplished with landscaping, fences or walls, where a direct view is available into the private open space of an existing adjacent single-family or multiple unit housing.
 - (p) Screen private open space and balconies by solid translucent screens or perforated panels or trellises which have a maximum of 25 percent openings and are permanent, of durable materials and designed, painted or colored to blend with the development.
- (H) Pedestrian Circulation. The Planning Commission must find that pedestrian circulation systems are designed to provide separation between vehicles and pedestrians and provide clear, direct, safe, and identifiable connections within the multiple unit housing development and to other neighborhood uses. This criterion may be met by complying with either (1) or (2) below or by meeting SDC 4.7.390.
- (1) Option 1. Multiple unit housing developments with more than 20 units must provide pedestrian circulation as specified in the following standards (See Figure 3.2-R).

- (a) Continuous internal sidewalks shall be provided throughout the site. Discontinuous internal sidewalks shall be permitted only where stubbed to a future internal sidewalk on abutting properties, future phases on the subject property, or abutting recreation areas and pedestrian trails;
 - (b) Internal sidewalks shall be separated a minimum of five feet from dwellings, measured from the sidewalk edge closest to any dwelling unit;
 - (c) The internal sidewalk system shall connect all abutting streets to primary building entrances;
 - (d) The internal sidewalk system shall connect all buildings on the site and shall connect the dwelling units to the parking areas, bicycle parking, storage areas, all recreational facilities and common areas, and abutting public sidewalks and pedestrian trails;
 - (e) Surface treatment of internal sidewalks shall be concrete, asphalt or masonry pavers, at least 5 feet wide. Multi-use accessways (e.g., for bicycles, pedestrians and emergency vehicles) shall be of the same materials, at least 10 feet wide. Where emergency vehicle access is required, there shall be an additional 5 feet on either side of the accessway. The additional five foot area may be turf-block, grass-crete or similar permeable material on a base of gravel capable of supporting fire equipment weighing 80,000 pounds.
 - (f) Where internal sidewalks cross a vehicular circulation area or parking aisle, they shall be clearly marked with contrasting paving materials, elevation changes, speed humps, or striping. Speed humps shall be subject to review and approval by the Fire Marshal. Internal sidewalk design shall comply with Americans with Disabilities (ADA) requirements;
 - (g) Where the internal sidewalks are parallel and abutting to a vehicular circulation area, the sidewalk shall be raised or be separated from the vehicular circulation area by a raised curb, bollards, landscaping or other physical barrier. If a raised sidewalk is used, the ends of the raised portions shall be equipped with curb ramps; and
 - (h) All on-site internal sidewalks shall be lighted to a minimum of two foot-candles.
- (2) Option 2. Alternatively, this criterion may be met by considering the following guidelines.
- (a) Design each multiple unit housing development to contain an internal pedestrian circulation system that makes clear, easily identifiable and safe connections between individual units, parking, storage, common open spaces areas, and public sidewalks. Design of internal sidewalks to comply with the American with Disabilities Act (ADA) requirements.
 - (b) Design the pedestrian circulation system to provide safe crossings of streets, driveways, and parking areas, where crossings are necessary. Consider design

elements such as textured pavers, patterned concrete and raised surfaces to emphasize crossings.

- (c) Design internal walkways and other pedestrian links to provide privacy for ground floor residents.
 - (d) Link the multiple unit housing development internal sidewalks to neighborhood uses that may be used by residents.
 - (e) Minimize vehicle and pedestrian conflicts.
 - (f) Integrate the design of the internal sidewalks with natural contours, topography, trees, other vegetation, waterways, wetlands, and other natural resources and features.
 - (g) Provide a convenient, accessible, direct, barrier-free route design.
- (I) Parking. The Planning Commission must find that the placement of parking contributes to attractive street frontages and visual compatibility with surrounding areas and is located with consideration for the safety of residents. This criterion may be met by complying with either (1) or (2) below or by meeting SDC 4.7.390.
- (1) Option 1. Multi-unit developments must provide parking design as specified in the following standards.
- (a) Parking lots shall be placed to the side or rear of buildings as specified in the Building Orientation Standards. Parking shall not be placed along that portion of the street where building frontages are used to comply with the building orientation standard;
 - (b) Lighting shall be provided for safety purposes, and focused/shielded to avoid glare on adjacent properties or dwellings as specified in Section 4.5.100;
 - (c) There shall be 1 planter island for every 8 parking spaces. Planter islands shall be a minimum of 6 feet wide, exclusive of the curb, the full length of a parking space containing 1 shade tree (a minimum 2 inches (dbh) in caliper at planting) and vegetative ground cover. Trees shall be specimens capable of attaining 35 feet or more in height at maturity and shall not produce excessive fruit, nuts, or sap (i.e., die to pest damage). Bark mulch is not an acceptable substitute for vegetative ground cover in the planter island. Water quality features may be incorporated into planter islands. Landscape areas shall be evenly distributed throughout the perimeter of interior parking areas, where practicable. See Section 4.4.105(F). for recommended shade trees;
 - (d) A minimum 6-foot wide planter area shall separate and visually screen parking from living area windows. The planter area shall include a mix of ground cover, shrubbery, and trees with appropriate growth habit (i.e., for narrow planters and any height limitations including balconies, overhangs, and eaves). Shrubberty in this planter area shall be at least 24 inches in height at the time of planting, and trees a minimum of 2 inches (dbh) in caliper at the time of planting. See Section 4.4.110;

- (e) Parking lots shall be connected to all building entrances by means of internal sidewalks;
 - (f) All parking stalls fronting a sidewalk, or landscaped area shall be provided with a secure wheel bumper not less than 6 inches in height and set back from the front a minimum of 2 feet to allow for vehicle encroachment. Wheel bumpers, if used, shall be a minimum of 6 feet in length. As an option, the sidewalk or planter may be widened 2 feet beyond the minimum dimension required to allow for vehicle encroachment. The sidewalks and planters shall be protected by a curb not less than 6 inches in height. See also, Section 4.6.120(C);
 - (g) On corner lots/parcels, parking areas shall not be located within 30 feet of an intersection, as measured from the center of the curb return to the edge of the parking area (curb or wheel stop);
 - (h) All parking, maneuvering and loading areas abutting a property line or right-of-way shall provide perimeter lot/parcel landscaping. A minimum 5-foot wide planting strip shall be planted with shade trees, a minimum 2 inches (dbh) in caliper, and a low level (e.g., 30 to 40 inches) evergreen hedge. See also Section 4.4-105;
 - (i) Decorative walls may be used in place of the hedge in Subsection h., above, and shall be placed no closer than 4 feet from the property line. The decorative wall shall be a minimum of 30 inches in height and no more than 40 inches in height, and shall comply with the vision clearance standards specified in Section 4.2-130. Decorative walls shall be constructed of textured concrete masonry (CMU) or similar quality material, and include a cap. The wall may be partially see-through (up to 40 percent) as appropriate for security purposes. The area between the wall and property line shall be landscaped with shade trees;
 - (j) Parking area landscaping shall be designed to reduce storm water runoff (e.g., through infiltration swales and other measures), as practicable; and
 - (k) Bicycle parking shall be provided as specified in Section 4.6-140-155 and may be incorporated into the landscaping design.
- (2) Option 2. Alternatively, this criterion may be met by considering the following guidelines.
- (a) Avoid placing parking lots, carports, garages, and driveways between the buildings and the street. To minimize the visual impacts, locate parking to a portion of the site least visible from the street.
 - (b) Provide rear and below grade parking where practicable.
 - (c) Use alley access for parking areas where practicable.
 - (d) Use low, dense hedges or landscape berms at the edges of parking lots to screen autos and direct pedestrians to entry and exit points.

- (e) Provide no more parking than the "minimum" parking requirement, where practicable.
- (f) Avoid placing parking lots, garages, and carports that abut and/or are visible from R-1 areas. As an alternative, locate parking next to arterial and collector streets with landscape buffering, when possible.
- (g) Design garages and free standing carports to be visually compatible with, or screened from, adjacent R-1 uses and dwellings on-site (e.g., similar siding, trim, roof line and materials, detailing, and color, as applicable).

(J) Vehicular Circulation

- (1) The Planning Commission must find that on-site vehicular circulation systems are:
 - (a) Designed to be clearly identifiable, safe, pedestrian-friendly, and interconnected.
 - (b) Designed to provide connectivity to the surrounding neighborhood streets while minimizing impacts on the arterial street system.
- (2) This criterion may be met by complying with either (a) or (b) below or by meeting SDC 4.7.390.
 - (a) Option 1. Multiple unit housing developments must provide vehicular circulation as specified in the following standards (See Figure 3.2-R).
 - (i) The on-site driveway (or private street) system shall connect with public streets abutting the site;
 - (ii) Shared driveways shall be provided whenever practicable to minimize cross turning movements on adjacent streets. On-site driveways and private streets shall be stubbed to abutting MDR/HDR properties, at locations determined during Site Plan Review process to facilitate development of shared driveways; and
 - (iii) Parking areas shall be accessed from alleys when properties abut an alley, or an alley can reasonably be extended to serve the development.
 - (b) Option 2. Alternatively, this criterion may be met by considering the following guidelines.
 - (i) Design driveways and private streets to enhance connectivity to abutting streets.
 - (ii) Design internal site circulation to provide accessibility to and from the site.
 - (iii) Design the vehicular circulation system, together with other design elements, to reduce the apparent scale of large developments by organizing the site into smaller land units.

- (iv) Where practicable, consolidate or share driveways and internal streets with driveways or internal streets serving abutting sites.
- (v) Incorporate aesthetic and functional site design as it relates to vehicular circulation.
- (vi) Provide vehicular circulation linkages that will integrate multiple family development with the surrounding area.
- (vii) Provide the separation of pedestrian, bicycle, and vehicular traffic.
- (viii) Avoid out-of-direction travel between buildings and other facilities on the site (e.g., for delivery, service, etc.).
- (ix) Locate service areas for ease of use and minimal conflict with circulation systems.
- (x) Provide circulation systems that respond to site topography, natural contours, and natural resources, to minimize grading and resource impacts.
- (xi) Provide shared parking with abutting sites where practicable.
- (xii) Provide the use of alleys for vehicular access.
- (xiii) Provide lighting for the safety of pedestrians and drivers.

4.7.390

Multiple Unit Housing Variances

- (A) **Description.** The Director may approve an adjustment of up to 20 percent to the multiple unit housing design standards listed in SDC 4.7.390. The multiple unit housing design standards are: Building Orientation; Building Form; Storage; Open Space; Landscaping; Pedestrian Circulation; Parking; and Vehicular Circulation. There is one general criterion in Subsection (B), below that applies to all the design standards. In addition, each design standard has applicable criteria as specified in Subsections (C) through (G), below.

The Director must find that the application complies with the criteria for each applicable design standard; i.e., design standards modifications that the applicant does not specifically request in the application do not require a finding by the Director, and is not subject to review under this Section. Requests to modify the standards of SDC 4.7.390 by more than 20 percent require review under SDC 5.21.130.

- (B) **General Criterion.** The adjustment is necessary due to topography, natural features, easements, and similar physical or legal constraints preclude full compliance. Self-imposed conditions do not satisfy this criterion.
- (C) **Building Orientation.** The adjustment results in a better overall streetscape. For example, design elements include: protecting and preserving vegetation and trees five inches (dbh) in caliper or greater; providing pedestrian amenities (i.e., between buildings and the street); providing building mass and architectural detailing that compliment adjacent uses

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and landscaping; and similar elements that effectively accomplish the intent of the standard.

(D) Building Form

- (1) The adjustment provides equivalent neighborhood compatibility either by providing similar building mass and architecture, or through protection of vegetation and trees greater than five inches (dbh) in caliper (i.e., screening allows for contrasting building form).

(E) Open Space

- (1) The adjustment results in protecting vegetation and preserving trees five inches (dbh) in caliper or greater; providing pedestrian amenities; or providing locations for common open space which enhances safety and visibility.
- (2) The Director may approve an adjustment in the common open space requirements for developments with 61 units or more if up to 50 percent if the site is within 1/4 mile (measured walking distance) of a public park with active recreation facilities [as defined by SDC 3.2.240(D)(5)]; and there is a direct, improved, permanent, public, ADA - accessible, lighted, maintained pedestrian trail or sidewalk between the site and the park.
- (3) The Director may approve a reduction in either the required private open space or required common open space areas if the proposal includes a proportional increase in the other type of required open space. This adjustment does not apply to required active recreation areas.

(F) Landscaping

- (1) The adjustment results in a better overall transition from neighboring R-1 designated property, such as: protecting and preserving trees five inches (dbh) in caliper or greater; and
- (2) The adjustment provides an equivalent degree of privacy, visual separation, and visual enhancement for residents and adjacent R-1 designated property.

(G) Pedestrian Circulation

- (1) The adjustment provides an equivalent degree of pedestrian circulation, safety, and comfort, as provided by the pedestrian circulation standards.
- (2) The Director may approve an adjustment in the pedestrian circulation standard, notwithstanding Subsection (B), above and SDC 3.2.240(D)(7) if the residents do not require an internal sidewalk system in full compliance with the pedestrian circulation standards.

4.7.395 Boarding and rooming houses

- (A)** Rooming and boarding house facilities in an R-1 District must be located on collector or arterial streets.

- (B) One-half of an additional parking space must be provided for each boarding room. No additional required parking spaces must be located within the front yard setback.
- (C) For structures on the Springfield Historic Inventory, any external modification must be fully compatible with the original design and may be subject to a Type 1 or Type 2 Historic District review in accordance with SDC 3.3.915.
- (D) A minimum of 25 percent of the lot or parcel must be landscaped.

4.7.400 Emergency Medical Hardship

(A) Purpose

- (1) The Emergency Medical Hardship allows the placement of temporary living quarters, on a property with a habitable primary dwelling, for a person who is determined by a licensed physician, as specified in Subsection (D)(2)(a), below to be either:
 - (a) Terminally ill; or
 - (b) Recuperating from an illness, surgery, or injury; and
 - (c) The person is not physically or mentally capable of self-maintenance and is dependent upon a care provider being on site for assistance.
- (2) Temporary means a period of 24 months, unless otherwise permitted in Subsection (G), below. The 24-month period includes an approval timeline of 12 months with an opportunity to obtain up to two six-month time line extensions at the staff level.
- (3) Temporary living quarters means a road worthy, licensed, and insured recreational vehicle (RV) as defined in Chapter 6. Tent trailers are not be permitted as a temporary living quarters.
- (4) The temporary living quarters must be occupied only by the person requiring medical assistance, or the care provider.
- (5) The care provider must be a person who lives on-site, either in the primary dwelling, or the temporary living quarters, and provides necessary medical procedures, monitoring, and attention to the person requiring that care on a 24-hour basis.

(B) Applicability. The Emergency Medical Hardship process is permitted only on property designated Low Density Residential (LDR) on the Eugene Springfield Metropolitan Area General Plan diagram (Metro Plan) and zoned R-1 within the city limits or R-1/UF-10 within the City's urban service area.

(C) Review. The initial application and any timeline extensions are reviewed under Type II procedure.

(D) Submittal Requirements

- (1) The application must include a plot plan, drawn to scale, showing:

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- (a) Existing structures on the property and their setbacks from property lines;
- (b) The proposed location of the temporary living quarters and its setbacks from property lines and other structures on the property; and
- (c) The required utility connections for the temporary living quarters. |
- (d) For those applications within the City's urban service area, the plot plan must also show the location of any wells, septic tanks, and drain fields.

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(2) The application must also include:

- (a) A written report from a licensed physician, therapist, or professional counselor on official letterhead that indicates that the patient has a medical or physical hardship that requires care and attention in such a manner that the caretaker must reside on the same property. |

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(b) A statement from the applicant addressing:

- (i) Whether the person requiring medical assistance or the care provider will reside in the temporary living quarters;
- (ii) The type of temporary living quarters proposed, either: a motor home, residential trailer, a travel trailer, truck camper, or other RV as defined in Chapter 6 unless exempted in this Section;
- (iii) Proof that the temporary living quarters is licensed and insured; and
- (iv) A statement explaining why the circumstances are temporary in nature (estimated at 12 months or less) and what steps are being undertaken to address the circumstances prior to the elapsing of 12 months, or any extension thereof.

(E) Criteria. The Director must grant approval of the emergency medical hardship application if all the following criteria are met, including any conditions imposed in accordance with Subsection (F), below.

- (1) A written report is provided from a licensed physician, therapist, or professional counselor on official letterhead that indicates that the patient has a medical or physical hardship that requires care and attention in such a manner that the caretaker must reside on the same property..
- (2) The temporary living quarters must house either the person requiring medical assistance or the care provider.
- (3) The temporary living quarters must be located on the same legal parcel as the primary dwelling. Only one temporary living structure is allowed on a property.
- (4) The temporary living quarters is not be permitted within the front yard or street side yard setback.

(5) All residential trailers and other similar units used as temporary living quarters must be connected to sewer, water, and electrical services as proscribed by the Oregon State Building Code as adopted by the City.

(6) All travel trailers and other similar units used as temporary living quarters must have utility connections consistent with State law requirements for these units as in RV parks.

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(F) Conditions

(1) The following conditions of approval are applied to all medical hardship approvals:

(a) No change in occupancy of the temporary living quarters is allowed under the permit; either the person requiring care or the care provider must reside within the temporary living quarters.

(b) The temporary living quarters use is limited to the use permitted in this Section and is not transferable to other persons or property. Under no circumstance can the temporary living quarters be used as a rental unit.

(c) The temporary living quarters use must cease upon the occurrence of the first of the following events:

(i) The medical hardship no longer exists; in this case, the temporary living quarters must be removed within 30 calendar days of cessation of the provision of care; or

(ii) Within 12 months of the date of application approval, unless there is an approved extension as specified in Subsection (G), below.

(2) Additional conditions of approval may be imposed to the extent necessary to satisfy the standards of Subsection (E), above, to comply with all applicable standards of this Code.

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(G) Time Line Extensions. A request for an extension will not require a new application; however, a written request must be submitted to the Director 30 days prior to the expiration of the initial 12-month approval timeline. The request must include written verification from a licensed physician stating that the person requiring care as specified in Subsection (D)(2)(a), above continues to need care. Staff must review the request to ensure that the applicant remains compliant with the approval criteria specified in Subsection (E), above and any conditions of approval required under Subsection (F), above. Upon expiration of the initial 12-month approval timeline, the temporary living unit may be extended as follows:

(1) Staff Approved Timeline Extensions. The applicant may obtain no more than two six-month timeline extensions from staff.

(2) Criteria of Approval for Timeline Extensions. Staff approval of any timeline extension request is based upon:

- (a) The physician's verification of condition that the patient still requires care; and
 - (b) Staff's verification that the temporary living quarters is still in compliance with the initial conditions of approval.
- (H) Compliance. The temporary living quarters must maintain compliance with all conditions of approval. Violation of the provisions of this Section, or determination that the need can no longer be verified, is the basis for termination of approval.

4.7.405 Registered or Certified Family Child Care Home

- (A) The registered or certified family child care home must be the same address as the residence of the provider.
- (B) The child care must be provided in the providers family living quarter's of the provider's home.
- (C) The provider may care for not more than 16 children, including provider's own children, and without regard to full-time or part-time status.

Section 6.1.100 – Definitions

Subsections:

- 6.1.105 Meaning of Common Words
- 6.1.110 Meaning of Specific Words and Terms

6.1.105 Meaning of Common Words

- (A) All words used in the present tense include the future tense.
- (B) All words in the plural include the singular, and all words used in the singular include the plural unless the context clearly indicates to the contrary.
- (C) The word “shall” directly and clearly imposes a duty upon someone or something; the subject of the sentence is obligated to do something. The term means “is required to” or “has a duty to”. This term is mandatory.
- (D) The word “must” is mandatory.
- (E) The word “may” is permissive.
- (F) Words defined in this Section may also be defined in Springfield Development Code (SDC) 6.1.100.
- (G) Where words are not defined in this Section, the following sources are consulted: the Springfield Development Code, including specifically SDC 6.1.100; the Metro Plan; State of Oregon Revised Statutes (ORS), State of Oregon Administrative Rules (OAR’s); and any dictionary of common usage, all of which will be interpreted by context.

6.1.110 Meaning of Specific Words and Terms

A

AASHTO. American Association of State Highway and Transportation Officials.

Abutting (or Abut). Adjoining with a common boundary line. However, where two or more lots or parcels adjoin only at a corner or corners, they are not be considered abutting unless the common property line between the two lots or parcels measures eight feet or more in a single direction.

Access. The approved means by which vehicles have ingress and/or egress to an approved lot/parcel or development area.

Accessory Dwelling Units (ADU’s). A secondary, self-contained dwelling that may be allowed only in conjunction with a detached single-unit dwelling. An accessory dwelling unit is subordinate in size to the primary detached single-unit dwelling. An accessory dwelling unit has its own outside entrance and a separate kitchen, bathroom, and sleeping area. An accessory dwelling may be located within, attached to, or detached from the primary single unit dwelling.

Accessory Structure. A structure of secondary importance or function on a site. In general, the primary use of the site is not carried on in an accessory structure. Accessory structures are generally detached from the primary structure. If accessory structures are attached to the primary structure, their structural framework is independent or semi-independent from the primary structure. For example, a porch, deck, or stairs that have their own footings or foundation are accessory structures even though they may be attached to the primary structure. A balcony that is supported totally

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by the framework of the primary structure is not considered an accessory structure. Agricultural structures, including, but not limited to, barns, silos, hay sheds, drying sheds, and greenhouses are exempt from the Specific Development Standards of the underlying zoning district when located on land two acres or larger or on any lot/parcel with a valid farm deferral tax classification from the Oregon State Department of Revenue. Notwithstanding this exemption, land use activities conducted on land with agricultural structures must otherwise conform to the list of permitted uses within the underlying zoning district. (See also **Primary Structure**; **Extension**, **Architectural**; and **Incidental Equipment**; in SDC 6.1.100)

Accessway. A dedicated easement or right-of-way intended to allow pedestrians and bicyclists convenient linkages, where no public street access exists, to streets, residential areas, neighborhood activity centers, industrial or commercial centers, transit facilities, parks, schools, open space, or trails and paths.

Adaptive Reuse. A permitted use of a building that is different from its original or previous use, often involving conversion work involving substantial modifications.

Adjacent. Abutting or located directly across a right-of-way.

Administrative Office. A building or portion of a building, in which persons are employed in the day-to-day management or direction of a single business or division of that business.

Agriculture. The cultivation of tree crops, plants, orchards, pasture, flower, berry and bush crops or the keeping, raising or breeding of livestock or poultry where permitted by the Springfield Municipal Code, 1997, and on any lot/parcel with a valid farm deferral tax classification from the Oregon State Department of Revenue. Agricultural structures, as defined elsewhere in this Code, also is defined as "Agriculture."

Alley. A service way providing means of public access to abutting property and not intended for general traffic circulation.

Alter, Alteration. A modification in use of a structure that may or may not involve construction. As used in SDC 3.3.900, any construction, erection, remodeling, restoration, reconstruction, removal or exterior painting affecting the appearance or position of an Historic Landmark Site or Structure within or outside of a designated Historic District.

Animal Clinic. A business establishment in which veterinary services are provided to small domestic pets on an out-patient basis with no overnight boarding allowed.

Animal Hospital. A place where animals are given medical or surgical treatment and the boarding of animals is limited to short-term care incidental to the hospital use.

Appeal. A request for a review of a final decision by the Director, Planning Commission, or City Council in accordance with applicable procedures, based on the standards of this Code.

Applicant. A person submitting an application; the owner of affected property, or the owner's duly authorized representative. The City Attorney may require proof of the

sufficiency of the representative's authorization by the owner to act as applicant on the owner's behalf.

Commented [RM4]: Check procedures code section

Approval Authority. The individual or public body which has jurisdiction for making a decision on an application under the provisions of this Code.

Commented [RM5]: Check against procedures

Aquifer. A geologic formation, group of formations, or part of a formation that is capable of storing and transmitting water in sufficient quantity to supply wells or springs.

Removed from procedures. What replaced? Hearings Authority???
Check the rest of the code for this term.

Automobile-dependent. A use where automobiles and/or other motor vehicles are served by the use and the use would not exist without them, such as vehicle repair, gas station, car wash, or auto and truck sales. Automobile-dependent also includes a drive-up or drive-through that does not have any indoor customer seating.

Automobile-oriented use. A use where automobiles and/or other motor vehicles are an integral part of the use, such as drive-up, drive-in, and drive-through facilities. Automobile-oriented drive-up and drive-throughs must have indoor seating. Without indoor customer seating the use is classified as automobile-dependent as defined above.

Commented [RM6]: Comment from Michael

Should we distinguish between drive thru uses with out seating would be classified as Auto dependant? How does this work with drive up and drive in?

Automobile wrecking. The dismantling or disassembling of motor vehicles, including large truck or heavy machinery, or trailers, or the storage, sale salvage, or dumping of dismantled, partially dismantled, obsolete, or wrecked vehicles, or their parts. An automobile wrecking use includes a wrecking yard. More than two dismantled, obsolete, or inoperable motor vehicles or parts thereof on one lot constitutes a wrecking yard.

B

Backhaul Network. The land lines that connect a WTS provider's radio signals to one or more cellular telephone switching offices and/or local or long distance providers, or the public switched telephone network.

Base Flow. The portion of a stream flow that is not run-off and results from seepage of water from the ground into a channel. The primary source of running water in a stream during dry weather.

Bed and Breakfast Facility. A structure designed for and occupied as a single-family dwelling, in which travelers are lodged for sleeping purposes for two weeks or less and a morning meal provided, and for which compensation is paid. A Bed and Breakfast Facility is not a hotel, motel, boarding house or rooming house.

Berm. A mound of earth used to deflect sound or used as a buffer in landscaping provisions to separate incompatible areas or to provide aesthetic enhancement in site design.

Bicycle or Bike Lane. A portion of a street that has been designated, by striping, signage and pavement markings, for the exclusive use of bicycles.

Bicycle Parking Space. A space for one standard bicycle within a lighted and secure bicycle rack, placed in a paved area.

Bikeway. Any street, path or way which in some manner is specifically designated for bicycle travel, regardless of whether the facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

Block. An area of land containing one or more lots/parcels surrounded by public or private streets.

Block Length. The distance along a public or private street between the centerline of two intersecting streets, including "T" intersections but excluding cul-de-sacs.

Block Perimeter. The sum of all block lengths for a given block, also measured as the distance to travel once completely around the block, ending at the starting point as measured from the centerline of the street.

Boarding House. A building where lodging and meals are provided for more than two weeks for compensation. This definition excludes bed and breakfast facilities.

Bond, Performance or Security. Collateral security for the performance of a specific action or duty imposed by the City.

Buildable Area of a Lot/Parcel. The area of a lot/parcel enclosed within the setback boundaries, exclusive of easements.

Building. Any structure used or intended for sheltering any use or occupancy. As used in SDC 3.3.400 Floodplain Overlay District, the terms "building" and "structure" are synonymous, and are framed, erected, constructed or placed to stand temporarily or permanently on a tract of land. This definition specifically includes a mobile home, manufactured home and any accessories, and gas or liquid storage tanks principally above ground.

Building Board of Appeals. A board appointed in accordance with Section 2.500 to 2.574 of the Springfield Municipal Code, 1997, to hear requests for alternate building methods/materials.

Building Envelope. That portion of a lot/parcel that has no development restrictions where the placement of driveways and structures can be established. The building envelope does not include the area of any required setbacks, tree protection plans, conservation zones or other protected areas as authorized by a limited land use decision.

Building footprint. As applicable to Cottage Cluster Housing development specified in SDC 4.7.325(E)(1), The horizontal area as seen in plan, measured from outside of all exterior walls and supporting columns. It includes dwellings and any area of attached garage that exceeds 200 square feet. It does not include detached garages or carports; accessory structures; trellises; patios; areas of porch, deck, and balcony less than 30 inches from finished grade; cantilevered covers, porches or projections; or ramps and stairways required for access.

Building Height. The vertical distance above a reference datum measured to the highest point of the coping of a flat roof, to the deckline of a mansard roof, or to the average height of the gables of a pitched or hipped roof. The maximum height of a

Commented [MR7]: This is from Model Code for HB 2001 for Cottage Clusters. Needed? Does this cause problems elsewhere? Should it just be included and applicable in Cottage Cluster section? Is there an equiv. def. in BP?

stepped or terraced building is the maximum height of all segments of that building. The reference datum is, which either of the following of the 2 measurements that results in the greater building height.

- (1) The reference datum is the lowest grade when the highest ground surface within a 5-foot horizontal distance of the exterior wall is not more than 10 feet above the lowest grade.
- (2) The reference datum is 10 feet higher than the lowest grade when the ground surface described in A, above is 10 feet above the lowest grade.

Building Official. The person responsible for the administration and enforcement of the Building Safety Codes; the duly authorized representative of the Director responsible, in consultation with the City Engineer, for the interpretation of SDC 3.3.400 Floodplain Overlay District.

Building Permit. Written permission issued by the Building Official that construction may commence in accordance with this Code and the Building Safety Codes.

Building Safety Codes. A book of codes including the Springfield Building Code Administrative Code, the Structural Specialty Code, the Mechanical Specialty Code, the Electrical Specialty Safety Code and the Plumbing Specialty Code.

Build-To Line. A line parallel to the property line that prescribes a consistent plane of building façades along a public street and in certain circumstances, alley frontages. The build-to line provides predictable results in the urban form by requiring a set location for the buildings as opposed to the range of possible locations that a minimum setback allows. The build-to line can be adjusted by utilizing maximum building setbacks.

Burden of Proof. The duty of producing evidence or establishing a given proposition in order to establish that the party seeking affirmative relief or action is entitled to relief or action by the applicable ordinances and statutes.

Business Park. A development on one or more lots/parcels under common ownership with 2 or more separate buildings to accommodate light industrial uses, including, but not limited to, office research and development, manufacturing, assembly, warehousing and distribution, large administrative headquarters, and other professional and administrative uses. Light industrial uses permitted within the business park have no significant potential for major pollution, adverse visual impacts, or nuisance or hazard factors; and are planned, designed, constructed and managed on an integrated and coordinated basis with special attention given to on-site vehicular circulation, off-street parking, utility needs, building design and orientation and open space, landscaping, noise control, outdoor storage and other site improvements as may be required by this Code.

C

Calendar Day. Any day of the year, including official City holidays and weekends. If any effective date or deadline falls on a weekend or holiday, the date or deadline will be effective on the next City working day.

Cannabinoid. Any of the chemical compounds that are the active constituents of marijuana.

Cannabinoid Concentrate. A substance obtained by separating cannabinoids from marijuana by:

- (1) A mechanical extraction process; or
- (2) A chemical extraction process using a nonhydrocarbon-based or other solvent, such as water, vegetable glycerin, vegetable oils, animal fats, isopropyl alcohol or ethanol.

Cannabinoid Edible. Food or potable liquid into which a cannabinoid concentrate, cannabinoid extract or dried marijuana leaves or flowers have been incorporated.

Cannabinoid Extract. A substance obtained by separating cannabinoids from marijuana by:

- (1) A chemical extraction process using a hydrocarbon-based solvent, such as butane, hexane or propane;
- (2) A chemical extraction process using the hydrocarbon-based solvent carbon dioxide, if the process uses heat or pressure; or
- (3) Any other process identified by the commission, in consultation with the authority, by rule.

Cannabinoid Product. A cannabinoid edible and any other product intended for human consumption or use, including a product intended to be applied to the skin or hair that contains cannabinoids or dried marijuana leaves or flowers.

Carport. A roofed accessory structure providing parking space which is open on two or more sides.

Cell. A geographic area where a single radio transmission sending/receiving station (per provider) and the equipment necessary to connect these radio calls to land lines or other cells are located.

Certificate of Occupancy. A document issued by the Building Official allowing the occupancy or use of a structure and demonstrating that the structure or use has been constructed in compliance with all applicable City codes and ordinances.

Change of Use. A change from one existing permitted use to another permitted use in the applicable zoning district. Change of use includes changes that require construction or alteration to land or water outside of existing buildings, structures, or open storage areas; and that substantially alters or affects land or water—also, as used in SDC 3.4.280C., making a different use of the land or water. Change of use does not include a change of use of a building or other structure that does not substantially alter or affect the land or water upon which it is located, the sale of property, or modifications of existing structures, as may be permitted by this Section.

Commented [RM8]: Review this definition to make sure it matches up with new use categories, site plan process, and MDS, etc.

Childcare Facility. Any facility that provides child care to children, including a day nursery, nursery school, child care center, certified or registered family child care home, or similar unit operating under any name. Also see ORS 329A.

Commented [RM9]: Can we cite to ORS?

For the purpose of a "Registered or Certified Child Care Facility" as allowed by ORS 239A.440, the following terms apply:

"Certified" means the certification that is issued under ORS 329A.280 by the Office of Child Care to a family child care home, child care center, or other child care facility.

"Registered" means the registration that is issued under ORS 329A.330 by the Office of Child Care to a family child care home where care is provided in the family living quarters of the provider's home.

ORS 329(A).250

(5)"Child care facility" means any facility that provides child care to children, including a day nursery, nursery school, child care center, certified or registered family child care home or similar unit operating under any name, but not including any:

Commented [RM10]: Should we include all of the ORS def?

- (a) Preschool recorded program.
- (b) Facility providing care for school-age children that is primarily a single enrichment activity, for eight hours or less a week.
- (c) Facility providing care that is primarily group athletic or social activities sponsored by or under the supervision of an organized club or hobby group.
- (d) Facility operated by:
 - (A) A school district as defined in ORS 332.002;
 - (B) A political subdivision of this state; or
 - (C) A governmental agency.
- (e) Residential facility licensed under ORS 443.400 to 443.455.
- (f) Babysitters.
- (g) Facility operated as a parent cooperative for no more than four hours a day.
- (h) Facility providing care while the child's parent remains on the premises and is engaged in an activity offered by the facility or in other nonwork activity.
- (i) Facility operated as a school-age recorded program.

Church. See "Place of worship".

City. The City of Springfield.

City Council. The Springfield Common Council.

City Engineer. An Oregon Registered Professional Engineer who is an officer of the City and is charged with the supervision and construction of public improvements and the enforcement of City ordinances as they relate to public improvements, or a duly authorized representative.

City Recorder. The Springfield Finance Director, or a duly authorized representative.

City Surveyor. An Oregon Registered Professional Land Surveyor who is charged with conducting surveys of City facilities and with the enforcement of certain City ordinances and State statutes as they relate to subdivision and partitioning of land.

Clean Water Act (CWA). A federal law established in 1972 to restore and maintain the chemical, and physical and biological integrity of water, including lakes, river aquifers and coastal areas.

Clinic. A facility consisting of single or multiple offices where a group of medical, allied health professions and alternative caregivers provide diagnosis, care and treatment of persons primarily on an outpatient basis.

Club. An association of persons (whether or not incorporated), religious or otherwise, for a common purpose, but not including groups which are organized primarily to render a service carried on as a business for profit.

Cluster Subdivision. A form of subdivision development that permits flexibility in dimensional requirements by reducing lot/parcel size, setback, street width and other developmental standards to allow a more flexible design than is permissible under the conventional subdivision process. This form of subdivision preserves open space and creates innovative residential designs that emphasize affordability and home ownership.

Commercial Use – the use of land involving buying or selling of goods and services as the primary activity.

Common Courtyard. A common area for use by residents of a cottage cluster. A common courtyard may function as a community yard. Hard and soft landscape features may be included in a common courtyard, such as pedestrian paths, lawn, groundcover, trees, shrubs, patios, benches, or gazebos.

Common Wall. A wall or set of walls in a single structure shared by two or more dwelling units. The common wall must be shared for at least 25 percent of the length of the side of the building of the dwelling units. The common wall may be any wall of the building, including the walls of attached garages.

Community Park. A park, normally between 15 and 100 acres in size, which provides a variety of moderate density use recreation and/or cultural opportunities and is centrally located for citizens of the community and immediate outlying areas.

Conceptual Street Map. A map adopted into the Transportation System Plan depicting existing and future multi-use path and arterial and collector street alignments.

Condominium. A form of ownership that is regulated in part by ORS 100.005 et seq. that may be applied to any dwelling type. Existing and new dwellings may be converted to condominium ownership; however, new dwellings must comply with the development standards specified in this Code for the particular type of dwelling.

Congregate Care Facility. A building serving more than 15 elderly or infirm persons where daily meals are provided outside of each individual dwelling unit, on-site nursing facilities are available and the majority of residents do not own automobiles.

Construction Activity. Includes, but is not limited to, clearing, grading, excavation, and other site preparation work related to the construction of buildings, and heavy

Commented [RM11]: Keep? Still a use listed?

Commented [RM12]: See SDC 3.2.315(A). Needed there? Or just here? Or both?

construction (for example, highways, streets, bridges, tunnels, pipelines, transmission lines and industrial non-building structures).

Convenience Store. A small grocery typically open extended hours.

Corporate Headquarters. A building or portion of a building in which persons are employed in the management or direction of a business consisting of one or more divisions or groups of companies. To be considered a corporate headquarters, the business must meet the applicable employee threshold specified elsewhere in this Code. Businesses that do not meet the applicable employee threshold are considered an administrative office.

Cottage. An individual dwelling unit that is part of a cottage cluster.

Cottage Cluster. A grouping of no fewer than four dwelling units per gross acre, each with a footprint of less than 900 square feet that includes a common courtyard. Cottage Cluster units may be located on a single Lot or Parcel, or on individual Lots or Parcels. Cottage cluster may also be known as "cluster housing," "cottage housing," "bungalow court," "cottage court," or "pocket neighborhood". See SDC 4.7.325 Cottage Cluster.

Cottage Cluster Project. A development area with one or more cottage clusters. Each cottage cluster that is part of the cottage cluster project must have its own common courtyard.

Courtyard. An open, unoccupied space other than a required exterior yard, which usually provides amenities such as gardens, planters, seating, or art.

Courtyard housing. Detached "zero lot line" dwellings on individual lots subject to the same standards as detached single unit dwellings, except that a three-foot minimum side yard setback is required on one side of a typical lot. This type of housing allows development on smaller (i.e., narrower) lots and provides usable outdoor living area in side-oriented yards. See SDC 4.7.335, Courtyard Housing.

Commented [RM13]: Def from M54 permit. Keep? Move to section on stormwater? Limited to just residential development....

Commented [RM14]: Should we allow clusters to be 3 units? Rules allow minimum number of units to be 3, 4, 5, or no min.

Commented [MR15]: HB 2001

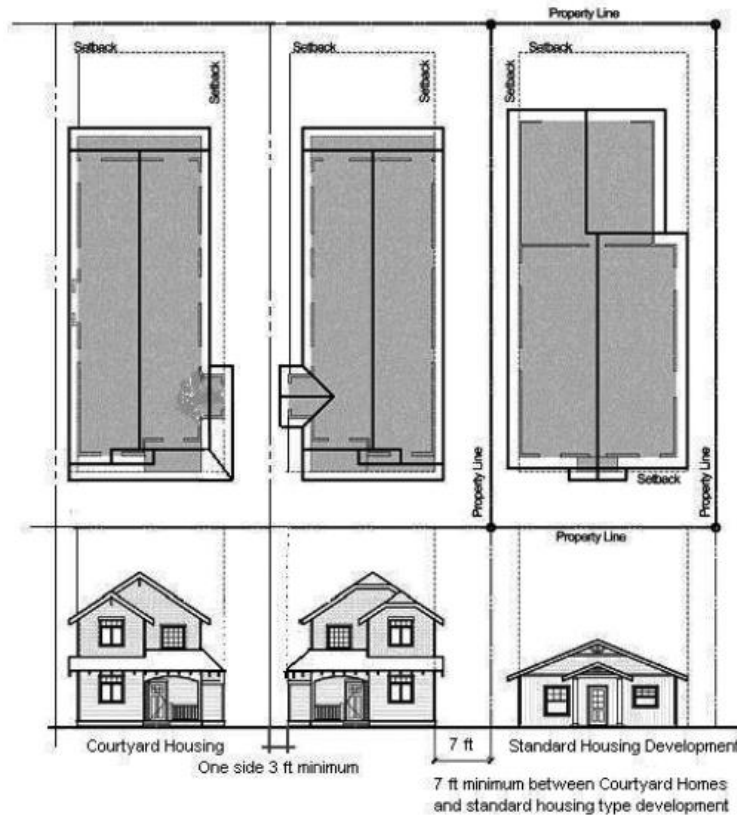
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Commented [RM16]: Delete and replace with "Common Courtyard" above? Where else is this term used? Search.

Comment from Molly, check Glenwood code.

Commented [RM17R16]: No.

Figure 6.1-A. Courtyard housing



Cul-de-Sac. A short local street which has one end open to traffic and is terminated by a vehicle turn around, the cul-de-sac bulb.

Cultivation or Cultivate. All phases of growth of marijuana from seed to harvest.

Curb. The raised concrete border along the edge of a street or paved area.

Curb Cut. The opening along the curb line at which point vehicles may enter and/or leave the public street.

Cut. A portion of land surface from which earth is removed by excavation; the depth below the original ground surface or excavated surface.

D

Dance Hall. Any place of business whose primary function is dancing.

Dbh. The diameter of a tree measured 4-1/2 feet above the ground at the base of the tree.

Dedication. The transfer of property interests from private to public ownership for a public purpose.

Delineation. (From Oregon Health Department rules): The determination of the extent, orientation, and boundaries of a wellhead protection area using factors, for example: geology, aquifer characteristics, well pumping rates and time of travel.

Demolition. Razing, destroying, dismantling, defacing, or in any other manner causing partial or total ruin of an Historic Landmark Site or Structure within or outside of a designated Historic Landmark District.

De Novo. A hearing where new evidence may be provided, distinguished from a hearing based solely on an existing record.

Density, net. The number of dwelling units for each acre of land in residential use, excluding: dedicated streets; dedicated parks; dedicated sidewalks; and other public facilities.

Density, gross. The number of dwelling units for each acre of land including, but not limited to, areas devoted to streets, parks, sidewalks, and other public facilities.

Design Standard. A standard related to the arrangement, orientation, materials, appearance, articulation, or aesthetic of features on a dwelling unit or accessory elements on a site. Design standards include, but are not limited to, standards that regulate entry and dwelling orientation, façade materials and appearance, window coverage, driveways, parking configuration, pedestrian access, screening, landscaping, and private, open, shared, community, or courtyard spaces.

Designated Beneficial Use. The purpose or benefit to be derived from a watercourse. For the Willamette and McKenzie Rivers and all other streams and tributaries, the following beneficial uses apply: Public domestic water supply, private domestic water supply, industrial water supply, irrigation, live stock watering, anadromous fish passage, salmonid fish rearing, salmonid fish spawning, resident fish and aquatic life, wildlife, fishing, boating, water contact recreation aesthetic quality and hydro power (excluding the Willamette River).

Developable Acre. 43,560 square feet of land that can be developed that includes common open space or recreational facilities reserved for the use of residents in a development, but excludes public property, including, but not limited to, parks and dedicated streets. At the request of the developer, the Director may exclude portions of the site that cannot be developed due to physical constraints, including, but not limited to, natural resources that are listed within a local inventory.

Development. Any human-made change to improved or unimproved real estate, including, but not limited to, a change in use; construction, installation or change of a structure; subdivision and partition; establishment or termination of a right of access; storage of materials, equipment or vehicles on the land; drilling and site alteration due to land surface mining, filling, grading, dredging, paving, excavation or clearing of trees and

vegetation. Agricultural uses (including agricultural structures), when otherwise permitted by the base zoning district, are exempt from this definition unless agricultural structures are placed within adopted special flood hazard zones. As used in SDC 3.3.400, Floodplain Overlay District, any human-made change to improved or unimproved real estate located within the area of special flood hazard, including, but not limited to, buildings and other structures, mining, dredging, filling, grading, paving, excavation, or drilling operations. As used in SDC 3.4.280(C), any activity within the Glenwood Riverfront portion of the WG Overlay District that would alter the elevation of the land; remove or destroy plant life; cause structures of any kind to be installed, erected, or removed; or result in a measurable change of any kind.

Development and Public Works Department. The department responsible for the administration of this Code and the implementation of the Metro Plan within Springfield's Urban Growth Boundary.

Development Approval. Approval granted by the Director for a development which is in compliance with this Code and the Metro Plan and precedes the issuance of a Building Permit.

Development Area. The area subject to any application required by this Code.

Development, Phased. A project that is developed incrementally, with each phase capable of functioning independently of the others.

Development Review Committee. City staff, representing each affected division and department of the City, and affected agencies and utility providers that meet on a regular basis to review land use requests and development proposals.

Direct Tributary to a Water Quality Limited Watercourse. A direct tributary to a Water Quality Limited Watercourse (WQLW) is one that flows directly into a WQLW, excluding those watercourses that flow into the WQLW as a piped connection, where the pipe system extends more than 200 feet upstream of the connection point or is one that is a diversion from a WQLW and that discharges into either a WQLW or other direct tributary to a WQLW and where the water quality if the diverted flow at the discharge point has been degraded when compared with the water quality at the diversion point.

Director. The Community Development Division Director or their designee.

Discretionary Use. Any use not permitted outright in a particular zoning district because of its potentially incompatible characteristics requiring review by the Planning Commission or Hearings Official to determine whether that use should be permitted, and if so, adding any conditions of approval necessary to ensure compatibility with adjacent uses.

DNAPL, Dense Non-Aqueous Phase Liquids. A group of hazardous materials that are denser-than-water (specific gravity greater than one), have low solubility rate, and degrade slowly to other compounds that are even more of a health hazard. For the purpose of Springfield's drinking water protection, DNAPL chemicals are defined as "all chemicals displaying the characteristics of a DNAPL chemical or a material containing a substance considered a DNAPL chemical." A list of DNAPLs regulated within the

Deleted: Development and Public Works Director

Deleted: duly authorized representative who is responsible for the administration and interpretation of this Code...

Drinking Water Protection Overlay District must be as adopted by SUB on November 10, 1999.

Door area. The area of the portion of a door other than a garage door that moves and does not include the frame.

Downtown Exception Area. An area defined by the Willamette River on the west, 8th Street on the east, the alley between north B and north C Streets on the north, and a line north of the Southern Pacific Railroad tracks on the south.

Downtown Planning Area. The area under the jurisdiction of the Springfield Downtown Refinement Plan that includes Springfield's traditional Downtown area and the Booth-Kelly redevelopment area.

Drainage Way. A natural or constructed watercourse which has the specific function of transmitting stream water or storm run-off water from a point of high elevation to a point of low elevation which convey significant seasonal concentrations of water over the surface of the land.

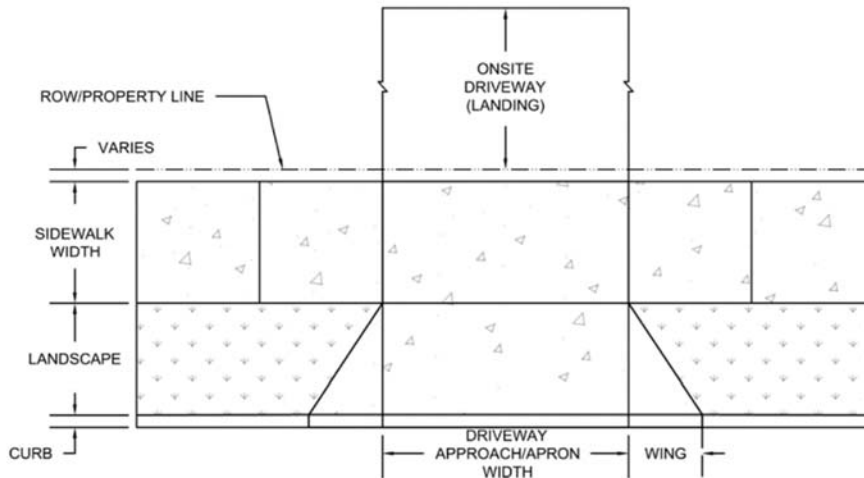
Dripline. A roughly circular land area measured beneath a tree. The approximate center of the area is the trunk of the tree, and the radii are equal to the horizontal measures of the longest branches.

Drive-Through Business. An establishment that sells products or provides services to occupants in vehicles where payment is made and the product or service is picked up at a drive-up window. This use includes, but is not limited to, the operation of drive-up or a drive-through service at a restaurant, bank or financial institution, personal services, and retail sales (e.g., pharmacy).

Driveway. A vehicular access that provides connection between a structure or parking area on private property and the public street system. "Driveway" may include a private easement to provide vehicular access to more than two or more properties.

Driveway approach. The edge of a driveway where the driveway abuts a public right of way.

Figure 6.1-B. Driveway approach



Driveway, Curb Return. A driveway defined on both sides by a full height curb.

Driveway, Joint Use. A driveway serving two or more properties.

Driveway, Standard Driveway. A driveway created by depression of the street curb at its approach.

Drop-Off Space. A paved, clearly marked short-term (less than 20 minutes) parking space, generally within 50 feet of a main building entrance, separated from required parking for staff and long-term visitors.

DSL. The Oregon Department of State Lands.

Duplex. Two dwelling units on one lot or parcel in any configuration. Units may be attached vertically or horizontally or detached.

Dwelling Unit (Dwelling or unit). A single unit providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating cooking and sanitation.

E

Easement. An interest in property owned by another that entitles its holder to a specific limited use or enjoyment of that property.

Elevation. The term is based on context and is either: a vertical distance above or below a fixed reference level; or a particular side of a building.

Commented [RM18]: Added to 4.7.310 for duplex.

Also add to ADU section???

Commented [RM19]: As used in the middle housing code and confirmed by dictionary definition, an "elevation" is the side of the building, not a drawing of the side of the building. If the code requires an "elevation plan" or "elevation drawing," for example, it would be redundant to define "elevation" as the drawing. (I also note that you have used "elevation" in place of the model code's "facade" for the middle housing standards - I think that's a good swap)

Deleted: flat scale drawing of the front, rear or side

Emergency Shelter. The use of a church, school, motel, hotel, or other structure for housing the homeless on a short term basis due to a natural disaster or other reason.

Endangered Species Act (ESA). A Federal law established in 1973 that provides significant protection for various species of fish, wildlife and plants facing extinction that are listed as needing protection.

Engineer. A Registered Professional Engineer, licensed by the State of Oregon to practice in a specific branch of engineering.

Engineering Design Standards and Procedures Manual (EDSPM). A document containing design standards and procedures prepared by the Public Works Department and adopted by resolution of the City Council. These standards and procedures are applicable to public and private improvements and allow City staff to provide certainty to developers and consultants to ensure safe, efficient, and cost effective transportation, sanitary sewer, and stormwater management system projects within the City and its Urban Growth Boundary.

Excavation. The mechanical removal of earth material.

Exempt Tree or Vegetation. The full height and breadth of vegetation that the Director has identified as "solar friendly" as specified in this Code; and any vegetation listed on a plat map, a document recorded with the plat, or a solar access guarantee as exempt.

Ex Parte, Communication. A communication made at the instance of, or for the benefit of one party without notice to, contest by, or at least without an opportunity to be heard being given to other parties who will be bound or directly affected by the communication.

Ex Parte, Proceeding. An action taken at the instance or benefit of one side only without notice to, contest by, or without the opportunity to be heard by other parties who will be bound or directly affected by the proceeding.

Extension, Floor Area. An increase in the amount of floor area within an existing building.

Extension, Architectural. Architectural appendages, including, but not limited to, cornices, eave overhangs, porches and balconies extending beyond an exterior wall of a building. (See also Accessory Structure.)

Exterior. Any portion of the outside of an Historic Landmark Site or Structure or any addition thereto which can be seen from a public place.

E

FCC. The Federal Communications Commission; the Federal agency that regulates interstate and international communications by radio, television, wire, satellite and cable.

Fell. To remove or cut a tree or the intentional use of any procedure, the natural result of which is to cause the death or substantial destruction of the tree. Fell does not include normal trimming, pruning or topping of trees.

Deleted: Family

Deleted: . Two or more persons related by blood, legal adoption, guardianship or marriage living together; or unless modified by the Federal Fair Housing Law as it relates to people with disabilities, a group of not more than 5 persons who need not be related (as above) living together in a dwelling unit.¶

Fence. A structure which serves as an enclosure, barrier or screen that is not part of a building.

Fence, Sight Obscuring. A fence which screens an area or object, including, but not limited to, solid wood or metal fences or slatted cyclone fences.

Fill. Sand, gravel, earth or other approved materials of any composition placed or deposited on the earth's surface by humans.

Final Map. The finished drawing of the survey of a property line adjustment containing information necessary to comply with this Code and requirements resulting from review of the Preliminary Plan.

Final Site Plan. The plan containing information necessary to comply with this Code and requirements resulting from review of the Preliminary Site Plan to which all construction improvements must conform.

Final Survey. The recorded survey of a property line adjustment containing information necessary to comply with this Code and any conditions of approval resulting from review of the Preliminary Survey.

Finance Department. The Springfield Finance Department.

Finding. A written statement of facts, reasoning in support of conclusions, and determinations based on the evidence presented in relation to adopted criteria that are accepted by the Approval Authority in support of a decision.

Flood/Flooding. A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters and/or the unusual and rapid accumulation of run-off of surface waters from any source.

Flood, Base. The flood having a one percent chance of being equaled or exceeded in any given year. Also referred to as the "100 year flood." Designation on maps always includes the letters A or V.

Flood Hazard, Area of Special. The land in the floodplain subject to a one percent or greater chance of flooding in any given year. Designation on maps always includes the letters A or V.

Flood Insurance Rate Map (FIRM). The official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the applicable risk premium zones.

Flood Insurance Study. The official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Boundary-Floodway Map, and the water surface elevation of the base flood.

Flooding, Area of Shallow. A designated AO or AH Zone on the Flood Insurance Rate Map (FIRM). The base flood depths range from one to three feet; a clearly defined channel does not exist; the path of flooding is unpredictable and intermediate; and,

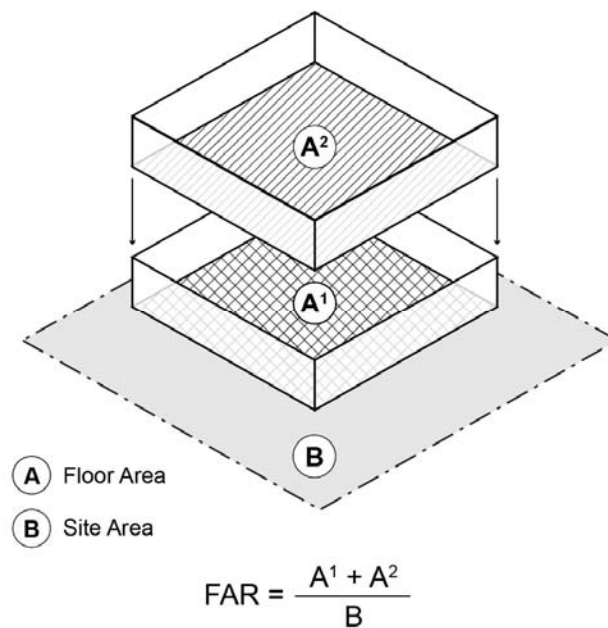
velocity flow may be evident. AO is characterized as sheet flow and AH indicates ponding.

Floodway. The channel of a river or other watercourse and the adjacent land areas that is reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

Floor Area. The enclosed area of each full floor area a building measured to the external face of the external walls.

Floor Area Ratio (FAR). The amount of floor area of a building or structure in relation to the amount of site area, expressed in square feet. For example, a floor area ratio of 0.7 to 1 means 0.7 square feet of floor area for every one square foot of site area. FAR is calculated by dividing the total floor area of building by the total site area. See Figure 6.1-C

Figure 6.1-C. Floor Area Ratio



Foster Home. Any dwelling or facility maintained and operated for the boarding and housing of more than 5 children who are not related by blood or marriage to the owner/operator of the dwelling or facility.

Fourplex. Four dwelling units on one lot or parcel. Units may be attached vertically or horizontally or detached.

Commented [RM21]: HB 2583 makes this regulation inapplicable. We likely cannot regulate foster homes differently than single dwellings.

Fraternal Organization. A group of people formally organized for a common interest, usually cultural, religious or entertainment, with regular meetings, rituals and formal written membership requirements.

Commented [RM22]: Still use??? Search for term

Frequent Transit Corridor. Arterial and collector roadways forming a Frequent Transit Network, as identified in the adopted Springfield Transportation System Plan, representing the highest order of transit service along major thoroughfares within the City. Characteristics of Frequent Transit Network corridors include, but are not limited to: 10-15 minute transit frequency during peak travel times, a well-connected street and transit network providing circulation integrated with pedestrian and bicycle connections, support and compatibility with urban design goals for development along the corridors, geographically equitable coverage serving populations protected by Title VI of the 1964 Civil Rights Act, and high-quality transit station amenities.

Front Façade. The façade with the main entry door and front porch or recessed entry.

Frontage. That portion of a lot or parcel that abuts a dedicated public alley, street, or highway or an approved private alley, street, or shared court private access drive.

Commented [RM23]: Kyle suggests or asks about adding alley to this def?

Future Development Plan. A line drawing (required for some land division proposals, or building permits in the City's urbanizable area) that includes the following information: the location of future right-of-way dedications based on the Springfield Transportation System Plan (including the Conceptual Street Map); block length and lot/parcel size standards of the SDC; a re-division plan at a minimum urban density established in this Code based on the existing Metro Plan designation of the property for any lot/parcel that is large enough to further divide; and the location of hillsides, riparian areas, drainage ways, jurisdictional wetlands and wooded areas showing how future development will address preservation, protection or removal.

G

Garage. A completely enclosed accessory building or portion of a main building intended for the parking of motor vehicles.

Garage, Repair. A building used for the repair of motor vehicles, including body and fender work, painting, or engine and transmission overhaul.

Grade. The degree of rise or descent of a sloping surface.

Grade, Average Finished. The average finished ground level at the midpoint of all walls of a building. Where walls are parallel to and within five feet of a sidewalk, alley or public way, the ground level is measured at the elevation of the sidewalk, alley or public way.

Grade, Finished. The elevation of the surface of excavation or fill placement.

Grading. Any stripping, cutting, filling, stockpiling of earth or land, including the land in its cut or filled condition.

Gross Acre/Gross Acreage. A measurement of land that occurs before public streets or other areas reserved for public use are deducted from that land.

Gross Density. See "Density, gross".

Gross Floor Area. The total floor area of a building including areas used exclusively for the service of a building; for example: mechanical equipment spaces and shafts; elevators; stairways; escalators and ramps; public restrooms; and enclosed loading docks or ramps.

Ground Cover. Grasses or nursery plants cultivated to keep soil from being blown or washed away.

Group Care Home. Any dwelling or facility maintained and operated exclusively for the care, boarding, housing and rehabilitation of more than 15 persons who are ill, physically or mentally disabled, and/or elderly, the majority of whom generally do not drive an automobile. This definition includes but is not limited to homes for the aged, nursing homes and congregate care facilities.

Commented [RM24]: It appears that group care homes are subject to HB 2583 so definition needs to remove "unrelated" or "related" references and just stick to overall number of occupants.

Deleted: unrelated

H

Halfway House. Any dwelling or facility for the care, boarding and housing of more than 5 persons who have been released from institutional care or who are placed in lieu of institutional care, i.e., work release programs.

Deleted: unrelated

Hazardous Materials. Those chemicals or substances which are physical or health hazards as defined and classified in the most recently adopted or amended Fire Code by the City, whether the materials are in usable or waste condition.

Hazardous Waste. Consistent with the Federal Resource Conservation and Recovery Act, a waste or a combination of wastes, which because of its quantity, concentration, or physical, chemical or infectious characteristics may cause or significantly contribute to an increase in serious irreversible illness or pose a substantial present or potential hazard to human health, safety, welfare or to the environment when improperly treated, stored, transported, used or disposed of, or otherwise managed; however, not to include solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under the Federal Water Pollution Control Act of 1967 as amended, or source, special nuclear, or by product material as defined by the Atomic Energy Act of 1954.

Hearings Authority. An individual or group designated to hear Type 3 applications for land use decision.

Height. See "Building Height".

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Heliport. An area, either at ground level or elevated on a structure, licensed or approved for the loading and takeoff of helicopters, and including auxiliary facilities, for example: parking, waiting room, fueling and maintenance equipment.

Helistop. A heliport, but without auxiliary facilities, for example: parking, waiting room, fueling and maintenance equipment.

High Impact Facility. A public or semi-public facility which serves development and which requires pre-planning or discretionary approval and special design features to

mitigate land use conflicts, including, but not limited to, visual, olfactory, or auditory impacts.

Highway Ready. Reference to a recreational vehicle that is on wheels or a jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

Hillside Area. Any area in which the average slope exceeds 15 percent.

Historical Commission. The Springfield Historical Commission.

Historic Site. A structure or place of historic and cultural significance and designated accordingly by the City, State or Federal Government.

Historic Landmark District. A geographic area designated in accordance with this Code which includes Historic Landmark Sites or Structures.

Historic Landmark Inventory. A list of sites or structures which have been designated "Historic Landmark" in accordance with this Code.

Historic Landmark Site or Structure. A building, structure, object, site or geographic area, within the city limits and the City's urbanizable areas, within or outside of a designated Historic Landmark District, which has been listed on the Historic Landmark Inventory.

Homeowner's Association. A non-profit association governed by a declaration of protective restrictions, conditions, covenants, and charges made by the developer through which each lot/parcel owner or other described land area owner of a development is automatically subject. The purpose of the homeowner's association is to provide reasonable rules and regulations to enforce the covenants and restrictions and to keep, control, and maintain the common properties within the development. The association also provides for the assessment procedure to assure necessary funds. If the property is to be developed in phases, all phases must belong to the same association. The City Attorney must review drafts of the declaration prior to Final Plat approval.

Hospital. A facility consisting of one or more buildings where health practitioners, allied health professions and alternative caregivers provide diagnosis, care and treatment of persons including convalescence and care during and after pregnancy, or for any other reason, where patients may be admitted for short-stay, day surgery, emergency service or overnight stay, or for a longer period.

Hotel. A building in which lodging is provided to guests for compensation, consisting of a lobby and individual sleeping quarters, typically without cooking facilities, with separate entrances opening directly to an internal hallway. Parking may be on-site or in a separate parking structure.

Hybrid Multi-Way Boulevard. A street design that accomplishes the fundamental goal of vehicular through traffic movement including transit facilities and also creates a pedestrian-friendly environment by providing slip lanes for local traffic, on-street parking,

safe pedestrian and bicycle facilities, and by locating buildings closer to or at the right-of-way line.

!

Impervious Surface. Any surface that either prevents or delays the infiltration of water into the soil as it entered under natural conditions preexistent to development, and/or a surface area that causes water to run off the surface in greater quantities or at an increased rate of flow than prior to development. Common impervious surfaces include: building roofs; traditional concrete or asphalt paving on walkways, driveways, parking lots, gravel lots and roads; and heavily compacted earthen materials.

Commented [RM25]: Def from M54 permit. Track change edits show potential changes to the M54 def for the SDC.

Improvement Agreement. A written agreement, executed by the property owner in consideration for the City deferring the construction of public improvements required for the development.

Incidental Equipment. Rooftop or pole mounted structures that cast insubstantial shadows or have minimal visual impact, including, but not limited to: antennas, chimneys, solar collectors, small satellite dishes and flagpoles, but excluding large satellite dishes. (See also Accessory Structure.)

Increase in Impact/Increased Impact. This definition includes, but is not limited to, additional traffic or noise generation, additional run-off or increase in impervious surface, additional shadow casting or diminished views, additional air or water borne pollution, additional hours of operation, or an increase in the risk of fire or structural hazard as the result of development.

Incubator Development. Facilities that accommodate new business establishments spun-off from the research, development, and testing laboratories of a major institution, a related institution, or larger high- or bio-technology industry. If on-site manufacturing or production capabilities are included within an incubator development, the establishment will be classified as an industrial use.

Industrial Park. A development on one or more lots/parcels under common ownership with two or more separate buildings that are designed, constructed and managed on an integrated and coordinated basis. Industrial parks are intended to accommodate heavy industrial uses as primary uses and office research and development, light manufacturing, light assembly, warehousing and distribution, large administrative headquarters, and other professional and administrative uses as secondary uses.

Infill. The development of vacant, bypassed lands located in an area that is mainly developed.

Infill, residential:

- (1) The development of up to four dwellings on land that is designated for residential use where at least 75 percent of the abutting properties have a structure, but not counting any abutting property that is large enough that it can be divided into five or more lots, or is currently developed with multiple unit housing.
- (2) A situation in which a single unit dwelling is removed to make way for up to four new dwellings (e.g., a single unit dwelling, duplex, triplex, or fourplex).

- (3) "Residential infill" does not apply to land that is large enough that it can be divided into five or more lots consistent with the minimum lot size of the zoning district.

Invasive Plants. Non-native plants that spread quickly, are highly competitive and difficult to control or eliminate. Introduced intentionally or accidentally through human actions and spread by seed, by birds, by wind, or vegetatively, these exotic plants can destroy native plants, choke waterways, degrade recreational areas and necessitate costly maintenance. The Invasive Plants List is a listing of plants that the City considers undesirable for use in landscaping within its jurisdiction.

Inventoried Natural Resource. Any scenic areas, water areas, vegetation, wildlife and wildlife habitat that appears in an adopted Metro Plan Inventory.

J

Joint Use Access Agreement. A legally binding agreement between two or more property owners describing the rights and responsibilities of each owner regarding the use of a shared access to a public street.

K

Kenel. Any premises on which three or more dogs over the age of 6 months are housed, groomed, boarded, trained or sold for compensation.

L

Land and Drainage Alteration Permit (LDAP). A City permit for any fill, grading and excavation that is required before any site preparation work can begin.

Landscape Architect. A person registered with the State of Oregon to practice Landscape Architecture.

Landscaping. The term "landscaping" includes, but is not limited to, vegetative ground cover, grass, shrubs, trees, flowers and garden areas, ornamental concrete or stonework areas, permanent outdoor furniture and permanent irrigation. "Landscaping" also includes retention or reintroduction of native vegetation.

Land Use Decision. A final decision or determination made by the Planning Commission, Hearings Official or City Council that concerns the adoption, amendment or application of the Statewide Planning Goals; a Metro Plan or refinement plan provision; a land use regulation; or new land use regulation. This definition does not include a decision which does not require interpretation or the exercise of factual, policy, or legal judgment; approves, approves with conditions or denies a subdivision or partition; or approves or denies a building permit.

LEED (Leadership in Energy and Environmental Design). A nationally accepted benchmark for the design, construction and operation of high-performance, energy-efficient buildings.

Light Industrial Manufacturing. The secondary processing of previously prepared materials into components or the assembly of components into finished products. In the Campus Industrial District this use is divided into categories as follows based upon the number of employees at occupancy: large-scale means 50 or more employees; medium-

scale means 20—49 employees; small-scale means fewer than 20 employees per business. These thresholds are applicable at the time of new development. In the case of redevelopment, the Director may reduce these thresholds if the applicant submits a business plan stating that the threshold can be met by a date certain.

Linear Park. A public or private park that provides public access to trail-oriented activities, which may include walking, running, biking, or skating, and preserves open space. A linear park consists of a multi-use path, pedestrian trail, or bikeway, and related facilities.

Listed Species. The Endangered Species Act provides for listing plant and animal species into the following categories: Listed Endangered Species and Listed Threatened Species. An endangered species is an animal or plant listed by regulation as being in danger of extinction. A threatened species is any animal or plant that is likely to become endangered within the foreseeable future.

Live/Work Unit. An integrated dwelling unit and working space that is occupied and utilized by a single housekeeping unit in a structure that has been modified or designed to accommodate joint residential occupancy and work activity. The live/work unit must include complete kitchen and sanitary facilities in compliance with applicable building standards. The working space must be reserved for and regularly used by one or more occupants of the unit (e.g., professionals, entrepreneurs, and artists), in addition to any other employees. The commercial/employment use must be allowed only as permitted by the applicable zoning district.

Loading Space. An off-street space or berth serving a business for the temporary parking of commercial vehicles while loading or unloading, while not block driveway aisles and having an appropriate means of ingress and egress.

Lot. A portion of land shown as part of a recorded subdivision or any area of land described by metes and bounds in a recorded deed, record of survey or other appropriate document, recorded in the office of the County Recorder that complies with the provisions of the State of Oregon and this Code. Unless specifically exempted, land that is divided or reconfigured without having been approved in accordance with this Code cannot be deemed a buildable lot.

Lot Coverage. The area of a lot, parcel, property, or development area covered with structure.

Lot/Parcel, Corner. A lot/parcel abutting two or more streets at their intersection, in which the interior angle formed by the extensions of the street lines is 135 degrees or less. In the event that any street line is a curve at its point of intersection with a lot/parcel line other than a street line, the tangent of the curve at the point is considered the direction of the street line.

Lot/Parcel Depth. The distance from the midpoint of the front lot/parcel line to the midpoint of the rear lot/parcel line.

Lot/Parcel Dimension, North-South. The length of a line beginning at the midpoint of the northern lot/parcel line and extending in a southerly direction perpendicular to the northern lot/parcel line until it reaches a property boundary.

Lot/Parcel Frontage. That portion of a lot/parcel which abuts a street. For the purpose of determining yard requirements, all sides of a lot/parcel abutting a street is considered frontage.

Lot/Parcel, Interior. A lot/parcel other than a corner lot/parcel and having frontage on only one street.

Lot/Parcel Line. A line of record bounding a lot/parcel which divides one lot/parcel from another or from a public or private street or any other public space.

Lot/Parcel Line, Front. The lot/parcel line abutting a street right-of-way. Where more than one lot/parcel line abuts street right-of-way, the property address determines the front lot/parcel line. For purposes of the solar access standards, it is the lot/parcel line abutting a street. For corner lots/parcels, the front lot/parcel line is that with the narrowest frontage. When the lot/parcel line abutting a street is curved, the front lot/parcel line is the chord or straight line connecting the ends of the curve. For a panhandle lot/parcel, the front lot/parcel line is the lot/parcel line that is most parallel to and closest to the street, excluding the handle portion of the lot/parcel.

Lot/Parcel Line, Northern. The lot/parcel line that is the smallest angle from a line drawn true east-west and intersecting the northernmost point of the lot/parcel, excluding the handle portion of a panhandle lot/parcel. If the north line adjoins an un-developable area other than a required yard area, the northern lot/parcel line is at the north edge of the un-developable area. If two lot/parcel lines have an identical angle relative to a line drawn true east-west, then the northern lot/parcel line is a line 10 feet in length within the lot/parcel parallel with and at a maximum distance from the front lot/parcel line.

Lot/Parcel Line, Rear. The lot/parcel line which is opposite and most distant from the front lot/parcel line. For a triangular shaped lot/parcel, the "rear lot/parcel line" is a line 10 feet in length entirely within the lot/parcel, connecting the side lot/parcel lines, which is parallel to the front lot/parcel line or parallel to the chord of a curved front lot/parcel line.

Lot/Parcel Line, Side. Any lot/parcel line other than a front or rear lot/parcel line.

Lot/Parcel, Minimum Area of. The smallest lot/parcel area established by this Code on which a use or structure may be located in a particular district.

Lot/Parcel, Panhandle. A lot/parcel which has access to a public right-of-way by means of a narrow strip of land, commonly known as the "panhandle" or "handle."

Lot/Parcel, Pan Portion. The portion of a panhandle lot/parcel, exclusive of the handle, on which a structure may be placed.

Lot/Parcel, Through. A lot/parcel which fronts upon two streets which do not intersect at the boundaries of the lot/parcel.

Lot/Parcel Width. The horizontal distance between the midpoints of the side lot/parcel lines. The handle of a panhandle lot/parcel is not included when computing lot/parcel width.

Lowest Floor. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that the enclosure is not built to render the structure in violation of the applicable non-elevation design requirements.

Low Impact Facility. Any public or semi-public facility that has minimal olfactory, visual or auditory impacts which is permitted subject to the design standards of this Code.

M

Maintain. To continue in existence; to preserve and care for a development area so that it remains attractive and functional in accordance with the provisions of this Code.

Maintenance Inspection. A site inspection that identifies precisely what must be done to a development previously approved by the City in order to comply with standards and conditions in effect when the development was originally approved.

Major Electrical Transmission Line. An electrical transmission line which carries 115 KV or more of electricity.

Mall. A shopping center where stores front on both sides of a pedestrian way which may be enclosed or open.

Manufactured Dwelling. A residential trailer, mobile home, or manufactured home.

- (1) **Residential Trailer.** A structure constructed for movement on the public highways that has sleeping, cooking, and plumbing facilities, that is intended for human occupancy that is being used for residential purposes and was constructed before January 1, 1962.
- (2) **Mobile Home.** A structure constructed for movement on the public highways that has sleeping, cooking, and plumbing facilities, that is intended for human occupancy, that is being used for residential purposes and that was constructed between January 1, 1962 and June 15, 1976, and met the construction requirements of Oregon mobile home law in effect at the time of construction.
- (3) **Manufactured Home.** A structure constructed for movement on the public highways that has sleeping, cooking, and plumbing facilities, that is intended for human occupancy, and was constructed on or after June 15, 1976 in accordance with federal manufactured housing construction and safety standards in effect at the time of construction.

Manufactured Dwelling Park. Any place where 4 or more manufactured dwellings are located within 500 feet of one another on a lot/parcel or tract under the same ownership, the primary purpose of which is to rent space to any person for a charge or fee paid or to be paid for the rental use of facilities or to offer space free in connection with securing the trade or patronage of the person. Manufactured dwelling park does not include a lot located within an approved subdivision being rented or leased for occupancy by no more

Commented [RM26]: Is the term modular home defined by state? Kyle asks if the term modular home should be included.

than one mobile home per lot if the subdivision was approved by local government unit having jurisdiction under an ordinance adopted pursuant to ORS 92.010 to 92.190.

Manufactured Dwelling Pad. A paved space in a manufactured dwelling park for the placement of a manufactured dwelling that includes utility connections.

Manufactured Dwelling Space. Any portion of a manufactured dwelling park which is designated or used for occupancy of one manufactured dwelling, including its accessory structures and its outdoor living areas, but exclusive of space provided for the common use of tenants for example, roadways and guest parking.

Manufactured Dwelling Space Line. A line within a manufactured dwelling park which establishes setback distances from streets, accessory buildings or structures and other manufactured dwellings.

Marijuana. The plant Cannabis family Cannabaceae, any part of the plant of the Cannabis family Cannabaceae and the seeds of the plant Cannabis family Cannabaceae. "Marijuana" does not include industrial hemp, as defined in ORS 571.300.

Marijuana Business. Any person or entity appropriately licensed by the Oregon Health Authority or the Oregon Liquor Control Commission that sells, produces, cultivates, grows, wholesales, processes, researches, develops or tests medical marijuana or recreational adult use marijuana within the City of Springfield.

Marijuana Grow Sites. A specific location registered by the Oregon Health Authority and used by the grower to produce marijuana for medical use by a specific patient.

Marijuana Items. Marijuana, cannabinoid products, cannabinoid concentrates and cannabinoid extracts.

Marijuana Processing. The preparing, compounding, testing or conversion of marijuana into cannabinoid products, cannabinoid concentrates, and cannabinoid extracts for medical or recreational purposes.

Marijuana Production. The manufacture, planting, cultivation, growing, or harvesting of marijuana as licensed by the Oregon Liquor Control Commission or Oregon Health Authority.

Marijuana Retailer. A person or entity licensed by the Oregon Liquor Control Commission or Oregon Health Authority to sell marijuana items to a consumer in this state.

Marijuana Retail Outlet. A business location that sells marijuana items to a consumer or patient.

Marijuana Testing Laboratory. A laboratory that tests marijuana items for producer, processor, wholesaler or retail outlets.

Marijuana Wholesaler. A person or entity that purchases marijuana items in this state for resale to a person other than a consumer.

Market Area. The geographic area from which a particular use can reasonably expect to attract customers.

Master Planned Community. Add the def. from OAR 660-046-0020(10)?

Medical Marijuana Dispensary. A medical marijuana facility or entity registered with the Oregon Health Authority under ORS 475.300.

Metro Plan/Eugene-Springfield Metropolitan Area General Plan. The general land use plan and policies for the Eugene/Springfield metropolitan area including any subordinate refinement plan or functional plan. The controlling land use document for urban, urbanizable and rural land under the jurisdiction of the Metro Plan.

Mid-Block Connector. A narrow street and/or a bicycle/pedestrian corridor not less than 20 feet in width that reduces larger blocks to more walkable dimensions (250 to 350 feet maximum). A mid-block connector may be a public right-of-way or privately owned and may include active use frontages with overlooking windows and pedestrian-level lighting. Limited service or parking access to the interior of a block is encouraged. On-street public parking may be provided, where feasible. Sidewalks may be located on each side of a two-way street or on one side for a one-way street. A non-vehicular connector must be designed as a "24-7" publicly accessible bicycle/pedestrian way.

Middle Housing. Duplexes, triplexes, fourplexes, cottage cluster housing, and townhomes.

Minerals. Includes soil, coal, stone, crushed hard rock quarry products, metallic ore and any other solid material or substance excavated for commercial, industrial or construction use from natural deposits. "Minerals" do not include loam, sand, gravel or other aggregate materials created and/or deposited by water movement.

Minimum Level of Key Urban Services. The minimum level of facilities and services that are provided to an area in an orderly and efficient manner to allow urban development to occur. They consist of sanitary sewers, solid waste management, water service, fire protection, police protection, parks and recreation programs, electric service, land use controls, communications facilities, public schools on a district-wide basis, and paved streets with adequate provision for storm-water run-off and pedestrian travel.

Mining Spoils. All waste materials, solid, rock, mineral, liquid, vegetation and other materials resulting from or displaced by quarry and mining extraction operations within the operating permit area, including all waste materials deposited in or upon lands within the operating permit area.

Mini-Warehouse. A building or group of buildings in a controlled-access and fenced compound that contains varying sizes of individual, compartmentalized, and controlled-access stalls or lockers for the storage of a customer's goods or wares. No sales, service, or repair activities other than the rental of storage units are permitted on the premises.

Mixed-Use Building or Development. A building or development characterized by either a vertical or horizontal physical integration of uses. A mixed-use building is a

Commented [RM27]: See also new def for Sufficient Infrastructure from HB 2001.

structure at least two stories in height that includes a mix of uses such as retail and office uses, residential and commercial uses, or commercial and light industrial uses. A mixed-use development includes multiple buildings, usually of multiple stories, designed to assure a diversity of compatible land uses that may include a mixture of residential, office, retail, services, recreational, live/work units, flex space uses, and other miscellaneous uses allowed in a zoning district.

Modification. A request submitted to change a final approval of any development proposal or a modification as may be permitted to a Plan District development or building standards.

Modification of application. The applicant's submittal of new information after an application has been deemed complete and prior to the close of the record on a pending application that would modify a development proposal by changing one or more of the following described components: proposed uses, operating characteristics, intensity, scale, site layout (including but not limited to changes in setbacks, access points, building design, size or orientation, parking, traffic or pedestrian circulation plans), or landscaping in a manner that requires the application of new criteria to the proposal or that would require the findings of fact to be changed. It does not mean an applicant's submission of new evidence that merely clarifies or supports the pending application.

Motel. A building or group of buildings in which lodging is provided to guests for compensation, consisting of individual sleeping quarters, with or without cooking facilities, with separate entrances opening directly on a parking area.

Multi-Use Path. A paved facility intended to be used by pedestrians, skaters (inline or roller), and bicyclists that has no or minimal cross-flow by motor vehicles. The multi-use path is generally designed for two-way travel. The multi-use path may be separated from and aligned with the public right-of-way within an easement or located within the public right-of-way.

Multiple Unit Housing. Five or more dwelling units on an individual lot or parcel, except for Cottage Cluster housing, and not counting Accessory Dwelling Units (ADUs).

N

National Register of Historic Places. The official list, established by the National Historic Preservation Act, of sites, districts, buildings, structures and objects significant in the nation's history or whose artistic or architectural value is recognized.

Native Plants, Native Vegetation. Plant species that are indigenous to a local area and adaptable to the local climate, soils and hydrology as distinguished from plant species that have been deliberately or accidentally imported or introduced from other areas by humans or human activities.

Natural Resources. These include, but are not limited to, water and geologic features, significant natural vegetation, wildlife habitats and archaeological and scenic resources as inventoried in the working papers of the Metro Plan.

Neighborhood Activity Center. Any public park or recreation facility, public or private school, government service, commercially zoned property, or mixed-use zoned property.

Commented [RM28]: Still needed? Where is this term used? Search for it.

Comment from Molly. This term might be referenced in the Main Street Vision Plan.

Neighborhood Park. A park, traditionally from 5 acres to 15 acres in size, which provides easily accessible recreation areas serving neighborhood citizens and providing high density active or passive use.

Neighboring. The area in the immediate vicinity of a proposed development that would be materially affected by a proposal.

Net Density. See "Density, net".

Noise Attenuating Barrier. A structural barrier designed and constructed with the primary function of containing sound within a specific use area.

Noise Sensitive Property. Real property normally used for sleeping, or normally used for schools, churches, hospitals or public libraries, excluding industrially related residential uses, i.e., night watchman quarters.

Non-Commercial Agricultural Uses. The raising of crops, plants or farm animals on property where allowed by this Code for the sole use of the owners or tenants of that property and not for wholesale or retail sale.

Non-Exempt Tree or Vegetation. Vegetation that is not exempt from the solar access regulations.

Notice. The announcement of a decision of the Director by mail to adjacent property owners/occupants within 300 feet of the subject property indicating the nature of the decision and the method of appeal; the announcement of a public hearing by mail to property owners/occupants within 300 feet of the subject property and advertisement in a newspaper of general circulation in the area, indicating the time, place and nature of the public hearing in compliance with ORS 197.762.

NPDES. National Pollutant Discharge Elimination System.

O

OAR. Oregon Administrative Rule.

Official Zoning Maps. Maps delineating the boundaries of the various zoning districts within the city limits and the City's urbanizable area that are adopted by ordinance and maintained by the Development Services Department.

Occupancy, Certificate of. A required certificate allowing occupancy of a structure or development area after it has been determined that the requirements of this Code and other applicable Codes have been met. No structure or development area may be occupied without having first received a Certificate of Occupancy.

Open Space. Land or water essentially unimproved and set aside, dedicated, designed or reserved for public use or enjoyment, or for the use and enjoyment of owners and occupants of land abutting or neighboring the open space.

Open Space, Common. Land normally within or related to a development, not individually owned or dedicated for public use, which is designed and intended for the common use or enjoyment of the residents of the development and may include

recreational and other accessory structures and improvements in accordance with this Code.

Open Space, Private. Areas intended for the private use of an individual dwelling unit, normally including patios and landscaped areas; not to include off-street parking, maneuvering, loading or delivery areas, and designed for outdoor living and recreation.

Open Space, Public. Areas intended for public use, either privately owned and maintained or dedicated to the City, normally including swimming pools, recreation courts, patios, open landscaped areas, and greenbelts with pedestrian, equestrian, and bicycle trails, not to include off-street parking or loading areas or driveways, and designed for outdoor living and recreation or the retention of an area in its natural state.

ORS. Oregon Revised Statutes.

Outdoor Storage. The keeping in an unroofed area of any goods, junk, material, merchandise or vehicles for more than 24 hours.

Outdoor Storage Area. A primary use that occurs on property for the purpose of outdoor storage of vehicles, equipment or materials, including, but not limited to, vehicle, equipment and boat sales or rental lots; commercial storage lots; mobile/manufactured home, camper and RV sales lots; fleet parking lots; and lumber, gardening, fuel and other similar building material yards.

Outdoor Storage Yard. A secondary use that occurs on any property for the purpose of the outdoor storage of associated materials and equipment, other than wrecking yards.

Outfall. The point of discharge from a river, pipe, drain or other device to a receiving watercourse.

Overburden. The soil, rock and similar materials that lie above natural deposits or minerals.

Owner. An individual, firm, association, syndicate, partnership or corporation having proprietary interest to seek development of land.

P

Parcel. This term includes a unit of land created by partitioning land as defined in ORS 92.010 that is in compliance with this Code and in the case of Property Line Adjustments, properties created by deed or land sales contract, if there were no applicable planning, zoning, or partitioning ordinances or regulations. A Parcel does not include a unit of land created solely to establish a separate tax account.

Parking. The temporary storage of operational motor vehicles that are not for sale, lease or rent and which are intended to be used for customers and employees of a business and industry or residents and visitors in a residential development.

Parking Bay. An extension of the width of a street that allows for the parking of motor vehicles, usually associated with hillside development.

Parking Lot. An off-street area with a permanently maintained paved surface, for the parking of motor vehicles.

Parking Space. A permanently maintained paved surface with proper access for one standard size or compact automobile.

Parking Space, Disabled. A parking space that is reserved for use by disabled persons who hold the appropriate permit issued by the Oregon Department of Motor Vehicles and/or the Springfield Police Department.

Parking Space, Off-Street. An approved space for the parking of a motor vehicle which is not located on a dedicated street right-of-way.

Partition Land. The division of land into two or three parcels within a calendar year, but does not include:

- (1) A division of land resulting from a lien foreclosure, foreclosure of a recorded contract for the sale of real property or the creation of cemetery lots;
- (2) An adjustment of a property line by the relocation of boundaries where an additional unit of land is not created and where the existing unit of land reduced in size by the adjustment is not in conflict with any applicable Ordinance;
- (3) A sale or grant by a person to a public agency or public body for State highway, county road, city street or other right-of-way purposes provided that the road or right-of-way complies with the applicable comprehensive plan and ORS 215.213(2)(q) to (s) and 215.283(2)(q) to (s). However, any property divided by the sale or grant of property for State highway, county road, city street or other right-of-way purposes continue to be considered a single unit of land until the property is further subdivided or partitioned;
- (4) The division of land resulting from the recording of a subdivision or condominium plat; or
- (5) A sale or grant by a public agency or public body of excess property resulting from the acquisition of land by the State, a political subdivision or special district for highways, county roads, city streets or other right-of-way purposes when the sale or grant is part of a property line adjustment incorporating the excess right-of-way into adjacent property. The property line adjustment must be approved or disapproved by the applicable local government. If the property line adjustment is approved, it must be recorded in the deed records of the county where the property is located.

Partition Plat. A final map and other writing containing all the descriptions, locations, specifications, provisions and information concerning a partition.

Party. The following persons or entities are defined as parties:

- (1) The applicant and all owners or contract purchasers of record, as shown in the files in the Lane County Department of Assessment and Taxation, of the property which is the subject of the application.

Commented [RM29]: Check procedures

(2) Any person who makes an appearance and/or submits testimony to the Approval Authority.

Pedestrian Trail. A surfaced path that is designed and reserved for the exclusive use of pedestrian travel.

Pedestrian Way. A paved right-of-way through a block to facilitate pedestrian access to adjacent streets and properties.

Permanent Irrigation System. An approved water piping system installed underground for the purpose of irrigating all portions of landscaped areas.

Permit. Discretionary approval of a proposed development of land. "Permit" does not include:

Commented [RM30]: From ORS 227.160(2)

(1) A limited land use decision;

(2) A decision which determines the appropriate zoning classification for a particular use by applying criteria or performance standards defining the uses permitted within the zone, and the determination applies only to land within an urban growth boundary;

(3) A decision which determines final engineering design, construction, operation, maintenance, repair, or preservation of a transportation facility which is otherwise authorized by and consistent with the comprehensive plan and land use regulations; or

(4) An expedited land division.

Person. An individual, corporation, governmental agency, business trust, estate, partnership, association, or any other legal entity.

Petition for Improvement. A petition submitted for construction and improvements as required by this Code.

Physical Features. These features include, but are not limited to, significant clusters of trees and shrubs, watercourses shown on the Water Quality Limited Watercourse Map and their riparian areas, wetlands and rock outcroppings.

Pipeline. A line of pipe with pumps, valves and control devices for conveying liquid, gasses or finely divided solids.

Place of worship. A place for people to gather for religious activity. Examples include church, synagogue, mosque, chapel, or meeting house. Includes associated uses as described in SDC 4.7.370. (ORS 227.500)

Plan District. A planning tool that addresses concerns unique to an area when other zoning tools cannot achieve the desired results. An area may be unique based on natural, economic or historic attributes; be subject to problems from rapid transition in land use; or contain public facilities that require specific land use regulations for their efficient operation. Plan Districts provide a means to modify zoning regulations for specific areas defined in special plans or studies. Each Plan District has its own

nontransferable regulations. This contrasts with base zone and overlay zone provisions, which are intended to be applicable in more than one area. However, Plan Districts are not intended for small areas or individual properties.

Planning Commission. The Springfield Planning Commission.

Planted. Landscaping with living plant materials consistent with SDC 4.4.100.

Plat. A map, containing all the descriptions, locations, specifications, dedications, provisions or other information concerning a subdivision, partition or replat of either.

Plot Plan. A rough sketch map of a site plan or land division of sufficient accuracy to be used for the purpose of the identification of issues and development impacts.

Prefabricated Dwelling. A building or structural unit that has been in whole or substantial part manufactured at an off-site location to be wholly or partially assembled on-site, but does not include a mobile home, trailer or recreational vehicle. Prefabricated structures are regulated under the State of Oregon Structural Specialty Code.

Preliminary Approval. The approval prior to Final Approval, after specific elements of a development or Site Plan have been approved by the Approval Authority and agreed to by the applicant.

Preliminary Plan. A clearly legible drawing of the proposed lay out of the lots/parcels involved in a property line adjustment which provides a basis for the Approval Authority to approve or disapprove the application.

Primary Structure. A structure of chief importance or function on a site. In general, the primary use is carried out in a primary structure. However, in the **R-1** District (unless specified elsewhere in this Code), a site may have more than one primary structure. The difference between primary and accessory structure is determined by comparing the size, placement, similarity of design, use of common building materials and the orientation of the structures on the site (See also **Accessory Structure** and **Accessory Dwelling Unit**).

Private Elementary/Middle Schools. A facility operated by a person or private agency offering education in kindergarten and/or grades 1-8 or any part thereof not as defined in ORS 345.505 et. seq.

Private Park. A park available for public use owned by a non-public agency or private individual.

Properly Functioning Condition. The state of the physical, chemical, and biological aspects of watershed ecosystems that will sustain healthy salmonid populations. Properly functioning condition generally defines a range of values for several measurable criteria rather than specific, absolute values, including, but not limited to, hydraulic run-off, transport, channel migration, native vegetation succession.

Property line. A line which divides one property from another or from a public or private street or any other public space.

Deleted: Low Density Residential

Deleted:

Property Line Adjustment. The relocation of a common property line between two abutting properties.

Public Facilities Plan. A Refinement Plan of the Metro Plan addressing sanitary and storm sewers, water distribution systems and transportation. The transportation element is addressed through the TransPlan.

Public Hearing. A meeting announced and advertised in advance that is open to the public, with the public given an opportunity to provide testimony.

Public Utility Facility. Structures, facilities and equipment necessary to serve development by a government, public utility, utility cooperative, or private company.

- (1) **Low Impact.** Telephone and cable telephone lines, poles, junction boxes, exchanges and repeater stations; electric power distribution lines (less than 69 KV) and poles; sanitary sewer pipe lines, pumps or lift stations; storm sewer pipe lines, ditches and other storm-water management or water quality ponds, wetland, or swales; gas distribution pipe lines; water pipe lines, valves, well fields, pump stations and attendant facilities; water reservoirs and water storage tanks less than 300,000 gallons or 30 feet in height, and water treatment facilities, including filtration plants, less than 2.5 million gallon capacity per day.
- (2) **High Impact.** Electric power transmission lines (greater than 69 KV), poles and substations; gas pipe line valve stations; sanitary sewer treatment plants or effluent ponds; water reservoirs and water storage tanks greater than 300,000 gallons or 30 feet in height; water treatment facilities, including filtration plants greater than 2.5 million gallon capacity per day; fire/ambulance stations.

Q

Quarry and Mining Extraction Operation. All or any part of the process of removing mineral deposits exposed by any method, including open-pit mining operations, auger mining operations, shaft mining, the construction of borrow pits, processing of extracted minerals and exploration activities. Expansion of a quarry and mining extraction operation is the enlargement of the operation requiring the modification of the Reclamation Permit specified under ORS 517.790. Quarry mining and extraction operation does not include normal road maintenance and stabilization of hillsides.

Quarry and Mining Operator. Any individual, public or private corporation, political subdivision, agency, board or department of this State, any municipality, partnership, association, firm, trust, estate or any other legal entity whatsoever that is engaged in quarry and extraction operations.

Quarry and Mining Owner. The person possessing legal rights to the mineral deposit being mined.

R

Reclamation. The employment of procedures in a quarry and mining extraction operation designed to minimize as much as practicable the impact the operations have on the environment, and to provide for the rehabilitation of land effected by the operations. Reclamation includes the rehabilitation of plant cover, soil stabilization, water

resource protection and other measures appropriate to the subsequent beneficial use of the mined and reclaimed lands.

Reclamation Permit. Permission to operate a quarry and mining extraction operation (to include a plan for reclamation) granted to an operator by the State Department of Geology and Mineral Industries under the requirements of ORS 517.790, upon referral, review and approval by the Director.

Recreation Center, Community. A public, indoor facility providing for a variety of recreation/leisure-related activities, for example: swimming, meetings, court sports, arts and crafts, dancing, banquets, parties, games, day-care, classes/instruction, performances, fitness/exercise, and social referral services.

Recreational Marijuana. Any marijuana intended for recreational use which meets all requirements for recreational marijuana contained in this Chapter, Oregon state law, and any other applicable law.

Recreational Vehicle (RV). A vacation trailer or other unit, with or without motive power, which is designed for human occupancy and to be used temporarily for recreational, seasonal or emergency purposes and has a gross floor space of less than 400 square feet. The term includes camping trailers, camping vehicles, motor homes, park trailers, bus conversions, van conversions, tent trailers, travel trailers, truck campers and any vehicle converted for use or partial use as a recreational vehicle. The unit must be identified as a recreational vehicle by the manufacturer or converter.

Redevelopment. A project that entails construction activities, occurs on a previously developed site and results in the addition or replacement of impervious surface. Redevelopment does not include: Maintenance activities; Construction Activities conducted to ameliorate a public health or safety emergency or natural disaster; and/or Construction Activities within an existing footprint to repair or replace a site or a structure damaged by a public health or safety emergency or natural disaster.

Commented [RM31]: Def from MS4 permit.

Refinement Plan Diagram. A map contained in a Refinement Plan showing plan designations that are more specific than shown on the Metro Plan Diagram.

Regional Headquarters. A building or portion of a building in which persons are employed in the regional management or direction of a business consisting of a number of divisions or a regional subsidiary of a corporate headquarters. The divisions can be either geographical or located within one building. To be considered a regional headquarters, the business must meet the applicable employee threshold specified elsewhere in this Code. Businesses that do not meet the applicable employee threshold is considered an administrative office.

Regional Park. A large area of natural quality for outdoor recreation for example, swimming, boating, camping and picnicking, and for wildlife habitat and natural resource conservation. Generally comprising 100 acres or more, where 80 percent of the land is reserved for natural open space and 20 percent is used for recreation development.

Registered or Certified Family Child Care Home. See Definition for Childcare Facility. Also see ORS 329A.

Commented [RM32]: Ok to cite to ORS?

Registered Geologist. A person who is registered as a geologist by the State of Oregon.

Replat, Major. The elimination and/or relocation of more than two exterior and/or interior common boundary lines or *property* lines within a recorded Subdivision; or an increase in the number of lots; or decrease of two or more lots within a recorded Subdivision.

Replat, Minor. The elimination and/or relocation of no more than two exterior and/or interior common boundary lines or *property* lines within a recorded Subdivision or Partition; or a decrease of one lot/parcel within a recorded Subdivision or Partition.

Relocation. A shift or rotation of a common boundary between two abutting lots or parcels.

Research and Development. The study, testing, analysis, and development of products, processes, or services, including the manufacturing of products. This use is divided into categories as follows based upon the number of employees at occupancy: large-scale means 50 or more employees; medium-scale means 20-49 employees; small scale means fewer than 20 employees per business. These thresholds are applicable at the time of new development. In the case of redevelopment, the Director may reduce the at occupancy threshold if the applicant submits a business plan stating that the threshold can be met by a date certain.

Reserve Strip. A strip of *property*, usually one foot wide, controlling access to a street.

Residential Care Facility. A facility licensed under ORS 443.400 to 443.455 that provides residential care in one or more buildings on contiguous properties:

- (1) For six or more socially dependent individuals or individuals with physical disabilities; or
- (2) For fewer than six socially dependent individuals or individuals with physical disabilities if the purpose of the facility is to serve individuals with co-occurring behavioral health needs who are more appropriately served in smaller settings.

Residential Home. A home licensed by or under the authority of the Department of Human Resources under ORS 443.400 to 443.825 which provides residential care alone or in conjunction with treatment or training or a combination thereof for five or fewer individuals who need not be related. Staff persons required to meet Department of Human Resources licensing requirements must not be counted in the number of facility residents, and need not be related to each other or to any other resident of the residential home. This definition includes residential treatment homes, residential training homes and adult foster homes.

Residential infill. See "Infill, residential".

Residential use. Of, relating to, or connected with a residence or residences.

Retail Sales. Establishments engaged in selling goods or services to the general public for personal or household consumption. Retail trade may include wholesale trade, but only as a secondary use.

Commented [RM33]: See ORS 443.400(7)

Commented [RM34]: This language can stay under HB 2583 because we are not regulating based on related or unrelated status - this "need not be related" language just clarifies no relationship is considered.

Commented [MR35]: See new code section 3.2.235(D)(4).

Retaining Wall. An engineered structure constructed to hold back or support an earthen bank.

Review Authority. The Director, Planning Commission, Hearings Official, or City Council of the City of Springfield.

Right-of-Way. Land acquired by purchase, reservation, dedication, forced dedication, prescription or condemnation intended to be occupied by a street, crosswalk, railroad, electric transmission lines, oil or gas pipeline, water *line*, sanitary/storm sewer and other similar facilities.

Riparian Area. Riparian areas are vegetated areas (generally consisting of trees, shrubs, and grasses) located along both sides of water bodies and are transitional boundaries between land and water environments. Riparian zones act as buffers to protect surface waters from contamination and are habitats for a large variety of animals and birds.

Riparian Area Functions. These functions include, but are not limited to, maintaining temperature; maintaining channel stability; providing flood storage; providing groundwater recharge; removing sediments; reducing contaminants, for example, excess nutrients, oils and grease, metals, and fecal coliform; moderating stormwater flows; and providing fish and wildlife habitat. Degraded riparian function means that one or more of the functions listed above are at risk.

Roadway. The portion of a street right-of-way used for vehicular traffic.

Rooming House. A building or portion thereof where lodging, but not meals, is provided for more than two weeks for compensation. This definition excludes bed and breakfast facilities.

Run-Off. Water that flows across the land surface rather than being absorbed.

S

Safe Drinking Water Act (SDWA). A federal law established in 1974, to protect drinking water and its sources (rivers, lakes, reservoirs, springs, and ground water) and sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards.

School. A building where individuals gather to receive educational instruction, either public or private, except as otherwise specifically defined in this Code. School does not include a childcare facility as defined in this Chapter.

Screen. A visual barrier obscuring an abutting or neighboring structure or use by fencing, walls, berms, or densely planted vegetation.

Service Station. An establishment selling fuel and oil for vehicles which may include the following additional services: selling, servicing and installing tires, batteries, accessories and related products; furnishing minor repair and service when conducted entirely within an enclosed building, and at which incidental services are conducted. "Minor repair and

service," as used in this definition, is understood to exclude activities such as painting, bodywork, steam cleaning, tire recapping, and engine overhaul.

Setback. An area where buildings and certain structures cannot be constructed, measured from the property line. A setback may be referred to as "yard", as defined in this section, including "yard, front", "yard, rear", and "yard, side". This definition does not include solar setback.

Shade Point. The part of a building or non-exempt tree that casts the longest shadow onto the adjacent northern lots/parcels when the sun is at an altitude of 22.6 degrees and an azimuth ranging from 30 degrees east and west of true south; excluding a shadow caused by a narrow object, including, but not limited to, a mast or whip antenna; a dish antenna with a diameter of three feet or less; a chimney, utility pole, or wire. The height of the shade point is measured from the shade point to either the average elevation at the front lot/parcel *line* or the elevation at the midpoint of the front lot/parcel *line*. If the shade point is located at the north end of the ridgeline of a building oriented within 45 degrees of the true north-south *line*, the shade point computed according to the previous sentence may be reduced by 3 feet. If a structure has a roof oriented within 45 degrees of the true east-west *line* with a pitch that is flatter than 5 feet (vertical) in 12 feet (horizontal), the shade point will be the eave of the roof. If a roof has a pitch that is 5 feet in 12 feet or steeper, the shade point will be the peak of the roof.

Commented [RM36]: Delete if removing solar setback standards?

Shadow Pattern. A graphic representation of an area that would be shaded by the shade point of a building or vegetation when the sun is at an altitude of 22.6 degrees and an azimuth ranging between 30 degrees east and west of true south.

Shared Use Path. A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way. Shared use paths may also be used by pedestrians, skaters, wheelchair users, joggers, and other non-motorized users.

Shelter Home. Any dwelling or facility maintained and operated for the boarding and housing of more than five abused or battered persons who are not related by blood or marriage to the owner/operator of the dwelling or facility.

Commented [RM37]: This is a problem under HB 2583, likely just need to regulate as a single dwelling unit.

Shopping Center. A group of commercial establishments planned, developed, and managed as a unit with off-street parking and circulation provided on the *property*.

Sidewalk. The portion of a street or highway right-of-way designated for preferential or exclusive use by pedestrians.

Single Dwelling, Attached. See Townhome

Single-unit Dwelling, Detached (SD-D). One dwelling unit on its own lot or parcel that does not share a wall with any other dwelling unit, other than an accessory dwelling unit.

Single Room Occupancy (SRO's). A building or buildings that provides living units that have separate sleeping areas. The building may or may not have separate or shared cooking facilities for the residents. For the purposes of determining residential density, four SRO rooms equal one dwelling. Fractional dwellings will be rounded to the next higher number, e.g., five SRO rooms equal two dwellings. SROs can be located in any

Commented [RM38]: Move to special standards or leave here in def's?

residential building [occupancy] including single unit homes, multiplexes, multi-unit housing, etc.

Site Plan. The development plan for a development area that meets the standards of this Code.

Siting Standard. A standard related to the position, bulk, scale, or form of a structure or a standard that makes land suitable for development. Siting standards include, but are not limited to, standards that regulate setbacks, dimensions, bulk, scale coverage, minimum and maximum parking requirements, utilities, and public facilities.

Slope. An inclined ground surface, the inclination of which is expressed as percent of horizontal distance to vertical distance.

Small Engine Repair. Maintenance and repair of household and non-automotive engines less than 100 cubic centimeters (cc's) in displacement.

Solar Access. Unobstructed exposure to direct sunlight, excluding limited obstruction as expressly permitted by this Code.

Commented [RM39]: Needed if solar setback standard removed?

Solar Access Height Limit. A series of contour lines establishing the maximum permitted height for non-exempt vegetation on lots/parcels affected by a Solar Access Guarantee.

Solar Access Guarantee. A document issued by the city that describes the maximum height that non-exempt vegetation is allowed to grow on lots/parcels to which a solar access permit applies.

Solar Feature. A device or combination of devices or elements that does or will use direct sunlight as a source of energy for heating or cooling of a building, heating or pumping of water, and generating electricity. Examples of a solar feature include a window oriented to within 45 degrees east and west of true south, a solar greenhouse, or a solar hot water heater. A solar feature may be used for purposes in addition to collecting solar energy, including, but not limited to, serving as a structural member or part of a roof, wall or window. A south-facing wall enclosing an unheated area, and without windows and without other features that use solar energy is not a solar feature for the purposes of this ordinance (for example, an unheated garage).

Solar Setback. The distance from the northern lot/parcel *line* to the shade point, measured from the mid-point of the northern lot/parcel *line* and extending in a southerly direction.

South or South-facing. True south or 20 degrees east of magnetic south.

Springfield Municipal Code. Springfield Municipal Code, 1997 and any amendment thereto.

Standard. A measure of physical attributes and/or policy conformance which must be satisfied in order to allow a proposed land use or development to be established or modified.

Standard Construction Specifications. Standards governing the construction of all public improvements within the City, adopted by the Council, dated 1981, and as may be amended.

Start of Construction. Includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, for example, the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, including clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footing, piers, or foundation, or the erection of temporary forms; nor does it include the installation on the *property* of accessory buildings, for example garages or sheds not occupied as dwelling units or not part of the main structure.

State. The State of Oregon.

Stormwater. Water derived from a storm event or conveyed through a storm sewer water management system.

Stormwater Best Management Practices (BMPs).

- (1) **Nonstructural.** Strategies implemented to control stormwater run-off that focus on pollution prevention, including, but not limited to, alternative site design, zoning and ordinances, education, and good housekeeping measures.
- (2) **Structural.** Engineered devices implemented to control, treat or prevent stormwater run-off pollution.

Stormwater Management Plan. A policy document adopted and, as modified from time to time, approved by resolution of the City Council setting forth the policies and procedures to be used in reviewing development proposals that alter or affect the natural, pre-development flow of stormwater. These policies and procedures are to be applied to public and private improvements and allow City staff to provide certainty to developers and consultants to permit them to design and submit for approval safe, efficient, and cost effective stormwater management system projects within the City and its Urban Growth Boundary.

Stormwater Management System. The structures, facilities, and practices utilized by the City and/or a development to control and manage the quantity and quality of groundwater discharges and surface water run-off, including stormwater run-off, non-storm generated run-off and floodwaters.

Street. Any roadway and associated right-of-way that provides access to one or more lots/parcels and that is a part of the city-wide street system.

Street, Improved. A street that includes a fully paved surface, curb, gutter, storm drainage, sidewalk, street trees (where applicable) and street lighting, all constructed to City standards.

Street, Private. Any roadway and associated land that is functionally similar to a public street, constructed to City standards, but not dedicated to the City.

Street, Unimproved. A street that lacks any of the features of an improved street.

Strip Commercial. Commercial development set in a linear pattern along one or both sides of a street.

Structure. Anything constructed or built, any edifice or building or any kind or any piece of work artificially built up or composed of parts joined together in some definite manner. As used in SDC 3.3.400, Floodplain Overlay District, a walled or roofed building including a gas or liquid storage tank that is principally above ground.

Structure, Parking. A parking garage located aboveground or underground consisting of two or more levels.

Structure, Primary. A structure, or combination of structures, of chief importance or function on a site. In general, the primary use is carried out in a primary structure. A site may have more than one primary structure. The difference between primary and accessory structure is determined by comparing the size, placement, similarity of design, use of common building materials, and the orientation of the structures on the site. (See also **Accessory Structure** and **Accessory Dwelling Unit**.)

Subdivide Land. To divide an area or tract of land into four or more lots when the area or tract of land exists as a unit or contiguous units of land under single ownership at the time of subdivision.

Subdivision. Either an act of subdividing land, or an area or tract of land subdivided as defined in this Section.

Subdivision Plat. A final map and other writing containing all the descriptions, locations, dedications, provisions and information concerning a subdivision.

Sufficient Infrastructure. The following level of public services to serve new Triplexes, Fourplexes, Townhouses, or Cottage Cluster Housing development:

- (1) Connection to a public sanitary sewer system capable of meeting established service levels.
- (2) Connection to a public water system capable of meeting established service levels.
- (3) Access via public or private streets meeting adopted emergency vehicle access standards to a city's public street system.
- (4) Storm drainage facilities capable of meeting established service levels for storm drainage.

Sunchart. A photograph, or a scaled drawing prepared or certified by a licensed or certified architect, landscape architect, engineer, planner or utility solar technician,

Commented [RM40]: Michael comment

Need to talk about matching code language with Section 4.2-120.

showing the positions of the sun during different hours of the day and months of the year, and the southern skyline. A sunchart uses as coordinates a grid of the sun's altitudes in 10 degree increments and solar azimuths in 15 degree increments.

Survey. The location of the legal boundaries of an area and the division of that area into lots or parcels, streets and other features with all necessary corners or dividing lines marked or monumented, prepared by a surveyor in accordance with State law.

Surveyor. A registered professional land surveyor in the State of Oregon.

I

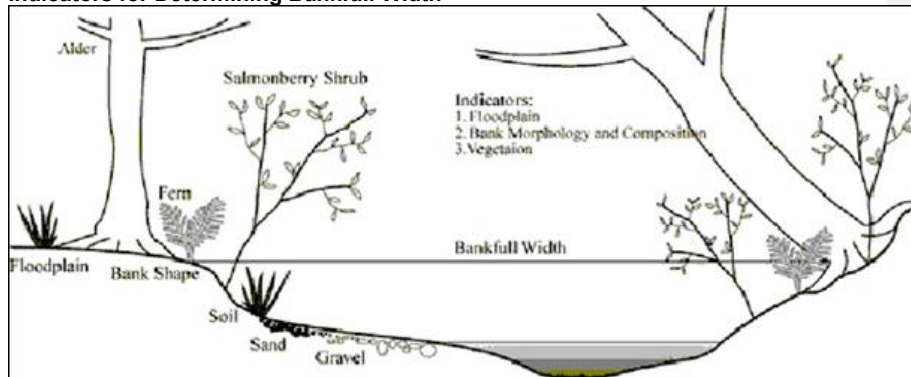
Tentative Plan. A clearly legible drawing of the lots or parcels and other elements of a partition or subdivision which provides a basis for the approval authority to approve or disapprove the general layout of the development.

Time of Travel Zone (TOTZ). The area mapped pursuant to Oregon Health Division Delineation Certification #002R which identifies the time it takes groundwater to flow to a given well or wellhead.

Top of Bank. For a given watercourse, the top of bank is the same as the "bankfull stage." The "bankfull stage" is defined as the stage or elevation at which water overflows the natural banks of streams or other waters of the State and begins to inundate the upland. The ground elevations on both sides of the watercourse are examined and the lower grade break elevation; the elevation where water would leave the channel in a particular reach is used. The elevation of the lower bank controls the bank full elevation for a watercourse reach. The edge of the bankfull watercourse typically corresponds to the start of the floodplain. The start of the floodplain is often characterized by:

- (1) A berm or other break in slope from the watercourse bank to a flat valley bottom, terrace or bench;
- (2) A change in vegetation from bare surfaces or annual water-tolerant species to perennial water-tolerant or upland species; and
- (3) A change in the size distribution of surface sediments (e.g., gravel to fine sand) (Figure 6.1-D).

Figure 6.1-D.
Indicators for Determining Bankfull Width



In the absence of physical evidence, the 2-year recurrence interval flood elevation may be used to approximate the bankfull stage.

Townhouse (Townhome). A dwelling unit constructed in a row of two or more attached units, where each dwelling unit is located on an individual lot or parcel and shares at least one common wall with an adjacent unit. A townhouse is also commonly called a rowhouse, attached house, or common wall house.

Townhouse Project. One or more townhouse structures constructed, or proposed to be constructed, together with the development [area](#) where the land has been divided, or is proposed to be divided, to reflect the Townhouse property lines and any commonly owned property.

Traffic Impact Study. An analysis of the effects of a proposed development on the transportation system, and of traffic impacts on neighboring properties.

Traffic Study. A limited analysis of the operational aspects and traffic safety issues of a particular development area, including, but not limited to, on-site traffic circulation and access design and operation.

Triplex. Three dwelling units on one lot or parcel. Units may be attached vertically or horizontally or detached.

U

Urban Growth Boundary. A site-specific *line* that separates urban or urbanizable land from rural land and which appears on the Metro Plan Diagram.

Urban Land. Land which is located within an incorporated City.

Urbanizable Land. All land outside the city limits but inside the Urban Growth boundary.

Use. The purpose for which land and structures are arranged, designed, intended, occupied or maintained. Any activity taking place on land or in or on structures.

Deleted: site

Use, Accessory. A use or uses within a primary commercial, office and/or employment building that is for the employees' benefit and that does not generally serve the public, including, but not limited to, building maintenance facilities, central mail rooms, child care, conference rooms, employee restaurants and cafeterias, indoor recreation areas, and indoor recycling collection centers. The accessory use is not considered a secondary use and does not have to meet any percentage standard; however, the accessory use must be part of a primary use building.

Use/Activity, Water-Dependent. A use or activity that requires access to the Willamette River for water-borne transportation, recreation, energy production, or source of water.

Use/Activity, Water-Oriented. A use or activity whose attraction to the public is enhanced by a view of or access to the Willamette River.

Use/Activity, Water-Related. A use or activity that is not directly dependent upon access to the Willamette River, but which provides goods or services that are directly associated with water-dependent land or waterway use, and which, if not located adjacent to the river, would result in a public loss of quality in the goods or services offered. Except as necessary for water-dependent or water-related uses or activities, residences, parking lots, spoil and dump sites, roads and highways, restaurants, businesses, factories, and mobile home parks are not generally considered dependent on or related to water location needs.

Use Category. A grouping of land uses which have similar operating characteristics and land use impacts.

Use, Nonconforming. The use of land or structures, or the size, height, location or number of structure, formerly permitted or otherwise lawful, but which currently does not comply with existing standards or provisions of this Code.

Use, Permitted. Any use allowed in a zoning district and subject to the restrictions applicable to that zoning district.

Use, Primary. An activity or combination of activities of chief importance on the site. One of the main purposes for which the land or structures are intended, designed, or ordinarily used. A site may have more than one primary use. The primary use usually occupies more than 50 percent of the gross floor area of a building or more than 50 percent of a development area. Tree removal and timber harvesting are not primary uses within the Urban Growth Boundary.

Use, Re-Use. Any change in use, tenancy or occupancy of a building.

Use, Secondary. Any approved use of land or a structure that is incidental and subordinate to the primary use, and located in the same building or in the same development area as the primary use. No secondary use can occupy more than 50 percent of the gross floor area of a building or more than 50 percent of a development area occupied by the primary use. Secondary uses must not occur in the absence of primary uses. Secondary uses are not accessory uses.

Use, Special. Any use of land or a structure which due to its operating characteristics or land use impact is permitted under prescribed conditions in the applicable zoning district.

Use, Temporary. A use established for a fixed period of time that does not involve the construction or alteration of any permanent structure.

Use, Water Dependent. A use that requires access to the Willamette River for water-borne transportation, recreation, energy production, or source of water.

Use, Water Related. A use that is not directly dependent upon access to the Willamette River, but which clearly benefits from the access.

Utility Provider. Any agency or private company which provides the public with electricity, gas, heat, steam, communications, rail transportation, water, sewage collection, or other similar service.

V

Variance. An exception to a requirement of this Code. This definition does not include use variances; a variance cannot be used in lieu of a zone change.

Vision Clearance Area. A portion of land established at street, alley, or driveway intersections in which nothing may obstruct the sight distance of motorists entering or leaving the intersection, unless specifically exempted by this Code.

W

Warehousing. The storage of finished and unfinished products and materials within an entirely enclosed building. This use may include facilities for regional wholesale distribution, if permitted by the applicable land use district.

Commented [RM41]: Existing definition in 6.1. Also see new draft code section 3.2.415(E).

Waste Storage. A place where waste containers, including compactors, dumpsters, and garbage cans, are collectively stored. Waste storage includes, areas used to collect and store refuse or recyclable materials. Exempt from this subsection are waste storage areas for detached Single-unit Dwellings, middle housing types, and areas used for the temporary storage of wood pallets or cardboard.

Watercourse. Rivers, streams, sloughs, drainages including intermittent stream and seeps, ponds, lakes, aquifers, wetlands and other waters of the State. This definition also includes any channel in which a flow of water occurs, either continuously or intermittently, and if the latter with some degree of regularity. Watercourses may be either natural or artificial. Specific watercourses that are protected by this Code are those shown on the water quality Limited Watercourse Map.

Water Quality Limited Watercourses (WQLW). Those watercourses within the City and its urbanizing area that are specified on the WQLW Map.

Waters of the State. These waters include lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (excluding those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly or potentially within or bordering the State or within its jurisdiction.

Wellhead Protection. Implementation of strategies within a wellhead protection area to minimize the potential impact of containment sources on the quality of groundwater used as a drinking water source by a public water system.

Wellhead Protection Area. A Drinking Water Protection Area for a groundwater-supplied drinking water source.

Wellness Center. A facility, owned by a public agency, operated by a public or non-public agency or private individual or firm, offering wellness-related health services and/or treatment to the public, including, but not limited to, diabetes and health education classes, physical, speech and occupational therapy, and fitness and nutrition services, but excluding alcohol and drug rehabilitation facilities other than prevention education.

Wetlands. Areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances to support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions. Wetlands include swamps, marches, bogs, and similar areas excluding those constructed as water quality or quantity control facilities.

Wheel Stop. A permanent and secured device in each parking stall which blocks the front wheels of a vehicle.

Wholesale Trade. Establishments or places of business primarily engaged in selling merchandise to retailers; to industrial, commercial, institutional, or professional business users, or to other wholesalers; or acting as agents or brokers and buying merchandise for, or selling merchandise to, the individuals or companies. Wholesale trade may include retail trade as a secondary use when wholesale trade is the primary use. Wholesale trade does not include storage and sale of bulk fuel oil, bulk fuel, explosives or other hazardous material, or live animal sales other than small domestic pets when the sales are made from the premises. Wholesale trade by brokerage only, with no display or storage of merchandise on the premises, is considered a Business Office use.

Windthrow. Trees felled by wind.

Wireless Telecommunications Systems (WTS). The sending and receiving of radio frequency transmissions and the connection and/or relaying of these signals to land lines and other sending and receiving stations (cell sites), and including cellular radiotelephone, personal communications services, enhanced/specialized mobile radio, and commercial paging services. Terms and definitions associated with WTS facilities, and the standards that regulate their siting and design are found in SDC 4.3.145(E).

Wooded Lot/Parcel. A lot/parcel or parcel 10,000 square feet or larger, above 670 feet in elevation, which contains more than 5 trees 8 inches or greater dbh.

Working Day. Monday through Friday, exclusive of official City holidays.

Wrecking Yard/Salvage Yard. Any lot/parcel or structure used for the storage, dismantling or sale of inoperable motor vehicles, trailers, machinery and/or building materials or parts.

Y

Yard. For the purpose of establishing setbacks, yard is an open space on a lot which is unobstructed from the ground upward except as otherwise provided in this code.

Yard, front. An open space extending the full width of the lot between the front facade of a building or the front of an unenclosed porch and the front lot line, unoccupied and unobstructed from the ground upward except as specified elsewhere in this code.

Yard, rear. An open space extending the full width of the lot between the rear facade of a building and the rear lot line, unoccupied and unobstructed from the ground upward except as specified elsewhere in this code.

Yard, side. An open space extending from the front yard to the rear yard between the side facade of a building and the nearest side lot line, unoccupied and unobstructed from the ground upward except as specified elsewhere in this code.

Yard, through-Lot/Parcel Rear Yard: The first 10 feet of land paralleling street right-of-way this is parallel to and most distant from the front yard *property* boundary used for address purposes.

Yard, Street Side Yard: The first 10 feet of land paralleling street right-of-way, which intersects the front yard *property* boundary.

Youth Hostel. Any building designed or intended to provide temporary accommodations for traveling young people.

Z

Zoning District. A specifically delineated area or district within the Urban Growth Boundary that implements the Metro Plan within which the use of land is regulated and development standards are applied.

Middle Housing Implementation Community Survey Report

DEVELOPMENT CODE UPDATE PROJECT – PHASE I

SEPTEMBER 2021



Purpose of the Development Code Update

The purpose of the Development Code Update Project is to update the Springfield Development Codes that could support efficient, timely, and clear development review. The updated development code will also support Springfield's economic development priorities and will honor Springfield's hometown feel now and in the future.

The development code update is an opportunity to provide for more housing of all shapes and sizes for all residents of the city of Springfield, as well as provide increased opportunities for job creation. A new development code will support housing affordability in Springfield by making the process more predictable and lowering development costs and creating a more diverse housing stock. In the wake of the pandemic, housing costs have risen, and the market has become extremely tight in Springfield. The code update will be a major step towards creating clear approval options for a greater variety of new housing and allowing more residents to find or create a place that suits their preferences and needs.

Development Code Update - Phase 1 Middle Housing Implementation

The State of Oregon law requires that the local governing authorities such as the City should have clear and objective standards for housing. Additionally, new state laws (Housing Bill 2001) require Springfield to allow Middle Housing developments; bringing significant changes to the housing code sections of the Development Code.

Middle Housing includes duplexes, triplexes, fourplexes, cottage clusters and town homes. Some of these middle housing types can be either attached or detached. In other words, they are residential living units for two or more households but fewer than a typical apartment building. Middle housing can create housing opportunities for low-and middle-income households, smaller households as well as young adults and seniors.



Public Outreach Survey - Executive Summary

The Development Code Update Project launched its outreach survey in the beginning of July 2021 and the public was invited to participate in the survey to provide feedback for the Development Code Update – Phase I which includes Middle Housing . The survey

asked questions and public opinion regarding Middle Housing code standards that the City could adopt in order to comply with the Oregon State Housing Bill 2001 (or HB 2001).

In addition to the survey the Springfield Development Code Update project has engaged the public via its virtual [Public Open House](#). Through the virtual open house public has the opportunity to explore about the Springfield Development Code Update project or connect with the City staff regarding any questions or concerns they may have about the draft Springfield Development Code Update.

The goal of the Community Engagement Plan for the Development Code Update project is to ensure that the members of the Springfield community have the relevant and updated information about the project so they can engage and provide valuable input to the project.

Structure of the Survey

The questions in the survey were based on levels of implementing House Bill 2001. The state adopted minimum standards in the Oregon Administrative Rules (OAR) that serve as a baseline for complying with the bill. The questions asked community members whether Springfield should do the minimum required to comply with the OAR's, referred to as the "Allow" option, or go beyond the minimum required, referred to as the "Encourage" and "Maximize" options.

The survey incorporated eight questions pertaining to the following middle housing standards;

1. lot size
2. lot coverage
3. height restrictions
4. parking requirements
5. design flexibility and standards

Additionally, community members had the option to provide comments on each of these questions.

The survey had an optional demographic section that asked the community members questions regarding their residency status in Springfield, current living situation, race/ethnicity, gender identity and age range. These questions helped the staff understand who was able to engage and provide input to the project and whose opinion wasn't

heard in the survey. The optional last section of the survey asked the community members to share any additional input or comment about the project.

The public survey was published in both English and Spanish language and there was a total of 80 respondents to the survey. There were no respondents to the Spanish version of the survey, however for the English version 10% of the respondents selected Hispanic/Latino as their race/ethnic identity.

Question 1

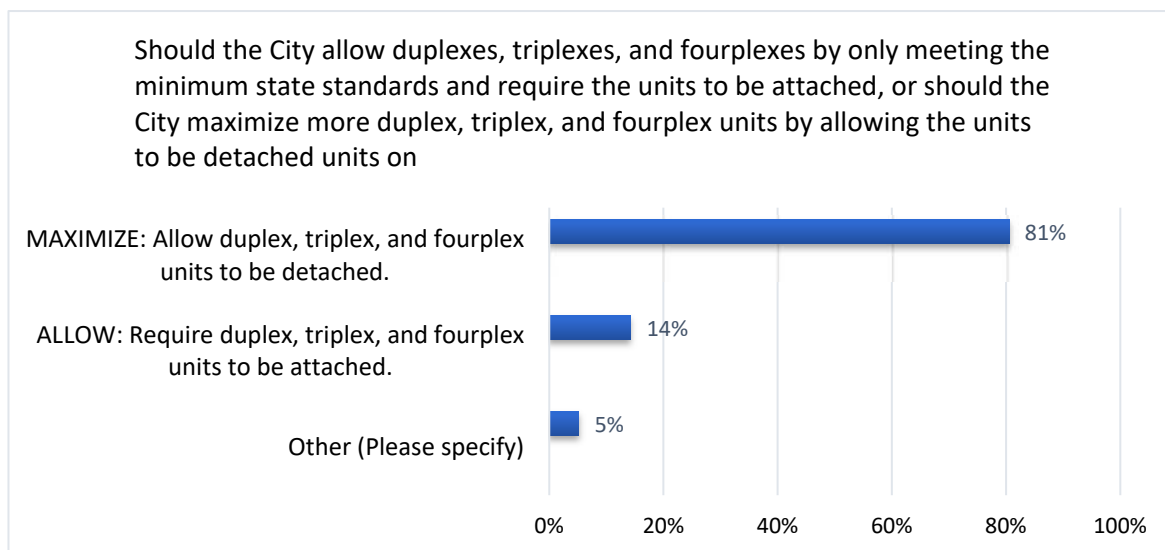
The first survey question asked the community members about the applicable standards for the new middle housing development in the city.

Should the City allow duplexes, triplexes, and fourplexes by only meeting the minimum state standards and require the units to be attached, or should the City maximize more duplex, triplex, and fourplex units by allowing the units to be detached units on a lot to provide more flexibility?

Out of the 80 total respondents who took the survey, 77 answered this question while 3 people chose to skip it. Approximately 80% of the respondents or 62 people want the development codes to maximize the state standards. This means that the development codes for the middle housing development should allow the structures to be detached.

Fourteen percent of the survey respondents, or 11 people, want the development codes to require duplexes, triplexes and fourplexes to be attached.

Fig 1: Question 1 survey result



Four people (the 5% that choose “other”) provided comments on this question with concerns about parking requirement, neighborhood aesthetics and crowded neighborhood.

“While I like the idea, parking is not being addressed nor is the wear and tear on neighborhood streets.”

“Minimize crowding on land while allowing some development, I bought my home and don't want plexes all around me.”

“Depends on the style of the neighborhood. In a street of 2-story houses, tiny, detached units would look out of place. But a townhouse attached plex would match.”

“Should not allow.”

Question 2

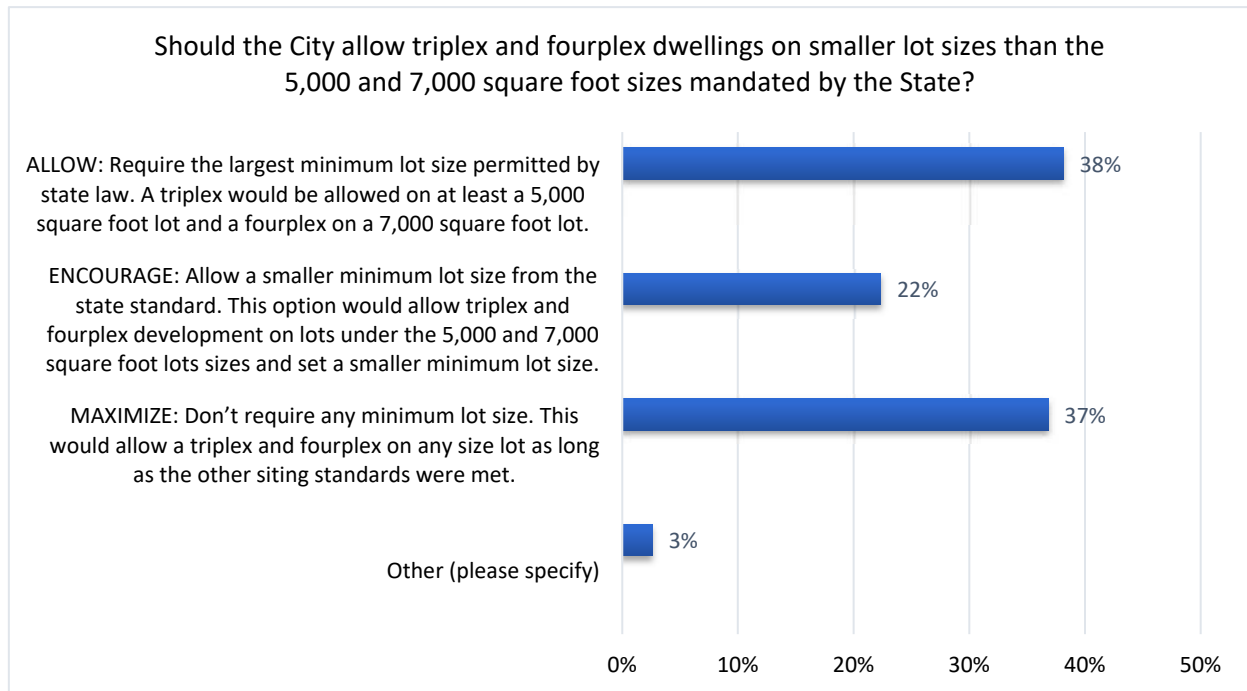
In the outreach survey, the second question asked the respondents about the siting of triplex and fourplex dwellings on a minimum lot size.

Should the City allow triplex and fourplex dwelling on smaller lot sizes than the 5,000 and 7,000 square foot sizes mandated by the State?

Seventy-six people answered this question while 4 respondents skipped this question. Approximately 38%, or 29 people, agree that the City standards should follow the State standards that will allow a triplex on a 5000 square foot lot size and a fourplex on a 7000 square foot lot size. About 22%, or 28 survey respondents, want the City to Maximize minimum lot size requirement, which mean the development codes should allow triplexes and fourplexes on any lot size as long as other siting standards are met.

About 22%, or 17 respondents to the survey chose the Encourage option, which would allow a smaller minimum lot size than the state standard. This option would allow a triplex and fourplex to be sited on a smaller lot size under 5,000 and 7,000 square feet and set a smaller minimum lot size standard for these types of middle housing.

Fig 2: Question 2 survey result



2 people who chose 'other' as their response commented:

"Allow reduction only for detached plexes"

"NO NO NO"

Question 3

The third question in the survey asked the community members about height limit for the middle housing types.

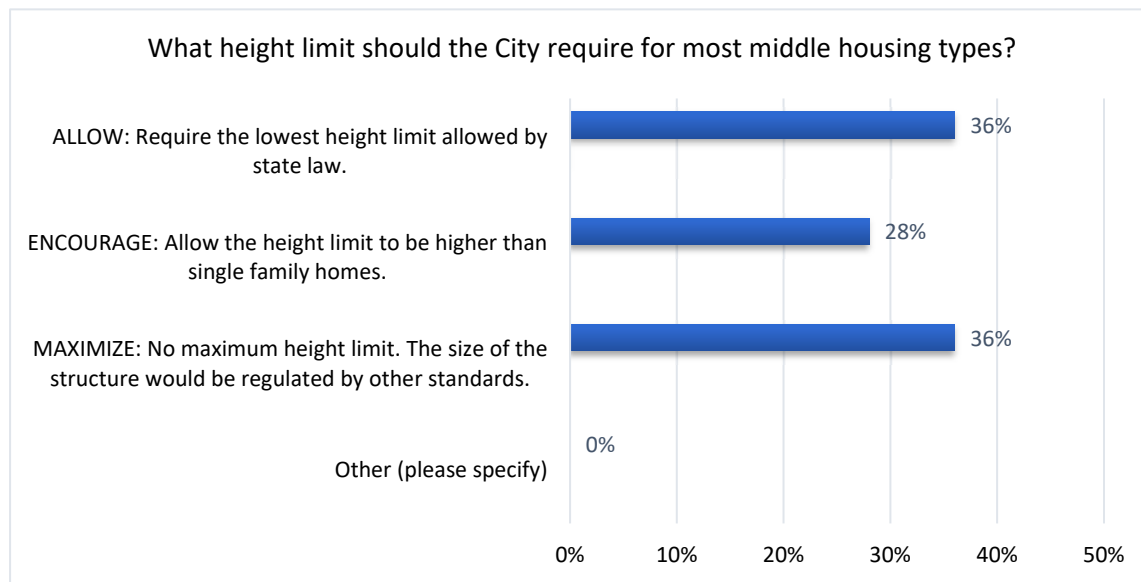
What height limit should the City require for most middle housing types?

Seventy-five people chose to answer this question while 5 skipped this survey question. An equal number of respondents chose Allow and Maximize as their answer. Twenty-seven people (36%) want the city development codes to follow State law that require lowest height limit for the middle housing types, while an additional 27 people (36%) also want the development codes to have no maximum height limit. In this case the size of the structure would be regulated by other standards.

Twenty-one survey respondents (28%) want to development codes to Encourage the middle housing height limit, this would mean that the height limit for duplexes, triplexes and fourplexes could be higher than the single-family homes.

There were no public comments received for this survey question.

Fig 3: Question 3 survey result



Question 4

The fourth survey question asked the respondents about lot coverage requirement for the middle housing types.

When building new middle housing, how much of the lot should be allowed to be covered?

Seventy-two people responded to this question while 8 people chose to skip it. In the survey results, 17 people (23.6%) chose the Allow option, which means the City development codes should require the lowest lot coverage allowed under the state law, which is currently 45% of the lot size.

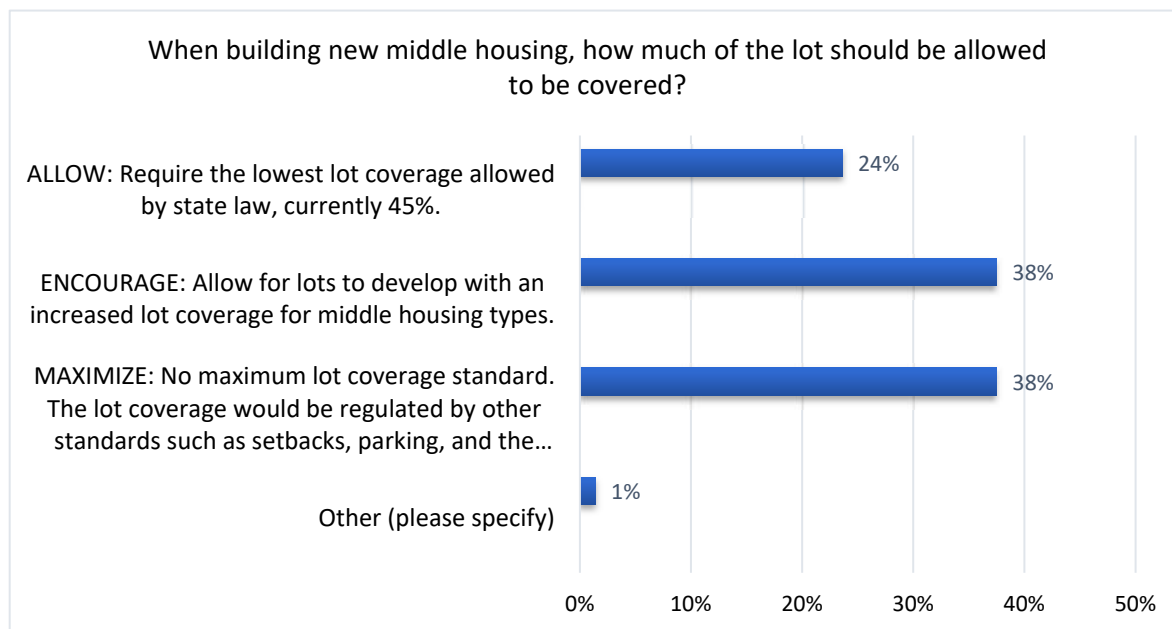
Twenty-seven survey respondents (37.5%) want the development codes to Encourage lot coverage size which mean that middle housing should be allowed to cover more than 45% of the lot size.

Similarly, 27 survey respondents (37.5%) want the development codes to Maximize lot coverage standard. This option does not set any maximum lot coverage standard, but it

would regulate other standards such as the setbacks, parking, and the need for stormwater management.

One of the respondents commented that, *“The development codes should only allow increased coverage (more than 45%) if it also requires neighborhood parks/open space within a block or two.”*

Fig 4: Question 4 survey result



Question 5

The fifth question in the outreach survey asked about parking requirements for the new middle housing developments.

When building new middle housing, how much space should be dedicated to parking?

The state law only allows cities to require a maximum one parking space per dwelling. Out of 72 respondents who chose to answer this question, 41 people, about 60%, do not think the city should require less than one parking space per dwelling.

Fifteen people, approximately 21%, chose the Encourage option which meant the development codes should require less parking than the state law. In this case, on-street parking could count toward the new middle housing development parking requirement

or less parking could be required near places where it is easier to get around without a car.

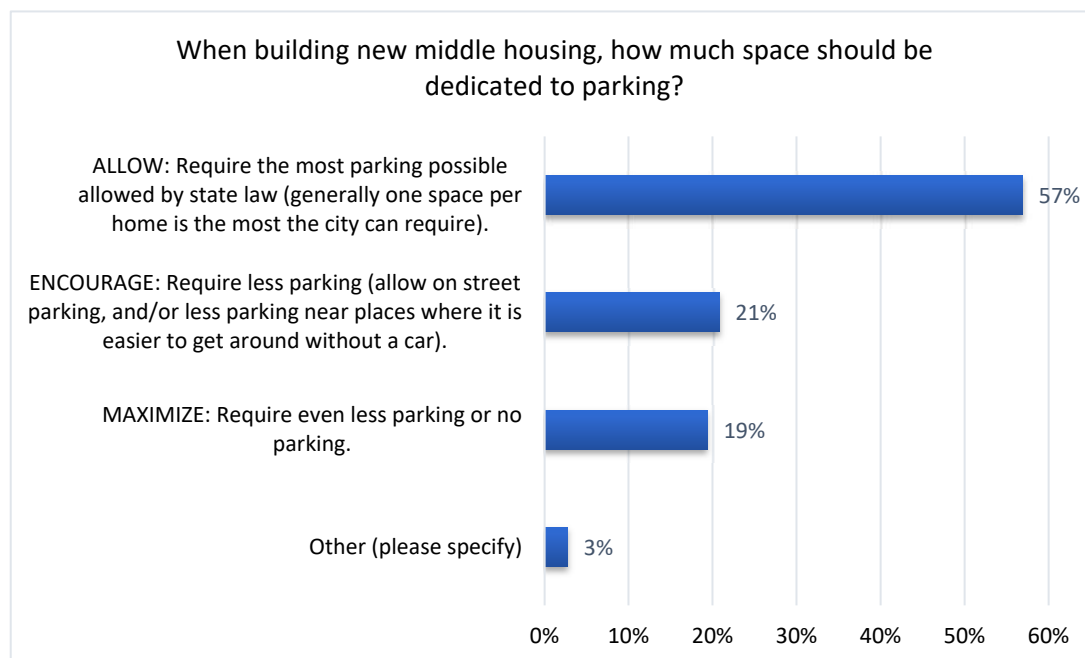
Fourteen respondents, about 19 %, chose the Maximize option which could require even less parking than the other two options or no parking at all for each individual home.

Two respondents chose to comment on this question;

“Parking spaces per unit”

“The state rules account for a family with 2 cars to live in a place, the duplex’s tend to have 4 or more cars per address so either a limit of cars or required off street parking should be considered.”

Fig 5: Question 5 survey result



Question 6

The sixth question in the survey asked about the level of design standards that the city should adopt for the middle housing developments.

What level of design standards should the City use for middle housing?

Out of 80 total respondents 70 people chose to answer this question. 20% of the survey respondents, or 14 people, want the city to adopt the highest level of design standards

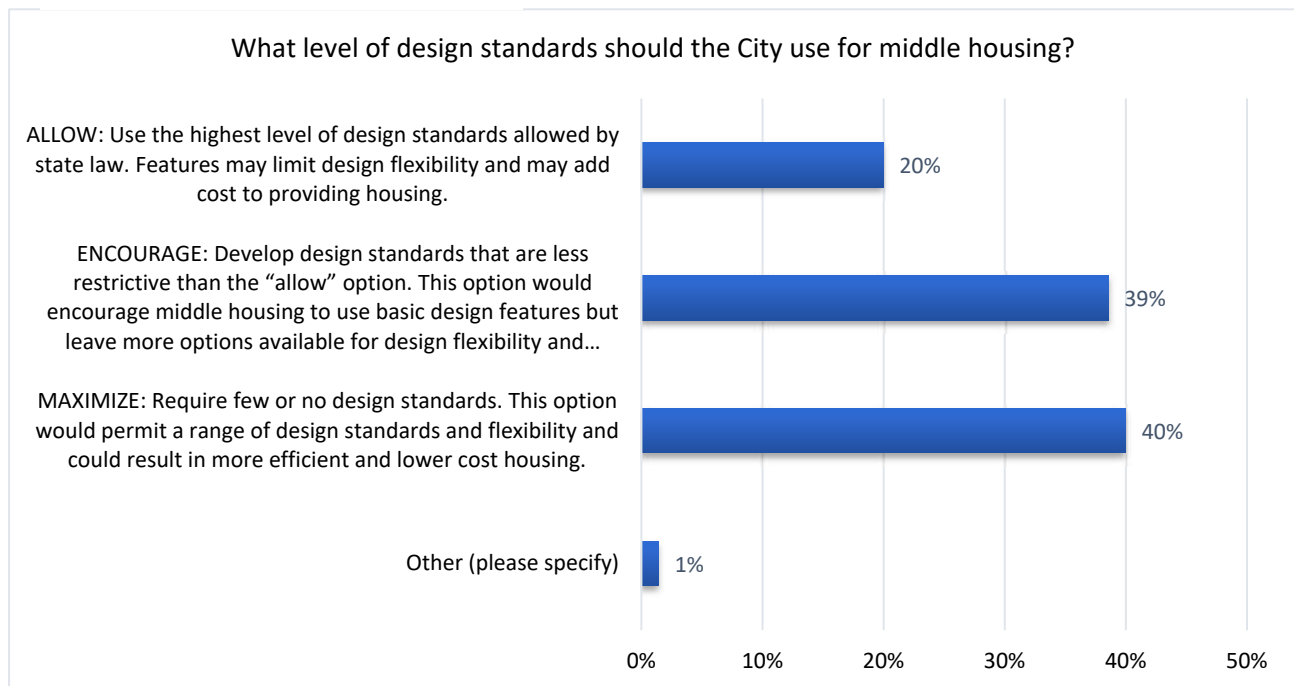
allowed by the state law. This would limit design flexibility but may encourage more diversity of design. It may add cost to providing housing.

Twenty-seven respondents, approximately 39%, feel that the development codes should encourage less restrictive design standards than the Allow option. This option would encourage middle housing to use basic design features but at the same time leave room for design flexibility. This option could also potentially reduce the cost for middle housing development.

Twenty-eight survey respondents, or 40%, want the City to Maximize the level of design standards. This means that the development codes should require few or no design standards. This option would permit a range of design standards and flexibility and could result in more efficient and lower cost housing.

One survey respondent commented on this question and wants the development codes to have the provision for incentives to allow *“flexibility: affordability, greater landscaping, etc.”*

Fig 6: Question 6 survey result



Question 7

For the seventh question, the survey asked the community members about the general direction for middle housing development in the Springfield community.

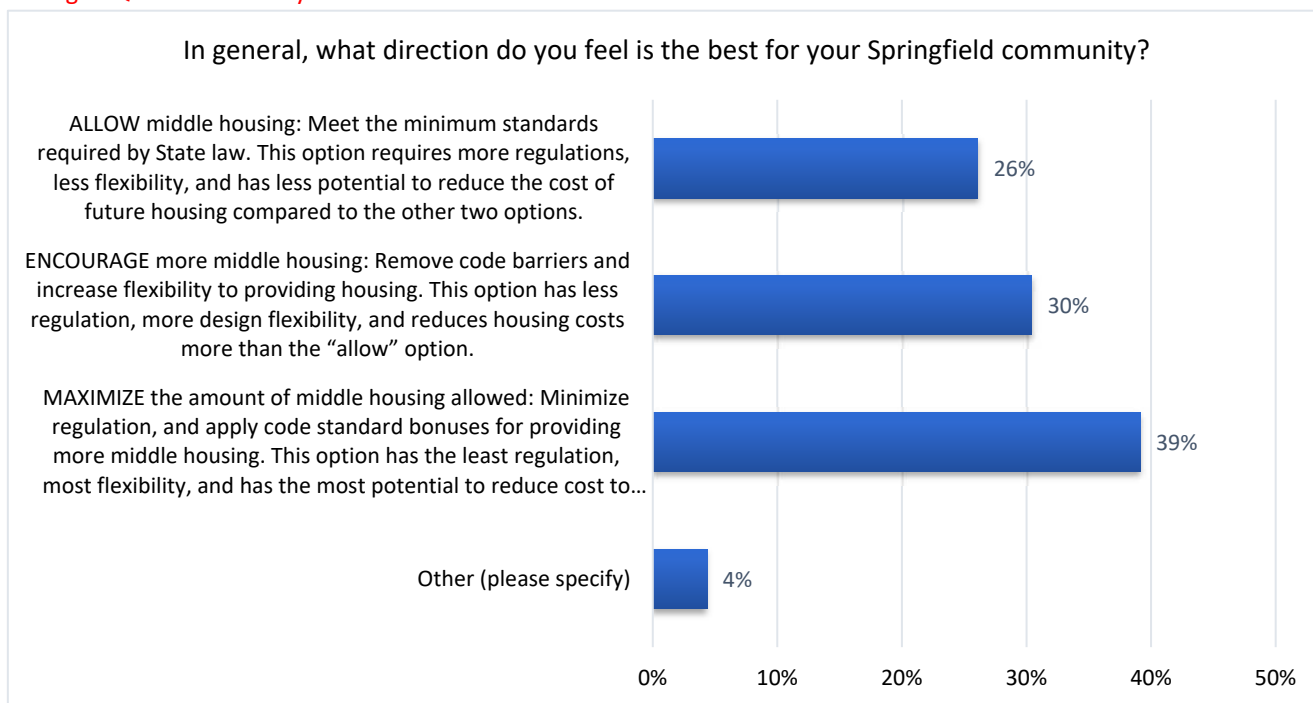
In general, what direction do you feel is the best for your Springfield community?

Sixty-nine people answered this question, 18 people, or 26%, want the development codes to Allow middle housing by meeting minimum standards required by the state law. This option would require more regulations, less flexibility, and less potential to reduce the future cost of housing in the community.

Twenty-one people, or 30%, of the survey respondents want the city to Encourage more middle housing by removing code barriers and increasing flexibility to provide housing. This option would have less regulations, more design flexibility, and reduce potential housing cost than the Allow option.

Twenty-seven people, or 39%, agree that the development code should Maximize the middle housing development by minimizing regulations and applying code standard bonuses for such developments. This option would have the least regulation, most flexibility and the most potential to reduce future cost of providing housing in the community.

Fig 7: Question 7 survey result



Three survey respondents (4%) commented on this question with various suggestions. One respondent wants the development codes to *“encourage some regulations such as parking & maximize others such as any dwelling type on individual lots”*.

Other survey respondent commented; *“Designate historic houses; limit number of high-density units per residential outline, do not subsidize developers, be mindful & creative in allowing current single homes to be bought & turned into a ‘mini-tropolis’ of ugly, uncreative, nondescript units that have no seeming spirit to the development & architectural construct.”*

A third person responded as, *“Expand on undeveloped land rather than crowd out neighborhoods.”*

Question 8

Feedback and Comments

The last survey question asked the respondents to share their feedback and comments about the Phase 1 Middle Housing Implementation. There were 30 comments received to this question. People commented on various aspects of Middle Housing development such as the development standards, parking space requirement, aesthetics, and quality of the middle housing. People also commented about the increasing crowd in a neighborhood and suggested to have middle housing in new undeveloped areas of the community.

Several people commented about increasing the affordable housing stock in the Springfield community.

The comments received from the survey respondents:

“We need rules and regulations. But we need to loosen a few things so that ALL people can have a home.”

“Even apartment communities that have one space per unit still struggle with parking when there are multi-car families or roommates with their own vehicles. Requiring each unit to have its own off-street parking space should be the minimum for every development.”

“With the housing cost in Springfield, people will be looking towards middle housing. Instead of continuing to make people share rooms in a custom-built home that is overpriced, in rent, create some type of cost-effective detached dwelling options that are more affordable.”

"The key to preserving the feel of single-family neighborhoods is the outside appearance. Regulation should cover # of cars in the common streets thru zone parking permits and on property as well as landscaping/weed control for fire prevention."

"I appreciate Springfield accepting input. I hope that Springfield does not go the way of Eugene in the ridiculously, nondescript facades that are being designed. Create a signature model "We can do better". Keep prospect in mind regarding the viability and perspective of how the community will present in the years to come. Do not displace low-income residential units "mobile home parks - which are the best low-income housing units available currently - for monolithic, high-end units. Set standards to include the low-income community; do not just create a paper trail of intention."

*"Density is good, especially near transit options like bus routes and *separated* bike paths, but primary concern is quality of buildings. New rules should encourage existing Springfield residents and property owners to expand on their own properties and reduce real estate investor incentive to throw up low-quality housing that they will fail to maintain and will be falling down after 20 years of rain and extreme weather.""*

"I appreciate the opportunity to add my voice on this topic. I hope that Springfield also has a plan in place to make sure a healthy portion of this new development is truly affordable."

"Maximizing the amount of middle housing allowed and minimizing regulation is the smartest option and would be a great step towards lowering housing costs, thereby creating more supply and lowering the excessive demand there is for housing at this point in time."

"At first I didn't care too much about having multiple housing units on one lot. I know it is necessary to increase opportunities for more to be homeowners. If the city can make these dwellings look nice, upscale and provide a bit of niceties to the homes, that would be great for potential homeowners."

"While housing is needed and important, so is community safety, aesthetics, and space. We need to look for options that are less likely to look crowded, such as many cars on the street or tiny detached units that have families crammed together. The town house option looks the nicest and allows families to have a more "upscale" option for less. An especially efficient option would be to have housing over commerce. This would reduce cars on the road allowing people can shop where they live."

"We should remove as many barriers as humanly possible to incentivize the construction of new housing."

"Affordable market rate is important. I want a garage and lots of windows, but I don't need granite countertops. Units should match aesthetic of street and neighborhood. No ugly boxes. Look to classic house plans. Washburne already had plexes that match the area."

"I consider maximizing middle housing essential to the community's health and well-being."

"The MDR zone should allow the same flexibility in housing options as the LDR zone"

"Please consider becoming well acquainted with the extensive literature on the deleterious health effects of high density living before making any decisions. Thank you."

"What are the options and differences for the Washborne Historic Distric Development Codes?"

"While I fully agree that more housing is needed I feel not enough thought is given to infrastructure to support more homes."

"Keep the government out of people's homes. It's okay to regulate for safety reasons, however, you cannot tell me how many windows I must have on the front of my development property and how to design it aesthetically."

"We also need homes for purchasing that can not be bought up by Investment Owners, or Hedge funds. We are being bought and extorted by property managers with little to no regulation on the quality of said housing and people are forced to pay for lower quality housing at inflated rates due to housing shortages. I propose the consideration of houses being built and sold to DevNW enrollee's and Section 8 Case Managed individuals in order to free up low-income housing and allow for those who worked hard to leave low-income, but can't quite make it in the standard market to have the opportunity to be home owners. I also propose any landlord renting properties be subjected to annual quality inspections and be fined for not maintaining their properties."

*"Each unit needs one parking space *on* the property. This minimally impacts the surrounding neighborhoods and it is safer for drivers and pedestrians."*

"Maximizing flexibility is definitely needed. Thank you"

"I appreciate the considerations of changes to the development code but I don't want to see it become a free-for-all. If we remove too many guidelines someone is bound to take advantage of it."

"What about Tiny Homes and Grandma Cottages"

"I just visited the Midwest where there are many smaller homes & trailers. It became apparent to me that Oregon demands too much equality. Let people live in small crappy houses. It is better than being homeless"

"Where it's a choice between being aesthetic vs packing in the most people and saving the most money, I prefer that we are attractive with a "calming" feel so Springfield can have a classy reputation and residents develop pride for how attractive and calming our city is to look and and walk around in."

"Ths new cottages for \$300K on 19th aren't even selling. Too crowded in an already crowded area. Housing advantages should help people not landlords who don't live here. Space is very important and homeowners invested in a single family home shouldn't be crowded out by plexes being put up. Please develop new sites for new plexes, don't add to the stress of Springfield's other unappealing qualities. Let's make it a place that feels good, not crowded."

"I may have to move myself and family from Oregon as the price of buying a house and/or renting is astronomical. I was told by a realtor I could sell my house here in Oregon and buy two really nice houses in other states. Considering it as I could help my sons with getting a decent place to live, and they both work from home so moving is not a problem for them. The prices now are unsustainable IMO. Thank you for the survey"

"Springfield should remain a small town, that's the reason people live here. Getting too many out of state investors that could care less about our quality of life."

"Some areas of Springfield are better suited to middle housing infill as they are near parks/open space, public transportation, shopping, etc. Other areas are not due to hills and the associated challenges of parking, land stability, etc. I don't think there's a one-size-fits-all solution for our community. I am very much in favor of increasing our stock of affordable housing, including encouraging infill. But I think expanding the UGB and decreasing development costs needs to be a primary part of the solution. Infill in the form of quadplexes and townhouses on top of longstanding single family homes will only serve to destabilize neighborhoods as owner-occupied residences disappear. Those who value the elbow room, quiet, and privacy they've had will be driven out to subdivisions with CCRs prohibiting this type of housing. That will further the gap between those with means and those without."

"I'm a homeowner in the washburne and have been for 7 years. I've lived in Springfield for 15 years. I have a wife and 2 young kids. We love Springfield and we think that the

improvements made to the washburne and downtown area are phenomenal. We truly love Springfield and the direction it's heading. Please do not lower standards to add low-income housing or allow people to build ADU's and sublet their property. The direction Springfield and downtown are heading are wonderful and I hope that the people who lead the downtown revitalization continue to push forward with their plans. Prioritize tax paying citizens and people who contribute to the economy of Springfield. Don't lower standards to meet quotas or minimums. The quickest way to destroy downtown Springfield is to add low-income housing."

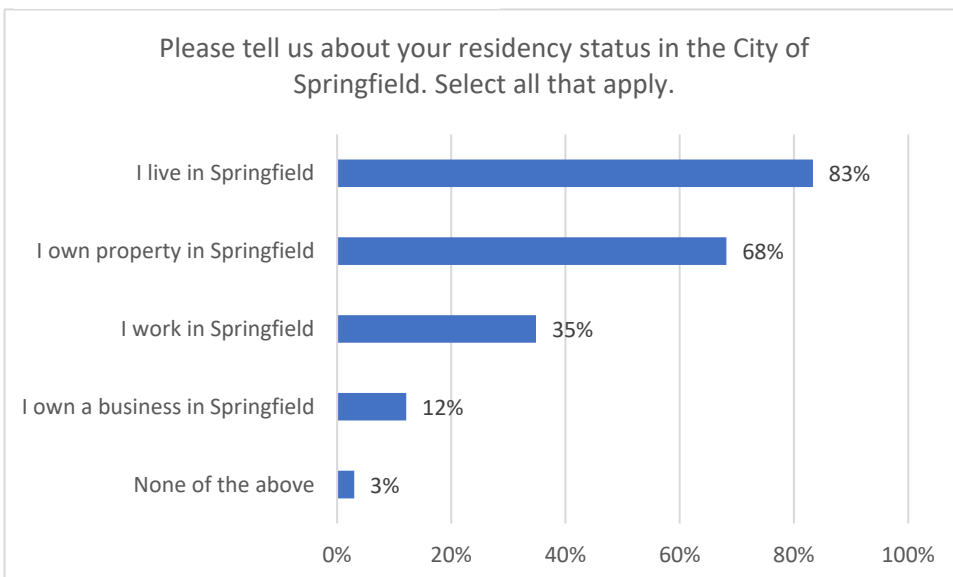
Demographic Survey

The optional demographic section asked the survey respondents questions regarding their residency status, living situation, age, race, and ethnicity. This information will help the staff, Planning Commission, and the City Council to understand who was able to engage and provide input to the project and whose opinion wasn't heard in the survey. The additional comment section gave the opportunity to the community members to provide their valuable opinion for the code update project.

Residency Status

Out of the 66 people who answered their residency status, 83% or 55 people live in Springfield, 23 community members or 35% of the respondents work in Springfield. Forty-five survey respondents, about 68% of the total respondents own a property in Springfield. Overall, most people who took the survey were a Springfield resident.

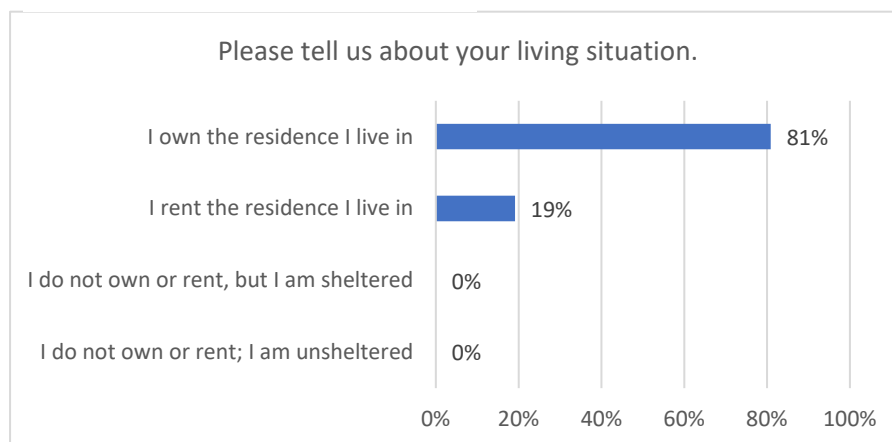
Fig 8: Residency Status survey result



Homeowners or Renters

Out of the 68 people who responded to this survey question; 81% of them, 55 people, own the residence that they live in. Thirteen community members (19%) rent their residence. None of the community members was either sheltered or unsheltered at the time of taking this survey. Overall, most people who took the survey were homeowners in the community.

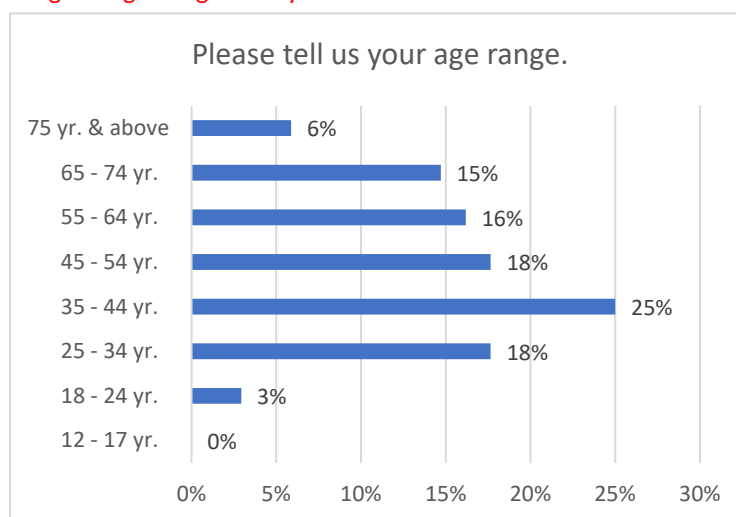
Fig 9: Living Situation survey result



Age Range

Out of 68 members who responded to this question, 17 people were 35-44 years old, 12 people were 25-34 years old and 12 people were 45-54 years old. Only 2 people in the age range of 18-24 years responded to the survey. There were no participants in the 12-17 years age group.

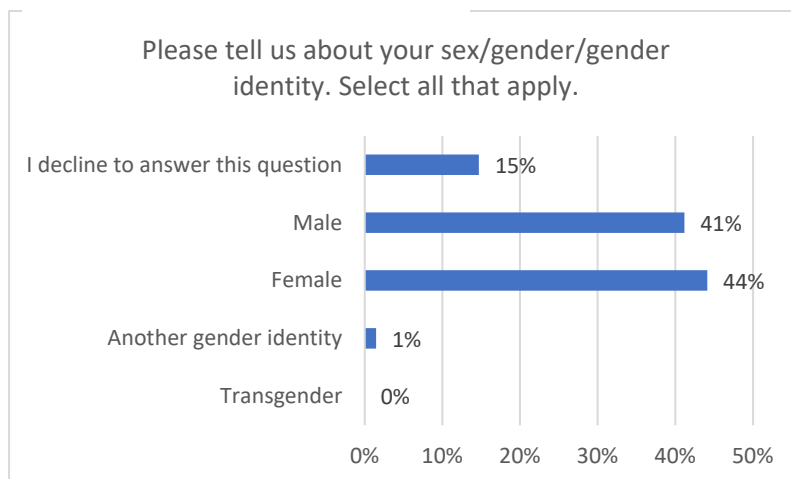
Fig 10: Age Range survey result



Gender Identity

Of the 68 total respondents to this question, 28 were female and 30 were male respondents. Ten people declined to reveal their gender identity. Overall, both male and female community members participated equally in the survey.

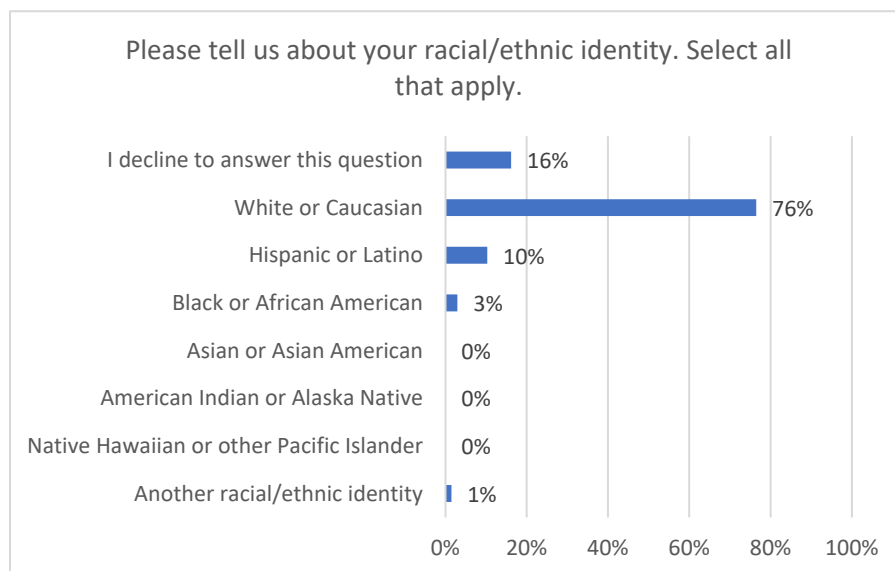
Fig 11: Gender identity survey result



Race and Ethnicity

Of the total 68 people who responded to this question, 52 people identified themselves as White/Caucasia, 2 people identified as Black or African American and 7 people identified themselves as Hispanic or Latino.

Fig 12: Race and Ethnicity survey result



Additional Thoughts from the Public

At the end of the demographic survey, community members had the option to provide additional thoughts and comments. The survey received 17 additional comments that suggest community member's opinion about middle housing implementation in the city. Some community members are grateful and believe middle housing will improve housing affordability in the city while few members think that middle housing will overpopulate Springfield and bring more crime into the community.

Following are the public comments that were received in the survey.

"Regarding why he voted against SB 3322 Sen. Beyer said "People make choices about where they live. Some people want to live in a planned community that's very dense... ...And I think that's a reasonable choice."

"I would like to see communities built. Units with 1, 2, 3, and 4 bedrooms all built on the same lot."

"I am concerned about crime associated with high density dwellings. I understand the need to implement the new state law. Education regarding the positive and negative aspects of this type of housing will do a lot to enhance acceptance."

"I am a business owner, homeowner, and rental owner all in the city of Springfield."

"I also work with unhoused families in Lane County on a daily basis and see the struggles we face due to housing shortages, and slumlords in Springfield. I am so grateful Springfield is taking a serious approach to reducing housing barriers and ensuring that we can reduce the unhoused population by creating housing."

"Really think about what you might create in Glenwood. Do not destroy the river front nor the low housing availability in this area. Be thoughtful. Accent to beauty of our waterway. Do not hide it behind imposing structures. Think about wind flow and spaciousness as you look at high density and in fill. Really make the goals to be about the people/community not the developers and the profit enhancement cloaked in the idea of cost containment. Don't be cheap be mindful of efficiency and creativity."

"I've seen what is happening at Marcola Meadows and those are not well-built houses. Anything that encourages that type of development is bad news for the quality of our city."

"I have lived here all of my life and invest in Springfield. I own several properties in Springfield and keep them clean and updated as well as try to make them as affordable for families as possible. Thank you."

"Stop overpopulating Springfield! Out of state transplants do not respect our values and lifestyle."

"I own my home here in North Springfield. Obviously, we're not incorporated yet, but I consider myself a Springfield resident."

"Are there minimum lot dimensions in feet-inches? I don't see min street frontage. Is an ADU able to be added to all 'plexes', as well as single unit? It is unclear what primary dwelling means - it's not defined."

"Dwellings should enhance the look of the neighborhood."

"Thank you"

"Irritated that new liquor or pot businesses seem to be added weekly. Need more family friendly eating establishments."

"Please leave some yards and greenspace. Once someone builds an ADU there's no going back."

"To encourage affordable housing, more houses utilizing building permits, and citizens treating their properties better, you should reconsider your pricing structure for "upgrades" to houses or appliances. Many people in my neighborhood are forgoing proper permitting due to the cost of a permit."

"I live in a condominium. Creating more affordable, non-traditional housing is a must."

AGENDA ITEM SUMMARY

Meeting Date: 10/5/2021
Meeting Type: Regular Meeting
Staff Contact/Dept.: Melissa Cariño, DPW
Staff Phone No: 541.744.4068
Estimated Time: 10 minutes
Council Goals: Promote and Enhance our Hometown Feel while Focusing on Livability and Environmental Quality

**SPRINGFIELD
PLANNING COMMISSION**

ITEM TITLE:	DISCRETIONARY USE APPLICATION FOR MULTI-UNIT RESIDENTIAL DEVELOPMENTS LOCATED ON TWO ADJACENT SITES ON HORACE STREET IDENTIFIED AS ASSESSOR'S MAP 18-02-05-23, TAX LOT 202 AND TAX LOT 204.
ACTION REQUESTED:	Conduct a public hearing and deliberations. Commission can approve, approve with conditions, or deny a request for a Type III Discretionary Use approval of a proposed alternative roof form using the Discretionary Use criteria listed in Springfield Development Code (SDC) 5.9-120 and the Multi-unit Design Standards – Alternative Design Discretionary Criteria listed in SDC 3.2-245.
ISSUE STATEMENT:	The applicant has requested a review under the Multi-unit Design Standards – Alternative Design Discretionary criteria (SDC 3.2-245) for two adjacent multi-unit residential developments on Horace Street. The applicant seeks approval for an alternative roof form for the proposed three residential buildings on the subject sites.
ATTACHMENTS:	<u>Attachment 1:</u> PC Order –811-21-000196-TYP3 Exhibit A: Vicinity Map for Subject Sites Exhibit B: Staff Report and Findings <u>Attachment 2:</u> Applicant Submittal Exhibit A: Proposed Building Elevations Exhibit B: Site 1: Site Plan, Tax Lot 202 – 811-21-000141-TYP2 Exhibit C: Site 2: Site Plan, Tax Lot 204 – 811-21-000226-TYP2
DISCUSSION/ FINANCIAL IMPACT:	<p>The applicant plans to develop two multi-unit residential projects located next to each other on Horace Street and across from Mt. Vernon Elementary School. Both projects are currently in the Site Plan Review process. Because the proposed roof form on the buildings does not meet the Multi-unit Design Standards (SDC 3.2-240), the applicant submitted a Discretionary Use application utilizing the Multi-unit Design Standards – Alternative Design Discretionary Criteria listed in SDC 3.2-245), specifically under Building Form.</p> <p>The Type III Discretionary Use review process is running concurrently with the Site Plan Review and Tree Felling Permit applications for the adjacent multi-unit residential developments, but the Planning Commission is only making a decision on the Building Form, and in particular the roof design. The Planning Commission may:</p> <ul style="list-style-type: none">• Approve the application;• Modify the findings and/or add conditions of approval; or• Deny the application based on the Commissions' findings in response to criteria in SDC 3.2-245 (Multi-unit Design Standards – Alternative Design Discretionary Criteria). <p>The Planning Commission's decision is final unless appealed to the Springfield City Council as provided in SDC 5.3-120.</p>

**BEFORE THE PLANNING COMMISSION OF SPRINGFIELD, OREGON
FINAL ORDER FOR:**

**DISCRETIONARY USE APPLICATION FOR MULTI-UNIT RESIDENTIAL
DEVELOPMENTS LOCATED ON TWO ADJACENT SITES ON HORACE STREET
IDENTIFIED AS ASSESSOR’S MAP 18-02-05-23, TAX LOTS 202 AND 204.**

]
] **811-21-000196-TYP3**
]
]

NATURE OF THE APPLICATION

Discretionary Use and Multi-unit Design Standards – Alternative Design Discretionary Criteria Approval for the use of the shed roof form on the three buildings for multi-unit residential developments located on two sites on Horace Street, across from Mt. Vernon Elementary School. The two adjacent lots are identified as Assessor’s Map 18-02-05-23, Tax Lot 202 and Tax Lot 204. The subject properties are shown in the Vicinity Map for the subject sites, which is **Exhibit A** to this Order.

Timely and sufficient notice of the public hearing has been provided, pursuant to SDC 5.2-115.

On October 5, 2021, the Springfield Planning Commission held a public hearing and conducted deliberations on the Discretionary Use application. The staff report, written comments, and any testimony of those who spoke at the public hearing were entered into the record.

CONCLUSION

On the basis of this record, the Discretionary Use is consistent with the the Multi-Unit Design Standards – Alternative Design Discretionary Criteria of SDC 3.2-245. This general finding is supported by the specific findings of fact and conclusion in the Staff Report and Findings, attached hereto as **Exhibit B**.

ORDER/RECOMMENDATION

It is ORDERED by the Springfield Planning Commission that Case Number 811-21-000196-TYP3, Discretionary Use Application, be approved as conditioned in Exhibit B. This ORDER was presented to and approved by the Planning Commission on October 5, 2021.

Planning Commission Chairperson

Date

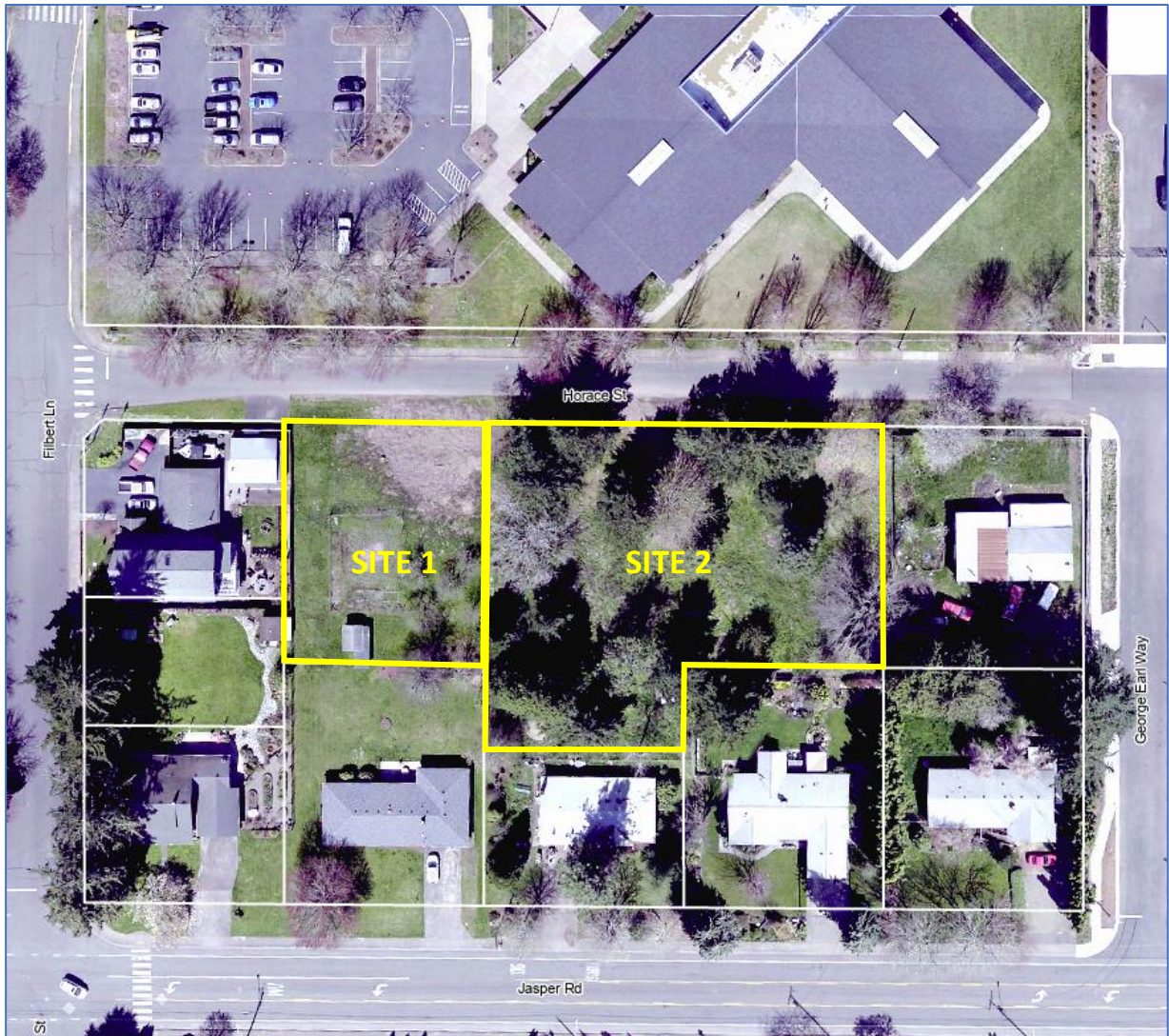
ATTEST

AYES:

NOES:

ABSENT:

ABSTAIN:



VICINITY MAP

811-21-000196-TYP3 Discretionary Use

Site 1: 18-02-05-23, TL 202

Site 2: 18-02-05-23, TL 204

Bruce Wiechert Custom Homes, Inc.

**Staff Report and Findings
Planning Commission
Discretionary Review Request:
Multi-unit Design Standards – Alternative Design Discretionary Criteria
*Horace Street Apartments***

Hearing Date: **October 5, 2021**

Case Number: **811-21-000196-TYP3**

Applicant: **Bruce Wiechert Custom Homes, Inc.**

Property Owner: **Bruce Wiechert Custom Homes, Inc.**

Sites: Two adjacent properties located on the south side of Horace Street, east of Filbert Lane, and across from Mt. Vernon Elementary School. The two sites are both zoned Medium Density Residential and are identified as Assessor's Map 18-02-05-23, Tax Lot 202 (*Site 1*: 0.31-acre western site) and Tax Lot 204 (*Site 2*: 0.74-acre eastern site). Both sites are currently vacant.

REQUEST

The Planning Commission is asked to conduct a public hearing and deliberations, and approve, approve with conditions, or deny a request for Discretionary Use Approval of a proposed alternative roof form under the Multi-unit Design Standards – Alternative Design Discretionary Criteria listed in SDC 3.2-245.

SITE INFORMATION/BACKGROUND

The applicant plans to develop two multi-unit residential developments located next to each other on separate Horace Street sites, across from Mt. Vernon Elementary School. Both projects are currently in the Site Plan Review process. Because one of the proposed roof forms on the buildings does not meet the Multi-unit Design Standards (SDC 3.2-240), specifically the Building Form design standard, the applicant submitted a Discretionary Use application to utilize an alternative shed roof form on the residential buildings.

The applicant proposes to develop an 8-unit residential building on Site 1 (Tax Lot 202) and 20 units in two residential buildings on Site 2 (Tax Lot 204). On Site 2, there will be a 12-unit residential building along with another 8-unit residential building for a total of 20 dwelling units. Site 1 has received Tentative Site Plan approval (811-21-000141-TYP2). A Tentative Site Plan review application has been received for Site 2 (811-21-000226-TYP2), but no decision has yet been issued. The Tentative Site Plan approval for Site 1 includes a condition of approval requiring the applicant to change the proposed roofs of the residential buildings to one that meets the Multi-unit Design Standards in accordance with SDC 3.2-240 or to obtain Discretionary Use approval for the proposed shed roof form as shown in the submitted building elevations. The Tentative Site Plan decision for Site 2 will reflect the outcome of the Planning Commission's decision on this Discretionary Use application.

The Planning Commission can approve, modify findings/conditions, or deny the application. The Planning Commission's decision is final unless appealed to the Springfield City Council as provided in SDC 5.3-120.

Notification and Written Comments

Notification of the October 5, 2021 Planning Commission public hearing was sent to all property owners and residents within 300 feet of the outer boundary of the subject site on September 3, 2021. Notification was also published in the September 26, 2021 edition of *The Register Guard*. Staff posted notices on the subject sites, the City's website, and the Digital Displays located in City Hall. Staff did not receive any comments regarding this application as of the date of this report.

* * *

On April 16, 2020, the Governor issued Executive Order 20-16, which requires governing bodies to hold public meetings and hearings by telephone, video, or through other electronic or virtual means whenever possible. On June 30, 2020, Oregon Legislature enacted House Bill 4212 (HB 4212), which waives requirements under the Oregon Public Meetings Law and other statutes to facilitate public meetings online or by phone. Under HB 4212, the governing body must make available a method by which the public can listen to or virtually attend the public meeting or hearing at the time it occurs. House Bill 4212 allows governing bodies to accept public testimony by telephone or video conferencing technology, or to provide a means to submit written testimony (including email or other electronic methods) that the governing body can consider in a timely manner. House Bill 4212 overrides conflicting requirements for quasi-judicial public hearings in state law or in the Springfield Development Code or *Metro Plan*.

The October 5th public hearing is being conducted via online meeting platform that allows members of the public to listen to the meeting online or by calling a toll-free number. Members of the public may provide testimony to the Planning Commission by joining the online meeting remotely. Details regarding how to join the online meeting were provided in the Planning Commission meeting agenda and posted on the SpringfieldOregonSpeaks online platform¹.

Criteria of Approval

Per SDC 5.9-120D.2, the Planning Commission may approve a discretionary use for alternative design standards for multi-unit development if the proposal conforms the Multi-unit Design Standards – Alternative Design Discretionary Criteria in SDC 3.2-245.

CRITERIA OF DISCRETIONARY USE APPROVAL

SDC 3.2-245 contains the Multi-unit Design Standards – Alternative Design Discretionary Criteria that are applicable to this application.

Finding 1: SDC 3.2-240 contains the Multi-unit Design Standards and SDC 3.2-245 contains the Alternative Design Discretionary Criteria. The applicant is requesting discretionary use approval only for a “shed” roof form. The “shed” roof form does not meet the standard in SDC 3.2-240.D.2.b that requires that “roofs shall have gable, hip, or gambrel forms, (minimum pitch 3 to 12) with at least a 6-inch overhang”. The applicable discretionary criterion to allow an alternative roof form is provided in SDC 3.2-245.C.

C. Building Form. The Planning Commission shall find that the proposed design promotes building forms that contribute positively to a sense of neighborhood and to the overall streetscape. This criterion may be met by complying with the Section 3.2-240D.2., Section 3.2-250 or by considering the following guidelines:

1. Design exterior building elevations to avoid large expanses of uninterrupted buildings.

Finding 2: The proposed exterior two-story building elevations show that the height of each building is ~27' high. The 8-unit buildings have the approximate dimensions of 38' wide by 100' long with a total square footage of 7,600 sq. ft. of living space. The 12-unit building have the approximate dimensions of being 38' wide by 150' long with an area of 11,400 sq. ft. of living space. All three buildings do not exceed the maximum 160' long building design standard in SDC 3.2-240D.2.a.

Finding 3: All three proposed buildings do not have any large expanses of uninterrupted building surfaces as required in the Multi-unit Design Standards (SDC 3.2-240.D) with human-scaled architectural elements including window and door, roof offsets, approximately 8-foot-high walls, porches, balconies, and projections. The largest uninterrupted building surface is approximately 20' and can be seen on the left elevation for the 8-unit buildings and the right elevation for the 12-unit building. This does not exceed the requirement in SDC 3.2-240D.2.e where architectural features shall occur at a minimum of every 30'.

¹ SpringfieldOregonSpeaks can be accessed at <https://springfieldoregonspeaks.org>

- 2. Depict building scale consistent with nearby buildings; “scale” relates to the size of various features (including, but not limited to entries, roof surfaces, façades, windows and materials) as compared to those features on nearby buildings.**

Finding 4: The proposed multi-unit residential building scale is consistent with nearby single-family residential buildings to the south and west with similar human scale-sized wall heights and entries at 7’9” high, ~ 4’x2’ vertical windows, and ~4’ x 3’ horizontal windows. While there are no shed roof forms used on nearby buildings, most of the buildings in the vicinity have either a gable or hip roof form. The proposed multi-unit residential buildings have both gable and shed roof forms; therefore, the gable roofs are consistent with buildings in the neighborhood.

- 3. Provide transitions to nearby buildings by massing; “mass” relates to the overall size or bulk of a building or its principal parts.**

Finding 5: The proposed site plans for both subject properties provide transition/buffer areas and required setbacks to nearby buildings. For instance, there is a 20’ setback between the 8-unit building on Tax Lot 202 and the 12-unit building on Tax Lot 204. The two buildings proposed for Tax Lot 204 have the parking area between them, providing considerable space (more than 40’) between the buildings.

Finding 6: The applicant also provides buffer and transition areas between the proposed buildings and other existing buildings abutting the subject sites. For instance, the proposal provides for more than 40’ between the 8-unit building on Tax Lot 204 and the property line for the parcel to the east. Likewise, there is ~40’ (parking lot) between the 8-unit building on Tax Lot 202 and the property line for the parcel to the west. On Tax Lot 202, the site plan provides more than 40’ of landscaping and stormwater management facilities between the residential building and the property line of the parcel to the south. On Tax Lot 204, the site plan provides more than 45’ of landscaping and stormwater management from both buildings to the property lines of the parcels to the south of the site. Lastly, the large buildings located at Mt. Vernon Elementary school are located on the other side of the Horace Street public right-of-way.

- 4. Provide porches, bays, and balconies that compliment nearby buildings.**

Finding 7: While nearby buildings do not provide the same land use (single-family residential, public school) as the multi-unit residential proposal, all three residential buildings for the subject sites provide porches and balconies for each dwelling unit that complement each other.

- 5. Provide roof variations through offsets, breaks and/or extensions.**

Finding 8: The proposed 2-story buildings have both gable and shed roofs that have a 4 to 12 pitch, which meets the minimum 3 to 12 pitch in SDC 4.2-240D.2.b. keeping the design at a residential scale, which is consistent with other nearby residential buildings to the west and south of the subject sites.

Finding 7: While the building design is residential in character, the adjustment to roof design standards also provides a dynamic, modern appearance than strict conformance to gable, gambrel, and hip roofs. Again, the shed roof is the only Building Form design standard the applicant is request an adjustment for in this application.

- 6. Provide transition between the multi-unit site and LDR areas.**

Finding 8: There are no Low Density Residential (LDR) zoned areas adjacent to the subject properties; however most, if not all, of the surrounding residential properties consist of a single-family home which mimics LDR zoned areas. The applicant provides the required buffer and transition areas between the proposed buildings and the other adjacent residential properties.

7. Enhance solar access protection and/or energy conservation.

Finding 9: While the applicant does not provide any specific details on energy conservation or enhancement of solar access protection with the proposed shed roof form, the pitch of the proposed shed roofs is the same as the proposed gable roof (4 to 12). Based on the roof pitch and building layout shown on the site plans, the applicant's proposal does not negatively impact solar access to surrounding properties or change the level of the building's energy efficiency with their proposal to use the shed roof form.

8. Protect on-site and off-site natural and designated historic features.

Finding 10: The subject sites do not have any on-site or off-site natural or designated historic features, so this guideline is not applicable to this application.

9. Provide human-scaled architectural detail.

Finding 11: The wall height for both the 1st and 2nd floors of the proposed buildings is ~8'. The doors are ~7' high and 3' wide. The windows dimensions are provided in Finding 4 and are located at the heights that allow the residents to look outside. The architectural details provided in the submitted building elevations are human-scaled.

10. Provide visual variety in elevations, architectural details, colors, and materials, compatible with existing development;

Finding 12: The submitted building elevations provide a variety in elevations and architectural details with the following: two different roof forms used; breaks and offsets of doors, windows, and roofs; and stone pillars where stairways are located. While there is no existing development on the subject sites, the proposed building elevations are compatible with existing development in the vicinity through roof types and pitch, building materials used, and building scale.

Conclusion: The proposed designs promote a building form that contributes positively to the sense of neighborhood and to the overall streetscape as can be seen in the submitted Building Elevations. The proposal meets all of the Building Form guidelines in SDC 3.2-245.C. The above findings demonstrate that the proposed building form design meets these Alternative Design Discretionary Criterion guidelines.

CONDITIONS OF APPROVAL

SDC Section 5.9-125 allows for the Approval Authority to attach conditions of approval to a Discretionary Use review request to ensure the application fully meets the applicable criteria of approval:

NO CONDITIONS OF APPROVAL RECOMMENDED

CONCLUSION: Based on the above-listed criteria, City staff recommends that the Planning Commission provide approval of the proposal because they believe it meets the applicable Discretionary criteria as listed in both SDC 5.9-120 and SDC 3.2-245.



Discretionary Use

Required Project Information		(Applicant: complete this section)	
Applicant Name: Bruce Wiechert		Phone: 541-686-9458	
Company: Bruce Wiechert Custom Homes, Inc.		Fax:	
Address: 3073 Skyview Ln., Eugene, OR 97405			
Applicant's Rep.: Anthony J. Favreau		Phone: 541-683-7048	
Company: The Favreau Group, LLC		Fax:	
Address: 3750 Norwich Ave., Eugene, OR 97408			
Property Owner: Same as applicant		Phone:	
Company:		Fax:	
Address:			
ASSESSOR'S MAP NO: 18-20-05-23		TAX LOT NO(S): 00202	
Property Address:			
Size of Property: 13,619		Acres <input type="checkbox"/> Square Feet <input checked="" type="checkbox"/>	
Description of Proposal: If you are filling in this form by hand, please attach your proposal description to this application. 8 Unit Apartment complex			
Existing Use:			
Signatures: Please sign and print your name and date in the appropriate box on the next page.			
Required Project Information		(City Intake Staff: complete this section)	
Associated Applications:		Signs:	
Case No.:	Date:	Reviewed by:	
Application Fee: \$	Technical Fee: \$	Postage Fee: \$	
TOTAL FEES: \$		PROJECT NUMBER:	

Owner Signatures

This application form is used for both the required pre-submittal meeting and subsequent complete application submittal. Owner signatures are required at both stages in the application process.

An application without the Owner's original signature will not be accepted.

Pre-Submittal

The undersigned acknowledges that the information in this application is correct and accurate for scheduling of the Pre-Submittal Meeting. If the applicant is not the owner, the owner hereby grants permission for the applicant to act in his/her behalf. I/we do hereby acknowledge that I/we are legally responsible for all statutory timelines, information, requests and requirements conveyed to my representative.

Owner:

Date:

Signature

Print

Submittal

I represent this application to be complete for submittal to the City. Consistent with the completeness check performed on this application at the Pre-Submittal Meeting, I affirm the information identified by the City as necessary for processing the application is provided herein or the information will not be provided if not otherwise contained within the submittal, and the City may begin processing the application with the information as submitted. This statement serves as written notice pursuant to the requirements of ORS 227.178 pertaining to a complete application.

Owner:

Date:

6-10-21

Signature

Print

Bruce Wiechert

HORACE APARTMENTS DISCRETIONARY USE NARRATIVE

July 17, 2021

Assessor's Map: 18-02-05-23 Tax Lot 0202

Applicants: Bruce Wiechert Custom Homes, Inc.
3073 Skyview Lane
Eugene, OR 97405
(541) 686-9458

Applicant's
Representative: The Favreau Group
3750 Norwich Ave.
Eugene, OR 97408
541-683-7048
Attn: Tony Favreau

DISCRETIONARY USE REQUEST

The applicant proposes to construct an 8-unit apartment building on the subject site. A shed roof is proposed instead the roof design as stated in **Springfield Code 3.2-240.D.2.b**. "*Roofs shall have gable, hip, or gambrel forms (minimum pitch 3 to 12) with at least a 6-inch overhang*". The Planning Commission may approve adjustments to the multifamily design per the City code below. Please see the responses below to the applicable code sections.

3.2-245 Multi-unit Design Standards—Alternative Design Discretionary Criteria

A. *Description. The Planning Commission may approve adjustments to the multifamily design standards listed in Section 3.2-240 that preclude compliance under Section 3.2-250. In addition, the applicant may chose this Type III Discretionary Use procedure when proposing an innovative design that may preclude compliance with one or more of the design standards under Section 3.2-240. The multifamily design standards are: Building Orientation; Building Form; Storage; Transition and Compatibility Between Multi-unit and LDR Development; Open Space; Landscaping; Pedestrian Circulation; Parking; and Vehicular Circulation. The Planning Commission shall find that the application complies with or exceeds the criteria for each applicable design standard. Criteria for design standards not relevant to the application shall not require a finding by the Planning Commission, unless the guidelines in Subsections B. through I. are implemented.*

B. *Building Orientation. The Planning Commission shall find that the proposed design contributes positively to the neighborhood and overall streetscape by carefully relating building mass, frontages, entries, and yards to streets and to adjacent properties. This criterion may be met by complying with the Section 3.2-240D.1., Section 3.2-250 or by considering the following guidelines:*

- 1.** *Orient buildings to an internal circulation system that mimics a public street in appearance (including, but not limited to sidewalks, landscaping, cross-walks, lighting, parallel parking), and does not diminish the appearance and safety of abutting primary*

public streets. Examples of "diminished appearance" include a fence along the sidewalk that isolates pedestrians between it and the street; the location of trash receptacles, utility vaults, etc. in the "rear" yard (abutting a public street); and similar impacts on the streetscape.

Response: The site plan complies with this section.

2. Other design elements that provide exceptional design, and on balance, justify approval of the development with less than full compliance with the building orientation standard. Examples of such design elements include protection of natural and cultural resources; minimization of slope and tree cutting impacts; provision of pedestrian amenities along the public street; and similar public benefits that effectively accomplish the intent of the standard.

Response: The site plan complies with this section.

C. *Building Form. The Planning Commission shall find that the proposed design promotes building forms that contribute positively to a sense of neighborhood and to the overall streetscape. This criterion may be met by complying with the Section 3.2-240D.2., Section 3.2-250 or by considering the following guidelines:*

1. Design exterior building elevations to avoid large expanses of uninterrupted building surfaces.

Response: The site plan complies with this section.

2. Depict building scale consistent with nearby buildings; "scale" relates to the size of various features (including, but not limited to entries, roof surfaces, façades, windows and materials) as compared to those features on nearby buildings.

Response: The site plan complies with this section.

3. Provide transitions to nearby buildings by massing; "mass" relates to the overall size or bulk of a building or its principal parts.

Response: The site plan complies with this section.

4. Provide porches, bays, and balconies that compliment nearby buildings.

Response: The building plan complies with this section.

5. Provide roof variations through offsets, breaks and/or extensions.

Response: The shed roof design provides roof variations through offsets and breaks. See attached elevation views of the proposed building.

6. Provide transition between the multi-unit site and LDR areas.

Response: The site plan complies with this section.

7. Enhance solar access protection and/or energy conservation.

Response: The site plan complies with this section.

8. Protect on-site and off-site natural and designated historic features.

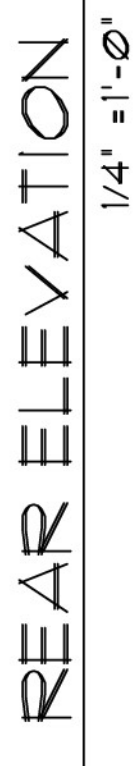
Response: The site plan complies with this section.

9. *Provide human-scaled architectural detail.*

Response: The site plan complies with this section.

10. *Provide visual variety in elevations, architectural details, colors, and materials, compatible with existing development.*

Response: The site plan complies with this section.



AGENDA ITEM SUMMARY

Meeting Date: 10/5/2021
Meeting Type: Regular Meeting
Staff Contact/Dept.: Andy Limbird, DPW
Staff Phone No: 541-726-3784
Estimated Time: 30 Minutes
Council Goals: Maintain and Improve Infrastructure and Facilities

**SPRINGFIELD
PLANNING COMMISSION**

ITEM TITLE:	REQUEST FOR TYPE III DISCRETIONARY USE PERMIT AND SITE PLAN MODIFICATION FOR A PROPOSED SPORTS STADIUM (BASEBALL FIELD) LOCATED AT 326 CENTENNIAL BOULEVARD, CASES 811-21-000168-TYP2 & 811-21-000169-TYP3
ACTION REQUESTED:	Open a public hearing on a proposal to convert an existing middle school baseball field to a sports stadium and make a determination based on application consistency with the Discretionary Use criteria of the Springfield Development Code (SDC) Section 5.9-120, and the Site Plan Review criteria of SDC 5.17-125.
ISSUE STATEMENT:	The applicant has submitted a Discretionary Use permit for proposed changes to an existing baseball field at Hamlin Middle School. The proposal requires Site Plan Modification approval and elevates the baseball field to a sports stadium based on changes to the facilities and nature of use on the site. In accordance with Section 3.2-710 of the Springfield Development Code (SDC), sports stadiums are listed as a Discretionary Use in the Public Land and Open Space (PLO) District requiring Type III review.
ATTACHMENTS:	<ol style="list-style-type: none">1. Staff Report for Discretionary Use Permit, Case 811-21-000169-TYP32. Staff Report for Site Plan Modification, Case 811-21-000168-TYP23. Site Map4. Application and Exhibits for Discretionary Use Permit5. Application and Exhibits for Site Plan Modification
DISCUSSION:	<p>The subject site is addressed as 326 Centennial Boulevard (Map 17-03-26-31, Portion of Tax Lot 2200 & Map 17-03-26-34, Tax Lot 6200), and it contains an existing public middle school building with adjoining parking lots, driveways and driving aisles, school bus loop, perimeter landscaping, vegetated stormwater facilities, and outdoor sports fields including a football field/soccer pitch with running track and two baseball fields. The site formerly contained two smaller schools and was redeveloped as the Hamlin Middle School in 2016 pursuant to Case TYP216-00005.</p> <p>The applicant is proposing to modify the existing baseball field in the southwest quadrant of the site to add bleacher seating for spectators along with a press box and announcer's booth, a building containing team changing rooms and public restrooms, pedestrian-scale lighting for spectator areas, and food and beverage concessions. Additionally, the applicant is proposing to expand the use of the baseball field to include local high school, collegiate, and semi-professional teams. The proposed change of use to a public sports stadium with new and expanded seating areas and facilities for spectators and teams triggers the requirement for a Discretionary Use permit for the project.</p> <p>The Planning Commission is requested to open the public hearing and receive testimony on the proposal for Discretionary Use permit and accompanying Site Plan Modification. Staff recommends continuing the public hearing to the October 19, 2021 regular meeting. Depending upon the outcome of the public hearing, staff will return with a final staff report and recommended conditions of approval for both the Discretionary Use Permit and the Site Plan Modification at the October 19, 2021 meeting. The final staff reports will address any testimony received during the public hearing and implement any new or revised conditions arising from the Planning Commission review of the applications.</p>

**Staff Report and Findings
Springfield Planning Commission
Discretionary Use Request (Springfield School District)**

Hearing Opened Date: October 5, 2021

Report Date: September 28, 2021

Case Number: 811-21-000169-TYP3

Applicant: Brett Yancey, Springfield School District

Site: 326 Centennial Boulevard (Map 17-03-26-31, Portion of Tax Lot 2200 & Map 17-03-26-34, Tax Lot 6200)

Request

The application was submitted on August 17, 2021 and the initial public hearing on the matter of the Discretionary Use request is scheduled to be opened on October 5, 2021. The City conducted a Development Review Committee meeting on the Discretionary Use request on August 31, 2021.

Site Information/Background

The property that is the subject of the Discretionary Use request is located on the north side of Centennial Boulevard between Pioneer Parkway East and 5th Street. The site is developed with a public school building for Hamlin Middle School; driveways, driving aisles and parking lots; school bus loop; outdoor athletic fields for baseball, football/soccer and track; perimeter landscaping; and vegetated stormwater management facilities. The site is zoned for Public Land and Open Space (PLO) use and is addressed as 326 Centennial Boulevard. The applicant is proposing a change of use from school-based recreational uses (including after-school activities) to a sports stadium use for the existing baseball field in the southwest quadrant of the site. This change of use will allow for expanded spectator seating, a team changing room and public restroom building, food and beverage concessions, press box, and announcer's booth. The proposed changes to the baseball field will accommodate use by local high school, collegiate, and semi-professional teams. In accordance with Section 3.2-710 of the Springfield Development Code (SDC), sports stadiums are listed as a Discretionary Use in the PLO District requiring Planning Commission approval.

The property has frontage on Pioneer Parkway East along the western boundary and Centennial Boulevard along the southern boundary. Two driveways along the eastern edge of the site provide access to 5th Street via L Street and Moffitt Lane. The applicant has submitted a Major Site Plan Modification application under separate cover (Case 811-21-000168-TYP2) for the proposed modifications on the site, including the bleacher seating areas, team changing room and public restroom building, press box, and perimeter landscaping areas. The applicant also previously obtained approval for a Minimum Development Standards (MDS) permit pursuant to Case 811-21-000176-TYP1 for modifications to the on-site stormwater management facilities and team dugouts to allow for replacement of the existing natural turf field with artificial turf and an underdrain system.

Notification and Written Comments

Notification of the October 5, 2021 public hearing was sent to all property owners and residents within 300 feet of the site on September 15 and 24, 2021. Notification was also published in the legal notices section of *The Register Guard* on September 21, 2021. Public hearing notices were posted in the following public

locations: at three locations along the subject property frontages (the intersection of Pioneer Parkway East and Centennial Boulevard; the southern driveway on Centennial Boulevard; and the eastern driveway at L Street), on the City's webpage, and on the digital display in the Development & Public Works office. Public notification was also sent to all property owners and tenants/residents within 300 feet of the site on August 24, September 15 and September 24, 2021 for the Major Site Plan Review application submitted under separate cover (Case 811-21-000168-TYP2). Staff responded to several telephone calls and emails regarding the project, including written requests for additional information about the project from the following respondents: Dr. Maria Elena Sampson-McCoy, 1256 5th Street, Springfield; and Kurt Krause, 1142 3rd Place, Springfield.

Response to Public Comments: Staff provided additional information to both Dr. Sampson-McCoy and Mr. Krause, including links to the applicant's submittal materials and the updated traffic and parking analysis prepared by the applicant's traffic engineer. Staff also forwarded information on the public hearing proceedings to both respondents to encourage submittal of any additional questions and participation in the public hearing meeting on October 5, 2021.

Photo 1 – Site Air Photo

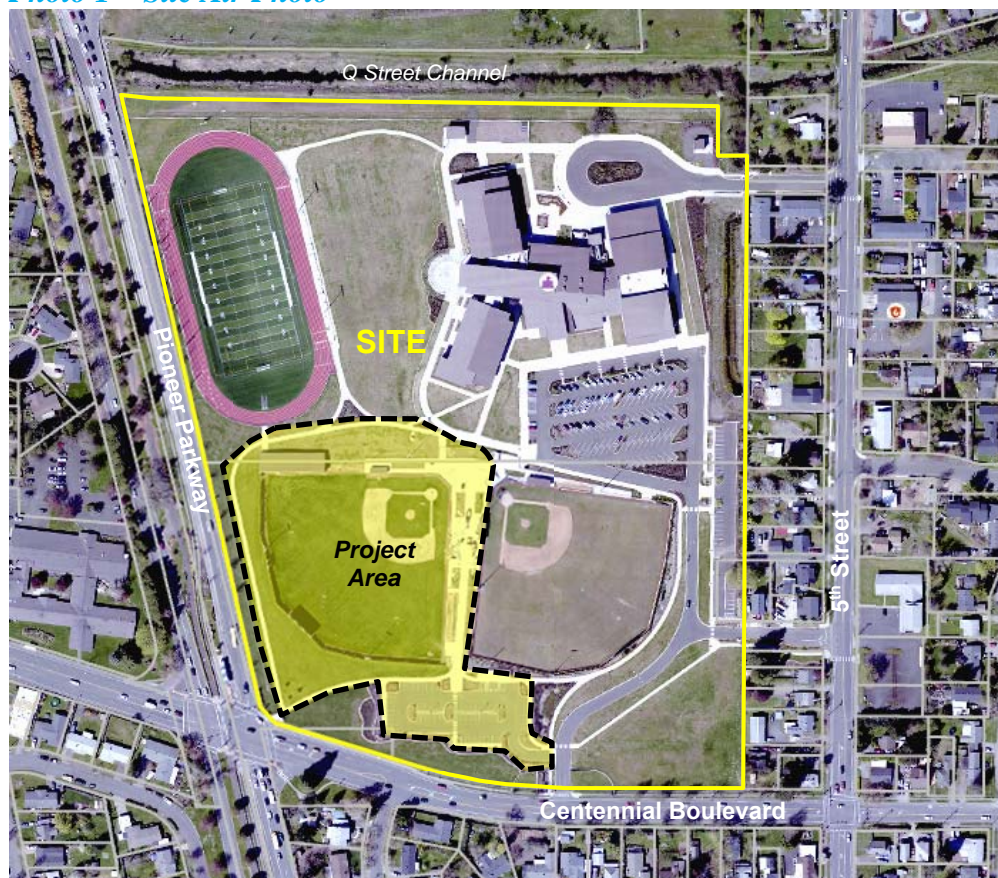


Photo 2 – Magnified Aerial View

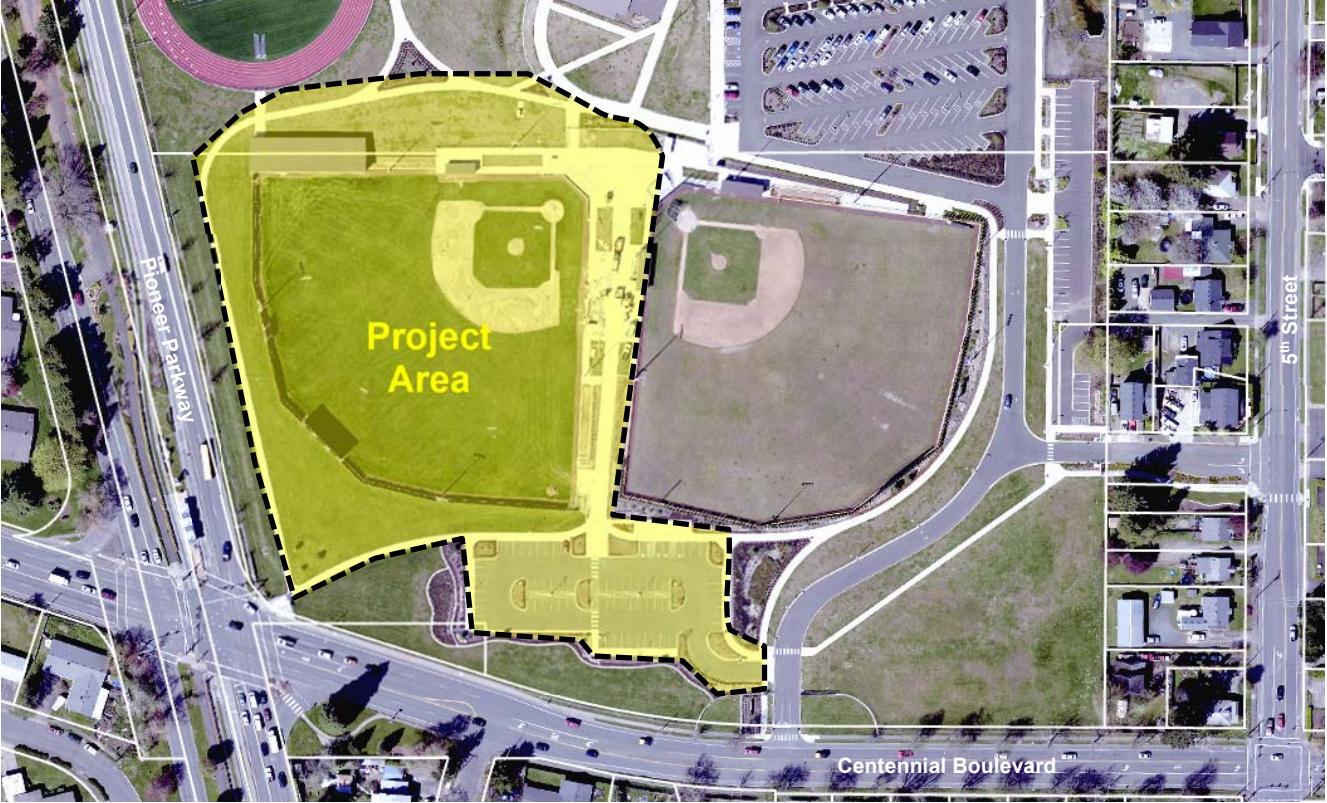
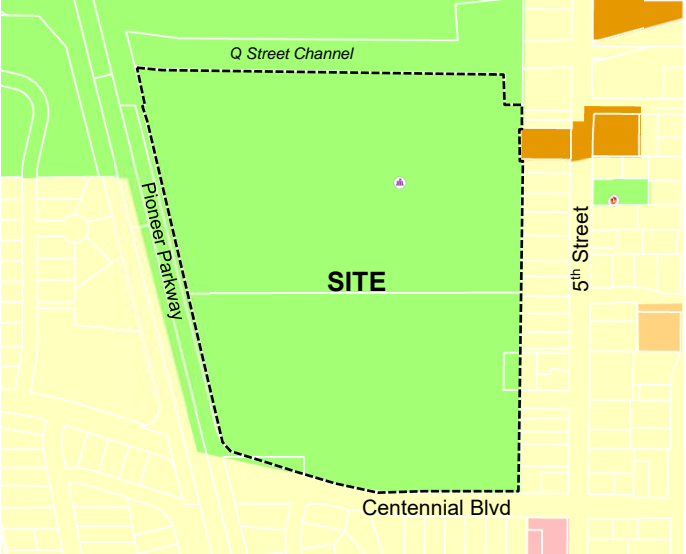







Figure 1 – Zoning Map Extract



Zoning Map Legend

 Low Density Residential (LDR)	 Public Land and Open Space (PLO)
 Medium Density Residential (MDR)	 Neighborhood Commercial (NC)
 High Density Residential (HDR)	

Criteria of Approval

Section 5.9-100 of the SDC contains the criteria of approval for the decision maker to utilize during review of Discretionary Use requests; those criteria are:

SDC 5.9-120 CRITERIA

A. The proposed use conforms with applicable:

- 1. Provisions of the Metro Plan;*
- 2. Refinement plans;*
- 3. Plan District standards;*
- 4. Conceptual Development Plans or*
- 5. Specific Development Standards in this Code;*

B. The site under consideration is suitable for the proposed use, considering:

- 1. The location, size, design and operating characteristics of the use (operating characteristics include but are not limited to parking, traffic, noise, vibration, emissions, light, glare, odor, dust, visibility, safety, and aesthetic considerations, where applicable);*
- 2. Adequate and safe circulation exists for vehicular access to and from the proposed site, and on-site circulation and emergency response as well as pedestrian, bicycle and transit circulation;*
- 3. The natural and physical features of the site, including but not limited to, riparian areas, regulated wetlands, natural stormwater management/drainage areas and wooded areas shall be adequately considered in the project design; and*
- 4. Adequate public facilities and services are available, including but not limited to, utilities, streets, storm drainage facilities, sanitary sewer and other public infrastructure.*

C. Any adverse effects of the proposed use on adjacent properties and on the public can be mitigated through the:

- 1. Application of other Code standards (including, but not limited to: buffering from less intensive uses and increased setbacks);*
- 2. Site Plan Review approval conditions, where applicable;*
- 3. Other approval conditions that may be required by the Approval Authority; and/or*
- 4. A proposal by the applicant that meets or exceeds the cited Code standards and/or approval conditions.*

D. Applicable Discretionary Use criteria in other Sections of this Code:

- 1. Wireless telecommunications systems facilities requiring Discretionary Use approval are exempt from Subsections A-C above, but shall comply with the approval criteria specified in Section 4.3-145.*
- 2. Alternative design standards for multifamily development are exempt from Subsections A – C above, but shall comply with the approval criteria specified in Section 3.2-245*
- 3. Fences requiring Discretionary Use approval are exempt from Subsections A – C above, but shall comply with the approval criteria specified in Section 4.4-115.C.*
- 4. The siting of public elementary, middle and high schools requiring Discretionary Use approval is exempt from Subsections A – C above, but shall comply with the approval criteria specified in Section 4.7-195.*

Proposed Findings In Support of Discretionary Use Approval

Criterion: Discretionary Use criteria of approval:

A. The proposed use conforms with applicable;

1. Provisions of the *Metro Plan*;

Finding: The property is currently zoned Public Land and Open Space (PLO) in accordance with the Springfield Zoning Map and is designated Low Density Residential (LDR) in the adopted *Metro Plan* diagram. The applicant is not proposing to change the current zoning or designation for the subject site.

Finding: Provisions of the *Metro Plan* contemplate non-residential uses such as schools, streets, parks and government facilities in land designated for residential use. Approximately 32% of residentially-designated land is typically developed with non-residential uses (*Metro Plan* Residential Land Supply and Demand Finding #8).

Finding: The adopted comprehensive plan applicable to the site is the *Springfield 2030 Refinement Plan*. There are no specific elements or policies of the adopted Comprehensive Plan that apply to the proposed development.

Conclusion: The request meets this criterion.

2. Refinement plans;

Finding: The subject site is not within an adopted neighborhood refinement plan area.

Conclusion: This criterion is not applicable to this request.

3. Plan District standards;

Finding: The subject site is not within an adopted Plan District.

Conclusion: This criterion is not applicable to this request.

4. Conceptual Development Plans or

Finding: There are no Conceptual Development Plans currently applicable to the subject site.

Conclusion: This criterion is not applicable to this request.

5. Specific Development Standards in this Code;

Finding: To address the land use approval requirements for a sports stadium in the PLO District, the applicant has submitted for Discretionary Use approval (811-21-000169-TYP3). A Major Site Plan Modification application also has been submitted under separate cover (811-21-000168-TYP2). Major Site Plan Modifications are typically Type II decisions under SDC 5.17-145.C.2. However, under SDC 5.1-130, the Director may elevate review of a Type II decision to Type III review “due to the complexity of the application or the need for discretionary review.” The Director has determined that the Major Site Plan Modification application is appropriate for discretionary review as a Type III decision given the concurrent application for Discretionary Use approval.

Finding: Sports stadiums are listed in the Public Land and Open Space district as a Discretionary Use but there are no specific development standards aside from the standards generally applicable to development of school, park or recreational facilities listed in SDC 3.2-720 (Base Zone Development Standards) and SDC 5.17-100 et seq (Site Plan Review).

Finding: A site plan was previously approved for the Hamlin Middle School site in 2016 when the previous schools were demolished and the site was reconfigured to accommodate only the expanded middle school building, ancillary buildings, parking lots, and outdoor sports fields. The applicant is now proposing to modify the site plan to add sports stadium uses, which includes adding new and expanded bleacher seating, a press box and announcer’s booth behind home plate, a new building for team changing rooms and public restrooms, food and beverage concessions, and pedestrian-scale lighting for spectator areas. The nature and extent of the proposed changes have triggered the requirement for a Major Site Plan Modification.

Finding: With approval of the Discretionary Use request, the applicant will need to obtain approval for the Major Site Plan Modification submitted under separate cover (Case 811-21-000168-TYP2). The detailed site development plans, including on-site and off-site vehicle access and parking, underground utilities, restroom building, and expanded bleacher seating needs to be addressed through the Site Plan Modification approval.

Condition of Approval:

- 1. Subsequent to or concurrent with approval of the Discretionary Use Permit, the applicant must obtain Planning Commission approval for the Site Plan Modification initiated by Case 811-21-000168-TYP2.**

Conclusion: As conditioned herein, the proposal meets this criterion.

B. The site under consideration is suitable for the proposed use, considering:

- 1. The location, size, design and operating characteristics of the use (operating characteristics include but are not limited to parking, traffic, noise, vibration, emissions, light, glare, odor, dust, visibility, safety, and aesthetic considerations, where applicable);**

Finding: The property requested for Discretionary Use approval is an existing public middle school site comprising approximately 32.9 acres, although the project area in the southwest quadrant of the site is limited to approximately 5.5 acres. The applicant is proposing to make site modifications to the area immediately adjacent to and including the existing baseball field in the southwest corner of the school site. The size of the property along with the existing driveways onto major streets, parking lots with 236 spaces, regulation size baseball field with light towers, available area for installing expanded bleacher seating, press box, and restroom building, and its location adjacent to a developed urban transportation network will adequately accommodate the proposed use.

Finding: The property requested for Discretionary Use approval is zoned PLO and it borders the Q Street Channel and Highway 126 to the north; Pioneer Parkway to the west; and Centennial Boulevard to the south. With this configuration, the property is bordered on three sides by major transportation corridors including the bus rapid transit line along Pioneer Parkway. There is an existing transit platform and pedestrian gate near the southwest corner of the site. The subject site is already developed with outdoor sports fields that accommodate year-round activities by local schools and community users. Currently, the site is used for daytime and nighttime sports activities including football, soccer, track and baseball. The site is also used for team practices and community recreational activities such as ultimate frisbee and flag football.

Finding: According to the applicant's project narrative (Attachment 3), the facility is proposed to be expanded to accommodate local middle school, high school, collegiate, and semi-professional baseball teams. The bleacher seating area is to be expanded to accommodate up to 1,900 spectators. Each team will have a game schedule and playing season that does not conflict with the other users of the facility. With existing light towers for nighttime illumination of the playing field, both daytime and evening game times are proposed for the facility. The existing field lighting is downcast and directed to illuminate the playing surfaces and the lights are used only during live sporting activities on the site. During non-playing times the stadium lighting is not illuminated. Continued use of the existing light towers for the baseball stadium will not result in offsite glare or light trespass, or direct light onto nearby residences or public rights-of-way.

Finding: There will be daytime noise and activity during construction of the new and modified site improvements. However, short duration noise spikes are not regulated through

the Springfield Development Code and are mitigated by daytime and nighttime background noise from traffic and public transit operations already occurring on the site periphery. Additionally, the proposed site modifications should not require extensive excavation or prolonged use of heavy equipment or machinery that would introduce new or excessive noise to the site. Upon completion of the sports stadium, it is anticipated that a public address system may be used for playing a national anthem to start games, announcing player lineups and other game time information, and providing occasional commentary and updates to spectators. The use of music and vocal encouragement to rally teams and spectators is also commonly done with the public address system. Amplified noise is regulated by provisions of the City's Municipal Code (SMC 5.220) and is not a part of this decision.

Finding: The proposed sports stadium is already developed with dedicated driveway accesses off Centennial Boulevard and L Street, and existing parking spaces for 236 vehicles on the adjoining school site. The site operates as a public middle school and has substantial built-in capacity for accommodating school bus, vehicle, and pedestrian traffic to and from the site during peak periods (typically mornings and afternoons) as a part of normal school operations. Additional discussion about the vehicular access and circulation is found below.

Finding: The applicant has submitted a parking and traffic analysis for the project (Attachment 4, Pages 8-15) prepared by a professional Traffic Engineer. The applicant's study identifies multiple levels of expected parking demand based on the nature and classification of the various teams using the sports stadium. The highest level of parking demand is associated with the semi-professional baseball team that will be using the facility. Mechanisms for addressing vehicle, bus, pedestrian and bicycle traffic to and from the site are identified in the applicant's parking study. Overall, a key recommendation of the applicant's Traffic Engineer is for a Parking Demand Management Plan to be implemented for the sports stadium. The Parking Demand Management Plan requirements and considerations address the adequacy of the site to accommodate the proposed use, especially in relation to parking and on-site vehicle circulation.

Finding: The applicant's parking analysis indicates that the baseball stadium will be used by Bushnell University during Hamlin school hours, and that charter buses will be used to drop off teams and staff to the field. The joint use of the sports stadium and its potential impact to Hamlin Middle School operations are considered in the parking demand management plan. The parking analysis considers the operational needs of the middle school site for school bus, passenger vehicle, pedestrian, and bicycle traffic as set forth in SDC 4.7-195. Importantly, the applicant's parking demand management plan provides for separation of baseball stadium traffic and vehicle circulation from that of the middle school during times when sporting events are scheduled during school hours. With the implementation of a Parking Demand Management Plan, the proposal satisfies SDC 4.7-195 and thereby meets this criterion.

Finding: The applicant has proposed using on- and off-site joint use parking areas to meet parking space requirements as described in the parking analysis prepared by Sandow Engineering. The use and availability of parking is a key consideration for the proposed sports stadium. SDC 4.2-110.F allows the Director to authorize joint use of parking facilities provided the applicant demonstrates there is no substantial conflict with principal operating hours of the buildings or uses for which the joint use parking is proposed, the parties concerned provide evidence of agreement for the joint use by a legal instrument approved by the City Attorney, and the agreement is recorded at Lane County Deeds & Records.

Finding: The Parking Demand Management Plan will need to ensure there is complete separation of traffic between school-related activities such as school bus circulation, parent pick-up and drop-off, and non-school activities in the baseball stadium. Based on the applicant's parking analysis, most but not all sporting events to be held on the site will be scheduled during non-school hours (i.e. evenings and weekends). However, certain events may overlap or potentially conflict with normal school operations. To prevent conflicts between school and baseball stadium events on the site the applicant must implement the provisions of a Parking Demand Management Plan to ensure that proper signage, personnel, and traffic control mechanisms are in place prior to, during, and after all stadium events that meet or exceed the threshold parking demands described in the parking analysis.

Finding: The accompanying Site Plan Modification provides additional discussion and analysis of the parking configuration, site access and egress, bicycle parking, and other operational considerations for the sports stadium activities (Case 811-21-000168-TYP2).

Conditions of Approval:

- 2. As an ongoing condition of approval, the applicant must implement a Parking Demand Management Plan for the site as outlined in the parking analysis prepared by Sandow Engineering, with revisions as required by this decision. The Parking Demand Management Plan must be recorded at Lane County Deeds & Records to commemorate its use and applicability to the site.**
- 3. Prior to issuance of Final Occupancy and commencement of operations for the stadium facility the applicant must execute and record a shared parking agreement with the Community of Faith Church at 1305 5th Street and provide evidence thereof to the City.**

Conclusion: As conditioned herein, the proposal meets this criterion.

- 2. Adequate and safe circulation exists for vehicular access to and from the proposed site, and on-site circulation and emergency response as well as pedestrian, bicycle and transit circulation;**

Finding: The site has frontage on Pioneer Parkway along the western boundary; however, there are no developed driveways or public pedestrian facilities along this edge of the site. Rosa Parks Pathway is located between Pioneer Parkway East and West and it serves as the primary north-south bicycle and pedestrian corridor between G Street and Q Street. For this reason, there is no public sidewalk along the western street frontage of the project area.

Finding: The site frontage on Centennial Boulevard along the southern boundary is fully developed with a public sidewalk, bicycle lane, and a gated driveway access for vehicles and buses. There is also a gated pedestrian and bicycle access from the southwest corner of the site to the pedestrian crosswalk at the intersection of Centennial Boulevard and Pioneer Parkway. An existing bus rapid transit platform is located at this pedestrian crossing.

Finding: The site has a gated driveway access onto 5th Street via L Street. The driveway at L Street allows for access and egress for vehicles, pedestrians and bicycles. A school bus loop in

the northeast corner of the site is accessed from 5th Street via Moffitt Lane, but this does not allow for direct vehicle access to the project area.

Finding: Currently, vehicular, pedestrian and bicycle access to and from the site is provided by the existing public street system including Pioneer Parkway, Centennial Boulevard, 5th Street and L Street. The site is also developed with internal walkways, driveways and driving aisles for pedestrian, bicycle and vehicle circulation. The site experiences fluctuations of vehicle, bicycle and pedestrian traffic conditions associated with the start of school, recess periods, end of school, and special school events during evenings and weekends. These peak activity periods are similar to scheduled starting and ending times for planned sporting events on the site. However, for baseball stadium events with more than 885 spectators, the capacity of the on-site driveways and parking lot areas will be exceeded and the event will be reliant upon off-site parking areas as described in the applicant's traffic and parking analysis prepared by Sandow Engineering. The applicant will need to implement the provisions of the Parking Demand Management Plan recorded for the property to ensure the baseball stadium events do not cause congestion on-site, nor have traffic impacts that extend to nearby public streets.

Finding: The siting of a stadium on Hamlin Middle School grounds and the potential mix of stadium bus and passenger vehicle traffic with school activities requires clear responsibilities by all parties involved with the stadium use to ensure the stadium maintains adequate and safe circulation for all modes of travel to access the site.

Finding: SDC 4.7-195.A.8 requires that for elementary and middle schools all parking lots and driveways must be designated to separate bus and passenger vehicle traffic. The applicant must ensure that sports stadium busing activities are separated from middle school vehicle traffic to address this criterion for safe traffic operations on a joint use site.

Finding: The applicant has provided a bus turning analysis and proposed busing and spectator activities for the low to moderate usage associated with the Bushnell University games to be held during Hamlin school operations. The submitted parking analysis requires utilization of the southern parking lot for Bushnell team and spectator busing during Hamlin school hours. The applicant's parking and traffic analysis partially addresses SDC 4.7-195 and this criterion of approval by providing for site circulation while separating sports stadium and school busing and passenger vehicle activities. The applicant's parking and traffic analysis is intended to avoid conflicts with parent pickup and drop-off activities during and immediately following school hours (within 30 minutes of the start and end of the school day) when Bushnell baseball activities are also occurring on the site. With the recording of a parking demand management plan, and recommended measures such as wayfinding signage and maps, the proposal will meet this criterion.

Finding: Wayfinding and site maps guiding traffic and clearly showing parking locations for spectators will allow the stadium to operate consistent with ensuring safe and efficient traffic flow to and from the site. Directional signage for the Bushnell University games or any other collegiate, semi-professional, or professional athletic events during middle school operating hours is outlined in the parking demand management plan. However, additional signage and maps needed for suitable operations is not provided for the other spectator level events in the applicant's parking demand management plan. The parking demand management plan will need to be updated and expanded to provide for wayfinding signage and maps for all spectator events that exceed 885 people because these require the use of off-site parking areas.

Finding: The site's location at the intersection of two major streets and the nearby Fire Station located at 1475 Fifth Street facilitates rapid emergency response to the site. Lane Transit District (LTD) operates the bus rapid transit route along Pioneer Parkway that includes a transit platform outside the southwest corner of the site. Transit buses also operate along 5th Street and Centennial Boulevard (Centennial Route #13 & Fifth Street/Hayden Bridge Route #17) which pass along or near the site boundaries, so the availability and proximity of transit service is an important consideration that applies to this site.

Finding: There are public sidewalks along the southern boundary of the site where it abuts Centennial Boulevard, and on L Street and Moffitt Lane where these streets provide access to the gated site driveways. Pedestrian walkways are located within the site and provide connections to the perimeter public street system along with interior parking lots and drop-off lanes. The existing facilities are designed and intended to provide safe and efficient pedestrian access to and within the site. The applicant's parking demand management plan identifies the use of public sidewalks and internal walkways to provide access to and from off-site parking areas to the baseball stadium.

Condition of Approval:

- 4. Prior to recording the document at Lane County, the applicant's Parking Demand Management Plan must be revised to include the provision of wayfinding signage and maps for all spectator events with more than 885 people.**

Conclusion: As conditioned herein, the proposal meets this criterion.

- 3. The natural and physical features of the site, including but not limited to, riparian areas, regulated wetlands, natural stormwater management/drainage areas and wooded areas shall be adequately considered in the project design; and**

Finding: There are no regulated wetlands or riparian areas within the project area that warrant protection. The Q Street Channel – a delineated wetland channel, riparian area, and public stormwater facility – runs along the northern boundary of the site. However, the project area is not adjacent to the Q Street Channel and there are no proposed changes that would otherwise affect the existing wetland channel.

Finding: The Q Street Channel is a floodway that has an associated floodplain, but the subject site is not located within a mapped flood hazard area.

Finding: The project area has been developed with an outdoor sports field and there are no trees or other natural features on the site that warrant protection.

Conclusion: The proposal meets this criterion.

- 4. Adequate public facilities and services are available, including but not limited to, utilities, streets, storm drainage facilities, sanitary sewer and other public infrastructure.**

Finding: The site is inside the Springfield City limits and is already developed with a middle school building, ancillary buildings, parking lots and driving aisles, outdoor sports fields and stormwater management facilities. The site is currently served with a full suite of public

utilities including sanitary sewer, water, stormwater, electricity and telecommunication services.

Finding: The applicant previously obtained approval for modifications to the site drainage to accommodate turf replacement for the field and changes to the team dugouts (Case 811-21-000176-TYP1).

Finding: The applicant is proposing to connect to existing utilities on the site for the team changing room and restroom building, for the press box and pedestrian-scale lighting for spectator areas. Details of the planned utility connections are found in the Site Plan Modification submitted under separate cover (Case 811-21-000168-TYP2).

Conclusion: As described herein and with the recommended Condition 1 requiring approval of the Major Site Plan Modification submitted under separate cover (Case 811-21-000168-TYP2), the proposal meets this criterion.

C. Any adverse effects of the proposed use on adjacent properties and on the public can be mitigated through the:

1. Application of other Code standards (including, but not limited to: buffering from less intensive uses and increased setbacks);

Finding: In accordance with the requirements of SDC 4.7-195.A.8, the applicant's proposed Parking Demand Management Plan addresses traffic access, circulation and parking for the site to ensure that the baseball stadium use does not conflict with normal school use and operation on the balance of the site.

Finding: As discussed and conditioned herein (Condition 3), the proposed baseball stadium and parking demand management plan provide for separation of baseball stadium activities from normal school activities on the site. This is accomplished primarily through scheduling of game times, but also relies on supplemental measures such as wayfinding signage, maps, and (for larger events) use of personnel to provide shuttle services, directional guidance, and active monitoring of available parking areas.

Finding: The site abuts major transportation corridors along three sides. The proposed sports stadium is an existing baseball field located at the southwest corner of the school site, which is the furthest point away from abutting residential properties to the east. Residential properties to the south across Centennial Boulevard have been improved with screening fencing and buffering along the busy collector street.

Finding: The proposed expansion of an existing baseball field to allow for sports stadium use by local high school, collegiate, and semi-pro teams constitutes an intensification of use on the site but does not represent an adverse impact to properties in the vicinity or the general public. Nearby residential properties have been buffered with increased landscaped setbacks constructed with the recent Hamlin Middle School redevelopment, or vegetative and structural screening installed along nearby transportation corridors. Parking and traffic circulation for the proposed stadium is addressed through the applicant's parking analysis and a Parking Demand Management Plan to be recorded for the site.

Finding: It is not expected that the proposed use will generate unusual noise or odors, aside from occasional crowd noise associated with actions during game play or team encouragement. The stadium is geographically separated from nearby residential properties and intervening transportation corridors have a high ambient noise level that will usually exceed normal stadium noise levels. The stadium is also oriented such that noise projecting from the spectator seating areas and press box will be directed to the southwest, which is toward the intersection of Centennial Boulevard and Pioneer Parkway. This will minimize noise projection to nearby residential areas.

Finding: The existing site, including the baseball field proposed for modification, meets applicable setbacks from perimeter property lines and abutting land uses.

Finding: The applicant is proposing to use the existing light towers and light fixtures for nighttime illumination of the baseball field. The other baseball field to the east and the football/soccer field to the north are also developed with lighting fixtures. In calls to staff, adjacent residents had previously expressed interest in whether new lighting fixtures would be used for the stadium facilities. It was not clear from the inquiries whether there were concerns about taller and/or brighter lights used for the proposed stadium. Based on the applicant's submittal, no changes to the field lighting will be made although pedestrian-scale lighting of spectator areas and emergency egress lighting for the bleachers are proposed to be installed. These internal site lighting fixtures are not designed or intended for coverage of large surface areas and therefore will not be detectable off-site. In terms of playing field illumination, the operational characteristics of the proposed sports stadium should not be significantly different from the current and site lighting levels during evening hours. Therefore, it is not expected there will be any adverse effects from lighting of the baseball stadium.

Conclusion: As described herein and in the Major Site Plan Modification submitted under separate cover (Case 811-19-000037-TYP2) the proposal meets this criterion.

2. Site Plan Review approval conditions, where applicable;

Finding: The applicant will be required to satisfy the conditions of approval for this Discretionary Use Permit, if any, and the Major Site Plan Modification submitted under separate cover (Case 811-21-000168-TYP2) prior to or concurrently obtaining Site Plan Modification approval and building permits for this project.

Conclusion: As described herein and with the recommended Condition 1 requiring approval of the Major Site Plan Modification submitted under separate cover (Case 811-11-000037-TYP2), the proposal meets this criterion.

3. Other approval conditions that may be required by the Approval Authority; and/or

Finding: As discussed previously herein, a monitoring system be implemented for the applicant's Parking Demand Management Plan. The self-reporting monitoring program will be used to ensure compliance with the adopted parking plan, particularly with respect to separating Bushnell University baseball spectators and traffic from Hamlin school traffic; and ensuring the off-site parking spaces are used as designed and intended.

Finding: Aside from the conditions listed above, staff is not recommending any other conditions of Discretionary Use approval. Recommended conditions required to address specific site development and operational issues are described in the accompanying Major Site Plan Modification approval (Case 811-21-000168-TYP2).

Conclusion: As described herein and with the recommended Conditions listed above, the proposal meets this criterion.

Condition of Approval:

- 5. Prior to recording the document at Lane County, the applicant's Parking Demand Management Plan must be revised to include the following requirements:**
 - a. The property owner or designee must monitor compliance with requirements of the Parking Demand Management Plan to ensure separation of uses and traffic between the baseball stadium and normal school activities;**
 - b. The property owner or its designee must monitor the number of spectators that attend each spectator event at the site for the property owner or designee to determine the approximate attendance levels specified in the Parking Demand Management Plan (0-884 attendees; 885-1,124 attendees; and 1,125 or more attendees); and**
 - c. The monitoring program must provide for annual reporting to the City not more than 60 days following the final regular season baseball game or November 1 of each calendar year, whichever is later. This report must include the date, start time and end time of each spectator event and the approximate attendance, as well as the elements of the Parking Demand Management Plan that were implemented.**
- 5. A proposal by the applicant that meets or exceeds the cited Code standards and/or approval conditions.**

Finding: The applicant is requesting concurrent approval of the Major Site Plan Modification submitted for the sports stadium (Case 811-21-000168-TYP2). However, the applicant is not requesting alternate design criteria or proposing to depart from the cited Code standards for this facility.

Conclusion: As described herein and with the recommended Condition 1 requiring approval of the Major Site Plan Modification submitted under separate cover (Case 811-21-000168-TYP2), the proposal meets this criterion.

D. Applicable Discretionary Use criteria in other Sections of this Code:

- 1. Wireless telecommunications systems facilities requiring Discretionary Use approval are exempt from Subsections A-C above, but shall comply with the approval criteria specified in Section 4.3-145.**
- 2. Alternative design standards for multifamily development are exempt from Subsections A – C above, but shall comply with the approval criteria specified in Section 3.2-245.**

3. **Fences requiring Discretionary Use approval are exempt from Subsections A – C above, but shall comply with the approval criteria specified in Section 4.4-115.C.**
4. **The siting of public elementary, middle and high schools requiring Discretionary Use approval is exempt from Subsections A – C above, but shall comply with the approval criteria specified in Section 4.7-195.**

Finding: The proposed sports stadium is not a wireless telecommunications facility. Therefore, Criterion D.1 is not applicable.

Finding: The site is zoned for Public Land and Open Space use and there is no multi-family residential development proposed on the site. Therefore, Criterion D.2 is not applicable.

Finding: The applicant is not proposing a new or modified fence that exceeds the standard provisions of SDC 4.4-115. Therefore, Criterion D.3 is not applicable.

Finding: The proposed facility is already part of an approved school site and does not require discretionary siting approval within the PLO zoning district. Therefore, Criterion D.4 is not applicable.

Conclusion: This criterion is not applicable.

Conclusion: Staff has reviewed the application and supporting evidence submitted by the applicant for the Discretionary Use request. Based on the above-listed criteria, staff recommends support for the request as the proposal meets the stated criteria for Discretionary Use approval. Additionally, approval of the Discretionary Use would facilitate the approval of the Major Site Plan Modification application for the proposed changes to the baseball field and site submitted under separate cover (Case 811-21-000168-TYP2).

Conditions of Approval

SDC Section 5.9-125 allows for the Approval Authority to attach conditions of approval to a Discretionary Use request to ensure the application fully meets the criteria of approval. The specific language from the code section is cited below:

5.9-125 CONDITIONS

The Approval Authority may attach conditions as may be reasonably necessary in order to allow the Discretionary Use approval to be granted.

The proposed sports stadium has been reviewed and additional recommended conditions of approval are described in the companion Major Site Plan Modification application for this development submitted under separate cover (Case 811-21-000168-TYP2). This Discretionary Use Permit will need to be approved before approval can be issued for the accompanying Site Plan Modification.

SUMMARY OF CONDITIONS OF APPROVAL:

- 1. Subsequent to or concurrent with approval of the Discretionary Use Permit, the applicant must obtain Planning Commission approval for the Site Plan Modification initiated by Case 811-21-000168-TYP2.**
- 2. As an ongoing condition of approval, the applicant must implement a Parking Demand Management Plan for the site as outlined in the parking analysis prepared by Sandow Engineering, with revisions as required by this decision. The Parking Demand Management Plan must be recorded at Lane County Deeds & Records to commemorate its use and applicability to the site.**
- 3. Prior to issuance of Final Occupancy and commencement of operations for the stadium facility the applicant must execute and record a shared parking agreement with the Community of Faith Church at 1305 5th Street and provide evidence thereof to the City.**
- 4. Prior to recording the document at Lane County, the applicant's Parking Demand Management Plan must be revised to include the provision of wayfinding signage and maps for all spectator events with more than 885 people.**
- 5. Prior to recording the document at Lane County, the applicant's Parking Demand Management Plan must be revised to include the following requirements:**
 - a. The property owner or designee must monitor compliance with requirements of the Parking Demand Management Plan to ensure separation of uses and traffic between the baseball stadium and normal school activities;**
 - b. The property owner or its designee must monitor the number of spectators that attend each spectator event at the site for the property owner or designee to determine the approximate attendance levels specified in the Parking Demand Management Plan (0-884 attendees; 885-1,124 attendees; and 1,125 or more attendees); and**
 - c. The monitoring program must provide for annual reporting to the City not more than 60 days following the final regular season baseball game or November 1 of each calendar year, whichever is later. This report must include the date, start time and end time of each spectator event and the approximate attendance, as well as the elements of the Parking Demand Management Plan that were implemented.**

TYPE III MAJOR SITE PLAN MODIFICATION STAFF REPORT & FINDINGS

Project Name: Hamlin Middle School Major Site Plan Modification

Project Proposal: Construct bleacher seating for 1,900 spectators, team changing room and restroom building, press box, food and beverage concessions, and pedestrian-scale lighting for an existing baseball field at Hamlin Middle School.

Case Number: 811-21-000168-TYP2

Project Location: 326 Centennial Blvd.
(Map 17-03-26-31, Ptn. of TL 2200 &
Map 17-03-26-34, TL 6200)

Zoning: Public Land and Open Space (PLO)

Comprehensive Plan Designation:
Low Density Residential (*Metro Plan*)

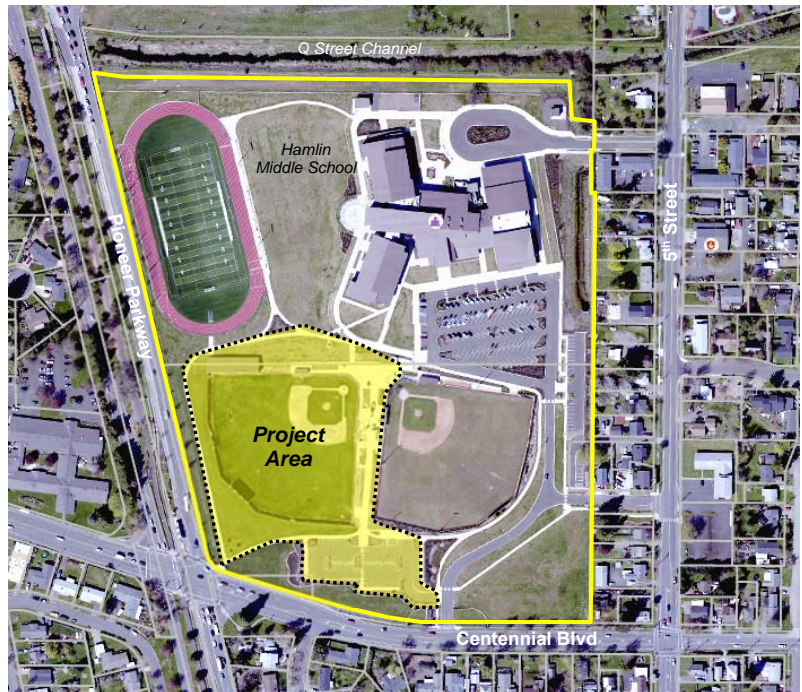
Overlay Districts: Drinking Water Protection
(DWP)

Pre-Submittal Meeting Date: 6/22/2021

Application Submitted Date: 8/13/2021

Hearing Opened Date: October 5, 2021

Report Date: September 28, 2021



Associated Applications: 811-21-000150-PRE (Pre-submittal for Site Plan Modification); 811-21-000176-TYP1 (Minimum Development Standards-Minor); 811-21-000169-TYP3 (Discretionary Use Permit)

APPLICANT'S DEVELOPMENT REVIEW TEAM

Applicant: Brett Yancey Springfield School District 640 A Street Springfield OR 97477	Applicant's Representative: Tony Favreau, PE Favreau Group Engineering 3750 Norwich Avenue Eugene OR 97408	Project Engineer: Tony Favreau, PE Favreau Group Engineering 3750 Norwich Avenue Eugene OR 97408
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CITY OF SPRINGFIELD'S DEVELOPMENT REVIEW TEAM

POSITION	REVIEW OF	NAME	PHONE
Project Manager	Planning	Andy Limbird	541-726-3784
Transportation Planning Engineer	Transportation	Michael Liebler	541-736-1034
Public Works Engineer	Utilities	Clayton McEachern	541-736-1036
Public Works Engineer	Sanitary & Storm Sewer	Clayton McEachern	541-736-1036
Deputy Fire Marshal	Fire and Life Safety	Eric Phillips-Meadow	541-726-2293
Building Official	Building	Chris Carpenter	541-744-4153

Site Information: The subject development site consists of the southwest corner of the existing Hamlin Middle School campus at 326 Centennial Boulevard. The overall site is developed with the school building and ancillary buildings; driveways, driving aisles and parking lots; outdoor sports fields for football/soccer, track, and baseball; perimeter landscaping, and vegetated stormwater management facilities. The specific project area is within the southwest quadrant of the site and the proposed development adds bleacher seating for up to 1,900 spectators; a team changing room and public restroom building; press box and announcer's booth; food and beverage concessions; and pedestrian-scale lighting for spectators. The applicant is proposing to convert the baseball field into a sports stadium for use by local high school, collegiate, and semi-professional baseball teams.

The subject site is zoned Public Land and Open Space (PLO) in accordance with the Springfield Zoning Map and is designated Low Density Residential (LDR) according to the adopted *Metro Plan* diagram. Other properties to the east, south, and across Pioneer Parkway to the west are zoned LDR, Medium Density Residential (MDR), High Density Residential (HDR) and Neighborhood Commercial (NC). Properties to the north comprise the Q Street Channel and the Highway 126 corridor.

The project area is within the mapped 10-20 and 20+ Year Time of Travel Zones (TOTZs) for the Q Street drinking water wellhead and, therefore, is subject to the provisions of the Drinking Water Protection Overlay District, Section 3.3-200 of the Springfield Development Code (SDC). Recreational facilities such as sports fields (especially with artificial turf), bleacher seating and restroom/changing room buildings are not typically associated with the production, storage, or use of materials that are hazardous to surface and groundwater resources. However, because the site directly abuts and drains into the Q Street Channel, provisions for water quality protection during site construction and operation have been included herein as a recommended Best Practice in order to protect local surface waters and groundwater resources. The applicant also addressed stormwater drainage modifications on the site through the Minimum Development Standards approval issued for the project (Case 811-21-000176-TYP1).

DECISION: This decision has been elevated to a Type III land use decision by the Planning Director because of the associated Discretionary Use Permit required for the sports stadium use and submitted under separate cover as Case 811-21-000169-TYP3. This Type III decision requires action by the Springfield Planning Commission and grants Tentative Site Plan Modification Approval. The standards of the Springfield Development Code (SDC) applicable to each criterion of Site Plan Approval are listed herein and are satisfied by the submitted plans unless specifically noted with conditions necessary for compliance. Final Site Plans must conform to the submitted plans as conditioned herein. This is a limited land use decision made according to City code and state statutes. Unless appealed, the decision is final.

(See Page 14 for a summary of the conditions of approval.)

OTHER USES AUTHORIZED BY THE DECISION: No additional uses are authorized by this decision beyond what is approved in this decision. Future development must be in accordance with the provisions of the Springfield Development Code, filed easements and agreements, and all applicable local, state and federal regulations.

REVIEW PROCESS: This application is being reviewed as a Major Site Plan Modification elevated to a Type III decision in accordance with SDC 5.1-130 and the site plan review criteria of approval in SDC 5.17-125. The subject application was submitted and considered complete on August 13, 2021. Per ORS 227.178, the City must take final action on this application, including resolution of any local appeal to the City Council, on or before December 11, 2021.

Procedural Finding: Applications for Type III Quasi-Judicial Decisions require the notification of property owners/occupants within 300 feet of the subject property at least 10 days prior to the initial public hearing on the matter when more than one hearing is to be conducted (SDC 5.2-115.A). The applicant and parties submitting written comments during the notice period or at the public hearings have appeal rights and are mailed a copy of this decision for consideration (See Written Comments below and Appeals at the end of this decision).

Procedural Finding: On August 31, 2021, the City's Development Review Committee reviewed the proposed plans (8 Sheets – Favreau Group Engineering Sheets 1-3 for Hamlin Baseball Field; Favreau Group Engineering Sheets 1-

3 for Restroom Building; and BBT Architects Sheets A-1 and A-3 for restroom building elevations), plan details for the bleacher seating and lighting, applicant's project narrative, and other supporting information. City staff's review comments have been reduced to findings and recommended conditions only as necessary for compliance with the Site Plan Review criteria of SDC 5.17-125.

Procedural Finding: In accordance with SDC 5.17-125 to 5.17-135, the Final Site Plan must comply with the requirements of the SDC and the conditions imposed by the Director in this decision. The Final Site Plan otherwise must be in substantial conformity with the tentative site modification plan reviewed. Portions of the proposal approved as submitted during tentative review cannot be substantively changed during Final Site Plan approval. Approved Final Site Plans (including Landscape Plans) must not be substantively changed during Building Permit Review without an approved Site Plan Modification.

WRITTEN COMMENTS:

Procedural Finding: In accordance with SDC 5.1-130 and 5.2-115, notice was sent to adjacent property owners/occupants within 300 feet of the subject site on August 24, September 15 and September 24, 2021. Staff responded to several telephone inquiries and emails, and written comments were received from the following respondents: Dr. Maria Elena Sampson-McCoy, 1256 5th Street, Springfield and Kurt Krause, 1142 3rd Place, Springfield. Staff provided additional information to both Dr. Sampson-McCoy and Mr. Krause, including links to the applicant's submittal materials and the updated traffic and parking analysis prepared by the applicant's traffic engineer. Staff also forwarded information on the public hearing proceedings to both respondents to encourage submittal of any additional questions and participation in the public hearing meetings on October 5 & 19, 2021.

CRITERIA OF SITE PLAN APPROVAL:

SDC 5.17-125, Site Plan Review Standards, Criteria of Site Plan Approval states, "the Director shall approve, or approve with conditions, a Type II Site Plan Review Application upon determining that criteria A through E of this Section have been satisfied. If conditions cannot be attached to satisfy the criteria, the Director shall deny the application."

A. The zoning is consistent with the *Metro Plan* diagram, and/or the applicable Refinement Plan diagram, Plan District map, and Conceptual Development Plan.

Finding 1: The subject property is zoned Public Land and Open Space (PLO) in accordance with the Springfield Zoning Map. The zoning of the property is compatible with provisions of the adopted *Metro Plan* whereby up to 32% of residentially designated land is planned for non-residential uses such as parks, streets, schools and government facilities.

Finding 2: In accordance with SDC 3.2-710, sports stadiums are allowable in the PLO District subject to a Discretionary Use Permit and the provisions of Site Plan Review (SDC 5.17-100).

Finding 3: The applicant has submitted for Discretionary Use Permit approval under separate cover (Case 811-21-000169-TYP3). Approval of the Discretionary Use Permit is a prerequisite for issuance of the subject Site Plan Modification.

Conclusion: This proposal satisfies Criterion A.

B. Capacity requirements of public improvements, including but not limited to, water and electricity; sanitary sewer and stormwater management facilities; and streets and traffic safety controls shall not be exceeded and the public improvements shall be available to serve the site at the time of development, unless otherwise provided for by this Code and other applicable regulations. The Development & Public Works Director or a utility provider shall determine capacity issues.

Finding 4: Approval of this proposal would allow for construction of 1,900 spectator seats, a public restroom and team changing room building, food and beverage concessions, and pedestrian-scale lighting for spectators on an existing public school site.

Water and Electricity Improvements

Finding 5: SDC 4.3-130 requires each development area to be provided with a water system having sufficiently sized mains and lesser lines to furnish adequate supply to the development and sufficient access for maintenance. Springfield Utility Board (SUB) coordinates the design of the water system within Springfield city limits. At the Development Review Committee meeting for this application, Eugene-Springfield Fire confirmed that adequate fire flows and fire protection coverage exists for the proposed stadium based on existing fire hydrants serving the Hamlin Middle School site.

Finding 6: In accordance with SDC 4.3-125, wherever possible all utility lines must be placed underground. Additionally, new vaults and transformers for utility connections should be screened from view or placed out of sight at the side or rear of the building. The applicant is proposing to install new underground utility lines for the team changing room and restroom building which meet these requirements.

Finding 7: The applicant is proposing to use the existing private water services to the site. Expected water usage would be limited to irrigation of landscaping areas, and potable water for the team changing room and restroom building. The proposed baseball field utilizes artificial turf which does not require irrigation. The existing private water lines serving the school site have sufficient capacity to serve the proposed development.

Finding 8: The applicant is proposing to use the existing electrical service for the site. Electricity usage will be incrementally higher for the project area, primarily for the restroom and changing room building, concessions, and pedestrian-scale lighting for spectator areas. Provision of electrical service for media and an announcer's booth also will be required for the press box area. The existing light towers and lighting fixtures are to be retained for the baseball field. At the Development Review Committee meeting for the proposal, SUB advised that the existing electrical service is sufficient for the proposed changes on the site.

Conclusion: The proposal satisfies this sub-element of the criterion.

Sanitary Sewer and Stormwater Management Facilities

Sanitary Sewer

Finding 9: Section 4.3-105.A of the SDC requires that sanitary sewers must be installed to serve each new development and to connect developments to existing mains. Additionally, installation of sanitary sewers must provide sufficient access for maintenance activities.

Finding 10: There is an existing public sanitary sewer line stubbed into the school site near the project area. Additionally, there is an existing network of private sanitary sewer lines within the Hamlin Middle School site. The applicant is proposing to extend private sewer laterals to serve the restroom and team changing room building, food and beverage concessions, and floor drains for the team dugouts. The proposed private sanitary sewer lines are adequate to serve the proposed development on the site.

Finding 11: The applicant is proposing a small lift/pump station for the proposed team changing room and public restroom building. The proposed private sewer pump station is acceptable for serving the development, but no engineering details have been provided with the applicant's submittal. Prior to approval of the site plan, the applicant will need to provide details on the private sewer pump station to be installed on the site and confirm that it meets applicable Plumbing Codes. It is expected that the sewer pump will be placed in an underground vault. However, if the pump is located above-ground, the pump will need to be placed in an enclosure that is fully screened in accordance with SDC 4.3-125.D. Staff will review the sewer pump station details and confirm

acceptability for the final staff report to be submitted to the Planning Commission for the October 19, 2021 regular meeting.

Finding 12: Staff has determined that the existing public sanitary sewer system in Centennial Boulevard has sufficient size and capacity to accommodate the incremental increase in sewer flows from the site.

Condition of Approval:

- 1. The Final Site Plan must provide details on the private sewer pump station to be installed on the site including the size, type and manufacturer's specifications for the pump system; location and depth of installation; and the plumbing connections to be installed between the drain and sewer lateral in accordance with Plumbing Code requirements. If the pump is located above ground, it must be fully screen according to the requirements of SDC 4.3-125.D.**

Conclusion: As conditioned herein, the proposal satisfies this sub-element of the criterion.

Stormwater Management

Finding 13: The applicant previously modified the underdrain system for the baseball field to accommodate a change from natural to artificial turf, and modified the adjacent vegetated stormwater management facilities to accommodate and treat drainage from the project area pursuant to a Minimum Development Standards (MDS) approval issued on July 22, 2021 as Case 811-21-000176-TYP1. The majority of the proposed modifications to the site, which include expanded bleacher seating, team dugouts, press box and pedestrian scale lighting, are being installed on existing impervious surfaces so there will be no appreciable change to runoff from these areas. The proposed restroom and team changing room building is being constructed in an area that is partially impervious walking surfaces and partially landscaped. The building footprint area and the incremental increase in impervious surface has been considered in the applicant's revised stormwater management system and constructed facilities that were approved with the MDS.

Conclusion: The proposal satisfies this sub-element of the criterion.

Streets and Traffic Safety Controls

Finding 14: In accordance with SDC 4.2-145.A, street lighting must be included with all new developments or redevelopment. Existing street lights must be upgraded to current lighting standards with all new developments or redevelopment as determined by the Director. The developer is responsible for street lighting installation costs.

Finding 15: The public street frontages of the subject site are already fully developed with paving, curb and gutter, lane striping, bicycle lanes, and street lighting. There are three existing street lights along the Centennial Boulevard frontage that do not meet current City standards for LED fixtures. Because this will be the primary access and egress route for vehicles, buses, pedestrians and bicyclists accessing the sports stadium, street light upgrades are warranted. The applicant will need to upgrade the lighting fixtures along the Centennial Boulevard frontage of the site to LED fixtures meeting City standards.

Finding 16: A public sidewalk runs along the southern boundary of the site where it abuts Centennial Boulevard. Therefore, the requirements of SDC 4.2-135 have been met for public sidewalks along the street frontage.

Finding 17: Along the western boundary of the site, Pioneer Parkway is classified as an arterial street and is developed with two vehicle travel lanes in each direction separated by a wide, landscaped central median and multi-purpose pathway (Rosa Parks Pathway). The Gateway bus rapid transit line runs along the Pioneer Parkway corridor and a transit platform is located near the southwest corner of the project site at the intersection with Centennial Boulevard.

Finding 18: Along the southern boundary of the site, Centennial Boulevard is classified as an arterial street and developed with one vehicle travel lane in each direction and dedicated left turn lanes for southbound Pioneer Parkway West, the driveway entrance to the Hamlin Middle School Site, and northbound 5th Street. The existing transportation facilities are designed and intended to handle large volumes of vehicle traffic, including transit and school buses, and also accommodate bicycles and pedestrians. Therefore, the anticipated vehicular, bicycle and pedestrian traffic patterns generated by the development can be accommodated in a safe and efficient manner.

Finding 19: The applicant has submitted a traffic and parking analysis for the subject project prepared by a professional Traffic Engineer. The parking analysis describes the various team schedules and anticipated parking demand generated by use of the sports stadium. The existing driveways and connector streets (e.g. L Street) serving the site already have traffic control signage and/or lane striping that is proposed to remain. The existing traffic control mechanisms will continue to operate as designed and intended for the sports stadium use. In certain circumstances, however, anticipated traffic volumes may exceed the thresholds for normal operational use of the traffic control devices. The applicant's parking analysis describes these scenarios and the necessary measures that will be needed to manage traffic flow and parking on the site so as not to cause safety and traffic conflicts, or impede the operation of perimeter public streets and intersections. The applicant will be required to provide supplemental traffic control measures (such as signage and personnel) to ensure the capacities of the on-site and adjacent public street traffic control mechanisms are not exceeded. Further discussion of the proposed parking management plan for the site is found in Sections C.2 & D below.

Finding 20: The applicant has prepared a parking and traffic analysis for the project as outlined in the Discretionary Use permit report (Attachment 1). Upon recording of a Parking Demand Management Plan for the site as recommended in the conditions of approval for the Discretionary Use permit the application meets this criterion.

Condition of Approval:

- 2. The Final Site Plan must provide for replacement of the three street light fixtures along the Centennial Boulevard frontage of the site with LED fixtures meeting current City standards.**

Conclusion: As conditioned herein, the proposal satisfies this sub-element of the criterion.

C. The proposed development shall comply with all applicable public and private design and construction standards contained in this Code and other applicable regulations.

Finding 21: Criterion C contains three different elements with sub-elements and applicable code standards. The site plan application as submitted complies with the code standards listed under each sub-element unless otherwise noted with specific conditions. The elements, sub-elements and code standards of Criterion C include but are not limited to:

1. Infrastructure Standards in accordance with SDC 4.1-100, 4.2-100 & 4.3-100
 - Water Service and Fire Protection (4.3-130)
 - Public and Private Easements (4.3-120 – 4.3-140)
2. Conformance with standards of SDC 5.17-100, Site Plan Review, and SDC 3.2-700 Public Land and Open Space Zoning District
 - Public Land and Open Space Zoning District – Primary and Secondary Uses (3.2-710)
 - Base Zone Development Standards (3.2-715)
 - Landscaping, Screening and Fence Standards (4.4-100)
 - On-Site Lighting Standards (4.5-100)
 - Vehicle Parking, Loading and Bicycle Parking Standards (4.6-100)
 - Siting Standards for Public Schools (4.7-195)

3. Overlay Districts and Applicable Refinement Plan Requirements
 - Drinking Water Protection Overlay District

C.1 Public and Private Improvements in accordance with SDC 4.1-100, 4.2-100 & 4.3-100

Fire Protection/Emergency Access and Water Service (4.3-130)

Emergency Access

Finding 22: All fire apparatus access routes are to be paved all-weather surfaces able to support an 80,000 lb. imposed load in accordance with the Springfield Fire Code (SFC) 503.2.3 and SFC Appendix D102.1. Access to the project area is afforded from Moffitt Lane, L Street, and the existing driveway approach onto Centennial Boulevard.

Finding 23: The closest fire station to the project area is virtually across the street at 1436 5th Street. Therefore, rapid emergency response is afforded to the subject site.

Finding 24: Adequate emergency access to the development site is provided by way of the existing and proposed driveways and driving aisles serving the property.

Water Supply

Finding 25: SDC 4.3-130.A requires each development area to be provided with a water system having sufficiently sized mains and lesser lines to furnish adequate supply to the development and provide sufficient access for maintenance. SUB coordinates the design of the water system within Springfield city limits.

Finding 26: The applicant is proposing to use the existing dedicated fire lines and nearby public fire hydrants that serve the site. The site was determined to have sufficient fire protection during the planning and construction of Hamlin Middle School in 2016. The applicant is proposing to construct metal bleacher seating that is uncovered along with a press box, and a masonry block team changing room and restroom building. The nature of the proposed uses and the physical materials used in the construction of the facilities will result in a very low fire risk for the site. Because the subject site is within the response and coverage area for fire protection, including the available fire hydrants proximate to the facility, the existing water supply is adequate for the proposed stadium.

Conclusion: The proposal satisfies this sub-element of the criterion.

Public and Private Easements (4.3-120 – 4.3-140)

Finding 27: SDC 4.3-140.A requires applicants proposing developments to make arrangements with the City and each utility provider for the dedication of utility easements necessary to fully service the development or land beyond the development area. The minimum width for public utility easements (PUEs) adjacent to street rights-of-way and internal to private properties must be 7 feet, unless the Development & Public Works Director requires a larger easement to allow for adequate maintenance access.

Finding 28: The proposed development is internal to the existing school site and it will require the extension of private utility services to the new and expanded facilities on the site. No public easements are required or warranted for the proposed sports stadium project to meet this criterion. Therefore, SDC 4.3-140.A is not applicable to this proposal.

Conclusion: The proposal satisfies this sub-element of the criterion.

C.2 Conformance with Standards of SDC 5.17-100, Site Plan Review, and SDC 3.2-700, Public Land and Open Space Zoning District

Primary and Secondary Uses (3.2-710)

Finding 29: In accordance with SDC 3.2-710, sports stadiums are listed as a permitted primary use in the PLO District.

Finding 30: In accordance with SDC 3.2-710, on-site parking lots are allowable in the PLO District as a secondary or subordinate use to meet the vehicle parking requirements of the primary use. The applicant has provided a parking analysis for the project that is discussed below.

Conclusion: The proposal satisfies this sub-element of the criterion.

Base Zone Development Standards (3.2-715)

Finding 31: The proposed development is an expansion of seating capacity and related improvements for an existing baseball field. The proposed bleacher seating and press box is to occupy areas that are currently concrete (i.e. impervious) walking surfaces.

Finding 32: The applicant is not proposing to install or construct any site improvements within required perimeter setbacks, reduce landscaping coverage below the required threshold, or exceed the maximum building or parking area coverage for the property. The maximum amount of parking, driveway and building coverage on the site is 65% and even with the proposed development of the stadium this limit is not reached.

Finding 33: The proposed team changing room and restroom building will displace existing sidewalk and landscaping area north of the baseball field. However, the proposed building footprint does not reduce the overall site landscaping below the minimum 25% requirement of SDC 3.2-715.

Conclusion: The proposal satisfies this sub-element of the criterion.

Landscaping, Screening and Fence Standards (4.4-100)

Finding 34: In accordance with SDC 4.4-100, all required setbacks are to be landscaped. Acceptable forms of landscaping include trees, shrubs, turf grass, ground cover plants, or a combination thereof. Gravel and bark mulch can be used as planting media, but are not acceptable as a standalone ground cover material.

Finding 35: The existing landscaping on the site meets the requirements for planted setbacks as established by the approved Final Site Plan for Hamlin Middle School (Case TYP216-00005). A small area of landscaping to the north of the baseball field is proposed to be removed for construction of the team changing room and restroom building. The building footprint for the changing room and restroom building does not reduce the interior site landscaping below the 25% requirement described in SDC 3.2-715.

Finding 36: The applicant has removed the end cap of a parking lot landscaping area in the southeast corner of the project area to facilitate truck and equipment circulation through the southern parking lot that adjoins the baseball field. Construction vehicles associated with turf replacement for the field, installation of an underdrain system, and other preliminary site work necessitated removal of the end cap to complete turning movements through the parking lot. Initial site work was approved through the MDS Minor issued for the site as Case 811-21-000176-TYP1. The parking lot island end cap will need to be reconstructed and replanted at the conclusion of the project and prior to initiation of any sports activities on the site.

Finding 37: The applicant prepared and submitted a landscaping and planting plan for the stormwater facilities affected by the site development. The stormwater facility plantings were reviewed and approved through the MDS Minor for the project (Case 811-21-000176-TYP1). Because the applicant is proposing a very small

amount of new impervious surface relative to the overall size of the site (i.e. team changing room building rooftop) and the stormwater facilities installed through the MDS project anticipated this incremental increase to impervious surface, the planting plan for the site and the stormwater facilities meets the requirements of SDC 4.4-105.B.1.

Finding 38: In accordance with SDC 4.4-115, there is no specific requirement for fencing of the subject development area except where it abuts residential properties. According to the applicant's site plan, the existing perimeter site fencing is to be retained. The applicant will be installing new fencing around the baseball field and as a backstop area behind the home plate in association with the site improvements. These interior fences do not represent boundary fences and are not subject to the provisions of SDC 4.4-115.

Condition of Approval:

- 3. The Final Site Plan must provide for full reconstruction and replanting of all parking lot islands and landscaping areas that have been removed or damaged by construction vehicle movements in the southern parking lot.**

Conclusion: As conditioned herein, the proposal satisfies this sub-element of the criterion.

On-Site Lighting Standards (4.5-100)

Finding 39: In accordance with SDC 4.5-100, public and private street and pedestrian-scale lighting must be provided with all new developments. The lighting must be shielded and recessed such that direct glare is contained within the boundaries of the property.

Finding 40: The applicant is proposing to retain the existing light towers and light fixtures that illuminate the baseball, football, soccer and track fields on the site. New pedestrian-scale lighting is to be installed for spectator areas. The new lighting fixtures include building-mounted wall pack fixtures and pole-mounted LED fixtures that are fully downcast and directed to internal walking and seating areas. The applicant has submitted lighting plans and manufacturer's cut sheets for the spectator area lighting that meets the requirements of SDC 4.5-100.

Conclusion: The proposal satisfies this sub-element of the criterion.

Vehicle Parking, Loading and Bicycle Parking Standards (4.6-100)

Finding 41: The prior Site Plan Review approval for redevelopment of the Hamlin Middle School site in 2016 allocated the vehicle and bicycle parking requirements for the site based on the requirements of SDC 4.6-100. Since that time, the Development Code provisions of SDC 4.6-100 have changed but so have the planned activities on the site. The applicant has submitted a parking and traffic analysis prepared by Sandow Engineering for the baseball stadium project. The analysis demonstrates that adequate parking exists on the site for nearly all planned sporting events in the expanded facility. Scheduled games for high school and collegiate-level teams can be accommodated predominantly with the existing parking on the site. For any baseball games with more than 885 spectators, off-site parking is required as described in the applicant's parking and traffic analysis. The requirement for an updated and recorded Parking Demand Management Plan is discussed in the accompanying Discretionary Use staff report and is a condition of approval for Case 811-21-000169-TYP3.

Finding 42: SDC 4.6-110.I states that where a proposed development abuts an existing or proposed Frequent Transit Corridor that the applicant may request a reduction in parking of up to 15 percent from the minimum off-street parking spaces required in Table 4.6-2. The site abuts a Frequent Transit Corridor, which is the Gateway bus rapid transit system operating along Pioneer Parkway. Therefore, the site meets this requirement and qualifies for a 15% reduction in parking

Finding 43: SDC 4.6-110.H allows for a reduction of one motor vehicle parking space for every 2 non-required bicycle parking spaces on the site. Existing bicycle parking facilities installed as part of the Hamlin Middle

School construction can be used to accommodate the additional 5 percent parking reduction for the stadium use. In combination with the Frequent Transit Corridor provision, the total allowed reduction for developed parking spaces is 20 percent which is the maximum allowable by SDC 4.6-110.L.

Finding 44: The applicant's parking analysis assumes an average of three (3) spectators per vehicle. With the 20% parking reduction allowance and in combination with other modes of spectator access to the site (e.g. bike, walk or transit), the existing 236 parking spaces on the site can accommodate up to 885 spectators. Additional parking provisions will be required for any events that exceed 885 spectators.

Finding 45: SDC 4.6-110.F allows the Director to authorize joint use of parking facilities provided the applicant demonstrates there is no conflict with principal operating hours of the buildings or uses that are subject to the parking agreement. The parties concerned must provide evidence of a recorded agreement for the shared use of adjacent parking facilities. The applicant's parking analysis prepared by Sandow Engineering identifies a potential shared parking facility at the Community of Faith church which is located directly across 5th Street from the subject site. The applicant must provide evidence of a shared parking agreement with the Community of Faith church for this parking pool to be counted as part of the stadium's Parking Demand Management Plan. The requirement for a shared parking agreement is thereby implemented as a condition of approval for the Discretionary Use Permit (Case 811-21-000169-TYP3).

Finding 46: SDC 4.6-120 requires that all parking lots, bays, and spaces must have a durable, dust free surfacing of asphaltic concrete, Portland cement concrete or other materials as approved by the City Engineer. Parking on undeveloped portions of the site, such as landscaping areas, is therefore disallowed. The applicant is proposing the use of a grass field in the southeast corner of the site for overflow parking associated with the 1,125-1,900 spectator level threshold. However, adequate parking exists on the site and in the shared parking facilities described in the applicant's parking analysis (including the Community of Faith Church and Springfield High School) to accommodate peak spectator numbers. Therefore, use of the lawn area for parking is not necessary and is not authorized by this decision.

Finding 47: SDC 4.7-195.A.8 requires that all parking lots and driveways for elementary and middle schools must be designated to separate bus and passenger vehicle traffic. The existing bus loop for Hamlin Middle School is located at the far northeast corner of the site off Moffitt Lane and it is separated from the normal vehicle traffic and parking areas of the site. However, the applicant is proposing to use the southern driveway entrance and parking lot driving aisle for bus access and drop off for collegiate baseball teams using the stadium. Additionally, the applicant's parking analysis indicates that the bus access to the southern parking lot may occur during normal school hours which will lead to mixing of bus and vehicle traffic (along with pedestrians and bicyclists). The applicant will need to abide by the provisions of the parking analysis and recorded Parking Demand Management Plan to ensure that baseball team bus and vehicle traffic is separated from normal school traffic (buses and passenger vehicles) when games are scheduled during school operating hours.

Conclusion: The proposal satisfies this sub-element of the criterion.

Siting Standards for Public Schools (4.7-195)

Finding 48: In accordance with SDC 4.7-195.A, Hamlin Middle School is identified as a school site in Appendix D of the adopted *Metro Plan*. The zoning for the site is Public Land and Open Space, which allows for the use of public middle schools subject to Site Plan Review (SDC 3.2-710). A Site Plan Review for the construction of Hamlin Middle School was approved in 2016 as Case TYP216-00005.

Finding 49: In accordance with SDC 4.7-195.A.1, all new facilities or building additions exceeding 10,000 ft² or comprising more than 50% of the existing building area must be elevated to a Type III review. An exception to this requirement allows for new middle schools to be reviewed as a Type II application. The proposed development is not for a new middle school. The proposed development is a modification to an existing facility (baseball field) that comprises more than 10,000 ft² of project area when including the playing surface of the

field. The land use review for the proposed facility has been elevated to a Type III review before the City's Planning Commission which meets this requirement.

Finding 50: In accordance with SDC 4.7-195.A.2, a maximum of 65% of the site can be impervious surface with the rest planted as described in SDC 4.4-100. The proposed development is almost entirely existing impervious surface with the exception of new building rooftop for the team changing room and restroom building. The proposed new impervious surface does not cause the site to exceed the 65% impervious surface maximum, nor does the proposal affect the required 25% landscaping of the site to meet SDC 3.2-715 & 4.4-100.

Finding 51: In accordance with SDC 4.7-195.A.3, schools must have a landscaped front yard of 20 feet and landscaped side and rear yards of 30 feet. Spectator seating structures adjoining residential uses must be set back at least 75 feet, unless adequate buffering can be provided with a reduced setback. However, in no instance shall the setback from spectator facilities be less than 30 feet. Parking areas must maintain a landscaped buffer of 15 feet when adjoining a residential use. The proposed new and expanded spectator seating areas are internal to the site and are more than 75 feet from the nearest property line. The spectator seating areas are approximately 500 feet from the nearest residential property (to the south across Centennial Boulevard) and more than 550 feet from the nearest abutting residential property. There are no proposed parking areas that abut residential uses. Therefore, the proposal meets this requirement.

Finding 52: In accordance with SDC 4.7-195.A.4, light is to be directed away from less intensive adjacent land uses. The existing lighting for the baseball field is to be used for the proposed baseball stadium. The tower lighting is directed downward onto the playing surface and will remain similarly directed in the baseball stadium. New pedestrian-scale lighting for spectator seating areas (including emergency egress lighting) is to be shielded and downcast and the light throw limited to the project area. The proposed lighting plan meets this requirement.

Finding 53: In accordance with SDC 4.7-195.A.5, other related uses may be allowable within school facilities at the discretion of the School District. The applicant is not proposing a day care, social program office, or after school programs. Therefore, this requirement is not applicable.

Finding 54: In accordance with SDC 4.7-195.A.6, all plants used for "landscaped buffering" must be a minimum of 5-gallons in size and shall reach a height of at least 36 inches within 1 year of planting. The applicant is not proposing to install landscaped buffering, nor is this a condition of approval for the project. Therefore, this requirement is not applicable.

Finding 55: In accordance with SDC 4.7-195.A.7, paved playground areas may be used as overflow parking for special events. The applicant is not proposing to use any playground areas for overflow parking. A proposal to use an unpaved area in the southeast corner of the site has been denied as stated herein and in the Discretionary Use Permit (Case 811-21-000169-TYP3). Therefore, this requirement is not applicable.

Finding 56: In accordance with SDC 4.7-195.A.8, all parking lots and driveways must be designated to separate bus and passenger vehicle traffic. All parking lots must have sidewalks raised a minimum of 6 inches above grade where pedestrians have to cross parking lots to enter or leave the school grounds. All parking lots must be designed so that a person walking between the bicycle parking facilities and the main building entrance or primary point of entry to the school is not required to cross a driveway, loading space, or other area intended for motor vehicle circulation. The Director may require wider sidewalks at major approaches to schools as deemed necessary for pedestrian safety and capacity. The applicant is proposing to separate school and baseball stadium as stated in the submitted parking and traffic analysis, and discussed in more detail in the staff report for the Discretionary Use Permit (Case 811-21-000169-TYP3). Conditions of approval requiring the applicant to implement the Parking Demand Management Plan and use measures for wayfinding and signage have been added to the Discretionary Use Permit to meet this requirement. As conditioned in the Discretionary Use Permit, this requirement has been met.

Finding 57: In accordance with SDC 4.7-195.A.9, any jointly shared recreational facilities, playgrounds or athletic field require a joint use agreement that will provide for public use and continued maintenance. The

proposed baseball stadium is to be used by local high school, collegiate, and semi-professional baseball teams. The applicant is not proposing to convert the baseball stadium to a public, shared-use facility and is not proposing to have Willamalane (as the local park and recreation provider) or the City of Springfield operate or maintain the facility. Therefore, this requirement is not applicable.

Finding 58: In accordance with SDC 4.7-195.A.10, elementary schools shall have a maximum building height of 35 feet, middle schools shall have a maximum building height of 45 feet. The applicant is not proposing to build a middle school building or modify the existing building. Therefore, this requirement is not applicable.

Finding 59: In accordance with SDC 4.7-195.A.11, a Traffic Impact Study and Parking Study, prepared by a Transportation Engineer, shall be approved by the City Engineer. The applicant is not proposing to construct new school building on the site. However, the applicant has submitted a traffic and parking analysis that will form the basis for a Parking Demand Management Plan for the proposed baseball stadium. The traffic and parking analysis has been prepared by a professional Transportation Engineer and has been reviewed by the City's Transportation Planning Engineer. This requirement has been met.

Finding 60: In accordance with SDC 4.7-195.B, in the PLO District public middle schools must be adjacent to residentially-zoned property. The subject site is surrounded on three sides by residentially zoned land (east, south and west). Residential properties directly abut the Hamlin Middle School site along the eastern boundary, and are separated from the southern boundary by Centennial Boulevard. This requirement has been met.

C.3 Overlay Districts and Applicable Refinement Plan Requirements

Finding 61: The subject site is not within an adopted neighborhood refinement plan area. There are no specific Refinement Plan policies that apply to this proposed sports stadium development.

Finding 62: The subject site is within the mapped 10-20 and 20+ Year Time of Travel Zones (TOTZs) for the Q Street drinking water wellhead. New development that may introduce or increase the amount of hazardous materials that pose a risk to groundwater resources require a Drinking Water Protection Permit or Exemption in accordance with SDC 3.3-225.A. The applicant is proposing to modify the existing baseball field for increased spectator seating and also constructing a team changing room and public restroom building. Based on the applicant's submittal and the characteristics of the proposed sports stadium development, the applicant could be eligible for a Drinking Water Protection (DWP) Exemption from SUB Drinking Water Source Protection. However, regardless of the DWP status, the site directly abuts and drains into a delineated wetland channel commonly referred to as the Q Street Channel. As a "Best Practices" recommendation for this site, care should be taken during site construction and operation to prevent contamination from chemicals that may spill or leak onto the ground surface, including fuel and automotive fluids (such as lubricants and antifreeze, etc.). Fluid-containing equipment, including trucks using the loading dock area and other vehicles parked on the site, must be monitored for leaks and spills. Any chemical spills or leaks must be cleaned up immediately and cleanup materials disposed off-site in accordance with Lane County and State DEQ requirements.

Condition of Approval:

- 4. Prior to issuance of Final Occupancy and commencement of operations for the stadium facility the applicant must obtain a DWP Permit or Exemption.**

Conclusion: As conditioned herein, the proposal satisfies this sub-element of the criterion.

- D. Parking areas and ingress-egress points have been designed to: facilitate vehicular traffic, bicycle and pedestrian safety to avoid congestion; provide connectivity within the development area and to adjacent residential areas, transit stops, neighborhood activity centers, and commercial, industrial and public areas; minimize curb cuts on arterial and collector streets as specified in this Code or other applicable regulations and comply with the ODOT access management standards for State highways.**

Finding 63: Installation of driveways on a street increases the number of traffic conflict points. The greater number of conflict points increases the probability of traffic crashes. Effective ways to reduce the probability of traffic crashes include: reducing the number of driveways; increasing distances between intersections and driveways; and establishing adequate vision clearance areas where driveways intersect streets. Each of these techniques permits a longer, less cluttered sight distance for the motorist, reduces the number and difficulty of decisions that drivers must make, and contributes to increased traffic safety.

Finding 64: In accordance with SDC 4.2-120.C, site driveways must be designed to allow for safe and efficient vehicular ingress and egress as specified in Tables 4.2-2 through 4.2-5, the City's EDSPM, and the City's *Standard Construction Specifications*. Ingress-egress points must be planned to facilitate traffic and pedestrian safety, avoid congestion, and minimize curb cuts on public streets.

Finding 65: In accordance with SDC 4.6-120.A, all parking lots, bays, and spaces must have a durable, dust free surfacing of asphaltic concrete, Portland cement concrete or other materials as approved by the City Engineer.

Finding 66: The applicant is proposing to use the existing paved parking areas on the site to accommodate up to 885 spectators for the stadium events. Off-site shared parking areas also are proposed in the parking analysis. For spectator numbers exceeding 1,125 people, the applicant is proposing to use an existing turf grass area in the southeast corner of the site for overflow parking. Based on the applicant's parking and traffic analysis, the overflow parking area shouldn't be required with the available off-site parking at Springfield High School and Community of Faith Church and when the 20% reduction for the site's location on a Frequent Transit Network and extra bicycle parking are factored in. Therefore, no parking on unpaved surfaces is authorized by this decision.

Finding 67: The applicant's Parking Demand Management Plan discussed in the Discretionary Use Permit and conditioned through that approval (Case 811-21-000169-TYP3) addresses the site access, circulation and parking issues for the baseball stadium. As conditioned in the Discretionary Use Permit, the proposed Site Plan Modification meets the criterion.

Conclusion: As conditioned herein, the proposal satisfies this criterion.

- E. Physical features, including, but not limited to: steep slopes with unstable soil or geologic conditions; areas with susceptibility of flooding; significant clusters of trees and shrubs; watercourses shown on the Water Quality Limited Watercourse Map and their associated riparian areas; wetlands; rock outcroppings; open spaces; and areas of historic and/or archaeological significance, as may be specified in Section 3.3-900 or ORS 97.740-760, 358.905-955 and 390.235-240, shall be protected as specified in this Code or in State or Federal law.**

Finding 68: The Natural Resources Study, the National Wetlands Inventory, the Springfield Wetland Inventory Map, Wellhead Protection Overlay and the list of Historic Landmark Sites have been consulted and there are wetland resources ((the Q Street Channel) along the northern edge of the subject site that warrants protection. The Q Street Channel is not classified as a locally significant wetland but is depicted on the local wetland inventory. However, the channel is classified as a riparian resource area and is tributary to a Water Quality Limited Watercourse. There are no other physical features on the site that fall within these classifications or warrant special protection measures.

Finding 69: The applicant is not proposing to construct or install any improvements within the northern half of the site, and all project work is geographically separated from the existing wetland channel. Vegetated stormwater facility improvements and modifications for the project have been reviewed and approved through a supplemental MDS for the site (Case 811-21-000176-TYP1). The approved stormwater facility modifications address the water quality protection requirements for the site, including the addition of a small amount of new impervious surface associated with the rooftop of the team changing room and restroom building.

Finding 70: Stormwater runoff from the subject site flows to surface drainage channels, including the Q Street Channel, and eventually passes beneath I-5 to discharge into the Willamette River system. The Willamette River is a mapped Water Quality Limited Watercourse on the City's inventory and is listed with the State of Oregon as a "water quality limited" stream for numerous chemical and physical constituents, including temperature. Provisions have been made in this decision and in prior land use approvals directly associated with this project for protection of stormwater quality. The on-site stormwater treatment system consists of two vegetated infiltration basins that were recently reconfigured through an approved MDS for the site (Case 811-21-000176-TYP1). The modified stormwater infiltration basins have been designed, reviewed and approved to meet the requirements of the Eugene Stormwater Management Plan, the EDSPM, and SDC 4.3-110.E and 4.3-115.C.

Finding 71: As previously stated herein, groundwater protection is to be observed during construction on the site. The applicant must maintain the private stormwater facilities on the site to ensure the continued protection of surface water and groundwater resources.

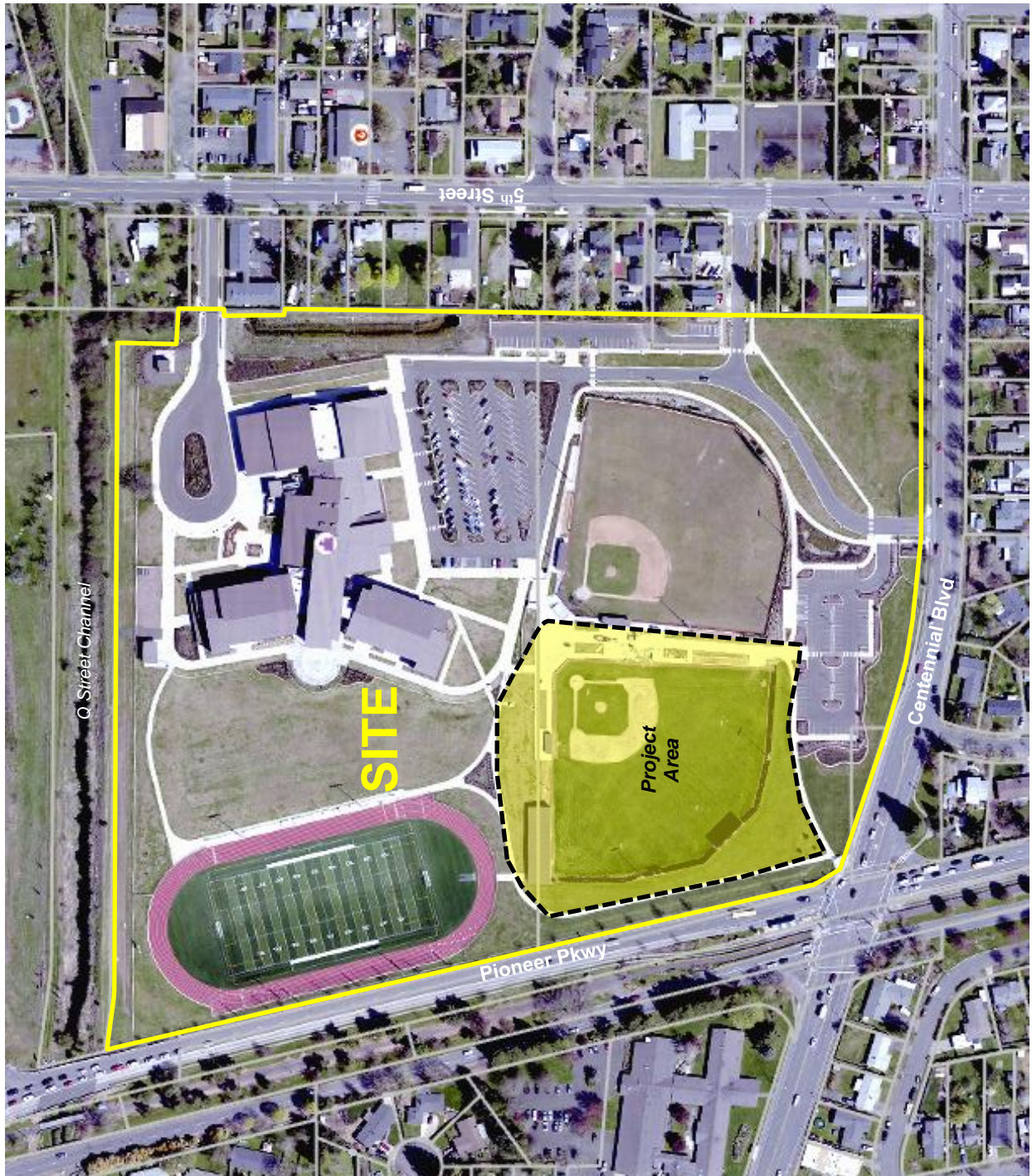
Conclusion: As conditioned by Condition 5 requiring the applicant to obtain a DWP permit or exemption for the project, the proposed development provides storm and ground water quality protection in accordance with SDC 3.3-200 and receiving streams have been protected in accordance with SDC 4.3-110 and 4.3-115.

CONCLUSION: The Tentative Site Plan Modification, as submitted and subject to the conditions listed herein, complies with Criteria A-E of SDC 5.17-125.

SUMMARY OF CONDITIONS OF APPROVAL:

- 1. The Final Site Plan must provide details on the private sewer pump station to be installed on the site including the size, type and manufacturer's specifications for the pump system; location and depth of installation; and the plumbing connections to be installed between the drain and sewer lateral in accordance with Plumbing Code requirements. If the pump is located above ground, it must be fully screen according to the requirements of SDC 4.3-125.D.**
- 2. The Final Site Plan must provide for replacement of the three street light fixtures along the Centennial Boulevard frontage of the site with LED fixtures meeting current City standards.**
- 3. The Final Site Plan must provide for full reconstruction and replanting of all parking lot islands and landscaping areas that have been removed or damaged by construction vehicle movements in the southern parking lot.**
- 4. Prior to issuance of Final Occupancy and commencement of operations for the stadium facility the applicant must obtain a DWP Permit or Exemption.**

811-21-000169-TYP3 – PROPOSED DISCRETIONARY USE PERMIT FOR HAMLIN MIDDLE SCHOOL BASEBALL FIELD
326 CENTENNIAL BOULEVARD (MAP 17-03-26-31, PORTION OF TAX LOT 2200 & MAP 17-03-26-34, TAX LOT 6200)
SITE CONTEXT MAP



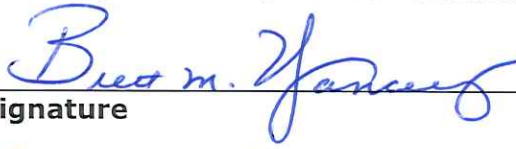
City of Springfield
Development & Public Works
225 Fifth Street
Springfield, OR 97477




Discretionary Use

Required Project Information		(Applicant: complete this section)	
Applicant Name: Brett Yancey		Phone:	
Company: Springfield School District		Fax:	
Address: 640 A Street, Springfield, OR 97477			
Applicant's Rep.: Anthony J. Favreau		Phone: 541-683-7048	
Company: The Favreau Group, LLC		Fax:	
Address: 3750 Norwich Ave., Eugene, OR 97408			
Property Owner: Same as applicant		Phone:	
Company:		Fax:	
Address:			
ASSESSOR'S MAP NO: 17-03-26-34		TAX LOT NO(S): 6200	
Property Address:			
Size of Property: 3.8		Acres <input checked="" type="checkbox"/> Square Feet <input type="checkbox"/>	
Description of Proposal: If you are filling in this form by hand, please attach your proposal description to this application. Renovate and expand existing baseball field			
Existing Use:			
Signatures: Please sign and print your name and date in the appropriate box on the next page.			
Required Project Information		(City Intake Staff: complete this section)	
Associated Applications:		Signs:	
Case No.:	Date:	Reviewed by:	
Application Fee: \$	Technical Fee: \$	Postage Fee: \$	
TOTAL FEES: \$		PROJECT NUMBER:	

Signatures

Applicant:	The undersigned acknowledges that the information in this application is correct and accurate.	
		Date: <u>8/10/2021</u>
	Signature	
	<u>BRETT M. YANCEY</u>	
	Print	

Owner:	If the applicant is not the owner, the owner hereby grants permission for the applicant to act in his/her behalf.	
		Date: <u>8/10/2021</u>
	Signature	
	<u>BRETT M. YANCEY</u>	
	Print	

Discretionary Use Application Process

1. Applicant Submits a Discretionary Use Application to the Development & Public Works Department

- The application must conform to the *Discretionary Use Submittal Requirements Checklist* on page 4 of this application packet.
- Planning Division staff screen the submittal at the front counter to determine whether all required items listed in the *Discretionary Use Submittal Requirements Checklist* have been submitted.
- Applications missing required items will not be accepted for submittal.

2. City Staff Conduct Detailed Completeness Check

- Planning Division staff conducts a detailed completeness check within 30 days of submittal.
- The assigned Planner notifies the applicant in writing regarding the completeness of the application.
- An application is not be deemed technically complete until all information necessary to evaluate the proposed development, its impacts, and its compliance with the provisions of the Springfield Development Code and other applicable codes and statutes have been provided.
- Incomplete applications, as well as insufficient or unclear data, will delay the application review process and may result in denial.

3. Planning Commission or Hearings Official Review the Application, Hold a Public Hearing, and Issue a Decision

- This is a Type III decision and thus is made after a public hearing.
- A notice is posted in the newspaper, and notice is mailed to property owners and occupants within 300 feet of the property being reviewed and to any applicable neighborhood association. In addition, the applicant must post one sign, provided by the City, on the subject property.
- Written comments may be submitted to the Development & Public Works Department through the day of the public hearing or comments may be provided in person during the public hearing.
- Applications are distributed to the Development Review Committee.
- After a public hearing, the Planning Commission or Hearings Official issues a decision that addresses all applicable approval criteria and/or development standards, as well as any written or oral testimony.
- Applications may be approved, approved with conditions, or denied.
- The City mails the applicant and any party of standing a copy of the decision, which is effective on the day it is mailed.
- The decision issued is the final decision of the City but the Planning Commission's decision may be appealed within 15 calendar days to the City Council, and the Hearings Official's decision may be appealed within 21 calendar days to the Land Use Board of Appeals.

Discretionary Use Submittal Requirements Checklist

NOTE: If you feel an item does not apply, please state the reason why and attach the explanation to this form.

- ☐ **Submitted Concurrently** with Site Plan Review application, where applicable
- ☐ **Application Fee** - refer to the *Development Code Fee Schedule* for the appropriate fee calculation formula. A copy of the fee schedule is available at the Development & Public Works Department. The applicable application, technology, and postage fees are collected at the time of complete application submittal.
- ☐ **Discretionary Use Application Form**
- ☐ **Copy of the Deed**
- ☐ **Copy of a Preliminary Title Report** issued within the past 30 days documenting ownership and listing all encumbrances.
- ☐ **Copy of the Associated Site Plan Reduced to 8½" by 11"**, which will be mailed as part of the required neighboring property notification packet.
- ☐ **Narrative** - explaining the proposal and any additional information that may have a bearing in determining the action to be taken, including findings demonstrating compliance with the Discretionary Use Criteria described in SDC 5.9-120.

NOTE: Before the Planning Commission or Hearings Official can approve a Discretionary Use request, information submitted by the applicant must adequately support the request. All of the Discretionary Use Criteria must be addressed by the applicant. Incomplete applications, as well as insufficient or unclear data, will delay the application review process and may result in denial.

NARRATIVE- DISCRETIONARY USE- HAMLIN BASEBALL FIELD

August 9, 2021

Assessor's Map: 17-03-26-34 Tax Lot 6200

Applicant: Springfield School District
640 A Street
Springfield, OR
Brett Yancey

Applicant's
Representative: The Favreau Group
3750 Norwich Ave.
Eugene, OR 97408
541-683-7048
Attn: Anthony Favreau

DISCRETIONARY USE REQUEST

The applicant proposes to renovate and expand one of the existing Hamlin Middle School baseball fields for use by the newly formed Bushnell University and Springfield Drifters baseball teams. As part of the renovation, there will be an expansion of the seating capacity to 1,900 spectators. Please see the responses below to the applicable code sections.

A Discretionary Use may be approved only if the Planning Commission or Hearings Official finds that the proposal conforms with the Site Plan Review approval criteria specified in Section 5.17-125, where applicable, and the following approval criteria:

- A.** *The proposed use conforms with applicable:*
 - 1.** *Provisions of the Metro Plan;*
 - 2.** *Refinement plans;*
 - 3.** *Plan District standards;*
 - 4.** *Conceptual Development Plans or*
 - 5.** *Specific Development Standards in this Code;*

RESPONSE: The proposal is expanding the current use which is consistent with the Metro Plan and current zoning.

- B.** *The site under consideration is suitable for the proposed use, considering:*

1. *The location, size, design and operating characteristics of the use (operating characteristics include but are not limited to parking, traffic, noise, vibration, emissions, light, glare, odor, dust, visibility, safety, and aesthetic considerations, where applicable);*

RESPONSE: Please see the Technical Memo by Kelly Sandow addressing these items.

2. *Adequate and safe circulation exists for vehicular access to and from the proposed site, and on-site circulation and emergency response as well as pedestrian, bicycle and transit circulation;*

RESPONSE: Please see the Technical Memo by Kelly Sandow addressing these items.

3. *The natural and physical features of the site, including but not limited to, riparian areas, regulated wetlands, natural stormwater management/drainage areas and wooded areas shall be adequately considered in the project design; and*

RESPONSE: This section does not apply.

4. *Adequate public facilities and services are available, including but not limited to, utilities, streets, storm drainage facilities, sanitary sewer and other public infrastructure.*

RESPONSE: All necessary public facilities are available to the site as shown on the attached plans.

C. *Any adverse effects of the proposed use on adjacent properties and on the public can be mitigated through the:*

1. *Application of other Code standards (including, but not limited to: buffering from less intensive uses and increased setbacks);*
2. *Site Plan Review approval conditions, where applicable;*
3. *Other approval conditions that may be required by the Approval Authority; and/or*
4. *A proposal by the applicant that meets or exceeds the cited Code standards and/or approval conditions.*

RESPONSE: Please see the Technical Memo by Kelly Sandow addressing these items.

D. *Applicable Discretionary Use criteria in other Sections of this Code:*

1. *Wireless telecommunications systems facilities requiring Discretionary Use approval are exempt from Subsections A.—C., above but shall comply with the approval criteria specified in Section 4.3-145.*

RESPONSE: This section does not apply.

2. *Alternative design standards for multifamily development are exempt from Subsections A.—C., above but shall comply with the approval criteria specified in Section 3.2-245.*

RESPONSE: This section does not apply.

3. *Fences requiring Discretionary Use approval are exempt from Subsections A.—C., above but shall comply with the approval criteria specified in Section 4.4-115C.*

RESPONSE: This section does not apply.

4. *The siting of public elementary, middle and high schools requiring Discretionary Use approval is exempt from Subsections A.—C., above but shall comply with the approval criteria specified in Section 4.7-195.*

RESPONSE: This section does not apply.

TECH MEMO

DATE: September 17, 2021

TO: Michael Liebler PE
City of Springfield

FROM: Kelly Sandow P.E.
Sandow Engineering



RENEWAL 06/30/22

RE: Springfield Baseball Project at Hamlin Middle School Parking Plan

The existing west baseball field at Hamlin Middle School is undergoing a renovation to upgrade the facilities for use by the newly formed Bushnell University and Springfield Drifters baseball teams. As part of the stadium upgrade, there will be an expansion of the seating capacity to 1,900 spectators. In general, the regular season athletic events will operate at significantly lower spectator levels than the fixed seating capacity, events with higher attendance levels will occur infrequently, and at-capacity attendance events will seldomly occur. The following provides a parking demand management plan for regular-season games and higher attendance games at the new stadium.

Use Characteristics

The stadium will be the home field for the Bushnell University baseball team, the Springfield Drifters, the Springfield Timbers, Springfield High School baseball team and will be used by other community baseball teams.

Bushnell University's regular season will be played from February to May. Games are played on both weekdays and weekends, with start times typically in the afternoon on the weekdays and mornings on the weekends. These games could have overlap with parking demand from other school events. However, the attendance at these events is anticipated to be low and will not have a significant level of parking demand.

The Springfield Drifters regular season will be played from June through August. Games are played on both weekdays and weekends, with start times typically at 7:00 PM. The Springfield Drifters has an agreement with the Springfield School district that during game days, there will be no other events on-site, and the parking lots, both baseball fields, and the track will be exclusively used by the Drifters. There will be no other events on-site that will compete with the available on-site parking.

The Springfield Timbers regular season is played in June and July. Games are played on weekends and weekdays, with typical games times at 5:00 PM and 7:00 PM.

Attendance Levels

The Springfield Drifters, in general, have the highest attendance levels for regular-season games than the other users. As there is no historical attendance data for the Springfield Drifters and Bushnell University, the attendance to the regular season games is estimated using average attendance levels for nearby baseball teams with similar attendance areas and league characteristics. Springfield Timbers are currently using the adjacent facility and have a history of use at the site. Therefore, the attendance levels for Timbers games have been provided via actual attendance data. Table 1 illustrates the average attendance levels for the teams of the Eugene Challengers, Springfield Timbers, and West Coast League teams similar to the Springfield Drifters.

TABLE 1: SIMILAR TEAM ATHLETIC EVENTS ATTENDANCE

Team	Location	Average Attendance
Eugene Challengers	Eugene, Or	100-300
Springfield Timbers	Springfield, Or	50-200
West Coast League	Similar Size Cities	200-700

The estimated attendance levels for regular-season games for the Drifters, Bushnell University, and the Timbers are shown in Table 2.

TABLE 2: HAMLIN BASEBALL STADIUM REGULAR-SEASON GAME ATTENDANCE

Team	Average Attendance
Springfield Timbers	50-200
Bushnell University	100-200
Springfield Drifters	200-600

Parking Demand

Hamlin Middle School has 236 parking spaces available on-site for games (see Figure 1). It is estimated that, on average, there will be 3 spectators per vehicle for games at this site. The City of Springfield Development Code allows for a reduction in required parking spaces of 15% (4.6-110 I) for being on a transit corridor and a 5% reduction in required parking (4.6-110 H) for additional bike parking. With the 20% reduction the 236 parking spaces can accommodate 885 spectators. Spectator levels above 885 will need additional accommodations to facilitate the

parking demand. Table 3 provides the estimated parking demand for each of the typical uses for the site.

TABLE 3: HAMLIN BASEBALL STADIUM REGULAR-SEASON PARKING DEMAND

Team	Average Attendance	Parking Demand Spectators**	Parking Demand Staff/Players	Total Demand
Springfield Timbers	50-200	15-55	25	40-80
Bushnell University	100-200	30-55	10*	40-65
Springfield Drifters	200-800	55-215	10*	65-225

*players are typically bussed in for these teams

** utilizing the parking reduction for multi-modal options

The parking demand will typically be the highest for the Springfield Drifters.

Parking Management Plan

The following parking plan has been developed to facilitate the parking demand during events at the stadium based on estimated spectator levels.

0-885 Spectators

Regular season games will generally have spectator levels below 885. This level of spectators is estimated to need parking of up to 236 vehicles. The parking demand can be fully accommodated within the Hamlin site. There are no special accommodations needed. It is recommended, however, that the stadium manager encourage the use of the adjacent LTD/EMX transit routes.

As stated previously, the Springfield Drifters will have exclusive use of the parking lots during games and will have the highest parking demand. Typical games will have a parking demand up to 225 vehicles. At this spectator level there is no additional parking demand management actions needed for the Springfield Drifters.

The Springfield Timbers typically have a parking demand up to 80 vehicles. All parking can be accommodated on site. There are generally no parking demand conflicts on-site during the Timbers games as the games are held outside of the school year/school day.

Bushnell University is anticipated to have a parking demand up to 65 vehicles. It is recommended that when game days that occur during weekdays during the school year, the parking lot directly to the south of the stadium be reserved for use by Bushnell to ensure available parking for spectators. There is sufficient parking in this lot to facilitate the typical game during the weekday. It is also recommended that temporary movable signage (sandwich boards) is placed at the entrance to the south lot, on the west side of the main driveway across

from the south lot, and placed at the entrance from L Street that direct incoming vehicles to the south parking lot.

Team buses to the site that occur on weekdays during the school year will drop off/pick up in the south parking lot, and store off site until the game(s) are over.

885-1,125 Spectators

Events at this spectator level will occur infrequently. Events at this level will occur for the Drifters only. The estimated parking demand at this spectator level is 236-300 vehicles. There will be the need to find parking for approximately 64 additional vehicles at this spectator level. There is parking at an adjacent lot that could be leased and used for parking that exceeds the on-site capacity. Across the street on N 5th St, there are 67 spaces (201 spectators) at the Community of Faith Church. There is relatively direct walking access from the church to the ballpark. The walking distance from this lot to the field is approximately 975 feet, with a high visibility crossing across 5th St and sidewalks the entire walkway (Figure 2). A second option is to have the additional parking provided at the Springfield High School parking lots.

Games for this spectator level will occur outside of school hours. Therefore, there are no special provision needed to separate school parking and trips for the baseball use.

1,125-1,900 Spectators

At levels over 1,125 spectators, there is the need to park 300-510 vehicles. Options for additional parking are the grass lot at the SE corner of the site and Springfield High School (SHS). Springfield High School is located within a half-mile walking distance. There are sidewalks and signalized street crossings between the ballpark and the parking lots at SHS (Figure 3). SHS has 356 non handicapped parking spaces available. The 356 parking spaces are sufficient parking to facilitate the parking needed at this spectator level. Games at this spectator level will occur outside of school hours. Therefore, there are no special provision needed to separate school parking and trips with the baseball use.

The following provides TDM measures for events with more than 1,125 spectators.

- Use Community of Faith Church or other lots (67 spaces)
- Open up overflow parking at the grass lot on the southeast corner of the site (180 estimated spaces) when needed
- Use parking at Springfield High School (356 spaces)
- Promote the use of EMX and the station located adjacent to the site
- Promote bicycling and walking

At capacity events will occur very infrequently and have the possibility of unique characteristics (i.e., lots of out-of-town guests staying at hotels) that should be managed specifically for the event type. Possible suggestions for parking management for at-capacity events are:

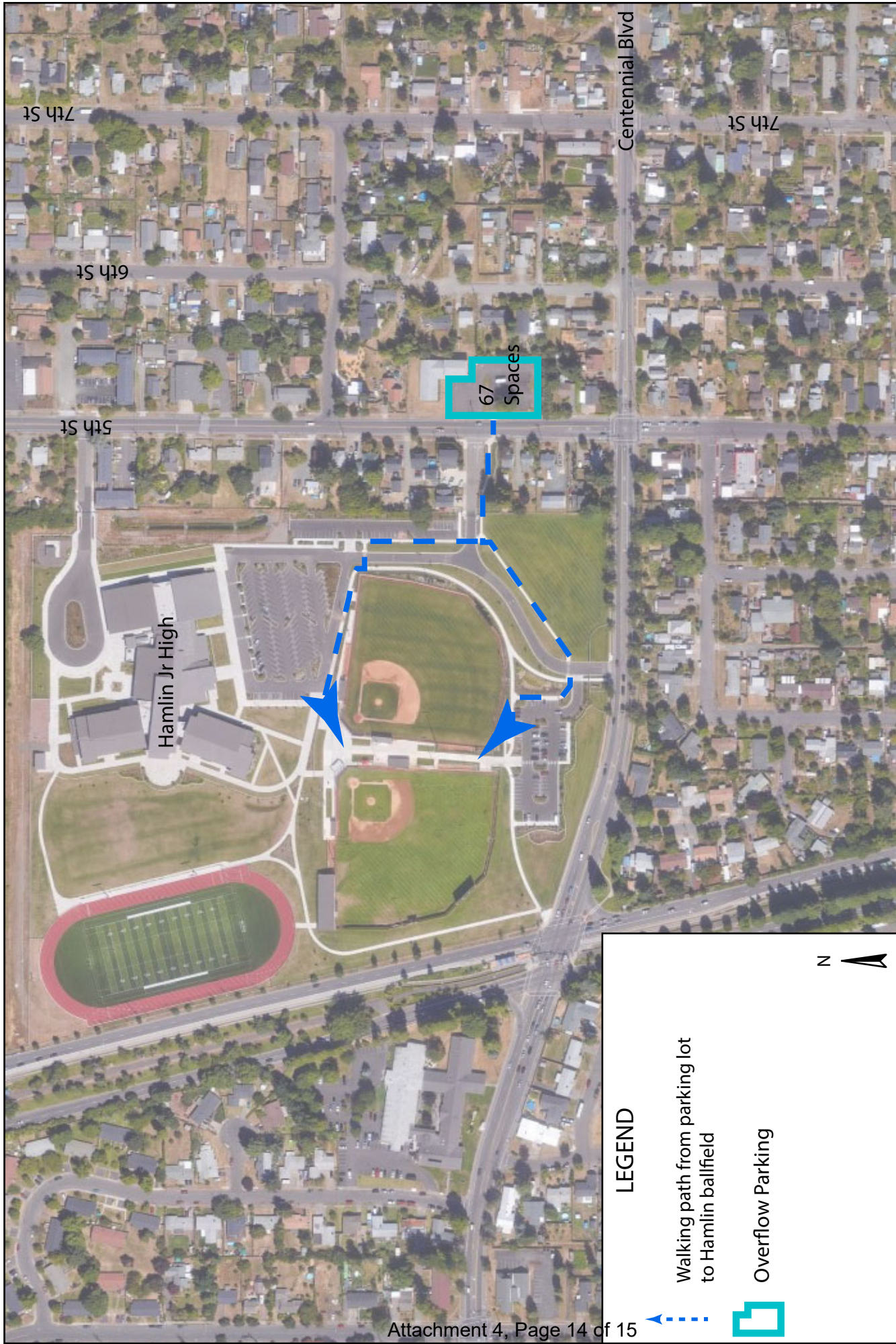
From: Kelly Sadow PE
RE: TDM-Hamlin Baseball
Date: 9.17.21
Page 5

- Group/discount rate at specific hotels with shuttle from the hotel
- Discounts for using EmX
- Off-site parking and shuttles



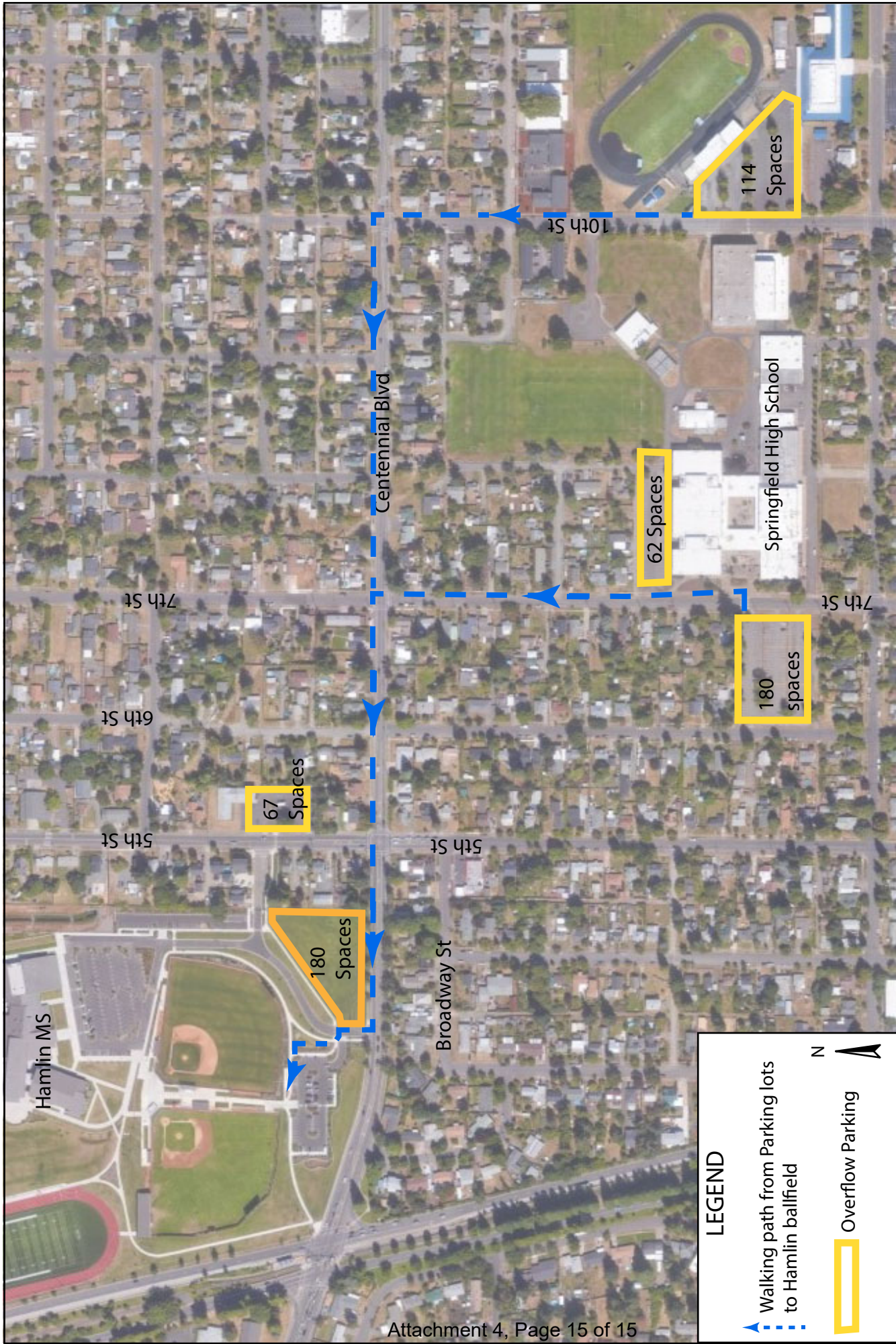
Hamlin Middle School Springfield, OR

Figure 1: On-Site Available Parking up to 885 Spectators



Hamlin Baseball Stadium Springfield, OR

Figure 2: Overflow Parking at 885-1,125 Spectators



Hamlin Middle School Springfield, OR

Figure 3: Parking Locations for 885 or More Spectators

City of Springfield
Development & Public Works
225 Fifth Street
Springfield, OR 97477



Site Plan Review

Application Type			<i>(Applicant: check one)</i>		
Site Plan Review Pre-Submittal: <input type="checkbox"/>			Major Site Plan Modification Pre-Submittal: <input type="checkbox"/>		
Site Plan Review Submittal: <input checked="" type="checkbox"/>			Major Site Plan Modification Submittal: <input type="checkbox"/>		
Required Project Information			<i>(Applicant: complete this section)</i>		
Applicant Name: Brett Yancey				Phone:	
Company: Springfield School District				Email: brett.yancey@springfield.k12.or.us	
Address: 640 A Street, Springfield, OR 97477					
Applicant's Rep.: Anthony J. Favreau				Phone: 541-683-7048	
Company: The Favreau Group, LLC				Email: favreaugroup@msn.com	
Address: 3750 Norwich Ave., Eugene, OR 97408					
Property Owner: Same as applicant				Phone:	
Company:				Email:	
Address:					
ASSESSOR'S MAP NO: 17-03-26-34			TAX LOT NO(S): 6200		
Property Address:					
Size of Property:		3.8	Acres <input type="checkbox"/>	Square Feet <input type="checkbox"/>	Proposed No. of Dwelling Units per acre: 0
Proposed Name of Project: Hamlin School Baseball Field					
Description of Proposal: If you are filling in this form by hand, please attach your proposal description to this application. Rebuild existing baseball field with artifical turf					
Existing Use: Hamlin School Baseball Field					
New Impervious Surface Coverage (Including Bldg. Gross Floor Area): 14,000 sf					
Signatures: Please sign and print your name and date in the appropriate box on the next page.					
Required Project Information			<i>(City Intake Staff: complete this section)</i>		
Associated Applications:				Signs:	
Pre-Sub Case No.:		Date:		Reviewed by:	
Case No.:		Date:		Reviewed by:	
Application Fee: \$		Technical Fee: \$		Postage Fee: \$	
TOTAL FEES: \$			PROJECT NUMBER:		

Owner Signatures

This application form is used for both the required pre-submittal meeting and subsequent complete application submittal. Owner signatures are required at both stages in the application process.

An application without the Owner's original signature will not be accepted.

Pre-Submittal

The undersigned acknowledges that the information in this application is correct and accurate for scheduling of the Pre- Submittal Meeting. If the applicant is not the owner, the owner hereby grants permission for the applicant to act in his/her behalf. I/we do hereby acknowledge that I/we are legally responsible for all statutory timelines, information, requests and requirements conveyed to my representative.

Owner:

Brett M. Yancey

Signature

Date: 06/30/2021

BRETT M. YANCEY

Print

Submittal

I represent this application to be complete for submittal to the City. Consistent with the completeness check performed on this application at the Pre-Submittal Meeting, I affirm the information identified by the City as necessary for processing the application is provided herein or the information will not be provided if not otherwise contained within the submittal, and the City may begin processing the application with the information as submitted. This statement serves as written notice pursuant to the requirements of ORS 227.178 pertaining to a complete application.

Owner:

Brett M. Yancey

Signature

Date: 06/30/2021

BRETT M. YANCEY

Print

June 10, 2021

Assessor's Map: 17-03-26-34 Tax Lot 6200

NARRATIVE

Applicant: Springfield School District
640 A Street
Springfield, OR
Brett Yancey

Applicant's
Representative: The Favreau Group
3750 Norwich Ave.
Eugene, OR 97408
541-683-7048
Attn: Anthony Favreau

LAND USE REQUEST

The applicant is seeking approval of the reconstruction of the existing baseball field and adjacent walks on the subject site.

SITE AND SURROUNDING CHARACTERISTICS

The subject site currently is a natural turf baseball field with dugouts and concrete walks. This proposal is to replace the existing natural turf on the baseball field with artificial turf, along with adding bleachers, new dugouts and concrete picnic areas adjacent to the baseball field.

No increase in stormwater runoff is anticipated. In fact, the open rock under the artificial turf will add about 46,000 cubic feet of additional stormwater storage in the event the current drainage system backs up.

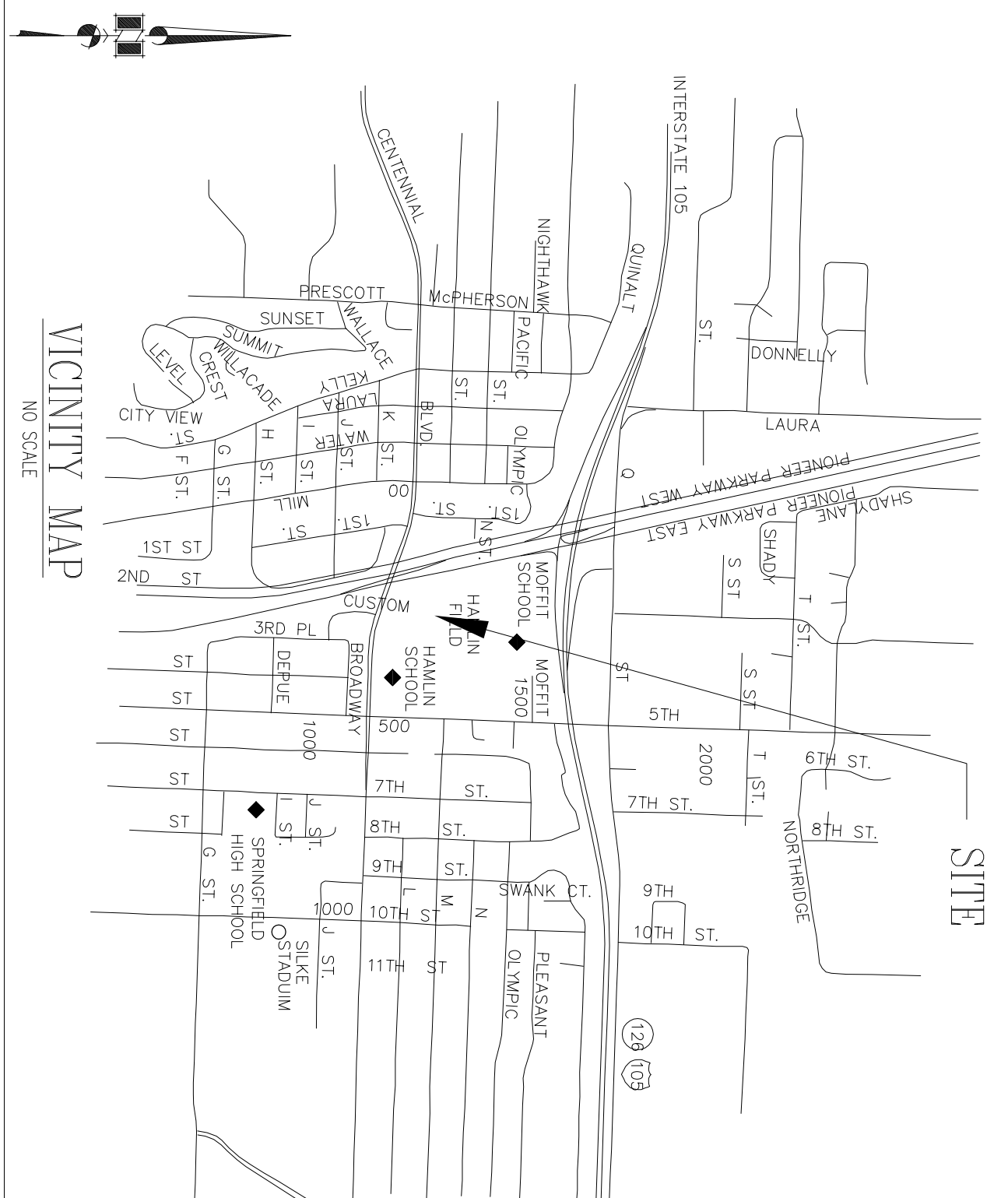
SITE PLAN APPROVAL

The applicant is seeking an approval of this baseball field and adjacent walks reconstruction. The total area of disturbance is about 140,000 square feet.

The site will be landscaped with natural lawn in the disturbed areas outside of the baseball field.

The proposed development is compatible with the surrounding developments because the site will remain a baseball field.

There will be no hazardous materials stored on site as a part of this reconstruction.



ZONING AND METRO PLAN DESIGNATION OF PROPERTIES WITHIN 100 FEET OF THE SITE
PER SDC 35.040(1)(j):

- SHEET INDEX
- | | |
|---|--|
| 1 | SITE ASSESSMENT OF EXISTING CONDITIONS |
| 2 | SITE PLAN & GRADING PLAN |
| 3 | UTILITY PLAN |

- | LEGEND | |
|------------------|--------------------------------------|
| — 490 — | EXISTING MAJOR CONTOUR AND ELEVATION |
| — EX. 12' S.D. — | EXISTING MAJOR CONTOUR |
| — EX. 8' W.M. — | EXISTING STRIP DRAIN AND SIZE |
| — EX. 8' W. — | EXISTING WASTE WATER AND SIZE |
| — EX. 8' W. — | EXISTING WATER LINE AND SIZE |
| — 5-YEAR TT — | EXISTING TIME OF TRAVEL LINES |
| △ | EXISTING SIGN |

- NOTES:
1. APPLICANT/OWNER: SPRINGFIELD SCHOOL DISTRICT 19
2. APPLICANT'S REPRESENTATIVE:
FARRAR ENGINEERING, 2206 COUNTRY HAVEN BL EUGENE, OR 97408, 541-556-4425.
3. 17-03-36-12 TAX LOT 100
4. WATER, POWER, GAS, TELEPHONE AND CABLE SHALL BE LOCATED IN THE PUBLIC RIGHT OF WAY.
6. OMIT
7. ELECTRICAL TRANSFORMER LOCATIONS SHALL BE DETERMINED DURING THE DESIGN PHASES.
8. SEE VEGETATION PLAN FOR STREET TREES AND ADDITIONAL PLANTINGS.
9. DEVELOPMENT AREA = 6,000 SQUARE FEET
10. PROPOSED RIGHT-OF-WAY = 0.0 ACRES
11. PROPOSED IMPERVIOUS AREA = 4,000 SQUARE FEET
12. THE PROPOSED DEVELOPMENT IS RECREATION SPACE.
13. GROSS FLOOR AREA, PARKING AND LANDSCAPE AREA CALCULATIONS ARE NOT APPLICABLE TO THIS APPLICATION.
14. OPEN SPACE - 1,800 SQUARE FEET
15. ZONING AND COMPLEMENTARY PLAND USE DESIGNATION: PUBLIC LAND AND OPEN SPACE
16. BACKSIGHT, BC AT N E COR. 5' OF A STOP SIGN, NEC INTERSECTION FROM BM 1964 ELEV. = 1020.0
17. THE WENBUSH FINE HYDRAULIC IS LOCATED APPROXIMATELY 50' NE OF THE PROPOSED BUILDING.
- (MAY 1988).

SOIL TYPES.

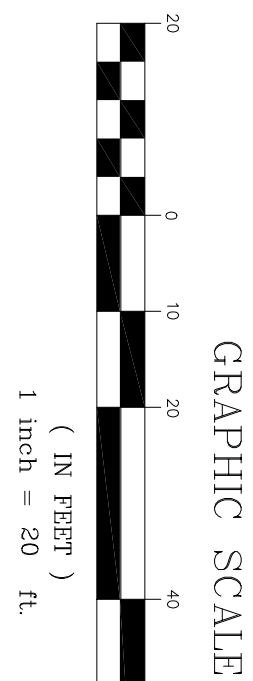
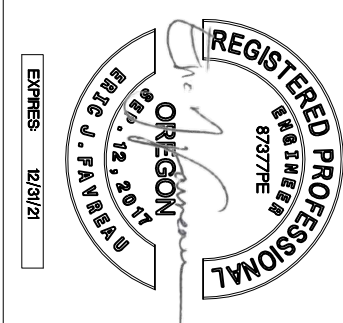
#32 COBURG, SOIL GROUP C, MODERATELY WELL DRAINED
FOR DETAILED SOIL INFORMATION, PLEASE SEE SOILS REPORT FROM
EARTH ENGINEERS, INC.

FEMA

THE SITE IS ZONE 'X' AS SHOWN ON FIRM COMMUNITY PANEL NO. 41039C1134 F, DATED 2 JUNE 1999. NO BASE FLOOD ELEVATION DETERMINED

WELLHEAD PROTECTION

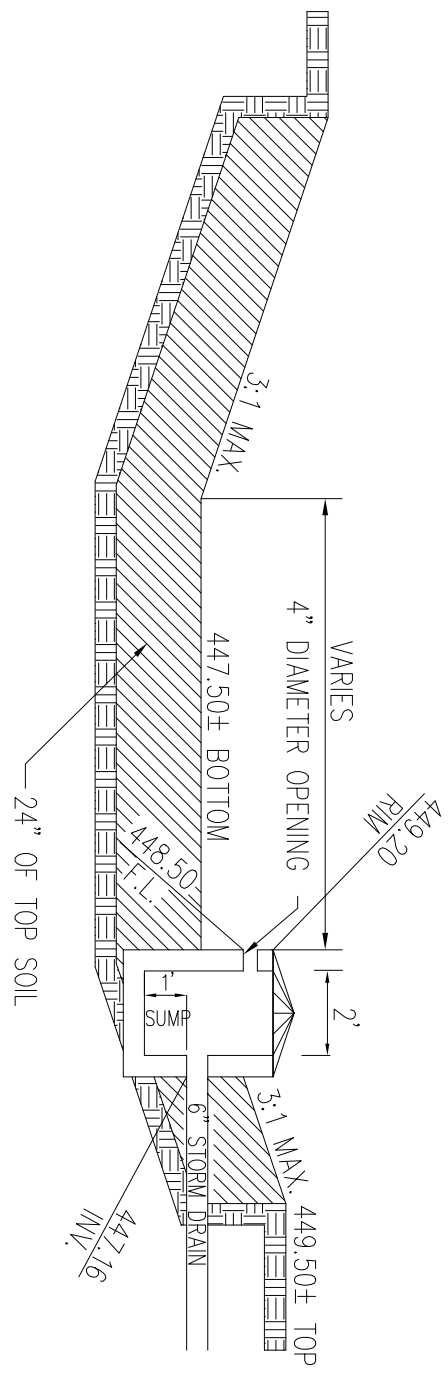
SITE IS LOCATED WITHIN THE 10 YEAR AND 20 YEAR TIME OF TRAVEL ZONE

[illegible]

PLANS PREPARED BY:

FAVREAU
ENGINEERING

2206 COUNTRY HAVEN DR
EUGENE, OR 97408 (541) 556-4425



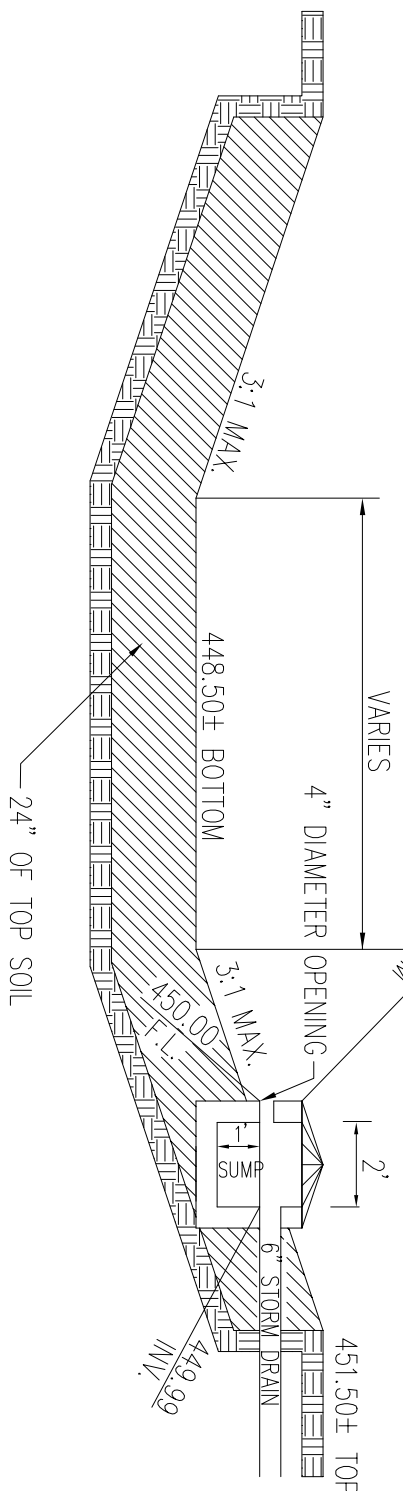
1. THE THICKNESS OF THE CONSTRUCTED MEDIUM, INCLUDING OR IN ADDITION TO THE GROWING MEDIUM, AT THE BASE OF THE POND SHALL BE A MINIMUM OF 24 INCHES THICK.
2. THE BASE OF THE POND SHALL INCLUDE A CONSTRUCTED MEDIUM COMPRISING A MIXTURE OF SAND, NATIVE SOIL, LOAM, AND COMPOST. THE FRACTION OF ORGANIC CARBON (FOC) IN THE CONSTRUCTED MEDIUM SHALL BE A MINIMUM OF 0.20 (I.E., 40-50%) ORGANIC MATTER. IF THE GROWING MEDIUM DOES NOT CONFORM TO THIS MINIMUM FOC REQUIREMENT, THEN THE CONSTRUCTED MEDIUM WOULD BE PLACED IN ADDITION TO THE REQUIRED GROWING MEDIUM.

EQUAL NUMBER OF PLANTS FOR EACH ZONE SPACED ONE FOOT ON CENTER OVER THE ENTIRE FACILITY

ZONE A (BELOW ELEVATION 449.20)	ZONE B (ABOVE ELEVATION 449.20)
CAREX OBUPA 4" POTS	CAMASSIA QUAMASH 4" POTS
JUNCUS PATENS 4" POTS	DESCHAMPSA CAESPITOSA 4" POTS

NORTH DETENTION POND DETAIL

NO SCALE



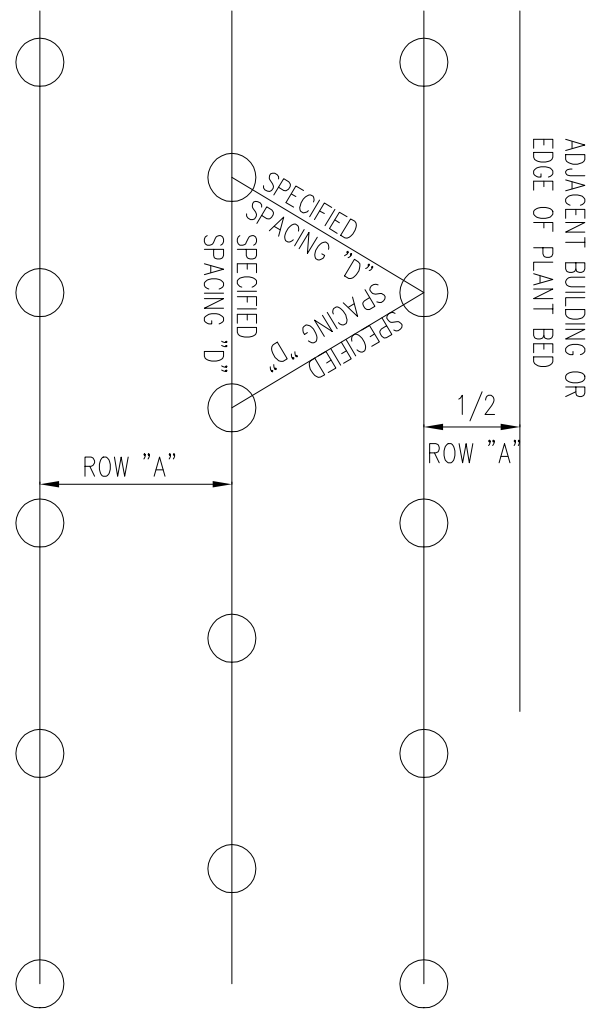
1. THE THICKNESS OF THE CONSTRUCTED MEDIUM, INCLUDING OR IN ADDITION TO THE GROWING MEDIUM, AT THE BASE OF THE POND SHALL BE A MINIMUM OF 24 INCHES THICK.
2. THE BASE OF THE POND SHALL INCLUDE A CONSTRUCTED MEDIUM COMPRISING A MIXTURE OF SAND, NATIVE SOIL, LOAM, AND COMPOST. THE FRACTION OF ORGANIC CARBON (FOC) IN THE CONSTRUCTED MEDIUM SHALL BE A MINIMUM OF 0.20 (I.E., 40-50%) ORGANIC MATTER. IF THE GROWING MEDIUM DOES NOT CONFORM TO THIS MINIMUM FOC REQUIREMENT, THEN THE CONSTRUCTED MEDIUM WOULD BE PLACED IN ADDITION TO THE REQUIRED GROWING MEDIUM.

EQUAL NUMBER OF PLANTS FOR EACH ZONE SPACED ONE FOOT ON CENTER OVER THE ENTIRE FACILITY

ZONE A (BELOW ELEVATION 451.00)	ZONE B (ABOVE ELEVATION 451.00)
CAREX OBUPA 4" POTS	CAMASSIA QUAMASH 4" POTS
JUNCUS PATENS 4" POTS	DESCHAMPSA CAESPITOSA 4" POTS

SOUTH DETENTION POND DETAIL

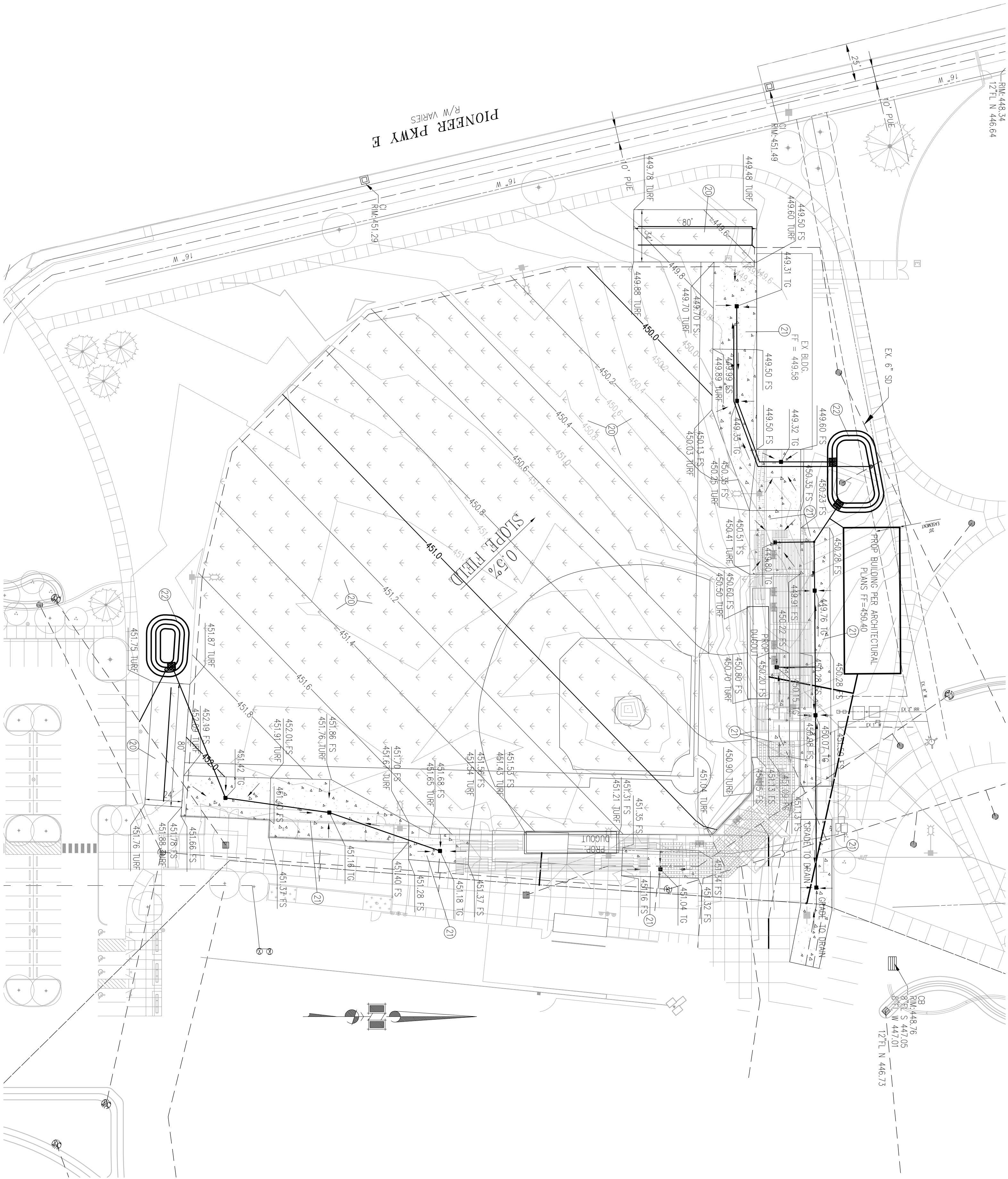
NO SCALE



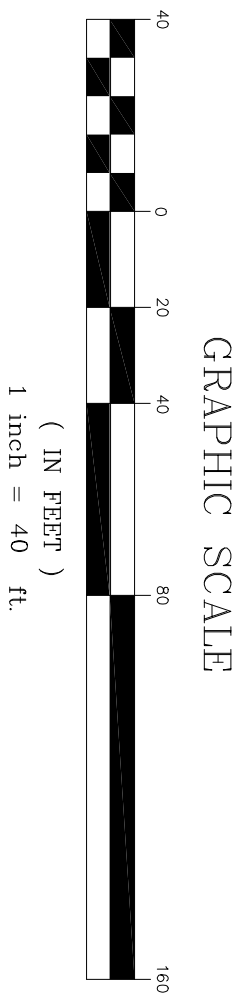
SPACING "B" ROW "A"	SPACING "B" ROW "B"
3' O.C.	2.6"
6' O.C.	1.8" O.C.
9' O.C.	2.4" O.C.
12' O.C.	5.2"
15' O.C.	7.6"
	30" O.C.
	26.0"
	30.0"
	41.5"

GROUNDCOVER SPACING DIAGRAM

NO SCALE



Vegetation shall not become overgrown and shall be managed to include controlling noxious or invasive vegetation. At the end of the first year and again at the end of the 2-year warranty period, all plants that do not survive must be replaced by developer. Establishment procedures, such as control of invasive weeds, animal and vandal damage, mulching, re-staking, watering, and mesh or tube protection replacement, shall be implemented to the extent needed to ensure plant survival by developer. Vegetation management after the warranty period is the responsibility of the property owner.



- CONSTRUCTION NOTES
- 20 INSTALL ARTIFICIAL TURF AND OPEN ROCK BASE PER MANUFACTURER'S SPECIFICATIONS
 - 21 CONSTRUCT 6" THICK CONCRETE
 - 22 CONSTRUCT DETENTION POND PER DETAIL THIS SHEET

GENERAL NOTE:
SEE ARCHITECTURAL PLANS FOR BLEACHERS, GATES, DUGOUT, AND FENCE DETAILS

SITE PLAN AND GRADING PLAN FOR HAMLIN SCHOOL BASEBALL FIELD

CITY OF SPRINGFIELD
PUBLIC WORKS DEPARTMENT

TAX MAP 17-03-26-34
TAX LOT 6200

APPROVED:

DESIGNED
CHECKED

DRAWN
DATE 08-04-21

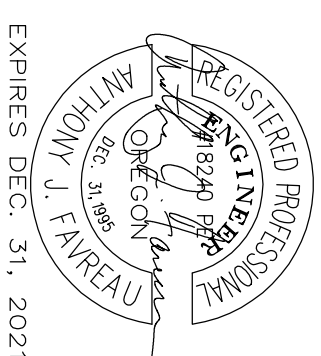
DATE

APP.

DESCRIPTION
REVISIONS

DATE BY

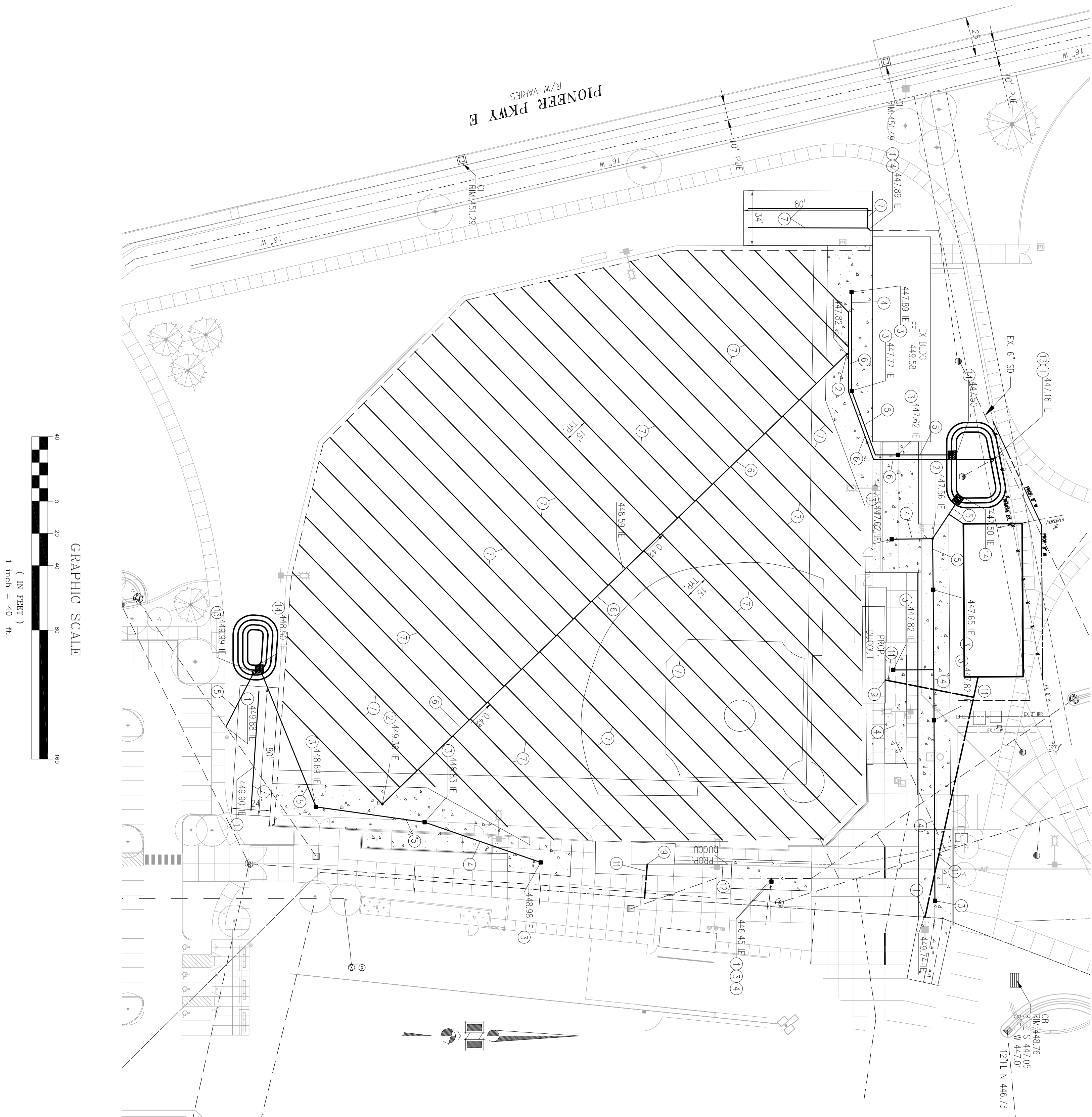
PLANS PREPARED BY:
**THE FAVREAU GROUP
CIVIL ENGINEERING**
3750 NORWICH AVE.
EUGENE, OR 97408 (541) 683-7048

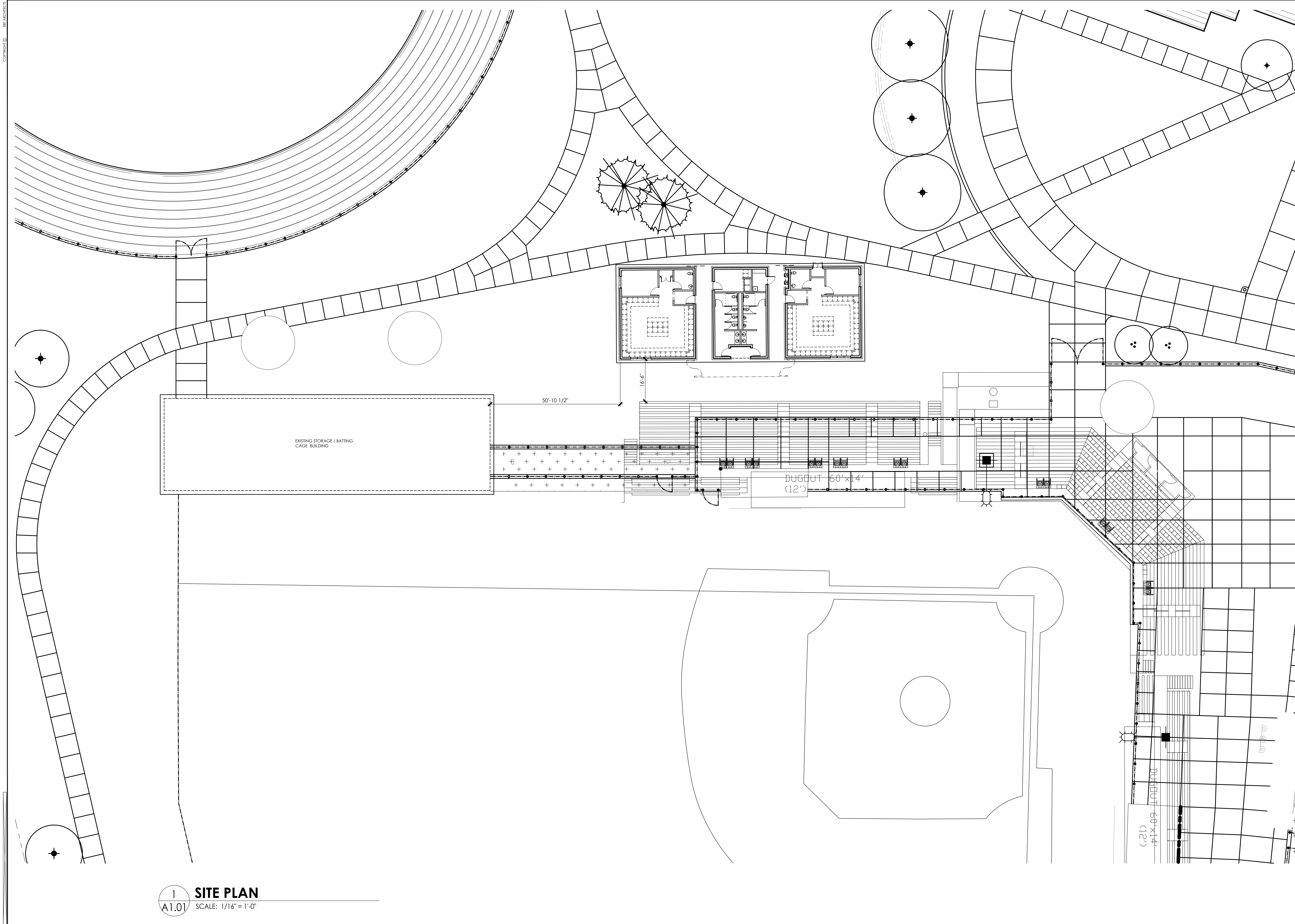


SHEET 2 OF 3

EXPIRES DEC. 31, 2021

- CONSTRUCTION NOTES
- ① CONNECT TO EXISTING UTILITY, POTHOLE AND VERIFY EXISTING ELEVATION AND LOCATION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY FOUND DISCREPANCIES.
- ② INSTALL CLEANOUT
- ③ INSTALL 1" X 1" INLET
- ④ INSTALL 4" PVC SDR35 STORM DRAIN
- ⑤ INSTALL 6" PVC SDR35 STORM DRAIN
- ⑥ INSTALL 8" PVC SDR35 STORM DRAIN
- ⑦ INSTALL PREPARED 4" PVC SDR 35 STORM DRAIN OR APPROVED EQUAL. END OF PIPE INVENT TO BE 1' BELOW FINISH SURFACE.
- ⑧ INSTALL PREPARED 6" PVC SDR 35 STORM DRAIN OR APPROVED EQUAL. END OF PIPE INVENT TO BE 1' BELOW FINISH SURFACE.
- ⑨ INSTALL AND 1257 AUTOMATIC SLUMP PUMP AND HP51MP1830 SLUMP WALL PER ATTACHED SPEC SHEET. CONNECT TO EXISTING WASTEWATER LINE.
- ⑩ INSTALL 1" HDPE WATER LATERAL
- ⑪ INSTALL 2" PRESSURIZED WASTEWATER LINE
- ⑫ RELOCATE EXISTING WATER LINE AROUND DULCOT AS NECESSARY
- ⑬ INSTALL PLANTER OVERFLOW INLET WITH BEETHAM GRADE PER DETAIL SHEET 2.
- ⑭ INSTALL 5" X 5" X 1" RAP RAP AROUND CLASS 50





1
A1.01

SITE PLAN

SCALE: 1/16" = 1'-0"

BBT

ARCHITECTS
1140 SW Simpson Ave. - Suite 200
Bend, OR 97702 - t 541-382-5535

**SPS HAMLIN MIDDLE SCHOOL
TEAM / RESTROOM BLDG**

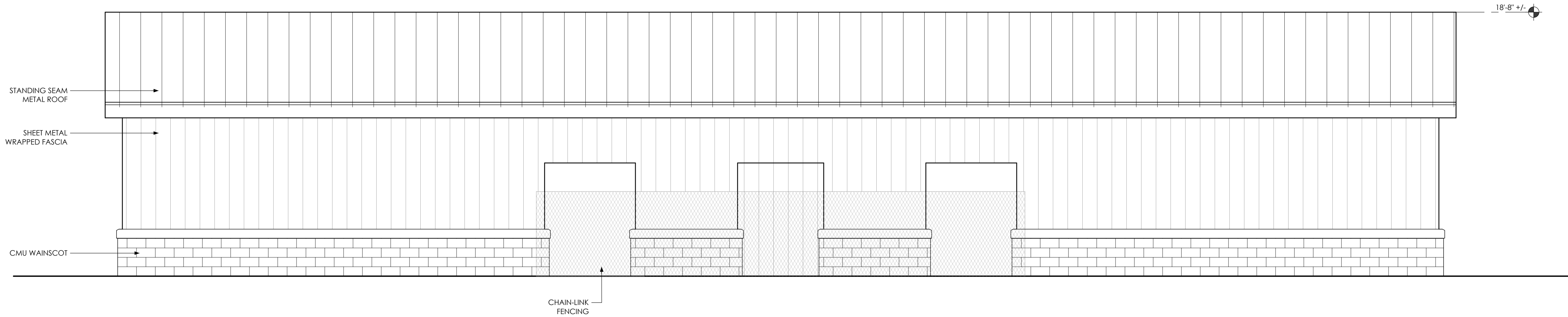
326 CENTENNIAL BLVD.
SPRINGFIELD, OR 97477

ISSUED: xxx
DATE: xxx/xx/xx

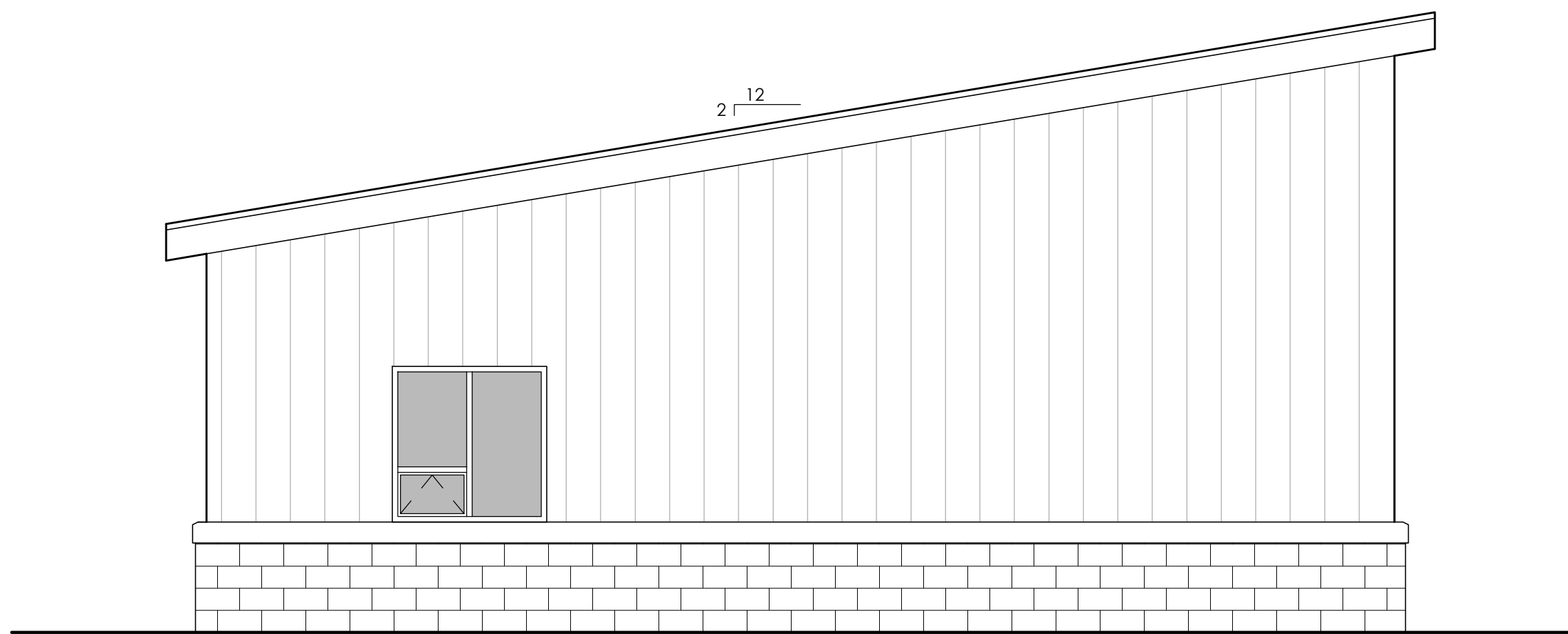
JOB NUMBER: 2111
DRAWN BY: EJD
CHECKED BY: KS

SHEET TITLE
SITE PLAN

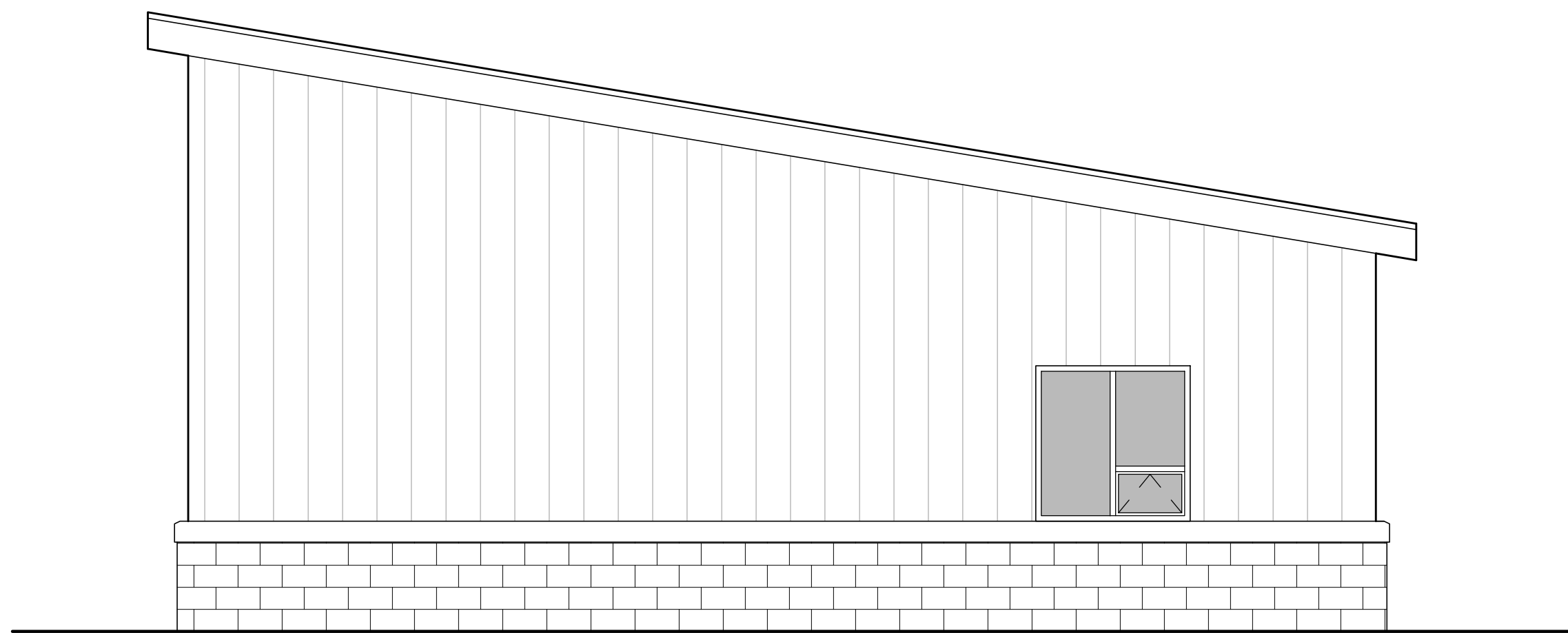
SHEET NUMBER
A1.01



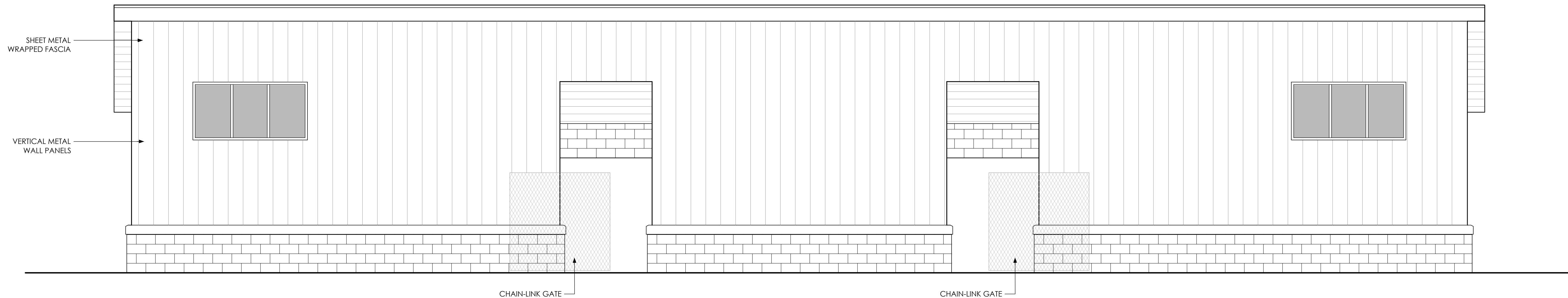
1 SOUTH ELEVATION
A3.01 SCALE: 1/4" = 1'-0"



2 EAST ELEVATION
A3.01 SCALE: 1/4" = 1'-0"



3 WEST ELEVATION
A3.01 SCALE: 1/4" = 1'-0"



4 NORTH ELEVATION
A3.01 SCALE: 1/4" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

BBT
ARCHITECTS
1140 SW Simpson Ave - Suite 200
Bend, OR 97702 - t 541-382-5535

SPS HAMLIN MIDDLE SCHOOL
TEAM / RESTROOM BLDG
326 CENTENNIAL BLVD.
SPRINGFIELD, OR 97477

ISSUED:	DATE:
PROGRESS PRINT	7/26/21

JOB NUMBER:	2111
DRAWN BY:	EJH
CHECKED BY:	KS

SHEET TITLE
EXTERIOR ELEVATIONS

SHEET NUMBER
A3.01

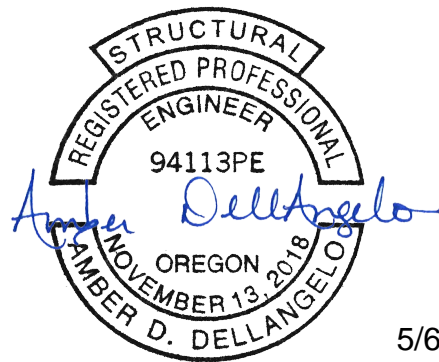


**Hamlin Middle School
9/17 Row Mitered Grandstand
Springfield, OR**

Structural Calculations

Book 1 of 1
Calculation Release #1

Prepared for
Bleachers International
Denver, CO



5/6/2021

EXPIRATION DATE: 12/31/2021

Larson Engineering, Inc.
Illinois Office
Project Number 21210330.000



Table of Contents

Load Determination.....	101-106
Angle Frame Analysis.....	201-291
Anchor Bolts Analysis.....	301-318



Larson

Larson Engineering, Inc.

1488 Bond Street, Suite 100

Naperville, Illinois 60563

630.357.0540 Fax: 630.357.0164

www.larsonengr.com

Job Name: Hamlin Middle School

Job Number: 21210330.000

Date: 4/30/2021

Eng: MK

Bleacher: Hamlin Middle School Baseball

Design Loads:

DL= 10 psf

LL= 100 psf

Sway \perp = 10 #/ft/row

Sway \parallel = 24 #/ft/row

Wind (ASCE 7-16):

V= 102 mph (Fig. 26.5-1C)

Exposure = C (§ 26.7.3)

C_f = 1.47 (Fig. 29.3-1)

G = 0.85 (§ 26.11.1)

z_g = 900 ft

a = 9.5

Height to Bottom of Bleacher = 2.5 ft

	@ Press Box	@ Bleacher	
H =	21.8 ft	12.9 ft	
Length=	33 ft	110 ft	
K_z =	0.92	0.85	(Tbl. 26.10-1)
K_{zt} =	1.00	1.00	(Fig. 26.8-1)
K_d =	0.85	0.85	(Tbl. 26.6-1)
K_e =	1.00	1.00	(Tbl. 26.9-1)
	@ Press Box	@ Balance	
$q = 0.00256K_zK_{zt}K_dK_eV^2$	20.8 psf	19.2 psf	(Eq. 26.10-1)
$F = q_zGC_fA_f$	26.0 psf	24.0 psf	(Eq. 29.3-1)



PRESSBOX:

Pressbox Geometry

Height of Pressbox	$H := 8.0\text{ft}$
Width of Pressbox	$W := 9.25\text{ft}$
Width of Pressbox Roof	$w_{\text{roof}} := 8.0\text{ft}$
Length of Pressbox	$l := 24\text{ft}$
Support Frame Spacing	$\text{spa} := 6\text{ft}$

Loads

Dead Load	
Roof & Floor	$DL_{\text{floor}} := 6\text{psf}$
Wall	$DL_{\text{wall}} := 8\text{psf}$
Live Load	
Roof	$LL_{\text{roof}} := 50\text{psf}$
Floor	$LL_{\text{floor}} := 50\text{psf}$
Wind Load : Conservatively use Sign Loading	

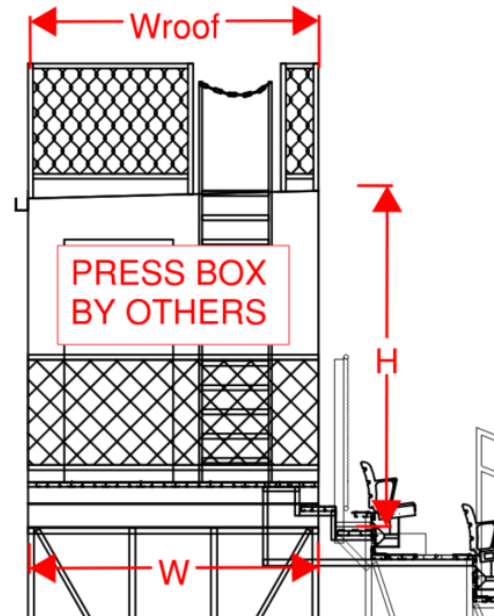
Design Wind Pressure	$WL := 26.0\text{psf}$
----------------------	------------------------

Uniform Loads

Dead Load	$w_{DL} := DL_{\text{floor}} \cdot \text{spa} = 36 \cdot \text{plf}$
Live Load	$w_{LL} := LL_{\text{floor}} \cdot \text{spa} = 300 \cdot \text{plf}$

Point Loads

Dead Load	$P_{DL} := \left[\left(DL_{\text{floor}} \cdot \frac{w_{\text{roof}}}{2} \right) + (DL_{\text{wall}} \cdot H) \right] \cdot \text{spa} = 528 \cdot \text{lbf}$	Applied at front and back of pressbox
Live Load	$P_{DL} := \left(LL_{\text{roof}} \cdot \frac{w_{\text{roof}}}{2} \right) \cdot \text{spa} = 1200 \cdot \text{lbf}$	
Wind Load	$V_{WL} := (WL \cdot H) \cdot \text{spa} = 1248 \cdot \text{lbf}$	Shear load due to wind
	$P_{WL} := \frac{\frac{V_{WL}}{2} \cdot H}{W} = 540 \cdot \text{lbf}$	Point load due to overturning of pressbox
Lateral Wind Load	$V_{WL\text{lat}} := WL \cdot H \cdot W = 1924 \cdot \text{lbf}$	
	$P_{WL\text{lat}} := \frac{\frac{V_{WL\text{lat}}}{2} \cdot H}{1} = 321 \cdot \text{lbf}$	Point load due to overturning of pressbox





Seismic Response Coefficient	$C_s := 0.566$	See "Seismic Load" sheet
Effective Seismic Weight	$W_{seis} := 11 \text{ psf}$	See "Seismic Load" sheet
Height from Ground to Bottom of Pressbox	$H_{bot} := 13.83 \text{ ft}$	
Pressbox Base Shear	$V_{seis} := C_s \cdot W_{seis} \cdot s_{pa} \cdot (H + H_{bot}) = 815.481 \cdot \text{lbf}$	
Seismic Load	$V_E := \frac{V_{seis}}{1} \cdot s_{pa} = 203.87 \cdot \text{lbf}$	Load per stringer
	$P_E := \frac{V_E \cdot \frac{H}{2}}{W} = 88 \cdot \text{lbf}$	Pressbox load is applied at 1/2 height of pressbox
Lateral Seismic Load Parallel to Seats	$V_{Elat} := \frac{V_{seis}}{2} = 408 \cdot \text{lbf}$	Load is divided over two frame lines
	$P_{Elat} := \frac{V_{Elat} \cdot \frac{H}{2}}{1} = 67.957 \cdot \text{lbf}$	Pressbox load is applied at 1/2 height of pressbox



Larson

SEISMIC LOAD

Risk Category: III
 $I_e = 1.25$ Table 1.5-2

Non-Building Structure Not Similar to Buildings, All Other Self Supporting Structures

Seismic Coefficients: Table 15.4-2

$R = 1.25$
 $\Omega_0 = 2$
 $C_d = 2.5$

Site Coefficients

Site Class: D-Default

S_S	0.673	S_{MS}	0.849	S_{DS}	0.566
S_1	0.386	S_{M1}	0.772	S_{D1}	0.515

Seismic Design Category D

Approximate Fundamental Period

All other structural systems: Table 12.8-2

$C_t = 0.02$
 $x = 0.75$

Per Section 11.4.8, Exemption 2 $T < 1.5 T_s$ so
 C_s is determined by 12.8-2

$$T_a = C_t h_n^x = 0.14 < T_L = 16 \quad \text{Figure 22-12}$$

$$T_s = \frac{S_{D1}}{S_{DS}} = 0.91 > T_a$$

Seismic Response Coefficient

$$0.01 \leq C_{smin} = 0.044 S_{DS} I_e = 0.031 < C_s = \frac{S_{DS}}{R I_e} = 0.566 < C_{smax} = \frac{S_{D1}}{T I_e} = 3.787$$

If $S_1 > 0.6$ then,

$$0.01 \leq C_{smin} = \frac{0.5 S_1}{R I_e} = 0.193$$

Weight per Row

$W = 11.0$ psf includes footboard, framing, and hardware

$$V = C_s W = 6.2 \text{ psf}$$

Equivalent Service Level Loads:

$0.7E = 4.4$ psf $1.0SW = 12.0$ psf $0.6W = 14.4$ psf

Sway Load // to seats=	12.0 psf	>	4.4 psf	Sway load will control in parallel direction
Wind Load perpendicular to seats=	14.4 psf	>	4.4 psf	Wind will control in perpendicular direction



Search Information

Address: 326 Centennial Blvd, Springfield, OR 97477

Coordinates: 44.0578541, -123.0213256

Elevation: 452 ft

Timestamp: 2021-04-29T15:11:09.755Z

Hazard Type: Seismic

Reference Document: ASCE7-16

Risk Category: III

Site Class: D-default



Basic Parameters

Name	Value	Description
S_S	0.673	MCE_R ground motion (period=0.2s)
S_1	0.386	MCE_R ground motion (period=1.0s)
S_{MS}	0.849	Site-modified spectral acceleration value
S_{M1}	* null	Site-modified spectral acceleration value
S_{DS}	0.566	Numeric seismic design value at 0.2s SA
S_{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

▼Additional Information

Name	Value	Description
SDC	* null	Seismic design category
F_a	1.262	Site amplification factor at 0.2s
F_v	* null	Site amplification factor at 1.0s
CR_S	0.869	Coefficient of risk (0.2s)
CR_1	0.858	Coefficient of risk (1.0s)
PGA	0.319	MCE_G peak ground acceleration
F_{PGA}	1.281	Site amplification factor at PGA
PGA_M	0.409	Site modified peak ground acceleration

T _L	16	Long-period transition period (s)
SsRT	0.673	Probabilistic risk-targeted ground motion (0.2s)
SsUH	0.774	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.386	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.45	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.629	Factored deterministic acceleration value (1.0s)
PGAd	0.513	Factored deterministic acceleration value (PGA)

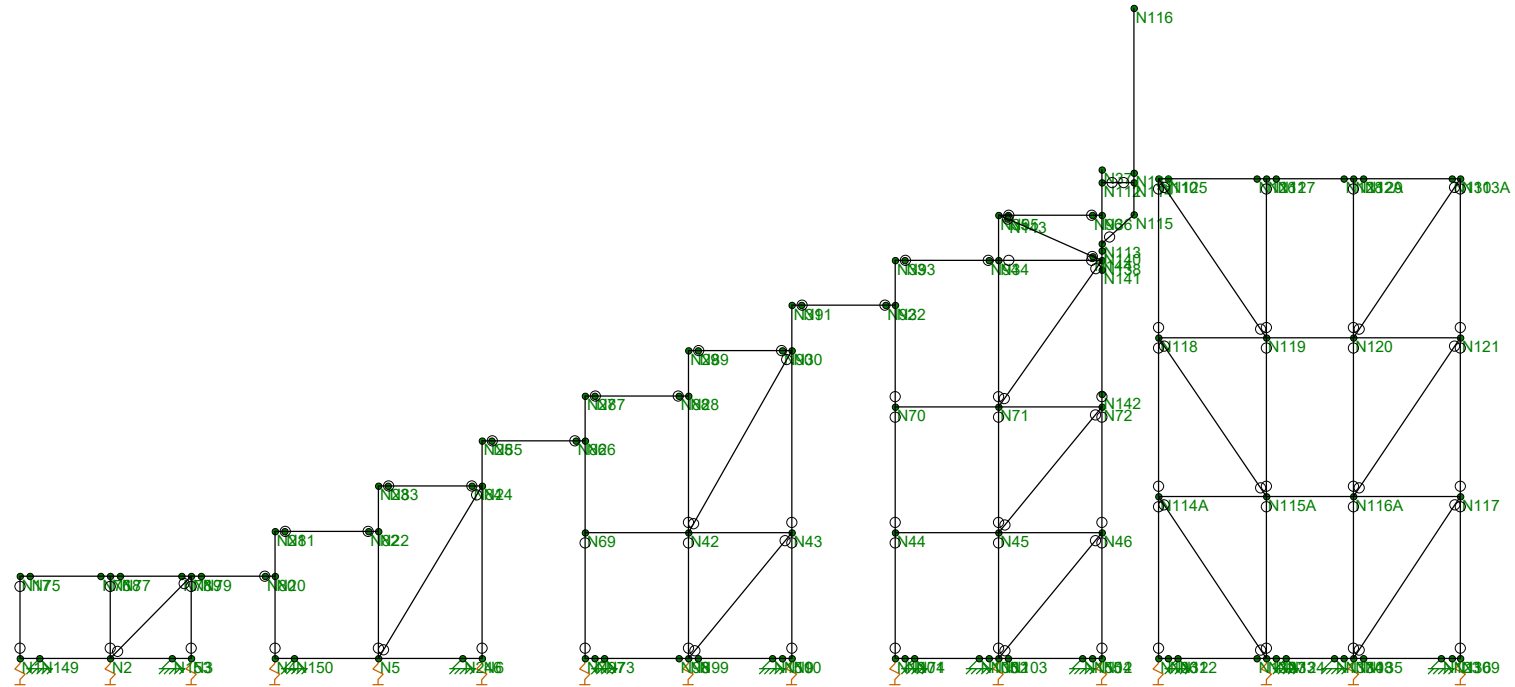
* See Section 11.4.8

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey [Seismic Design Web Services](#).

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Hamlin Middle School

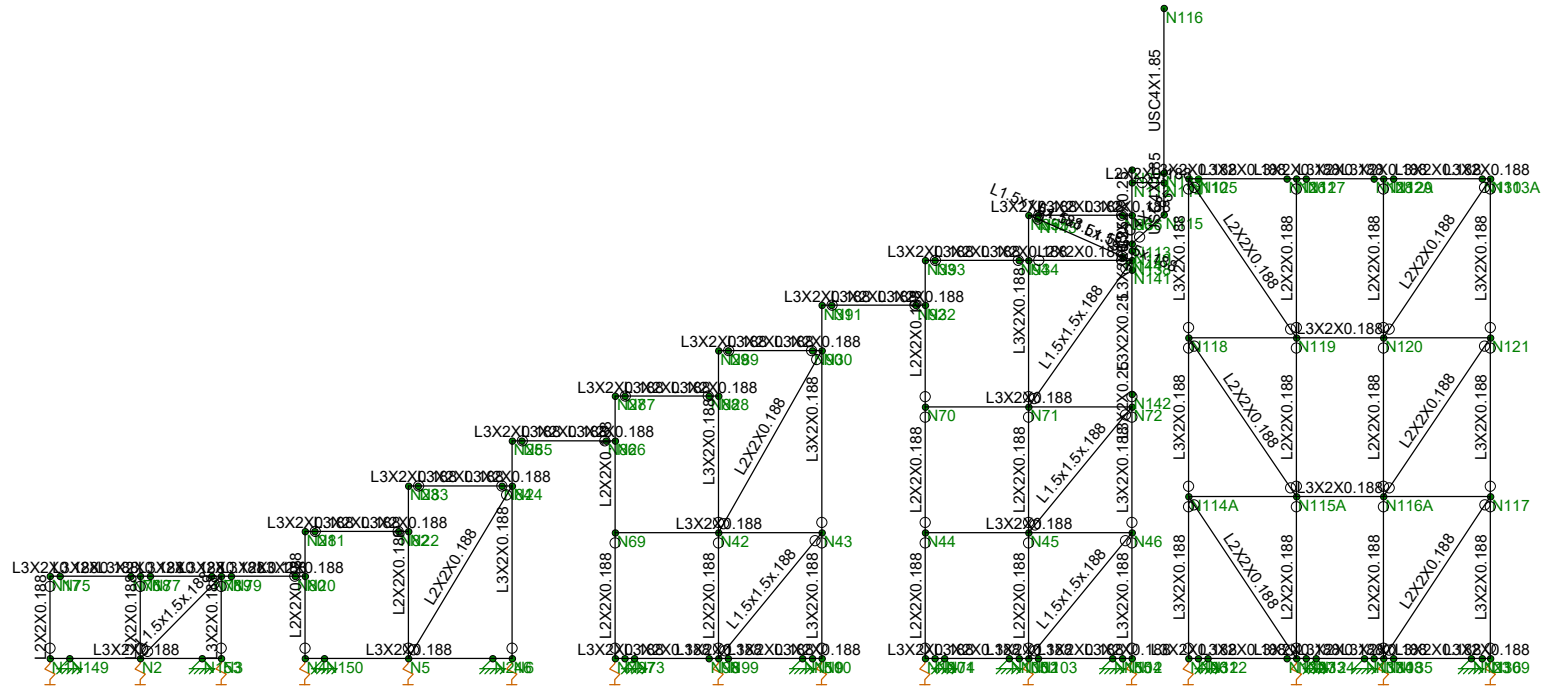
Member & Node Labels

Attachment 5, Page 20 of 236

SK - 1

May 6, 2021 at 7:42 AM

Home Plate Frame.r2d



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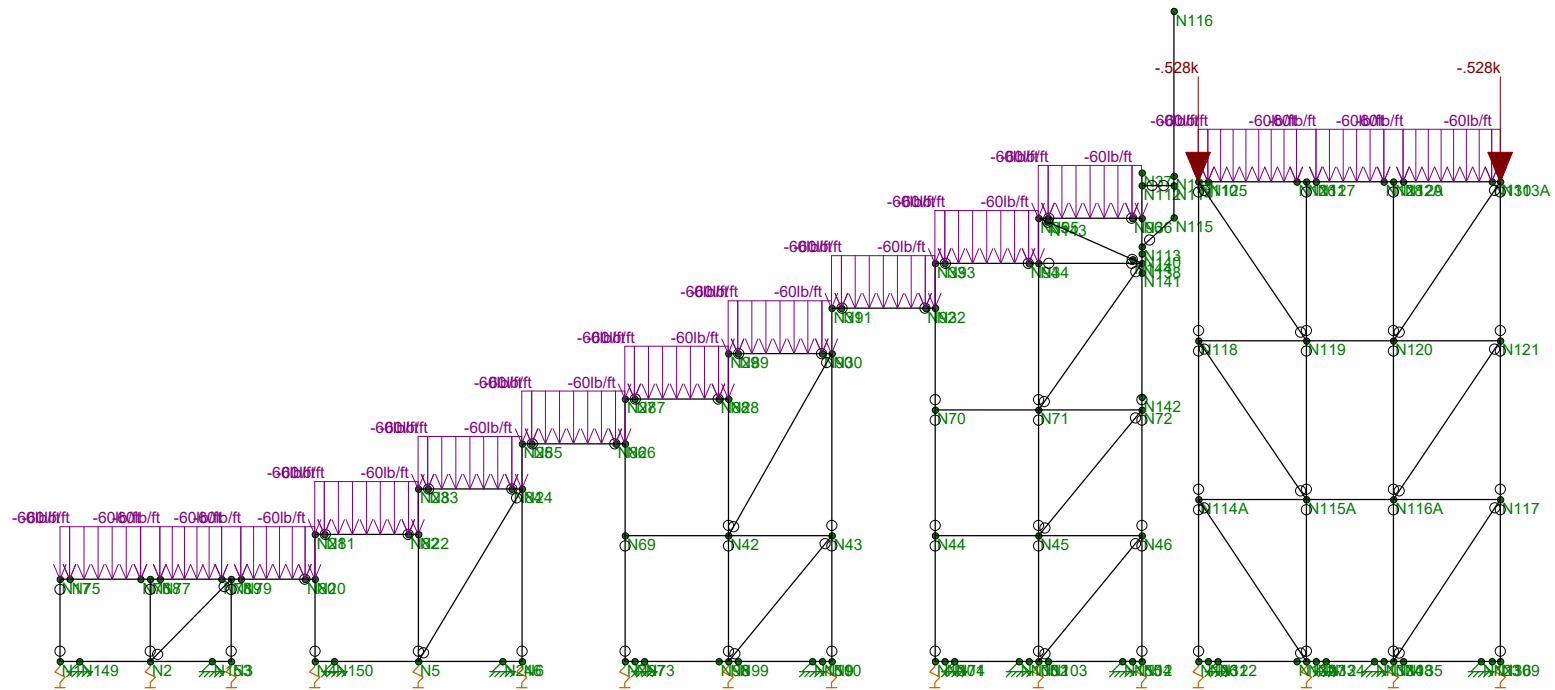
Member Shapes

Attachment 5, Page 21 of 236

SK - 2

May 6, 2021 at 7:42 AM

Home Plate Frame.r2d



Loads: BLC 1, DL

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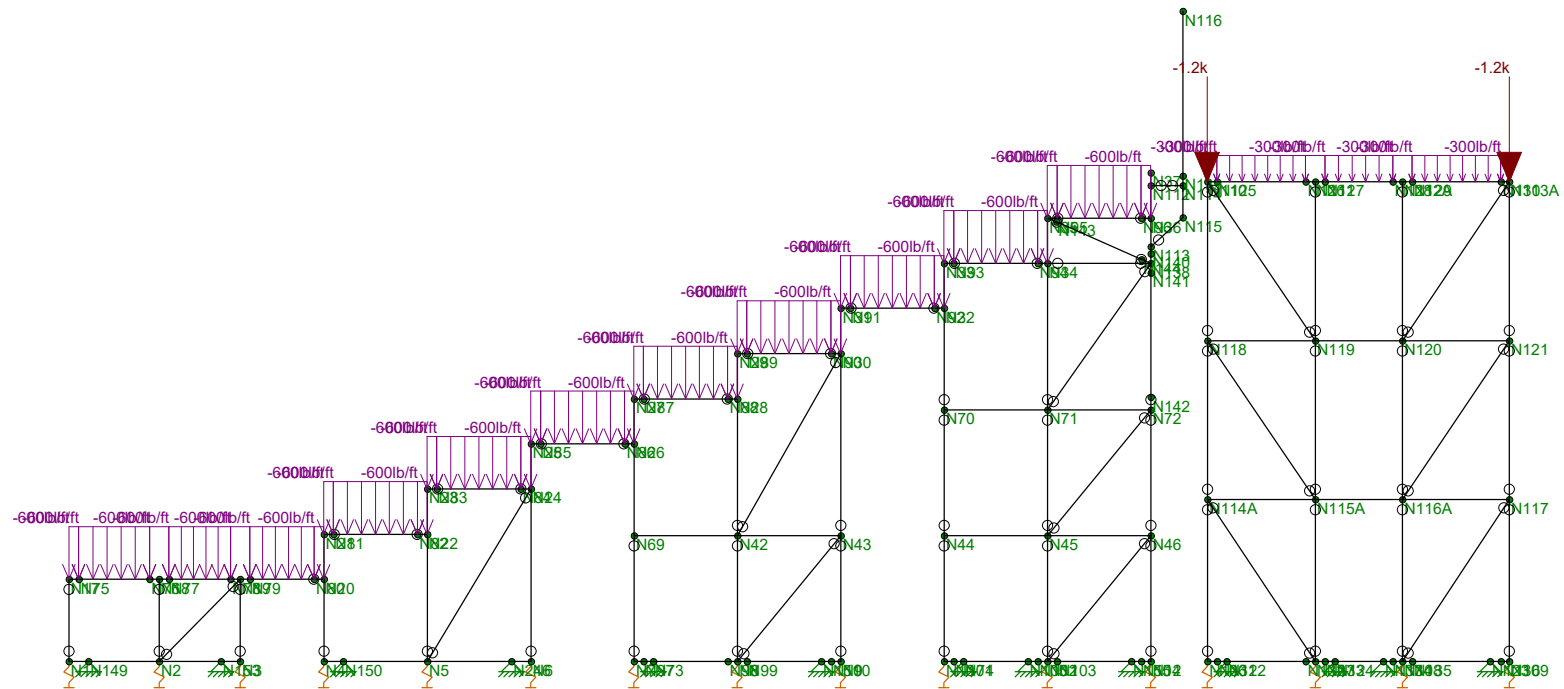
Dead Loads

Attachment 5, Page 22 of 236

SK - 3

May 6, 2021 at 7:43 AM

Home Plate Frame.r2d



Loads: BLC 2, LL

Larson Engineering Inc

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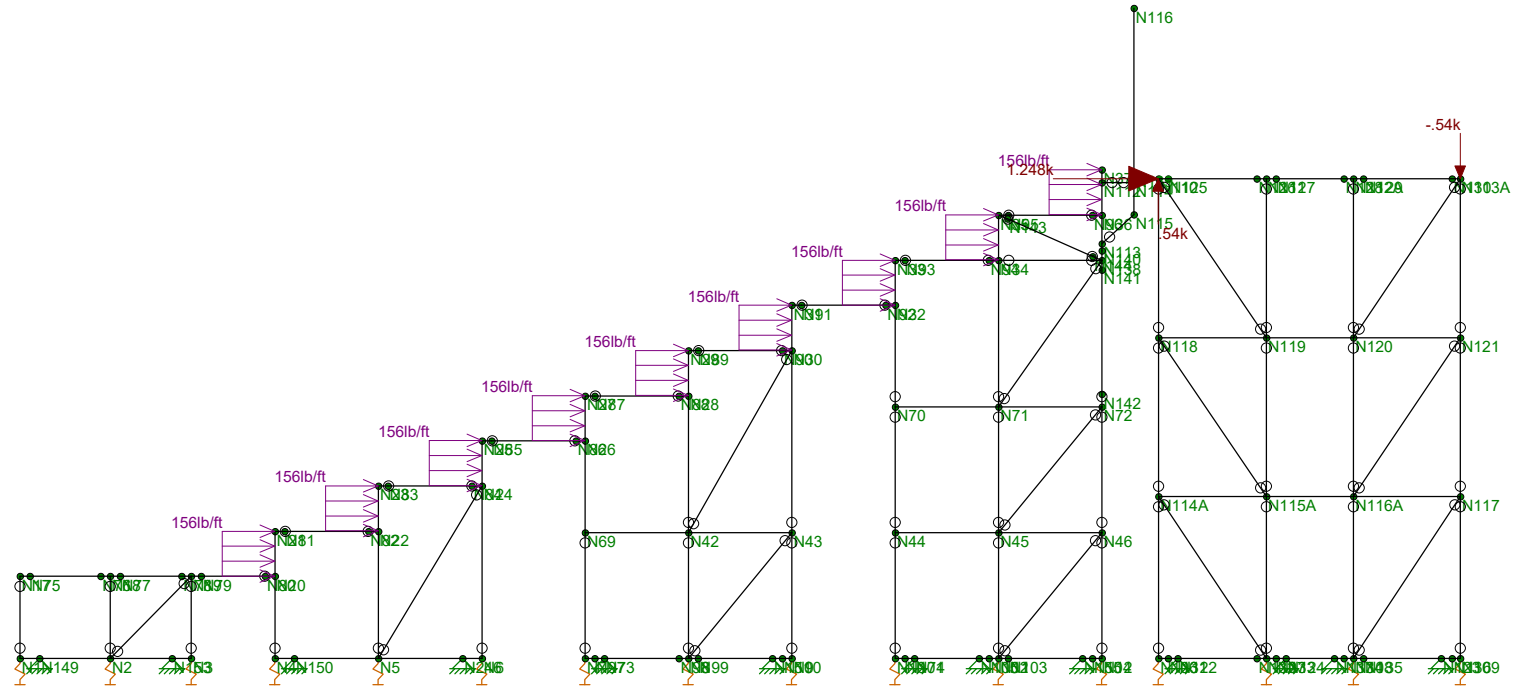
Live Loads

Attachment 5, Page 23 of 236

SK - 4

May 6, 2021 at 7:43 AM

Home Plate Frame.r2d



Loads: BLC 3, WL

Larson Engineering Inc

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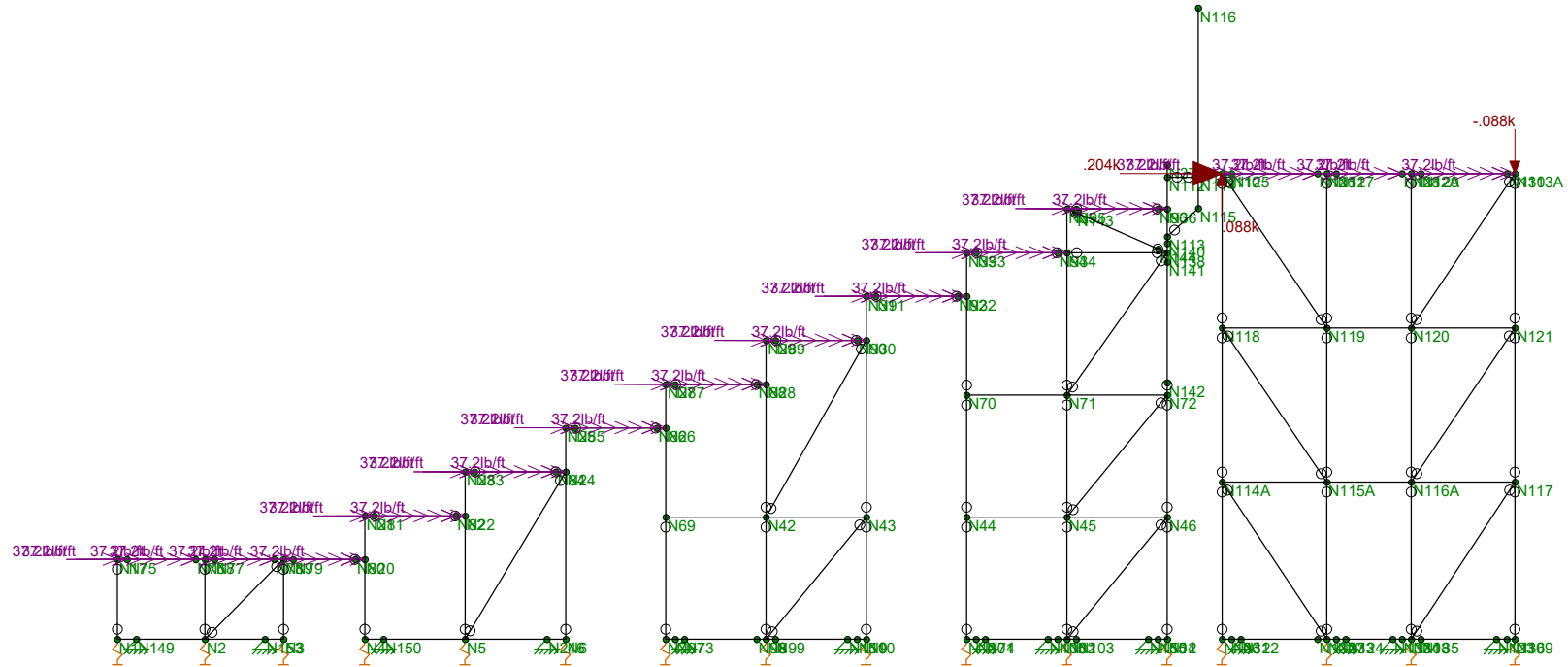
Wind Load (Strength)

Attachment 5, Page 24 of 236

SK - 5

May 6, 2021 at 7:43 AM

Home Plate Frame.r2d



Loads: BLC 5, EL

Larson Engineering Inc

MK

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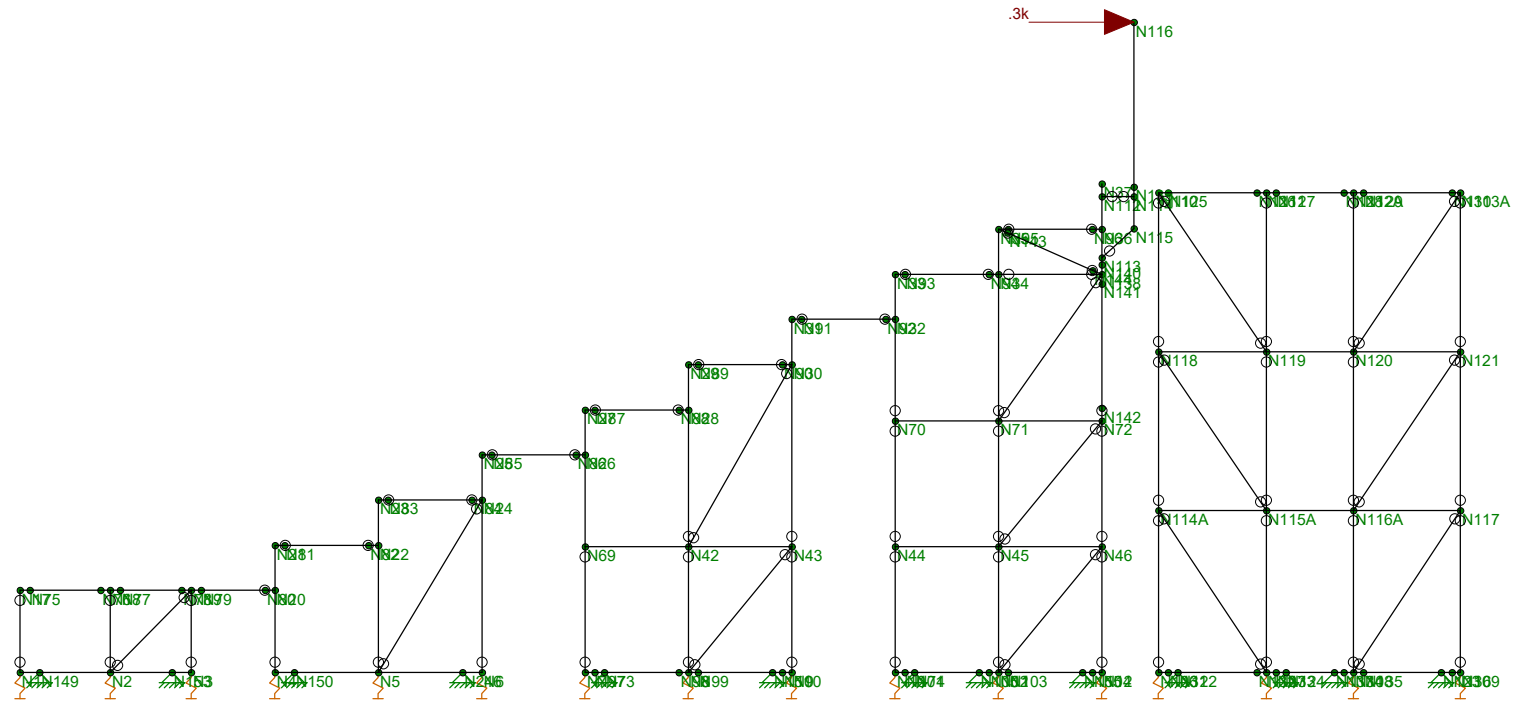
Seismic Loads (Strength)

Attachment 5, Page 25 of 236

SK - 6

May 6, 2021 at 7:43 AM

Home Plate Frame.r2d



Loads: BLC 4, GUARD

Larson Engineering Inc

MK

21210330.000

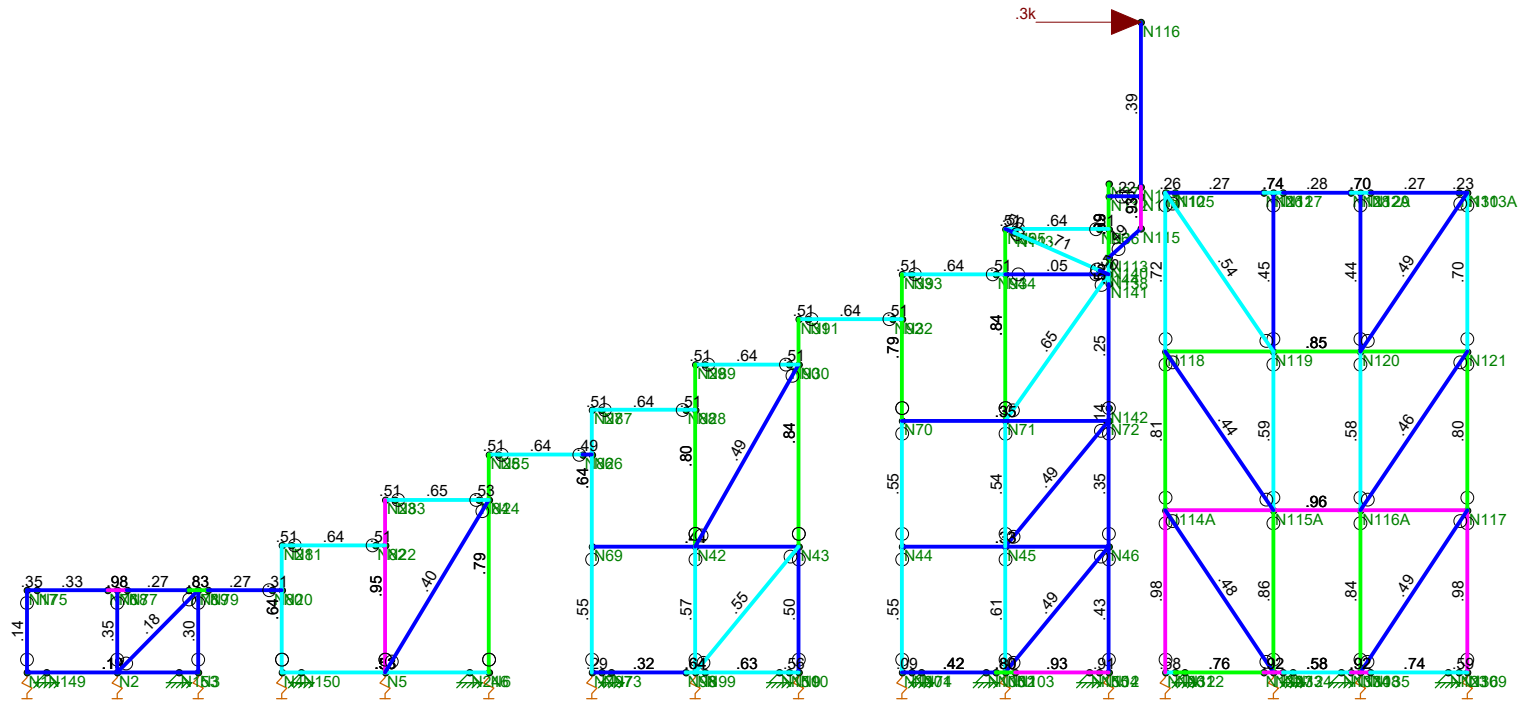
Hamlin Middle School

Guard Load

SK - 7

May 6, 2021 at 7:44 AM

Home Plate Frame.r2d



21210330.000

Hamlin Middle School
Member Envelope Unity
Attachment 5, Page 27 of 236

Home Plate Frame.r2d



Company : Larson Engineering Inc
 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

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Aluminum Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (...	Density...	Table B.4	kt	Ftu[ksi]	Fty[ksi]	Fcy[ksi]	Fsu[ksi]	Ct
1	3003-H14	10100	3787.5	.33	1.3	.173	Table B.4-1	1	19	16	13	12	141
2	6061-T6	10100	3787.5	.33	1.3	.173	Table B.4-2	1	38	35	35	24	141
3	6063-T5	10100	3787.5	.33	1.3	.173	Table B.4-2	1	22	16	16	13	141
4	6063-T6	10100	3787.5	.33	1.3	.173	Table B.4-2	1	30	25	25	19	141
5	5052-H34	10200	3787.5	.33	1.3	.173	Table B.4-1	1	34	26	24	20	141
6	6061-T6 W	10100	3787.5	.33	1.3	.173	Table B.4-1	1	24	15	15	15	141

Aluminum Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	I (90,270) [...	I (0,180) [I...
1	L1.5x1.5x0.1875	L1.5x1.5x.188	Beam	AA Channel	6061-T6 W	Typical	.527	.11	.11
2	L1.5x1.5x0.1875 UW	L1.5x1.5x.188	Beam	AA Channel	6061-T6	Typical	.527	.11	.11
3	L2x2x0.1875	L2X2X0.188	Beam	AA Channel	6061-T6 W	Typical	.723	.268	.268
4	L3x2x0.1875	L3X2X0.188	Beam	AA Channel	6061-T6 W	Typical	.91	.292	.821
5	L3x2x0.1875 UW	L3X2X0.188	Beam	AA Channel	6061-T6	Typical	.91	.292	.821
6	L3x2x0.25	L3X2X0.25	Beam	AA Channel	6061-T6 W	Typical	1.19	.377	1.06
7	L3x2x0.25 UW	L3X2X0.25	Beam	AA Channel	6061-T6	Typical	1.19	.377	1.06
8	C4x1.5	USC4X1.85	Beam	AA Channel	6061-T6 W	Typical	1.57	.32	3.83
9	C4x1.85 UW	USC4X1.85	Beam	AA Channel	6061-T6	Typical	1.57	.32	3.83

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Temp [F]
1	N1	0	0	0
2	N2	2.33	0	0
3	N3	4.42	0	0
4	N4	6.58	0	0
5	N5	9.25	0	0
6	N6	11.93	0	0
7	N7	14.59	0	0
8	N8	17.26	0	0
9	N9	19.93	0	0
10	N10	22.6	0	0
11	N11	25.27	0	0
12	N12	27.94	0	0
13	N17	0	2.125	0
14	N18	2.33	2.125	0
15	N19	4.42	2.125	0
16	N20	6.58	2.125	0
17	N21	6.58	3.285	0
18	N22	9.25	3.285	0
19	N23	9.25	4.455	0
20	N24	11.93	4.455	0
21	N25	11.93	5.625	0
22	N26	14.59	5.625	0
23	N27	14.59	6.785	0
24	N28	17.26	6.785	0
25	N29	17.26	7.955	0
26	N30	19.93	7.955	0
27	N31	19.93	9.125	0
28	N32	22.6	9.125	0
29	N33	22.6	10.285	0
30	N34	25.27	10.285	0
31	N35	25.27	11.455	0
32	N36	27.94	11.455	0



Company : Larson Engineering Inc
 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

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Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Temp [F]
33	N37	27.94	12.625	0
34	N42	17.26	3.25	0
35	N43	19.93	3.25	0
36	N44	22.6	3.25	0
37	N45	25.27	3.25	0
38	N46	27.94	3.25	0
39	N112	27.94	12.295	0
40	N113	27.94	10.715	0
41	N114	28.77	12.295	0
42	N115	28.77	11.465	0
43	N116	28.77	16.795	0
44	N149	.5	0	0
45	N150	7.08	0	0
46	N151	19.43	0	0
47	N153	3.92	0	0
48	N155	27.44	0	0
49	N246	11.43	0	0
50	N69	14.59	3.25	0
51	N70	22.6	6.5	0
52	N71	25.27	6.5	0
53	N72	27.94	6.5	0
54	N73	15.09	0	0
55	N74	23.1	0	0
56	N75	.25	2.125	0
57	N76	2.08	2.125	0
58	N77	2.58	2.125	0
59	N78	4.17	2.125	0
60	N79	4.67	2.125	0
61	N80	6.33	2.125	0
62	N81	6.83	3.285	0
63	N82	9	3.285	0
64	N83	9.5	4.455	0
65	N84	11.67	4.455	0
66	N85	12.18	5.625	0
67	N86	14.35	5.625	0
68	N87	14.84	6.785	0
69	N88	17.01	6.785	0
70	N89	17.51	7.955	0
71	N90	19.68	7.955	0
72	N91	20.18	9.125	0
73	N92	22.35	9.125	0
74	N93	22.85	10.285	0
75	N94	25.02	10.285	0
76	N95	25.52	11.455	0
77	N96	27.69	11.455	0
78	N97	14.84	0	0
79	N98	17.01	0	0
80	N99	17.51	0	0
81	N100	19.68	0	0
82	N101	22.85	0	0
83	N102	25.02	0	0
84	N103	25.52	0	0
85	N104	27.69	0	0
86	N105	24.77	0	0
87	N106	29.4	0	0
88	N107	32.19	0	0
89	N108	34.44	0	0



Company : Larson Engineering Inc
 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

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Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Temp [F]
90	N109	37.2	0	0
91	N110	29.4	12.39	0
92	N111	32.19	12.39	0
93	N112A	34.44	12.39	0
94	N113A	37.2	12.39	0
95	N114A	29.4	4.19	0
96	N115A	32.19	4.19	0
97	N116A	34.44	4.19	0
98	N117	37.2	4.19	0
99	N118	29.4	8.29	0
100	N119	32.19	8.29	0
101	N120	34.44	8.29	0
102	N121	37.2	8.29	0
103	N122	29.9	0	0
104	N123	36.7	0	0
105	N124	32.69	0	0
106	N125	29.65	12.39	0
107	N126	31.94	12.39	0
108	N127	32.44	12.39	0
109	N128	34.19	12.39	0
110	N129	34.69	12.39	0
111	N130	36.98	12.39	0
112	N131	29.65	0	0
113	N132	31.94	0	0
114	N133	32.44	0	0
115	N134	34.19	0	0
116	N135	34.69	0	0
117	N136	36.98	0	0
118	N137	33.94	0	0
119	N138	27.94	10.285	0
120	N139	28.77	12.545	0
121	N140	27.94	10.535	0
122	N141	27.94	10.035	0
123	N142	27.94	6.83	0
124	N143	25.500549	11.358318	0
125	N144	27.704478	10.383767	0

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Rotation[k-ft/rad]
1	N149	Reaction	Reaction	
2	N153	Reaction	Reaction	
3	N150	Reaction	Reaction	
4	N151	Reaction	Reaction	
5	N155	Reaction	Reaction	
6	N1		CS10000	
7	N2		CS10000	
8	N3		CS10000	
9	N4		CS10000	
10	N5		CS10000	
11	N6		CS10000	
12	N7		CS10000	
13	N8		CS10000	
14	N9		CS10000	
15	N10		CS10000	
16	N11		CS10000	



Company : Larson Engineering Inc
 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

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Joint Boundary Conditions (Continued)

	Joint Label	X [k/in]	Y [k/in]	Rotation[k-ft/rad]
17	N12		CS10000	
18	N246	Reaction	Reaction	
19	N73	Reaction	Reaction	
20	N74	Reaction	Reaction	
21	N105	Reaction	Reaction	
22	N106		CS10000	
23	N107		CS10000	
24	N108		CS10000	
25	N109		CS10000	
26	N122	Reaction	Reaction	
27	N123	Reaction	Reaction	
28	N124	Reaction	Reaction	
29	N137	Reaction	Reaction	

Member Primary Data

	Label	I Joint	J Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N3		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
2	M2	N4	N6		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
3	M3	N7	N97		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
4	M4	N69	N43		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
5	M5	N17	N75	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
6	M6	N21	N81	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
7	M7	N23	N83	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
8	M8	N25	N85	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
9	M9	N27	N87	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
10	M10	N29	N89	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
11	M11	N31	N91	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
12	M12	N33	N93	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
13	M13	N35	N95	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
14	M14	N17	N1		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
15	M15	N18	N2		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
16	M16	N19	N3	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
17	M17	N21	N4		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
18	M18	N23	N5		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
19	M19	N25	N6	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
20	M20	N27	N69		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
21	M21	N29	N42		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
22	M22	N31	N43	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
23	M23	N33	N70		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
24	M24	N35	N71		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
25	M25	N37	N140	180	L3x2x0.25 UW	Beam	AA Channel	6061-T6	Typical
26	M26	N42	N8		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
27	M27	N43	N9	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
28	M28	N44	N10		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
29	M29	N45	N11		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
30	M30	N46	N12	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
31	M31	N24	N5		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
32	M32	N43	N8		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
33	M34	N46	N11		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
34	M35	N72	N45		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
35	M36	N138	N71		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
36	M37	N115	N113		C4x1.5	Beam	AA Channel	6061-T6 W	Typical
37	M38	N114	N112		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
38	M39	N116	N139		C4x1.85 UW	Beam	AA Channel	6061-T6	Typical
39	M244	N19	N2		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical



Company : Larson Engineering Inc
 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

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Member Primary Data (Continued)

Label	I Joint	J Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
40	M63	N69	N7	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
41	M64	N10	N101	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
42	M65	N44	N46	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
43	M66	N70	N44	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
44	M67	N71	N45	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
45	M68	N72	N46	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
46	M69	N70	N72	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
47	M70	N30	N42	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
48	M70A	N75	N76	180 L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
49	M71	N76	N77	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
50	M72	N77	N78	180 L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
51	M73	N78	N79	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
52	M74	N79	N80	180 L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
53	M75	N80	N20	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
54	M76	N81	N82	180 L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
55	M77	N82	N22	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
56	M78	N83	N84	180 L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
57	M79	N84	N24	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
58	M80	N85	N86	180 L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
59	M81	N86	N26	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
60	M82	N87	N88	180 L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
61	M83	N88	N28	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
62	M84	N89	N90	180 L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
63	M85	N90	N30	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
64	M86	N91	N92	180 L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
65	M87	N92	N32	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
66	M88	N93	N94	180 L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
67	M89	N94	N34	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
68	M90	N95	N96	180 L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
69	M91	N96	N36	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
70	M92	N97	N98	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
71	M93	N98	N99	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
72	M94	N99	N100	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
73	M95	N100	N9	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
74	M96	N101	N102	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
75	M97	N102	N103	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
76	M98	N103	N104	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
77	M99	N104	N12	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
78	M100	N106	N131	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
79	M101	N114A	N117	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
80	M102	N118	N121	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
81	M103	N110	N125	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
82	M104	N114A	N106	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
83	M105	N115A	N107	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
84	M106	N116A	N108	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
85	M107	N117	N109	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
86	M108	N118	N114A	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
87	M109	N119	N115A	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
88	M110	N120	N116A	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
89	M111	N121	N117	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
90	M112	N110	N118	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
91	M113	N111	N119	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
92	M114	N112A	N120	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
93	M115	N113A	N121	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
94	M116	N114A	N107	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
95	M117	N117	N108	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
96	M118	N118	N115A	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical

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Member Primary Data (Continued)

Label	I Joint	J Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
97	M119	N121	N116A	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
98	M120	N110	N119	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
99	M121	N113A	N120	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
100	M122	N125	N126	180 L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
101	M123	N126	N127	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
102	M124	N127	N128	180 L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
103	M125	N128	N129	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
104	M126	N129	N130	180 L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
105	M127	N130	N113A	180 L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
106	M128	N131	N132	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
107	M129	N132	N133	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
108	M130	N133	N134	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
109	M131	N134	N135	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
110	M132	N135	N136	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
111	M133	N136	N109	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
112	M134	N34	N138	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
113	M135	N35	N143	L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
114	M136	N139	N115	C4x1.5	Beam	AA Channel	6061-T6 W	Typical
115	M137	N140	N141	180 L3x2x0.25	Beam	AA Channel	6061-T6 W	Typical
116	M138	N141	N142	180 L3x2x0.25 UW	Beam	AA Channel	6061-T6	Typical
117	M139	N142	N72	180 L3x2x0.25	Beam	AA Channel	6061-T6 W	Typical
118	M140	N143	N144	L1.5x1.5x0.1875	Beam	AA Channel	6061-T6	Typical
119	M141	N144	N138	L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical

Member Advanced Data

Label	I Release	J Release	I Offset(in)	J Offset(in)	T/C Only	Physical	TOM	Inactive
1	M1					Yes		
2	M2					Yes		
3	M3					Yes		
4	M4					Yes		
5	M5					Yes		
6	M6	PIN				Yes		
7	M7	PIN				Yes		
8	M8	PIN				Yes		
9	M9	PIN				Yes		
10	M10	PIN				Yes		
11	M11	PIN				Yes		
12	M12	PIN				Yes		
13	M13	PIN				Yes		
14	M14	PIN	PIN			Yes		
15	M15	PIN	PIN			Yes		
16	M16	PIN	PIN			Yes		
17	M17		PIN			Yes		
18	M18		PIN			Yes		
19	M19		PIN			Yes		
20	M20					Yes		
21	M21		PIN			Yes		
22	M22		PIN			Yes		
23	M23		PIN			Yes		
24	M24		PIN			Yes		
25	M25					Yes		
26	M26	PIN	PIN			Yes		
27	M27	PIN	PIN			Yes		
28	M28	PIN	PIN			Yes		
29	M29	PIN	PIN			Yes		

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Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	TOM	Inactive
30	M30	PIN	PIN				Yes		
31	M31	PIN	PIN				Yes		
32	M32	PIN	PIN				Yes		
33	M34	PIN	PIN				Yes		
34	M35	PIN	PIN				Yes		
35	M36	PIN	PIN				Yes		
36	M37	PIN	PIN				Yes		
37	M38	PIN	PIN				Yes		
38	M39						Yes		
39	M244	PIN	PIN				Yes		
40	M63	PIN	PIN				Yes		
41	M64						Yes		
42	M65						Yes		
43	M66	PIN	PIN				Yes		
44	M67	PIN	PIN				Yes		
45	M68	PIN	PIN				Yes		
46	M69						Yes		
47	M70	PIN	PIN				Yes		
48	M70A						Yes		
49	M71						Yes		
50	M72						Yes		
51	M73						Yes		
52	M74						Yes		
53	M75		PIN				Yes		
54	M76						Yes		
55	M77		PIN				Yes		
56	M78						Yes		
57	M79		PIN				Yes		
58	M80						Yes		
59	M81		PIN				Yes		
60	M82						Yes		
61	M83		PIN				Yes		
62	M84						Yes		
63	M85		PIN				Yes		
64	M86						Yes		
65	M87		PIN				Yes		
66	M88						Yes		
67	M89		PIN				Yes		
68	M90						Yes		
69	M91		PIN				Yes		
70	M92						Yes		
71	M93						Yes		
72	M94						Yes		
73	M95						Yes		
74	M96						Yes		
75	M97						Yes		
76	M98						Yes		
77	M99						Yes		
78	M100						Yes		
79	M101						Yes		
80	M102						Yes		
81	M103						Yes		
82	M104	PIN	PIN				Yes		
83	M105	PIN	PIN				Yes		
84	M106	PIN	PIN				Yes		
85	M107	PIN	PIN				Yes		
86	M108	PIN	PIN				Yes		

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Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	TOM	Inactive
87	M109	PIN	PIN				Yes		
88	M110	PIN	PIN				Yes		
89	M111	PIN	PIN				Yes		
90	M112	PIN	PIN				Yes		
91	M113	PIN	PIN				Yes		
92	M114	PIN	PIN				Yes		
93	M115	PIN	PIN				Yes		
94	M116	PIN	PIN				Yes		
95	M117	PIN	PIN				Yes		
96	M118	PIN	PIN				Yes		
97	M119	PIN	PIN				Yes		
98	M120	PIN	PIN				Yes		
99	M121	PIN	PIN				Yes		
100	M122						Yes		
101	M123						Yes		
102	M124						Yes		
103	M125						Yes		
104	M126						Yes		
105	M127						Yes		
106	M128						Yes		
107	M129						Yes		
108	M130						Yes		
109	M131						Yes		
110	M132						Yes		
111	M133						Yes		
112	M134	PIN	PIN				Yes		
113	M135	PIN					Yes		
114	M136						Yes		
115	M137						Yes		
116	M138						Yes		
117	M139		PIN				Yes		
118	M140						Yes		
119	M141		PIN				Yes		

Aluminum Design Parameters

	Label	Shape	Length[ft]	Lb-out[ft]	Lb-in[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	K-out	K-in	Cb	Function
1	M1	L3x2x0.1875	4.42			Lb out						Lateral
2	M2	L3x2x0.1875	5.35			Lb out						Lateral
3	M3	L3x2x0.1875	.25			Lb out						Lateral
4	M4	L3x2x0.1875	5.34			Lb out						Lateral
5	M5	L3x2x0.1875	.25			Lb out						Lateral
6	M6	L3x2x0.1875	.25			Lb out						Lateral
7	M7	L3x2x0.1875	.25			Lb out						Lateral
8	M8	L3x2x0.1875	.25			Lb out						Lateral
9	M9	L3x2x0.1875	.25			Lb out						Lateral
10	M10	L3x2x0.1875	.25			Lb out						Lateral
11	M11	L3x2x0.1875	.25			Lb out						Lateral
12	M12	L3x2x0.1875	.25			Lb out						Lateral
13	M13	L3x2x0.1875	.25			Lb out						Lateral
14	M14	L2x2x0.1875	2.125			Lb out						Lateral
15	M15	L2x2x0.1875	2.125			Lb out						Lateral
16	M16	L3x2x0.1875	2.125			Lb out						Lateral
17	M17	L2x2x0.1875	3.285			Lb out						Lateral
18	M18	L2x2x0.1875	4.455			Lb out						Lateral
19	M19	L3x2x0.1875	5.625	Segment		Lb out						Lateral

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Aluminum Design Parameters (Continued)

	Label	Shape	Length(ft)	Lb-out(ft)	Lb-in(ft)	Lcomp top(ft)	Lcomp bot(ft)	L-torq...	K-out	K-in	Cb	Function
20	M20	L2x2x0.1875	3.535			Lb out						Lateral
21	M21	L3x2x0.1875	4.705			Lb out						Lateral
22	M22	L3x2x0.1875	5.875			Lb out						Lateral
23	M23	L2x2x0.1875	3.785			Lb out						Lateral
24	M24	L3x2x0.1875	4.955			Lb out						Lateral
25	M25	L3x2x0.25	2.09			Lb out						Lateral
26	M26	L2x2x0.1875	3.25			Lb out						Lateral
27	M27	L3x2x0.1875	3.25			Lb out						Lateral
28	M28	L2x2x0.1875	3.25			Lb out						Lateral
29	M29	L2x2x0.1875	3.25			Lb out						Lateral
30	M30	L3x2x0.1875	3.25			Lb out						Lateral
31	M31	L2x2x0.1875	5.199			Lb out						Lateral
32	M32	L1.5x1.5x0	4.206			Lb out						Lateral
33	M34	L1.5x1.5x0	4.206			Lb out						Lateral
34	M35	L1.5x1.5x0	4.206			Lb out						Lateral
35	M36	L1.5x1.5x0	4.632			Lb out						Lateral
36	M37	C4x1.5	1.119			Lb out						Lateral
37	M38	L2x2x0.1875	.83			Lb out						Lateral
38	M39	C4x1.85 UW	4.25			Lb out						Lateral
39	M244	L1.5x1.5x0	2.981			Lb out						Lateral
40	M63	L2x2x0.1875	3.25			Lb out						Lateral
41	M64	L3x2x0.1875	.25			Lb out						Lateral
42	M65	L3x2x0.1875	5.34			Lb out						Lateral
43	M66	L2x2x0.1875	3.25			Lb out						Lateral
44	M67	L2x2x0.1875	3.25			Lb out						Lateral
45	M68	L3x2x0.1875	3.25			Lb out						Lateral
46	M69	L3x2x0.1875	5.34			Lb out						Lateral
47	M70	L2x2x0.1875	5.41			Lb out						Lateral
48	M70A	L3x2x0.1875	1.83			Lb out						Lateral
49	M71	L3x2x0.1875	.5			Lb out						Lateral
50	M72	L3x2x0.1875	1.59			Lb out						Lateral
51	M73	L3x2x0.1875	.5			Lb out						Lateral
52	M74	L3x2x0.1875	1.66			Lb out						Lateral
53	M75	L3x2x0.1875	.25			Lb out						Lateral
54	M76	L3x2x0.1875	2.17			Lb out						Lateral
55	M77	L3x2x0.1875	.25			Lb out						Lateral
56	M78	L3x2x0.1875	2.17			Lb out						Lateral
57	M79	L3x2x0.1875	.26			Lb out						Lateral
58	M80	L3x2x0.1875	2.17			Lb out						Lateral
59	M81	L3x2x0.1875	.24			Lb out						Lateral
60	M82	L3x2x0.1875	2.17			Lb out						Lateral
61	M83	L3x2x0.1875	.25			Lb out						Lateral
62	M84	L3x2x0.1875	2.17			Lb out						Lateral
63	M85	L3x2x0.1875	.25			Lb out						Lateral
64	M86	L3x2x0.1875	2.17			Lb out						Lateral
65	M87	L3x2x0.1875	.25			Lb out						Lateral
66	M88	L3x2x0.1875	2.17			Lb out						Lateral
67	M89	L3x2x0.1875	.25			Lb out						Lateral
68	M90	L3x2x0.1875	2.17			Lb out						Lateral
69	M91	L3x2x0.1875	.25			Lb out						Lateral
70	M92	L3x2x0.1875	2.17			Lb out						Lateral
71	M93	L3x2x0.1875	.5			Lb out						Lateral
72	M94	L3x2x0.1875	2.17			Lb out						Lateral
73	M95	L3x2x0.1875	.25			Lb out						Lateral
74	M96	L3x2x0.1875	2.17			Lb out						Lateral
75	M97	L3x2x0.1875	.5			Lb out						Lateral
76	M98	L3x2x0.1875	2.17			Lb out						Lateral

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Aluminum Design Parameters (Continued)

	Label	Shape	Length(ft)	Lb-out(ft)	Lb-in(ft)	Lcomp top(ft)	Lcomp bot(ft)	L-torq...	K-out	K-in	Cb	Function
77	M99	L3x2x0.1875	.25			Lb out						Lateral
78	M100	L3x2x0.1875	.25			Lb out						Lateral
79	M101	L3x2x0.1875	7.8			Lb out						Lateral
80	M102	L3x2x0.1875	7.8			Lb out						Lateral
81	M103	L3x2x0.1875	.25			Lb out						Lateral
82	M104	L3x2x0.1875	4.19			Lb out						Lateral
83	M105	L2x2x0.1875	4.19			Lb out						Lateral
84	M106	L2x2x0.1875	4.19			Lb out						Lateral
85	M107	L3x2x0.1875	4.19			Lb out						Lateral
86	M108	L3x2x0.1875	4.1			Lb out						Lateral
87	M109	L2x2x0.1875	4.1			Lb out						Lateral
88	M110	L2x2x0.1875	4.1			Lb out						Lateral
89	M111	L3x2x0.1875	4.1			Lb out						Lateral
90	M112	L3x2x0.1875	4.1			Lb out						Lateral
91	M113	L2x2x0.1875	4.1			Lb out						Lateral
92	M114	L2x2x0.1875	4.1			Lb out						Lateral
93	M115	L3x2x0.1875	4.1			Lb out						Lateral
94	M116	L2x2x0.1875	5.034			Lb out						Lateral
95	M117	L2x2x0.1875	5.017			Lb out						Lateral
96	M118	L2x2x0.1875	4.959			Lb out						Lateral
97	M119	L2x2x0.1875	4.942			Lb out						Lateral
98	M120	L2x2x0.1875	4.959			Lb out						Lateral
99	M121	L2x2x0.1875	4.942			Lb out						Lateral
100	M122	L3x2x0.1875	2.29			Lb out						Lateral
101	M123	L3x2x0.1875	.5			Lb out						Lateral
102	M124	L3x2x0.1875	1.75			Lb out						Lateral
103	M125	L3x2x0.1875	.5			Lb out						Lateral
104	M126	L3x2x0.1875	2.29			Lb out						Lateral
105	M127	L3x2x0.1875	.22			Lb out						Lateral
106	M128	L3x2x0.1875	2.29			Lb out						Lateral
107	M129	L3x2x0.1875	.5			Lb out						Lateral
108	M130	L3x2x0.1875	1.75			Lb out						Lateral
109	M131	L3x2x0.1875	.5			Lb out						Lateral
110	M132	L3x2x0.1875	2.29			Lb out						Lateral
111	M133	L3x2x0.1875	.22			Lb out						Lateral
112	M134	L2x2x0.1875	2.67			Lb out						Lateral
113	M135	L1.5x1.5x0	.25			Lb out						Lateral
114	M136	C4x1.5	1.08			Lb out						Lateral
115	M137	L3x2x0.25	.5			Lb out						Lateral
116	M138	L3x2x0.25	3.205			Lb out						Lateral
117	M139	L3x2x0.25	.33			Lb out						Lateral
118	M140	L1.5x1.5x0	2.41			Lb out						Lateral
119	M141	L1.5x1.5x0	.255			Lb out						Lateral

Joint Loads and Enforced Displacements (BLC 1 : DL)

	Joint Label	L,D,M	Direction	Magnitude(k.k-ft) (in.rad) (k*s^2/ft)
1	N110	L	Y	-528
2	N113A	L	Y	-528

Joint Loads and Enforced Displacements (BLC 2 : LL)

	Joint Label	L,D,M	Direction	Magnitude(k.k-ft) (in.rad) (k*s^2/ft)
1	N110	L	Y	-1.2
2	N113A	L	Y	-1.2

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Joint Loads and Enforced Displacements (BLC 3 : WL)

	Joint Label	L,D,M	Direction	Magnitude[(k.k-ft), (in.rad), (k*s^2/ft...]
1	N110	L	X	1.248
2	N110	L	Y	.54
3	N113A	L	Y	-.54

Joint Loads and Enforced Displacements (BLC 4 : GUARD)

	Joint Label	L,D,M	Direction	Magnitude[(k.k-ft), (in.rad), (k*s^2/ft...]
1	N116	L	X	.3

Joint Loads and Enforced Displacements (BLC 5 : EL)

	Joint Label	L,D,M	Direction	Magnitude[(k.k-ft), (in.rad), (k*s^2/ft...]
1	N110	L	X	.204
2	N110	L	Y	.088
3	N113A	L	Y	-.088

Member Distributed Loads (BLC 1 : DL)

	Member Label	Direction	Start Magnitude[lb/ft.F,ksf]	End Magnitude[lb/ft., Start Location[ft.%]	End Location[ft.%]
1	M5	Y	-60	-60	0
2	M6	Y	-60	-60	0
3	M7	Y	-60	-60	0
4	M8	Y	-60	-60	0
5	M9	Y	-60	-60	0
6	M10	Y	-60	-60	0
7	M11	Y	-60	-60	0
8	M12	Y	-60	-60	0
9	M13	Y	-60	-60	0
10	M70A	Y	-60	-60	0
11	M71	Y	-60	-60	0
12	M72	Y	-60	-60	0
13	M73	Y	-60	-60	0
14	M74	Y	-60	-60	0
15	M75	Y	-60	-60	.25
16	M76	Y	-60	-60	0
17	M77	Y	-60	-60	.25
18	M78	Y	-60	-60	0
19	M79	Y	-60	-60	.26
20	M80	Y	-60	-60	0
21	M81	Y	-60	-60	.24
22	M82	Y	-60	-60	0
23	M83	Y	-60	-60	.25
24	M84	Y	-60	-60	0
25	M85	Y	-60	-60	.25
26	M86	Y	-60	-60	0
27	M87	Y	-60	-60	.25
28	M88	Y	-60	-60	0
29	M89	Y	-60	-60	.25
30	M90	Y	-60	-60	0
31	M91	Y	-60	-60	.25
32	M103	Y	-60	-60	0
33	M122	Y	-60	-60	0
34	M123	Y	-60	-60	0
35	M124	Y	-60	-60	0
36	M125	Y	-60	-60	0
37	M126	Y	-60	-60	0
38	M127	Y	-60	-60	.22



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Member Distributed Loads (BLC 2 : LL)

	Member Label	Direction	Start Magnitude[lb/ft.F,ksf]	End Magnitude[lb/ft., Start Location[ft.%]	End Location[ft.%]
1	M5	Y	-600	-600	0
2	M6	Y	-600	-600	0
3	M7	Y	-600	-600	0
4	M8	Y	-600	-600	0
5	M9	Y	-600	-600	0
6	M10	Y	-600	-600	0
7	M11	Y	-600	-600	0
8	M12	Y	-600	-600	0
9	M13	Y	-600	-600	0
10	M70A	Y	-600	-600	0
11	M71	Y	-600	-600	0
12	M72	Y	-600	-600	0
13	M73	Y	-600	-600	0
14	M74	Y	-600	-600	0
15	M75	Y	-600	-600	.25
16	M76	Y	-600	-600	0
17	M77	Y	-600	-600	.25
18	M78	Y	-600	-600	0
19	M79	Y	-600	-600	.26
20	M80	Y	-600	-600	0
21	M81	Y	-600	-600	.24
22	M82	Y	-600	-600	0
23	M83	Y	-600	-600	.25
24	M84	Y	-600	-600	0
25	M85	Y	-600	-600	.25
26	M86	Y	-600	-600	0
27	M87	Y	-600	-600	.25
28	M88	Y	-600	-600	0
29	M89	Y	-600	-600	.25
30	M90	Y	-600	-600	0
31	M91	Y	-600	-600	.25
32	M103	Y	-300	-300	0
33	M122	Y	-300	-300	0
34	M123	Y	-300	-300	0
35	M124	Y	-300	-300	0
36	M125	Y	-300	-300	0
37	M126	Y	-300	-300	0
38	M127	Y	-300	-300	.22

Member Distributed Loads (BLC 3 : WL)

	Member Label	Direction	Start Magnitude[lb/ft.F,ksf]	End Magnitude[lb/ft., Start Location[ft.%]	End Location[ft.%]
1	M17	X	156	156	0
2	M18	X	156	156	0
3	M19	X	156	156	0
4	M20	X	156	156	0
5	M21	X	156	156	0
6	M22	X	156	156	0
7	M23	X	156	156	0
8	M24	X	156	156	0
9	M25	X	156	156	0

Member Distributed Loads (BLC 5 : EL)

	Member Label	Direction	Start Magnitude[lb/ft.F,ksf]	End Magnitude[lb/ft., Start Location[ft.%]	End Location[ft.%]
1	M5	X	37.2	37.2	0
2	M6	X	37.2	37.2	0
3	M7	X	37.2	37.2	0

Member Distributed Loads (BLC 5 : EL) (Continued)

	Member Label	Direction	Start Magnitude(lb/ft.F.ksl)	End Magnitude(lb/ft.)	Start Location(fft.)	End Location(fft.)
4	M8	X	37.2	37.2	0	0
5	M9	X	37.2	37.2	0	0
6	M10	X	37.2	37.2	0	0
7	M11	X	37.2	37.2	0	0
8	M12	X	37.2	37.2	0	0
9	M13	X	37.2	37.2	0	0
10	M70A	X	37.2	37.2	0	0
11	M71	X	37.2	37.2	0	0
12	M72	X	37.2	37.2	0	0
13	M73	X	37.2	37.2	0	0
14	M74	X	37.2	37.2	0	0
15	M75	X	37.2	37.2	0	.25
16	M76	X	37.2	37.2	0	0
17	M77	X	37.2	37.2	0	.25
18	M78	X	37.2	37.2	0	0
19	M79	X	37.2	37.2	0	.26
20	M80	X	37.2	37.2	0	0
21	M81	X	37.2	37.2	0	.24
22	M82	X	37.2	37.2	0	0
23	M83	X	37.2	37.2	0	.25
24	M84	X	37.2	37.2	0	0
25	M85	X	37.2	37.2	0	.25
26	M86	X	37.2	37.2	0	0
27	M87	X	37.2	37.2	0	.25
28	M88	X	37.2	37.2	0	0
29	M89	X	37.2	37.2	0	.25
30	M90	X	37.2	37.2	0	0
31	M91	X	37.2	37.2	0	.25
32	M103	X	37.2	37.2	0	0
33	M122	X	37.2	37.2	0	0
34	M123	X	37.2	37.2	0	0
35	M124	X	37.2	37.2	0	0
36	M125	X	37.2	37.2	0	0
37	M126	X	37.2	37.2	0	0
38	M127	X	37.2	37.2	0	.22

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Joint	Point	Distributed
1	DL	None		-1	2		38
2	LL	None			2		38
3	WL	None			3		9
4	GUARD	None			1		
5	EL	None			3		38

Load Combinations

[illegible]

Load Combinations (Continued)

[illegible]

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Moment [k-ft]	LC
1	N149	max	.103	13	.006	1	0	1
2		min	-.106	12	-.138	12	0	1
3	N153	max	.119	13	.009	1	0	1
4		min	-.122	12	-.175	13	0	1
5	N150	max	.112	7	.008	1	0	1
6		min	-.086	6	-.426	10	0	1
7	N151	max	.159	7	.008	1	0	1
8		min	-.124	6	-1.025	11	0	1
9	N155	max	.056	11	.008	1	0	1
10		min	-.068	10	-1.56	15	0	1
11	N1	max	0	1	.628	1	0	1
12		min	0	1	.043	11	0	1
13	N2	max	0	1	1.611	1	0	1
14		min	0	1	0	6	0	1
15	N3	max	0	1	1.53	1	0	1
16		min	0	1	0	7	0	1
17	N4	max	0	1	1.459	1	0	1
18		min	0	1	.082	13	0	1
19	N5	max	0	1	1.789	1	0	1
20		min	0	1	0	6	0	1
21	N6	max	0	1	1.754	1	0	1
22		min	0	1	0	7	0	1
23	N7	max	0	1	1.762	1	0	1
24		min	0	1	.151	13	0	1
25	N8	max	0	1	2.135	3	0	1
26		min	0	1	0	6	0	1
27	N9	max	0	1	2.013	2	0	1
28		min	0	1	0	7	0	1
29	N10	max	0	1	1.779	1	0	1
30		min	0	1	0	6	0	1
31	N11	max	0	1	2.294	3	0	1
32		min	0	1	0	6	0	1
33	N12	max	0	1	1.967	14	0	1
34		min	0	1	0	3	0	1
35	N246	max	.117	7	.008	1	0	1
36		min	-.102	6	-.467	11	0	1
37	N73	max	.156	7	.008	1	0	1
38		min	-.126	6	-.614	10	0	1
39	N74	max	.001	2	.322	14	0	1



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Envelope Joint Reactions (Continued)

Joint		X [k]	LC	Y [k]	LC	Moment [k-ft]	LC
40		min	0	3	.003	5	0
41	N105	max	.227	11	.009	5	0
42		min	-.31	10	-1.301	14	0
43	N106	max	0	1	3.188	7	0
44		min	0	1	0	2	0
45	N107	max	0	1	2.564	2	0
46		min	0	1	0	7	0
47	N108	max	0	1	2.539	3	0
48		min	0	1	0	6	0
49	N109	max	0	1	3.182	6	0
50		min	0	1	0	3	0
51	N122	max	.103	11	.009	3	0
52		min	-.07	2	-1.255	10	0
53	N123	max	.071	3	.009	2	0
54		min	-.106	10	-1.233	11	0
55	N124	max	.507	11	.217	10	0
56		min	-.317	2	-1.799	11	0
57	N137	max	.322	3	.232	11	0
58		min	-.516	10	-1.79	10	0
59	Totals:	max	1.726	11	25.001	1	
60		min	-1.726	10	1.818	12	

Envelope Member Section Forces

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1	M1	max	0	9	.085	12	0	1
2		min	0	4	-.003	1	0	1
3		max	.103	13	.002	1	.001	13
4		min	-.106	12	-.054	12	-.01	12
5		max	.103	13	0	1	.05	12
6		min	-.106	12	-.054	12	-.001	1
7		max	.122	12	.065	12	0	1
8		min	-.118	13	-.003	1	-.034	13
9		max	0	4	.005	1	0	1
10		min	0	7	-.126	13	0	1
11	M2	max	.035	11	.283	10	0	1
12		min	-.041	10	-.004	1	0	1
13		max	.147	7	.002	1	.008	11
14		min	-.126	6	-.143	10	-.021	10
15		max	.126	6	.143	10	.169	10
16		min	-.146	7	0	1	0	1
17		max	.126	6	.142	10	0	1
18		min	-.146	7	-.002	1	-.094	11
19		max	.024	6	.005	1	0	1
20		min	-.029	7	-.363	11	0	1
21	M3	max	0	7	.407	10	0	1
22		min	-.001	2	-.005	1	0	1
23		max	0	7	.407	10	0	1
24		min	-.001	2	-.005	1	-.025	10
25		max	0	7	.407	10	0	1
26		min	-.001	2	-.005	1	-.051	10
27		max	0	7	.407	10	0	1
28		min	-.001	2	-.005	1	-.076	10
29		max	0	7	.407	10	.001	1
30		min	-.001	2	-.005	1	-.102	10
31	M4	max	.031	10	.034	11	.036	11

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
32		min	-.011	3	-.074	10	-.078	10
33		max	.031	10	.033	11	.022	10
34		min	-.011	3	-.075	10	-.012	15
35		max	.255	6	.032	11	.122	10
36		min	-.341	7	-.076	10	-.053	11
37		max	.255	6	.046	10	.061	10
38		min	-.341	7	-.02	11	-.027	11
39		max	.255	6	.045	10	0	1
40		min	-.341	7	-.021	11	0	1
41	M5	max	0	4	.63	1	0	1
42		min	0	9	.019	12	0	1
43		max	.002	8	.588	1	-.001	12
44		min	-.002	9	.017	12	-.038	1
45		max	.003	8	.547	1	-.002	12
46		min	-.003	9	.015	12	-.074	1
47		max	.005	8	.506	1	-.003	12
48		min	-.005	9	.013	12	-.106	1
49		max	.007	8	.464	1	-.004	12
50		min	-.007	9	.011	12	-.137	1
51	M6	max	.032	13	.883	1	0	1
52		min	-.037	12	.042	12	0	1
53		max	.031	13	.841	1	-.003	12
54		min	-.035	12	.04	12	-.054	1
55		max	.029	13	.8	1	-.005	12
56		min	-.034	12	.038	12	-.105	1
57		max	.027	13	.759	1	-.007	12
58		min	-.032	12	.036	12	-.154	1
59		max	.026	13	.717	1	-.01	12
60		min	-.03	12	.034	12	-.2	1
61	M7	max	.081	6	.886	1	0	1
62		min	-.088	7	.043	13	0	1
63		max	.081	6	.845	1	-.003	13
64		min	-.088	7	.041	13	-.054	1
65		max	.081	6	.803	1	-.005	13
66		min	-.088	7	.039	13	-.106	1
67		max	.081	6	.762	1	-.007	13
68		min	-.088	7	.037	13	-.154	1
69		max	.081	6	.721	1	-.01	13
70		min	-.088	7	.035	13	-.201	1
71	M8	max	.065	9	.879	1	0	1
72		min	-.054	8	.042	12	0	1
73		max	.063	9	.838	1	-.003	12
74		min	-.052	8	.04	12	-.054	1
75		max	.062	9	.797	1	-.005	12
76		min	-.051	8	.038	12	-.105	1
77		max	.06	9	.755	1	-.007	12
78		min	-.049	8	.036	12	-.153	1
79		max	.058	9	.714	1	-.01	12
80		min	-.047	8	.034	12	-.199	1
81	M9	max	.055	2	.883	1	0	1
82		min	-.049	3	.042	13	0	1
83		max	.055	2	.841	1	-.003	13
84		min	-.049	3	.04	13	-.054	1
85		max	.055	2	.8	1	-.005	13
86		min	-.049	3	.038	13	-.105	1
87		max	.055	2	.759	1	-.007	13
88		min	-.049	3	.036	13	-.154	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
89	5	max	.055	2	.717	1	-.01	13
90		min	-.049	3	.034	13	-.2	1
91	M10	1	max	.135	10	.883	1	0
92		min	-.129	7	.042	13	0	1
93		2	max	.135	10	.841	1	-0.003
94		min	-.129	7	.04	13	-.054	1
95		3	max	.135	10	.8	1	-0.005
96		min	-.129	7	.038	13	-.105	1
97		4	max	.135	10	.759	1	-0.007
98		min	-.129	7	.036	13	-.154	1
99		5	max	.135	10	.717	1	-0.01
100		min	-.129	7	.034	13	-.2	1
101	M11	1	max	.155	15	.883	1	0
102		min	-.087	14	.042	12	0	1
103		2	max	.155	15	.842	1	-0.003
104		min	-.087	14	.04	12	-.054	1
105		3	max	.155	15	.8	1	-0.005
106		min	-.087	14	.038	12	-.105	1
107		4	max	.155	15	.759	1	-0.007
108		min	-.087	14	.036	12	-.154	1
109		5	max	.155	15	.718	1	-0.01
110		min	-.087	14	.034	12	-.2	1
111	M12	1	max	.129	10	.883	1	0
112		min	-.062	11	.042	13	0	1
113		2	max	.129	10	.842	1	-0.003
114		min	-.062	11	.04	13	-.054	1
115		3	max	.129	10	.8	1	-0.005
116		min	-.062	11	.038	13	-.105	1
117		4	max	.129	10	.759	1	-0.007
118		min	-.062	11	.036	13	-.154	1
119		5	max	.129	10	.718	1	-0.01
120		min	-.062	11	.034	13	-.2	1
121	M13	1	max	1.736	15	.882	1	0
122		min	-1.747	14	.042	12	0	1
123		2	max	1.736	15	.841	1	-0.003
124		min	-1.747	14	.04	12	-.054	1
125		3	max	1.736	15	.8	1	-0.005
126		min	-1.747	14	.038	12	-.105	1
127		4	max	1.736	15	.758	1	-0.007
128		min	-1.747	14	.036	12	-.154	1
129		5	max	1.736	15	.717	1	-0.01
130		min	-1.747	14	.034	12	-.2	1
131	M14	1	max	.63	1	0	1	0
132		min	.019	12	0	1	0	1
133		2	max	.63	1	0	1	0
134		min	.019	12	0	1	0	1
135		3	max	.63	1	0	1	0
136		min	.019	12	0	1	0	1
137		4	max	.631	1	0	1	0
138		min	.02	12	0	1	0	1
139		5	max	.631	1	0	1	0
140		min	.02	12	0	1	0	1
141	M15	1	max	1.618	1	0	1	0
142		min	.058	13	0	1	0	1
143		2	max	1.618	1	0	1	0
144		min	.058	13	0	1	0	1
145		3	max	1.619	1	0	1	0

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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
146			min	.058	13	0	1	0	1
147		4	max	1.619	1	0	1	0	1
148			min	.058	13	0	1	0	1
149		5	max	1.619	1	0	1	0	1
150			min	.058	13	0	1	0	1
151	M16	1	max	1.533	1	0	1	0	1
152			min	-.128	13	0	1	0	1
153		2	max	1.533	1	0	1	0	1
154			min	-.127	13	0	1	0	1
155		3	max	1.534	1	0	1	0	1
156			min	-.127	13	0	1	0	1
157		4	max	1.535	1	0	1	0	1
158			min	-.127	13	0	1	0	1
159		5	max	1.535	1	0	1	0	1
160			min	-.126	13	0	1	0	1
161	M17	1	max	.883	1	.037	12	0	1
162			min	.042	13	-.032	13	0	1
163		2	max	.883	1	.098	10	.04	11
164			min	.043	13	-.087	11	-.049	10
165		3	max	1.462	1	.035	11	.058	11
166			min	.062	13	-.041	10	-.067	10
167		4	max	1.462	1	.035	11	.029	11
168			min	.062	13	-.041	10	-.034	10
169		5	max	1.463	1	.035	11	0	1
170			min	.063	13	-.041	10	0	1
171	M18	1	max	.886	1	.088	7	0	1
172			min	.042	12	-.081	6	0	1
173		2	max	.887	1	.028	9	.039	2
174			min	.043	12	-.026	8	-.042	3
175		3	max	1.77	1	.012	2	.026	2
176			min	.086	12	-.013	3	-.028	3
177		4	max	1.771	1	.012	2	.013	2
178			min	.086	12	-.013	3	-.014	3
179		5	max	1.772	1	.012	2	0	1
180			min	.087	12	-.013	3	0	1
181	M19	1	max	.879	1	.054	8	0	1
182			min	.042	13	-.065	9	0	1
183		2	max	1.754	1	.029	7	.124	7
184			min	-.366	11	-.022	6	-.095	6
185		3	max	1.756	1	.029	7	.083	7
186			min	-.365	11	-.022	6	-.063	6
187		4	max	1.757	1	.029	7	.041	7
188			min	-.364	11	-.022	6	-.032	6
189		5	max	1.759	1	.029	7	0	1
190			min	-.363	11	-.022	6	0	1
191	M20	1	max	.883	1	.048	3	0	1
192			min	.042	13	-.054	2	0	1
193		2	max	.883	1	.032	6	.02	2
194			min	.043	13	-.039	7	-.015	3
195		3	max	1.763	1	.032	10	.018	11
196			min	.085	13	-.013	3	-.022	10
197		4	max	1.764	1	.032	10	.027	11
198			min	.086	13	-.013	3	-.05	10
199		5	max	1.765	1	.032	10	.036	11
200			min	.086	13	-.013	3	-.078	10
201	M21	1	max	.883	1	.129	7	0	1
202			min	.042	12	-.135	10	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC	
203	2	max	1.766	1	.027	10	.094	10	
204		min	.085	12	-.025	7	-.086	7	
205	3	max	1.768	1	.027	10	.063	10	
206		min	.086	12	-.025	7	-.058	7	
207	4	max	1.769	1	.027	10	.031	10	
208		min	.087	12	-.025	7	-.029	7	
209	5	max	1.77	1	.027	10	0	1	
210		min	.087	12	-.025	7	0	1	
211	M22	1	max	.883	1	.087	14	0	1
212		min	.042	13	-.156	15	0	1	
213	2	max	1.727	1	.039	15	.171	15	
214		min	-.439	11	-.022	14	-.096	14	
215	3	max	1.729	1	.039	15	.114	15	
216		min	-.438	11	-.022	14	-.064	14	
217	4	max	1.731	1	.039	15	.057	15	
218		min	-.437	11	-.022	14	-.032	14	
219	5	max	1.732	1	.039	15	0	1	
220		min	-.436	11	-.022	14	0	1	
221	M23	1	max	.883	1	.062	11	0	1
222		min	.042	13	-.129	10	0	1	
223	2	max	.883	1	.061	14	.103	15	
224		min	.043	13	-.109	15	-.057	14	
225	3	max	1.767	1	.048	15	.091	15	
226		min	.086	13	-.027	14	-.051	14	
227	4	max	1.768	1	.048	15	.045	15	
228		min	.086	13	-.027	14	-.025	14	
229	5	max	1.768	1	.048	15	0	1	
230		min	.087	13	-.027	14	0	1	
231	M24	1	max	.872	1	.054	11	0	1
232		min	-.671	14	-.057	6	0	1	
233	2	max	1.757	1	.009	15	.035	15	
234		min	-.587	14	-.008	14	-.032	14	
235	3	max	1.758	1	.009	15	.023	15	
236		min	-.586	14	-.008	14	-.021	14	
237	4	max	1.759	1	.009	15	.012	15	
238		min	-.584	14	-.008	14	-.011	14	
239	5	max	1.761	1	.009	15	0	1	
240		min	-.583	14	-.008	14	0	1	
241	M25	1	max	0	1	0	14	0	1
242		min	0	1	0	0	15	0	1
243	2	max	.022	15	1.159	14	.222	15	
244		min	0	13	-1.152	15	-.223	14	
245	3	max	.023	15	1.159	14	.824	15	
246		min	0	13	-1.152	15	-.828	14	
247	4	max	.885	1	.583	15	.736	15	
248		min	.044	13	-.588	14	-.739	14	
249	5	max	.898	1	1.436	15	.278	15	
250		min	.051	13	-1.447	14	-.277	14	
251	M26	1	max	1.819	1	0	1	0	1
252		min	-.115	10	0	1	0	1	
253	2	max	1.82	1	0	1	0	1	
254		min	-.114	10	0	1	0	1	
255	3	max	1.821	1	0	1	0	1	
256		min	-.114	10	0	1	0	1	
257	4	max	1.821	1	0	1	0	1	
258		min	-.113	10	0	1	0	1	
259	5	max	1.822	1	0	1	0	1	

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Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
260	M27	min	-.113	10	0	1	0	1
261		max	2.014	2	0	1	0	1
262		min	-.798	11	0	1	0	1
263		max	2.015	2	0	1	0	1
264		min	-.797	11	0	1	0	1
265	3	max	2.016	2	0	1	0	1
266		min	-.796	11	0	1	0	1
267	4	max	2.017	2	0	1	0	1
268		min	-.796	11	0	1	0	1
269	5	max	2.017	2	0	1	0	1
270		min	-.795	11	0	1	0	1
271	M28	max	1.779	1	0	1	0	1
272		min	.062	10	0	1	0	1
273	2	max	1.78	1	0	1	0	1
274		min	.062	10	0	1	0	1
275	3	max	1.78	1	0	1	0	1
276		min	.063	10	0	1	0	1
277	4	max	1.781	1	0	1	0	1
278		min	.063	10	0	1	0	1
279	5	max	1.782	1	0	1	0	1
280		min	.064	10	0	1	0	1
281	M29	max	1.962	3	0	1	0	1
282		min	-1.059	14	0	1	0	1
283	2	max	1.963	3	0	1	0	1
284		min	-1.058	14	0	1	0	1
285	3	max	1.964	3	0	1	0	1
286		min	-1.058	14	0	1	0	1
287	4	max	1.964	3	0	1	0	1
288		min	-1.057	14	0	1	0	1
289	5	max	1.965	3	0	1	0	1
290		min	-1.056	14	0	1	0	1
291	M30	max	1.734	2	0	1	0	1
292		min	-1.192	15	0	1	0	1
293	2	max	1.735	2	0	1	0	1
294		min	-1.191	15	0	1	0	1
295	3	max	1.736	2	0	1	0	1
296		min	-1.19	15	0	1	0	1
297	4	max	1.737	2	0	1	0	1
298		min	-1.189	15	0	1	0	1
299	5	max	1.738	2	0	1	0	1
300		min	-1.188	15	0	1	0	1
301	M31	max	.545	7	0	12	0	1
302		min	-.473	6	-.001	8	0	1
303	2	max	.546	7	0	12	.001	8
304		min	-.472	6	0	8	0	12
305	3	max	.547	7	0	1	.002	8
306		min	-.471	6	0	1	0	12
307	4	max	.548	7	0	9	.001	8
308		min	-.47	6	0	13	0	12
309	5	max	.549	7	.001	9	0	1
310		min	-.469	6	0	13	0	1
311	M32	max	.497	7	0	12	0	1
312		min	-.398	6	0	8	0	1
313	2	max	.498	7	0	12	0	8
314		min	-.398	6	0	8	0	12
315	3	max	.498	7	0	1	0	8
316		min	-.397	6	0	1	0	12

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
317	4	max	.499	7	0	9	0	8
318		min	-.397	6	0	13	0	12
319	5	max	.5	7	0	9	0	1
320		min	-.396	6	0	13	0	1
321	M34	1	max	.446	11	0	13	0
322		min	-.598	10	0	9	0	1
323	2	max	.446	11	0	13	0	9
324		min	-.597	10	0	9	0	13
325	3	max	.446	11	0	1	0	9
326		min	-.597	10	0	1	0	13
327	4	max	.447	11	0	8	0	9
328		min	-.597	10	0	12	0	13
329	5	max	.447	11	0	8	0	1
330		min	-.596	10	0	12	0	1
331	M35	1	max	.446	11	0	13	0
332		min	-.598	10	0	8	0	1
333	2	max	.446	11	0	13	0	8
334		min	-.598	10	0	8	0	13
335	3	max	.446	11	0	1	0	8
336		min	-.597	10	0	1	0	13
337	4	max	.447	11	0	9	0	8
338		min	-.597	10	0	12	0	13
339	5	max	.447	11	0	9	0	1
340		min	-.597	10	0	12	0	1
341	M36	1	max	.482	11	0	12	0
342		min	-.596	10	0	8	0	1
343	2	max	.483	11	0	12	0	8
344		min	-.595	10	0	8	0	12
345	3	max	.483	11	0	1	.001	8
346		min	-.595	10	0	1	0	12
347	4	max	.483	11	0	9	0	8
348		min	-.595	10	0	13	0	12
349	5	max	.484	11	0	9	0	1
350		min	-.594	10	0	13	0	1
351	M37	1	max	.631	14	.575	15	.644
352		min	-.639	15	-.571	14	-.638	14
353	2	max	.631	14	.575	15	.483	15
354		min	-.639	15	-.571	14	-.479	14
355	3	max	.632	14	.575	15	.322	15
356		min	-.638	15	-.571	14	-.319	14
357	4	max	.632	14	.576	15	.161	15
358		min	-.638	15	-.57	14	-.159	14
359	5	max	.632	14	.576	15	0	1
360		min	-.638	15	-.57	14	0	1
361	M38	1	max	1.152	15	0	12	0
362		min	-1.158	14	0	9	0	1
363	2	max	1.152	15	0	12	0	9
364		min	-1.158	14	0	9	0	12
365	3	max	1.152	15	0	1	0	9
366		min	-1.158	14	0	1	0	12
367	4	max	1.152	15	0	8	0	9
368		min	-1.158	14	0	13	0	12
369	5	max	1.152	15	0	8	0	1
370		min	-1.158	14	0	13	0	1
371	M39	1	max	0	1	.3	14	0
372		min	0	1	-.3	15	0	1
373	2	max	.002	9	.3	14	-.319	15

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
374		min	.001	13	-.3	15	-.319	14
375	3	max	.004	9	.3	14	.638	15
376		min	.002	13	-.3	15	-.638	14
377	4	max	.006	9	.3	14	.957	15
378		min	.003	13	-.3	15	-.957	14
379	5	max	.009	9	.3	14	1.276	15
380		min	.004	13	-.3	15	-1.276	14
381	M244	1	max	.315	13	0	13	0
382		min	-.327	12	0	8	0	1
383	2	max	.316	13	0	13	0	8
384		min	-.327	12	0	8	0	13
385	3	max	.316	13	0	1	0	8
386		min	-.326	12	0	1	0	13
387	4	max	.316	13	0	9	0	8
388		min	-.326	12	0	12	0	13
389	5	max	.316	13	0	9	0	1
390		min	-.326	12	0	12	0	1
391	M63	1	max	1.764	1	0	1	0
392		min	.026	10	0	1	0	1
393	2	max	1.765	1	0	1	0	1
394		min	.026	10	0	1	0	1
395	3	max	1.765	1	0	1	0	1
396		min	.027	10	0	1	0	1
397	4	max	1.766	1	0	1	0	1
398		min	.027	10	0	1	0	1
399	5	max	1.767	1	0	1	0	1
400		min	.028	10	0	1	0	1
401	M64	1	max	0	3	-.002	5	0
402		min	-.001	2	-.134	6	0	1
403	2	max	0	3	-.002	5	.008	6
404		min	-.001	2	-.134	6	0	5
405	3	max	0	3	-.002	5	.017	6
406		min	-.001	2	-.134	6	0	5
407	4	max	0	3	-.002	5	.025	6
408		min	-.001	2	-.134	6	0	5
409	5	max	0	3	-.002	5	.034	6
410		min	-.001	2	-.134	6	0	5
411	M65	1	max	0	3	.027	15	0
412		min	0	2	-.019	14	0	1
413	2	max	0	3	.025	15	.027	14
414		min	0	2	-.021	14	-.035	15
415	3	max	.38	10	.019	7	.056	14
416		min	-.283	11	-.024	15	-.068	15
417	4	max	.38	10	.021	14	.027	14
418		min	-.283	11	-.025	15	-.035	15
419	5	max	.38	10	.019	14	0	1
420		min	-.283	11	-.027	15	0	1
421	M66	1	max	1.773	1	0	1	0
422		min	.075	12	0	1	0	1
423	2	max	1.774	1	0	1	0	1
424		min	-.076	12	0	1	0	1
425	3	max	1.775	1	0	1	0	1
426		min	.076	12	0	1	0	1
427	4	max	1.775	1	0	1	0	1
428		min	.076	12	0	1	0	1
429	5	max	1.776	1	0	1	0	1
430		min	.077	12	0	1	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
431	M67	1	max	1.747	1	0	0	1
432			min	-.847	14	0	0	1
433		2	max	1.748	1	0	0	1
434			min	-.846	14	0	0	1
435		3	max	1.749	1	0	0	1
436			min	-.846	14	0	0	1
437		4	max	1.75	1	0	0	1
438			min	-.845	14	0	0	1
439		5	max	1.75	1	0	0	1
440			min	-.844	14	0	0	1
441	M68	1	max	1.426	2	0	0	1
442			min	-1.045	15	0	0	1
443		2	max	1.426	2	0	0	1
444			min	-1.044	15	0	0	1
445		3	max	1.427	2	0	0	1
446			min	-1.043	15	0	0	1
447		4	max	1.428	2	0	0	1
448			min	-1.042	15	0	0	1
449		5	max	1.429	2	0	0	1
450			min	-1.041	15	0	0	1
451	M69	1	max	.047	15	.033	0	1
452			min	-.027	14	-.025	0	1
453		2	max	.047	15	.031	.035	14
454			min	-.027	14	-.027	-.043	15
455		3	max	.376	10	.028	.071	14
456			min	-.281	11	-.03	-.083	15
457		4	max	.376	10	.027	.035	14
458			min	-.281	11	-.031	-.043	15
459		5	max	.376	10	.025	0	1
460			min	-.281	11	-.033	0	1
461	M70	1	max	.623	7	0	0	1
462			min	-.415	2	-.001	0	1
463		2	max	.624	7	0	.001	9
464			min	-.414	2	0	0	12
465		3	max	.625	7	0	.002	9
466			min	-.413	2	0	0	12
467		4	max	.626	7	0	.001	9
468			min	-.412	2	0	0	12
469		5	max	.627	7	.001	0	1
470			min	-.411	2	0	0	1
471	M70A	1	max	.007	8	.464	-.004	12
472			min	-.007	9	.011	-.137	1
473		2	max	.018	8	.162	-.005	12
474			min	-.018	9	-.004	-.28	1
475		3	max	.03	8	-.002	0	12
476			min	-.03	9	-.141	-.285	1
477		4	max	.042	8	-.016	.011	12
478			min	-.042	9	-.443	-.151	1
479		5	max	.054	8	-.031	.121	1
480			min	-.054	9	-.746	-.005	13
481	M71	1	max	.054	8	-.031	.121	1
482			min	-.054	9	-.746	-.005	13
483		2	max	.057	8	-.035	.219	1
484			min	-.057	9	-.828	0	13
485		3	max	.061	8	.056	.328	1
486			min	-.061	9	-.911	.004	13
487		4	max	.064	8	.624	.245	1

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Company : Larson Engineering Inc
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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
488			min	-.064	9	.015	.001	13
489		5	max	.067	8	.542	.172	1
490			min	-.067	9	.011	0	13
491	M72	1	max	.067	8	.542	.172	1
492			min	-.067	9	.011	0	13
493		2	max	.078	8	.279	.013	12
494			min	-.078	9	-.002	-.002	13
495		3	max	.088	8	.023	.001	13
496			min	-.088	9	-.014	-.05	1
497		4	max	.098	8	.01	.009	13
498			min	-.098	9	-.247	-.005	12
499		5	max	.109	8	-.002	.146	1
500			min	-.109	9	-.51	-.007	12
501	M73	1	max	.109	8	-.002	.146	1
502			min	-.109	9	-.51	-.007	12
503		2	max	.112	8	-.006	.215	1
504			min	-.112	9	-.592	-.006	12
505		3	max	.154	11	.85	.294	1
506			min	-.17	10	.032	-.005	12
507		4	max	.154	11	.768	.193	1
508			min	-.17	10	.028	-.009	12
509		5	max	.154	11	.685	.102	1
510			min	-.17	10	.024	-.012	12
511	M74	1	max	.154	11	.685	.102	1
512			min	-.17	10	.024	-.012	12
513		2	max	.154	11	.411	.007	13
514			min	-.17	10	.011	-.125	1
515		3	max	.154	11	.136	-.002	13
516			min	-.17	10	-.003	-.238	1
517		4	max	.154	11	.002	-.006	13
518			min	-.17	10	-.138	-.238	1
519		5	max	.154	11	-.011	-.004	13
520			min	-.17	10	-.412	-.124	1
521	M75	1	max	.154	11	-.011	-.004	13
522			min	-.17	10	-.412	-.124	1
523		2	max	.154	11	-.013	-.003	13
524			min	-.17	10	-.454	-.097	1
525		3	max	.154	11	-.015	-.002	13
526			min	-.17	10	-.495	-.067	1
527		4	max	.154	11	-.017	-.001	13
528			min	-.17	10	-.536	-.035	1
529		5	max	.154	11	-.019	0	1
530			min	-.17	10	-.578	0	1
531	M76	1	max	.026	13	.717	-.01	12
532			min	-.03	12	.034	-.2	1
533		2	max	.012	13	.359	-.024	13
534			min	-.02	10	.017	-.492	1
535		3	max	.01	11	0	-.028	13
536			min	-.02	10	0	-.589	1
537		4	max	.014	8	-.017	-.024	13
538			min	-.02	10	-.359	-.492	1
539		5	max	.028	8	-.034	-.01	13
540			min	-.031	9	-.717	-.2	1
541	M77	1	max	.028	8	-.034	-.01	13
542			min	-.031	9	-.717	-.2	1
543		2	max	.03	8	-.036	-.007	13
544			min	-.033	9	-.759	-.154	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC	
545	3	max	.031	8	-.038	13	-.005	13	
546		min	-.035	9	-.8	1	-.105	1	
547	4	max	.033	8	-.04	13	-.003	13	
548		min	-.036	9	-.841	1	-.054	1	
549	5	max	.035	8	-.042	13	0	1	
550		min	-.038	9	-.883	1	0	1	
551	M78	1	max	.081	6	.721	1	-.01	13
552		min	-.088	7	.035	13	-.201	1	
553	2	max	.081	6	.362	1	-.024	13	
554		min	-.088	7	.017	13	-.494	1	
555	3	max	.081	6	.003	1	-.029	13	
556		min	-.088	7	0	13	-.594	1	
557	4	max	.081	6	-.017	12	-.024	13	
558		min	-.088	7	-.355	1	-.498	1	
559	5	max	.089	8	-.034	12	-.01	13	
560		min	-.091	9	-.714	1	-.208	1	
561	M79	1	max	.089	8	-.034	13	-.01	13
562		min	-.091	9	-.714	1	-.208	1	
563	2	max	.091	8	-.036	13	-.008	13	
564		min	-.093	9	-.757	1	-.16	1	
565	3	max	.092	8	-.038	13	-.005	13	
566		min	-.095	9	-.8	1	-.11	1	
567	4	max	.094	8	-.04	13	-.003	13	
568		min	-.096	9	-.843	1	-.056	1	
569	5	max	.096	8	-.042	13	0	1	
570		min	-.098	9	-.886	1	0	1	
571	M80	1	max	.058	9	.714	1	-.01	12
572		min	-.047	8	.034	13	-.199	1	
573	2	max	.056	7	.355	1	-.024	12	
574		min	-.033	8	.017	13	-.489	1	
575	3	max	.056	7	0	12	-.028	12	
576		min	-.03	6	-.003	1	-.585	1	
577	4	max	.056	7	-.017	12	-.023	12	
578		min	-.03	6	-.362	1	-.486	1	
579	5	max	.056	7	-.035	12	-.009	12	
580		min	-.03	6	-.721	1	-.192	1	
581	M81	1	max	.056	7	-.035	12	-.009	12
582		min	-.03	6	-.721	1	-.192	1	
583	2	max	.056	7	-.037	12	-.007	12	
584		min	-.03	6	-.76	1	-.148	1	
585	3	max	.056	7	-.038	12	-.005	12	
586		min	-.03	6	-.8	1	-.101	1	
587	4	max	.056	7	-.04	12	-.002	12	
588		min	-.03	6	-.84	1	-.052	1	
589	5	max	.056	7	-.042	12	0	1	
590		min	-.03	6	-.879	1	0	1	
591	M82	1	max	.055	2	.717	1	-.01	13
592		min	-.049	3	.034	13	-.2	1	
593	2	max	.055	2	.359	1	-.024	13	
594		min	-.049	3	.017	13	-.492	1	
595	3	max	.055	2	0	4	-.028	13	
596		min	-.049	3	0	5	-.589	1	
597	4	max	.055	2	-.017	12	-.024	13	
598		min	-.049	3	-.359	1	-.492	1	
599	5	max	.065	12	-.034	12	-.01	13	
600		min	-.061	13	-.717	1	-.2	1	
601	M83	1	max	.065	12	-.034	13	-.01	13

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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
602			min	-.061	13	-.717	1	-.2	1
603		2	max	.067	12	-.036	13	-.007	13
604			min	-.062	13	-.759	1	-.154	1
605		3	max	.069	12	-.038	13	-.005	13
606			min	-.064	13	-.8	1	-.105	1
607		4	max	.07	12	-.04	13	-.003	13
608			min	-.065	13	-.841	1	-.054	1
609		5	max	.072	12	-.042	13	0	1
610			min	-.067	13	-.883	1	0	1
611	M84	1	max	.135	10	.717	1	-.01	13
612			min	-.129	7	.034	13	-.2	1
613		2	max	.135	10	.359	1	-.024	13
614			min	-.129	7	.017	13	-.492	1
615		3	max	.135	10	0	4	-.028	13
616			min	-.129	7	0	5	-.589	1
617		4	max	.135	10	-.017	12	-.024	13
618			min	-.129	7	-.359	1	-.492	1
619		5	max	.135	10	-.034	12	-.01	13
620			min	-.129	7	-.717	1	-.2	1
621	M85	1	max	.135	10	-.034	13	-.01	13
622			min	-.129	7	-.717	1	-.2	1
623		2	max	.135	10	-.036	13	-.007	13
624			min	-.129	7	-.759	1	-.154	1
625		3	max	.135	10	-.038	13	-.005	13
626			min	-.129	7	-.8	1	-.105	1
627		4	max	.135	10	-.04	13	-.003	13
628			min	-.129	7	-.841	1	-.054	1
629		5	max	.135	10	-.042	13	0	1
630			min	-.129	7	-.883	1	0	1
631	M86	1	max	.155	15	.717	1	-.01	12
632			min	-.087	14	.034	13	-.2	1
633		2	max	.155	15	.359	1	-.024	12
634			min	-.087	14	.017	13	-.492	1
635		3	max	.155	15	0	4	-.028	12
636			min	-.087	14	0	5	-.589	1
637		4	max	.155	15	-.017	12	-.024	13
638			min	-.087	14	-.359	1	-.492	1
639		5	max	.155	15	-.034	12	-.01	13
640			min	-.087	14	-.717	1	-.2	1
641	M87	1	max	.155	15	-.035	13	-.01	13
642			min	-.087	14	-.718	1	-.2	1
643		2	max	.155	15	-.036	13	-.007	13
644			min	-.087	14	-.759	1	-.154	1
645		3	max	.155	15	-.038	13	-.005	13
646			min	-.087	14	-.8	1	-.105	1
647		4	max	.155	15	-.04	13	-.003	13
648			min	-.087	14	-.842	1	-.054	1
649		5	max	.155	15	-.042	13	0	1
650			min	-.087	14	-.883	1	0	1
651	M88	1	max	.129	10	.717	1	-.01	13
652			min	-.062	11	.034	13	-.2	1
653		2	max	.129	10	.359	1	-.024	13
654			min	-.062	11	.017	13	-.492	1
655		3	max	.129	10	0	4	-.028	13
656			min	-.062	11	0	5	-.589	1
657		4	max	.129	10	-.017	12	-.024	13
658			min	-.064	13	-.359	1	-.492	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC	
659	5	max	.129	10	-.034	12	-.01	13	
660		min	-.078	13	-.717	1	-.2	1	
661	M89	1	max	.129	10	-.034	13	-.01	
662		min	-.078	13	-.718	1	-.2	1	
663	2	max	.129	10	-.036	13	-.007	13	
664		min	-.08	13	-.759	1	-.154	1	
665	3	max	.129	10	-.038	13	-.005	13	
666		min	-.081	13	-.8	1	-.105	1	
667	4	max	.129	10	-.04	13	-.003	13	
668		min	-.083	13	-.842	1	-.054	1	
669	5	max	.129	10	-.042	13	0	1	
670		min	-.084	13	-.883	1	0	1	
671	M90	1	max	1.736	15	.717	1	-.01	
672		min	-1.747	14	.034	13	-.2	1	
673	2	max	1.736	15	.359	1	-.024	12	
674		min	-1.747	14	.017	13	-.492	1	
675	3	max	1.736	15	0	4	-.028	12	
676		min	-1.747	14	0	5	-.589	1	
677	4	max	1.736	15	-.017	12	-.024	12	
678		min	-1.747	14	-.359	1	-.492	1	
679	5	max	1.736	15	-.034	12	-.01	13	
680		min	-1.747	14	-.717	1	-.2	1	
681	M91	1	max	1.736	15	-.034	13	-.01	
682		min	-1.747	14	-.717	1	-.2	1	
683	2	max	1.736	15	-.036	13	-.007	13	
684		min	-1.747	14	-.758	1	-.154	1	
685	3	max	1.736	15	-.038	13	-.005	13	
686		min	-1.747	14	-.8	1	-.105	1	
687	4	max	1.736	15	-.04	13	-.003	13	
688		min	-1.747	14	-.841	1	-.054	1	
689	5	max	1.736	15	-.042	13	0	1	
690		min	-1.747	14	-.882	1	0	1	
691	M92	1	max	0	.407	10	.001	1	
692		min	-.001	2	-.005	1	-.102	10	
693	2	max	.157	7	.003	1	.002	1	
694		min	-.127	6	-.206	10	-.143	10	
695	3	max	.157	7	.002	1	.017	11	
696		min	-.127	6	-.207	10	-.031	10	
697	4	max	.157	7	.001	1	.081	10	
698		min	-.127	6	-.207	10	0	1	
699	5	max	.157	7	0	1	.193	10	
700		min	-.127	6	-.207	10	0	1	
701	M93	1	max	.157	7	0	.193	10	
702		min	-.127	6	-.208	10	0	1	
703	2	max	.157	7	0	1	.219	10	
704		min	-.127	6	-.208	10	0	1	
705	3	max	.157	7	.231	11	.245	10	
706		min	-.127	6	-.208	10	-.001	1	
707	4	max	.127	6	.231	11	.219	10	
708		min	-.157	7	0	1	0	1	
709	5	max	.127	6	.231	11	.194	10	
710		min	-.157	7	0	1	0	1	
711	M94	1	max	.127	6	.232	11	.194	10
712		min	-.157	7	0	1	0	1	
713	2	max	.127	6	.231	11	.081	10	
714		min	-.157	7	-.001	1	-.08	11	
715	3	max	.127	6	.231	11	0	2	

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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]		LC	Shear[k]		LC	Moment[k-ft]		LC
716			min	-.157		7	-.002		1	-.205		11
717		4	max	.127		6	.23		11	.002		1
718			min	-.157		7	-.003		1	-.33		11
719		5	max	.003		6	.005		1	.001		1
720			min	0		3	-.795		11	-.199		11
721	M95	1	max	.003		6	.005		1	.001		1
722			min	0		3	-.795		11	-.199		11
723		2	max	.003		6	.005		1	0		1
724			min	0		3	-.795		11	-.149		11
725		3	max	.003		6	.005		1	0		1
726			min	0		3	-.795		11	-.099		11
727		4	max	.003		6	.005		1	0		1
728			min	0		3	-.795		11	-.05		11
729		5	max	.003		6	.005		1	0		1
730			min	0		3	-.795		11	0		1
731	M96	1	max	0		3	-.002		5	.034		6
732			min	-.001		2	-.134		6	0		5
733		2	max	0		1	.194		14	.013		6
734			min	0		1	0		5	-.018		10
735		3	max	0		1	.193		14	.001		1
736			min	0		1	0		5	-.111		10
737		4	max	0		1	.193		14	.001		5
738			min	0		1	-.001		5	-.203		10
739		5	max	.227		11	.008		5	.105		15
740			min	-.31		10	-1.108		14	0		1
741	M97	1	max	.227		11	.008		5	.105		15
742			min	-.31		10	-1.108		14	0		1
743		2	max	.227		11	.007		5	.162		10
744			min	-.31		10	-1.108		14	-.001		1
745		3	max	.227		11	.007		5	.3		10
746			min	-.31		10	-1.108		14	-.002		1
747		4	max	.071		10	.374		15	.274		10
748			min	-.052		11	-.001		1	-.002		1
749		5	max	.071		10	.374		15	.248		10
750			min	-.052		11	-.001		1	-.002		1
751	M98	1	max	.071		10	.374		15	.248		10
752			min	-.052		11	-.001		1	-.002		1
753		2	max	.071		10	.374		15	.134		10
754			min	-.052		11	-.002		1	-.08		15
755		3	max	.071		10	.373		15	.021		10
756			min	-.052		11	-.002		1	-.283		15
757		4	max	.071		10	.372		15	.002		2
758			min	-.052		11	-.003		1	-.485		15
759		5	max	.004		15	.005		1	.001		1
760			min	0		5	-1.188		15	-.297		15
761	M99	1	max	.004		15	.005		1	.001		1
762			min	0		5	-1.188		15	-.297		15
763		2	max	.004		15	.005		1	0		1
764			min	0		5	-1.188		15	-.223		15
765		3	max	.004		15	.005		1	0		1
766			min	0		5	-1.188		15	-.148		15
767		4	max	.004		15	.005		1	0		1
768			min	0		5	-1.188		15	-.074		15
769		5	max	.004		15	.004		1	0		1
770			min	0		5	-1.188		15	0		1
771	M100	1	max	.008		11	.967		10	0		1
772			min	0		4	-.006		3	0		1

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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
773		2	max	.008	11	.967	10	0	3
774			min	0	4	-.006	3	-.06	10
775		3	max	.008	11	.967	10	0	3
776			min	0	4	-.006	3	-.121	10
777		4	max	.008	11	.967	10	.001	3
778			min	0	4	-.006	3	-.181	10
779		5	max	.008	11	.967	10	.001	3
780			min	0	4	-.006	3	-.242	10
781	M101	1	max	.615	11	.042	10	0	1
782			min	-.39	2	-.038	11	0	1
783		2	max	.615	11	.041	10	.075	11
784			min	-.39	2	-.039	11	-.081	10
785		3	max	.152	11	.099	11	0	14
786			min	-.108	1	-.099	10	-.006	6
787		4	max	.626	10	.04	10	.076	10
788			min	-.396	3	-.041	11	-.082	11
789		5	max	.626	10	.038	10	0	1
790			min	-.396	3	-.043	11	0	1
791	M102	1	max	.463	11	.048	10	0	1
792			min	-.372	2	-.044	11	0	1
793		2	max	.463	11	.046	10	.088	11
794			min	-.372	2	-.046	11	-.091	10
795		3	max	.123	6	.113	11	0	11
796			min	.022	14	-.114	10	-.005	2
797		4	max	.485	10	.046	10	.089	10
798			min	-.387	3	-.046	11	-.092	11
799		5	max	.485	10	.045	10	0	1
800			min	-.387	3	-.048	11	0	1
801	M103	1	max	.365	10	.416	1	0	1
802			min	-.409	3	-.003	11	0	1
803		2	max	.365	10	.393	1	0	11
804			min	-.409	3	-.006	11	-.025	1
805		3	max	.365	10	.371	1	0	11
806			min	-.409	3	-.008	11	-.049	1
807		4	max	.365	10	.348	1	.001	11
808			min	-.409	3	-.01	11	-.072	1
809		5	max	.365	10	.326	1	.002	11
810			min	-.409	3	-.012	11	-.093	1
811	M104	1	max	2.885	7	0	1	0	1
812			min	-.97	10	0	1	0	1
813		2	max	2.887	7	0	1	0	1
814			min	-.969	10	0	1	0	1
815		3	max	2.888	7	0	1	0	1
816			min	-.969	10	0	1	0	1
817		4	max	2.889	7	0	1	0	1
818			min	-.968	10	0	1	0	1
819		5	max	2.89	7	0	1	0	1
820			min	-.967	10	0	1	0	1
821	M105	1	max	1.839	2	0	1	0	1
822			min	-.73	11	0	1	0	1
823		2	max	1.84	2	0	1	0	1
824			min	-.729	11	0	1	0	1
825		3	max	1.841	2	0	1	0	1
826			min	-.729	11	0	1	0	1
827		4	max	1.842	2	0	1	0	1
828			min	-.728	11	0	1	0	1
829		5	max	1.843	2	0	1	0	1

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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
830			min	- .728	11	0	1	0	1
831	M106	1	max	1.804	3	0	1	0	1
832				min	- .7	10	0	1	0
833		2	max	1.805	3	0	1	0	1
834			min	- .7	10	0	1	0	1
835		3	max	1.805	3	0	1	0	1
836			min	- .699	10	0	1	0	1
837		4	max	1.806	3	0	1	0	1
838			min	- .699	10	0	1	0	1
839		5	max	1.807	3	0	1	0	1
840			min	- .698	10	0	1	0	1
841	M107	1	max	2.879	6	0	1	0	1
842				min	- .951	11	0	1	0
843		2	max	2.88	6	0	1	0	1
844			min	- .951	11	0	1	0	1
845		3	max	2.881	6	0	1	0	1
846			min	- .95	11	0	1	0	1
847		4	max	2.882	6	0	1	0	1
848			min	- .949	11	0	1	0	1
849		5	max	2.883	6	0	1	0	1
850			min	- .949	11	0	1	0	1
851	M108	1	max	2.474	3	0	1	0	1
852				min	- .826	10	0	1	0
853		2	max	2.475	3	0	1	0	1
854			min	- .825	10	0	1	0	1
855		3	max	2.476	3	0	1	0	1
856			min	- .825	10	0	1	0	1
857		4	max	2.477	3	0	1	0	1
858			min	- .824	10	0	1	0	1
859		5	max	2.478	3	0	1	0	1
860			min	- .823	10	0	1	0	1
861	M109	1	max	1.333	2	0	1	0	1
862				min	- .193	11	0	1	0
863		2	max	1.334	2	0	1	0	1
864			min	- .193	11	0	1	0	1
865		3	max	1.335	2	0	1	0	1
866			min	- .192	11	0	1	0	1
867		4	max	1.336	2	0	1	0	1
868			min	- .192	11	0	1	0	1
869		5	max	1.337	2	0	1	0	1
870			min	- .191	11	0	1	0	1
871	M110	1	max	1.311	1	0	1	0	1
872				min	- .124	10	0	1	0
873		2	max	1.312	1	0	1	0	1
874			min	- .123	10	0	1	0	1
875		3	max	1.313	1	0	1	0	1
876			min	- .122	10	0	1	0	1
877		4	max	1.313	1	0	1	0	1
878			min	- .122	10	0	1	0	1
879		5	max	1.314	1	0	1	0	1
880			min	- .121	10	0	1	0	1
881	M111	1	max	2.437	2	0	1	0	1
882				min	- .787	11	0	1	0
883		2	max	2.438	2	0	1	0	1
884			min	- .787	11	0	1	0	1
885		3	max	2.439	2	0	1	0	1
886			min	- .786	11	0	1	0	1

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Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
887	4	max	2.441	2	0	1	0	1
888		min	-785	11	0	1	0	1
889	5	max	2.442	2	0	1	0	1
890		min	-785	11	0	1	0	1
891	M112	1	max	2.214	3	0	1	0
892		min	-484	10	0	1	0	1
893	2	max	2.215	3	0	1	0	1
894		min	-484	10	0	1	0	1
895	3	max	2.216	3	0	1	0	1
896		min	-483	10	0	1	0	1
897	4	max	2.217	3	0	1	0	1
898		min	-482	10	0	1	0	1
899	5	max	2.218	3	0	1	0	1
900		min	-482	10	0	1	0	1
901	M113	1	max	.998	1	0	1	0
902		min	-.058	10	0	1	0	1
903	2	max	.999	1	0	1	0	1
904		min	-.057	10	0	1	0	1
905	3	max	1	1	0	1	0	1
906		min	-.057	10	0	1	0	1
907	4	max	1.001	1	0	1	0	1
908		min	-.056	10	0	1	0	1
909	5	max	1.002	1	0	1	0	1
910		min	-.056	10	0	1	0	1
911	M114	1	max	.987	1	0	1	0
912		min	-.063	11	0	1	0	1
913	2	max	.988	1	0	1	0	1
914		min	-.062	11	0	1	0	1
915	3	max	.989	1	0	1	0	1
916		min	-.062	11	0	1	0	1
917	4	max	.99	1	0	1	0	1
918		min	-.061	11	0	1	0	1
919	5	max	.991	1	0	1	0	1
920		min	-.061	11	0	1	0	1
921	M115	1	max	2.152	2	0	1	0
922		min	-408	11	0	1	0	1
923	2	max	2.153	2	0	1	0	1
924		min	-407	11	0	1	0	1
925	3	max	2.154	2	0	1	0	1
926		min	-406	11	0	1	0	1
927	4	max	2.155	2	0	1	0	1
928		min	-406	11	0	1	0	1
929	5	max	2.156	2	0	1	0	1
930		min	-405	11	0	1	0	1
931	M116	1	max	.701	2	.001	8	0
932		min	-1.107	11	0	12	0	1
933	2	max	.702	2	0	8	0	12
934		min	-1.107	11	0	12	-.001	8
935	3	max	.703	2	0	1	0	12
936		min	-1.106	11	0	1	-.002	8
937	4	max	.704	2	0	13	0	12
938		min	-1.106	11	0	9	-.001	8
939	5	max	.704	2	0	13	0	1
940		min	-1.105	11	-.001	9	0	1
941	M117	1	max	.717	3	0	12	0
942		min	-1.137	10	-.001	9	0	1
943	2	max	.718	3	0	12	.001	9

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Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
944		min	-1.137	10	0	9	0	12
945	3	max	.719	3	0	1	.002	9
946		min	-1.136	10	0	1	0	12
947	4	max	.72	3	0	8	.001	9
948		min	-1.136	10	0	13	0	12
949	5	max	.721	3	.001	8	0	1
950		min	-1.135	10	0	13	0	1
951	M118	1	max	.658	2	.001	8	0
952		min	-.822	11	0	13	0	1
953	2	max	.659	2	0	8	0	13
954		min	-.822	11	0	13	-.001	8
955	3	max	.66	2	0	1	0	13
956		min	-.821	11	0	1	-.002	8
957	4	max	.661	2	0	12	0	13
958		min	-.821	11	0	9	-.001	8
959	5	max	.662	2	0	12	0	1
960		min	-.82	11	-.001	9	0	1
961	M119	1	max	.691	3	0	13	0
962		min	-.869	10	-.001	8	0	1
963	2	max	.692	3	0	13	.001	8
964		min	-.869	10	0	8	0	13
965	3	max	.693	3	0	1	.002	8
966		min	-.868	10	0	1	0	13
967	4	max	.694	3	0	9	.001	8
968		min	-.868	10	0	12	0	13
969	5	max	.695	3	.001	9	0	1
970		min	-.867	10	0	12	0	1
971	M120	1	max	.81	2	.001	9	0
972		min	-.752	11	0	13	0	1
973	2	max	.811	2	0	9	0	13
974		min	-.752	11	0	13	-.001	9
975	3	max	.812	2	0	1	0	13
976		min	-.751	11	0	1	-.002	9
977	4	max	.813	2	0	12	0	13
978		min	-.751	11	0	8	-.001	9
979	5	max	.813	2	0	12	0	1
980		min	-.75	11	-.001	8	0	1
981	M121	1	max	.741	3	0	12	0
982		min	-.661	10	-.001	9	0	1
983	2	max	.742	3	0	12	.001	9
984		min	-.66	10	0	9	0	12
985	3	max	.743	3	0	1	.002	9
986		min	-.66	10	0	1	0	12
987	4	max	.744	3	0	8	.001	9
988		min	-.659	10	0	13	0	12
989	5	max	.745	3	.001	8	0	1
990		min	-.659	10	0	13	0	1
991	M122	1	max	.365	10	.327	1	.002
992		min	-.409	3	-.013	11	-.093	1
993	2	max	.365	10	.121	1	.015	11
994		min	-.409	3	-.034	11	-.221	1
995	3	max	.365	10	.038	10	.041	11
996		min	-.409	3	-.088	3	-.231	1
997	4	max	.365	10	.017	10	.078	11
998		min	-.409	3	-.293	1	-.137	2
999	5	max	.365	10	-.004	10	.133	3
1000		min	-.409	3	-.499	1	-.108	10

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Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1001	M123	1	max	.365	10	-.006	.133	3
1002			min	-.409	3	-.498	-.108	10
1003		2	max	.365	10	-.01	.187	3
1004			min	-.409	3	-.544	-.107	10
1005		3	max	.365	10	-.178	.246	3
1006			min	-.411	3	-.589	-.106	10
1007		4	max	.365	10	.364	.201	3
1008			min	-.411	3	-.077	-.096	10
1009		5	max	.365	10	.319	.161	3
1010			min	-.411	3	-.082	-.086	10
1011	M124	1	max	.365	10	.318	.161	3
1012			min	-.411	3	-.083	-.086	10
1013		2	max	.365	10	.176	.057	3
1014			min	-.411	3	-.099	-.047	10
1015		3	max	.365	10	.115	.009	1
1016			min	-.411	3	-.115	0	10
1017		4	max	.365	10	.099	.055	2
1018			min	-.411	3	-.173	-.046	11
1019		5	max	.365	10	.083	.158	2
1020			min	-.411	3	-.313	-.086	11
1021	M125	1	max	.365	10	.083	.158	2
1022			min	-.411	3	-.314	-.086	11
1023		2	max	.365	10	.078	.197	2
1024			min	-.411	3	-.359	-.096	11
1025		3	max	.366	10	.582	.241	2
1026			min	-.412	3	-.177	-.105	11
1027		4	max	.366	10	.537	.183	2
1028			min	-.412	3	.007	-.106	11
1029		5	max	.366	10	.492	.13	2
1030			min	-.412	3	.002	-.107	11
1031	M126	1	max	.366	10	.493	.13	2
1032			min	-.412	3	.003	-.107	11
1033		2	max	.366	10	.286	.078	10
1034			min	-.412	3	-.018	-.136	3
1035		3	max	.366	10	.083	.04	10
1036			min	-.412	3	-.039	-.227	1
1037		4	max	.366	10	.034	.015	10
1038			min	-.412	3	-.127	-.214	1
1039		5	max	.366	10	.013	.002	10
1040			min	-.412	3	-.334	-.082	1
1041	M127	1	max	.366	10	.013	.002	10
1042			min	-.412	3	-.332	-.082	1
1043		2	max	.366	10	.011	.001	10
1044			min	-.412	3	-.352	-.063	1
1045		3	max	.366	10	.009	0	10
1046			min	-.412	3	-.372	-.043	1
1047		4	max	.366	10	.007	0	10
1048			min	-.412	3	-.392	-.022	1
1049		5	max	.366	10	.005	0	1
1050			min	-.412	3	-.412	0	1
1051	M128	1	max	.008	11	.967	.001	3
1052			min	0	4	-.006	-.242	10
1053		2	max	.111	11	.003	.002	3
1054			min	-.069	2	-.288	-.391	10
1055		3	max	.111	11	.003	.028	11
1056			min	-.069	2	-.288	-.226	10
1057		4	max	.111	11	.002	-.155	11

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1058			min	-.069	2	-.288	-.061	10
1059		5	max	.111	11	.001	.283	11
1060			min	-.069	2	-.289	-.002	4
1061	M129	1	max	.111	11	.001	.283	11
1062			min	-.069	2	-.289	-.002	4
1063		2	max	.111	11	.001	.311	11
1064			min	-.069	2	-.289	-.002	1
1065		3	max	.317	2	1.419	.338	11
1066			min	-.507	11	-.289	-.002	1
1067		4	max	.317	2	1.419	.161	11
1068			min	-.507	11	-.01	-.001	1
1069		5	max	.317	2	1.419	.137	10
1070			min	-.507	11	-.01	-.016	11
1071	M130	1	max	.317	2	1.419	.137	10
1072			min	-.507	11	-.01	-.016	11
1073		2	max	0	1	.373	.028	10
1074			min	0	1	-.376	-.301	11
1075		3	max	0	1	.373	.002	1
1076			min	0	1	-.376	-.136	11
1077		4	max	0	1	.373	.029	11
1078			min	0	1	-.377	-.298	10
1079		5	max	.322	3	.01	.136	11
1080			min	-.516	10	-1.414	-.014	10
1081	M131	1	max	.322	3	.01	.136	11
1082			min	-.516	10	-1.414	-.014	10
1083		2	max	.322	3	.01	.162	10
1084			min	-.516	10	-1.414	-.001	1
1085		3	max	.322	3	.287	.339	10
1086			min	-.516	10	-1.414	-.002	1
1087		4	max	.114	10	.287	.311	10
1088			min	-.071	3	-.001	-.002	1
1089		5	max	.114	10	.286	.283	10
1090			min	-.071	3	-.001	-.002	5
1091	M132	1	max	.114	10	.287	.283	10
1092			min	-.071	3	-.001	-.002	5
1093		2	max	.114	10	.286	.153	10
1094			min	-.071	3	-.002	-.063	11
1095		3	max	.114	10	.286	.024	10
1096			min	-.071	3	-.003	-.227	11
1097		4	max	.114	10	.285	.002	2
1098			min	-.071	3	-.003	-.391	11
1099		5	max	.008	10	.006	.001	2
1100			min	0	5	-.948	-.209	11
1101	M133	1	max	.008	10	.006	.001	2
1102			min	0	5	-.948	-.209	11
1103		2	max	.008	10	.006	0	2
1104			min	0	5	-.948	-.157	11
1105		3	max	.008	10	.006	0	2
1106			min	0	5	-.949	-.104	11
1107		4	max	.008	10	.006	0	2
1108			min	0	5	-.949	-.052	11
1109		5	max	.008	10	.006	0	1
1110			min	0	5	-.949	0	1
1111	M134	1	max	.18	10	.001	8	0
1112			min	-.117	11	0	13	0
1113		2	max	.18	10	0	8	0
1114			min	-.117	11	0	13	0

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1115	3	max	.18	10	0	1	0	13
1116		min	-.117	11	0	1	0	8
1117	4	max	.18	10	0	12	0	13
1118		min	-.117	11	0	9	0	8
1119	5	max	.18	10	0	12	0	1
1120		min	-.117	11	-.001	9	0	1
1121	M135	1	max	1.876	14	.029	15	0
1122		min	-1.864	15	-.03	14	0	1
1123	2	max	1.876	14	.029	15	.002	14
1124		min	-1.864	15	-.03	14	-.002	15
1125	3	max	1.876	14	.029	15	.004	14
1126		min	-1.864	15	-.03	14	-.004	15
1127	4	max	1.876	14	.029	15	.006	14
1128		min	-1.864	15	-.03	14	-.005	15
1129	5	max	1.876	14	.029	15	.008	14
1130		min	-1.864	15	-.03	14	-.007	15
1131	M136	1	max	.009	8	.3	14	1.276
1132		min	.004	12	-.3	15	-.1276	14
1133	2	max	.01	9	.852	15	1.334	15
1134		min	-.012	15	-.858	14	-1.334	14
1135	3	max	.01	9	.852	15	1.104	15
1136		min	-.012	15	-.858	14	-1.102	14
1137	4	max	.011	9	.852	15	.874	15
1138		min	-.011	15	-.858	14	-.87	14
1139	5	max	.011	9	.852	15	.644	15
1140		min	-.011	15	-.858	14	-.638	14
1141	M137	1	max	.898	1	1.436	15	.278
1142		min	.051	13	-1.447	14	-.277	14
1143	2	max	.899	1	1.436	15	.098	15
1144		min	.051	13	-1.447	14	-.096	14
1145	3	max	1.176	14	1.436	15	.084	14
1146		min	-.906	15	-1.447	14	-.081	15
1147	4	max	1.177	14	.019	14	.082	14
1148		min	-.906	15	-.024	15	-.078	15
1149	5	max	1.177	14	.019	14	.08	14
1150		min	-.905	15	-.024	15	-.075	15
1151	M138	1	max	1.177	14	.022	14	.08
1152		min	-.905	15	-.021	15	-.075	15
1153	2	max	1.178	14	.022	14	.062	14
1154		min	-.904	15	-.021	15	-.058	15
1155	3	max	1.179	14	.022	14	.044	14
1156		min	-.903	15	-.021	15	-.041	15
1157	4	max	1.18	14	.022	14	.026	14
1158		min	-.902	15	-.021	15	-.024	15
1159	5	max	1.181	14	.022	14	.008	14
1160		min	-.901	15	-.021	15	-.007	15
1161	M139	1	max	1.181	14	.024	14	.008
1162		min	-.901	15	-.02	15	-.007	15
1163	2	max	1.181	14	.024	14	.006	14
1164		min	-.901	15	-.02	15	-.005	15
1165	3	max	1.182	14	.024	14	.004	14
1166		min	-.901	15	-.02	15	-.003	15
1167	4	max	1.182	14	.024	14	.002	14
1168		min	-.9	15	-.02	15	-.002	15
1169	5	max	1.182	14	.024	14	0	1
1170		min	-.9	15	-.02	15	0	1
1171	M140	1	max	1.877	14	.007	14	.008

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Company : Larson Engineering Inc
 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

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 7:45 AM
 Checked By: _____

Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1172		min	-1.864	15	-.005	15	-.007	15
1173	2	max	1.877	14	.007	14	.003	14
1174		min	-1.864	15	-.006	15	-.004	15
1175	3	max	1.877	14	.007	14	0	13
1176		min	-1.864	15	-.006	15	0	14
1177	4	max	1.877	14	.006	14	.003	15
1178		min	-1.864	15	-.006	15	-.005	14
1179	5	max	1.877	14	.006	14	.007	15
1180		min	-1.864	15	-.007	15	-.008	14
1181	M141	1	max	1.877	14	.028	15	.007
1182		min	-1.864	15	-.033	14	-.008	14
1183	2	max	1.877	14	.028	15	.005	15
1184		min	-1.864	15	-.033	14	-.006	14
1185	3	max	1.877	14	.028	15	.004	15
1186		min	-1.864	15	-.033	14	-.004	14
1187	4	max	1.877	14	.028	15	.002	15
1188		min	-1.864	15	-.033	14	-.002	14
1189	5	max	1.877	14	.028	15	0	1
1190		min	-1.864	15	-.033	14	0	1

Envelope AA ADM1-15: ASD - Building Aluminum Code Checks

	Member	Shape	Code	Ch...	Loc[ft]	LC	Shear	Ch...	Loc[ft]	LC	Pnc/Om[k]	Pnt/Om[k]	Mn/Om[k]	Vn/Om[k]	Cb	Eqn
1	M1	L3X2X0.188	.191	3.914	13	.041	4.42	13	2.68	8.273	.356	3.076	1	H.1-1		
2	M2	L3X2X0.188	.527	4.848	11	.118	5.35	11	1.874	8.273	.356	3.076	1	H.1-1		
3	M3	L3X2X0.188	.286	.25	10	.132	0	10	7.077	8.273	.356	3.076	1	H.1-1		
4	M4	L3X2X0.188	.443	2.67	10	.025	2.67	10	1.881	8.273	.394	3.076	1	H.1-1		
5	M5	L3X2X0.188	.347	.25	1	.205	0	1	7.077	8.273	.394	3.076	1	H.1-1		
6	M6	L3X2X0.188	.508	.25	1	.287	0	1	7.077	8.273	.394	3.076	1	H.1-1		
7	M7	L3X2X0.188	.510	.25	1	.288	0	1	7.077	8.273	.394	3.076	1	H.1-1		
8	M8	L3X2X0.188	.506	.25	1	.286	0	1	7.077	8.273	.394	3.076	1	H.1-1		
9	M9	L3X2X0.188	.508	.25	1	.287	0	1	7.077	8.273	.394	3.076	1	H.1-1		
10	M10	L3X2X0.188	.508	.25	1	.287	0	1	7.077	8.273	.394	3.076	1	H.1-1		
11	M11	L3X2X0.188	.508	.25	1	.287	0	1	7.077	8.273	.394	3.076	1	H.1-1		
12	M12	L3X2X0.188	.508	.25	1	.287	0	1	7.077	8.273	.394	3.076	1	H.1-1		
13	M13	L3X2X0.188	.508	.25	1	.287	0	1	7.077	8.273	.394	3.076	1	H.1-1		
14	M14	L2X2X0.188	.137	2.125	1	.000	0	1	4.618	6.573	.196	2.051	1	H.1-1		
15	M15	L2X2X0.188	.351	2.125	1	.000	0	1	4.618	6.573	.196	2.051	1	H.1-1		
16	M16	L3X2X0.188	.297	2.125	1	.000	0	1	5.167	8.273	.356	3.076	1	H.1-1		
17	M17	L2X2X0.188	.636	1.163	2	.062	1.129	10	3.18	6.573	.196	2.051	1	H.1-1		
18	M18	L2X2X0.188	.945	1.207	1	.043	0	7	1.896	6.573	.196	2.051	1	H.1-1		
19	M19	L3X2X0.188	.794	1.172	2	.052	1.113	7	2.635	8.273	.394	3.076	1	H.1-1		
20	M20	L2X2X0.188	.643	3.535	1	.031	1.142	7	2.887	6.573	.196	2.051	1	H.1-1		
21	M21	L3X2X0.188	.804	1.176	3	.044	0	10	2.384	8.273	.356	3.076	1	H.1-1		
22	M22	L3X2X0.188	.842	1.224	2	.051	0	15	2.382	8.273	.394	3.076	1	H.1-1		
23	M23	L2X2X0.188	.788	1.183	1	.063	0	10	2.6	6.573	.183	2.051	1	H.1-1		
24	M24	L3X2X0.188	.838	1.187	1	.018	0	6	2.165	8.273	.394	3.076	1	H.1-1		
25	M25	L3X2X0.25	.893	1.176	15	.152	1.916	14	16.56	23.19	1.081	9.545	1	H.1-1		
26	M26	L2X2X0.188	.566	3.25	1	.000	0	1	3.221	6.573	.196	2.051	1	H.1-1		
27	M27	L3X2X0.188	.495	3.25	2	.000	0	1	4.075	8.273	.356	3.076	1	H.1-1		
28	M28	L2X2X0.188	.553	3.25	1	.000	0	1	3.221	6.573	.196	2.051	1	H.1-1		
29	M29	L2X2X0.188	.610	3.25	3	.000	0	1	3.221	6.573	.196	2.051	1	H.1-1		
30	M30	L3X2X0.188	.426	3.25	2	.000	0	1	4.075	8.273	.356	3.076	1	H.1-1		
31	M31	L2X2X0.188	.401	2.816	7	.001	0	8	1.392	6.573	.183	2.051	1	H.1-1		
32	M32	L1.5x1.5x.1...	.554	2.234	7	.001	0	8	.915	4.794	.103	1.534	1	H.1-1		
33	M34	L1.5x1.5x.1...	.494	2.234	7	.001	0	9	.915	4.794	.103	1.534	1	H.1-1		

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Company : Larson Engineering Inc
 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

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Envelope AA ADM1-15: ASD - Building Aluminum Code Checks (Continued)

	Member	Shape	Code Ch...	Loc(ft)	LC	Shear Ch...	Loc(ft)	LC	Pnc/Om(k)	Pnt/Om(k)	Mn/Om(k)	Vn/Om(k)	Cb	Eqn
34	M35	L1.5x1.5x.1....	.494	2.234	7	.001	0	8	.915	4.794	.103	1.534	1	H.1-1
35	M36	L1.5x1.5x.1....	.649	2.509	7	.001	0	8	.754	4.794	.103	1.534	1	H.1-1
36	M37	USC4X1.85	.488	0	15	.147	1.119	15	13.493	14.273	1.451	3.927	1....	H.1-1
37	M38	L2X2X0.188	.220	.415	15	.000	0	9	5.252	6.573	.183	2.051	1	H.1-1
38	M39	USC4X1.85	.386	4.25	15	.033	0	15	6.318	30.595	3.303	9.164	1....	H.1-1
39	M244	L1.5x1.5x.1....	.178	1.552	9	.000	0	8	1.817	4.794	.103	1.534	1	H.1-1
40	M63	L2X2X0.188	.549	3.25	1	.000	0	1	3.221	6.573	.196	2.051	1	H.1-1
41	M64	L3X2X0.188	.085	.25	6	.044	.25	6	7.077	8.273	.394	3.076	1	H.1-1
42	M65	L3X2X0.188	.330	2.67	10	.009	5.34	15	1.881	8.273	.394	3.076	1	H.1-1
43	M66	L2X2X0.188	.551	3.25	1	.000	0	1	3.221	6.573	.196	2.051	1	H.1-1
44	M67	L2X2X0.188	.543	3.25	1	.000	0	1	3.221	6.573	.196	2.051	1	H.1-1
45	M68	L3X2X0.188	.351	3.25	2	.000	0	1	4.075	8.273	.356	3.076	1	H.1-1
46	M69	L3X2X0.188	.353	2.67	10	.011	5.34	15	1.881	8.273	.394	3.076	1	H.1-1
47	M70	L2X2X0.188	.495	2.93	7	.001	5.41	8	1.286	6.573	.183	2.051	1	H.1-1
48	M70A	L3X2X0.188	.326	.705	1	.104	1.83	1	8.141	17.733	.919	7.142	1	H.1-1
49	M71	L3X2X0.188	.976	.25	1	.296	.25	1	6.197	8.273	.356	3.076	1	H.3-2
50	M72	L3X2X0.188	.271	0	1	.076	0	1	8.667	17.733	.634	7.142	1	H.1-1
51	M73	L3X2X0.188	.828	.25	1	.276	.25	1	6.197	8.273	.356	3.076	1	H.1-1
52	M74	L3X2X0.188	.275	1.038	1	.096	0	1	8.518	17.733	.919	7.142	1	H.1-1
53	M75	L3X2X0.188	.314	0	1	.188	.25	1	7.077	8.273	.394	3.076	1	H.1-1
54	M76	L3X2X0.188	.641	1.085	1	.100	0	1	7.302	17.733	.919	7.142	1	H.1-1
55	M77	L3X2X0.188	.508	0	1	.287	.25	1	7.077	8.273	.394	3.076	1	H.1-1
56	M78	L3X2X0.188	.646	1.085	1	.101	0	1	7.302	17.733	.919	7.142	1	H.1-1
57	M79	L3X2X0.188	.528	0	1	.288	.26	1	7.019	8.273	.394	3.076	1	H.1-1
58	M80	L3X2X0.188	.636	1.085	1	.101	2.17	1	7.302	17.733	.919	7.142	1	H.1-1
59	M81	L3X2X0.188	.488	0	1	.286	.24	1	7.138	8.273	.394	3.076	1	H.1-1
60	M82	L3X2X0.188	.641	1.085	1	.100	0	1	7.302	17.733	.919	7.142	1	H.1-1
61	M83	L3X2X0.188	.508	0	1	.287	.25	1	7.077	8.273	.394	3.076	1	H.1-1
62	M84	L3X2X0.188	.641	1.085	1	.100	2.17	1	7.302	17.733	.919	7.142	1	H.1-1
63	M85	L3X2X0.188	.508	0	1	.287	.25	1	7.077	8.273	.394	3.076	1	H.1-1
64	M86	L3X2X0.188	.641	1.085	1	.100	0	1	7.302	17.733	.919	7.142	1	H.1-1
65	M87	L3X2X0.188	.508	0	1	.287	.25	1	7.077	8.273	.394	3.076	1	H.1-1
66	M88	L3X2X0.188	.641	1.085	1	.100	0	1	7.302	17.733	.919	7.142	1	H.1-1
67	M89	L3X2X0.188	.508	0	1	.287	.25	1	7.077	8.273	.394	3.076	1	H.1-1
68	M90	L3X2X0.188	.641	1.085	1	.100	0	1	7.302	17.733	.919	7.142	1	H.1-1
69	M91	L3X2X0.188	.508	0	1	.287	.25	1	7.077	8.273	.394	3.076	1	H.1-1
70	M92	L3X2X0.188	.320	.249	10	.057	0	10	7.302	17.733	.634	7.142	1	H.1-1
71	M93	L3X2X0.188	.640	.255	10	.075	.25	11	6.197	8.273	.394	3.076	1	H.1-1
72	M94	L3X2X0.188	.625	1.921	11	.111	2.17	11	7.302	17.733	.634	7.142	1	H.1-1
73	M95	L3X2X0.188	.559	0	11	.259	.25	11	7.077	8.273	.356	3.076	1	H.1-1
74	M96	L3X2X0.188	.416	1.921	14	.155	2.17	14	7.302	17.733	.634	7.142	1	H.1-1
75	M97	L3X2X0.188	.799	.25	10	.360	.25	14	6.197	8.273	.394	3.076	1	H.1-1
76	M98	L3X2X0.188	.934	1.921	15	.166	2.17	15	7.302	17.733	.634	7.142	1	H.1-1
77	M99	L3X2X0.188	.912	0	15	.386	.25	15	7.077	8.273	.356	3.076	1	H.3-2
78	M100	L3X2X0.188	.680	.25	10	.314	0	10	7.077	8.273	.356	3.076	1	H.1-1
79	M101	L3X2X0.188	.959	5.119	10	.033	5.038	10	.905	8.273	.394	3.076	1	H.1-1
80	M102	L3X2X0.188	.848	5.119	10	.037	5.038	10	.905	8.273	.394	3.076	1	H.1-1
81	M103	L3X2X0.188	.261	.25	1	.135	0	1	7.077	8.273	.394	3.076	1	H.1-1
82	M104	L3X2X0.188	.978	4.19	7	.000	0	1	2.955	8.273	.356	3.076	1	H.1-1
83	M105	L2X2X0.188	.857	4.19	2	.000	0	1	2.149	6.573	.196	2.051	1	H.1-1
84	M106	L2X2X0.188	.841	4.19	3	.000	0	1	2.149	6.573	.196	2.051	1	H.1-1
85	M107	L3X2X0.188	.976	4.19	6	.000	0	1	2.955	8.273	.356	3.076	1	H.1-1
86	M108	L3X2X0.188	.809	4.1	3	.000	0	1	3.063	8.273	.356	3.076	1	H.1-1
87	M109	L2X2X0.188	.595	4.1	2	.000	0	1	2.248	6.573	.196	2.051	1	H.3-2
88	M110	L2X2X0.188	.585	4.1	1	.000	0	1	2.248	6.573	.196	2.051	1	H.1-1
89	M111	L3X2X0.188	.797	4.1	2	.000	0	1	3.063	8.273	.356	3.076	1	H.1-1
90	M112	L3X2X0.188	.724	4.1	3	.000	0	1	3.063	8.273	.356	3.076	1	H.1-1

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 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

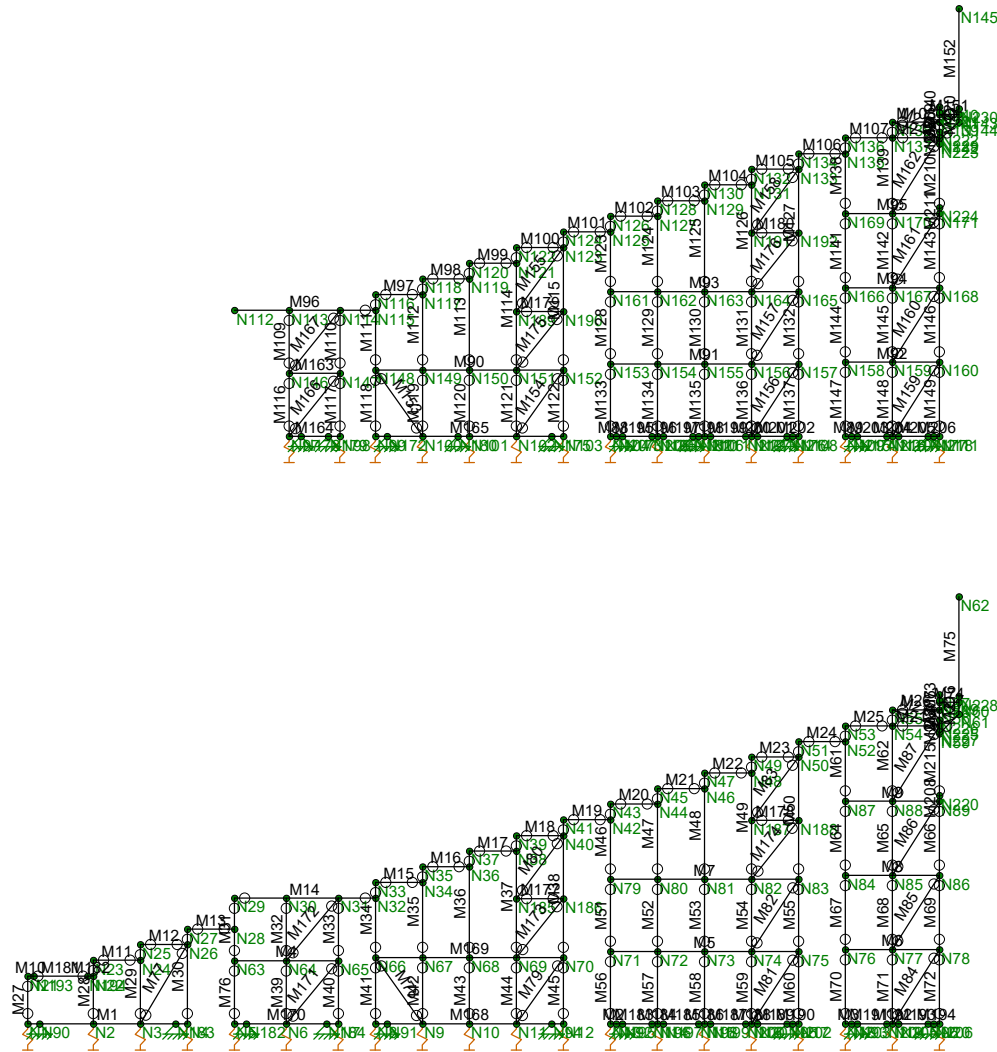
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Envelope AA ADM1-15: ASD - Building Aluminum Code Checks (Continued)

	Member	Shape	Code Ch...	Loc(ft)	LC	Shear Ch...	Loc(ft)	LC	Pnc/Om(k)	Pnt/Om(k)	Mn/Om(k)	Vn/Om(k)	Cb	Eqn
91	M113	L2X2X0.188	.446	4.1	1	.000	0	1	2.248	6.573	.196	2.051	1	H.1-1
92	M114	L2X2X0.188	.441	4.1	1	.000	0	1	2.248	6.573	.196	2.051	1	H.1-1
93	M115	L3X2X0.188	.704	4.1	2	.000	0	1	3.063	8.273	.356	3.076	1	H.1-1
94	M116	L2X2X0.188	.481	2.727	2	.001	0	8	1.485	6.573	.196	2.051	1	H.1-1
95	M117	L2X2X0.188	.489	2.718	3	.001	5.017	8	1.495	6.573	.183	2.051	1	H.1-1
96	M118	L2X2X0.188	.439	2.686	2	.001	4.959	9	1.53	6.573	.196	2.051	1	H.1-1
97	M119	L2X2X0.188	.458	2.626	3	.001	0	8	1.54	6.573	.183	2.051	1	H.1-1
98	M120	L2X2X0.188	.538	2.686	2	.001	4.959	8	1.53	6.573	.196	2.051	1	H.1-1
99	M121	L2X2X0.188	.490	2.626	3	.001	0	9	1.54	6.573	.183	2.051	1	H.1-1
100	M122	L3X2X0.188	.274	.906	1	.070	2.29	1	6.983	17.733	.919	7.142	1	H.1-1
101	M123	L3X2X0.188	.741	.25	3	.191	.25	1	6.197	8.273	.356	3.076	1	H.1-1
102	M124	L3X2X0.188	.277	0	3	.045	0	1	8.322	17.733	.634	7.142	1	H.1-1
103	M125	L3X2X0.188	.697	.25	2	.189	.25	1	6.197	8.273	.356	3.076	1	H.1-1
104	M126	L3X2X0.188	.269	1.36	1	.069	0	1	6.983	17.733	.919	7.142	1	H.1-1
105	M127	L3X2X0.188	.234	0	1	.134	.22	1	7.268	8.273	.394	3.076	1	H.1-1
106	M128	L3X2X0.188	.757	.262	10	.135	0	10	6.983	17.733	.634	7.142	1	H.1-1
107	M129	L3X2X0.188	.920	.25	11	.461	.25	11	6.197	8.273	.394	3.076	1	H.1-1
108	M130	L3X2X0.188	.584	.237	11	.199	0	11	8.322	17.733	.634	7.142	1	H.1-1
109	M131	L3X2X0.188	.923	.25	10	.460	.25	10	6.197	8.273	.394	3.076	1	H.1-1
110	M132	L3X2X0.188	.745	2.004	11	.133	2.29	11	6.983	17.733	.634	7.142	1	H.1-1
111	M133	L3X2X0.188	.587	0	11	.308	.22	11	7.268	8.273	.356	3.076	1	H.1-1
112	M134	L2X2X0.188	.049	1.335	6	.001	0	8	3.926	6.573	.196	2.051	1	H.1-1
113	M135	L1.5x1.5x.1...	.497	.25	14	.020	.25	14	4.433	4.794	.103	1.534	1	H.1-1
114	M136	USC4X1.85	.931	.248	15	.219	.259	14	13.594	14.273	1.451	3.927	1....	H.1-1
115	M137	L3X2X0.25	.548	0	14	.354	0	14	9.146	10.818	.516	4.091	1	H.1-1
116	M138	L3X2X0.25	.251	0	14	.002	0	14	6.653	23.19	1.081	9.545	1	H.1-1
117	M139	L3X2X0.25	.138	0	14	.006	0	14	9.618	10.818	.528	4.091	1	H.1-1
118	M140	L1.5x1.5x.1...	.707	2.41	14	.002	0	14	2.787	10.276	.253	3.58	1	H.1-1
119	M141	L1.5x1.5x.1...	.497	0	14	.021	.255	14	4.425	4.794	.114	1.534	1	H.1-1

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Larson Engineering Inc

MK

21210330.000

Hamlin Middle School

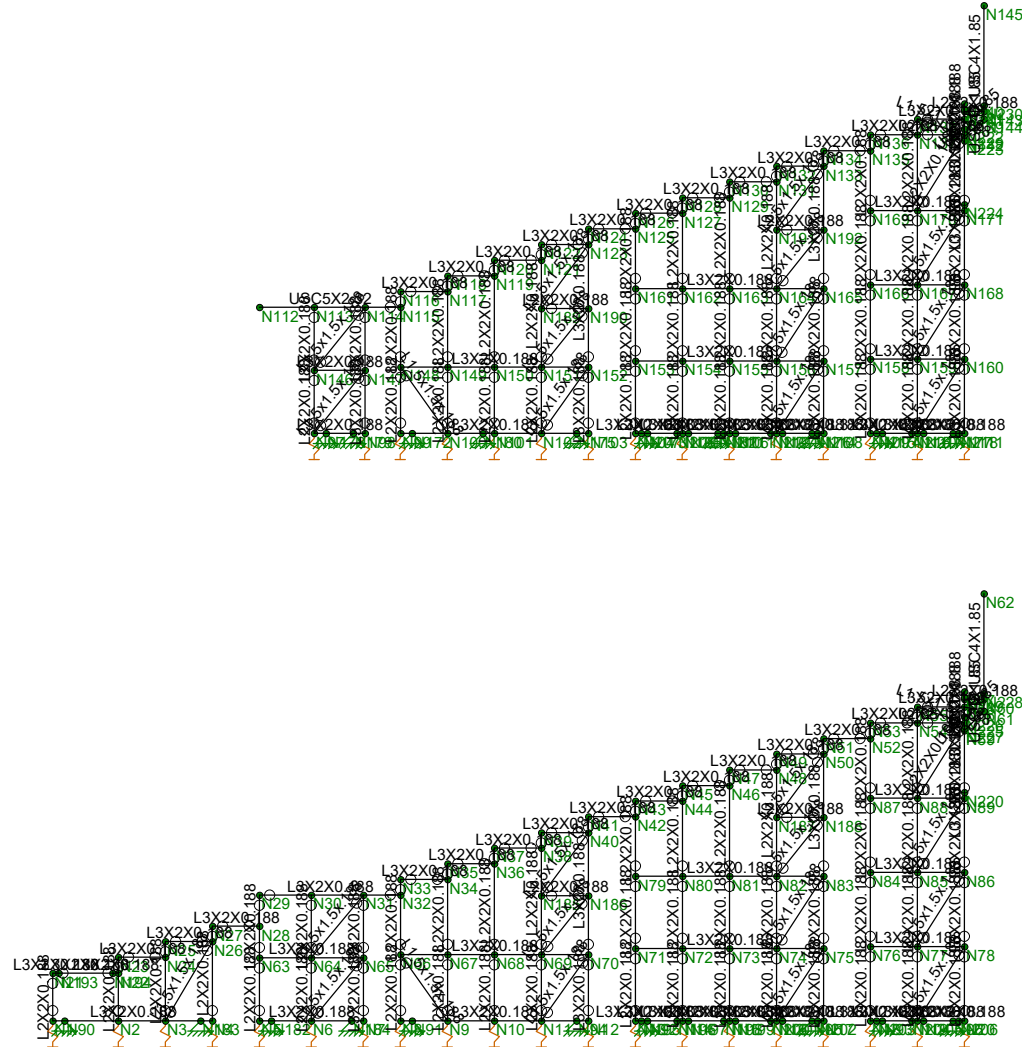
Member & Node Labels

Attachment 5, Page 47 of 236

SK - 1

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First Base Frames.r2d



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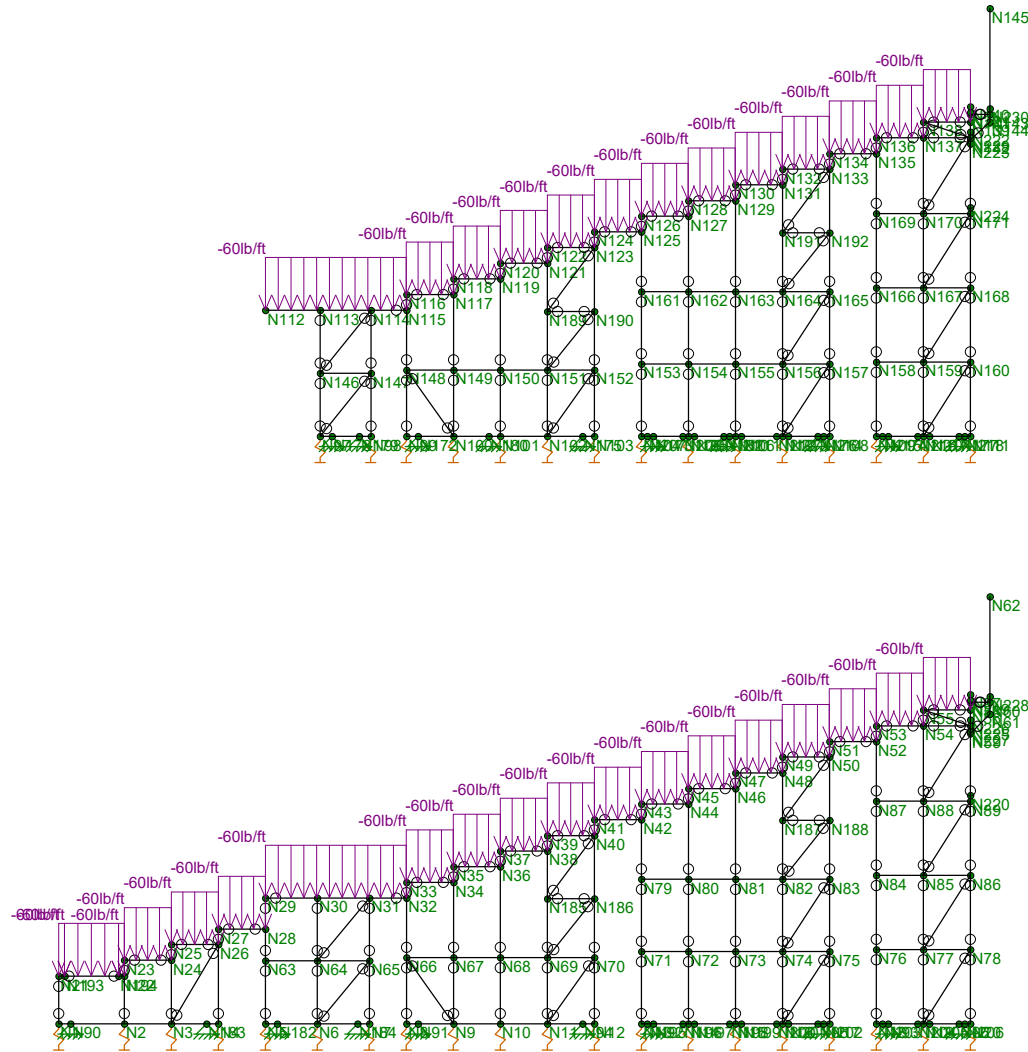
Member Shapes

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SK - 2

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Loads: BLC 1, DL

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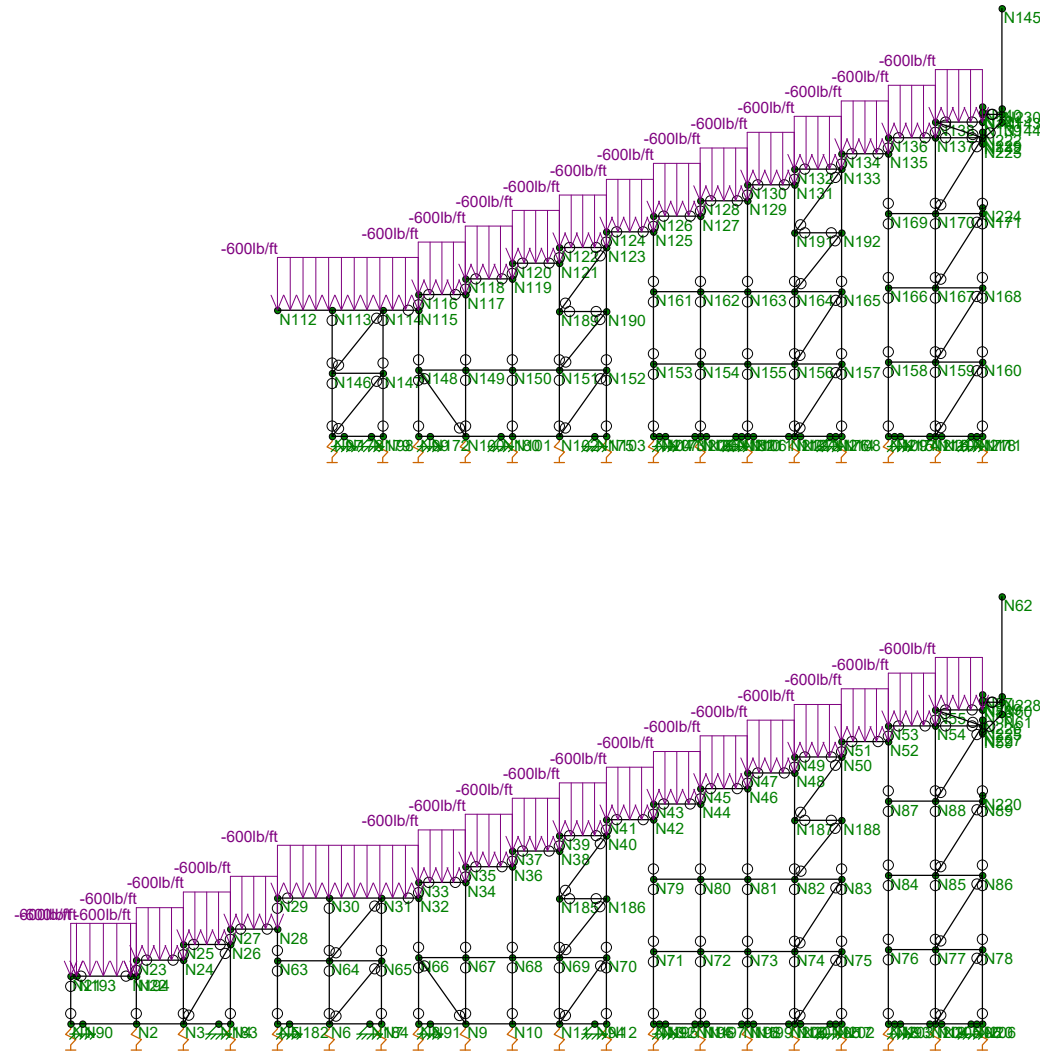
Dead Loads

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SK - 3

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Loads: BLC 2, LL

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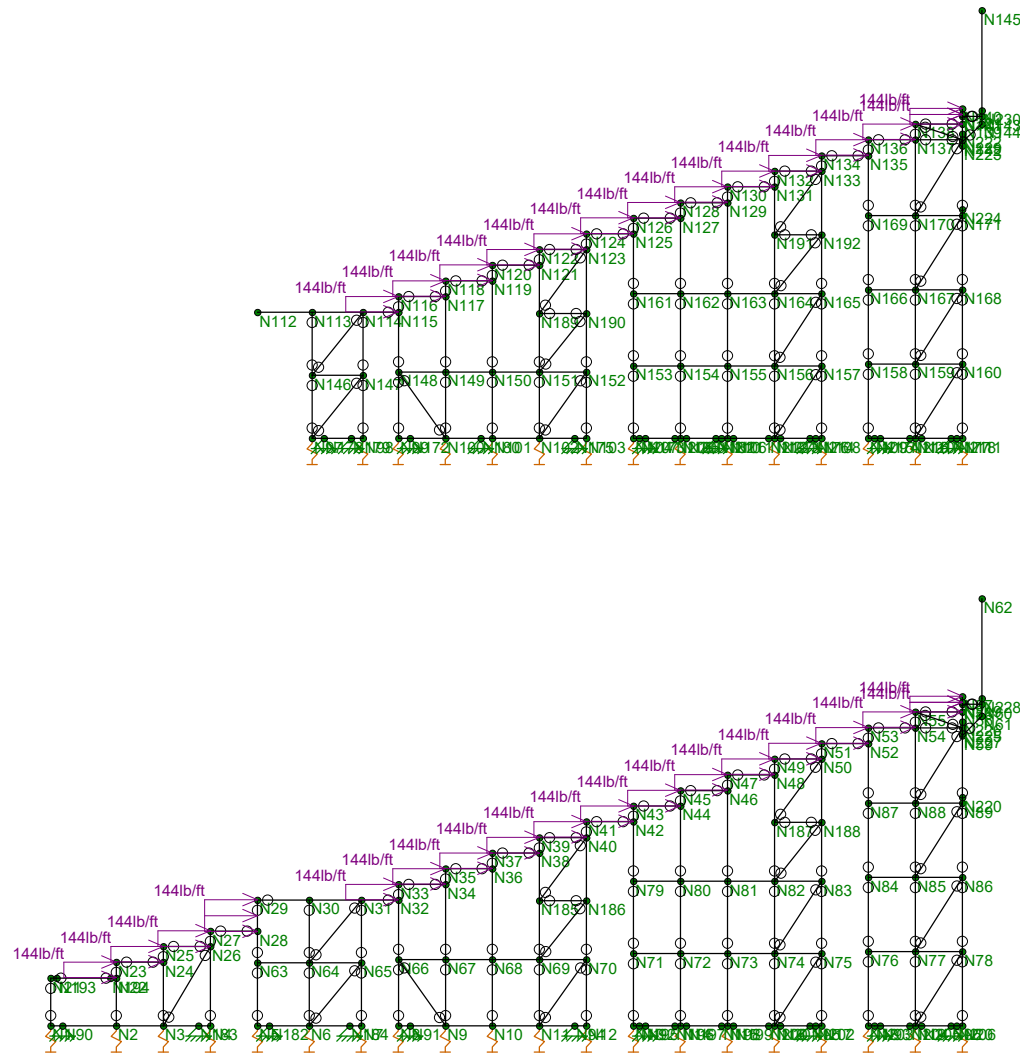
Live Loads

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SK - 4

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Loads: BLC 3, WL

Larson Engineering Inc

MK

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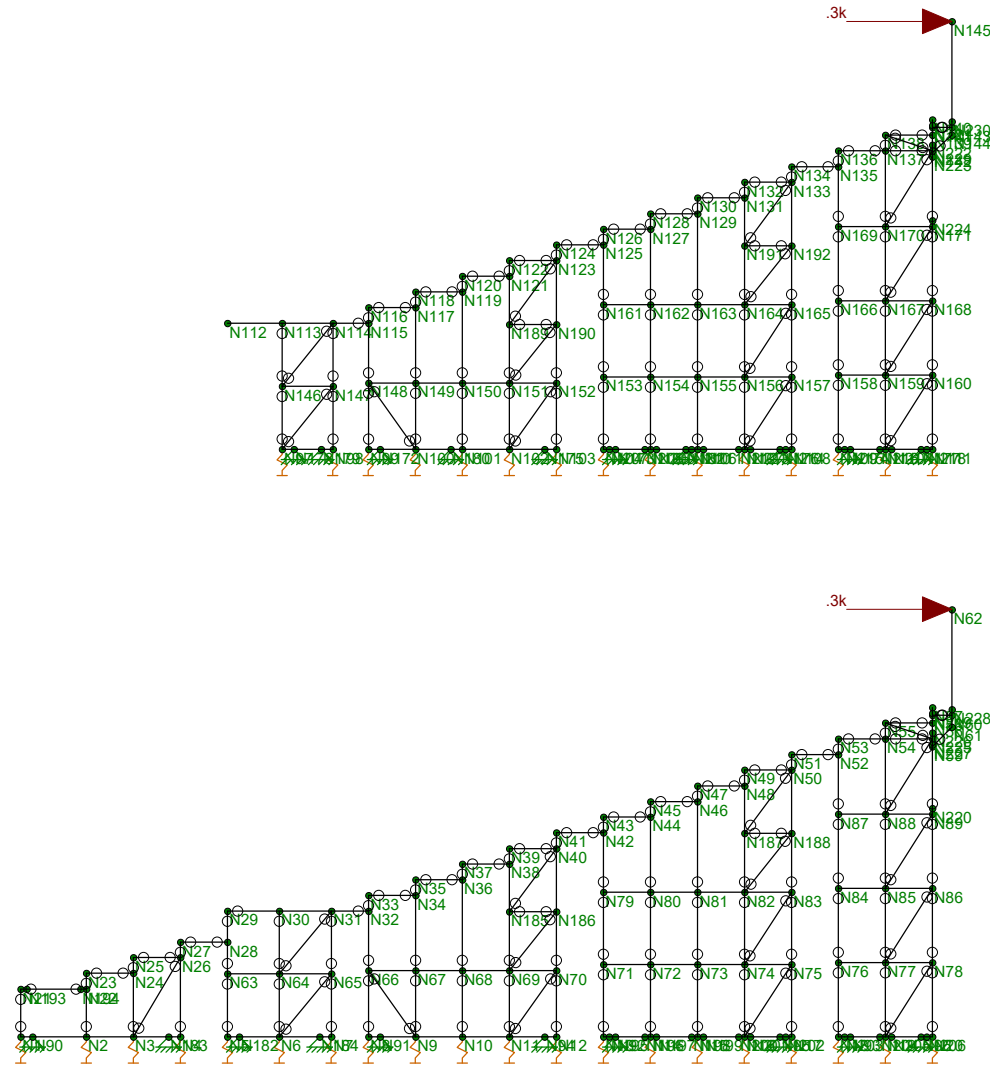
Wind Loads (Strength)

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SK - 5

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Loads: BLC 4, GUARD

Larson Engineering Inc

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Handrail Load

SK - 6

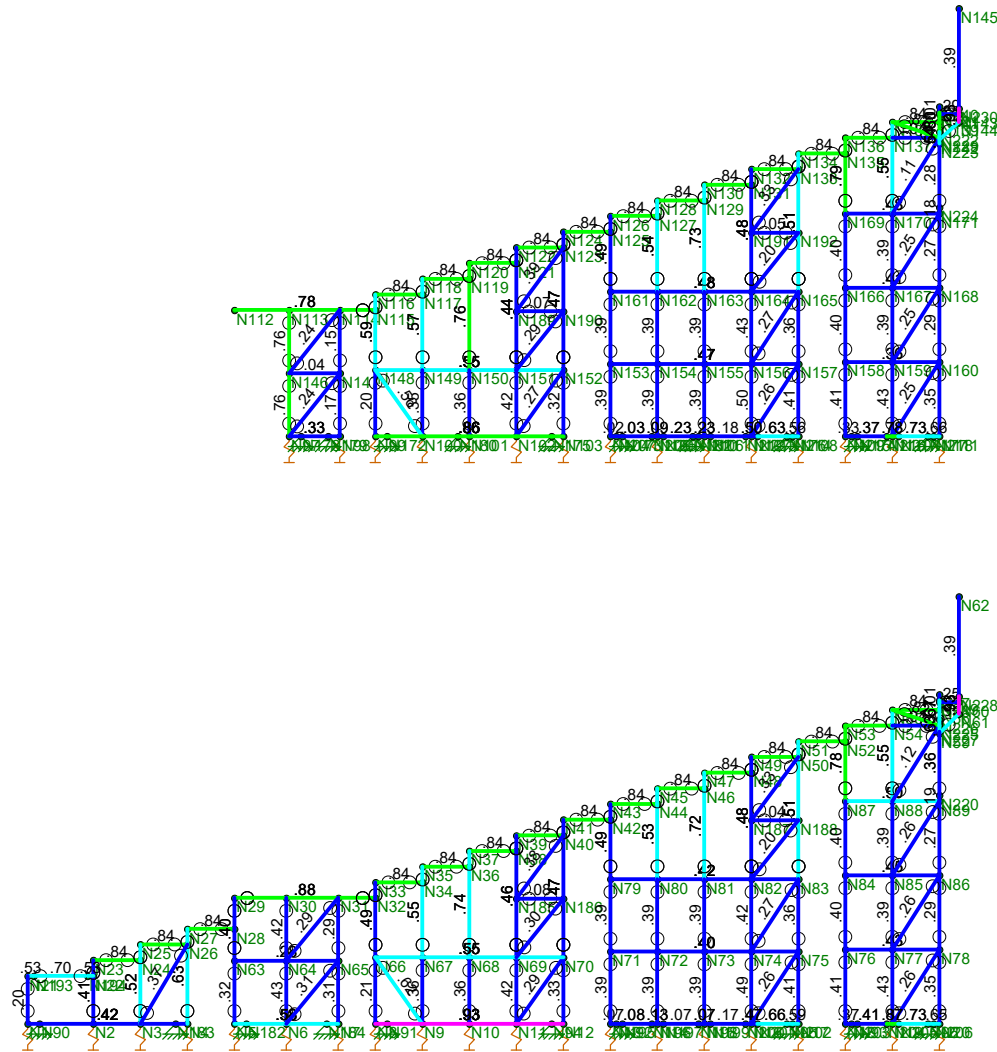
Apr 30, 2021 at 4:23 PM

First Base Frames.r2d



Code Check
(Env)

No Calc
> 1.0
90-1.0
.75-90
.50-.75
0-.50



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

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Member Envelope Unity

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SK - 7

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Aluminum Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (...	Density...	Table B.4	kt	Ftu[ksi]	Fty[ksi]	Fcy[ksi]	Fsu[ksi]	Ct
1	3003-H14	10100	3787.5	.33	1.3	.173	Table B.4-1	1	19	16	13	12	141
2	6061-T6	10100	3787.5	.33	1.3	.173	Table B.4-2	1	38	35	35	24	141
3	6063-T5	10100	3787.5	.33	1.3	.173	Table B.4-2	1	22	16	16	13	141
4	6063-T6	10100	3787.5	.33	1.3	.173	Table B.4-2	1	30	25	25	19	141
5	5052-H34	10200	3787.5	.33	1.3	.173	Table B.4-1	1	34	26	24	20	141
6	6061-T6 W	10100	3787.5	.33	1.3	.173	Table B.4-1	1	24	15	15	15	141

Aluminum Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	I (90,270) [...	I (0,180) [I...
1	L1.5x1.5x0.1875	L1.5x1.5x.188	Beam	AA Channel	6061-T6 W	Typical	.527	.11	.11
2	L2x2x0.1875	L2X2X0.188	Beam	AA Channel	6061-T6 W	Typical	.723	.268	.268
3	L3x2x0.1875	L3X2X0.188	Beam	AA Channel	6061-T6 W	Typical	.91	.292	.821
4	L3x2x0.1875 UW	L3X2X0.188	Beam	AA Channel	6061-T6	Typical	.91	.292	.821
5	C4x1.5	USC4X1.85	Beam	AA Channel	6061-T6 W	Typical	1.57	.32	3.83
6	C4x1.5 UW	USC4X1.85	Beam	AA Channel	6061-T6	Typical	1.57	.32	3.83
7	AL6	USC5X2.32	Beam	AA Channel	6061-T6 W	Typical	1.97	.48	7.49

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Temp [F]
1	N1	0	0	0
2	N2	2.79	0	0
3	N3	4.79	0	0
4	N4	6.79	0	0
5	N5	8.79	0	0
6	N6	11	0	0
7	N7	13.21	0	0
8	N8	14.79	0	0
9	N9	16.79	0	0
10	N10	18.79	0	0
11	N11	20.79	0	0
12	N12	22.79	0	0
13	N13	24.79	0	0
14	N14	26.79	0	0
15	N15	28.79	0	0
16	N16	30.79	0	0
17	N17	32.79	0	0
18	N18	34.79	0	0
19	N19	36.79	0	0
20	N20	38.79	0	0
21	N21	0	2.04	0
22	N22	2.79	2.04	0
23	N23	2.79	2.71	0
24	N24	4.79	2.71	0
25	N25	4.79	3.38	0
26	N26	6.79	3.38	0
27	N27	6.79	4.04	0
28	N28	8.79	4.04	0
29	N29	8.79	5.358	0
30	N30	11	5.358	0
31	N31	13.21	5.358	0
32	N32	14.79	5.358	0
33	N33	14.79	6.018	0
34	N34	16.79	6.018	0

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Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Temp [F]
35	N35	16.79	6.688	0
36	N36	18.79	6.688	0
37	N37	18.79	7.358	0
38	N38	20.79	7.358	0
39	N39	20.79	8.018	0
40	N40	22.79	8.018	0
41	N41	22.79	8.688	0
42	N42	24.79	8.688	0
43	N43	24.79	9.358	0
44	N44	26.79	9.358	0
45	N45	26.79	10.018	0
46	N46	28.79	10.018	0
47	N47	28.79	10.688	0
48	N48	30.79	10.688	0
49	N49	30.79	11.358	0
50	N50	32.79	11.358	0
51	N51	32.79	12.018	0
52	N52	34.79	12.018	0
53	N53	34.79	12.688	0
54	N54	36.79	12.688	0
55	N55	36.79	13.358	0
56	N56	38.79	13.358	0
57	N57	38.79	14.018	0
58	N58	38.79	13.688	0
59	N59	38.79	12.358	0
60	N60	39.62	13.688	0
61	N61	39.62	13.188	0
62	N62	39.62	18.188	0
63	N63	8.79	2.688	0
64	N64	11	2.688	0
65	N65	13.21	2.688	0
66	N66	14.79	2.83	0
67	N67	16.79	2.83	0
68	N68	18.79	2.83	0
69	N69	20.79	2.83	0
70	N70	22.79	2.83	0
71	N71	24.79	3.08	0
72	N72	26.79	3.08	0
73	N73	28.79	3.08	0
74	N74	30.79	3.08	0
75	N75	32.79	3.08	0
76	N76	34.79	3.16	0
77	N77	36.79	3.16	0
78	N78	38.79	3.16	0
79	N79	24.79	6.16	0
80	N80	26.79	6.16	0
81	N81	28.79	6.16	0
82	N82	30.79	6.16	0
83	N83	32.79	6.16	0
84	N84	34.79	6.32	0
85	N85	36.79	6.32	0
86	N86	38.79	6.32	0
87	N87	34.79	9.48	0
88	N88	36.79	9.48	0
89	N89	38.79	9.48	0
90	N90	.5	0	0
91	N91	15.29	0	0

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Company : Larson Engineering Inc
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Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Temp [F]
92	N92	25.29	0	0
93	N93	35.29	0	0
94	N94	22.29	0	0
95	N95	32.29	0	0
96	N96	38.29	0	0
97	N97	11.12	25	0
98	N98	13.28	25	0
99	N99	14.79	25	0
100	N100	16.79	25	0
101	N101	18.79	25	0
102	N102	20.79	25	0
103	N103	22.79	25	0
104	N104	24.79	25	0
105	N105	26.79	25	0
106	N106	28.79	25	0
107	N107	30.79	25	0
108	N108	32.79	25	0
109	N109	34.79	25	0
110	N110	36.79	25	0
111	N111	38.79	25	0
112	N112	8.79	30.3745	0
113	N113	11.12	30.3745	0
114	N114	13.28	30.3745	0
115	N115	14.79	30.3745	0
116	N116	14.79	31.0345	0
117	N117	16.79	31.0345	0
118	N118	16.79	31.7045	0
119	N119	18.79	31.7045	0
120	N120	18.79	32.3745	0
121	N121	20.79	32.3745	0
122	N122	20.79	33.0345	0
123	N123	22.79	33.0345	0
124	N124	22.79	33.7045	0
125	N125	24.79	33.7045	0
126	N126	24.79	34.3745	0
127	N127	26.79	34.3745	0
128	N128	26.79	35.0345	0
129	N129	28.79	35.0345	0
130	N130	28.79	35.7045	0
131	N131	30.79	35.7045	0
132	N132	30.79	36.3745	0
133	N133	32.79	36.3745	0
134	N134	32.79	37.0345	0
135	N135	34.79	37.0345	0
136	N136	34.79	37.7045	0
137	N137	36.79	37.7045	0
138	N138	36.79	38.3745	0
139	N139	38.79	38.3745	0
140	N140	38.79	39.0345	0
141	N141	38.79	38.7045	0
142	N142	38.79	37.6245	0
143	N143	39.62	38.7045	0
144	N144	39.62	38.3745	0
145	N145	39.62	43.2045	0
146	N146	11.12	27.6875	0
147	N147	13.28	27.6875	0
148	N148	14.79	27.819	0

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Company : Larson Engineering Inc
 Designer : MK
 Job Number : 21210330.000
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Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Temp [F]
149	N149	16.79	27.819	0
150	N150	18.79	27.819	0
151	N151	20.79	27.819	0
152	N152	22.79	27.819	0
153	N153	24.79	28.08	0
154	N154	26.79	28.08	0
155	N155	28.79	28.08	0
156	N156	30.79	28.08	0
157	N157	32.79	28.08	0
158	N158	34.79	28.16	0
159	N159	36.79	28.16	0
160	N160	38.79	28.16	0
161	N161	24.79	31.16	0
162	N162	26.79	31.16	0
163	N163	28.79	31.16	0
164	N164	30.79	31.16	0
165	N165	32.79	31.16	0
166	N166	34.79	31.32	0
167	N167	36.79	31.32	0
168	N168	38.79	31.32	0
169	N169	34.79	34.48	0
170	N170	36.79	34.48	0
171	N171	38.79	34.48	0
172	N172	15.29	25	0
173	N173	25.29	25	0
174	N174	35.29	25	0
175	N175	22.29	25	0
176	N176	32.29	25	0
177	N177	38.29	25	0
178	N178	11.62	25	0
179	N179	12.78	25	0
180	N180	18.29	25	0
181	N181	28.29	25	0
182	N182	9.29	0	0
183	N183	6.29	0	0
184	N184	12.71	0	0
185	N185	20.79	5.33	0
186	N186	22.79	5.33	0
187	N187	30.79	8.66	0
188	N188	32.79	8.66	0
189	N189	20.79	30.319	0
190	N190	22.79	30.319	0
191	N191	30.79	33.66	0
192	N192	32.79	33.66	0
193	N193	25	2.04	0
194	N194	2.54	2.04	0
195	N195	25.04	0	0
196	N196	26.54	0	0
197	N197	27.04	0	0
198	N198	28.54	0	0
199	N199	29.04	0	0
200	N200	30.54	0	0
201	N201	31.04	0	0
202	N202	32.54	0	0
203	N203	35.04	0	0
204	N204	36.54	0	0
205	N205	37.04	0	0

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 Designer : MK
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Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Temp [F]
206	N206	38.54	0	0
207	N207	25.04	25	0
208	N208	26.54	25	0
209	N209	27.04	25	0
210	N210	28.54	25	0
211	N211	29.04	25	0
212	N212	30.54	25	0
213	N213	31.04	25	0
214	N214	32.54	25	0
215	N215	35.04	25	0
216	N216	36.54	25	0
217	N217	37.04	25	0
218	N218	38.54	25	0
219	N219	38.79	13.768	0
220	N220	38.79	9.73	0
221	N221	38.79	38.7845	0
222	N222	38.79	37.9545	0
223	N223	38.79	37.4545	0
224	N224	38.79	34.7465	0
225	N225	38.79	12.688	0
226	N226	38.79	12.938	0
227	N227	38.79	12.438	0
228	N228	39.62	13.938	0
229	N229	38.79	37.7045	0
230	N230	39.62	38.9545	0

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Rotation[k-ft/rad]
1	N90	Reaction	Reaction	
2	N91	Reaction	Reaction	
3	N94	Reaction	Reaction	
4	N92	Reaction	Reaction	
5	N95	Reaction	Reaction	
6	N93	Reaction	Reaction	
7	N96	Reaction	Reaction	
8	N1		CS10000	
9	N2		CS10000	
10	N3		CS10000	
11	N4		CS10000	
12	N5		CS10000	
13	N6		CS10000	
14	N7		CS10000	
15	N8		CS10000	
16	N9		CS10000	
17	N10		CS10000	
18	N11		CS10000	
19	N12		CS10000	
20	N13		CS10000	
21	N14		CS10000	
22	N15		CS10000	
23	N16		CS10000	
24	N17		CS10000	
25	N18		CS10000	
26	N19		CS10000	
27	N20		CS10000	



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Joint Boundary Conditions (Continued)

	Joint Label	X [k/in]	Y [k/in]	Rotation[k-ft/rad]
28	N97		CS10000	
29	N98		CS10000	
30	N99		CS10000	
31	N100		CS10000	
32	N101		CS10000	
33	N102		CS10000	
34	N103		CS10000	
35	N104		CS10000	
36	N105		CS10000	
37	N106		CS10000	
38	N107		CS10000	
39	N108		CS10000	
40	N109		CS10000	
41	N110		CS10000	
42	N111		CS10000	
43	N172	Reaction	Reaction	
44	N173	Reaction	Reaction	
45	N174	Reaction	Reaction	
46	N175	Reaction	Reaction	
47	N176	Reaction	Reaction	
48	N177	Reaction	Reaction	
49	N178	Reaction	Reaction	
50	N179	Reaction	Reaction	
51	N180	Reaction	Reaction	
52	N181	Reaction	Reaction	
53	N182	Reaction	Reaction	
54	N183	Reaction	Reaction	
55	N184	Reaction	Reaction	

Member Primary Data

	Label	I Joint	J Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N4		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
2	M2	N13	N195		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
3	M3	N18	N203		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
4	M4	N63	N65		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
5	M5	N71	N75		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
6	M6	N76	N78		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
7	M7	N79	N83		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
8	M8	N84	N86		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
9	M9	N87	N89		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
10	M10	N21	N193	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
11	M11	N23	N24	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
12	M12	N25	N26	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
13	M13	N27	N28	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
14	M14	N29	N32	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
15	M15	N33	N34	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
16	M16	N35	N36	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
17	M17	N37	N38	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
18	M18	N39	N40	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
19	M19	N41	N42	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
20	M20	N43	N44	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
21	M21	N45	N46	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
22	M22	N47	N48	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
23	M23	N49	N50	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
24	M24	N51	N52	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical



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 Designer : MK
 Job Number : 21210330.000
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Member Primary Data (Continued)

Label	I Joint	J Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
25	M25	N53	N54	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
26	M26	N55	N56	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
27	M27	N21	N1		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
28	M28	N23	N2		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
29	M29	N25	N3		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
30	M30	N27	N4	180	L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
31	M31	N29	N63		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
32	M32	N30	N64		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
33	M33	N31	N65	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
34	M34	N33	N66		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
35	M35	N35	N67		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
36	M36	N37	N68		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
37	M37	N39	N69		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
38	M38	N41	N70	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
39	M39	N64	N6		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
40	M40	N65	N7	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
41	M41	N66	N8		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
42	M42	N67	N9		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
43	M43	N68	N10		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
44	M44	N69	N11		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
45	M45	N70	N12	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
46	M46	N43	N79		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
47	M47	N45	N80		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
48	M48	N47	N81		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
49	M49	N49	N82		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
50	M50	N51	N83	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
51	M51	N79	N71		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
52	M52	N80	N72		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
53	M53	N81	N73		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
54	M54	N82	N74		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
55	M55	N83	N75	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
56	M56	N71	N13		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
57	M57	N72	N14		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
58	M58	N73	N15		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
59	M59	N74	N16		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
60	M60	N75	N17	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
61	M61	N53	N87		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
62	M62	N55	N88		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
63	M63	N57	N219	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
64	M64	N87	N84		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
65	M65	N88	N85		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
66	M66	N89	N86	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
67	M67	N84	N76		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
68	M68	N85	N77		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
69	M69	N86	N78	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
70	M70	N76	N18		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
71	M71	N77	N19		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
72	M72	N78	N20	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
73	M73	N61	N59		C4x1.5	Beam	AA Channel	6061-T6 W Typical
74	M74	N60	N58		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
75	M75	N62	N228		C4x1.5 UW	Beam	AA Channel	6061-T6 Typical
76	M76	N63	N5		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
77	M77	N26	N3		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W Typical
78	M78	N66	N9		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W Typical
79	M79	N70	N11		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W Typical
80	M80	N40	N185		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W Typical
81	M81	N75	N16		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W Typical

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Company : Larson Engineering Inc
 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

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Member Primary Data (Continued)

Label	I Joint	J Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
82	M82	N83	N74		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W Typical
83	M83	N50	N187		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W Typical
84	M84	N78	N19		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W Typical
85	M85	N86	N77		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W Typical
86	M86	N89	N85		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W Typical
87	M87	N225	N88		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
88	M88	N104	N207		L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
89	M89	N109	N215		L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
90	M90	N148	N152		L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
91	M91	N153	N157		L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
92	M92	N158	N160		L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
93	M93	N161	N165		L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
94	M94	N166	N168		L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
95	M95	N169	N171		L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
96	M96	N112	N115	180	AL6	Beam	AA Channel	6061-T6 W Typical
97	M97	N116	N117	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
98	M98	N118	N119	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
99	M99	N120	N121	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
100	M100	N122	N123	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
101	M101	N124	N125	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
102	M102	N126	N127	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
103	M103	N128	N129	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
104	M104	N130	N131	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
105	M105	N132	N133	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
106	M106	N134	N135	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
107	M107	N136	N137	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
108	M108	N138	N139	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
109	M109	N113	N146		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
110	M110	N114	N147	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
111	M111	N116	N148		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
112	M112	N118	N149		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
113	M113	N120	N150		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
114	M114	N122	N151		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
115	M115	N124	N152	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
116	M116	N146	N97		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
117	M117	N147	N98	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
118	M118	N148	N99		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
119	M119	N149	N100		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
120	M120	N150	N101		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
121	M121	N151	N102		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
122	M122	N152	N103	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
123	M123	N126	N161		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
124	M124	N128	N162		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
125	M125	N130	N163		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
126	M126	N132	N164		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
127	M127	N134	N165	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
128	M128	N161	N153		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
129	M129	N162	N154		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
130	M130	N163	N155		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
131	M131	N164	N156		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
132	M132	N165	N157	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
133	M133	N153	N104		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
134	M134	N154	N105		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
135	M135	N155	N106		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
136	M136	N156	N107		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical
137	M137	N157	N108	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W Typical
138	M138	N136	N169		L2x2x0.1875	Beam	AA Channel	6061-T6 W Typical

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 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

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Member Primary Data (Continued)

	Label	I Joint	J Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
139	M139	N138	N170		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
140	M140	N140	N221	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
141	M141	N169	N166		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
142	M142	N170	N167		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
143	M143	N171	N168	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
144	M144	N166	N158		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
145	M145	N167	N159		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
146	M146	N168	N160	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
147	M147	N158	N109		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
148	M148	N159	N110		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
149	M149	N160	N111	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
150	M150	N144	N142		C4x1.5	Beam	AA Channel	6061-T6 W	Typical
151	M151	N143	N141		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
152	M152	N145	N230		C4x1.5 UW	Beam	AA Channel	6061-T6	Typical
153	M153	N148	N100		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
154	M154	N152	N102		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
155	M155	N123	N189		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
156	M156	N157	N107		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
157	M157	N165	N156		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
158	M158	N133	N191		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
159	M159	N160	N110		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
160	M160	N168	N159		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
161	M161	N171	N167		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
162	M162	N229	N170		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
163	M163	N146	N147		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
164	M164	N97	N98		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
165	M165	N99	N103		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
166	M166	N147	N97		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
167	M167	N114	N146		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
168	M168	N8	N12		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
169	M169	N66	N70		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
170	M170	N5	N7		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
171	M171	N65	N6		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
172	M172	N31	N64		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
173	M173	N186	N69		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
174	M174	N188	N82		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
175	M175	N190	N151		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
176	M176	N192	N164		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
177	M177	N185	N186		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
178	M178	N187	N188		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
179	M179	N189	N190		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
180	M180	N191	N192		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
181	M181	N193	N194	180	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
182	M182	N194	N22	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
183	M183	N195	N196		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
184	M184	N196	N197		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
185	M185	N197	N198		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
186	M186	N198	N199		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
187	M187	N199	N200		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
188	M188	N200	N201		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
189	M189	N201	N202		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
190	M190	N202	N17		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
191	M191	N203	N204		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
192	M192	N204	N205		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
193	M193	N205	N206		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
194	M194	N206	N20		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
195	M195	N207	N208		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical

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 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

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Member Primary Data (Continued)

	Label	I Joint	J Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
196	M196	N208	N209		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
197	M197	N209	N210		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
198	M198	N210	N211		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
199	M199	N211	N212		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
200	M200	N212	N213		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
201	M201	N213	N214		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
202	M202	N214	N108		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
203	M203	N215	N216		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
204	M204	N216	N217		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
205	M205	N217	N218		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
206	M206	N218	N111		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
207	M207	N219	N226	180	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
208	M208	N220	N89	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
209	M209	N221	N222	180	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
210	M210	N223	N224	180	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
211	M211	N224	N171	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
212	M212	N54	N225		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
213	M213	N55	N225		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
214	M214	N226	N227	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
215	M215	N227	N220	180	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
216	M216	N228	N61		C4x1.5	Beam	AA Channel	6061-T6 W	Typical
217	M217	N137	N229		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
218	M218	N138	N229		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
219	M219	N222	N223	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
220	M220	N230	N144		C4x1.5	Beam	AA Channel	6061-T6 W	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	TOM	Inactive
1	M1						Yes		
2	M2						Yes		
3	M3						Yes		
4	M4						Yes		
5	M5						Yes		
6	M6						Yes		
7	M7						Yes		
8	M8						Yes		
9	M9						Yes		
10	M10	PIN					Yes		
11	M11	PIN	PIN				Yes		
12	M12	PIN	PIN				Yes		
13	M13	PIN	PIN				Yes		
14	M14	PIN	PIN				Yes		
15	M15	PIN	PIN				Yes		
16	M16	PIN	PIN				Yes		
17	M17	PIN	PIN				Yes		
18	M18	PIN	PIN				Yes		
19	M19	PIN	PIN				Yes		
20	M20	PIN	PIN				Yes		
21	M21	PIN	PIN				Yes		
22	M22	PIN	PIN				Yes		
23	M23	PIN	PIN				Yes		
24	M24	PIN	PIN				Yes		
25	M25	PIN	PIN				Yes		
26	M26	PIN	PIN				Yes		
27	M27	PIN	PIN				Yes		

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 Designer : MK
 Job Number : 21210330.000
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Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	TOM	Inactive
28	M28	PIN	PIN				Yes		
29	M29	PIN	PIN				Yes		
30	M30	PIN	PIN				Yes		
31	M31	PIN	PIN				Yes		
32	M32	PIN	PIN				Yes		
33	M33	PIN	PIN				Yes		
34	M34	PIN	PIN				Yes		
35	M35	PIN	PIN				Yes		
36	M36	PIN	PIN				Yes		
37	M37	PIN	PIN				Yes		
38	M38	PIN	PIN				Yes		
39	M39	PIN	PIN				Yes		
40	M40	PIN	PIN				Yes		
41	M41	PIN	PIN				Yes		
42	M42	PIN	PIN				Yes		
43	M43	PIN	PIN				Yes		
44	M44	PIN	PIN				Yes		
45	M45	PIN	PIN				Yes		
46	M46	PIN	PIN				Yes		
47	M47	PIN	PIN				Yes		
48	M48	PIN	PIN				Yes		
49	M49	PIN	PIN				Yes		
50	M50	PIN	PIN				Yes		
51	M51	PIN	PIN				Yes		
52	M52	PIN	PIN				Yes		
53	M53	PIN	PIN				Yes		
54	M54	PIN	PIN				Yes		
55	M55	PIN	PIN				Yes		
56	M56	PIN	PIN				Yes		
57	M57	PIN	PIN				Yes		
58	M58	PIN	PIN				Yes		
59	M59	PIN	PIN				Yes		
60	M60	PIN	PIN				Yes		
61	M61	PIN	PIN				Yes		
62	M62	PIN	PIN				Yes		
63	M63						Yes		
64	M64	PIN	PIN				Yes		
65	M65	PIN	PIN				Yes		
66	M66	PIN	PIN				Yes		
67	M67	PIN	PIN				Yes		
68	M68	PIN	PIN				Yes		
69	M69	PIN	PIN				Yes		
70	M70	PIN	PIN				Yes		
71	M71	PIN	PIN				Yes		
72	M72	PIN	PIN				Yes		
73	M73		PIN				Yes		
74	M74	PIN	PIN				Yes		
75	M75						Yes		
76	M76	PIN	PIN				Yes		
77	M77	PIN	PIN				Yes		
78	M78	PIN	PIN				Yes		
79	M79	PIN	PIN				Yes		
80	M80	PIN	PIN				Yes		
81	M81	PIN	PIN				Yes		
82	M82	PIN	PIN				Yes		
83	M83	PIN	PIN				Yes		
84	M84	PIN	PIN				Yes		

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Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	TOM	Inactive
85	M85	PIN	PIN				Yes		
86	M86	PIN	PIN				Yes		
87	M87	PIN	PIN				Yes		
88	M88						Yes		
89	M89						Yes		
90	M90						Yes		
91	M91						Yes		
92	M92						Yes		
93	M93						Yes		
94	M94						Yes		
95	M95						Yes		
96	M96		PIN				Yes		
97	M97	PIN	PIN				Yes		
98	M98	PIN	PIN				Yes		
99	M99	PIN	PIN				Yes		
100	M100	PIN	PIN				Yes		
101	M101	PIN	PIN				Yes		
102	M102	PIN	PIN				Yes		
103	M103	PIN	PIN				Yes		
104	M104	PIN	PIN				Yes		
105	M105	PIN	PIN				Yes		
106	M106	PIN	PIN				Yes		
107	M107	PIN	PIN				Yes		
108	M108	PIN	PIN				Yes		
109	M109	PIN	PIN				Yes		
110	M110	PIN	PIN				Yes		
111	M111	PIN	PIN				Yes		
112	M112	PIN	PIN				Yes		
113	M113	PIN	PIN				Yes		
114	M114	PIN	PIN				Yes		
115	M115	PIN	PIN				Yes		
116	M116	PIN	PIN				Yes		
117	M117	PIN	PIN				Yes		
118	M118	PIN	PIN				Yes		
119	M119	PIN	PIN				Yes		
120	M120	PIN	PIN				Yes		
121	M121	PIN	PIN				Yes		
122	M122	PIN	PIN				Yes		
123	M123	PIN	PIN				Yes		
124	M124	PIN	PIN				Yes		
125	M125	PIN	PIN				Yes		
126	M126	PIN	PIN				Yes		
127	M127	PIN	PIN				Yes		
128	M128	PIN	PIN				Yes		
129	M129	PIN	PIN				Yes		
130	M130	PIN	PIN				Yes		
131	M131	PIN	PIN				Yes		
132	M132	PIN	PIN				Yes		
133	M133	PIN	PIN				Yes		
134	M134	PIN	PIN				Yes		
135	M135	PIN	PIN				Yes		
136	M136	PIN	PIN				Yes		
137	M137	PIN	PIN				Yes		
138	M138	PIN	PIN				Yes		
139	M139	PIN	PIN				Yes		
140	M140						Yes		
141	M141	PIN	PIN				Yes		

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	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	TOM	Inactive
142	M142	PIN	PIN				Yes		
143	M143	PIN	PIN				Yes		
144	M144	PIN	PIN				Yes		
145	M145	PIN	PIN				Yes		
146	M146	PIN	PIN				Yes		
147	M147	PIN	PIN				Yes		
148	M148	PIN	PIN				Yes		
149	M149	PIN	PIN				Yes		
150	M150		PIN				Yes		
151	M151	PIN	PIN				Yes		
152	M152						Yes		
153	M153	PIN	PIN				Yes		
154	M154	PIN	PIN				Yes		
155	M155	PIN	PIN				Yes		
156	M156	PIN	PIN				Yes		
157	M157	PIN	PIN				Yes		
158	M158	PIN	PIN				Yes		
159	M159	PIN	PIN				Yes		
160	M160	PIN	PIN				Yes		
161	M161	PIN	PIN				Yes		
162	M162	PIN	PIN				Yes		
163	M163						Yes		
164	M164						Yes		
165	M165						Yes		
166	M166	PIN	PIN				Yes		
167	M167	PIN	PIN				Yes		
168	M168						Yes		
169	M169						Yes		
170	M170						Yes		
171	M171	PIN	PIN				Yes		
172	M172	PIN	PIN				Yes		
173	M173	PIN	PIN				Yes		
174	M174	PIN	PIN				Yes		
175	M175	PIN	PIN				Yes		
176	M176	PIN	PIN				Yes		
177	M177	PIN	PIN				Yes		
178	M178	PIN	PIN				Yes		
179	M179	PIN	PIN				Yes		
180	M180	PIN	PIN				Yes		
181	M181						Yes		
182	M182		PIN				Yes		
183	M183						Yes		
184	M184						Yes		
185	M185						Yes		
186	M186						Yes		
187	M187						Yes		
188	M188						Yes		
189	M189						Yes		
190	M190						Yes		
191	M191						Yes		
192	M192						Yes		
193	M193						Yes		
194	M194						Yes		
195	M195						Yes		
196	M196						Yes		
197	M197						Yes		
198	M198						Yes		

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	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	TOM	Inactive
199	M199						Yes		
200	M200						Yes		
201	M201						Yes		
202	M202						Yes		
203	M203						Yes		
204	M204						Yes		
205	M205						Yes		
206	M206						Yes		
207	M207						Yes		
208	M208		PIN				Yes		
209	M209						Yes		
210	M210						Yes		
211	M211		PIN				Yes		
212	M212	PIN	PIN				Yes		
213	M213	PIN	PIN				Yes		
214	M214						Yes		
215	M215						Yes		
216	M216						Yes		
217	M217	PIN	PIN				Yes		
218	M218	PIN	PIN				Yes		
219	M219						Yes		
220	M220						Yes		

Aluminum Design Parameters

	Label	Shape	Length[ft]	Lb-out[ft]	Lb-in[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	K-out	K-in	Cb	Function
1	M1	L3x2x0.1875	6.79			Lb out						Lateral
2	M2	L3x2x0.1875	25			Lb out						Lateral
3	M3	L3x2x0.1875	25			Lb out						Lateral
4	M4	L3x2x0.1875	4.42			Lb out						Lateral
5	M5	L3x2x0.1875	8			Lb out						Lateral
6	M6	L3x2x0.1875	4			Lb out						Lateral
7	M7	L3x2x0.1875	8			Lb out						Lateral
8	M8	L3x2x0.1875	4			Lb out						Lateral
9	M9	L3x2x0.1875	4			Lb out						Lateral
10	M10	L3x2x0.1875	25			Lb out						Lateral
11	M11	L3x2x0.1875	2			Lb out						Lateral
12	M12	L3x2x0.1875	2			Lb out						Lateral
13	M13	L3x2x0.1875	2			Lb out						Lateral
14	M14	L3x2x0.1875	6			Lb out						Lateral
15	M15	L3x2x0.1875	2			Lb out						Lateral
16	M16	L3x2x0.1875	2			Lb out						Lateral
17	M17	L3x2x0.1875	2			Lb out						Lateral
18	M18	L3x2x0.1875	2			Lb out						Lateral
19	M19	L3x2x0.1875	2			Lb out						Lateral
20	M20	L3x2x0.1875	2			Lb out						Lateral
21	M21	L3x2x0.1875	2			Lb out						Lateral
22	M22	L3x2x0.1875	2			Lb out						Lateral
23	M23	L3x2x0.1875	2			Lb out						Lateral
24	M24	L3x2x0.1875	2			Lb out						Lateral
25	M25	L3x2x0.1875	2			Lb out						Lateral
26	M26	L3x2x0.1875	2			Lb out						Lateral
27	M27	L2x2x0.1875	2.04			Lb out						Lateral
28	M28	L2x2x0.1875	2.71			Lb out						Lateral
29	M29	L2x2x0.1875	3.38			Lb out						Lateral
30	M30	L2x2x0.1875	4.04			Lb out						Lateral

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Aluminum Design Parameters (Continued)

Label	Shape	Length(ft)	Lb-out(ft)	Lb-in(ft)	Lcomp top(ft)	Lcomp bot(ft)	L-torqu...	K-out	K-in	Cb	Function
31	M31	L2x2x0.1875	2.67		Lb out						Lateral
32	M32	L2x2x0.1875	2.67		Lb out						Lateral
33	M33	L3x2x0.1875	2.67		Lb out						Lateral
34	M34	L2x2x0.1875	3.188		Lb out						Lateral
35	M35	L2x2x0.1875	3.858		Lb out						Lateral
36	M36	L2x2x0.1875	4.528		Lb out						Lateral
37	M37	L2x2x0.1875	5.188	Segment	Lb out						Lateral
38	M38	L3x2x0.1875	5.858	Segment	Lb out						Lateral
39	M39	L2x2x0.1875	2.688		Lb out						Lateral
40	M40	L3x2x0.1875	2.688		Lb out						Lateral
41	M41	L2x2x0.1875	2.83		Lb out						Lateral
42	M42	L2x2x0.1875	2.83		Lb out						Lateral
43	M43	L2x2x0.1875	2.83		Lb out						Lateral
44	M44	L2x2x0.1875	2.83		Lb out						Lateral
45	M45	L3x2x0.1875	2.83		Lb out						Lateral
46	M46	L2x2x0.1875	3.198		Lb out						Lateral
47	M47	L2x2x0.1875	3.858		Lb out						Lateral
48	M48	L2x2x0.1875	4.528		Lb out						Lateral
49	M49	L2x2x0.1875	5.198	Segment	Lb out						Lateral
50	M50	L3x2x0.1875	5.858	Segment	Lb out						Lateral
51	M51	L2x2x0.1875	3.08		Lb out						Lateral
52	M52	L2x2x0.1875	3.08		Lb out						Lateral
53	M53	L2x2x0.1875	3.08		Lb out						Lateral
54	M54	L2x2x0.1875	3.08		Lb out						Lateral
55	M55	L3x2x0.1875	3.08		Lb out						Lateral
56	M56	L2x2x0.1875	3.08		Lb out						Lateral
57	M57	L2x2x0.1875	3.08		Lb out						Lateral
58	M58	L2x2x0.1875	3.08		Lb out						Lateral
59	M59	L2x2x0.1875	3.08		Lb out						Lateral
60	M60	L3x2x0.1875	3.08		Lb out						Lateral
61	M61	L2x2x0.1875	3.208		Lb out						Lateral
62	M62	L2x2x0.1875	3.878		Lb out						Lateral
63	M63	L3x2x0.1875	.25		Lb out						Lateral
64	M64	L2x2x0.1875	3.16		Lb out						Lateral
65	M65	L2x2x0.1875	3.16		Lb out						Lateral
66	M66	L3x2x0.1875	3.16		Lb out						Lateral
67	M67	L2x2x0.1875	3.16		Lb out						Lateral
68	M68	L2x2x0.1875	3.16		Lb out						Lateral
69	M69	L3x2x0.1875	3.16		Lb out						Lateral
70	M70	L2x2x0.1875	3.16		Lb out						Lateral
71	M71	L2x2x0.1875	3.16		Lb out						Lateral
72	M72	L3x2x0.1875	3.16		Lb out						Lateral
73	M73	C4x1.5	1.174		Lb out						Lateral
74	M74	L2x2x0.1875	.83		Lb out						Lateral
75	M75	C4x1.5 UW	4.25		Lb out						Lateral
76	M76	L2x2x0.1875	2.688		Lb out						Lateral
77	M77	L1.5x1.5x0....	3.927		Lb out						Lateral
78	M78	L1.5x1.5x0....	3.465		Lb out						Lateral
79	M79	L1.5x1.5x0....	3.465		Lb out						Lateral
80	M80	L1.5x1.5x0....	3.35		Lb out						Lateral
81	M81	L1.5x1.5x0....	3.672		Lb out						Lateral
82	M82	L1.5x1.5x0....	3.672		Lb out						Lateral
83	M83	L1.5x1.5x0....	3.358		Lb out						Lateral
84	M84	L1.5x1.5x0....	3.74		Lb out						Lateral
85	M85	L1.5x1.5x0....	3.74		Lb out						Lateral
86	M86	L1.5x1.5x0....	3.74		Lb out						Lateral
87	M87	L2x2x0.1875	3.78		Lb out						Lateral

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Label	Shape	Length(ft)	Lb-out(ft)	Lb-in(ft)	Lcomp top(ft)	Lcomp bot(ft)	L-torqu...	K-out	K-in	Cb	Function
88	M88	L3x2x0.1875	.25	Segment							Lateral
89	M89	L3x2x0.1875	.25	Segment							Lateral
90	M90	L3x2x0.1875	.8								Lateral
91	M91	L3x2x0.1875	.8								Lateral
92	M92	L3x2x0.1875	.4								Lateral
93	M93	L3x2x0.1875	.8								Lateral
94	M94	L3x2x0.1875	.4								Lateral
95	M95	L3x2x0.1875	.4								Lateral
96	M96	AL6	.6	Segment							Lateral
97	M97	L3x2x0.1875	.2								Lateral
98	M98	L3x2x0.1875	.2								Lateral
99	M99	L3x2x0.1875	.2								Lateral
100	M100	L3x2x0.1875	.2								Lateral
101	M101	L3x2x0.1875	.2								Lateral
102	M102	L3x2x0.1875	.2								Lateral
103	M103	L3x2x0.1875	.2								Lateral
104	M104	L3x2x0.1875	.2								Lateral
105	M105	L3x2x0.1875	.2								Lateral
106	M106	L3x2x0.1875	.2								Lateral
107	M107	L3x2x0.1875	.2								Lateral
108	M108	L3x2x0.1875	.2								Lateral
109	M109	L2x2x0.1875	2.687								Lateral
110	M110	L3x2x0.1875	2.687								Lateral
111	M111	L2x2x0.1875	3.216								Lateral
112	M112	L2x2x0.1875	3.886								Lateral
113	M113	L2x2x0.1875	4.555								Lateral
114	M114	L2x2x0.1875	5.216	Segment							Lateral
115	M115	L3x2x0.1875	5.886	Segment							Lateral
116	M116	L2x2x0.1875	2.688								Lateral
117	M117	L3x2x0.1875	2.688								Lateral
118	M118	L2x2x0.1875	2.819								Lateral
119	M119	L2x2x0.1875	2.819								Lateral
120	M120	L2x2x0.1875	2.819								Lateral
121	M121	L2x2x0.1875	2.819								Lateral
122	M122	L3x2x0.1875	2.819								Lateral
123	M123	L2x2x0.1875	3.214								Lateral
124	M124	L2x2x0.1875	3.875								Lateral
125	M125	L2x2x0.1875	4.545								Lateral
126	M126	L2x2x0.1875	5.214	Segment							Lateral
127	M127	L3x2x0.1875	5.875	Segment							Lateral
128	M128	L2x2x0.1875	3.08								Lateral
129	M129	L2x2x0.1875	3.08								Lateral
130	M130	L2x2x0.1875	3.08								Lateral
131	M131	L2x2x0.1875	3.08								Lateral
132	M132	L3x2x0.1875	3.08								Lateral
133	M133	L2x2x0.1875	3.08								Lateral
134	M134	L2x2x0.1875	3.08								Lateral
135	M135	L2x2x0.1875	3.08								Lateral
136	M136	L2x2x0.1875	3.08								Lateral
137	M137	L3x2x0.1875	3.08								Lateral
138	M138	L2x2x0.1875	3.225								Lateral
139	M139	L2x2x0.1875	3.895								Lateral
140	M140	L3x2x0.1875	.25	Segment							Lateral
141	M141	L2x2x0.1875	3.16								Lateral
142	M142	L2x2x0.1875	3.16								Lateral
143	M143	L3x2x0.1875	3.16								Lateral
144	M144	L2x2x0.1875	3.16								Lateral

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Label	Shape	Length(ft)	Lb-out(ft)	Lb-in(ft)	Lcomp top(ft)	Lcomp bot(ft)	L-torqu...	K-out	K-in	Cb	Function
145	M145	L2x2x0.1875	3.16		Lb out						Lateral
146	M146	L3x2x0.1875	3.16		Lb out						Lateral
147	M147	L2x2x0.1875	3.16		Lb out						Lateral
148	M148	L2x2x0.1875	3.16		Lb out						Lateral
149	M149	L3x2x0.1875	3.16		Lb out						Lateral
150	M150	C4x1.5	1.119		Lb out						Lateral
151	M151	L2x2x0.1875	.83		Lb out						Lateral
152	M152	C4x1.5 UW	4.25		Lb out						Lateral
153	M153	L1.5x1.5x0....	3.456		Lb out						Lateral
154	M154	L1.5x1.5x0....	3.456		Lb out						Lateral
155	M155	L1.5x1.5x0....	3.373		Lb out						Lateral
156	M156	L1.5x1.5x0....	3.672		Lb out						Lateral
157	M157	L1.5x1.5x0....	3.672		Lb out						Lateral
158	M158	L1.5x1.5x0....	3.372		Lb out						Lateral
159	M159	L1.5x1.5x0....	3.74		Lb out						Lateral
160	M160	L1.5x1.5x0....	3.74		Lb out						Lateral
161	M161	L1.5x1.5x0....	3.74		Lb out						Lateral
162	M162	L2x2x0.1875	3.794		Lb out						Lateral
163	M163	L3x2x0.1875	2.16		Lb out						Lateral
164	M164	L3x2x0.1875	2.16		Lb out						Lateral
165	M165	L3x2x0.1875	.8		Lb out						Lateral
166	M166	L1.5x1.5x0....	3.448		Lb out						Lateral
167	M167	L1.5x1.5x0....	3.448		Lb out						Lateral
168	M168	L3x2x0.1875	.8		Lb out						Lateral
169	M169	L3x2x0.1875	.8		Lb out						Lateral
170	M170	L3x2x0.1875	4.42		Lb out						Lateral
171	M171	L1.5x1.5x0....	3.48		Lb out						Lateral
172	M172	L1.5x1.5x0....	3.466		Lb out						Lateral
173	M173	L1.5x1.5x0....	3.202		Lb out						Lateral
174	M174	L1.5x1.5x0....	3.202		Lb out						Lateral
175	M175	L1.5x1.5x0....	3.202		Lb out						Lateral
176	M176	L1.5x1.5x0....	3.202		Lb out						Lateral
177	M177	L2x2x0.1875	2		Lb out						Lateral
178	M178	L2x2x0.1875	2		Lb out						Lateral
179	M179	L2x2x0.1875	2		Lb out						Lateral
180	M180	L2x2x0.1875	2		Lb out						Lateral
181	M181	L3x2x0.187...	2.29		Lb out						Lateral
182	M182	L3x2x0.1875	.25		Lb out						Lateral
183	M183	L3x2x0.187...	1.5		Lb out						Lateral
184	M184	L3x2x0.1875	.5		Lb out						Lateral
185	M185	L3x2x0.187...	1.5		Lb out						Lateral
186	M186	L3x2x0.1875	.5		Lb out						Lateral
187	M187	L3x2x0.187...	1.5		Lb out						Lateral
188	M188	L3x2x0.1875	.5		Lb out						Lateral
189	M189	L3x2x0.187...	1.5		Lb out						Lateral
190	M190	L3x2x0.1875	.25		Lb out						Lateral
191	M191	L3x2x0.187...	1.5		Lb out						Lateral
192	M192	L3x2x0.1875	.5		Lb out						Lateral
193	M193	L3x2x0.187...	1.5		Lb out						Lateral
194	M194	L3x2x0.1875	.25		Lb out						Lateral
195	M195	L3x2x0.187...	1.5	Segment	Lb out						Lateral
196	M196	L3x2x0.1875	.5	Segment	Lb out						Lateral
197	M197	L3x2x0.187...	1.5	Segment	Lb out						Lateral
198	M198	L3x2x0.1875	.5	Segment	Lb out						Lateral
199	M199	L3x2x0.187...	1.5	Segment	Lb out						Lateral
200	M200	L3x2x0.1875	.5	Segment	Lb out						Lateral
201	M201	L3x2x0.187...	1.5	Segment	Lb out						Lateral

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Aluminum Design Parameters (Continued)

Label	Shape	Length(ft)	Lb-out(ft)	Lb-in(ft)	Lcomp top(ft)	Lcomp bot(ft)	L-torqu...	K-out	K-in	Cb	Function
202	M202	L3x2x0.1875	.25	Segment	Lb out						Lateral
203	M203	L3x2x0.187...	1.5	Segment	Lb out						Lateral
204	M204	L3x2x0.1875	.5	Segment	Lb out						Lateral
205	M205	L3x2x0.187...	1.5	Segment	Lb out						Lateral
206	M206	L3x2x0.1875	.25	Segment	Lb out						Lateral
207	M207	L3x2x0.187...	.83	Segment	Lb out						Lateral
208	M208	L3x2x0.1875	.25		Lb out						Lateral
209	M209	L3x2x0.187...	.83	Segment	Lb out						Lateral
210	M210	L3x2x0.187...	2.708	Segment	Lb out						Lateral
211	M211	L3x2x0.1875	.267	Segment	Lb out						Lateral
212	M212	L2x2x0.1875	2		Lb out						Lateral
213	M213	L1.5x1.5x0....	2.109		Lb out						Lateral
214	M214	L3x2x0.1875	.5		Lb out						Lateral
215	M215	L3x2x0.187...	2.708		Lb out						Lateral
216	M216	C4x1.5	.75		Lb out						Lateral
217	M217	L2x2x0.1875	2		Lb out						Lateral
218	M218	L1.5x1.5x0....	2.109		Lb out						Lateral
219	M219	L3x2x0.1875	.5		Lb out						Lateral
220	M220	C4x1.5	.58		Lb out						Lateral

Joint Loads and Enforced Displacements (BLC 4 : GUARD)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft,...]
1	N62	L	X	.3
2	N145	L	X	.3

Member Distributed Loads (BLC 1 : DL)

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...]	Start Location[ft,%]	End Location[ft,%]
1	M10	Y	-60	-60	0	0
2	M11	Y	-60	-60	0	0
3	M12	Y	-60	-60	0	0
4	M13	Y	-60	-60	0	0
5	M14	Y	-60	-60	0	0
6	M15	Y	-60	-60	0	0
7	M16	Y	-60	-60	0	0
8	M17	Y	-60	-60	0	0
9	M18	Y	-60	-60	0	0
10	M19	Y	-60	-60	0	0
11	M20	Y	-60	-60	0	0
12	M21	Y	-60	-60	0	0
13	M22	Y	-60	-60	0	0
14	M23	Y	-60	-60	0	0
15	M24	Y	-60	-60	0	0
16	M25	Y	-60	-60	0	0
17	M26	Y	-60	-60	0	0
18	M96	Y	-60	-60	0	0
19	M97	Y	-60	-60	0	0
20	M98	Y	-60	-60	0	0
21	M99	Y	-60	-60	0	0
22	M100	Y	-60	-60	0	0
23	M101	Y	-60	-60	0	0
24	M102	Y	-60	-60	0	0
25	M103	Y	-60	-60	0	0
26	M104	Y	-60	-60	0	0
27	M105	Y	-60	-60	0	0

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Member Distributed Loads (BLC 1 : DL) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft.F.ksf]	End Magnitude[lb/ft.	Start Location[ft.%]	End Location[ft.%]
28	M106	Y	-60	-60	0	0
29	M107	Y	-60	-60	0	0
30	M108	Y	-60	-60	0	0
31	M181	Y	-60	-60	0	0
32	M182	Y	-60	-60	0	.25

Member Distributed Loads (BLC 2 : LL)

	Member Label	Direction	Start Magnitude[lb/ft.F.ksf]	End Magnitude[lb/ft.	Start Location[ft.%]	End Location[ft.%]
1	M10	Y	-600	-600	0	0
2	M11	Y	-600	-600	0	0
3	M12	Y	-600	-600	0	0
4	M13	Y	-600	-600	0	0
5	M14	Y	-600	-600	0	0
6	M15	Y	-600	-600	0	0
7	M16	Y	-600	-600	0	0
8	M17	Y	-600	-600	0	0
9	M18	Y	-600	-600	0	0
10	M19	Y	-600	-600	0	0
11	M20	Y	-600	-600	0	0
12	M21	Y	-600	-600	0	0
13	M22	Y	-600	-600	0	0
14	M23	Y	-600	-600	0	0
15	M24	Y	-600	-600	0	0
16	M25	Y	-600	-600	0	0
17	M26	Y	-600	-600	0	0
18	M96	Y	-600	-600	0	0
19	M97	Y	-600	-600	0	0
20	M98	Y	-600	-600	0	0
21	M99	Y	-600	-600	0	0
22	M100	Y	-600	-600	0	0
23	M101	Y	-600	-600	0	0
24	M102	Y	-600	-600	0	0
25	M103	Y	-600	-600	0	0
26	M104	Y	-600	-600	0	0
27	M105	Y	-600	-600	0	0
28	M106	Y	-600	-600	0	0
29	M107	Y	-600	-600	0	0
30	M108	Y	-600	-600	0	0
31	M181	Y	-600	-600	0	0
32	M182	Y	-600	-600	0	.25

Member Distributed Loads (BLC 3 : WL)

	Member Label	Direction	Start Magnitude[lb/ft.F.ksf]	End Magnitude[lb/ft.	Start Location[ft.%]	End Location[ft.%]
1	M28	X	144	144	0	.66
2	M29	X	144	144	0	.66
3	M30	X	144	144	0	.66
4	M31	X	144	144	0	1.34
5	M34	X	144	144	0	.66
6	M35	X	144	144	0	.66
7	M36	X	144	144	0	.66
8	M37	X	144	144	0	.66
9	M38	X	144	144	0	.66
10	M46	X	144	144	0	.66
11	M47	X	144	144	0	.66
12	M48	X	144	144	0	.66
13	M49	X	144	144	0	.66

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Member Distributed Loads (BLC 3 : WL) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft.F.ksf]	End Magnitude[lb/ft.	Start Location[ft.%]	End Location[ft.%]
14	M50	X	144	144	0	.66
15	M61	X	144	144	0	.66
16	M62	X	144	144	0	.66
17	M63	X	144	144	0	0
18	M111	X	144	144	0	.66
19	M112	X	144	144	0	.66
20	M113	X	144	144	0	.66
21	M114	X	144	144	0	.66
22	M115	X	144	144	0	.66
23	M123	X	144	144	0	.66
24	M124	X	144	144	0	.66
25	M125	X	144	144	0	.66
26	M126	X	144	144	0	.66
27	M127	X	144	144	0	.66
28	M138	X	144	144	0	.66
29	M139	X	144	144	0	.66
30	M140	X	144	144	0	0
31	M207	X	144	144	0	.41
32	M209	X	144	144	0	.41

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Joint	Point	Distributed
1	DL	None		-1			32
2	LL	None					32
3	WL	None					32
4	GUARD	None			2		

Load Combinations

	Description	So.	P.	S.	BLCFac.	BLCFac.	BLCFac.	BLCFac.	BLCFac.	BLCFac.	BLCFac.	BLCFac.	BLCFac.	BLCFac.	BLCFac.
1	DL+LL	Yes	Y		1	1	2	1							
2	DL+0.75LL+0.75 (0.6 ...	Yes	Y		1	1	2	.75	3	.45					
3	DL+0.75LL-0.75 (0.6 W...	Yes	Y		1	1	2	.75	3	-.45					
4	DL+0.6 WL	Yes	Y		1	1	3	.6							
5	DL-0.6 WL	Yes	Y		1	1	3	-.6							
6	0.6DL+0.6 WL	Yes	Y		1	.6	3	.6							
7	0.6DL-0.6 WL	Yes	Y		1	.6	3	-.6							
8	DL+GUARD	Yes	Y		1	1	4	1							
9	DL-GUARD	Yes	Y		1	1	4	-1							
10	DL	Y			1	1									
11	LL	Y			2	1									
12	WL	Y			3	1									
13	WL-	Y			3	-1									
14	GUARD	Y			4	1									
15	GUARD-	Y			4	-1									

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Moment [k-ft]	LC
1	N90	max	.058	7	.064	4	0	1
2		min	-.056	4	.003	9	0	1
3	N91	max	.21	5	.006	1	0	1
4		min	-.328	6	-.663	6	0	1
5	N94	max	.157	3	.007	1	0	1

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Envelope Joint Reactions (Continued)

Joint		X [k]	LC	Y [k]	LC	Moment [k-ft]	LC
6		min	-0.003	2	-0.916	7	0
7	N92	max	.035	3	.059	8	0
8		min	-.025	2	-.119	6	0
9	N95	max	.133	7	.007	1	0
10		min	-.096	2	-1.168	7	0
11	N93	max	.076	7	.008	1	0
12		min	-.106	6	-.919	6	0
13	N96	max	.079	7	.007	1	0
14		min	-.101	6	-1.312	9	0
15	N1	max	0	1	.921	1	0
16		min	0	1	.047	7	0
17	N2	max	0	1	1.588	1	0
18		min	0	1	0	6	0
19	N3	max	0	1	1.344	1	0
20		min	0	1	0	4	0
21	N4	max	0	1	1.306	1	0
22		min	0	1	0	5	0
23	N5	max	0	1	1.246	1	0
24		min	0	1	.117	8	0
25	N6	max	0	1	1.676	3	0
26		min	0	1	0	4	0
27	N7	max	0	1	1.443	2	0
28		min	0	1	0	5	0
29	N8	max	0	1	.781	1	0
30		min	0	1	0	4	0
31	N9	max	0	1	1.588	1	0
32		min	0	1	0	5	0
33	N10	max	0	1	1.34	1	0
34		min	0	1	0	4	0
35	N11	max	0	1	1.864	3	0
36		min	0	1	0	4	0
37	N12	max	0	1	1.511	2	0
38		min	0	1	0	5	0
39	N13	max	0	1	1.328	1	0
40		min	0	1	.087	7	0
41	N14	max	0	1	1.332	1	0
42		min	0	1	0	4	0
43	N15	max	0	1	1.353	1	0
44		min	0	1	0	4	0
45	N16	max	0	1	1.955	3	0
46		min	0	1	0	4	0
47	N17	max	0	1	1.735	2	0
48		min	0	1	0	5	0
49	N18	max	0	1	1.344	1	0
50		min	0	1	.263	7	0
51	N19	max	0	1	1.621	3	0
52		min	0	1	0	4	0
53	N20	max	0	1	1.736	8	0
54		min	0	1	0	3	0
55	N97	max	0	1	2.932	1	0
56		min	0	1	0	4	0
57	N98	max	0	1	.776	2	0
58		min	0	1	0	5	0
59	N99	max	0	1	.753	1	0
60		min	0	1	0	4	0
61	N100	max	0	1	1.559	1	0
62		min	0	1	0	5	0

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Envelope Joint Reactions (Continued)

Joint		X [k]	LC	Y [k]	LC	Moment [k-ft]	LC
63	N101	max	0	1	1.332	1	0
64		min	0	1	0	4	0
65	N102	max	0	1	1.877	3	0
66		min	0	1	0	4	0
67	N103	max	0	1	1.472	2	0
68		min	0	1	0	5	0
69	N104	max	0	1	1.328	1	0
70		min	0	1	.082	7	0
71	N105	max	0	1	1.328	1	0
72		min	0	1	.052	7	0
73	N106	max	0	1	1.344	1	0
74		min	0	1	0	4	0
75	N107	max	0	1	1.961	3	0
76		min	0	1	0	4	0
77	N108	max	0	1	1.729	2	0
78		min	0	1	0	5	0
79	N109	max	0	1	1.344	1	0
80		min	0	1	.257	7	0
81	N110	max	0	1	1.622	3	0
82		min	0	1	0	4	0
83	N111	max	0	1	1.672	8	0
84		min	0	1	0	3	0
85	N172	max	.152	5	.008	1	0
86		min	-.218	6	-.464	6	0
87	N173	max	.001	2	.009	1	0
88		min	0	5	-.051	6	0
89	N174	max	.074	7	.008	1	0
90		min	-.09	6	-.833	8	0
91	N175	max	.131	6	.006	1	0
92		min	-.044	7	-.809	7	0
93	N176	max	.105	3	.006	1	0
94		min	-.079	4	-1.125	7	0
95	N177	max	.077	7	.007	1	0
96		min	-.086	6	-1.316	9	0
97	N178	max	.203	7	.157	7	0
98		min	-.215	4	-.315	6	0
99	N179	max	0	2	.169	6	0
100		min	0	3	-.291	7	0
101	N180	max	.126	5	.035	8	0
102		min	-.14	6	-.295	7	0
103	N181	max	.063	3	.066	7	0
104		min	-.049	4	-.368	6	0
105	N182	max	.129	7	.008	1	0
106		min	-.14	6	-.441	6	0
107	N183	max	.145	5	.007	1	0
108		min	-.14	4	-.38	6	0
109	N184	max	.13	7	.009	1	0
110		min	-.139	6	-.547	7	0
111	Totals:	max	1.769	5	46.01	1	0
112		min	-1.769	4	2.842	7	0

Envelope Member Section Forces

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1	M1	max	0	3	0	9	0	1
2		min	-.001	2	-.035	4	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
3	2	max	.058	5	.027	4	0	1
4		min	-.056	4	0	9	-.019	6
5	3	max	.051	5	0	3	-.007	6
6		min	-.049	4	-.073	6	-.005	4
7	4	max	.151	4	.15	6	.064	6
8		min	-.156	5	-.001	1	-.005	7
9	5	max	.011	4	.004	1	0	1
10		min	-.012	5	-.248	7	0	1
11	M2	1	max	0	.098	6	0	1
12		min	0	2	-.024	8	0	1
13	2	max	0	5	.098	6	.002	8
14		min	0	2	-.024	8	-.006	6
15	3	max	0	5	.098	6	.003	8
16		min	0	2	-.024	8	-.012	6
17	4	max	0	5	.098	6	.005	8
18		min	0	2	-.024	8	-.018	6
19	5	max	0	5	.098	6	.006	8
20		min	0	2	-.024	8	-.024	6
21	M3	1	max	0	.521	6	0	1
22		min	0	2	-.005	1	0	1
23	2	max	0	9	.521	6	0	1
24		min	0	2	-.005	1	-.033	6
25	3	max	0	9	.521	6	0	1
26		min	0	2	-.005	1	-.065	6
27	4	max	0	9	.521	6	0	1
28		min	0	2	-.005	1	-.098	6
29	5	max	0	9	.521	6	.001	1
30		min	0	2	-.005	1	-.13	6
31	M4	1	max	.02	.013	7	0	1
32		min	-.014	7	-.03	6	0	1
33	2	max	.02	2	.012	7	.033	6
34		min	-.014	7	-.031	6	-.014	7
35	3	max	.279	6	.027	4	.067	6
36		min	-.259	7	-.031	6	-.027	7
37	4	max	.279	6	.031	6	.033	6
38		min	-.259	7	-.012	7	-.014	7
39	5	max	.279	6	.03	6	0	1
40		min	-.259	7	-.013	7	0	1
41	M5	1	max	0	.022	4	0	1
42		min	0	2	0	2	0	1
43	2	max	.001	3	.015	8	.001	2
44		min	0	2	-.03	6	-.041	4
45	3	max	.002	3	.048	7	.028	6
46		min	0	2	-.048	4	-.007	2
47	4	max	.125	2	.052	4	.102	4
48		min	-.168	3	-.046	8	-.073	7
49	5	max	.125	2	.05	4	0	1
50		min	-.168	3	-.037	7	0	1
51	M6	1	max	0	.041	9	0	1
52		min	0	2	-.07	6	0	1
53	2	max	0	3	.04	9	.071	6
54		min	0	2	-.071	6	-.04	9
55	3	max	.209	6	.032	5	.142	6
56		min	-.156	7	-.072	5	-.08	9
57	4	max	.209	6	.071	6	.071	6
58		min	-.156	7	-.04	9	-.04	9
59	5	max	.209	6	.07	6	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
60		min	-.156	7	-.041	9	0	1
61	M7	1	max	.032	.021	4	0	1
62		min	-.035	8	0	2	0	1
63	2	max	.053	9	.014	8	.002	2
64		min	-.057	8	-.027	6	-.04	4
65	3	max	.067	9	.056	7	.026	7
66		min	-.073	8	-.054	4	-.011	2
67	4	max	.126	2	.056	4	.11	4
68		min	-.169	3	-.054	8	-.086	7
69	5	max	.126	2	.054	4	0	1
70		min	-.169	3	-.043	7	0	1
71	M8	1	max	0	.052	9	0	1
72		min	0	8	-.079	8	0	1
73	2	max	0	3	.051	9	.08	8
74		min	0	8	-.08	8	-.051	9
75	3	max	.209	6	.081	8	.16	8
76		min	-.156	7	-.077	6	-.102	9
77	4	max	.209	6	.08	8	.08	8
78		min	-.156	7	-.051	9	-.051	9
79	5	max	.209	6	.079	8	0	1
80		min	-.156	7	-.052	9	0	1
81	M9	1	max	.054	.063	9	0	1
82		min	-.047	8	-.09	8	0	1
83	2	max	.054	9	.062	9	.09	8
84		min	-.047	8	-.091	8	-.063	9
85	3	max	.208	6	.081	6	.182	8
86		min	-.156	7	-.092	8	-.125	9
87	4	max	.208	6	.091	8	.09	8
88		min	-.156	7	-.062	9	-.063	9
89	5	max	.208	6	.09	8	0	1
90		min	-.156	7	-.063	9	0	1
91	M10	1	max	.001	.922	1	0	1
92		min	0	3	.051	7	0	1
93	2	max	.001	2	.881	1	-.003	7
94		min	0	3	.049	7	-.056	1
95	3	max	.001	2	.84	1	-.006	7
96		min	0	3	.047	7	-.11	1
97	4	max	.001	2	.798	1	-.009	7
98		min	0	3	.044	7	-.161	1
99	5	max	.001	2	.757	1	-.012	7
100		min	0	3	.042	7	-.21	1
101	M11	1	max	.051	.661	1	0	1
102		min	-.051	5	.037	7	0	1
103	2	max	.051	4	.331	1	-.014	7
104		min	-.051	5	.018	7	-.248	1
105	3	max	.051	4	0	1	-.018	7
106		min	-.051	5	0	1	-.331	1
107	4	max	.051	4	-.018	6	-.014	7
108		min	-.051	5	-.331	1	-.248	1
109	5	max	.051	4	-.037	6	0	1
110		min	-.051	5	-.661	1	0	1
111	M12	1	max	.092	.661	1	0	1
112		min	-.092	5	.037	6	0	1
113	2	max	.092	4	.331	1	-.014	6
114		min	-.092	5	.018	6	-.248	1
115	3	max	.092	4	0	1	-.018	6
116		min	-.092	5	0	1	-.331	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
117	4	max	.092	4	-.018	7	-.014	6
118		min	-.092	5	-.331	1	-.248	1
119	5	max	.092	4	-.037	7	0	1
120		min	-.092	5	-.661	1	0	1
121	M13	1	max	.031	5	.661	1	0
122		min	-.025	4	.037	6	0	1
123	2	max	.031	5	.331	1	-.014	6
124		min	-.025	4	.018	6	-.248	1
125	3	max	.031	5	0	1	-.018	6
126		min	-.025	4	0	1	-.331	1
127	4	max	.031	5	-.018	6	-.014	6
128		min	-.025	4	-.331	1	-.248	1
129	5	max	.031	5	-.037	6	0	1
130		min	-.025	4	-.661	1	0	1
131	M14	1	max	.077	6	.581	1	0
132		min	-.071	7	-.011	6	0	1
133	2	max	.077	6	-.001	7	.057	6
134		min	-.071	7	-.411	1	-.128	1
135	3	max	.078	6	.254	1	.013	6
136		min	-.071	5	-.048	7	-.076	1
137	4	max	.174	7	.615	1	-.179	1
138		min	-.181	6	-.043	6	-.105	6
139	5	max	.174	7	.035	7	0	1
140		min	-.181	6	-.376	1	0	1
141	M15	1	max	.087	7	.661	1	0
142		min	-.092	6	.037	6	0	1
143	2	max	.087	7	.331	1	-.014	6
144		min	-.092	6	.018	6	-.248	1
145	3	max	.087	7	0	1	-.018	6
146		min	-.092	6	0	1	-.331	1
147	4	max	.087	7	-.018	7	-.014	6
148		min	-.092	6	-.331	1	-.248	1
149	5	max	.087	7	-.037	7	0	1
150		min	-.092	6	-.661	1	0	1
151	M16	1	max	.032	9	.661	1	0
152		min	-.037	8	.037	7	0	1
153	2	max	.032	9	.331	1	-.014	7
154		min	-.037	8	.018	7	-.248	1
155	3	max	.032	9	0	1	-.018	7
156		min	-.037	8	0	1	-.331	1
157	4	max	.032	9	-.018	6	-.014	7
158		min	-.037	8	-.331	1	-.248	1
159	5	max	.032	9	-.037	6	0	1
160		min	-.037	8	-.661	1	0	1
161	M17	1	max	.052	2	.661	1	0
162		min	-.043	3	.037	7	0	1
163	2	max	.052	2	.331	1	-.014	7
164		min	-.043	3	.018	7	-.248	1
165	3	max	.052	2	0	1	-.018	7
166		min	-.043	3	0	1	-.331	1
167	4	max	.052	2	-.018	6	-.014	7
168		min	-.043	3	-.331	1	-.248	1
169	5	max	.052	2	-.037	6	0	1
170		min	-.043	3	-.661	1	0	1
171	M18	1	max	.073	2	.661	1	0
172		min	-.076	5	.037	6	0	1
173	2	max	.073	2	.331	1	-.014	6

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
174		min	-.076	5	.018	6	-.248	1
175	3	max	.073	2	0	1	-.018	6
176		min	-.076	5	0	1	-.331	1
177	4	max	.073	2	-.018	7	-.014	6
178		min	-.076	5	-.331	1	-.248	1
179	5	max	.073	2	-.037	7	0	1
180		min	-.076	5	-.661	1	0	1
181	M19	1	max	.155	9	.661	1	0
182		min	-.168	8	.037	7	0	1
183	2	max	.155	9	.331	1	-.014	7
184		min	-.168	8	.018	7	-.248	1
185	3	max	.155	9	0	1	-.018	7
186		min	-.168	8	0	1	-.331	1
187	4	max	.155	9	-.018	6	-.014	7
188		min	-.168	8	-.331	1	-.248	1
189	5	max	.155	9	-.037	6	0	1
190		min	-.168	8	-.661	1	0	1
191	M20	1	max	.122	9	.661	1	0
192		min	-.133	8	.037	7	0	1
193	2	max	.122	9	.331	1	-.014	7
194		min	-.133	8	.018	7	-.248	1
195	3	max	.122	9	0	1	-.018	7
196		min	-.133	8	0	1	-.331	1
197	4	max	.122	9	-.018	6	-.014	7
198		min	-.133	8	-.331	1	-.248	1
199	5	max	.122	9	-.037	6	0	1
200		min	-.133	8	-.661	1	0	1
201	M21	1	max	.101	9	.661	1	0
202		min	-.11	8	.037	7	0	1
203	2	max	.101	9	.331	1	-.014	7
204		min	-.11	8	.018	7	-.248	1
205	3	max	.101	9	0	1	-.018	7
206		min	-.11	8	0	1	-.331	1
207	4	max	.101	9	-.018	6	-.014	7
208		min	-.11	8	-.331	1	-.248	1
209	5	max	.101	9	-.037	6	0	1
210		min	-.11	8	-.661	1	0	1
211	M22	1	max	.086	9	.661	1	0
212		min	-.093	8	.037	7	0	1
213	2	max	.086	9	.331	1	-.014	7
214		min	-.093	8	.018	7	-.248	1
215	3	max	.086	9	0	1	-.018	7
216		min	-.093	8	0	1	-.331	1
217	4	max	.086	9	-.018	6	-.014	7
218		min	-.093	8	-.331	1	-.248	1
219	5	max	.086	9	-.037	6	0	1
220		min	-.093	8	-.661	1	0	1
221	M23	1	max	.086	4	.661	1	0
222		min	-.09	7	.037	6	0	1
223	2	max	.086	4	.331	1	-.014	6
224		min	-.09	7	.018	6	-.248	1
225	3	max	.086	4	0	1	-.018	6
226		min	-.09	7	0	1	-.331	1
227	4	max	.086	4	-.018	7	-.014	6
228		min	-.09	7	-.331	1	-.248	1
229	5	max	.086	4	-.037	7	0	1
230		min	-.09	7	-.661	1	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
231	M24	1	max	.259	9	.661	1	0
232			min	-.225	8	.037	7	0
233		2	max	.259	9	.331	1	-.014
234			min	-.225	8	.018	7	-.248
235		3	max	.259	9	0	1	-.018
236			min	-.225	8	0	1	-.331
237		4	max	.259	9	-.018	6	-.014
238			min	-.225	8	-.331	1	-.248
239		5	max	.259	9	-.037	6	0
240			min	-.225	8	-.661	1	0
241	M25	1	max	.204	9	.661	1	0
242			min	-.178	8	.037	7	0
243		2	max	.204	9	.331	1	-.014
244			min	-.178	8	.018	7	-.248
245		3	max	.204	9	0	1	-.018
246			min	-.178	8	0	1	-.331
247		4	max	.204	9	-.018	6	-.014
248			min	-.178	8	-.331	1	-.248
249		5	max	.204	9	-.037	6	0
250			min	-.178	8	-.661	1	0
251	M26	1	max	2.184	9	.661	1	0
252			min	-2.21	8	.037	6	0
253		2	max	2.184	9	.331	1	-.014
254			min	-2.21	8	.018	6	-.248
255		3	max	2.184	9	0	1	-.018
256			min	-2.21	8	0	1	-.331
257		4	max	2.184	9	-.018	7	-.014
258			min	-2.21	8	-.331	1	-.248
259		5	max	2.184	9	-.037	7	0
260			min	-2.21	8	-.661	1	0
261	M27	1	max	.922	1	0	1	0
262			min	.051	7	0	1	0
263		2	max	.923	1	0	1	0
264			min	.051	7	0	1	0
265		3	max	.923	1	0	1	0
266			min	.052	7	0	1	0
267		4	max	.924	1	0	1	0
268			min	.052	7	0	1	0
269		5	max	.924	1	0	1	0
270			min	.052	7	0	1	0
271	M28	1	max	.661	1	.05	5	0
272			min	.037	7	-.051	4	0
273		2	max	1.584	1	.007	4	.014
274			min	.088	7	-.007	5	-.014
275		3	max	1.584	1	.007	4	.01
276			min	.088	7	-.007	5	-.01
277		4	max	1.585	1	.007	4	.005
278			min	.089	7	-.007	5	-.005
279		5	max	1.586	1	.007	4	0
280			min	.089	7	-.007	5	0
281	M29	1	max	.661	1	.092	5	0
282			min	.036	6	-.092	4	0
283		2	max	1.323	1	.016	4	.04
284			min	.074	6	-.016	5	-.04
285		3	max	1.324	1	.016	4	.027
286			min	.074	6	-.016	5	-.026
287		4	max	1.324	1	.016	4	.013

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
288			min	.074	6	-.016	5	-.013
289		5	max	1.325	1	.016	4	0
290			min	.075	6	-.016	5	0
291	M30	1	max	.661	1	.025	4	0
292			min	.037	7	-.032	5	0
293		2	max	1.307	1	.012	5	.036
294			min	-.25	7	-.011	4	-.032
295		3	max	1.308	1	.012	5	.024
296			min	-.249	7	-.011	4	-.021
297		4	max	1.309	1	.012	5	.012
298			min	-.249	7	-.011	4	-.011
299		5	max	1.31	1	.012	5	0
300			min	-.248	7	-.011	4	0
301	M31	1	max	.581	1	.071	7	0
302			min	-.011	6	-.077	6	0
303		2	max	.581	1	.013	7	.032
304			min	-.01	6	-.022	2	-.028
305		3	max	1.243	1	.021	2	.029
306			min	.027	6	-.013	7	-.019
307		4	max	1.244	1	.022	2	.014
308			min	.027	6	-.014	7	-.009
309		5	max	1.244	1	.022	2	0
310			min	.027	6	-.014	7	0
311	M32	1	max	1.656	1	0	1	0
312			min	.008	7	0	1	0
313		2	max	1.657	1	0	1	0
314			min	.009	7	0	1	0
315		3	max	1.657	1	0	1	0
316			min	.009	7	0	1	0
317		4	max	1.658	1	0	1	0
318			min	.009	7	0	1	0
319		5	max	1.658	1	0	1	0
320			min	.01	7	0	1	0
321	M33	1	max	1.352	1	0	1	0
322			min	-.104	7	0	1	0
323		2	max	1.352	1	0	1	0
324			min	-.103	7	0	1	0
325		3	max	1.353	1	0	1	0
326			min	-.103	7	0	1	0
327		4	max	1.354	1	0	1	0
328			min	-.102	7	0	1	0
329		5	max	1.354	1	0	1	0
330			min	-.102	7	0	1	0
331	M34	1	max	.661	1	.093	6	0
332			min	.037	7	-.087	7	0
333		2	max	1.038	1	.03	7	.072
334			min	.003	7	-.032	6	-.076
335		3	max	1.039	1	.03	7	.048
336			min	.003	7	-.032	6	-.051
337		4	max	1.04	1	.03	7	.024
338			min	.003	7	-.032	6	-.025
339		5	max	1.04	1	.03	7	0
340			min	.004	7	-.032	6	0
341	M35	1	max	.661	1	.037	8	0
342			min	.037	6	-.032	9	0
343		2	max	1.323	1	.01	7	.029
344			min	.074	6	-.011	6	-.032

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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
345		3	max	1.324	1	.01	7	.02	7
346			min	.074	6	-.011	6	-.022	6
347		4	max	1.325	1	.01	7	.01	7
348			min	.075	6	-.011	6	-.011	6
349		5	max	1.326	1	.01	7	0	1
350			min	.075	6	-.011	6	0	1
351	M36	1	max	.661	1	.043	3	0	1
352			min	.037	6	-.053	2	0	1
353		2	max	1.323	1	.005	2	.018	2
354			min	.074	7	-.005	8	-.019	8
355		3	max	1.324	1	.005	2	.012	2
356			min	.075	7	-.005	8	-.012	8
357		4	max	1.325	1	.005	2	.006	2
358			min	.075	7	-.005	8	-.006	8
359		5	max	1.326	1	.005	2	0	1
360			min	.076	7	-.005	8	0	1
361	M37	1	max	.661	1	.076	5	0	1
362			min	.036	6	-.074	2	0	1
363		2	max	1.323	1	.023	2	.02	2
364			min	.074	6	-.022	5	-.017	5
365		3	max	1.324	1	.023	2	.011	5
366			min	.074	6	-.022	5	-.011	2
367		4	max	1.326	3	.005	5	.007	5
368			min	-.367	6	-.005	2	-.007	2
369		5	max	1.327	3	.005	5	0	1
370			min	-.367	6	-.005	2	0	1
371	M38	1	max	.661	1	.168	8	0	1
372			min	.036	7	-.155	9	0	1
373		2	max	1.333	1	.05	5	.073	5
374			min	-.346	7	-.053	6	-.078	6
375		3	max	1.335	1	.05	5	.001	8
376			min	-.345	7	-.053	6	-.001	9
377		4	max	1.611	2	.009	8	.013	8
378			min	-.694	7	-.008	5	-.012	5
379		5	max	1.612	2	.009	8	0	1
380			min	-.693	7	-.008	5	0	1
381	M39	1	max	1.659	1	0	1	0	1
382			min	-.016	6	0	1	0	1
383		2	max	1.66	1	0	1	0	1
384			min	-.015	6	0	1	0	1
385		3	max	1.661	1	0	1	0	1
386			min	-.015	6	0	1	0	1
387		4	max	1.661	1	0	1	0	1
388			min	-.015	6	0	1	0	1
389		5	max	1.662	1	0	1	0	1
390			min	-.014	6	0	1	0	1
391	M40	1	max	1.444	2	0	1	0	1
392			min	-.403	7	0	1	0	1
393		2	max	1.445	2	0	1	0	1
394			min	-.403	7	0	1	0	1
395		3	max	1.445	2	0	1	0	1
396			min	-.402	7	0	1	0	1
397		4	max	1.446	2	0	1	0	1
398			min	-.402	7	0	1	0	1
399		5	max	1.447	2	0	1	0	1
400			min	-.402	7	0	1	0	1
401	M41	1	max	.782	1	0	1	0	1

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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
402			min	-.498	6	0	1	0	1
403		2	max	.783	1	0	1	0	1
404			min	-.498	6	0	1	0	1
405		3	max	.783	1	0	1	0	1
406			min	-.498	6	0	1	0	1
407		4	max	.784	1	0	1	0	1
408			min	-.497	6	0	1	0	1
409		5	max	.784	1	0	1	0	1
410			min	-.497	6	0	1	0	1
411	M42	1	max	1.322	1	0	1	0	1
412			min	-.017	6	0	1	0	1
413		2	max	1.323	1	0	1	0	1
414			min	-.017	6	0	1	0	1
415		3	max	1.323	1	0	1	0	1
416			min	-.016	6	0	1	0	1
417		4	max	1.324	1	0	1	0	1
418			min	-.016	6	0	1	0	1
419		5	max	1.325	1	0	1	0	1
420			min	-.016	6	0	1	0	1
421	M43	1	max	1.334	1	0	1	0	1
422			min	.08	8	0	1	0	1
423		2	max	1.335	1	0	1	0	1
424			min	.08	8	0	1	0	1
425		3	max	1.336	1	0	1	0	1
426			min	.081	8	0	1	0	1
427		4	max	1.336	1	0	1	0	1
428			min	.081	8	0	1	0	1
429		5	max	1.337	1	0	1	0	1
430			min	.082	8	0	1	0	1
431	M44	1	max	1.571	3	0	1	0	1
432			min	-.644	6	0	1	0	1
433		2	max	1.571	3	0	1	0	1
434			min	-.644	6	0	1	0	1
435		3	max	1.572	3	0	1	0	1
436			min	-.644	6	0	1	0	1
437		4	max	1.572	3	0	1	0	1
438			min	-.643	6	0	1	0	1
439		5	max	1.573	3	0	1	0	1
440			min	-.643	6	0	1	0	1
441	M45	1	max	1.511	2	0	1	0	1
442			min	-.663	7	0	1	0	1
443		2	max	1.512	2	0	1	0	1
444			min	-.663	7	0	1	0	1
445		3	max	1.513	2	0	1	0	1
446			min	-.662	7	0	1	0	1
447		4	max	1.514	2	0	1	0	1
448			min	-.662	7	0	1	0	1
449		5	max	1.515	2	0	1	0	1
450			min	-.661	7	0	1	0	1
451	M46	1	max	.661	1	.133	8	0	1
452			min	.037	6	-.123	9	0	1
453		2	max	1.323	1	.033	9	.078	9
454			min	.074	6	-.035	8	-.085	8
455		3	max	1.324	1	.033	9	.052	9
456			min	.074	6	-.035	8	-.056	8
457		4	max	1.324	1	.033	9	.026	9
458			min	.075	6	-.035	8	-.028	8

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
459	5	max	1.325	1	.033	9	0	1
460		min	.075	6	-.035	8	0	1
461	1	max	.661	1	.11	8	0	1
462		min	.037	6	-.102	9	0	1
463	2	max	1.323	1	.021	9	.061	9
464		min	.074	7	-.023	8	-.066	8
465	3	max	1.324	1	.021	9	.041	9
466		min	.074	7	-.023	8	-.044	8
467	4	max	1.325	1	.021	9	.02	9
468		min	.075	7	-.023	8	-.022	8
469	5	max	1.326	1	.021	9	0	1
470		min	.075	7	-.023	8	0	1
471	1	max	.661	1	.094	8	0	1
472		min	.037	7	-.087	9	0	1
473	2	max	1.323	1	.015	9	.051	9
474		min	.074	7	-.016	8	-.055	8
475	3	max	1.324	1	.015	9	.034	9
476		min	.075	7	-.016	8	-.037	8
477	4	max	1.325	1	.015	9	.017	9
478		min	.075	7	-.016	8	-.018	8
479	5	max	1.326	1	.015	9	0	1
480		min	.076	7	-.016	8	0	1
481	1	max	.661	1	.09	7	0	1
482		min	.036	6	-.086	4	0	1
483	2	max	1.323	1	.026	2	.024	9
484		min	.074	6	-.028	8	-.026	8
485	3	max	1.324	1	.026	2	.012	7
486		min	.074	6	-.028	8	-.011	4
487	4	max	1.372	1	.006	7	.008	7
488		min	-.179	8	-.006	4	-.007	4
489	5	max	1.373	1	.006	7	0	1
490		min	-.178	8	-.006	4	0	1
491	1	max	.661	1	.226	8	0	1
492		min	.037	7	-.259	9	0	1
493	2	max	1.28	1	.077	9	.11	9
494		min	-.25	9	-.067	8	-.095	8
495	3	max	1.282	1	.077	9	.003	8
496		min	-.248	9	-.067	8	-.003	9
497	4	max	1.357	2	.012	8	.018	8
498		min	-.437	9	-.014	9	-.021	9
499	5	max	1.359	2	.012	8	0	1
500		min	-.436	9	-.014	9	0	1
501	1	max	1.326	1	0	1	0	1
502		min	.078	7	0	1	0	1
503	2	max	1.327	1	0	1	0	1
504		min	.078	7	0	1	0	1
505	3	max	1.327	1	0	1	0	1
506		min	.078	7	0	1	0	1
507	4	max	1.328	1	0	1	0	1
508		min	.079	7	0	1	0	1
509	5	max	1.329	1	0	1	0	1
510		min	.079	7	0	1	0	1
511	1	max	1.326	1	0	1	0	1
512		min	.033	6	0	1	0	1
513	2	max	1.326	1	0	1	0	1
514		min	.033	6	0	1	0	1
515	3	max	1.327	1	0	1	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
516		min	.034	6	0	1	0	1
517	4	max	1.328	1	0	1	0	1
518		min	.034	6	0	1	0	1
519	5	max	1.328	1	0	1	0	1
520		min	.034	6	0	1	0	1
521	1	max	1.337	1	0	1	0	1
522		min	.068	6	0	1	0	1
523	2	max	1.338	1	0	1	0	1
524		min	.068	6	0	1	0	1
525	3	max	1.339	1	0	1	0	1
526		min	.068	6	0	1	0	1
527	4	max	1.339	1	0	1	0	1
528		min	.069	6	0	1	0	1
529	5	max	1.34	1	0	1	0	1
530		min	.069	6	0	1	0	1
531	1	max	1.45	3	0	1	0	1
532		min	-.217	8	0	1	0	1
533	2	max	1.451	3	0	1	0	1
534		min	-.216	8	0	1	0	1
535	3	max	1.452	3	0	1	0	1
536		min	-.216	8	0	1	0	1
537	4	max	1.452	3	0	1	0	1
538		min	-.215	8	0	1	0	1
539	5	max	1.453	3	0	1	0	1
540		min	-.214	8	0	1	0	1
541	1	max	1.545	2	0	1	0	1
542		min	-.616	7	0	1	0	1
543	2	max	1.546	2	0	1	0	1
544		min	-.615	7	0	1	0	1
545	3	max	1.546	2	0	1	0	1
546		min	-.615	7	0	1	0	1
547	4	max	1.547	2	0	1	0	1
548		min	-.614	7	0	1	0	1
549	5	max	1.548	2	0	1	0	1
550		min	-.614	7	0	1	0	1
551	1	max	1.33	1	0	1	0	1
552		min	.081	7	0	1	0	1
553	2	max	1.33	1	0	1	0	1
554		min	.082	7	0	1	0	1
555	3	max	1.331	1	0	1	0	1
556		min	.082	7	0	1	0	1
557	4	max	1.332	1	0	1	0	1
558		min	.082	7	0	1	0	1
559	5	max	1.332	1	0	1	0	1
560		min	.083	7	0	1	0	1
561	1	max	1.329	1	0	1	0	1
562		min	-.012	6	0	1	0	1
563	2	max	1.33	1	0	1	0	1
564		min	-.012	6	0	1	0	1
565	3	max	1.331	1	0	1	0	1
566		min	-.011	6	0	1	0	1
567	4	max	1.331	1	0	1	0	1
568		min	-.011	6	0	1	0	1
569	5	max	1.332	1	0	1	0	1
570		min	-.01	6	0	1	0	1
571	1	max	1.347	1	0	1	0	1
572		min	.063	8	0	1	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
573	2	max	1.348	1	0	1	0	1
574		min	.064	8	0	1	0	1
575	3	max	1.348	1	0	1	0	1
576		min	.064	8	0	1	0	1
577	4	max	1.349	1	0	1	0	1
578		min	.065	8	0	1	0	1
579	5	max	1.35	1	0	1	0	1
580		min	.066	8	0	1	0	1
581	M59	1	max	1.692	3	0	1	0
582		min	-.22	6	0	1	0	1
583	2	max	1.693	3	0	1	0	1
584		min	-.22	6	0	1	0	1
585	3	max	1.694	3	0	1	0	1
586		min	-.219	6	0	1	0	1
587	4	max	1.694	3	0	1	0	1
588		min	-.219	6	0	1	0	1
589	5	max	1.695	3	0	1	0	1
590		min	-.218	6	0	1	0	1
591	M60	1	max	1.736	2	0	1	0
592		min	-.836	7	0	1	0	1
593	2	max	1.737	2	0	1	0	1
594		min	-.835	7	0	1	0	1
595	3	max	1.738	2	0	1	0	1
596		min	-.835	7	0	1	0	1
597	4	max	1.739	2	0	1	0	1
598		min	-.834	7	0	1	0	1
599	5	max	1.739	2	0	1	0	1
600		min	-.834	7	0	1	0	1
601	M61	1	max	.661	1	.179	8	0
602		min	.037	7	-.205	9	0	1
603	2	max	1.323	1	.054	9	.13	9
604		min	.074	7	-.047	8	-.114	8
605	3	max	1.324	1	.054	9	.087	9
606		min	.074	7	-.047	8	-.076	8
607	4	max	1.324	1	.054	9	.043	9
608		min	.075	7	-.047	8	-.038	8
609	5	max	1.325	1	.054	9	0	1
610		min	.075	7	-.047	8	0	1
611	M62	1	max	.782	9	.033	8	0
612		min	-.668	8	-.035	9	0	1
613	2	max	1.312	1	.007	9	.021	9
614		min	-.603	8	-.007	8	-.02	8
615	3	max	1.313	1	.007	9	.014	9
616		min	-.602	8	-.007	8	-.013	8
617	4	max	1.314	1	.007	9	.007	9
618		min	-.602	8	-.007	8	-.007	8
619	5	max	1.315	1	.007	9	0	1
620		min	-.601	8	-.007	8	0	1
621	M63	1	max	0	1	0	8	0
622		min	0	1	0	9	0	1
623	2	max	0	1	.005	4	0	5
624		min	0	6	-.005	5	0	4
625	3	max	0	1	.011	4	0	5
626		min	0	6	-.011	5	0	4
627	4	max	0	1	.016	4	.002	5
628		min	0	6	-.016	5	-.002	4
629	5	max	0	1	.022	4	.003	5

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
630		min	0	6	-.022	5	-.003	4
631	M64	1	max	1.333	1	0	1	0
632		min	-.004	6	0	1	0	1
633	2	max	1.333	1	0	1	0	1
634		min	-.004	6	0	1	0	1
635	3	max	1.334	1	0	1	0	1
636		min	-.003	6	0	1	0	1
637	4	max	1.335	1	0	1	0	1
638		min	-.003	6	0	1	0	1
639	5	max	1.336	1	0	1	0	1
640		min	-.002	6	0	1	0	1
641	M65	1	max	1.284	1	0	1	0
642		min	-.712	8	0	1	0	1
643	2	max	1.285	1	0	1	0	1
644		min	-.711	8	0	1	0	1
645	3	max	1.285	1	0	1	0	1
646		min	-.711	8	0	1	0	1
647	4	max	1.286	1	0	1	0	1
648		min	-.71	8	0	1	0	1
649	5	max	1.287	1	0	1	0	1
650		min	-.709	8	0	1	0	1
651	M66	1	max	1.139	8	0	1	0
652		min	-.901	9	0	1	0	1
653	2	max	1.14	8	0	1	0	1
654		min	-.9	9	0	1	0	1
655	3	max	1.141	8	0	1	0	1
656		min	-.899	9	0	1	0	1
657	4	max	1.141	8	0	1	0	1
658		min	-.898	9	0	1	0	1
659	5	max	1.142	8	0	1	0	1
660		min	-.897	9	0	1	0	1
661	M67	1	max	1.34	1	0	1	0
662		min	-.078	6	0	1	0	1
663	2	max	1.341	1	0	1	0	1
664		min	-.078	6	0	1	0	1
665	3	max	1.342	1	0	1	0	1
666		min	-.077	6	0	1	0	1
667	4	max	1.342	1	0	1	0	1
668		min	-.077	6	0	1	0	1
669	5	max	1.343	1	0	1	0	1
670		min	-.077	6	0	1	0	1
671	M68	1	max	1.303	3	0	1	0
672		min	-.666	8	0	1	0	1
673	2	max	1.303	3	0	1	0	1
674		min	-.666	8	0	1	0	1
675	3	max	1.304	3	0	1	0	1
676		min	-.665	8	0	1	0	1
677	4	max	1.305	3	0	1	0	1
678		min	-.664	8	0	1	0	1
679	5	max	1.305	3	0	1	0	1
680		min	-.664	8	0	1	0	1
681	M69	1	max	1.225	2	0	1	0
682		min	-.912	9	0	1	0	1
683	2	max	1.226	2	0	1	0	1
684		min	-.911	9	0	1	0	1
685	3	max	1.226	2	0	1	0	1
686		min	-.91	9	0	1	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
687	4	max	1.227	2	0	1	0	1
688		min	-909	9	0	1	0	1
689	5	max	1.228	2	0	1	0	1
690		min	-908	9	0	1	0	1
691	M70	1	max	1.346	1	0	1	1
692		min	-147	6	0	1	0	1
693	2	max	1.346	1	0	1	0	1
694		min	-146	6	0	1	0	1
695	3	max	1.347	1	0	1	0	1
696		min	-146	6	0	1	0	1
697	4	max	1.348	1	0	1	0	1
698		min	-146	6	0	1	0	1
699	5	max	1.348	1	0	1	0	1
700		min	-145	6	0	1	0	1
701	M71	1	max	1.442	3	0	1	1
702		min	-641	8	0	1	0	1
703	2	max	1.443	3	0	1	0	1
704		min	-64	8	0	1	0	1
705	3	max	1.443	3	0	1	0	1
706		min	-64	8	0	1	0	1
707	4	max	1.444	3	0	1	0	1
708		min	-639	8	0	1	0	1
709	5	max	1.445	3	0	1	0	1
710		min	-638	8	0	1	0	1
711	M72	1	max	1.45	2	0	1	1
712		min	-933	9	0	1	0	1
713	2	max	1.451	2	0	1	0	1
714		min	-932	9	0	1	0	1
715	3	max	1.451	2	0	1	0	1
716		min	-931	9	0	1	0	1
717	4	max	1.452	2	0	1	0	1
718		min	-93	9	0	1	0	1
719	5	max	1.453	2	0	1	0	1
720		min	-93	9	0	1	0	1
721	M73	1	max	.718	8	.719	9	.845
722		min	-.718	9	-.717	8	-.84	8
723	2	max	.719	8	.72	9	.634	9
724		min	-.717	9	-.716	8	-.63	8
725	3	max	.719	8	.72	9	.423	9
726		min	-.717	9	-.716	8	-.42	8
727	4	max	.72	8	.72	9	.211	9
728		min	-.716	9	-.716	8	-.21	8
729	5	max	.72	8	.721	9	0	1
730		min	-.716	9	-.715	8	0	1
731	M74	1	max	1.311	9	0	6	1
732		min	-1.32	8	0	9	0	1
733	2	max	1.311	9	0	6	0	9
734		min	-1.32	8	0	9	0	6
735	3	max	1.311	9	0	1	0	9
736		min	-1.32	8	0	1	0	6
737	4	max	1.311	9	0	8	0	9
738		min	-1.32	8	0	7	0	6
739	5	max	1.311	9	0	8	0	1
740		min	-1.32	8	0	7	0	1
741	M75	1	max	0	1	.3	8	0
742		min	0	1	-.3	9	0	1
743	2	max	.002	4	.3	8	.319	9

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
744		min	.001	6	-.3	9	-.319	8
745	3	max	.004	4	.3	8	.638	9
746		min	.002	6	-.3	9	-.638	8
747	4	max	.006	4	.3	8	.957	9
748		min	.004	6	-.3	9	-.957	8
749	5	max	.008	4	.3	8	1.276	9
750		min	.005	6	-.3	9	-1.276	8
751	M76	1	max	1.248	1	0	1	0
752		min	-.002	6	0	1	0	1
753	2	max	1.249	1	0	1	0	1
754		min	-.002	6	0	1	0	1
755	3	max	1.249	1	0	1	0	1
756		min	-.002	6	0	1	0	1
757	4	max	1.25	1	0	1	0	1
758		min	-.001	6	0	1	0	1
759	5	max	1.25	1	0	1	0	1
760		min	-.001	6	0	1	0	1
761	M77	1	max	.376	5	0	7	0
762		min	-.364	4	0	3	0	1
763	2	max	.377	5	0	7	0	3
764		min	-.364	4	0	3	0	7
765	3	max	.377	5	0	1	0	3
766		min	-.363	4	0	1	0	7
767	4	max	.378	5	0	5	0	3
768		min	-.363	4	0	6	0	7
769	5	max	.378	5	0	5	0	1
770		min	-.362	4	0	6	0	1
771	M78	1	max	.83	6	0	4	0
772		min	-.474	5	0	7	0	1
773	2	max	.83	6	0	4	0	7
774		min	-.474	5	0	7	0	4
775	3	max	.83	6	0	1	0	7
776		min	-.473	5	0	1	0	4
777	4	max	.83	6	0	6	0	7
778		min	-.473	5	0	5	0	4
779	5	max	.831	6	0	6	0	1
780		min	-.472	5	0	5	0	1
781	M79	1	max	.39	6	0	6	0
782		min	-.051	9	0	5	0	1
783	2	max	.39	6	0	6	0	5
784		min	-.051	9	0	5	0	6
785	3	max	.39	6	0	1	0	5
786		min	-.051	9	0	1	0	6
787	4	max	.39	6	0	4	0	5
788		min	-.05	9	0	7	0	6
789	5	max	.391	6	0	4	0	1
790		min	-.05	9	0	7	0	1
791	M80	1	max	.536	5	0	7	0
792		min	-.553	6	0	1	0	1
793	2	max	.536	5	0	7	0	1
794		min	-.553	6	0	1	0	7
795	3	max	.537	5	0	1	0	1
796		min	-.553	6	0	1	0	7
797	4	max	.537	5	0	3	0	1
798		min	-.553	6	0	6	0	7
799	5	max	.537	5	0	3	0	1
800		min	-.552	6	0	6	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
801	M81	1	max	.309	7	0	7	0
802			min	-.231	2	0	4	0
803		2	max	.309	7	0	7	0
804			min	-.23	2	0	4	0
805		3	max	.31	7	0	1	0
806			min	-.23	2	0	1	0
807		4	max	.31	7	0	8	0
808			min	-.229	2	0	6	0
809		5	max	.31	7	0	8	0
810			min	-.229	2	0	6	0
811	M82	1	max	.313	3	0	7	0
812			min	-.233	2	0	5	0
813		2	max	.314	3	0	7	0
814			min	-.233	2	0	5	0
815		3	max	.314	3	0	1	0
816			min	-.232	2	0	1	0
817		4	max	.315	3	0	2	0
818			min	-.232	2	0	6	0
819		5	max	.315	3	0	2	0
820			min	-.231	2	0	6	0
821	M83	1	max	.463	9	0	6	0
822			min	-.383	8	0	9	0
823		2	max	.463	9	0	6	0
824			min	-.383	8	0	9	0
825		3	max	.464	9	0	1	0
826			min	-.383	8	0	1	0
827		4	max	.464	9	0	1	0
828			min	-.382	8	0	7	0
829		5	max	.464	9	0	1	0
830			min	-.382	8	0	7	0
831	M84	1	max	.291	7	0	6	0
832			min	-.389	6	0	8	0
833		2	max	.292	7	0	6	0
834			min	-.389	6	0	8	0
835		3	max	.292	7	0	1	0
836			min	-.389	6	0	1	0
837		4	max	.292	7	0	9	0
838			min	-.389	6	0	7	0
839		5	max	.293	7	0	9	0
840			min	-.388	6	0	7	0
841	M85	1	max	.292	7	0	6	0
842			min	-.39	6	0	4	0
843		2	max	.292	7	0	6	0
844			min	-.389	6	0	4	0
845		3	max	.292	7	0	1	0
846			min	-.389	6	0	1	0
847		4	max	.292	7	0	3	0
848			min	-.389	6	0	7	0
849		5	max	.293	7	0	3	0
850			min	-.388	6	0	7	0
851	M86	1	max	.292	7	0	7	0
852			min	-.39	6	0	8	0
853		2	max	.292	7	0	7	0
854			min	-.389	6	0	8	0
855		3	max	.292	7	0	1	0
856			min	-.389	6	0	1	0
857		4	max	.293	7	0	5	0

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
858			min	-.389	6	0	6	0
859		5	max	.293	7	0	5	0
860			min	-.388	6	0	6	0
861	M87	1	max	.302	9	0	7	0
862			min	-.368	6	0	5	0
863		2	max	.303	9	0	7	0
864			min	-.367	6	0	5	0
865		3	max	.303	9	0	1	0
866			min	-.367	6	0	1	0
867		4	max	.304	9	0	2	0
868			min	-.366	6	0	6	0
869		5	max	.305	9	0	2	0
870			min	-.366	6	0	6	0
871	M88	1	max	0	5	.022	6	0
872			min	0	2	-.005	1	0
873		2	max	0	5	.022	6	0
874			min	0	2	-.005	1	-.001
875		3	max	0	5	.021	6	0
876			min	0	2	-.005	1	-.003
877		4	max	0	5	.021	6	0
878			min	0	2	-.005	1	-.004
879		5	max	0	5	.021	6	.001
880			min	0	2	-.005	1	-.005
881	M89	1	max	0	9	.473	8	0
882			min	0	2	-.005	1	0
883		2	max	0	9	.473	8	0
884			min	0	2	-.005	1	-.03
885		3	max	0	9	.473	8	0
886			min	0	2	-.005	1	-.059
887		4	max	0	9	.473	8	0
888			min	0	2	-.005	1	-.089
889		5	max	0	9	.473	8	.001
890			min	0	2	-.005	1	-.118
891	M90	1	max	.339	5	.012	6	0
892			min	-.474	6	-.025	7	0
893		2	max	.353	7	.034	7	.051
894			min	-.49	6	-.006	9	-.022
895		3	max	.354	7	.033	7	.01
896			min	-.493	6	-.073	6	-.046
897		4	max	.354	7	.013	3	.102
898			min	-.493	6	-.074	6	-.049
899		5	max	.081	7	.05	6	0
900			min	-.216	6	-.025	7	0
901	M91	1	max	0	3	.005	6	0
902			min	0	2	0	2	0
903		2	max	.001	3	.024	4	.001
904			min	0	2	-.011	7	-.008
905		3	max	.002	3	.046	7	.02
906			min	0	2	-.088	6	-.052
907		4	max	.129	4	.045	7	.126
908			min	-.169	3	-.09	6	-.07
909		5	max	.129	4	.063	6	0
910			min	-.169	3	-.036	7	0
911	M92	1	max	0	3	.041	9	0
912			min	0	2	-.066	8	0
913		2	max	0	3	.04	9	.066
914			min	0	2	-.067	8	-.04

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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
915		3	max	.177	6	.068	8	.134	8
916			min	-.151	7	-.061	6	-.08	9
917		4	max	.177	6	.067	8	.066	8
918			min	-.151	7	-.04	9	-.04	9
919		5	max	.177	6	.066	8	0	1
920			min	-.151	7	-.041	9	0	1
921	M93	1	max	.032	9	.005	6	0	1
922			min	-.033	8	0	2	0	1
923		2	max	.052	9	.024	4	.002	2
924			min	-.054	8	-.013	7	-.009	6
925		3	max	.067	9	.055	7	.025	9
926			min	-.069	8	-.092	6	-.053	6
927		4	max	.128	4	.053	7	.133	6
928			min	-.17	3	-.094	6	-.083	7
929		5	max	.128	4	.066	6	0	1
930			min	-.17	3	-.042	7	0	1
931	M94	1	max	0	3	.052	9	0	1
932			min	0	8	-.076	8	0	1
933		2	max	0	3	.051	9	.076	8
934			min	0	8	-.077	8	-.051	9
935		3	max	.177	6	.05	9	.154	8
936			min	-.151	7	-.078	8	-.102	9
937		4	max	.177	6	.077	8	.076	8
938			min	-.151	7	-.051	9	-.051	9
939		5	max	.177	6	.076	8	0	1
940			min	-.151	7	-.052	9	0	1
941	M95	1	max	.053	9	.063	9	0	1
942			min	-.049	8	-.087	8	0	1
943		2	max	.053	9	.062	9	.087	8
944			min	-.049	8	-.088	8	-.063	9
945		3	max	.177	6	.089	8	.175	8
946			min	-.151	7	-.04	5	-.125	9
947		4	max	.177	6	.088	8	.087	8
948			min	-.151	7	-.062	9	-.063	9
949		5	max	.177	6	.087	8	0	1
950			min	-.151	7	-.063	9	0	1
951	M96	1	max	0	1	0	1	0	1
952			min	0	1	0	1	0	1
953		2	max	0	1	-.056	6	.745	1
954			min	0	1	-.994	1	.042	6
955		3	max	0	6	.98	1	.992	1
956			min	-.002	1	-.057	7	-.049	6
957		4	max	.203	7	.67	1	.26	1
958			min	-.215	4	-.186	6	-.321	6
959		5	max	.203	7	.143	7	0	1
960			min	-.215	4	-.323	1	0	1
961	M97	1	max	.11	7	.661	1	0	1
962			min	-.12	4	.037	6	0	1
963		2	max	.11	7	.331	1	-.014	6
964			min	-.12	4	.018	6	-.248	1
965		3	max	.11	7	0	1	-.018	6
966			min	-.12	4	0	1	-.331	1
967		4	max	.11	7	-.018	7	-.014	6
968			min	-.12	4	-.331	1	-.248	1
969		5	max	.11	7	-.037	7	0	1
970			min	-.12	4	-.661	1	0	1
971	M98	1	max	.039	7	.661	1	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC	
972		min	-.046	4	.037	7	0	1	
973	2	max	.039	7	.331	1	-.014	7	
974		min	-.046	4	.018	7	-.248	1	
975	3	max	.039	7	0	1	-.018	7	
976		min	-.046	4	0	1	-.331	1	
977	4	max	.039	7	-.018	6	-.014	7	
978		min	-.046	4	-.331	1	-.248	1	
979	5	max	.039	7	-.037	6	0	1	
980		min	-.046	4	-.661	1	0	1	
981	M99	1	max	.036	2	.661	1	0	1
982		min	-.049	3	.037	7	0	1	
983	2	max	.036	2	.331	1	-.014	7	
984		min	-.049	3	.018	7	-.248	1	
985	3	max	.036	2	0	1	-.018	7	
986		min	-.049	3	0	1	-.331	1	
987	4	max	.036	2	-.018	6	-.014	7	
988		min	-.049	3	-.331	1	-.248	1	
989	5	max	.036	2	-.037	6	0	1	
990		min	-.049	3	-.661	1	0	1	
991	M100	1	max	.062	2	.661	1	0	1
992		min	-.071	3	.037	6	0	1	
993	2	max	.062	2	.331	1	-.014	6	
994		min	-.071	3	.018	6	-.248	1	
995	3	max	.062	2	0	1	-.018	6	
996		min	-.071	3	0	1	-.331	1	
997	4	max	.062	2	-.018	7	-.014	6	
998		min	-.071	3	-.331	1	-.248	1	
999	5	max	.062	2	-.037	7	0	1	
1000		min	-.071	3	-.661	1	0	1	
1001	M101	1	max	.154	9	.661	1	0	1
1002		min	-.159	8	.037	7	0	1	
1003	2	max	.154	9	.331	1	-.014	7	
1004		min	-.159	8	.018	7	-.248	1	
1005	3	max	.154	9	0	1	-.018	7	
1006		min	-.159	8	0	1	-.331	1	
1007	4	max	.154	9	-.018	6	-.014	7	
1008		min	-.159	8	-.331	1	-.248	1	
1009	5	max	.154	9	-.037	6	0	1	
1010		min	-.159	8	-.661	1	0	1	
1011	M102	1	max	.122	9	.661	1	0	1
1012		min	-.126	8	.037	6	0	1	
1013	2	max	.122	9	.331	1	-.014	6	
1014		min	-.126	8	.018	6	-.248	1	
1015	3	max	.122	9	0	1	-.018	6	
1016		min	-.126	8	0	1	-.331	1	
1017	4	max	.122	9	-.018	6	-.014	6	
1018		min	-.126	8	-.331	1	-.248	1	
1019	5	max	.122	9	-.037	6	0	1	
1020		min	-.126	8	-.661	1	0	1	
1021	M103	1	max	.101	9	.661	1	0	1
1022		min	-.104	8	.037	7	0	1	
1023	2	max	.101	9	.331	1	-.014	7	
1024		min	-.104	8	.018	7	-.248	1	
1025	3	max	.101	9	0	1	-.018	7	
1026		min	-.104	8	0	1	-.331	1	
1027	4	max	.101	9	-.018	6	-.014	7	
1028		min	-.104	8	-.331	1	-.248	1	

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1029	5	max	.101	9	-.037	6	0	1
1030		min	-.104	8	-.661	1	0	1
1031	1	max	.086	9	.661	1	0	1
1032		min	-.089	8	.037	7	0	1
1033	2	max	.086	9	.331	1	-.014	7
1034		min	-.089	8	.018	7	-.248	1
1035	3	max	.086	9	0	1	-.018	7
1036		min	-.089	8	0	1	-.331	1
1037	4	max	.086	9	-.018	6	-.014	7
1038		min	-.089	8	-.331	1	-.248	1
1039	5	max	.086	9	-.037	6	0	1
1040		min	-.089	8	-.661	1	0	1
1041	1	max	.081	4	.661	1	0	1
1042		min	-.084	5	.037	6	0	1
1043	2	max	.081	4	.331	1	-.014	6
1044		min	-.084	5	.018	6	-.248	1
1045	3	max	.081	4	0	1	-.018	6
1046		min	-.084	5	0	1	-.331	1
1047	4	max	.081	4	-.018	7	-.014	6
1048		min	-.084	5	-.331	1	-.248	1
1049	5	max	.081	4	-.037	7	0	1
1050		min	-.084	5	-.661	1	0	1
1051	1	max	.259	9	.661	1	0	1
1052		min	-.234	8	.037	7	0	1
1053	2	max	.259	9	.331	1	-.014	7
1054		min	-.234	8	.018	7	-.248	1
1055	3	max	.259	9	0	1	-.018	7
1056		min	-.234	8	0	1	-.331	1
1057	4	max	.259	9	-.018	6	-.014	7
1058		min	-.234	8	-.331	1	-.248	1
1059	5	max	.259	9	-.037	6	0	1
1060		min	-.234	8	-.661	1	0	1
1061	1	max	.204	9	.661	1	0	1
1062		min	-.185	8	.037	7	0	1
1063	2	max	.204	9	.331	1	-.014	7
1064		min	-.185	8	.018	7	-.248	1
1065	3	max	.204	9	0	1	-.018	7
1066		min	-.185	8	0	1	-.331	1
1067	4	max	.204	9	-.018	6	-.014	7
1068		min	-.185	8	-.331	1	-.248	1
1069	5	max	.204	9	-.037	6	0	1
1070		min	-.185	8	-.661	1	0	1
1071	1	max	2.309	9	.661	1	0	1
1072		min	-2.331	8	.037	6	0	1
1073	2	max	2.309	9	.331	1	-.014	6
1074		min	-2.331	8	.018	6	-.248	1
1075	3	max	2.309	9	0	1	-.018	6
1076		min	-2.331	8	0	1	-.331	1
1077	4	max	2.309	9	-.018	7	-.014	6
1078		min	-2.331	8	-.331	1	-.248	1
1079	5	max	2.309	9	-.037	7	0	1
1080		min	-2.331	8	-.661	1	0	1
1081	1	max	2.968	1	0	1	0	1
1082		min	.055	7	0	1	0	1
1083	2	max	2.968	1	0	1	0	1
1084		min	.056	7	0	1	0	1
1085	3	max	2.969	1	0	1	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1086		min	.056	7	0	1	0	1
1087	4	max	2.969	1	0	1	0	1
1088		min	.056	7	0	1	0	1
1089	5	max	2.97	1	0	1	0	1
1090		min	.057	7	0	1	0	1
1091	1	max	.701	1	0	1	0	1
1092		min	-.076	6	0	1	0	1
1093	2	max	.701	1	0	1	0	1
1094		min	-.075	6	0	1	0	1
1095	3	max	.702	1	0	1	0	1
1096		min	-.075	6	0	1	0	1
1097	4	max	.703	1	0	1	0	1
1098		min	-.074	6	0	1	0	1
1099	5	max	.704	1	0	1	0	1
1100		min	-.074	6	0	1	0	1
1101	1	max	.661	1	.12	4	0	1
1102		min	.037	7	-.11	7	0	1
1103	2	max	.985	1	.036	7	.086	7
1104		min	-.105	7	-.038	4	-.093	4
1105	3	max	.986	1	.036	7	.058	7
1106		min	-.105	7	-.038	4	-.062	4
1107	4	max	.987	1	.036	7	.029	7
1108		min	-.104	7	-.038	4	-.031	4
1109	5	max	.987	1	.036	7	0	1
1110		min	-.104	7	-.038	4	0	1
1111	1	max	.661	1	.047	4	0	1
1112		min	.037	7	-.039	7	0	1
1113	2	max	1.323	1	.014	7	.041	7
1114		min	.074	7	-.016	4	-.046	4
1115	3	max	1.324	1	.014	7	.027	7
1116		min	.074	7	-.016	4	-.031	4
1117	4	max	1.325	1	.014	7	.014	7
1118		min	.075	7	-.016	4	-.015	4
1119	5	max	1.326	1	.014	7	0	1
1120		min	.075	7	-.016	4	0	1
1121	1	max	.661	1	.05	3	0	1
1122		min	.037	7	-.036	2	0	1
1123	2	max	1.323	1	.004	9	.015	9
1124		min	.074	7	-.005	8	-.018	8
1125	3	max	1.324	1	.004	9	.01	9
1126		min	.075	7	-.005	8	-.012	8
1127	4	max	1.325	1	.004	9	.005	9
1128		min	.075	7	-.005	8	-.006	8
1129	5	max	1.326	1	.004	9	0	1
1130		min	.076	7	-.005	8	0	1
1131	1	max	.661	1	.072	3	0	1
1132		min	.036	6	-.062	2	0	1
1133	2	max	1.323	1	.018	2	.015	2
1134		min	.074	6	-.023	3	-.019	3
1135	3	max	1.324	1	.018	2	.011	3
1136		min	.074	6	-.023	3	-.008	2
1137	4	max	1.334	3	.005	3	.007	3
1138		min	-.367	6	-.004	2	-.005	2
1139	5	max	1.335	3	.005	3	0	1
1140		min	-.366	6	-.004	2	0	1
1141	1	max	.661	1	.159	8	0	1
1142		min	.036	7	-.154	9	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1143	2	max	1.324	2	.052	7	.077	5
1144		min	-.361	7	-.055	6	-.081	6
1145	3	max	1.325	2	.052	7	0	8
1146		min	-.36	7	-.055	6	0	9
1147	4	max	1.585	2	.009	4	.014	4
1148		min	-.706	7	-.009	7	-.013	7
1149	5	max	1.586	2	.009	4	0	1
1150		min	-.705	7	-.009	7	0	1
1151	M116	1	max	2.956	1	0	1	0
1152		min	.061	6	0	1	0	1
1153	2	max	2.956	1	0	1	0	1
1154		min	.061	6	0	1	0	1
1155	3	max	2.957	1	0	1	0	1
1156		min	.061	6	0	1	0	1
1157	4	max	2.958	1	0	1	0	1
1158		min	.062	6	0	1	0	1
1159	5	max	2.958	1	0	1	0	1
1160		min	.062	6	0	1	0	1
1161	M117	1	max	.773	2	0	1	0
1162		min	-.19	7	0	1	0	1
1163	2	max	.774	2	0	1	0	1
1164		min	-.189	7	0	1	0	1
1165	3	max	.775	2	0	1	0	1
1166		min	-.189	7	0	1	0	1
1167	4	max	.776	2	0	1	0	1
1168		min	-.189	7	0	1	0	1
1169	5	max	.776	2	0	1	0	1
1170		min	-.188	7	0	1	0	1
1171	M118	1	max	.754	1	0	1	0
1172		min	-.322	6	0	1	0	1
1173	2	max	.755	1	0	1	0	1
1174		min	-.322	6	0	1	0	1
1175	3	max	.755	1	0	1	0	1
1176		min	-.321	6	0	1	0	1
1177	4	max	.756	1	0	1	0	1
1178		min	-.321	6	0	1	0	1
1179	5	max	.757	1	0	1	0	1
1180		min	-.321	6	0	1	0	1
1181	M119	1	max	1.322	1	0	1	0
1182		min	.076	6	0	1	0	1
1183	2	max	1.322	1	0	1	0	1
1184		min	.077	6	0	1	0	1
1185	3	max	1.323	1	0	1	0	1
1186		min	.077	6	0	1	0	1
1187	4	max	1.323	1	0	1	0	1
1188		min	.078	6	0	1	0	1
1189	5	max	1.324	1	0	1	0	1
1190		min	.078	6	0	1	0	1
1191	M120	1	max	1.335	1	0	1	0
1192		min	-.009	6	0	1	0	1
1193	2	max	1.336	1	0	1	0	1
1194		min	-.009	6	0	1	0	1
1195	3	max	1.337	1	0	1	0	1
1196		min	-.009	6	0	1	0	1
1197	4	max	1.337	1	0	1	0	1
1198		min	-.008	6	0	1	0	1
1199	5	max	1.338	1	0	1	0	1

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Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1200		min	-.008	6	0	1	0	1
1201	M121	1	max	1.586	3	0	1	0
1202		min	-.586	6	0	1	0	1
1203	2	max	1.586	3	0	1	0	1
1204		min	-.586	6	0	1	0	1
1205	3	max	1.587	3	0	1	0	1
1206		min	-.585	6	0	1	0	1
1207	4	max	1.588	3	0	1	0	1
1208		min	-.585	6	0	1	0	1
1209	5	max	1.588	3	0	1	0	1
1210		min	-.585	6	0	1	0	1
1211	M122	1	max	1.473	2	0	1	0
1212		min	-.579	7	0	1	0	1
1213	2	max	1.473	2	0	1	0	1
1214		min	-.578	7	0	1	0	1
1215	3	max	1.474	2	0	1	0	1
1216		min	-.578	7	0	1	0	1
1217	4	max	1.475	2	0	1	0	1
1218		min	-.578	7	0	1	0	1
1219	5	max	1.476	2	0	1	0	1
1220		min	-.577	7	0	1	0	1
1221	M123	1	max	.661	1	.127	8	0
1222		min	.037	7	-.123	9	0	1
1223	2	max	1.323	1	.032	9	.078	9
1224		min	.074	6	-.033	8	-.08	8
1225	3	max	1.324	1	.032	9	.052	9
1226		min	.074	6	-.033	8	-.054	8
1227	4	max	1.324	1	.032	9	.026	9
1228		min	.075	6	-.033	8	-.027	8
1229	5	max	1.325	1	.032	9	0	1
1230		min	.075	6	-.033	8	0	1
1231	M124	1	max	.661	1	.105	8	0
1232		min	.037	6	-.102	9	0	1
1233	2	max	1.323	1	.021	9	.061	9
1234		min	.074	6	-.022	8	-.063	8
1235	3	max	1.324	1	.021	9	.04	9
1236		min	.074	6	-.022	8	-.042	8
1237	4	max	1.325	1	.021	9	.02	9
1238		min	.075	6	-.022	8	-.021	8
1239	5	max	1.326	1	.021	9	0	1
1240		min	.075	6	-.022	8	0	1
1241	M125	1	max	.661	1	.09	8	0
1242		min	.037	7	-.087	9	0	1
1243	2	max	1.323	1	.015	9	.051	9
1244		min	.074	7	-.015	8	-.053	8
1245	3	max	1.324	1	.015	9	.034	9
1246		min	.075	7	-.015	8	-.035	8
1247	4	max	1.325	1	.015	9	.017	9
1248		min	.075	7	-.015	8	-.018	8
1249	5	max	1.326	1	.015	9	0	1
1250		min	.076	7	-.015	8	0	1
1251	M126	1	max	.661	1	.084	5	0
1252		min	.036	6	-.081	4	0	1
1253	2	max	1.323	1	.026	9	.024	9
1254		min	.074	6	-.027	8	-.025	8
1255	3	max	1.324	1	.026	9	.012	3
1256		min	.074	6	-.027	8	-.011	2

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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1257		4	max	1.373	1	.006	3	.008	3
1258			min	-.2	8	-.005	2	-.007	2
1259		5	max	1.374	1	.006	3	0	1
1260			min	-.199	8	-.005	2	0	1
1261	M127	1	max	.661	1	.234	8	0	1
1262			min	.037	7	-.259	9	0	1
1263		2	max	1.28	1	.076	9	.109	9
1264			min	-.251	9	-.069	8	-.099	8
1265		3	max	1.281	1	.076	9	.002	8
1266			min	-.249	9	-.069	8	-.002	9
1267		4	max	1.356	2	.013	8	.019	8
1268			min	-.438	9	-.014	9	-.021	9
1269		5	max	1.358	2	.013	8	0	1
1270			min	-.436	9	-.014	9	0	1
1271	M128	1	max	1.326	1	0	1	0	1
1272			min	.078	7	0	1	0	1
1273		2	max	1.327	1	0	1	0	1
1274			min	.078	7	0	1	0	1
1275		3	max	1.327	1	0	1	0	1
1276			min	.078	7	0	1	0	1
1277		4	max	1.328	1	0	1	0	1
1278			min	.079	7	0	1	0	1
1279		5	max	1.329	1	0	1	0	1
1280			min	.079	7	0	1	0	1
1281	M129	1	max	1.326	1	0	1	0	1
1282			min	.061	7	0	1	0	1
1283		2	max	1.326	1	0	1	0	1
1284			min	.061	7	0	1	0	1
1285		3	max	1.327	1	0	1	0	1
1286			min	.062	7	0	1	0	1
1287		4	max	1.328	1	0	1	0	1
1288			min	.062	7	0	1	0	1
1289		5	max	1.328	1	0	1	0	1
1290			min	.063	7	0	1	0	1
1291	M130	1	max	1.337	1	0	1	0	1
1292			min	-.038	6	0	1	0	1
1293		2	max	1.338	1	0	1	0	1
1294			min	-.037	6	0	1	0	1
1295		3	max	1.339	1	0	1	0	1
1296			min	-.037	6	0	1	0	1
1297		4	max	1.339	1	0	1	0	1
1298			min	-.036	6	0	1	0	1
1299		5	max	1.34	1	0	1	0	1
1300			min	-.036	6	0	1	0	1
1301	M131	1	max	1.453	3	0	1	0	1
1302			min	-.215	8	0	1	0	1
1303		2	max	1.453	3	0	1	0	1
1304			min	-.214	8	0	1	0	1
1305		3	max	1.454	3	0	1	0	1
1306			min	-.214	8	0	1	0	1
1307		4	max	1.455	3	0	1	0	1
1308			min	-.213	8	0	1	0	1
1309		5	max	1.455	3	0	1	0	1
1310			min	-.212	8	0	1	0	1
1311	M132	1	max	1.541	2	0	1	0	1
1312			min	-.598	7	0	1	0	1
1313		2	max	1.542	2	0	1	0	1

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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1314			min	-.598	7	0	1	0	1
1315		3	max	1.543	2	0	1	0	1
1316			min	-.597	7	0	1	0	1
1317		4	max	1.544	2	0	1	0	1
1318			min	-.597	7	0	1	0	1
1319		5	max	1.545	2	0	1	0	1
1320			min	-.596	7	0	1	0	1
1321	M133	1	max	1.33	1	0	1	0	1
1322			min	.081	7	0	1	0	1
1323		2	max	1.331	1	0	1	0	1
1324			min	.082	7	0	1	0	1
1325		3	max	1.331	1	0	1	0	1
1326			min	.082	7	0	1	0	1
1327		4	max	1.332	1	0	1	0	1
1328			min	.082	7	0	1	0	1
1329		5	max	1.333	1	0	1	0	1
1330			min	.083	7	0	1	0	1
1331	M134	1	max	1.329	1	0	1	0	1
1332			min	.051	7	0	1	0	1
1333		2	max	1.33	1	0	1	0	1
1334			min	.051	7	0	1	0	1
1335		3	max	1.331	1	0	1	0	1
1336			min	.052	7	0	1	0	1
1337		4	max	1.331	1	0	1	0	1
1338			min	.052	7	0	1	0	1
1339		5	max	1.332	1	0	1	0	1
1340			min	.053	7	0	1	0	1
1341	M135	1	max	1.347	1	0	1	0	1
1342			min	-.145	6	0	1	0	1
1343		2	max	1.348	1	0	1	0	1
1344			min	-.145	6	0	1	0	1
1345		3	max	1.349	1	0	1	0	1
1346			min	-.145	6	0	1	0	1
1347		4	max	1.349	1	0	1	0	1
1348			min	-.144	6	0	1	0	1
1349		5	max	1.35	1	0	1	0	1
1350			min	-.144	6	0	1	0	1
1351	M136	1	max	1.696	3	0	1	0	1
1352			min	-.199	8	0	1	0	1
1353		2	max	1.696	3	0	1	0	1
1354			min	-.198	8	0	1	0	1
1355		3	max	1.697	3	0	1	0	1
1356			min	-.197	8	0	1	0	1
1357		4	max	1.698	3	0	1	0	1
1358			min	-.197	8	0	1	0	1
1359		5	max	1.698	3	0	1	0	1
1360			min	-.196	8	0	1	0	1
1361	M137	1	max	1.73	2	0	1	0	1
1362			min	-.803	7	0	1	0	1
1363		2	max	1.731	2	0	1	0	1
1364			min	-.803	7	0	1	0	1
1365		3	max	1.732	2	0	1	0	1
1366			min	-.802	7	0	1	0	1
1367		4	max	1.732	2	0	1	0	1
1368			min	-.802	7	0	1	0	1
1369		5	max	1.733	2	0	1	0	1
1370			min	-.801	7	0	1	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1371	M138	1	max	.661	1	.186	8	0
1372			min	.037	7	-.205	9	0
1373		2	max	1.323	1	.054	9	-.13
1374			min	.074	7	-.049	8	-.118
1375		3	max	1.324	1	.054	9	.087
1376			min	.074	7	-.049	8	-.079
1377		4	max	1.324	1	.054	9	.043
1378			min	.075	7	-.049	8	-.039
1379		5	max	1.325	1	.054	9	0
1380			min	.075	7	-.049	8	0
1381	M139	1	max	.823	9	.035	8	0
1382			min	-.707	8	-.037	9	0
1383		2	max	1.312	1	.008	9	.022
1384			min	-.643	8	-.007	8	-.021
1385		3	max	1.313	1	.008	9	.015
1386			min	-.642	8	-.007	8	-.014
1387		4	max	1.314	1	.008	9	.007
1388			min	-.641	8	-.007	8	-.007
1389		5	max	1.315	1	.008	9	0
1390			min	-.641	8	-.007	8	0
1391	M140	1	max	0	1	0	8	0
1392			min	0	1	0	9	0
1393		2	max	0	2	.005	4	0
1394			min	0	6	-.005	5	0
1395		3	max	0	2	.011	4	0
1396			min	0	6	-.011	5	0
1397		4	max	0	2	.016	4	.002
1398			min	0	6	-.016	5	-.002
1399		5	max	0	2	.022	4	.003
1400			min	0	6	-.022	5	-.003
1401	M141	1	max	1.333	1	0	1	0
1402			min	.007	6	0	1	0
1403		2	max	1.334	1	0	1	0
1404			min	.008	6	0	1	0
1405		3	max	1.334	1	0	1	0
1406			min	.008	6	0	1	0
1407		4	max	1.335	1	0	1	0
1408			min	.009	6	0	1	0
1409		5	max	1.336	1	0	1	0
1410			min	.009	6	0	1	0
1411	M142	1	max	1.285	1	0	1	0
1412			min	-.708	8	0	1	0
1413		2	max	1.285	1	0	1	0
1414			min	-.707	8	0	1	0
1415		3	max	1.286	1	0	1	0
1416			min	-.706	8	0	1	0
1417		4	max	1.287	1	0	1	0
1418			min	-.706	8	0	1	0
1419		5	max	1.287	1	0	1	0
1420			min	-.705	8	0	1	0
1421	M143	1	max	1.117	8	0	1	0
1422			min	-.903	9	0	1	0
1423		2	max	1.118	8	0	1	0
1424			min	-.902	9	0	1	0
1425		3	max	1.119	8	0	1	0
1426			min	-.901	9	0	1	0
1427		4	max	1.12	8	0	1	0

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1428			min	-.9	9	0	1	0
1429		5	max	1.121	8	0	1	0
1430			min	-.899	9	0	1	0
1431	M144	1	max	1.341	1	0	1	0
1432			min	-.056	6	0	1	0
1433		2	max	1.341	1	0	1	0
1434			min	-.055	6	0	1	0
1435		3	max	1.342	1	0	1	0
1436			min	-.055	6	0	1	0
1437		4	max	1.343	1	0	1	0
1438			min	-.054	6	0	1	0
1439		5	max	1.343	1	0	1	0
1440			min	-.054	6	0	1	0
1441	M145	1	max	1.303	3	0	1	0
1442			min	-.655	8	0	1	0
1443		2	max	1.304	3	0	1	0
1444			min	-.654	8	0	1	0
1445		3	max	1.305	3	0	1	0
1446			min	-.653	8	0	1	0
1447		4	max	1.305	3	0	1	0
1448			min	-.652	8	0	1	0
1449		5	max	1.306	3	0	1	0
1450			min	-.652	8	0	1	0
1451	M146	1	max	1.222	2	0	1	0
1452			min	-.914	9	0	1	0
1453		2	max	1.223	2	0	1	0
1454			min	-.913	9	0	1	0
1455		3	max	1.224	2	0	1	0
1456			min	-.912	9	0	1	0
1457		4	max	1.225	2	0	1	0
1458			min	-.911	9	0	1	0
1459		5	max	1.226	2	0	1	0
1460			min	-.91	9	0	1	0
1461	M147	1	max	1.346	1	0	1	0
1462			min	-.114	6	0	1	0
1463		2	max	1.347	1	0	1	0
1464			min	-.113	6	0	1	0
1465		3	max	1.347	1	0	1	0
1466			min	-.113	6	0	1	0
1467		4	max	1.348	1	0	1	0
1468			min	-.113	6	0	1	0
1469		5	max	1.349	1	0	1	0
1470			min	-.112	6	0	1	0
1471	M148	1	max	1.443	3	0	1	0
1472			min	-.621	8	0	1	0
1473		2	max	1.443	3	0	1	0
1474			min	-.621	8	0	1	0
1475		3	max	1.444	3	0	1	0
1476			min	-.62	8	0	1	0
1477		4	max	1.445	3	0	1	0
1478			min	-.619	8	0	1	0
1479		5	max	1.445	3	0	1	0
1480			min	-.619	8	0	1	0
1481	M149	1	max	1.446	2	0	1	0
1482			min	-.936	9	0	1	0
1483		2	max	1.447	2	0	1	0
1484			min	-.935	9	0	1	0

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1485	3	max	1.448	2	0	1	0	1
1486		min	-.934	9	0	1	0	1
1487	4	max	1.449	2	0	1	0	1
1488		min	-.933	9	0	1	0	1
1489	5	max	1.45	2	0	1	0	1
1490		min	-.932	9	0	1	0	1
1491	M150	1	max	.926	8	.839	.94	9
1492		min	-.93	9	-.838	8	-.936	8
1493	2	max	.926	8	.84	9	.705	9
1494		min	-.93	9	-.837	8	-.702	8
1495	3	max	.926	8	.84	9	.47	9
1496		min	-.929	9	-.837	8	-.468	8
1497	4	max	.927	8	.84	9	.235	9
1498		min	-.929	9	-.836	8	-.234	8
1499	5	max	.927	8	.841	9	0	1
1500		min	-.929	9	-.836	8	0	1
1501	M151	1	max	1.545	9	0	6	1
1502		min	-1.556	8	0	9	0	1
1503	2	max	1.545	9	0	6	0	9
1504		min	-1.556	8	0	9	0	6
1505	3	max	1.545	9	0	1	0	9
1506		min	-1.556	8	0	1	0	6
1507	4	max	1.545	9	0	8	0	9
1508		min	-1.556	8	0	7	0	6
1509	5	max	1.545	9	0	8	0	1
1510		min	-1.556	8	0	7	0	1
1511	M152	1	max	0	1	.3	8	0
1512		min	0	1	-.3	9	0	1
1513	2	max	.002	9	.3	8	.319	9
1514		min	.001	6	-.3	9	-.319	8
1515	3	max	.004	9	.3	8	.638	9
1516		min	.002	6	-.3	9	-.638	8
1517	4	max	.006	9	.3	8	.957	9
1518		min	.004	6	-.3	9	-.957	8
1519	5	max	.008	9	.3	8	1.276	9
1520		min	.005	6	-.3	9	-1.276	8
1521	M153	1	max	.754	6	0	5	0
1522		min	-.526	5	0	6	0	1
1523	2	max	.754	6	0	5	0	6
1524		min	-.526	5	0	6	0	5
1525	3	max	.755	6	0	1	0	6
1526		min	-.525	5	0	1	0	5
1527	4	max	.755	6	0	7	0	6
1528		min	-.525	5	0	4	0	5
1529	5	max	.755	6	0	7	0	1
1530		min	-.525	5	0	4	0	1
1531	M154	1	max	.359	6	0	7	0
1532		min	-.123	7	0	4	0	1
1533	2	max	.359	6	0	7	0	4
1534		min	-.123	7	0	4	0	7
1535	3	max	.359	6	0	1	0	4
1536		min	-.123	7	0	1	0	7
1537	4	max	.359	6	0	8	0	4
1538		min	-.122	7	0	6	0	7
1539	5	max	.36	6	0	8	0	1
1540		min	-.122	7	0	6	0	1
1541	M155	1	max	.543	5	0	7	0

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1542		min	-.551	6	0	8	0	1
1543	2	max	.544	5	0	7	0	8
1544		min	-.551	6	0	8	0	7
1545	3	max	.544	5	0	1	0	8
1546		min	-.55	6	0	1	0	7
1547	4	max	.544	5	0	9	0	8
1548		min	-.55	6	0	6	0	7
1549	5	max	.545	5	0	9	0	1
1550		min	-.55	6	0	6	0	1
1551	M156	1	max	.309	3	0	7	0
1552		min	-.237	4	0	4	0	1
1553	2	max	.31	3	0	7	0	4
1554		min	-.237	4	0	4	0	7
1555	3	max	.31	3	0	1	0	4
1556		min	-.236	4	0	1	0	7
1557	4	max	.311	3	0	5	0	4
1558		min	-.236	4	0	6	0	7
1559	5	max	.311	3	0	5	0	1
1560		min	-.235	4	0	6	0	1
1561	M157	1	max	.315	3	0	6	0
1562		min	-.238	4	0	9	0	1
1563	2	max	.315	3	0	6	0	9
1564		min	-.237	4	0	9	0	6
1565	3	max	.316	3	0	1	0	9
1566		min	-.237	4	0	1	0	6
1567	4	max	.316	3	0	8	0	9
1568		min	-.236	4	0	7	0	6
1569	5	max	.317	3	0	8	0	1
1570		min	-.236	4	0	7	0	1
1571	M158	1	max	.463	9	0	7	0
1572		min	-.408	8	0	4	0	1
1573	2	max	.463	9	0	7	0	4
1574		min	-.407	8	0	4	0	7
1575	3	max	.464	9	0	1	0	4
1576		min	-.407	8	0	1	0	7
1577	4	max	.464	9	0	8	0	4
1578		min	-.407	8	0	6	0	7
1579	5	max	.465	9	0	8	0	1
1580		min	-.406	8	0	6	0	1
1581	M159	1	max	.282	7	0	7	0
1582		min	-.331	6	0	8	0	1
1583	2	max	.282	7	0	7	0	8
1584		min	-.331	6	0	8	0	7
1585	3	max	.282	7	0	1	0	8
1586		min	-.331	6	0	1	0	7
1587	4	max	.282	7	0	5	0	8
1588		min	-.331	6	0	6	0	7
1589	5	max	.283	7	0	5	0	1
1590		min	-.33	6	0	6	0	1
1591	M160	1	max	.282	7	0	6	0
1592		min	-.332	6	0	5	0	1
1593	2	max	.282	7	0	6	0	5
1594		min	-.331	6	0	5	0	6
1595	3	max	.282	7	0	1	0	5
1596		min	-.331	6	0	1	0	6
1597	4	max	.283	7	0	9	0	5
1598		min	-.331	6	0	7	0	6

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Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1599	5	max	.283	7	0	9	0	1
1600		min	-.33	6	0	7	0	1
1601	M161	1	max	.282	7	0	6	1
1602		min	-.332	6	0	2	0	1
1603		2	max	.282	7	0	6	2
1604		min	-.331	6	0	2	0	6
1605		3	max	.282	7	0	1	2
1606		min	-.331	6	0	1	0	6
1607		4	max	.283	7	0	8	2
1608		min	-.331	6	0	7	0	6
1609		5	max	.283	7	0	8	1
1610		min	-.33	6	0	7	0	1
1611	M162	1	max	.283	7	0	6	1
1612		min	-.323	6	0	9	0	1
1613		2	max	.284	7	0	6	9
1614		min	-.322	6	0	9	0	6
1615		3	max	.284	7	0	1	9
1616		min	-.322	6	0	1	0	6
1617		4	max	.284	7	0	8	9
1618		min	-.322	6	0	7	0	6
1619		5	max	.285	5	0	8	1
1620		min	-.321	6	0	7	0	1
1621	M163	1	max	.215	4	.001	1	1
1622		min	-.203	7	0	6	0	1
1623		2	max	.215	4	0	1	7
1624		min	-.203	7	0	6	0	3
1625		3	max	.215	4	0	1	7
1626		min	-.203	7	0	1	0	8
1627		4	max	.215	4	0	6	7
1628		min	-.203	7	0	3	0	9
1629		5	max	.215	4	0	6	1
1630		min	-.203	7	-.001	3	0	1
1631	M164	1	max	.215	4	.204	6	1
1632		min	-.203	7	-.052	7	0	1
1633		2	max	0	1	.104	7	.022
1634		min	0	1	-.112	6	-.097	6
1635		3	max	0	1	.104	7	.002
1636		min	0	1	-.112	6	-.037	6
1637		4	max	0	1	.103	7	.024
1638		min	0	1	-.112	6	-.09	7
1639		5	max	0	2	.056	6	0
1640		min	0	3	-.188	7	0	1
1641	M165	1	max	0	6	.321	6	0
1642		min	0	2	-.004	1	0	1
1643		2	max	.152	5	-.001	3	.122
1644		min	-.218	6	-.145	7	-.002	1
1645		3	max	.078	6	.048	8	0
1646		min	-.027	7	-.152	7	-.047	4
1647		4	max	.045	7	.233	7	.145
1648		min	-.13	6	-.002	2	0	3
1649		5	max	.001	4	.004	1	0
1650		min	0	3	-.577	7	0	1
1651	M166	1	max	.324	7	0	7	0
1652		min	-.344	4	0	4	0	1
1653		2	max	.324	7	0	7	0
1654		min	-.344	4	0	4	0	7
1655		3	max	.324	7	0	1	0

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Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1656		min	-.343	4	0	1	0	7
1657		4	max	.324	7	0	5	0
1658		min	-.343	4	0	6	0	7
1659		5	max	.325	7	0	5	0
1660		min	-.342	4	0	6	0	1
1661	M167	1	max	.324	7	0	6	0
1662		min	-.344	4	0	1	0	1
1663		2	max	.324	7	0	6	0
1664		min	-.344	4	0	1	0	6
1665		3	max	.324	7	0	1	0
1666		min	-.343	4	0	1	0	6
1667		4	max	.324	7	0	5	0
1668		min	-.343	4	0	7	0	6
1669		5	max	.325	7	0	5	0
1670		min	-.342	4	0	7	0	1
1671	M168	1	max	.001	6	.497	6	0
1672		min	0	2	-.003	1	0	1
1673		2	max	.21	5	0	1	.103
1674		min	-.327	6	-.168	6	0	1
1675		3	max	.151	6	.073	5	0
1676		min	-.063	5	-.088	4	-.052	5
1677		4	max	.15	6	.256	7	.157
1678		min	-.157	3	0	1	0	1
1679		5	max	.002	4	.004	1	0
1680		min	0	3	-.661	7	0	1
1681	M169	1	max	.302	5	.042	6	0
1682		min	-.511	6	-.024	5	0	1
1683		2	max	.312	5	.029	4	.05
1684		min	-.522	6	-.049	6	-.083	6
1685		3	max	.312	5	.049	7	.016
1686		min	-.522	6	-.05	6	-.027	8
1687		4	max	.31	5	.048	7	.092
1688		min	-.522	6	-.049	4	-.081	7
1689		5	max	.038	9	.045	6	0
1690		min	-.233	6	-.041	7	0	1
1691	M170	1	max	0	5	.266	6	0
1692		min	0	2	-.005	1	0	1
1693		2	max	.129	7	.002	1	.007
1694		min	-.14	6	-.176	6	-.027	6
1695		3	max	.129	7	.147	7	.167
1696		min	-.14	6	-.176	6	-.001	1
1697		4	max	.14	6	.175	6	0
1698		min	-.129	7	-.003	1	-.112	7
1699		5	max	.001	6	.005	1	0
1700		min	0	3	-.402	7	0	1
1701	M171	1	max	.407	7	0	7	0
1702		min	-.439	6	0	4	0	1
1703		2	max	.407	7	0	7	0
1704		min	-.439	6	0	4	0	7
1705		3	max	.408	7	0	1	0
1706		min	-.439	6	0	1	0	7
1707		4	max	.408	7	0	5	0
1708		min	-.439	6	0	6	0	7
1709		5	max	.408	7	0	5	0
1710		min	-.438	6	0	6	0	1
1711	M172	1	max	.384	7	0	6	0
1712		min	-.407	6	0	2	0	1

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Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1713	2	max	.384	7	0	6	0	2
1714		min	-.406	6	0	2	0	6
1715	3	max	.385	7	0	1	0	2
1716		min	-.406	6	0	1	0	6
1717	4	max	.385	7	0	8	0	2
1718		min	-.406	6	0	7	0	6
1719	5	max	.385	7	0	8	0	1
1720		min	-.406	6	0	7	0	1
1721	M173	1	max	.462	5	0	6	0
1722		min	-.469	4	0	5	0	1
1723	2	max	.462	5	0	6	0	5
1724		min	-.468	4	0	5	0	6
1725	3	max	.462	5	0	1	0	5
1726		min	-.468	4	0	1	0	6
1727	4	max	.463	5	0	4	0	5
1728		min	-.468	6	0	7	0	6
1729	5	max	.463	5	0	4	0	1
1730		min	-.467	6	0	7	0	1
1731	M174	1	max	.311	5	0	7	0
1732		min	-.242	4	0	5	0	1
1733	2	max	.311	5	0	7	0	5
1734		min	-.242	4	0	5	0	7
1735	3	max	.312	5	0	1	0	5
1736		min	-.242	4	0	1	0	7
1737	4	max	.312	5	0	8	0	5
1738		min	-.241	4	0	6	0	7
1739	5	max	.312	5	0	8	0	1
1740		min	-.241	4	0	6	0	1
1741	M175	1	max	.45	5	0	7	0
1742		min	-.447	6	0	5	0	1
1743	2	max	.45	5	0	7	0	5
1744		min	-.447	6	0	5	0	7
1745	3	max	.451	5	0	1	0	5
1746		min	-.447	6	0	1	0	7
1747	4	max	.451	5	0	8	0	5
1748		min	-.447	6	0	6	0	7
1749	5	max	.452	5	0	8	0	1
1750		min	-.446	6	0	6	0	1
1751	M176	1	max	.306	5	0	7	0
1752		min	-.264	4	0	1	0	1
1753	2	max	.306	5	0	7	0	1
1754		min	-.263	4	0	1	0	7
1755	3	max	.307	5	0	1	0	1
1756		min	-.263	4	0	1	0	7
1757	4	max	.307	5	0	4	0	1
1758		min	-.262	4	0	6	0	7
1759	5	max	.307	5	0	4	0	1
1760		min	-.262	4	0	6	0	1
1761	M177	1	max	.354	6	0	5	0
1762		min	-.347	5	0	6	0	1
1763	2	max	.354	6	0	5	0	6
1764		min	-.347	5	0	6	0	5
1765	3	max	.354	6	0	1	0	6
1766		min	-.347	5	0	1	0	5
1767	4	max	.354	6	0	7	0	6
1768		min	-.347	5	0	4	0	5
1769	5	max	.354	6	0	7	0	1

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Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1770		min	-.347	5	0	4	0	1
1771	M178	1	max	.194	8	0	5	0
1772		min	-.245	9	0	6	0	1
1773	2	max	.194	8	0	5	0	6
1774		min	-.245	9	0	6	0	5
1775	3	max	.194	8	0	1	0	6
1776		min	-.245	9	0	1	0	5
1777	4	max	.194	8	0	7	0	6
1778		min	-.245	9	0	4	0	5
1779	5	max	.194	8	0	7	0	1
1780		min	-.245	9	0	4	0	1
1781	M179	1	max	.343	6	0	5	0
1782		min	-.343	5	0	6	0	1
1783	2	max	.343	6	0	5	0	6
1784		min	-.343	5	0	6	0	5
1785	3	max	.343	6	0	1	0	6
1786		min	-.343	5	0	1	0	5
1787	4	max	.343	6	0	7	0	6
1788		min	-.343	5	0	4	0	5
1789	5	max	.343	6	0	7	0	1
1790		min	-.343	5	0	4	0	1
1791	M180	1	max	.21	8	0	5	0
1792		min	-.245	9	0	6	0	1
1793	2	max	.21	8	0	5	0	6
1794		min	-.245	9	0	6	0	5
1795	3	max	.21	8	0	1	0	6
1796		min	-.245	9	0	1	0	5
1797	4	max	.21	8	0	7	0	6
1798		min	-.245	9	0	4	0	5
1799	5	max	.21	8	0	7	0	1
1800		min	-.245	9	0	4	0	1
1801	M181	1	max	.001	2	.757	1	-.012
1802		min	0	3	.042	6	-.21	1
1803	2	max	.001	2	.378	1	-.03	7
1804		min	0	3	.021	6	-.535	1
1805	3	max	.001	2	0	1	-.036	7
1806		min	0	3	0	1	-.643	1
1807	4	max	.001	2	-.021	7	-.03	7
1808		min	0	3	-.378	1	-.535	1
1809	5	max	.001	2	-.042	7	-.012	7
1810		min	0	3	-.757	1	-.21	1
1811	M182	1	max	.001	2	-.042	7	-.012
1812		min	0	3	-.757	1	-.21	1
1813	2	max	.001	2	-.044	7	-.009	7
1814		min	0	3	-.798	1	-.161	1
1815	3	max	.001	2	-.047	7	-.006	7
1816		min	0	3	-.84	1	-.11	1
1817	4	max	.001	2	-.049	7	-.003	7
1818		min	0	3	-.881	1	-.056	1
1819	5	max	.001	2	-.051	7	0	1
1820		min	0	3	-.922	1	0	1
1821	M183	1	max	0	5	.098	6	.006
1822		min	0	2	-.024	8	-.024	6
1823	2	max	.036	3	.037	4	.008	8
1824		min	-.026	2	-.021	6	-.046	6
1825	3	max	.036	3	.037	4	.001	1
1826		min	-.026	2	-.021	6	-.038	6

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC	
1827	4	max	.036	3	.037	4	.003	7	
1828		min	-.026	2	-.021	6	-.03	6	
1829	5	max	.036	3	.036	4	.005	7	
1830		min	-.026	2	-.022	6	-.036	4	
1831	M184	1	max	.036	3	.036	4	.005	7
1832		min	-.026	2	-.022	6	-.036	4	
1833	2	max	.036	3	.036	4	.006	7	
1834		min	-.026	2	-.022	6	-.041	4	
1835	3	max	.036	3	.036	4	.006	7	
1836		min	-.027	2	-.022	6	-.045	4	
1837	4	max	.036	3	.014	7	.005	7	
1838		min	-.027	2	-.017	4	-.043	4	
1839	5	max	.036	3	.014	7	.003	7	
1840		min	-.027	2	-.017	4	-.041	4	
1841	M185	1	max	.036	3	.014	7	.003	7
1842		min	-.027	2	-.017	4	-.041	4	
1843	2	max	.036	3	.014	7	0	3	
1844		min	-.027	2	-.017	4	-.035	4	
1845	3	max	.036	3	.014	7	0	3	
1846		min	-.027	2	-.018	4	-.028	4	
1847	4	max	.036	3	.014	7	0	3	
1848		min	-.027	2	-.018	4	-.022	4	
1849	5	max	.036	3	.013	7	.004	6	
1850		min	-.027	2	-.018	4	-.018	7	
1851	M186	1	max	.036	3	.013	7	.004	6
1852		min	-.027	2	-.018	4	-.018	7	
1853	2	max	.036	3	.013	7	.005	6	
1854		min	-.027	2	-.019	4	-.02	7	
1855	3	max	.036	3	.002	3	.007	6	
1856		min	-.027	2	-.093	4	-.021	7	
1857	4	max	.036	3	.002	3	.018	6	
1858		min	-.027	2	-.094	4	-.015	7	
1859	5	max	.036	3	.002	3	.028	6	
1860		min	-.027	2	-.094	4	-.008	7	
1861	M187	1	max	.036	3	.002	3	.028	6
1862		min	-.027	2	-.094	4	-.008	7	
1863	2	max	.036	3	.001	3	.06	6	
1864		min	-.027	2	-.094	4	0	2	
1865	3	max	.036	3	0	3	.092	6	
1866		min	-.027	2	-.095	4	0	1	
1867	4	max	.036	3	0	3	.124	6	
1868		min	-.027	2	-.095	4	0	3	
1869	5	max	.036	3	0	3	.156	6	
1870		min	-.027	2	-.095	4	0	3	
1871	M188	1	max	.036	3	0	3	.156	6
1872		min	-.027	2	-.095	4	0	3	
1873	2	max	.036	3	0	3	.167	6	
1874		min	-.027	2	-.096	4	0	3	
1875	3	max	.097	2	.336	7	.179	4	
1876		min	-.131	3	0	1	0	3	
1877	4	max	.097	2	.336	7	.145	4	
1878		min	-.131	3	-.001	1	0	3	
1879	5	max	.097	2	.336	7	.111	4	
1880		min	-.131	3	-.001	1	0	3	
1881	M189	1	max	.097	2	.336	7	.111	4
1882		min	-.131	3	-.001	1	0	3	
1883	2	max	.097	2	.336	7	.01	8	

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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]		LC	Shear[k]		LC	Moment[k-ft]		LC
1884			min	-.131		3	-.002		1	-.123		7
1885		3	max	.097		2	.335		7	.001		2
1886			min	-.131		3	-.002		1	-.249		7
1887		4	max	.097		2	.335		7	.002		2
1888			min	-.131		3	-.002		1	-.375		7
1889		5	max	.003		4	.004		2	.001		2
1890			min	0		3	-.834		7	-.208		7
1891	M190	1	max	.003		4	.004		2	.001		2
1892			min	0		3	-.834		7	-.208		7
1893		2	max	.003		4	.004		2	0		2
1894			min	0		3	-.834		7	-.156		7
1895		3	max	.003		4	.004		2	0		2
1896			min	0		3	-.834		7	-.104		7
1897		4	max	.003		4	.004		2	0		2
1898			min	0		3	-.834		7	-.052		7
1899		5	max	.003		4	.004		2	0		1
1900			min	0		3	-.834		7	0		1
1901	M191	1	max	0		9	.521		6	.001		1
1902			min	0		2	-.005		1	-.13		6
1903		2	max	.077		7	.003		1	.002		1
1904			min	-.105		6	-.398		6	-.211		6
1905		3	max	.077		7	.003		1	.014		9
1906			min	-.105		6	-.398		6	-.062		6
1907		4	max	.077		7	.002		1	.088		6
1908			min	-.105		6	-.398		6	0		1
1909		5	max	.077		7	.002		1	.237		6
1910			min	-.105		6	-.398		6	0		1
1911	M192	1	max	.077		7	.002		1	.237		6
1912			min	-.105		6	-.399		6	0		1
1913		2	max	.077		7	.002		1	.287		6
1914			min	-.105		6	-.399		6	-.001		1
1915		3	max	.077		7	.385		9	.337		6
1916			min	-.105		6	-.399		6	-.001		1
1917		4	max	.105		6	.397		6	.287		6
1918			min	-.077		7	-.001		1	-.001		1
1919		5	max	.105		6	.397		6	.237		6
1920			min	-.077		7	-.002		1	0		1
1921	M193	1	max	.105		6	.398		6	.237		6
1922			min	-.077		7	-.002		1	0		1
1923		2	max	.105		6	.397		6	.088		6
1924			min	-.077		7	-.002		1	-.129		9
1925		3	max	.105		6	.397		6	0		2
1926			min	-.077		7	-.002		1	-.273		9
1927		4	max	.105		6	.397		6	.002		2
1928			min	-.077		7	-.003		1	-.417		9
1929		5	max	.004		6	.004		2	0		2
1930			min	0		3	-.929		9	-.232		9
1931	M194	1	max	.004		6	.004		2	0		2
1932			min	0		3	-.929		9	-.232		9
1933		2	max	.004		6	.004		2	0		2
1934			min	0		3	-.929		9	-.174		9
1935		3	max	.004		6	.004		2	0		2
1936			min	0		3	-.929		9	-.116		9
1937		4	max	.004		6	.004		2	0		2
1938			min	0		3	-.93		9	-.058		9
1939		5	max	.004		6	.004		2	0		1
1940			min	0		3	-.93		9	0		1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1941	M195	1	max	0	5	.021	6	.001
1942			min	0	2	-.005	1	-.005
1943		2	max	0	2	.003	1	-.002
1944			min	0	5	-.03	6	-.007
1945		3	max	0	2	.003	1	-.004
1946			min	0	5	-.03	6	0
1947		4	max	0	2	.003	1	.016
1948			min	0	5	-.03	6	0
1949		5	max	0	2	.002	1	.027
1950			min	0	5	-.031	6	-.001
1951	M196	1	max	0	2	.002	1	.027
1952			min	0	5	-.031	6	-.001
1953		2	max	0	2	.002	1	.031
1954			min	0	5	-.031	6	-.001
1955		3	max	0	2	.12	6	.035
1956			min	0	8	-.002	1	-.002
1957		4	max	0	5	.12	6	.02
1958			min	0	2	-.002	1	-.001
1959		5	max	0	5	.12	6	.005
1960			min	0	2	-.002	1	-.001
1961	M197	1	max	0	5	.12	6	.005
1962			min	0	2	-.002	1	-.001
1963		2	max	0	5	.12	6	0
1964			min	0	2	-.003	1	-.04
1965		3	max	0	5	.119	6	0
1966			min	0	2	-.003	1	-.085
1967		4	max	0	5	.119	6	.002
1968			min	0	2	-.003	1	-.129
1969		5	max	.063	3	.064	7	0
1970			min	-.049	4	-.249	6	-.082
1971	M198	1	max	.063	3	.064	7	0
1972			min	-.049	4	-.249	6	-.082
1973		2	max	.063	3	.064	7	0
1974			min	-.049	4	-.249	6	-.052
1975		3	max	.063	3	.064	7	0
1976			min	-.049	4	-.249	6	-.03
1977		4	max	.063	3	0	3	0
1978			min	-.049	4	-.105	6	-.023
1979		5	max	.063	3	0	3	.006
1980			min	-.049	4	-.105	6	-.016
1981	M199	1	max	.063	3	0	3	.006
1982			min	-.049	4	-.105	6	-.016
1983		2	max	.063	3	0	3	.046
1984			min	-.049	4	-.106	6	-.001
1985		3	max	.063	3	0	3	.086
1986			min	-.049	4	-.106	6	0
1987		4	max	.063	3	0	3	.125
1988			min	-.049	4	-.106	6	0
1989		5	max	.063	3	0	3	.165
1990			min	-.049	4	-.106	6	0
1991	M200	1	max	.063	3	0	3	.165
1992			min	-.049	4	-.106	6	0
1993		2	max	.063	3	0	3	.178
1994			min	-.049	4	-.107	6	0
1995		3	max	.081	4	.324	7	.192
1996			min	-.105	3	-.002	2	0
1997		4	max	.081	4	.324	7	.158

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1998			min	-.105	3	0	1	0
1999		5	max	.081	4	.324	7	.124
2000			min	-.105	3	0	1	0
2001	M201	1	max	.081	4	.325	7	.124
2002			min	-.105	3	0	1	0
2003		2	max	.081	4	.324	7	.023
2004			min	-.105	3	-.001	1	-.117
2005		3	max	.081	4	.324	7	.001
2006			min	-.105	3	-.002	1	-.239
2007		4	max	.081	4	.324	7	.002
2008			min	-.105	3	-.002	1	-.36
2009		5	max	.003	4	.004	2	.001
2010			min	0	3	-.801	7	-.2
2011	M202	1	max	.003	4	.004	2	.001
2012			min	0	3	-.801	7	-.2
2013		2	max	.003	4	.004	2	0
2014			min	0	3	-.801	7	-.15
2015		3	max	.003	4	.004	2	0
2016			min	0	3	-.801	7	-.1
2017		4	max	.003	4	.004	2	0
2018			min	0	3	-.801	7	-.05
2019		5	max	.003	4	.004	2	0
2020			min	0	3	-.801	7	0
2021	M203	1	max	0	9	.473	8	.001
2022			min	0	2	-.005	1	-.118
2023		2	max	.074	7	.003	1	.002
2024			min	-.09	6	-.361	8	-.191
2025		3	max	.074	7	.003	1	.014
2026			min	-.09	6	-.361	8	-.056
2027		4	max	.074	7	.002	1	.08
2028			min	-.09	6	-.362	8	0
2029		5	max	.074	7	.002	1	.215
2030			min	-.09	6	-.362	8	0
2031	M204	1	max	.074	7	.002	1	.215
2032			min	-.09	6	-.362	8	0
2033		2	max	.074	7	.002	1	.261
2034			min	-.09	6	-.362	8	-.001
2035		3	max	.09	6	.386	9	.306
2036			min	-.074	7	-.362	8	-.001
2037		4	max	.09	6	.386	9	.261
2038			min	-.074	7	-.001	1	-.001
2039		5	max	.09	6	.386	9	.216
2040			min	-.074	7	-.002	1	0
2041	M205	1	max	.09	6	.386	9	.216
2042			min	-.074	7	-.002	1	0
2043		2	max	.09	6	.385	9	.08
2044			min	-.074	7	-.002	1	-.129
2045		3	max	.09	6	.385	9	0
2046			min	-.074	7	-.002	1	-.274
2047		4	max	.09	6	.385	9	.002
2048			min	-.074	7	-.003	1	-.418
2049		5	max	.004	8	.004	2	0
2050			min	0	3	-.932	9	-.233
2051	M206	1	max	.004	8	.004	2	0
2052			min	0	3	-.932	9	-.233
2053		2	max	.004	8	.004	2	0
2054			min	0	3	-.932	9	-.175

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
2055	3	max	.004	8	.004	2	0	2
2056		min	0	3	-.932	9	-.117	9
2057	4	max	.004	8	.004	2	0	2
2058		min	0	3	-.932	9	-.058	9
2059	5	max	.004	8	.004	2	0	1
2060		min	0	3	-.932	9	0	1
2061	M207	1	max	0	.022	4	.003	5
2062		min	0	7	-.022	5	-.003	4
2063	2	max	.015	8	1.321	8	.167	9
2064		min	0	7	-1.311	9	-.168	8
2065	3	max	.662	1	.873	9	.428	9
2066		min	.037	6	-.889	8	-.431	8
2067	4	max	.662	1	.873	9	.247	9
2068		min	.037	6	-.889	8	-.247	8
2069	5	max	.663	1	.873	9	.066	9
2070		min	.037	6	-.889	8	-.062	8
2071	M208	1	max	1.106	.054	9	.013	9
2072		min	-.898	9	-.059	8	-.015	8
2073	2	max	1.106	8	.054	9	.01	9
2074		min	-.898	9	-.059	8	-.011	8
2075	3	max	1.106	8	.054	9	.007	9
2076		min	-.898	9	-.059	8	-.007	8
2077	4	max	1.106	8	.054	9	.003	9
2078		min	-.898	9	-.059	8	-.004	8
2079	5	max	1.107	8	.054	9	0	1
2080		min	-.898	9	-.059	8	0	1
2081	M209	1	max	0	.022	4	.003	5
2082		min	0	6	-.022	5	-.003	4
2083	2	max	.019	9	1.556	8	.197	9
2084		min	0	7	-1.546	9	-.198	8
2085	3	max	.662	1	.763	9	.506	9
2086		min	.037	6	-.775	8	-.51	8
2087	4	max	.662	1	.763	9	.348	9
2088		min	.037	6	-.775	8	-.349	8
2089	5	max	.663	1	.763	9	.19	9
2090		min	.037	6	-.775	8	-.188	8
2091	M210	1	max	1.092	.03	9	.09	9
2092		min	-.903	9	-.03	8	-.088	8
2093	2	max	1.093	8	.03	9	.07	9
2094		min	-.902	9	-.03	8	-.068	8
2095	3	max	1.094	8	.03	9	.049	9
2096		min	-.901	9	-.03	8	-.048	8
2097	4	max	1.094	8	.03	9	.028	9
2098		min	-.901	9	-.03	8	-.028	8
2099	5	max	1.095	8	.03	9	.008	9
2100		min	-.9	9	-.03	8	-.008	8
2101	M211	1	max	1.095	.029	9	.008	9
2102		min	-.9	9	-.031	8	-.008	8
2103	2	max	1.095	8	.029	9	.006	9
2104		min	-.9	9	-.031	8	-.006	8
2105	3	max	1.095	8	.029	9	.004	9
2106		min	-.9	9	-.031	8	-.004	8
2107	4	max	1.095	8	.029	9	.002	9
2108		min	-.9	9	-.031	8	-.002	8
2109	5	max	1.096	8	.029	9	0	1
2110		min	-.9	9	-.031	8	0	1
2111	M212	1	max	.165	0	9	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
2112		min	-.135	8	0	6	0	1
2113	2	max	.165	9	0	9	0	6
2114		min	-.135	8	0	6	0	9
2115	3	max	.165	9	0	1	0	6
2116		min	-.135	8	0	1	0	9
2117	4	max	.165	9	0	7	0	6
2118		min	-.135	8	0	8	0	9
2119	5	max	.165	9	0	7	0	1
2120		min	-.135	8	0	8	0	1
2121	M213	1	max	2.294	8	0	8	0
2122		min	-2.269	9	0	7	0	1
2123	2	max	2.294	8	0	8	0	7
2124		min	-2.269	9	0	7	0	8
2125	3	max	2.294	8	0	1	0	7
2126		min	-2.269	9	0	1	0	8
2127	4	max	2.295	8	0	6	0	7
2128		min	-2.269	9	0	4	0	8
2129	5	max	2.295	8	0	6	0	1
2130		min	-2.269	9	0	4	0	1
2131	M214	1	max	.663	1	.873	9	.066
2132		min	.037	6	-.889	8	-.062	8
2133	2	max	.663	1	.873	9	.049	8
2134		min	.037	6	-.889	8	-.043	9
2135	3	max	1.105	8	.972	8	.16	8
2136		min	-.9	9	-.949	9	-.152	9
2137	4	max	1.105	8	.972	8	-.039	8
2138		min	-.9	9	-.949	9	-.033	9
2139	5	max	1.105	8	.972	8	.085	9
2140		min	-.899	9	-.949	9	-.083	8
2141	M215	1	max	1.105	.972	8	.085	9
2142		min	-.899	9	-.949	9	-.083	8
2143	2	max	1.104	8	.056	9	.127	9
2144		min	-.901	9	-.056	8	-.127	8
2145	3	max	1.105	8	.056	9	.089	9
2146		min	-.9	9	-.056	8	-.09	8
2147	4	max	1.105	8	.056	9	.051	9
2148		min	-.899	9	-.056	8	-.052	8
2149	5	max	1.106	8	.056	9	.013	9
2150		min	-.898	9	-.056	8	-.015	8
2151	M216	1	max	.008	.3	8	1.276	9
2152		min	.005	7	-.3	9	-1.276	8
2153	2	max	.008	5	.3	8	1.332	9
2154		min	.005	7	-.3	9	-1.332	8
2155	3	max	.009	5	1.011	9	1.224	9
2156		min	-.005	8	-1.02	8	-1.223	8
2157	4	max	.009	5	1.011	9	1.035	9
2158		min	-.005	8	-1.02	8	-1.032	8
2159	5	max	.01	5	1.011	9	.845	9
2160		min	-.004	8	-1.02	8	-.84	8
2161	M217	1	max	.162	9	0	0	1
2162		min	-.139	8	0	6	0	1
2163	2	max	.162	9	0	9	0	6
2164		min	-.139	8	0	6	0	9
2165	3	max	.162	9	0	1	0	6
2166		min	-.139	8	0	1	0	9
2167	4	max	.162	9	0	7	0	6
2168		min	-.139	8	0	8	0	9

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 Designer : MK
 Job Number : 21210330.000
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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
2169	5	max	.162	9	0	7	0	1
2170		min	-.139	8	0	8	0	1
2171	M218	1	max	2.42	8	0	4	1
2172		min	-2.399	9	0	6	0	1
2173	2	max	2.42	8	0	4	0	6
2174		min	-2.399	9	0	6	0	4
2175	3	max	2.42	8	0	1	0	6
2176		min	-2.399	9	0	1	0	4
2177	4	max	2.42	8	0	7	0	6
2178		min	-2.399	9	0	1	0	4
2179	5	max	2.42	8	0	7	0	1
2180		min	-2.399	9	0	1	0	1
2181	M219	1	max	.663	1	.763	.19	9
2182		min	.037	6	-.775	8	-.188	8
2183	2	max	.663	1	.763	9	.094	9
2184		min	.037	6	-.775	8	-.091	8
2185	3	max	1.099	8	1.231	8	.013	1
2186		min	-.896	9	-1.211	9	-.001	9
2187	4	max	1.092	8	.033	9	.094	9
2188		min	-.903	9	-.026	8	-.092	8
2189	5	max	1.092	8	.033	9	.09	9
2190		min	-.903	9	-.026	8	-.088	8
2191	M220	1	max	.008	9	.3	1.276	9
2192		min	.005	6	-.3	9	-1.276	8
2193	2	max	.008	9	.3	8	1.319	9
2194		min	.005	6	-.3	9	-1.319	8
2195	3	max	.009	5	1.245	9	1.301	9
2196		min	-.01	9	-1.256	8	-1.3	8
2197	4	max	.009	5	1.245	9	1.12	9
2198		min	-.009	9	-1.256	8	-1.118	8
2199	5	max	.009	5	1.245	9	.94	9
2200		min	-.009	9	-1.256	8	-.936	8

Envelope AA ADM1-15: ASD - Building Aluminum Code Checks

	Member	Shape	Code	Ch...	Loc[ft]	LC	Shear	Ch...	Loc[ft]	LC	Pnc/Om[k]	Pnt/Om[k]	Mn/Om[k]	Vn/Om[k]	Cb	Egn
1	M1	L3X2X0.188	.421	6.224	6	.081	6.79	7	1.186	8.273	.356	3.076	1	H-1-1		
2	M2	L3X2X0.188	.069	.25	6	.032	0	6	7.077	8.273	.356	3.076	1	H-1-1		
3	M3	L3X2X0.188	.366	.25	6	.169	0	6	7.077	8.273	.356	3.076	1	H-1-1		
4	M4	L3X2X0.188	.275	2.21	6	.010	2.21	6	2.68	8.273	.394	3.076	1	H-1-1		
5	M5	L3X2X0.188	.397	6	4	.017	6	4	.861	8.273	.394	3.076	1	H-1-1		
6	M6	L3X2X0.188	.426	2	6	.023	2	6	3.183	8.273	.394	3.076	1	H-1-1		
7	M7	L3X2X0.188	.418	6	4	.018	4	7	.861	8.273	.394	3.076	1	H-1-1		
8	M8	L3X2X0.188	.454	2	6	.026	2	8	3.183	8.273	.394	3.076	1	H-1-1		
9	M9	L3X2X0.188	.503	2	8	.030	2	8	3.183	8.273	.394	3.076	1	H-1-1		
10	M10	L3X2X0.188	.533	.25	1	.300	0	1	7.077	8.273	.394	3.076	1	H-1-1		
11	M11	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1	H-1-1		
12	M12	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1	H-1-1		
13	M13	L3X2X0.188	.839	1	1	.215	2	1	5.25	8.273	.394	3.076	1	H-1-1		
14	M14	L3X2X0.188	.879	2.188	1	.281	2.188	1	1.506	8.273	.356	3.076	1	H-3-2		
15	M15	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1	H-1-1		
16	M16	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1	H-1-1		
17	M17	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1	H-1-1		
18	M18	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1	H-1-1		
19	M19	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1	H-1-1		
20	M20	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1	H-1-1		

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Envelope AA ADM1-15: ASD - Building Aluminum Code Checks (Continued)

	Member	Shape	Code	Ch...	Loc[ft]	LC	Shear	Ch...	Loc[ft]	LC	Pnc/Om[k]	Pnt/Om[k]	Mn/Om[k]	Vn/Om[k]	Cb	Egn
21	M21	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1	H-1-1		
22	M22	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1	H-1-1		
23	M23	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1	H-1-1		
24	M24	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1	H-1-1		
25	M25	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1	H-1-1		
26	M26	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1	H-1-1		
27	M27	L2X2X0.188	.195	2.04	1	.000	0	1	4.728	6.573	.196	2.051	1	H-1-1		
28	M28	L2X2X0.188	.412	.677	1	.025	0	4	3.876	6.573	.183	2.051	1	H-1-1		
29	M29	L2X2X0.188	.521	.704	2	.045	0	4	3.068	6.573	.183	2.051	1	H-1-1		
30	M30	L2X2X0.188	.627	.673	2	.042	.631	5	2.315	6.573	.183	2.051	1	H-1-1		
31	M31	L2X2X0.188	.401	1.335	2	.038	0	6	3.926	6.573	.183	2.051	1	H-1-1		
32	M32	L2X2X0.188	.422	2.67	1	.000	0	1	3.926	6.573	.196	2.051	1	H-1-1		
33	M33	L3X2X0.188	.288	2.67	1	.000	0	1	4.705	8.273	.356	3.076	1	H-1-1		
34	M34	L2X2X0.188	.493	.664	3	.072	.631	6	3.295	6.573	.183	2.051	1	H-1-1		
35	M35	L2X2X0.188	.549	.683	1	.039	.643	6	2.518	6.573	.183	2.051	1	H-1-1		
36	M36	L2X2X0.188	.743	.707	1	.026	0	2	1.835	6.573	.183	2.051	1	H-1-1		
37	M37	L2X2X0.188	.457	.703	2	.037	0	5	3.738	6.573	.183	2.051	1	H-1-1		
38	M38	L3X2X0.188	.471	.671	2	.066	.61	6	4.525	8.273	.394	3.076	1	H-1-1		
39	M39	L2X2X0.188	.426	2.688	1	.000	0	1	3.903	6.573	.196	2.051	1	H-1-1		
40	M40	L3X2X0.188	.309	2.688	2	.000	0	1	4.687	8.273	.356	3.076	1	H-3-2		
41	M41	L2X2X0.188	.210	2.83	1	.000	0	1	3.728	6.573	.196	2.051	1	H-1-1		
42	M42	L2X2X0.188	.355	2.83	1	.000	0	1	3.728	6.573	.196	2.051	1	H-3-2		
43	M43	L2X2X0.188	.359	2.83	1	.000	0	1	3.728	6.573	.196	2.051	1	H-3-2		
44	M44	L2X2X0.188	.422	2.83	3	.000	0	1	3.728	6.573	.196	2.051	1	H-1-1		
45	M45	L3X2X0.188	.334	2.83	2	.000	0	1	4.541	8.273	.356	3.076	1	H-1-1		
46	M46	L2X2X0.188	.486	.7	8	.065	0	8	3.283	6.573	.196	2.051	1	H-1-1		
47	M47	L2X2X0.188	.528	.683	1	.054	0	8	2.518	6.573	.196	2.051	1	H-1-1		
48	M48	L2X2X0.188	.724	.708	1	.046	0	8	1.835	6.573	.196	2.051	1	H-1-1		
49	M49	L2X2X0.188	.481	.704	2	.044	0	7	3.733	6.573	.183	2.051	1	H-1-1		
50	M50	L3X2X0.188	.509	.671	9	.084	0	9	4.519	8.273	.356	3.076	1	H-1-1		
51	M51	L2X2X0.188	.388	3.08	1	.000	0	1	3.424	6.573	.196	2.051	1	H-1-1		
52	M52	L2X2X0.188	.388	3.08	1	.000	0	1	3.424	6.573	.196	2.051	1	H-1-1		
53	M53	L2X2X0.188	.391	3.08	1	.000	0	1	3.424	6.573	.196	2.051	1	H-1-1		
54	M54	L2X2X0.188	.424	3.08	3	.000	0	1	3.424	6.573	.196	2.051	1	H-1-1		
55	M55	L3X2X0.188	.363	3.08	2	.000	0	1	4.269	8.273	.356	3.076	1	H-1-1		
56	M56	L2X2X0.188	.389	3.08	1	.000	0	1	3.424	6.573	.196	2.051	1	H-1-1		
57	M57	L2X2X0.188	.389	3.08	1	.000	0	1	3.424	6.573	.196	2.051	1	H-3-2		
58	M58	L2X2X0.188	.394	3.08	1	.000	0	1	3.424	6.573	.196	2.051	1	H-3-2		
59	M59	L2X2X0.188	.495	3.08	3	.000	0	1	3.424	6.573	.196	2.051	1	H-1-1		
60	M60	L3X2X0.188	.407	3.08	2	.000	0	1	4.269	8.273	.356	3.076	1	H-1-1		
61	M61	L2X2X0.188	.779	.702	9	.100	0	9	3.271	6.573	.183	2.051	1	H-1-1		
62	M62	L2X2X0.188	.550	.687	1	.017	0	9	2.495	6.573	.183	2.051	1	H-1-1		
63	M63	L3X2X0.188	.008	.25	5	.007	.25	4	7.077	8.273	.356	3.076	1	H-1-1		
64	M64	L2X2X0.188	.401	3.16	1	.000	0	1	3.328	6.573	.196	2.051	1	H-1-1		
65	M65	L2X2X0.188	.387	3.16	1	.000	0	1	3.328	6.573	.196	2.051	1	H-3-2		
66	M66	L3X2X0.188	.273	3.16	8	.000	0	1	4.178	8.273	.356	3.076	1	H-1-1		
67	M67	L2X2X0.188	.404	3.16	1	.000	0	1	3.328	6.573	.196	2.051	1	H-1-1		
68	M68	L2X2X0.188	.392	3.16	3	.000	0	1	3.328	6.573	.196	2.051	1	H-3-2		
69	M69	L3X2X0.188	.294	3.16	2	.000	0	1	4.178	8.273	.356	3.076	1	H-1-1		
70	M70	L2X2X0.188	.405	3.16	1	.000	0	1	3.328	6.573	.196	2.051	1	H-1-1		
71	M71	L2X2X0.188	.434	3.16	3	.000	0	1	3.328	6.573	.196	2.051	1	H-3-2		
72	M72	L3X2X0.188	.348	3.16	2	.000	0	1	4.178	8.273	.356	3.076	1	H-1-1		
73	M73	USC4X1.85	.633	0	8	.184	1.174	9	13.351	14.273	1.451	3.927	1....	H-1-1		
74	M74	L2X2X0.188	.250	.415	9	.000	0	9	5.252	6.573	.183	2.051	1	H-1-1		
75	M75	USC4X1.85	.386	4.25	9	.033	0	9	6.318	30.595	3.303	9.164	1....	H-1-1		
76	M76	L2X2X0.188	.320	2.688	1	.000	0	1	3.903	6.573	.196	2.051	1	H-1-1		
77	M77	L1.5x1.5x...	.366	2.127	5	.000	3.927	5	1.049	4.794	.103	1.534	1	H-1-1		



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 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

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Envelope AA ADM1-15: ASD - Building Aluminum Code Checks (Continued)

Member	Shape	Code Ch...	Loc(ft)	LC	Shear Ch...	Loc(ft)	LC	Pnc/Om(k)	Pnt/Om(k)	Mn/Om(k)	Vn/Om(k)	Cb	Eqn
78	M78	L1.5x1.5x1...	619	1.841	6	.000	0	4	1.348	4.794	.114	1.534	1 H-1-1
79	M79	L1.5x1.5x1...	293	1.841	6	.000	3.465	4	1.348	4.794	.103	1.534	1 H-1-1
80	M80	L1.5x1.5x1...	377	1.78	5	.000	3.35	3	1.442	4.794	.103	1.534	1 H-1-1
81	M81	L1.5x1.5x1...	263	1.951	3	.000	0	4	1.2	4.794	.103	1.534	1 H-1-1
82	M82	L1.5x1.5x1...	268	1.951	3	.000	0	5	1.2	4.794	.103	1.534	1 H-1-1
83	M83	L1.5x1.5x1...	328	1.784	9	.000	0	9	1.435	4.794	.103	1.534	1 H-1-1
84	M84	L1.5x1.5x1...	256	2.026	7	.000	0	8	1.157	4.794	.103	1.534	1 H-1-1
85	M85	L1.5x1.5x1...	256	2.026	7	.000	0	4	1.157	4.794	.103	1.534	1 H-1-1
86	M86	L1.5x1.5x1...	256	2.026	7	.000	3.74	5	1.157	4.794	.103	1.534	1 H-1-1
87	M87	L2X2X0.188	121	2.008	9	.000	0	5	2.606	6.573	.183	2.051	1 H-1-1
88	M88	L3X2X0.188	.015	.25	6	.007	0	6	7.077	8.273	.356	3.076	1 H-1-1
89	M89	L3X2X0.188	.333	.25	8	.154	0	8	7.077	8.273	.356	3.076	1 H-1-1
90	M90	L3X2X0.188	.550	.6	7	.024	6	6	.861	8.273	.356	3.076	1 H-1-1
91	M91	L3X2X0.188	.466	.6	6	.029	6	6	.861	8.273	.394	3.076	1 H-1-1
92	M92	L3X2X0.188	.363	.2	6	.022	2	8	3.183	8.273	.394	3.076	1 H-1-1
93	M93	L3X2X0.188	.483	.6	6	.030	6	6	.861	8.273	.394	3.076	1 H-1-1
94	M94	L3X2X0.188	.413	.2	8	.025	2	8	3.183	8.273	.394	3.076	1 H-1-1
95	M95	L3X2X0.188	.476	.2	8	.029	2	8	3.183	8.273	.394	3.076	1 H-1-1
96	M96	USC5X2.32	.780	2.313	1	.296	2.313	1	12.726	17.909	2.27	5.182	1.94 H-1-1
97	M97	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H-1-1
98	M98	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H-1-1
99	M99	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H-1-1
100	M100	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H-1-1
101	M101	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H-1-1
102	M102	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H-1-1
103	M103	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H-1-1
104	M104	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H-1-1
105	M105	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H-1-1
106	M106	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H-1-1
107	M107	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H-1-1
108	M108	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H-1-1
109	M109	L2X2X0.188	.761	2.687	1	.000	0	1	3.905	6.573	.196	2.051	1 H-1-1
110	M110	L3X2X0.188	.150	2.687	1	.000	0	1	4.688	8.273	.356	3.076	1 H-1-1
111	M111	L2X2X0.188	.585	.67	4	.085	.636	4	3.262	6.573	.196	2.051	1 H-1-1
112	M112	L2X2X0.188	.569	.688	1	.050	.648	4	2.487	6.573	.196	2.051	1 H-1-1
113	M113	L2X2X0.188	.762	.712	1	.024	0	3	1.813	6.573	.196	2.051	1 H-1-1
114	M114	L2X2X0.188	.439	.706	3	.035	0	3	3.723	6.573	.196	2.051	1 H-1-1
115	M115	L3X2X0.188	.474	.674	2	.068	.613	6	4.504	8.273	.394	3.076	1 H-1-1
116	M116	L2X2X0.188	.758	2.688	1	.000	0	1	3.904	6.573	.196	2.051	1 H-1-1
117	M117	L3X2X0.188	.166	2.688	2	.000	0	1	4.687	8.273	.356	3.076	1 H-1-1
118	M118	L2X2X0.188	.202	2.819	1	.000	0	1	3.742	6.573	.196	2.051	1 H-1-1
119	M119	L2X2X0.188	.354	2.819	1	.000	0	1	3.742	6.573	.196	2.051	1 H-1-1
120	M120	L2X2X0.188	.358	2.819	1	.000	0	1	3.742	6.573	.196	2.051	1 H-1-1
121	M121	L2X2X0.188	.425	2.819	3	.000	0	1	3.742	6.573	.196	2.051	1 H-1-1
122	M122	L3X2X0.188	.324	2.819	2	.000	0	1	4.553	8.273	.356	3.076	1 H-1-1
123	M123	L2X2X0.188	.485	.703	3	.063	.67	6	3.263	6.573	.183	2.051	1 H-1-1
124	M124	L2X2X0.188	.538	.686	1	.051	0	8	2.499	6.573	.196	2.051	1 H-1-1
125	M125	L2X2X0.188	.734	.71	1	.044	0	8	1.822	6.573	.196	2.051	1 H-1-1
126	M126	L2X2X0.188	.478	.706	2	.041	0	5	3.724	6.573	.183	2.051	1 H-1-1
127	M127	L3X2X0.188	.509	.673	9	.084	0	9	4.506	8.273	.356	3.076	1 H-1-1
128	M128	L2X2X0.188	.388	3.08	1	.000	0	1	3.424	6.573	.196	2.051	1 H-1-1
129	M129	L2X2X0.188	.388	3.08	1	.000	0	1	3.424	6.573	.196	2.051	1 H-1-1
130	M130	L2X2X0.188	.391	3.08	1	.000	0	1	3.424	6.573	.196	2.051	1 H-1-1
131	M131	L2X2X0.188	.425	3.08	3	.000	0	1	3.424	6.573	.196	2.051	1 H-1-1
132	M132	L3X2X0.188	.362	3.08	2	.000	0	1	4.269	8.273	.356	3.076	1 H-3-2
133	M133	L2X2X0.188	.389	3.08	1	.000	0	1	3.424	6.573	.196	2.051	1 H-1-1
134	M134	L2X2X0.188	.389	3.08	1	.000	0	1	3.424	6.573	.196	2.051	1 H-1-1

RISA-2D Version 17.0.1 [Z:\.....\Project Docs\Calcs\First Base Frames.r2d]

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Company : Larson Engineering Inc
 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

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Envelope AA ADM1-15: ASD - Building Aluminum Code Checks (Continued)

	Member	Shape	Code Ch...	Loc(ft)	LC	Shear Ch...	Loc(ft)	LC	Pnc/Om(k)	Pnt/Om(k)	Mn/Om(k)	Vn/Om(k)	Cb	Eqn
135	M135	L2X2X0.188	.394	3.08	1	.000	0	1	3.424	6.573	.196	2.051	1	H-1-1
136	M136	L2X2X0.188	.496	3.08	3	.000	0	1	3.424	6.573	.196	2.051	1	H-1-1
137	M137	L3X2X0.188	.406	3.08	2	.000	0	1	4.269	8.273	.356	3.076	1	H-1-1
138	M138	L2X2X0.188	.789	.672	9	.100	0	9	3.251	6.573	.183	2.051	1	H-1-1
139	M139	L2X2X0.188	.554	.69	1	.018	0	9	2.477	6.573	.183	2.051	1	H-1-1
140	M140	L3X2X0.188	.008	.25	5	.007	.25	5	7.077	8.273	.356	3.076	1	H-1-1
141	M141	L2X2X0.188	.401	3.16	1	.000	0	1	3.328	6.573	.196	2.051	1	H-1-1
142	M142	L2X2X0.188	.387	3.16	1	.000	0	1	3.328	6.573	.196	2.051	1	H-1-1
143	M143	L3X2X0.188	.268	3.16	8	.000	0	1	4.178	8.273	.356	3.076	1	H-1-1
144	M144	L2X2X0.188	.404	3.16	1	.000	0	1	3.328	6.573	.196	2.051	1	H-1-1
145	M145	L2X2X0.188	.392	3.16	3	.000	0	1	3.328	6.573	.196	2.051	1	H-3-2
146	M146	L3X2X0.188	.293	3.16	2	.000	0	1	4.178	8.273	.356	3.076	1	H-3-2
147	M147	L2X2X0.188	.405	3.16	1	.000	0	1	3.328	6.573	.196	2.051	1	H-1-1
148	M148	L2X2X0.188	.434	3.16	3	.000	0	1	3.328	6.573	.196	2.051	1	H-3-2
149	M149	L3X2X0.188	.347	3.16	2	.000	0	1	4.178	8.273	.356	3.076	1	H-1-1
150	M150	USC4X1.85	.714	0	8	.214	1.119	9	13.493	14.273	1.451	3.927	1....	H-1-1
151	M151	L2X2X0.188	.295	.415	9	.000	0	9	5.252	6.573	.183	2.051	1	H-1-1
152	M152	USC4X1.85	.386	.425	9	.033	0	9	6.318	30.595	3.303	9.164	1....	H-1-1
153	M153	L1.5x1.5x1...	.560	1.836	6	.000	3.456	4	1.355	4.794	.114	1.534	1	H-1-1
154	M154	L1.5x1.5x1...	.268	1.836	6	.000	0	4	1.355	4.794	.103	1.534	1	H-1-1
155	M155	L1.5x1.5x1...	.388	1.792	5	.000	3.373	9	1.423	4.794	.103	1.534	1	H-1-1
156	M156	L1.5x1.5x1...	.264	1.951	3	.000	0	4	1.2	4.794	.103	1.534	1	H-1-1
157	M157	L1.5x1.5x1...	.269	1.951	3	.000	3.672	8	1.2	4.794	.103	1.534	1	H-1-1
158	M158	L1.5x1.5x1...	.331	1.791	9	.000	0	4	1.424	4.794	.103	1.534	1	H-1-1
159	M159	L1.5x1.5x1...	.249	2.026	5	.000	0	8	1.157	4.794	.103	1.534	1	H-1-1
160	M160	L1.5x1.5x1...	.249	2.026	5	.000	3.74	9	1.157	4.794	.103	1.534	1	H-1-1
161	M161	L1.5x1.5x1...	.249	2.026	5	.000	3.74	8	1.157	4.794	.103	1.534	1	H-1-1
162	M162	L2X2X0.188	.114	2.016	5	.000	3.794	8	2.59	6.573	.183	2.051	1	H-1-1
163	M163	L3X2X0.188	.044	1.08	4	.000	2.16	3	5.142	8.273	.356	3.076	1	H-1-1
164	M164	L3X2X0.188	.325	.495	6	.066	0	6	5.142	8.273	.356	3.076	1	H-1-1
165	M165	L3X2X0.188	.864	.75	7	.188	8	7	.861	8.273	.356	3.076	1	H-1-1
166	M166	L1.5x1.5x1...	.242	1.832	7	.000	0	4	1.361	4.794	.103	1.534	1	H-1-1
167	M167	L1.5x1.5x1...	.242	1.832	7	.000	3.448	5	1.362	4.794	.103	1.534	1	H-1-1
168	M168	L3X2X0.188	.931	.75	7	.215	8	7	.861	8.273	.356	3.076	1	H-3-2
169	M169	L3X2X0.188	.548	.6	7	.016	4	6	.861	8.273	.356	3.076	1	H-1-1
170	M170	L3X2X0.188	.577	3.914	7	.131	4.42	7	2.68	8.273	.356	3.076	1	H-1-1
171	M171	L1.5x1.5x1...	.309	1.849	7	.000	0	4	1.336	4.794	.103	1.534	1	H-1-1
172	M172	L1.5x1.5x1...	.289	1.841	7	.000	0	2	1.347	4.794	.103	1.534	1	H-1-1
173	M173	L1.5x1.5x1...	.297	1.667	5	.000	0	5	1.584	4.794	.103	1.534	1	H-1-1
174	M174	L1.5x1.5x1...	.202	1.667	5	.000	3.202	8	1.584	4.794	.103	1.534	1	H-1-1
175	M175	L1.5x1.5x1...	.289	1.667	5	.000	0	5	1.584	4.794	.103	1.534	1	H-1-1
176	M176	L1.5x1.5x1...	.198	1.667	5	.000	3.202	4	1.584	4.794	.103	1.534	1	H-1-1
177	M177	L2X2X0.188	.076	1	4	.000	2	4	4.781	6.573	.196	2.051	1	H-1-1
178	M178	L2X2X0.188	.043	1	8	.000	2	4	4.781	6.573	.196	2.051	1	H-1-1
179	M179	L2X2X0.188	.074	1	4	.000	2	4	4.781	6.573	.196	2.051	1	H-1-1
180	M180	L2X2X0.188	.046	1	8	.000	2	4	4.781	6.573	.196	2.051	1	H-1-1
181	M181	L3X2X0.188	.700	1.145	1	.106	0	1	6.983	17.733	.919	7.142	1	H-1-1
182	M182	L3X2X0.188	.533	0	1	.300	.25	1	7.077	8.273	.394	3.076	1	H-1-1
183	M183	L3X2X0.188	.077	.25	6	.014	0	6	8.854	17.733	.634	7.142	1	H-1-1
184	M184	L3X2X0.188	.128	.25	4	.012	0	4	6.197	8.273	.356	3.076	1	H-1-1
185	M185	L3X2X0.188	.065	0	4	.003	1.5	4	8.854	17.733	.634	7.142	1	H-1-1
186	M186	L3X2X0.188	.072	.5	6	.030	.5	4	6.197	8.273	.394	3.076	1	H-1-1
187	M187	L3X2X0.188	.170	1.5	6	.013	1.5	4	8.854	17.733	.919	7.142	1	H-1-1
188	M188	L3X2X0.188	.469	.25	4	.109	.25	7	6.197	8.273	.394	3.076	1	H-1-1
189	M189	L3X2X0.188	.657	1.25	7	.117	1.5	7	8.854	17.733	.634	7.142	1	H-1-1
190	M190	L3X2X0.188	.586	0	7	.271	.25	7	7.077	8.273	.356	3.076	1	H-1-1
191	M191	L3X2X0.188	.410	.25	6	.073	0	6	8.854	17.733	.634	7.142	1	H-1-1

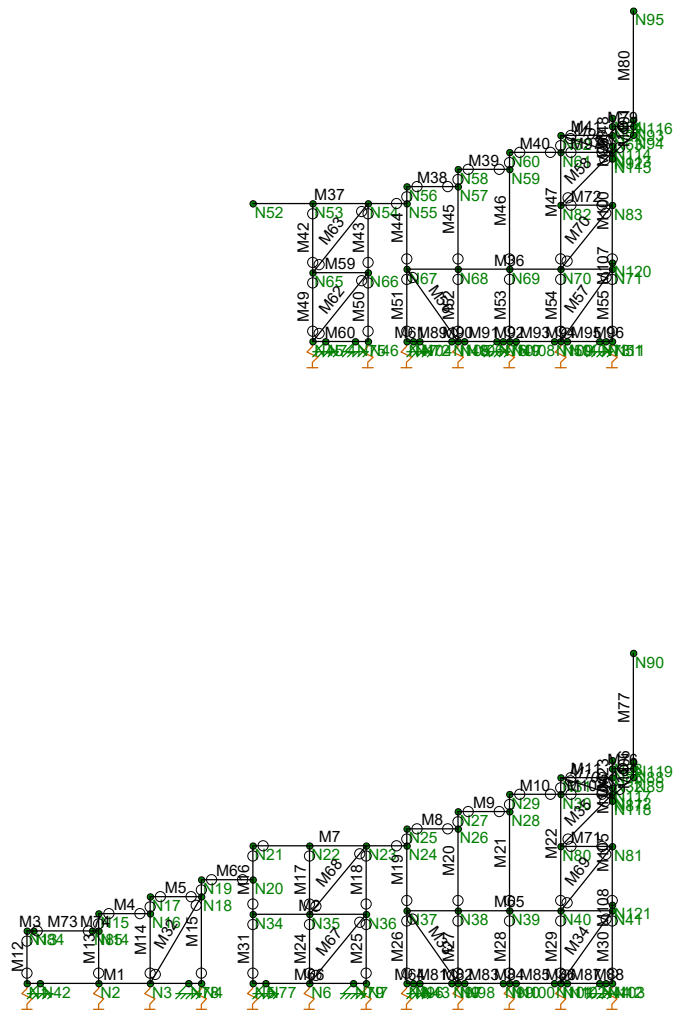


Company : Larson Engineering Inc
 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

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Envelope AA ADM1-15: ASD - Building Aluminum Code Checks (Continued)

Member	Shape	Code Ch...	Locftl	LC	Shear Ch...	Locftl	LC	Pnc/Om[k]	Pnt/Om[k]	Mn/Om[k]	Vn/Om[k]	Cb	Eon
192	M192	L3X2X0.188	.868	.25	6	.130	.25	6	6.197	8.273	.394	3.076	1 H.1-1
193	M193	L3X2X0.188	.732	1.25	9	.130	1.5	9	8.854	17.733	.634	7.142	1 H.1-1
194	M194	L3X2X0.188	.654	0	9	.302	.25	9	7.077	8.273	.356	3.076	1 H.1-1
195	M195	L3X2X0.188	.030	1.5	6	.004	1.5	6	9.171	17.733	.919	7.142	1 H.1-1
196	M196	L3X2X0.188	.089	.25	6	.039	.25	6	6.211	8.273	.394	3.076	1 H.1-1
197	M197	L3X2X0.188	.227	1.25	6	.035	1.5	6	9.171	17.733	.634	7.142	1 H.1-1
198	M198	L3X2X0.188	.231	0	6	.081	.25	6	6.211	8.273	.356	3.076	1 H.1-1
199	M199	L3X2X0.188	.180	1.5	6	.015	1.5	6	8.854	17.733	.919	7.142	1 H.1-1
200	M200	L3X2X0.188	.499	.25	6	.105	.25	7	6.211	8.273	.394	3.076	1 H.1-1
201	M201	L3X2X0.188	.631	1.25	7	.112	1.5	7	9.171	17.733	.634	7.142	1 H.1-1
202	M202	L3X2X0.188	.563	0	7	.260	.25	7	7.077	8.273	.356	3.076	1 H.1-1
203	M203	L3X2X0.188	.373	.25	8	.066	0	8	9.728	17.733	.634	7.142	1 H.1-1
204	M204	L3X2X0.188	.777	.25	8	.126	.25	9	6.211	8.273	.394	3.076	1 H.1-1
205	M205	L3X2X0.188	.734	1.25	9	.130	1.5	9	9.171	17.733	.634	7.142	1 H.1-1
206	M206	L3X2X0.188	.655	0	9	.303	.25	9	7.077	8.273	.356	3.076	1 H.1-1
207	M207	L3X2X0.188	.675	.415	9	.185	.086	8	10.772	17.733	.634	7.142	1 H.1-1
208	M208	L3X2X0.188	.194	0	8	.019	0	8	7.077	8.273	.394	3.076	1 H.1-1
209	M209	L3X2X0.188	.798	.415	9	.218	.086	8	10.772	17.733	.634	7.142	1 H.1-1
210	M210	L3X2X0.188	.283	0	8	.004	0	9	5.844	17.733	.919	7.142	1 H.1-1
211	M211	L3X2X0.188	.178	0	8	.010	0	8	6.982	8.273	.394	3.076	1 H.1-1
212	M212	L2X2X0.188	.037	1	9	.000	0	9	4.781	6.573	.196	2.051	1 H.1-1
213	M213	L1.5x1.5x.1...	.824	1.077	8	.000	0	8	2.794	4.794	.114	1.534	1 H.1-1
214	M214	L3X2X0.188	.628	.25	8	.316	.25	8	6.197	8.273	.356	3.076	1 H.1-1
215	M215	L3X2X0.188	.363	.085	8	.136	0	8	5.844	17.733	.919	7.142	1 H.1-1
216	M216	USC4X1.85	.931	.25	9	.260	.25	8	14.273	14.273	1.451	3.927	1.... H.1-1
217	M217	L2X2X0.188	.036	1	9	.000	0	9	4.781	6.573	.196	2.051	1 H.1-1
218	M218	L1.5x1.5x.1...	.869	1.077	8	.000	0	4	2.794	4.794	.114	1.534	1 H.1-1
219	M219	L3X2X0.188	.545	0	9	.400	.25	8	6.197	8.273	.356	3.076	1 H.1-1
220	M220	USC4X1.85	.931	.248	9	.320	.254	8	14.273	14.273	1.451	3.927	1.... H.1-1



Larson Engineering Inc

MK

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Hamlin Middle School

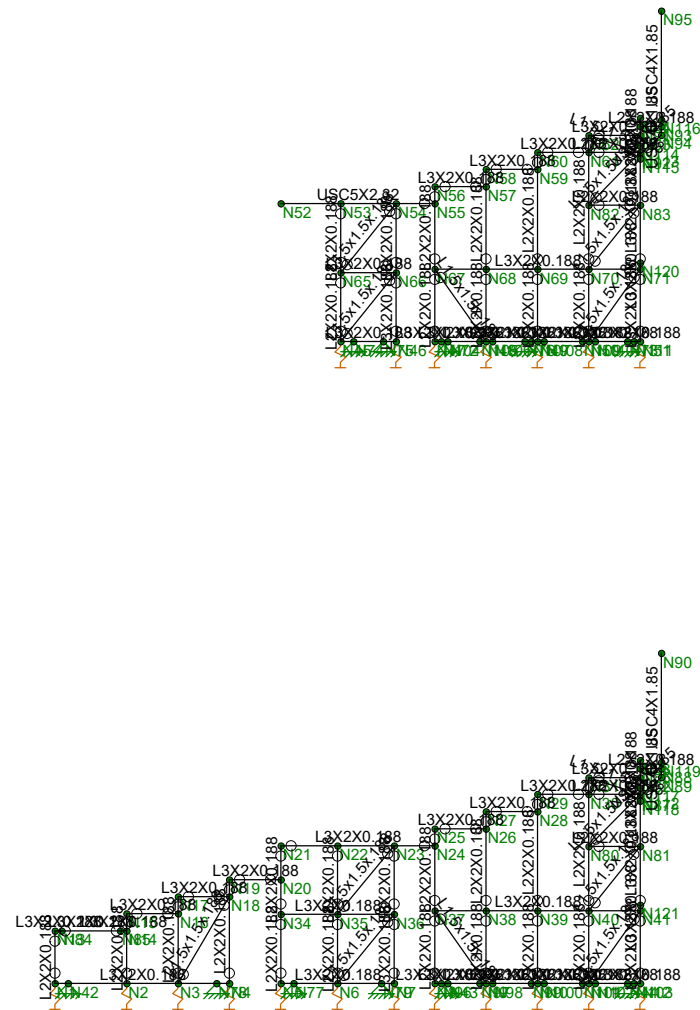
Member & Node Labels

Attachment 5, Page 87 of 236

SK - 1

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Third Base Frames.r2d



Larson Engineering Inc

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21210330.000

Hamlin Middle School

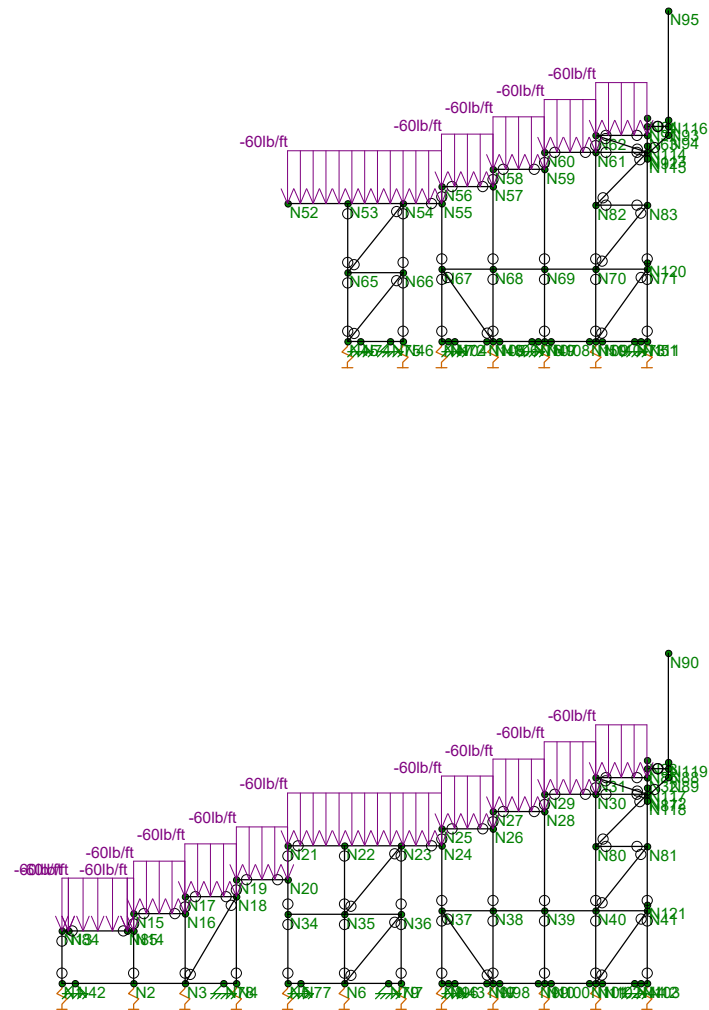
Member Shapes

Attachment 5, Page 88 of 236

SK - 2

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Third Base Frames.r2d



Loads: BLC 1, DL

Larson Engineering Inc

MK

21210330.000

Hamlin Middle School

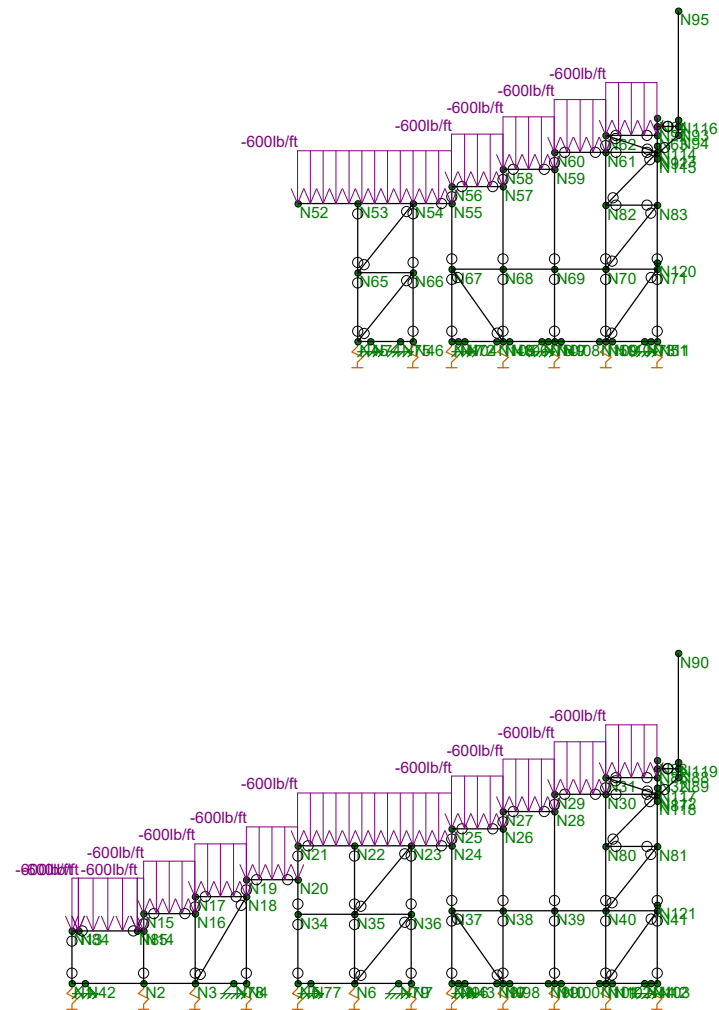
Dead Loads

Attachment 5, Page 89 of 236

SK - 3

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Third Base Frames.r2d



Loads: BLC 2, LL

Larson Engineering Inc

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Hamlin Middle School

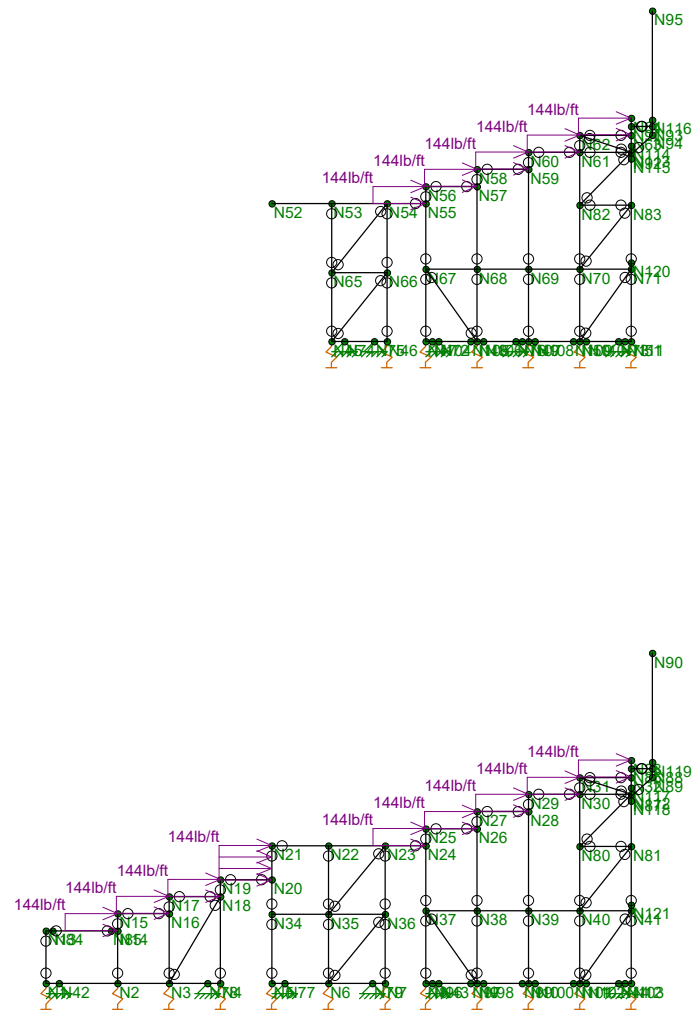
Live Loads

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SK - 4

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Third Base Frames.r2d



Loads: BLC 3, WL

Larson Engineering Inc

MK

21210330.000

Hamlin Middle School

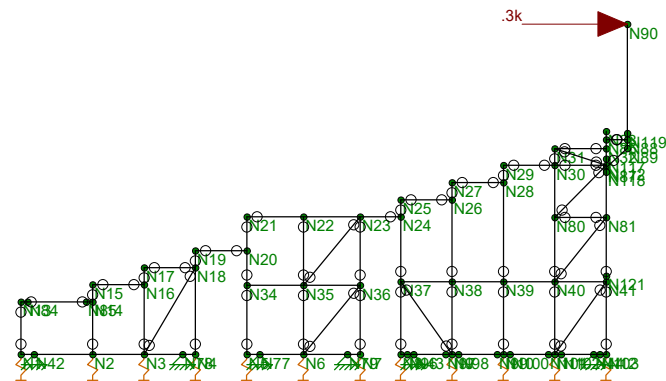
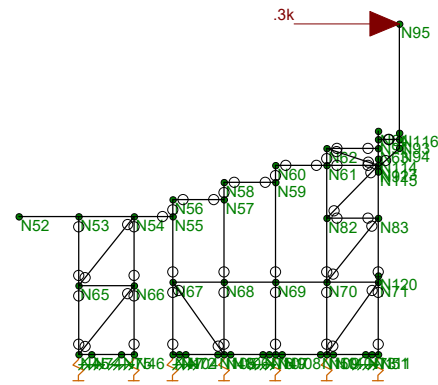
Wind Loads (Strength)

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SK - 5

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Third Base Frames.r2d



Loads: BLC 4, GUARD

Larson Engineering Inc

MK

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Hamlin Middle School

Handrail Load

SK - 6

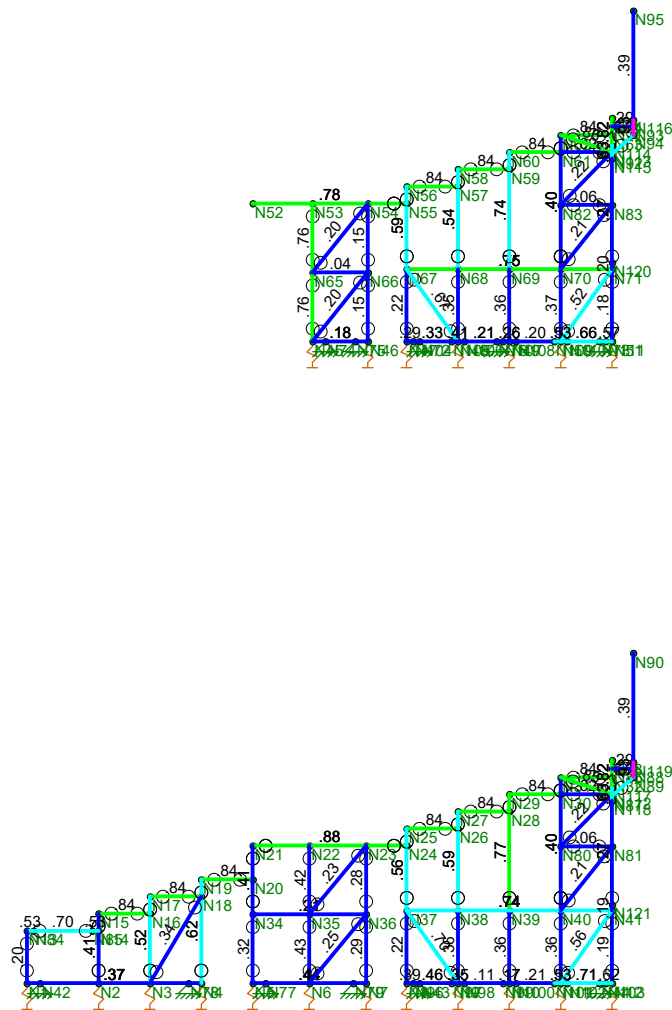
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Third Base Frames.r2d



Code Check
(Env)

- No Calc
- > 1.0
- 90-1.0
- 75-90
- 50-75
- 0-.50



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Larson Engineering Inc

MK

21210330.000

Hamlin Middle School

Member Envelope Unity

Attachment 5, Page 93 of 236

SK - 7

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Third Base Frames.r2d



Company : Larson Engineering Inc
 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

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Aluminum Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (...	Density...	Table B.4	kt	Ftu[ksi]	Fty[ksi]	Fcy[ksi]	Fsu[ksi]	Ct
1	3003-H14	10100	3787.5	.33	1.3	.173	Table B.4-1	1	19	16	13	12	141
2	6061-T6	10100	3787.5	.33	1.3	.173	Table B.4-2	1	38	35	35	24	141
3	6063-T5	10100	3787.5	.33	1.3	.173	Table B.4-2	1	22	16	16	13	141
4	6063-T6	10100	3787.5	.33	1.3	.173	Table B.4-2	1	30	25	25	19	141
5	5052-H34	10200	3787.5	.33	1.3	.173	Table B.4-1	1	34	26	24	20	141
6	6061-T6 W	10100	3787.5	.33	1.3	.173	Table B.4-1	1	24	15	15	15	141

Aluminum Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	I (90,270) [...	I (0,180) [...
1	L1.5x1.5x0.1875	L1.5x1.5x.188	Beam	AA Channel	6061-T6 W	Typical	.527	.11	.11
2	L2x2x0.1875	L2X2X0.188	Beam	AA Channel	6061-T6 W	Typical	.723	.268	.268
3	L3x2x0.1875	L3X2X0.188	Beam	AA Channel	6061-T6 W	Typical	.91	.292	.821
4	L3x2x0.1875 UW	L3X2X0.188	Beam	AA Channel	6061-T6	Typical	.91	.292	.821
5	C4x1.5	USC4X1.85	Beam	AA Channel	6061-T6 W	Typical	1.57	.32	3.83
6	C4x1.5 UW	USC4X1.85	Beam	AA Channel	6061-T6	Typical	1.57	.32	3.83
7	AL6	USC5X2.32	Beam	AA Channel	6061-T6 W	Typical	1.97	.48	7.49

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Temp [F]
1	N1	25	0	0
2	N2	27.79	0	0
3	N3	29.79	0	0
4	N4	31.79	0	0
5	N5	33.79	0	0
6	N6	36	0	0
7	N7	38.21	0	0
8	N8	39.79	0	0
9	N9	41.79	0	0
10	N10	43.79	0	0
11	N11	45.79	0	0
12	N12	47.79	0	0
13	N13	25	2.04	0
14	N14	27.79	2.04	0
15	N15	27.79	2.71	0
16	N16	29.79	2.71	0
17	N17	29.79	3.38	0
18	N18	31.79	3.38	0
19	N19	31.79	4.04	0
20	N20	33.79	4.04	0
21	N21	33.79	5.358	0
22	N22	36	5.358	0
23	N23	38.21	5.358	0
24	N24	39.79	5.358	0
25	N25	39.79	6.018	0
26	N26	41.79	6.018	0
27	N27	41.79	6.688	0
28	N28	43.79	6.688	0
29	N29	43.79	7.358	0
30	N30	45.79	7.358	0
31	N31	45.79	8.018	0
32	N32	47.79	8.018	0
33	N33	47.79	8.688	0
34	N34	33.79	2.688	0

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Company : Larson Engineering Inc
 Designer : MK
 Job Number : 21210330.000
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Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Temp [F]
35	N35	36	2.688	0
36	N36	38.21	2.688	0
37	N37	39.79	2.83	0
38	N38	41.79	2.83	0
39	N39	43.79	2.83	0
40	N40	45.79	2.83	0
41	N41	47.79	2.83	0
42	N42	25.5	0	0
43	N43	40.29	0	0
44	N44	47.29	0	0
45	N45	36.12	25	0
46	N46	38.28	25	0
47	N47	39.79	25	0
48	N48	41.79	25	0
49	N49	43.79	25	0
50	N50	45.79	25	0
51	N51	47.79	25	0
52	N52	33.79	30.3745	0
53	N53	36.12	30.3745	0
54	N54	38.28	30.3745	0
55	N55	39.79	30.3745	0
56	N56	39.79	31.0345	0
57	N57	41.79	31.0345	0
58	N58	41.79	31.7045	0
59	N59	43.79	31.7045	0
60	N60	43.79	32.3745	0
61	N61	45.79	32.3745	0
62	N62	45.79	33.0345	0
63	N63	47.79	33.0345	0
64	N64	47.79	33.7045	0
65	N65	36.12	27.6875	0
66	N66	38.28	27.6875	0
67	N67	39.79	27.819	0
68	N68	41.79	27.819	0
69	N69	43.79	27.819	0
70	N70	45.79	27.819	0
71	N71	47.79	27.819	0
72	N72	40.29	25	0
73	N73	47.29	25	0
74	N74	36.62	25	0
75	N75	37.78	25	0
76	N76	43.29	25	0
77	N77	34.29	0	0
78	N78	31.29	0	0
79	N79	37.71	0	0
80	N80	45.79	5.33	0
81	N81	47.79	5.33	0
82	N82	45.79	30.319	0
83	N83	47.79	30.319	0
84	N84	25.25	2.04	0
85	N85	27.54	2.04	0
86	N86	47.79	8.358	0
87	N87	47.79	7.278	0
88	N88	48.62	8.358	0
89	N89	48.62	8.028	0
90	N90	48.62	12.858	0
91	N91	47.79	33.3745	0

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Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Temp [F]
92	N92	47.79	32.2945	0
93	N93	48.62	33.3745	0
94	N94	48.62	33.0445	0
95	N95	48.62	37.8745	0
96	N96	40.04	0	0
97	N97	41.54	0	0
98	N98	42.04	0	0
99	N99	43.54	0	0
100	N100	44.04	0	0
101	N101	45.54	0	0
102	N102	46.04	0	0
103	N103	47.54	0	0
104	N104	40.04	25	0
105	N105	41.54	25	0
106	N106	42.04	25	0
107	N107	43.54	25	0
108	N108	44.04	25	0
109	N109	45.54	25	0
110	N110	46.04	25	0
111	N111	47.54	25	0
112	N112	47.79	7.358	0
113	N113	47.79	32.3745	0
114	N114	47.79	32.6245	0
115	N115	47.79	32.1245	0
116	N116	48.62	33.6245	0
117	N117	47.79	7.608	0
118	N118	47.79	7.108	0
119	N119	48.62	8.608	0
120	N120	47.79	28.069	0
121	N121	47.79	3.0525	0

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Rotation[k-ft/rad]
1	N1		CS10000	
2	N2		CS10000	
3	N3		CS10000	
4	N4		CS10000	
5	N5		CS10000	
6	N6		CS10000	
7	N7		CS10000	
8	N8		CS10000	
9	N9		CS10000	
10	N10		CS10000	
11	N11		CS10000	
12	N12		CS10000	
13	N42	Reaction	Reaction	
14	N43	Reaction	Reaction	
15	N44	Reaction	Reaction	
16	N45		CS10000	
17	N46		CS10000	
18	N47		CS10000	
19	N48		CS10000	
20	N49		CS10000	
21	N50		CS10000	
22	N51		CS10000	



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Joint Boundary Conditions (Continued)

	Joint Label	X [k/in]	Y [k/in]	Rotation[k-ft/rad]
23	N72	Reaction	Reaction	
24	N73	Reaction	Reaction	
25	N74	Reaction	Reaction	
26	N75	Reaction	Reaction	
27	N76	Reaction	Reaction	
28	N77	Reaction	Reaction	
29	N78	Reaction	Reaction	
30	N79	Reaction	Reaction	

Member Primary Data

	Label	I Joint	J Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N4		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
2	M2	N34	N36		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
3	M3	N13	N84	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
4	M4	N15	N16	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
5	M5	N17	N18	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
6	M6	N19	N20	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
7	M7	N21	N24	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
8	M8	N25	N26	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
9	M9	N27	N28	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
10	M10	N29	N30	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
11	M11	N31	N32	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
12	M12	N13	N1		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
13	M13	N15	N2		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
14	M14	N17	N3		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
15	M15	N19	N4	180	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
16	M16	N21	N34		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
17	M17	N22	N35		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
18	M18	N23	N36	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
19	M19	N25	N37		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
20	M20	N27	N38		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
21	M21	N29	N39		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
22	M22	N31	N40		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
23	M23	N33	N117	180	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
24	M24	N35	N6		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
25	M25	N36	N7	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
26	M26	N37	N8		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
27	M27	N38	N9		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
28	M28	N39	N10		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
29	M29	N40	N11		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
30	M30	N41	N12	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
31	M31	N34	N5		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
32	M32	N18	N3		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
33	M33	N37	N9		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
34	M34	N41	N11		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
35	M35	N112	N80		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
36	M36	N67	N71		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
37	M37	N52	N55	180	AL6	Beam	AA Channel	6061-T6 W	Typical
38	M38	N56	N57	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
39	M39	N58	N59	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
40	M40	N60	N61	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
41	M41	N62	N63	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
42	M42	N53	N65		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
43	M43	N54	N66	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
44	M44	N56	N67		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical



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Member Primary Data (Continued)

	Label	I Joint	J Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
45	M45	N58	N68		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
46	M46	N60	N69		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
47	M47	N62	N70		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
48	M48	N64	N114	180	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
49	M49	N65	N45		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
50	M50	N66	N46	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
51	M51	N67	N47		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
52	M52	N68	N48		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
53	M53	N69	N49		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
54	M54	N70	N50		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
55	M55	N71	N51	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
56	M56	N67	N48		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
57	M57	N71	N50		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
58	M58	N113	N82		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
59	M59	N65	N66		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
60	M60	N45	N46		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
61	M61	N47	N104		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
62	M62	N66	N45		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
63	M63	N54	N65		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
64	M64	N8	N96		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
65	M65	N37	N41		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
66	M66	N5	N7		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
67	M67	N36	N6		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
68	M68	N23	N35		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
69	M69	N81	N40		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
70	M70	N83	N70		L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
71	M71	N80	N81		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
72	M72	N82	N83		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
73	M73	N84	N85	180	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
74	M74	N85	N14	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
75	M75	N89	N87		C4x1.5	Beam	AA Channel	6061-T6 W	Typical
76	M76	N88	N86		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
77	M77	N90	N119		C4x1.5 UW	Beam	AA Channel	6061-T6	Typical
78	M78	N94	N92		C4x1.5	Beam	AA Channel	6061-T6 W	Typical
79	M79	N93	N91		L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
80	M80	N95	N116		C4x1.5 UW	Beam	AA Channel	6061-T6	Typical
81	M81	N96	N97		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
82	M82	N97	N98		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
83	M83	N98	N99		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
84	M84	N99	N100		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
85	M85	N100	N101		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
86	M86	N101	N102		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
87	M87	N102	N103		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
88	M88	N103	N12		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
89	M89	N104	N105		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
90	M90	N105	N106		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
91	M91	N106	N107		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
92	M92	N107	N108		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
93	M93	N108	N109		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
94	M94	N109	N110		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
95	M95	N110	N111		L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
96	M96	N111	N51		L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
97	M97	N61	N113	180	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
98	M98	N62	N113	180	L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
99	M99	N114	N115	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
100	M100	N115	N120	180	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
101	M101	N116	N94		C4x1.5	Beam	AA Channel	6061-T6 W	Typical

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Member Primary Data (Continued)

	Label	I Joint	J Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
102	M102	N30	N112	180	L2x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
103	M103	N31	N112	180	L1.5x1.5x0.1875	Beam	AA Channel	6061-T6 W	Typical
104	M104	N117	N118	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
105	M105	N118	N121	180	L3x2x0.1875 UW	Beam	AA Channel	6061-T6	Typical
106	M106	N119	N89		C4x1.5	Beam	AA Channel	6061-T6 W	Typical
107	M107	N120	N71	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical
108	M108	N121	N41	180	L3x2x0.1875	Beam	AA Channel	6061-T6 W	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	TOM	Inactive
1	M1						Yes		
2	M2						Yes		
3	M3	PIN					Yes		
4	M4	PIN	PIN				Yes		
5	M5	PIN	PIN				Yes		
6	M6	PIN	PIN				Yes		
7	M7	PIN	PIN				Yes		
8	M8	PIN	PIN				Yes		
9	M9	PIN	PIN				Yes		
10	M10	PIN	PIN				Yes		
11	M11	PIN	PIN				Yes		
12	M12	PIN	PIN				Yes		
13	M13	PIN	PIN				Yes		
14	M14	PIN	PIN				Yes		
15	M15	PIN	PIN				Yes		
16	M16	PIN	PIN				Yes		
17	M17	PIN	PIN				Yes		
18	M18	PIN	PIN				Yes		
19	M19	PIN	PIN				Yes		
20	M20	PIN	PIN				Yes		
21	M21	PIN	PIN				Yes		
22	M22	PIN	PIN				Yes		
23	M23						Yes		
24	M24	PIN	PIN				Yes		
25	M25	PIN	PIN				Yes		
26	M26	PIN	PIN				Yes		
27	M27	PIN	PIN				Yes		
28	M28	PIN	PIN				Yes		
29	M29	PIN	PIN				Yes		
30	M30	PIN	PIN				Yes		
31	M31	PIN	PIN				Yes		
32	M32	PIN	PIN				Yes		
33	M33	PIN	PIN				Yes		
34	M34	PIN	PIN				Yes		
35	M35	PIN	PIN				Yes		
36	M36						Yes		
37	M37		PIN				Yes		
38	M38	PIN	PIN				Yes		
39	M39	PIN	PIN				Yes		
40	M40	PIN	PIN				Yes		
41	M41	PIN	PIN				Yes		
42	M42	PIN	PIN				Yes		
43	M43	PIN	PIN				Yes		
44	M44	PIN	PIN				Yes		
45	M45	PIN	PIN				Yes		

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Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	TOM	Inactive
46	M46	PIN	PIN				Yes		
47	M47	PIN	PIN				Yes		
48	M48						Yes		
49	M49	PIN	PIN				Yes		
50	M50	PIN	PIN				Yes		
51	M51	PIN	PIN				Yes		
52	M52	PIN	PIN				Yes		
53	M53	PIN	PIN				Yes		
54	M54	PIN	PIN				Yes		
55	M55	PIN	PIN				Yes		
56	M56	PIN	PIN				Yes		
57	M57	PIN	PIN				Yes		
58	M58	PIN	PIN				Yes		
59	M59						Yes		
60	M60						Yes		
61	M61						Yes		
62	M62	PIN	PIN				Yes		
63	M63	PIN	PIN				Yes		
64	M64						Yes		
65	M65						Yes		
66	M66						Yes		
67	M67	PIN	PIN				Yes		
68	M68	PIN	PIN				Yes		
69	M69	PIN	PIN				Yes		
70	M70	PIN	PIN				Yes		
71	M71	PIN	PIN				Yes		
72	M72	PIN	PIN				Yes		
73	M73						Yes		
74	M74		PIN				Yes		
75	M75		PIN				Yes		
76	M76	PIN	PIN				Yes		
77	M77						Yes		
78	M78		PIN				Yes		
79	M79	PIN	PIN				Yes		
80	M80						Yes		
81	M81						Yes		
82	M82						Yes		
83	M83						Yes		
84	M84						Yes		
85	M85						Yes		
86	M86						Yes		
87	M87						Yes		
88	M88						Yes		
89	M89						Yes		
90	M90						Yes		
91	M91						Yes		
92	M92						Yes		
93	M93						Yes		
94	M94						Yes		
95	M95						Yes		
96	M96						Yes		
97	M97	PIN	PIN				Yes		
98	M98	PIN	PIN				Yes		
99	M99						Yes		
100	M100						Yes		
101	M101						Yes		
102	M102	PIN	PIN				Yes		

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Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	TOM	Inactive
103	M103	PIN	PIN				Yes		
104	M104						Yes		
105	M105						Yes		
106	M106						Yes		
107	M107		PIN				Yes		
108	M108		PIN				Yes		

Aluminum Design Parameters

	Label	Shape	Length[ft]	Lb-out[ft]	Lb-in[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	K-out	K-in	Cb	Function
1	M1	L3x2x0.1875	6.79			Lb out						Lateral
2	M2	L3x2x0.1875	4.42			Lb out						Lateral
3	M3	L3x2x0.1875	25			Lb out						Lateral
4	M4	L3x2x0.1875	2			Lb out						Lateral
5	M5	L3x2x0.1875	2			Lb out						Lateral
6	M6	L3x2x0.1875	2			Lb out						Lateral
7	M7	L3x2x0.1875	6			Lb out						Lateral
8	M8	L3x2x0.1875	2			Lb out						Lateral
9	M9	L3x2x0.1875	2			Lb out						Lateral
10	M10	L3x2x0.1875	2			Lb out						Lateral
11	M11	L3x2x0.1875	2			Lb out						Lateral
12	M12	L2x2x0.1875	2.04			Lb out						Lateral
13	M13	L2x2x0.1875	2.71			Lb out						Lateral
14	M14	L2x2x0.1875	3.38			Lb out						Lateral
15	M15	L2x2x0.1875	4.04			Lb out						Lateral
16	M16	L2x2x0.1875	2.67			Lb out						Lateral
17	M17	L2x2x0.1875	2.67			Lb out						Lateral
18	M18	L3x2x0.1875	2.67			Lb out						Lateral
19	M19	L2x2x0.1875	3.188			Lb out						Lateral
20	M20	L2x2x0.1875	3.858			Lb out						Lateral
21	M21	L2x2x0.1875	4.528			Lb out						Lateral
22	M22	L2x2x0.1875	5.188	Segment		Lb out						Lateral
23	M23	L3x2x0.1875	1.08	Segment		Lb out						Lateral
24	M24	L2x2x0.1875	2.688			Lb out						Lateral
25	M25	L3x2x0.1875	2.688			Lb out						Lateral
26	M26	L2x2x0.1875	2.83			Lb out						Lateral
27	M27	L2x2x0.1875	2.83			Lb out						Lateral
28	M28	L2x2x0.1875	2.83			Lb out						Lateral
29	M29	L2x2x0.1875	2.83			Lb out						Lateral
30	M30	L3x2x0.1875	2.83			Lb out						Lateral
31	M31	L2x2x0.1875	2.688			Lb out						Lateral
32	M32	L1.5x1.5x0....	3.927			Lb out						Lateral
33	M33	L1.5x1.5x0....	3.465			Lb out						Lateral
34	M34	L1.5x1.5x0....	3.465			Lb out						Lateral
35	M35	L1.5x1.5x0....	2.848			Lb out						Lateral
36	M36	L3x2x0.1875	8			Lb out						Lateral
37	M37	AL6	6	Segment		Lb out						Lateral
38	M38	L3x2x0.1875	2			Lb out						Lateral
39	M39	L3x2x0.1875	2			Lb out						Lateral
40	M40	L3x2x0.1875	2			Lb out						Lateral
41	M41	L3x2x0.1875	2			Lb out						Lateral
42	M42	L2x2x0.1875	2.687			Lb out						Lateral
43	M43	L3x2x0.1875	2.687			Lb out						Lateral
44	M44	L2x2x0.1875	3.216			Lb out						Lateral
45	M45	L2x2x0.1875	3.886			Lb out						Lateral
46	M46	L2x2x0.1875	4.555			Lb out						Lateral

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Aluminum Design Parameters (Continued)

Label	Shape	Length[ft]	Lb-out[ft]	Lb-in[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	K-out	K-in	Cb	Function
47	M47	L2x2x0.1875	5.216	Segment		Lb out					Lateral
48	M48	L3x2x0.1875	1.08	Segment		Lb out					Lateral
49	M49	L2x2x0.1875	2.688			Lb out					Lateral
50	M50	L3x2x0.1875	2.688			Lb out					Lateral
51	M51	L2x2x0.1875	2.819			Lb out					Lateral
52	M52	L2x2x0.1875	2.819			Lb out					Lateral
53	M53	L2x2x0.1875	2.819			Lb out					Lateral
54	M54	L2x2x0.1875	2.819			Lb out					Lateral
55	M55	L3x2x0.1875	2.819			Lb out					Lateral
56	M56	L1.5x1.5x0....	3.456			Lb out					Lateral
57	M57	L1.5x1.5x0....	3.456			Lb out					Lateral
58	M58	L1.5x1.5x0....	2.868			Lb out					Lateral
59	M59	L3x2x0.1875	2.16			Lb out					Lateral
60	M60	L3x2x0.1875	2.16			Lb out					Lateral
61	M61	L3x2x0.1875	.25			Lb out					Lateral
62	M62	L1.5x1.5x0....	3.448			Lb out					Lateral
63	M63	L1.5x1.5x0....	3.448			Lb out					Lateral
64	M64	L3x2x0.1875	.25			Lb out					Lateral
65	M65	L3x2x0.1875	.8			Lb out					Lateral
66	M66	L3x2x0.1875	4.42			Lb out					Lateral
67	M67	L1.5x1.5x0....	3.48			Lb out					Lateral
68	M68	L1.5x1.5x0....	3.466			Lb out					Lateral
69	M69	L1.5x1.5x0....	3.202			Lb out					Lateral
70	M70	L1.5x1.5x0....	3.202			Lb out					Lateral
71	M71	L2x2x0.1875	.2			Lb out					Lateral
72	M72	L2x2x0.1875	.2			Lb out					Lateral
73	M73	L3x2x0.1875	2.29			Lb out					Lateral
74	M74	L3x2x0.1875	.25			Lb out					Lateral
75	M75	C4x1.5	1.119			Lb out					Lateral
76	M76	L2x2x0.1875	.83			Lb out					Lateral
77	M77	C4x1.5 UW	4.25			Lb out					Lateral
78	M78	C4x1.5	1.119			Lb out					Lateral
79	M79	L2x2x0.1875	.83			Lb out					Lateral
80	M80	C4x1.5 UW	4.25			Lb out					Lateral
81	M81	L3x2x0.1875	1.5			Lb out					Lateral
82	M82	L3x2x0.1875	.5			Lb out					Lateral
83	M83	L3x2x0.1875	1.5			Lb out					Lateral
84	M84	L3x2x0.1875	.5			Lb out					Lateral
85	M85	L3x2x0.1875	1.5			Lb out					Lateral
86	M86	L3x2x0.1875	.5			Lb out					Lateral
87	M87	L3x2x0.1875	1.5			Lb out					Lateral
88	M88	L3x2x0.1875	.25			Lb out					Lateral
89	M89	L3x2x0.1875	1.5			Lb out					Lateral
90	M90	L3x2x0.1875	.5			Lb out					Lateral
91	M91	L3x2x0.1875	1.5			Lb out					Lateral
92	M92	L3x2x0.1875	.5			Lb out					Lateral
93	M93	L3x2x0.1875	1.5			Lb out					Lateral
94	M94	L3x2x0.1875	.5			Lb out					Lateral
95	M95	L3x2x0.1875	1.5			Lb out					Lateral
96	M96	L3x2x0.1875	.25			Lb out					Lateral
97	M97	L2x2x0.1875	.2			Lb out					Lateral
98	M98	L1.5x1.5x0....	2.106			Lb out					Lateral
99	M99	L3x2x0.1875	.5	Segment		Lb out					Lateral
100	M100	L3x2x0.1875	4.056	Segment		Lb out					Lateral
101	M101	C4x1.5	.58			Lb out					Lateral
102	M102	L2x2x0.1875	.2			Lb out					Lateral
103	M103	L1.5x1.5x0....	2.106			Lb out					Lateral

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Aluminum Design Parameters (Continued)

Label	Shape	Length[ft]	Lb-out[ft]	Lb-in[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	K-out	K-in	Cb	Function
104	M104	L3x2x0.1875	.5	Segment		Lb out					Lateral
105	M105	L3x2x0.1875	4.056	Segment		Lb out					Lateral
106	M106	C4x1.5	.58			Lb out					Lateral
107	M107	L3x2x0.1875	.25	Segment		Lb out					Lateral
108	M108	L3x2x0.1875	.222	Segment		Lb out					Lateral

Joint Loads and Enforced Displacements (BLC 4 : GUARD)

Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft...]
1	N90	L	X
2	N95	L	X

Member Distributed Loads (BLC 1 : DL)

Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft...]	Start Location[ft.%]	End Location[ft.%]
1	M3	Y	-60	-60	0
2	M4	Y	-60	-60	0
3	M5	Y	-60	-60	0
4	M6	Y	-60	-60	0
5	M7	Y	-60	-60	0
6	M8	Y	-60	-60	0
7	M9	Y	-60	-60	0
8	M10	Y	-60	-60	0
9	M11	Y	-60	-60	0
10	M37	Y	-60	-60	0
11	M38	Y	-60	-60	0
12	M39	Y	-60	-60	0
13	M40	Y	-60	-60	0
14	M41	Y	-60	-60	0
15	M73	Y	-60	-60	0
16	M74	Y	-60	-60	.25

Member Distributed Loads (BLC 2 : LL)

Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft...]	Start Location[ft.%]	End Location[ft.%]
1	M3	Y	-600	-600	0
2	M4	Y	-600	-600	0
3	M5	Y	-600	-600	0
4	M6	Y	-600	-600	0
5	M7	Y	-600	-600	0
6	M8	Y	-600	-600	0
7	M9	Y	-600	-600	0
8	M10	Y	-600	-600	0
9	M11	Y	-600	-600	0
10	M37	Y	-600	-600	0
11	M38	Y	-600	-600	0
12	M39	Y	-600	-600	0
13	M40	Y	-600	-600	0
14	M41	Y	-600	-600	0
15	M73	Y	-600	-600	0
16	M74	Y	-600	-600	.25

Member Distributed Loads (BLC 3 : WL)

Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft...]	Start Location[ft.%]	End Location[ft.%]
1	M13	X	144	144	0
2	M14	X	144	144	.66

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Member Distributed Loads (BLC 3 : WL) (Continued)

	Member Label	Direction	Start Magnitude [lb/ft.F.ksf]	End Magnitude [lb/ft.	Start Location [ft.%]	End Location [ft.%]
3	M15	X	144	144	0	.66
4	M16	X	144	144	0	1.34
5	M19	X	144	144	0	.66
6	M20	X	144	144	0	.66
7	M21	X	144	144	0	.66
8	M22	X	144	144	0	.66
9	M23	X	144	144	0	.66
10	M44	X	144	144	0	.66
11	M45	X	144	144	0	.66
12	M46	X	144	144	0	.66
13	M47	X	144	144	0	.66
14	M48	X	144	144	0	.66

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Joint	Point	Distributed
1	DL	None		-1			16
2	LL	None					16
3	WL	None					14
4	GUARD	None			2		

Load Combinations

[illegible]

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Moment [k-ft]	LC
1	N1	max	0	1	.921	1	0	1
2		min	0	1	.035	6	0	1
3	N2	max	0	1	1.588	1	0	1
4		min	0	1	0	6	0	1
5	N3	max	0	1	1.346	1	0	1
6		min	0	1	0	4	0	1
7	N4	max	0	1	1.304	1	0	1
8		min	0	1	0	5	0	1
9	N5	max	0	1	1.246	1	0	1
10		min	0	1	.123	7	0	1
11	N6	max	0	1	1.689	1	0	1
12		min	0	1	0	4	0	1

Envelope Joint Reactions (Continued)

	Joint		X [k]	LC	Y [k]	LC	Moment [k-ft]	LC
13	N7	max	0	1	1.372	2	0	1
14		min	0	1	0	5	0	1
15		max	0	1	.833	1	0	1
16	N8	min	0	1	0	4	0	1
17		max	0	1	1.536	1	0	1
18		min	0	1	0	5	0	1
19	N10	max	0	1	1.342	1	0	1
20		min	0	1	0	4	0	1
21		max	0	1	1.556	3	0	1
22	N12	min	0	1	0	4	0	1
23		max	0	1	1.179	8	0	1
24		min	0	1	0	5	0	1
25	N42	max	.054	5	.055	4	0	1
26		min	-.052	4	.003	9	0	1
27		max	.209	9	.006	1	0	1
28	N43	min	-.332	8	-.744	8	0	1
29		max	.223	8	.005	1	0	1
30		min	-.08	9	-1.233	9	0	1
31	N45	max	0	1	2.962	1	0	1
32		min	0	1	0	4	0	1
33		max	0	1	.719	2	0	1
34	N46	min	0	1	0	5	0	1
35		max	0	1	.803	1	0	1
36		min	0	1	0	4	0	1
37	N48	max	0	1	1.503	1	0	1
38		min	0	1	0	5	0	1
39		max	0	1	1.334	1	0	1
40	N49	min	0	1	0	4	0	1
41		max	0	1	1.57	3	0	1
42		min	0	1	0	4	0	1
43	N51	max	0	1	1.133	8	0	1
44		min	0	1	0	3	0	1
45		max	.196	9	.008	1	0	1
46	N72	min	-.26	8	-.587	8	0	1
47		max	.254	8	.004	1	0	1
48		min	-.159	9	-1.144	9	0	1
49	N74	max	.163	9	.106	7	0	1
50		min	-.186	8	-.164	6	0	1
51		max	0	2	.089	6	0	1
52	N75	min	0	3	-.195	7	0	1
53		max	.1	9	.022	4	0	1
54		min	-.108	8	-.352	9	0	1
55	N77	max	.105	7	.008	1	0	1
56		min	-.108	6	-.321	6	0	1
57		max	.138	5	.007	1	0	1
58	N78	min	-.131	4	-.33	6	0	1
59		max	.105	7	.008	1	0	1
60		min	-.108	6	-.418	7	0	1
61	Totals:	max	.857	7	24.551	1		
62		min	-.857	6	1.486	6		

Envelope Member Section Forces

	Member	Sec	Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1	M1	1	max	0	3	0	9	1
2			min	-0.01	2	-0.03	4	1



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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
3		2	max	.055	5	.023	4	0	1
4			min	-.052	4	0	9	-.017	6
5		3	max	.048	5	0	3	.003	7
6			min	-.045	4	-.069	6	-.004	4
7		4	max	.14	4	.132	6	.058	6
8			min	-.147	5	-.001	1	-.004	7
9		5	max	.009	4	.004	1	0	1
10			min	-.01	5	-.227	7	0	1
11	M2	1	max	.025	6	.01	7	0	1
12			min	-.019	7	-.022	6	0	1
13		2	max	.025	6	.009	7	.024	6
14			min	-.019	7	-.022	6	-.011	7
15		3	max	.217	6	.009	7	.049	6
16			min	-.21	7	-.023	6	-.021	7
17		4	max	.217	6	.022	6	.024	6
18			min	-.21	7	-.009	7	-.011	7
19		5	max	.217	6	.022	6	0	1
20			min	-.21	7	-.01	7	0	1
21	M3	1	max	.001	2	.922	1	0	1
22			min	0	3	.051	7	0	1
23		2	max	.001	2	.881	1	-.003	7
24			min	0	3	.049	7	-.056	1
25		3	max	.001	2	.84	1	-.006	7
26			min	0	3	.047	7	-.11	1
27		4	max	.001	2	.798	1	-.009	7
28			min	0	3	.044	7	-.161	1
29		5	max	.001	2	.757	1	-.012	7
30			min	0	3	.042	7	-.21	1
31	M4	1	max	.051	4	.661	1	0	1
32			min	-.051	5	.037	7	0	1
33		2	max	.051	4	.331	1	-.014	7
34			min	-.051	5	.018	7	-.248	1
35		3	max	.051	4	0	1	-.018	7
36			min	-.051	5	0	1	-.331	1
37		4	max	.051	4	-.018	6	-.014	7
38			min	-.051	5	-.331	1	-.248	1
39		5	max	.051	4	-.037	6	0	1
40			min	-.051	5	-.661	1	0	1
41	M5	1	max	.092	4	.661	1	0	1
42			min	-.092	5	.037	6	0	1
43		2	max	.092	4	.331	1	-.014	6
44			min	-.092	5	.018	6	-.248	1
45		3	max	.092	4	0	1	-.018	6
46			min	-.092	5	0	1	-.331	1
47		4	max	.092	4	-.018	7	-.014	6
48			min	-.092	5	-.331	1	-.248	1
49		5	max	.092	4	-.037	7	0	1
50			min	-.092	5	-.661	1	0	1
51	M6	1	max	.028	9	.661	1	0	1
52			min	-.031	8	.037	7	0	1
53		2	max	.028	9	.331	1	-.014	7
54			min	-.031	8	.018	7	-.248	1
55		3	max	.028	9	0	1	-.018	7
56			min	-.031	8	0	1	-.331	1
57		4	max	.028	9	-.018	6	-.014	7
58			min	-.031	8	-.331	1	-.248	1
59		5	max	.028	9	-.037	6	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC	
60		min	-.031	8	-.661	1	0	1	
61	M7	max	.083	6	.581	1	0	1	
		min	-.076	7	.002	6	0	1	
63		2	max	.083	6	-.006	7	.039	6
64		min	-.076	7	-.41	1	-.128	1	
65	3	max	.083	6	.252	1	.011	6	
66		min	-.077	7	-.033	7	-.076	1	
67	4	max	.171	9	.616	1	.181	1	
68		min	-.191	8	-.015	6	-.068	8	
69	5	max	.171	9	.022	7	0	1	
70			min	-.191	8	-.375	1	0	1
71		M8	1	max	.136	9	.661	1	0
72			min	-.152	8	.037	6	0	1
73	2	max	.136	9	.331	1	-.014	6	
74			min	-.152	8	.018	6	-.248	1
75	3	max	.136	9	0	1	-.018	6	
76			min	-.152	8	0	1	-.331	1
77	4	max	.136	9	-.018	7	-.014	6	
78			min	-.152	8	-.331	1	-.248	1
79	5	max	.136	9	-.037	7	0	1	
80			min	-.152	8	-.661	1	0	1
81	M9	1	max	.112	9	.661	1	0	1
82			min	-.125	8	.037	7	0	1
83	2	max	.112	9	.331	1	-.014	7	
84			min	-.125	8	.018	7	-.248	1
85	3	max	.112	9	0	1	-.018	7	
86			min	-.125	8	0	1	-.331	1
87	4	max	.112	9	-.018	6	-.014	7	
88			min	-.125	8	-.331	1	-.248	1
89	5	max	.112	9	-.037	6	0	1	
90			min	-.125	8	-.661	1	0	1
91	M10	1	max	.095	9	.661	1	0	1
92			min	-.106	8	.037	7	0	1
93	2	max	.095	9	.331	1	-.014	7	
94			min	-.106	8	.018	7	-.248	1
95	3	max	.095	9	0	1	-.018	7	
96			min	-.106	8	0	1	-.331	1
97	4	max	.095	9	-.018	6	-.014	7	
98			min	-.106	8	-.331	1	-.248	1
99	5	max	.095	9	-.037	6	0	1	
100			min	-.106	8	-.661	1	0	1
101	M11	1	max	2.291	9	.661	1	0	1
102			min	-2.312	8	.037	6	0	1
103	2	max	2.291	9	.331	1	-.014	6	
104			min	-2.312	8	.018	6	-.248	1
105	3	max	2.291	9	0	1	-.018	6	
106			min	-2.312	8	0	1	-.331	1
107	4	max	2.291	9	-.018	7	-.014	6	
108			min	-2.312	8	-.331	1	-.248	1
109	5	max	2.291	9	-.037	7	0	1	
110			min	-2.312	8	-.661	1	0	1
111	M12	1	max	.922	1	0	1	0	1
112			min	.051	7	0	1	0	1
113	2	max	.923	1	0	1	0	1	
114			min	.051	7	0	1	0	1
115	3	max	.923	1	0	1	0	1	
116			min	.052	7	0	1	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
117	4	max	.924	1	0	1	0	1
118		min	.052	7	0	1	0	1
119	5	max	.924	1	0	1	0	1
120		min	.052	7	0	1	0	1
121	M13	1	max	.661	1	.05	5	0
122		min	.037	7	-.051	4	0	1
123	2	max	1.584	1	-.007	4	.014	4
124		min	.088	7	-.007	5	-.014	5
125	3	max	1.584	1	.007	4	.01	4
126		min	.088	7	-.007	5	-.01	5
127	4	max	1.585	1	.007	4	.005	4
128		min	.089	7	-.007	5	-.005	5
129	5	max	1.586	1	.007	4	0	1
130		min	.089	7	-.007	5	0	1
131	M14	1	max	.661	1	.092	5	0
132		min	.037	6	-.092	4	0	1
133	2	max	1.323	1	.016	4	.04	4
134		min	.074	6	-.016	5	-.04	5
135	3	max	1.324	1	.016	4	.027	4
136		min	.074	6	-.016	5	-.026	5
137	4	max	1.324	1	.016	4	.013	4
138		min	.074	6	-.016	5	-.013	5
139	5	max	1.325	1	.016	4	0	1
140		min	.075	6	-.016	5	0	1
141	M15	1	max	.661	1	.031	8	0
142		min	.037	7	-.028	9	0	1
143	2	max	1.305	1	.01	5	.03	5
144		min	-.228	7	-.008	4	-.024	4
145	3	max	1.306	1	.01	5	.02	5
146		min	-.228	7	-.008	4	-.016	4
147	4	max	1.307	1	.01	5	.01	5
148		min	-.227	7	-.008	4	-.008	4
149	5	max	1.308	1	.01	5	0	1
150		min	-.227	7	-.008	4	0	1
151	M16	1	max	.581	1	.077	7	0
152		min	.002	6	-.083	6	0	1
153	2	max	.582	1	.019	7	.036	6
154		min	.002	6	-.025	6	-.032	7
155	3	max	1.243	1	.025	6	.034	6
156		min	.039	6	-.019	7	-.025	7
157	4	max	1.244	1	.025	6	.017	6
158		min	.04	6	-.019	7	-.013	7
159	5	max	1.245	1	.025	6	0	1
160		min	.04	6	-.019	7	0	1
161	M17	1	max	1.655	1	0	1	0
162		min	.028	7	0	1	0	1
163	2	max	1.655	1	0	1	0	1
164		min	.028	7	0	1	0	1
165	3	max	1.656	1	0	1	0	1
166		min	.028	7	0	1	0	1
167	4	max	1.656	1	0	1	0	1
168		min	.029	7	0	1	0	1
169	5	max	1.657	1	0	1	0	1
170		min	.029	7	0	1	0	1
171	M18	1	max	1.336	1	0	1	0
172		min	-.065	7	0	1	0	1
173	2	max	1.337	1	0	1	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
174		min	-.065	7	0	1	0	1
175	3	max	1.338	1	0	1	0	1
176		min	-.065	7	0	1	0	1
177	4	max	1.338	1	0	1	0	1
178		min	-.064	7	0	1	0	1
179	5	max	1.339	1	0	1	0	1
180		min	-.064	7	0	1	0	1
181	M19	1	max	.661	1	.152	8	0
182		min	.037	6	-.136	9	0	1
183	2	max	1.037	1	.036	9	.085	9
184		min	.015	7	-.04	8	-.095	8
185	3	max	1.038	1	.036	9	.057	9
186		min	.016	7	-.04	8	-.063	8
187	4	max	1.039	1	.036	9	.028	9
188		min	.016	7	-.04	8	-.032	8
189	5	max	1.039	1	.036	9	0	1
190		min	.017	7	-.04	8	0	1
191	M20	1	max	.661	1	.126	8	0
192		min	.037	7	-.113	9	0	1
193	2	max	1.323	1	.024	9	.068	9
194		min	.074	7	-.026	8	-.076	8
195	3	max	1.324	1	.024	9	.046	9
196		min	.074	7	-.026	8	-.051	8
197	4	max	1.325	1	.024	9	.023	9
198		min	.075	7	-.026	8	-.025	8
199	5	max	1.326	1	.024	9	0	1
200		min	.075	7	-.026	8	0	1
201	M21	1	max	.661	1	.107	8	0
202		min	.037	7	-.096	9	0	1
203	2	max	1.323	1	.017	9	.056	9
204		min	.074	7	-.019	8	-.063	8
205	3	max	1.324	1	.017	9	.038	9
206		min	.075	7	-.019	8	-.042	8
207	4	max	1.325	1	.017	9	.019	9
208		min	.075	7	-.019	8	-.021	8
209	5	max	1.326	1	.017	9	0	1
210		min	.076	7	-.019	8	0	1
211	M22	1	max	.802	9	.048	8	0
212		min	-.685	8	-.048	9	0	1
213	2	max	1.314	1	.017	9	.021	9
214		min	-.622	8	-.017	8	-.021	8
215	3	max	1.315	1	.017	9	.002	8
216		min	-.62	8	-.017	8	-.002	9
217	4	max	1.31	1	.001	8	.002	8
218		min	-.906	8	-.001	9	-.002	9
219	5	max	1.311	1	.001	8	0	1
220		min	-.904	8	-.001	9	0	1
221	M23	1	max	0	1	0	8	0
222		min	0	1	0	9	0	1
223	2	max	0	5	.023	4	.003	5
224		min	0	6	-.023	5	-.003	4
225	3	max	.019	8	1.556	8	.325	9
226		min	0	7	-1.545	9	-.327	8
227	4	max	.662	1	.746	9	.421	9
228		min	.037	6	-.755	8	-.423	8
229	5	max	.663	1	.746	9	.22	9
230		min	.037	6	-.755	8	-.22	8

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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]		LC	Shear[k]		LC	Moment[k-ft]		LC
231	M24	1	max	1.675	1		0	1		0	1	1
232			min	.005	6		0	1		0	1	1
233		2	max	1.676	1		0	1		0	1	1
234			min	.005	6		0	1		0	1	1
235		3	max	1.676	1		0	1		0	1	1
236	min		.005	6		0	1		0	1	1	
237	M25	4	max	1.677	1		0	1		0	1	1
238			min	.006	6		0	1		0	1	1
239		5	max	1.678	1		0	1		0	1	1
240			min	.006	6		0	1		0	1	1
241		1	max	1.373	2		0	1		0	1	1
242	min		-.308	7		0	1		0	1	1	
243	2	max	1.374	2		0	1		0	1	1	
244		min	-.308	7		0	1		0	1	1	
245	M26	3	max	1.375	2		0	1		0	1	1
246			min	-.307	7		0	1		0	1	1
247		4	max	1.376	2		0	1		0	1	1
248			min	-.307	7		0	1		0	1	1
249		5	max	1.376	2		0	1		0	1	1
250	min		-.307	7		0	1		0	1	1	
251	M27	1	max	.833	1		0	1		0	1	1
252			min	-.559	8		0	1		0	1	1
253		2	max	.834	1		0	1		0	1	1
254			min	-.558	8		0	1		0	1	1
255		3	max	.835	1		0	1		0	1	1
256	min		-.557	8		0	1		0	1	1	
257	M28	4	max	.835	1		0	1		0	1	1
258			min	-.557	8		0	1		0	1	1
259		5	max	.836	1		0	1		0	1	1
260			min	-.556	8		0	1		0	1	1
261		1	max	1.322	1		0	1		0	1	1
262	min		.03	8		0	1		0	1	1	
263	2	max	1.323	1		0	1		0	1	1	
264		min	.03	8		0	1		0	1	1	
265	3	max	1.323	1		0	1		0	1	1	
266		min	.031	8		0	1		0	1	1	
267	M29	4	max	1.324	1		0	1		0	1	1
268			min	.032	8		0	1		0	1	1
269		5	max	1.325	1		0	1		0	1	1
270			min	.032	8		0	1		0	1	1
271		1	max	1.337	1		0	1		0	1	1
272	min		.065	6		0	1		0	1	1	
273	2	max	1.337	1		0	1		0	1	1	
274		min	.066	6		0	1		0	1	1	
275	3	max	1.338	1		0	1		0	1	1	
276		min	.066	6		0	1		0	1	1	
277	M29	4	max	1.338	1		0	1		0	1	1
278			min	.067	6		0	1		0	1	1
279		5	max	1.339	1		0	1		0	1	1
280			min	.067	6		0	1		0	1	1
281		1	max	1.344	3		0	1		0	1	1
282	min		-1.014	8		0	1		0	1	1	
283	2	max	1.345	3		0	1		0	1	1	
284		min	-1.013	8		0	1		0	1	1	
285	3	max	1.345	3		0	1		0	1	1	
286		min	-1.013	8		0	1		0	1	1	
287	4	max	1.346	3		0	1		0	1	1	

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
288		min	-1.012	8	0	1	0	1
289		5	max	1.347	3	0	1	1
290		min	-1.012	8	0	1	0	1
291	M30	1	max	.849	2	0	1	1
292		min	-.887	9	0	1	0	1
293		2	max	.85	2	0	1	1
294		min	-.886	9	0	1	0	1
295		3	max	.85	2	0	1	1
296		min	-.885	9	0	1	0	1
297		4	max	.851	2	0	1	1
298		min	-.884	9	0	1	0	1
299		5	max	.852	2	0	1	1
300		min	-.884	9	0	1	0	1
301	M31	1	max	1.249	1	0	1	1
302		min	.018	6	0	1	0	1
303		2	max	1.249	1	0	1	1
304		min	.019	6	0	1	0	1
305		3	max	1.25	1	0	1	1
306		min	.019	6	0	1	0	1
307		4	max	1.25	1	0	1	1
308		min	.019	6	0	1	0	1
309		5	max	1.251	1	0	1	1
310		min	.02	6	0	1	0	1
311	M32	1	max	.352	5	0	7	1
312		min	-.333	4	0	4	0	1
313		2	max	.353	5	0	7	4
314		min	-.333	4	0	4	0	7
315		3	max	.354	5	0	1	4
316		min	-.332	4	0	1	0	7
317		4	max	.354	5	0	1	4
318		min	-.332	4	0	6	0	7
319		5	max	.355	5	0	1	1
320		min	-.331	4	0	6	0	1
321	M33	1	max	.933	8	0	8	1
322		min	-.555	9	0	7	0	1
323		2	max	.933	8	0	8	7
324		min	-.555	9	0	7	0	8
325		3	max	.934	8	0	1	7
326		min	-.554	9	0	1	0	8
327		4	max	.934	8	0	6	7
328		min	-.554	9	0	5	0	8
329		5	max	.934	8	0	6	1
330		min	-.553	9	0	5	0	1
331	M34	1	max	.741	8	0	6	1
332		min	-.329	9	0	9	0	1
333		2	max	.741	8	0	6	9
334		min	-.329	9	0	9	0	6
335		3	max	.742	8	0	1	9
336		min	-.328	9	0	1	0	6
337		4	max	.742	8	0	4	9
338		min	-.328	9	0	7	0	6
339		5	max	.743	8	0	4	1
340		min	-.328	9	0	7	0	1
341	M35	1	max	.42	9	0	6	1
342		min	-.405	8	0	8	0	1
343		2	max	.421	9	0	6	8
344		min	-.405	8	0	8	0	6

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
345	3	max	.421	9	0	1	0	8
346		min	-.405	8	0	1	0	6
347	4	max	.421	9	0	9	0	8
348		min	-.404	8	0	6	0	6
349	5	max	.422	9	0	9	0	1
350		min	-.404	8	0	6	0	1
351	M36	1	max	.427	9	.015	8	0
352		min	-.557	8	-.03	9	0	1
353	2	max	.449	9	.039	9	.062	9
354		min	-.583	8	-.004	3	-.027	8
355	3	max	.465	9	.036	9	.007	3
356		min	-.601	8	-.102	8	-.065	8
357	4	max	.465	9	.01	3	.14	8
358		min	-.601	8	-.104	8	-.075	9
359	5	max	.262	9	.069	8	0	1
360		min	-.408	8	-.039	9	0	1
361	M37	1	max	0	1	0	0	1
362		min	0	1	0	1	0	1
363	2	max	0	1	-.056	6	.745	1
364		min	0	1	-.994	1	.042	6
365	3	max	0	6	.976	1	.995	1
366		min	-.002	1	-.02	7	-.007	8
367	4	max	.163	9	.676	1	.269	1
368		min	-.186	8	-.151	8	-.296	8
369	5	max	.163	9	.094	9	0	1
370		min	-.186	8	-.317	1	0	1
371	M38	1	max	.13	9	.661	1	0
372		min	-.148	8	.037	6	0	1
373	2	max	.13	9	.331	1	-.014	6
374		min	-.148	8	.018	6	-.248	1
375	3	max	.13	9	0	1	-.018	6
376		min	-.148	8	0	1	-.331	1
377	4	max	.13	9	-.018	6	-.014	6
378		min	-.148	8	-.331	1	-.248	1
379	5	max	.13	9	-.037	6	0	1
380		min	-.148	8	-.661	1	0	1
381	M39	1	max	.107	9	.661	1	0
382		min	-.122	8	.037	7	0	1
383	2	max	.107	9	.331	1	-.014	7
384		min	-.122	8	.018	7	-.248	1
385	3	max	.107	9	0	1	-.018	7
386		min	-.122	8	0	1	-.331	1
387	4	max	.107	9	-.018	6	-.014	7
388		min	-.122	8	-.331	1	-.248	1
389	5	max	.107	9	-.037	6	0	1
390		min	-.122	8	-.661	1	0	1
391	M40	1	max	.091	9	.661	1	0
392		min	-.104	8	.037	7	0	1
393	2	max	.091	9	.331	1	-.014	7
394		min	-.104	8	.018	7	-.248	1
395	3	max	.091	9	0	1	-.018	7
396		min	-.104	8	0	1	-.331	1
397	4	max	.091	9	-.018	6	-.014	7
398		min	-.104	8	-.331	1	-.248	1
399	5	max	.091	9	-.037	6	0	1
400		min	-.104	8	-.661	1	0	1
401	M41	1	max	2.293	9	.661	1	0

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
402		min	-2.313	8	.037	6	0	1
403	2	max	2.293	9	.331	1	-.014	6
404		min	-2.313	8	.018	6	-.248	1
405	3	max	2.293	9	0	1	-.018	6
406		min	-2.313	8	0	1	-.331	1
407	4	max	2.293	9	-.018	7	-.014	6
408		min	-2.313	8	-.331	1	-.248	1
409	5	max	2.293	9	-.037	7	0	1
410		min	-2.313	8	-.661	1	0	1
411	M42	1	max	2.963	1	0	1	0
412		min	.092	7	0	1	0	1
413	2	max	2.964	1	0	1	0	1
414		min	.092	7	0	1	0	1
415	3	max	2.965	1	0	1	0	1
416		min	.093	7	0	1	0	1
417	4	max	2.965	1	0	1	0	1
418		min	.093	7	0	1	0	1
419	5	max	2.966	1	0	1	0	1
420		min	.094	7	0	1	0	1
421	M43	1	max	.694	1	0	1	0
422		min	-.067	8	0	1	0	1
423	2	max	.694	1	0	1	0	1
424		min	-.066	8	0	1	0	1
425	3	max	.695	1	0	1	0	1
426		min	-.065	8	0	1	0	1
427	4	max	.696	1	0	1	0	1
428		min	-.064	8	0	1	0	1
429	5	max	.697	1	0	1	0	1
430		min	-.064	8	0	1	0	1
431	M44	1	max	.661	1	.149	8	0
432		min	.037	6	-.13	9	0	1
433	2	max	.979	1	.034	9	.081	9
434		min	-.053	7	-.038	8	-.093	8
435	3	max	.98	1	.034	9	.054	9
436		min	-.052	7	-.038	8	-.062	8
437	4	max	.981	1	.034	9	.027	9
438		min	-.052	7	-.038	8	-.031	8
439	5	max	.981	1	.034	9	0	1
440		min	-.051	7	-.038	8	0	1
441	M45	1	max	.661	1	.123	8	0
442		min	.037	6	-.108	9	0	1
443	2	max	1.323	1	.022	9	.065	9
444		min	.074	7	-.026	8	-.075	8
445	3	max	1.324	1	.022	9	.044	9
446		min	.074	7	-.026	8	-.05	8
447	4	max	1.325	1	.022	9	.022	9
448		min	.075	7	-.026	8	-.025	8
449	5	max	1.326	1	.022	9	0	1
450		min	.075	7	-.026	8	0	1
451	M46	1	max	.661	1	.105	8	0
452		min	.037	7	-.092	9	0	1
453	2	max	1.323	1	.016	9	.054	9
454		min	.074	7	-.018	8	-.062	8
455	3	max	1.324	1	.016	9	.036	9
456		min	.075	7	-.018	8	-.041	8
457	4	max	1.325	1	.016	9	.018	9
458		min	.075	7	-.018	8	-.021	8

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
459	5	max	1.326	1	.016	9	0	1
460		min	.076	7	-.018	8	0	1
461	M47	1	max	.803	9	.047	8	0
462		min	-.686	8	-.048	9	0	1
463		2	max	1.314	1	.017	9	.021
464		min	-.622	8	-.017	8	-.02	8
465		3	max	1.315	1	.017	9	.002
466		min	-.621	8	-.017	8	-.001	9
467		4	max	1.326	1	.001	8	.002
468		min	-.91	8	-.001	9	-.002	9
469		5	max	1.327	1	.001	8	0
470		min	-.909	8	-.001	9	0	1
471	M48	1	max	0	1	0	8	0
472		min	0	1	0	9	0	1
473		2	max	0	9	.023	4	.003
474		min	0	6	-.023	5	-.003	4
475		3	max	.018	8	1.556	8	.325
476		min	0	7	-1.545	9	-.327	8
477		4	max	.662	1	.747	9	.421
478		min	.037	6	-.757	8	-.423	8
479		5	max	.663	1	.747	9	.219
480		min	.037	6	-.757	8	-.219	8
481	M49	1	max	2.969	1	0	1	0
482		min	.072	6	0	1	0	1
483		2	max	2.969	1	0	1	0
484		min	.073	6	0	1	0	1
485		3	max	2.97	1	0	1	0
486		min	.073	6	0	1	0	1
487		4	max	2.971	1	0	1	0
488		min	.073	6	0	1	0	1
489		5	max	2.971	1	0	1	0
490		min	.074	6	0	1	0	1
491	M50	1	max	.717	2	0	1	0
492		min	-.128	7	0	1	0	1
493		2	max	.717	2	0	1	0
494		min	-.127	7	0	1	0	1
495		3	max	.718	2	0	1	0
496		min	-.127	7	0	1	0	1
497		4	max	.719	2	0	1	0
498		min	-.126	7	0	1	0	1
499		5	max	.719	2	0	1	0
500		min	-.126	7	0	1	0	1
501	M51	1	max	.804	1	0	1	0
502		min	-.409	8	0	1	0	1
503		2	max	.805	1	0	1	0
504		min	-.408	8	0	1	0	1
505		3	max	.805	1	0	1	0
506		min	-.407	8	0	1	0	1
507		4	max	.806	1	0	1	0
508		min	-.407	8	0	1	0	1
509		5	max	.807	1	0	1	0
510		min	-.406	8	0	1	0	1
511	M52	1	max	1.322	1	0	1	0
512		min	.08	6	0	1	0	1
513		2	max	1.322	1	0	1	0
514		min	.08	6	0	1	0	1
515		3	max	1.323	1	0	1	0

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Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
516		min	.081	6	0	1	0	1
517		4	max	1.323	1	0	1	0
518		min	.081	6	0	1	0	1
519		5	max	1.324	1	0	1	0
520		min	.081	6	0	1	0	1
521	M53	1	max	1.338	1	0	1	0
522		min	.005	8	0	1	0	1
523		2	max	1.338	1	0	1	0
524		min	.005	8	0	1	0	1
525		3	max	1.339	1	0	1	0
526		min	.006	8	0	1	0	1
527		4	max	1.34	1	0	1	0
528		min	.007	8	0	1	0	1
529		5	max	1.34	1	0	1	0
530		min	.007	8	0	1	0	1
531	M54	1	max	1.368	9	0	1	0
532		min	-.966	8	0	1	0	1
533		2	max	1.369	9	0	1	0
534		min	-.966	8	0	1	0	1
535		3	max	1.369	9	0	1	0
536		min	-.965	8	0	1	0	1
537		4	max	1.37	9	0	1	0
538		min	-.964	8	0	1	0	1
539		5	max	1.371	9	0	1	0
540		min	-.964	8	0	1	0	1
541	M55	1	max	.8	2	0	1	0
542		min	-.819	9	0	1	0	1
543		2	max	.801	2	0	1	0
544		min	-.818	9	0	1	0	1
545		3	max	.802	2	0	1	0
546		min	-.817	9	0	1	0	1
547		4	max	.802	2	0	1	0
548		min	-.817	9	0	1	0	1
549		5	max	.803	2	0	1	0
550		min	-.816	9	0	1	0	1
551	M56	1	max	.898	8	0	9	0
552		min	-.68	9	0	6	0	1
553		2	max	.898	8	0	9	0
554		min	-.679	9	0	6	0	9
555		3	max	.898	8	0	1	0
556		min	-.679	9	0	1	0	9
557		4	max	.899	8	0	7	0
558		min	-.678	9	0	8	0	9
559		5	max	.899	8	0	7	0
560		min	-.678	9	0	8	0	1
561	M57	1	max	.698	8	0	6	0
562		min	-.442	9	0	8	0	1
563		2	max	.698	8	0	6	0
564		min	-.442	9	0	8	0	6
565		3	max	.698	8	0	1	0
566		min	-.441	9	0	1	0	6
567		4	max	.699	8	0	5	0
568		min	-.441	9	0	7	0	6
569		5	max	.699	8	0	5	0
570		min	-.44	9	0	7	0	1
571	M58	1	max	.426	9	0	7	0
572		min	-.408	8	0	3	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
573	2	max	.426	9	0	7	0	3
574		min	-.408	8	0	3	0	7
575	3	max	.426	9	0	1	0	3
576		min	-.408	8	0	1	0	7
577	4	max	.427	9	0	8	0	3
578		min	-.407	8	0	6	0	7
579	5	max	.427	9	0	8	0	1
580		min	-.407	8	0	6	0	1
581	M59	1	max	.186	8	.001	2	0
582		min	-.164	9	0	7	0	1
583	2	max	.186	8	0	2	0	6
584		min	-.164	9	0	7	0	3
585	3	max	.186	8	0	1	0	7
586		min	-.164	9	0	1	0	9
587	4	max	.186	8	0	6	0	7
588		min	-.164	9	0	3	0	4
589	5	max	.186	8	0	6	0	1
590		min	-.164	9	-.001	3	0	1
591	M60	1	max	.186	8	.107	6	0
592		min	-.163	9	-.035	7	0	1
593	2	max	0	1	.07	7	.015	7
594		min	0	1	-.058	6	-.051	6
595	3	max	0	1	.07	7	.002	1
596		min	0	1	-.059	6	-.023	7
597	4	max	0	1	.069	7	.012	6
598		min	0	1	-.059	6	-.06	7
599	5	max	0	2	.029	6	0	1
600		min	0	3	-.126	7	0	1
601	M61	1	max	.001	9	.406	8	0
602		min	0	2	-.004	1	0	1
603	2	max	.001	9	.406	8	0	1
604		min	0	2	-.004	1	-.025	8
605	3	max	.001	9	.406	8	0	1
606		min	0	2	-.004	1	-.051	8
607	4	max	.001	9	.406	8	0	1
608		min	0	2	-.004	1	-.076	8
609	5	max	.001	9	.406	8	0	1
610		min	0	2	-.004	1	-.101	8
611	M62	1	max	.26	9	0	7	0
612		min	-.298	8	0	2	0	1
613	2	max	.261	9	0	7	0	2
614		min	-.297	8	0	2	0	7
615	3	max	.261	9	0	1	0	2
616		min	-.297	8	0	1	0	7
617	4	max	.262	9	0	4	0	2
618		min	-.297	8	0	6	0	7
619	5	max	.262	9	0	4	0	1
620		min	-.296	8	0	6	0	1
621	M63	1	max	.26	9	0	7	0
622		min	-.298	8	0	1	0	1
623	2	max	.261	9	0	7	0	1
624		min	-.297	8	0	1	0	7
625	3	max	.261	9	0	1	0	1
626		min	-.297	8	0	1	0	7
627	4	max	.262	9	0	9	0	1
628		min	-.297	8	0	6	0	7
629	5	max	.262	9	0	9	0	1

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
630		min	-.296	8	0	6	0	1
631	M64	1	max	.002	8	.556	8	0
632		min	0	2	-.003	1	0	1
633	2	max	.002	8	.556	8	0	1
634		min	0	2	-.003	1	-.035	8
635	3	max	.002	8	.556	8	0	1
636		min	0	2	-.003	1	-.07	8
637	4	max	.002	8	.556	8	0	1
638		min	0	2	-.003	1	-.104	8
639	5	max	.002	8	.556	8	0	1
640		min	0	2	-.004	1	-.139	8
641	M65	1	max	.355	9	.047	8	0
642		min	-.578	8	-.03	9	0	1
643	2	max	.378	9	.018	5	.062	9
644		min	-.605	8	-.048	8	-.091	8
645	3	max	.395	9	.056	9	.011	9
646		min	-.623	8	-.056	8	-.023	4
647	4	max	.395	9	.062	8	.121	8
648		min	-.623	8	-.041	4	-.1	9
649	5	max	.197	9	.06	8	0	1
650		min	-.432	8	-.051	9	0	1
651	M66	1	max	0	5	.194	6	0
652		min	0	2	-.005	1	0	1
653	2	max	.105	7	.003	1	.005	7
654		min	-.109	6	-.128	6	-.02	6
655	3	max	.105	7	.112	7	.122	6
656		min	-.109	6	-.128	6	-.001	1
657	4	max	.109	6	.127	6	0	1
658		min	-.105	7	-.003	1	-.086	7
659	5	max	0	2	.005	1	0	1
660		min	0	3	-.307	7	0	1
661	M67	1	max	.33	7	0	7	0
662		min	-.342	6	0	4	0	1
663	2	max	.331	7	0	7	0	4
664		min	-.341	6	0	4	0	7
665	3	max	.331	7	0	1	0	4
666		min	-.341	6	0	1	0	7
667	4	max	.331	7	0	9	0	4
668		min	-.341	6	0	6	0	7
669	5	max	.331	7	0	9	0	1
670		min	-.341	6	0	6	0	1
671	M68	1	max	.299	7	0	7	0
672		min	-.301	6	0	5	0	1
673	2	max	.3	7	0	7	0	5
674		min	-.301	6	0	5	0	7
675	3	max	.3	7	0	1	0	5
676		min	-.3	6	0	1	0	7
677	4	max	.3	7	0	4	0	5
678		min	-.3	6	0	6	0	7
679	5	max	.3	7	0	4	0	1
680		min	-.3	6	0	6	0	1
681	M69	1	max	.318	9	0	6	0
682		min	-.308	4	0	8	0	1
683	2	max	.318	9	0	6	0	8
684		min	-.307	4	0	8	0	6
685	3	max	.319	9	0	1	0	8
686		min	-.307	4	0	1	0	6

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Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
687	4	max	.319	9	0	4	0	8
688		min	-.307	4	0	7	0	6
689	5	max	.32	9	0	4	0	1
690		min	-.306	4	0	7	0	1
691	M70	1	max	.324	9	0	6	0
692		min	-.304	8	0	8	0	1
693	2	max	.325	9	0	6	0	8
694		min	-.304	8	0	8	0	6
695	3	max	.325	9	0	1	0	8
696		min	-.304	8	0	1	0	6
697	4	max	.326	9	0	2	0	8
698		min	-.303	8	0	7	0	6
699	5	max	.326	9	0	2	0	1
700		min	-.303	8	0	7	0	1
701	M71	1	max	.266	8	0	9	0
702		min	-.276	9	0	6	0	1
703	2	max	.266	8	0	9	0	6
704		min	-.276	9	0	6	0	9
705	3	max	.266	8	0	1	0	6
706		min	-.276	9	0	1	0	9
707	4	max	.266	8	0	7	0	6
708		min	-.276	9	0	8	0	9
709	5	max	.266	8	0	7	0	1
710		min	-.276	9	0	8	0	1
711	M72	1	max	.267	8	0	9	0
712		min	-.279	9	0	6	0	1
713	2	max	.267	8	0	9	0	6
714		min	-.279	9	0	6	0	9
715	3	max	.267	8	0	1	0	6
716		min	-.279	9	0	1	0	9
717	4	max	.267	8	0	7	0	6
718		min	-.279	9	0	8	0	9
719	5	max	.267	8	0	7	0	1
720		min	-.279	9	0	8	0	1
721	M73	1	max	.001	2	.757	1	-0.12
722		min	0	3	.042	6	-21	1
723	2	max	.001	2	.378	1	-.03	7
724		min	0	3	.021	6	-535	1
725	3	max	.001	2	0	1	-.036	7
726		min	0	3	0	1	-.643	1
727	4	max	.001	2	-.021	7	-.03	7
728		min	0	3	-.378	1	-.535	1
729	5	max	.001	2	-.042	7	-.012	7
730		min	0	3	-.757	1	-.21	1
731	M74	1	max	.001	2	-.042	7	-0.12
732		min	0	3	-.757	1	-.21	1
733	2	max	.001	2	-.044	7	-.009	7
734		min	0	3	-.798	1	-.161	1
735	3	max	.001	2	-.047	7	-.006	7
736		min	0	3	-.84	1	-.11	1
737	4	max	.001	2	-.049	7	-.003	7
738		min	0	3	-.881	1	-.056	1
739	5	max	.001	2	-.051	7	0	1
740		min	0	3	-.922	1	0	1
741	M75	1	max	.926	8	.839	9	.94
742		min	-.929	9	-.838	8	-.936	8
743	2	max	.926	8	.84	9	.705	9

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Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
744		min	-.929	9	-.837	8	-.702	8
745	3	max	.926	8	.84	9	.47	9
746		min	-.928	9	-.837	8	-.468	8
747	4	max	.927	8	.84	9	.235	9
748		min	-.928	9	-.836	8	-.234	8
749	5	max	.927	8	.841	9	0	1
750		min	-.928	9	-.836	8	0	1
751	M76	1	max	1.545	9	0	6	0
752		min	-1.556	8	0	9	0	1
753	2	max	1.545	9	0	6	0	9
754		min	-1.556	8	0	9	0	6
755	3	max	1.545	9	0	1	0	9
756		min	-1.556	8	0	1	0	6
757	4	max	1.545	9	0	8	0	9
758		min	-1.556	8	0	7	0	6
759	5	max	1.545	9	0	8	0	1
760		min	-1.556	8	0	7	0	1
761	M77	1	max	0	.3	8	0	1
762		min	0	1	-.3	9	0	1
763	2	max	.002	4	.3	8	.319	9
764		min	.001	7	-.3	9	-.319	8
765	3	max	.004	4	.3	8	.638	9
766		min	.002	7	-.3	9	-.638	8
767	4	max	.006	4	.3	8	.957	9
768		min	.004	7	-.3	9	-.957	8
769	5	max	.008	4	.3	8	1.276	9
770		min	.005	7	-.3	9	-1.276	8
771	M78	1	max	.927	8	.839	9	.94
772		min	-.929	9	-.838	8	-.936	8
773	2	max	.927	8	.84	9	.705	9
774		min	-.928	9	-.837	8	-.702	8
775	3	max	.927	8	.84	9	.47	9
776		min	-.928	9	-.837	8	-.468	8
777	4	max	.928	8	.84	9	.235	9
778		min	-.928	9	-.836	8	-.234	8
779	5	max	.928	8	.841	9	0	1
780		min	-.927	9	-.836	8	0	1
781	M79	1	max	1.545	9	0	6	0
782		min	-1.556	8	0	9	0	1
783	2	max	1.545	9	0	6	0	9
784		min	-1.556	8	0	9	0	6
785	3	max	1.545	9	0	1	0	9
786		min	-1.556	8	0	1	0	6
787	4	max	1.545	9	0	8	0	9
788		min	-1.556	8	0	7	0	6
789	5	max	1.545	9	0	8	0	1
790		min	-1.556	8	0	7	0	1
791	M80	1	max	0	.3	8	0	1
792		min	0	1	-.3	9	0	1
793	2	max	.002	8	.3	8	.319	9
794		min	.001	6	-.3	9	-.319	8
795	3	max	.004	8	.3	8	.638	9
796		min	.002	6	-.3	9	-.638	8
797	4	max	.006	8	.3	8	.957	9
798		min	.004	6	-.3	9	-.957	8
799	5	max	.008	8	.3	8	1.276	9
800		min	.005	6	-.3	9	-1.276	8

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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
801	M81	1	max	.002	8	.556	8	0	1
802			min	0	2	-.004	1	-.139	8
803		2	max	.21	9	.002	1	.001	1
804				min	-.33	8	-.188	8	-.254
805		3	max	.21	9	.002	1	0	1
806			min	-.33	8	-.189	8	-.184	8
807	M82	4	max	.21	9	.001	1	.018	9
808				min	-.33	8	-.189	8	-.113
809		5	max	.21	9	0	1	.083	9
810				min	-.33	8	-.189	8	-.042
811		M83	1	max	.21	9	0	1	.083
812				min	-.33	8	-.189	8	-.042
813	2		max	.21	9	0	1	.104	9
814				min	-.33	8	-.189	8	-.018
815	M84		3	max	.21	9	0	1	.126
816				min	-.33	8	-.189	8	0
817		4	max	.207	8	.093	9	.114	9
818				min	-.11	9	0	1	0
819		M85	5	max	.207	8	.093	9	.103
820				min	-.11	9	0	1	0
821	1		max	.207	8	.092	9	.103	9
822				min	-.11	9	0	1	0
823	M86		2	max	.207	8	.092	9	.068
824				min	-.11	9	0	1	-.004
825		3	max	.207	8	.092	9	.034	9
826				min	-.11	9	0	1	-.01
827		M87	4	max	.207	8	.091	9	0
828				min	-.11	9	-.001	1	-.018
829	5		max	.207	8	.091	9	0	3
830				min	-.11	9	-.001	1	-.035
831	M88		1	max	.207	8	.091	9	0
832				min	-.11	9	-.001	1	-.035
833		2	max	.207	8	.091	9	0	1
834				min	-.11	9	-.002	1	-.046
835		M89	3	max	.207	8	.09	9	0
836				min	-.11	9	-.109	8	-.057
837	4		max	.206	8	.002	1	0	1
838				min	-.11	9	-.109	8	-.049
839	M90		5	max	.206	8	.001	1	.003
840				min	-.11	9	-.11	8	-.04
841		1	max	.206	8	.001	1	.003	8
842				min	-.11	9	-.109	8	-.04
843		M91	2	max	.206	8	0	1	.044
844				min	-.11	9	-.11	8	-.014
845	3		max	.206	8	0	1	.086	8
846				min	-.11	9	-.11	8	0
847	M92		4	max	.206	8	0	1	.127
848				min	-.11	9	-.11	8	0
849		5	max	.206	8	0	1	.169	8
850				min	-.11	9	-.111	8	0
851		M93	1	max	.206	8	0	1	.169
852				min	-.11	9	-.11	8	0
853	2		max	.206	8	0	1	.182	8
854				min	-.11	9	-.11	8	0
855	M94		3	max	.08	6	.352	9	.196
856				min	-.221	8	0	2	0
857		4	max	.083	9	.352	9	.159	8

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Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
858			min	-.221	8	0	1	0	3
859		5	max	.083	9	.351	9	.123	8
860			min	-.221	8	0	1	-.004	9
861	M87	1	max	.083	9	.351	9	.123	8
862			min	-.221	8	0	1	-.004	9
863		2	max	.083	9	.351	9	.013	4
864			min	-.221	8	-.001	1	-.135	9
865		3	max	.083	9	.35	9	0	2
866			min	-.221	8	-.001	1	-.267	9
867		4	max	.083	9	.35	9	.001	1
868			min	-.221	8	-.002	1	-.398	9
869		5	max	.002	9	.003	1	0	1
870			min	0	1	-.883	9	-.221	9
871	M88	1	max	.002	9	.003	1	0	1
872			min	0	1	-.883	9	-.221	9
873		2	max	.002	9	.003	1	0	1
874			min	0	1	-.883	9	-.166	9
875		3	max	.002	9	.003	1	0	1
876			min	0	1	-.883	9	-.11	9
877		4	max	.002	9	.003	1	0	1
878			min	0	1	-.883	9	-.055	9
879		5	max	.002	9	.003	1	0	1
880			min	0	1	-.884	9	0	1
881	M89	1	max	.001	9	.406	8	0	1
882			min	0	2	-.004	1	-.101	8
883		2	max	.197	9	.003	1	.002	1
884			min	-.259	8	-.182	8	-.18	8
885		3	max	.197	9	.003	1	0	1
886			min	-.259	8	-.182	8	-.112	8
887		4	max	.197	9	.002	1	.039	9
888			min	-.259	8	-.183	8	-.043	8
889		5	max	.197	9	.002	1	.106	9
890			min	-.259	8	-.183	8	-.001	1
891	M90	1	max	.197	9	.002	1	.106	9
892			min	-.259	8	-.183	8	-.001	1
893		2	max	.197	9	.002	1	.128	9
894			min	-.259	8	-.183	8	-.001	1
895		3	max	.259	8	-.001	3	.15	9
896			min	-.116	6	-.183	8	-.002	1
897		4	max	.259	8	.177	9	.128	9
898			min	-.197	9	-.002	1	-.001	1
899		5	max	.259	8	.177	9	.106	9
900			min	-.197	9	-.002	1	0	1
901	M91	1	max	.259	8	.177	9	.106	9
902			min	-.197	9	-.002	1	0	1
903		2	max	.259	8	.177	9	.039	9
904			min	-.197	9	-.003	1	-.007	8
905		3	max	.259	8	.176	9	0	1
906			min	-.197	9	-.003	1	-.053	8
907		4	max	.259	8	.176	9	.002	1
908			min	-.197	9	-.003	1	-.099	8
909		5	max	.151	8	.041	4	0	1
910			min	-.097	9	-.177	9	-.085	8
911	M92	1	max	.151	8	.041	4	0	1
912			min	-.097	9	-.177	9	-.085	8
913		2	max	.151	8	.04	4	0	3
914			min	-.097	9	-.177	9	-.071	8

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
915	3	max	.151	8	.007	1	0	3
916		min	-.097	9	-.177	9	-.056	8
917	4	max	.151	8	0	1	0	3
918		min	-.097	9	-.125	8	-.041	8
919	5	max	.151	8	0	1	0	3
920		min	-.097	9	-.125	8	-.025	8
921	M93	1	max	.151	8	0	1	0
922		min	-.097	9	-.125	8	-.025	8
923	2	max	.151	8	0	1	.022	8
924		min	-.097	9	-.125	8	-.005	4
925	3	max	.151	8	0	1	.069	8
926		min	-.097	9	-.126	8	0	1
927	4	max	.151	8	0	1	.116	8
928		min	-.097	9	-.126	8	0	1
929	5	max	.151	8	-.001	1	.164	8
930		min	-.097	9	-.126	8	0	1
931	M94	1	max	.151	8	-.001	1	.164
932		min	-.097	9	-.126	8	0	1
933	2	max	.151	8	-.001	1	.179	8
934		min	-.097	9	-.126	8	0	1
935	3	max	.161	9	.331	9	.195	8
936		min	-.252	8	-.002	2	0	1
937	4	max	.161	9	.331	9	.162	8
938		min	-.252	8	0	1	0	1
939	5	max	.161	9	.33	9	.128	8
940		min	-.252	8	0	1	0	3
941	M95	1	max	.161	9	.33	9	.128
942		min	-.252	8	0	1	0	3
943	2	max	.161	9	.33	9	.028	8
944		min	-.252	8	0	1	-.12	9
945	3	max	.161	9	.329	9	0	2
946		min	-.252	8	-.001	1	-.243	9
947	4	max	.161	9	.329	9	.001	2
948		min	-.252	8	-.001	1	-.367	9
949	5	max	.002	9	.003	1	0	1
950		min	0	1	-.816	9	-.204	9
951	M96	1	max	.002	9	.003	1	0
952		min	0	1	-.816	9	-.204	9
953	2	max	.002	9	.002	1	0	1
954		min	0	1	-.816	9	-.153	9
955	3	max	.002	9	.002	1	0	1
956		min	0	1	-.816	9	-.102	9
957	4	max	.002	9	.002	1	0	1
958		min	0	1	-.816	9	-.051	9
959	5	max	.002	9	.002	1	0	1
960		min	0	1	-.816	9	0	1
961	M97	1	max	.081	6	0	9	0
962		min	-.085	5	0	6	0	1
963	2	max	.081	6	0	9	0	6
964		min	-.085	5	0	6	0	9
965	3	max	.081	6	0	1	0	6
966		min	-.085	5	0	1	0	9
967	4	max	.081	6	0	7	0	6
968		min	-.085	5	0	8	0	9
969	5	max	.081	6	0	7	0	1
970		min	-.085	5	0	8	0	1
971	M98	1	max	2.384	8	0	9	0

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
972		min	-2.367	9	0	7	0	1
973	2	max	2.384	8	0	9	0	7
974		min	-2.367	9	0	7	0	9
975	3	max	2.384	8	0	1	0	7
976		min	-2.367	9	0	1	0	9
977	4	max	2.384	8	0	6	0	7
978		min	-2.367	9	0	8	0	9
979	5	max	2.385	8	0	6	0	1
980		min	-2.367	9	0	8	0	1
981	M99	1	max	.663	1	.748	9	.219
982		min	.037	6	-.757	8	-.219	8
983	2	max	.663	1	.748	9	.126	9
984		min	.038	6	-.757	8	-.124	8
985	3	max	1.121	8	1.19	8	.032	9
986		min	-.966	9	-1.171	9	-.03	8
987	4	max	1.115	8	.073	9	.122	9
988		min	-.971	9	-.068	8	-.122	8
989	5	max	1.116	8	.073	9	.113	9
990		min	-.971	9	-.068	8	-.113	8
991	M100	1	max	1.116	8	.07	9	.113
992		min	-.971	9	-.071	8	-.113	8
993	2	max	1.117	8	.07	9	.042	9
994		min	-.97	9	-.071	8	-.042	8
995	3	max	1.357	8	.006	8	.013	8
996		min	-1.221	9	-.006	9	-.012	9
997	4	max	1.358	8	.006	8	.007	8
998		min	-1.22	9	-.006	9	-.007	9
999	5	max	1.359	8	.006	8	.002	8
1000		min	-1.218	9	-.006	9	-.001	9
1001	M101	1	max	.008	9	.3	8	1.276
1002		min	.005	6	-.3	9	-1.276	8
1003	2	max	.008	9	.3	8	1.319	9
1004		min	.005	6	-.3	9	-1.319	8
1005	3	max	.009	5	1.245	9	1.301	9
1006		min	-.008	8	-1.256	8	-1.3	8
1007	4	max	.009	5	1.245	9	1.12	9
1008		min	-.008	8	-1.256	8	-1.118	8
1009	5	max	.009	5	1.245	9	.94	9
1010		min	-.008	8	-1.256	8	-.936	8
1011	M102	1	max	.103	4	0	9	0
1012		min	-.099	5	0	6	0	1
1013	2	max	.103	4	0	9	0	6
1014		min	-.099	5	0	6	0	9
1015	3	max	.103	4	0	1	0	6
1016		min	-.099	5	0	1	0	9
1017	4	max	.103	4	0	7	0	6
1018		min	-.099	5	0	8	0	9
1019	5	max	.103	4	0	7	0	1
1020		min	-.099	5	0	8	0	1
1021	M103	1	max	2.382	8	0	8	0
1022		min	-2.365	9	0	6	0	1
1023	2	max	2.382	8	0	8	0	6
1024		min	-2.365	9	0	6	0	8
1025	3	max	2.382	8	0	1	0	6
1026		min	-2.365	9	0	1	0	8
1027	4	max	2.382	8	0	7	0	6
1028		min	-2.365	9	0	3	0	8

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Envelope Member Section Forces (Continued)

Member	Sec		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1029	5	max	2.382	8	0	7	0	1
1030		min	-2.364	9	0	3	0	1
1031	M104	1	max	.663	1	.746	.22	9
1032		min	.037	6	-.755	8	-.22	8
1033		2	max	.663	1	.746	.126	9
1034		min	.037	6	-.755	8	-.125	8
1035		3	max	1.117	8	1.188	.033	9
1036		min	-.959	9	-1.169	9	-.031	8
1037		4	max	1.11	8	.075	.123	9
1038		min	-.965	9	-.069	8	-.123	8
1039		5	max	1.111	8	.075	.114	9
1040		min	-.965	9	-.069	8	-.114	8
1041	M105	1	max	1.111	8	.072	.114	9
1042		min	-.965	9	-.072	8	-.114	8
1043		2	max	1.112	8	.072	.041	9
1044		min	-.964	9	-.072	8	-.041	8
1045		3	max	1.35	8	.006	.013	8
1046		min	-1.209	9	-.006	9	-.013	9
1047		4	max	1.351	8	.006	.007	8
1048		min	-1.208	9	-.006	9	-.007	9
1049		5	max	1.352	8	.006	.001	8
1050		min	-1.207	9	-.006	9	-.001	9
1051	M106	1	max	.008	5	.3	1.276	9
1052		min	.005	6	-.3	9	-1.276	8
1053		2	max	.008	5	.3	1.319	9
1054		min	.005	6	-.3	9	-1.319	8
1055		3	max	.009	5	1.245	1.301	9
1056		min	-.009	8	-1.256	8	-1.3	8
1057		4	max	.009	5	1.245	1.12	9
1058		min	-.009	8	-1.256	8	-1.118	8
1059		5	max	.009	5	1.245	.94	9
1060		min	-.009	8	-1.256	8	-.936	8
1061	M107	1	max	1.359	8	.006	.002	8
1062		min	-1.218	9	-.005	9	-.001	9
1063		2	max	1.359	8	.006	.001	8
1064		min	-1.218	9	-.005	9	0	9
1065		3	max	1.359	8	.006	0	8
1066		min	-1.218	9	-.005	9	0	9
1067		4	max	1.36	8	.006	0	8
1068		min	-1.218	9	-.005	9	0	9
1069		5	max	1.36	8	.006	0	1
1070		min	-1.218	9	-.005	9	0	1
1071	M108	1	max	1.352	8	.006	.001	8
1072		min	-1.207	9	-.005	9	-.001	9
1073		2	max	1.352	8	.006	0	8
1074		min	-1.207	9	-.005	9	0	9
1075		3	max	1.352	8	.006	0	8
1076		min	-1.207	9	-.005	9	0	9
1077		4	max	1.352	8	.006	0	8
1078		min	-1.207	9	-.005	9	0	9
1079		5	max	1.352	8	.006	0	1
1080		min	-1.207	9	-.005	9	0	1



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Envelope AA ADM1-15: ASD - Building Aluminum Code Checks

Member	Shape	Code Ch...	Loc[ft]	LC	Shear Ch...	Loc[ft]	LC	Pnc/Om[k]	Pnt/Om[k]	Mn/Om[k]	Vn/Om[k]	Cb	Egn
1	M1	L3X2X0.188	.370	6.224	6	.074	6.79	7	1.186	8.273	.356	3.076	1 H.1-1
2	M2	L3X2X0.188	.206	2.21	6	.008	2.21	6	2.68	8.273	.394	3.076	1 H.1-1
3	M3	L3X2X0.188	.533	.25	1	.300	0	1	7.077	8.273	.394	3.076	1 H.1-1
4	M4	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H.1-1
5	M5	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H.1-1
6	M6	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H.1-1
7	M7	L3X2X0.188	.875	2.188	1	.281	2.188	1	1.506	8.273	.356	3.076	1 H.3-2
8	M8	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H.1-1
9	M9	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H.1-1
10	M10	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H.1-1
11	M11	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H.1-1
12	M12	L2X2X0.188	.195	2.04	1	.000	0	1	4.728	6.573	.196	2.051	1 H.1-1
13	M13	L2X2X0.188	.412	.677	1	.025	0	4	3.876	6.573	.183	2.051	1 H.1-1
14	M14	L2X2X0.188	.521	.704	2	.045	0	4	3.068	6.573	.183	2.051	1 H.1-1
15	M15	L2X2X0.188	.617	.673	2	.037	.631	5	2.315	6.573	.183	2.051	1 H.1-1
16	M16	L2X2X0.188	.409	1.335	2	.040	0	6	3.926	6.573	.183	2.051	1 H.1-1
17	M17	L2X2X0.188	.422	2.67	1	.000	0	1	3.926	6.573	.196	2.051	1 H.1-1
18	M18	L3X2X0.188	.285	2.67	1	.000	0	1	4.705	8.273	.356	3.076	1 H.1-1
19	M19	L2X2X0.188	.557	.664	8	.074	0	8	3.295	6.573	.196	2.051	1 H.1-1
20	M20	L2X2X0.188	.586	.683	1	.061	0	8	2.518	6.573	.183	2.051	1 H.1-1
21	M21	L2X2X0.188	.773	.707	1	.052	0	8	1.835	6.573	.183	2.051	1 H.1-1
22	M22	L2X2X0.188	.401	.703	9	.024	0	9	3.738	6.573	.183	2.051	1 H.1-1
23	M23	L3X2X0.188	.822	.675	9	.218	.338	8	10.165	17.733	.634	7.142	1 H.1-1
24	M24	L2X2X0.188	.430	2.688	1	.000	0	1	3.903	6.573	.196	2.051	1 H.1-1
25	M25	L3X2X0.188	.294	2.688	2	.000	0	1	4.687	8.273	.356	3.076	1 H.1-1
26	M26	L2X2X0.188	.224	2.83	1	.000	0	1	3.728	6.573	.196	2.051	1 H.3-2
27	M27	L2X2X0.188	.355	2.83	1	.000	0	1	3.728	6.573	.196	2.051	1 H.1-1
28	M28	L2X2X0.188	.359	2.83	1	.000	0	1	3.728	6.573	.196	2.051	1 H.1-1
29	M29	L2X2X0.188	.361	2.83	3	.000	0	1	3.728	6.573	.196	2.051	1 H.3-2
30	M30	L3X2X0.188	.188	2.83	2	.000	0	1	4.541	8.273	.356	3.076	1 H.1-1
31	M31	L2X2X0.188	.320	2.688	1	.000	0	1	3.903	6.573	.196	2.051	1 H.1-1
32	M32	L1.5x1.5x.1...	.343	2.127	5	.000	0	4	1.049	4.794	.103	1.534	1 H.1-1
33	M33	L1.5x1.5x.1...	.698	1.841	8	.000	3.465	5	1.348	4.794	.114	1.534	1 H.1-1
34	M34	L1.5x1.5x.1...	.556	1.841	8	.000	0	9	1.348	4.794	.103	1.534	1 H.1-1
35	M35	L1.5x1.5x.1...	.219	1.483	9	.000	0	8	1.96	4.794	.103	1.534	1 H.1-1
36	M36	L3X2X0.188	.750	6	9	.034	6	8	.861	8.273	.356	3.076	1 H.1-1
37	M37	USC5X2.32	.780	2.313	1	.296	2.313	1	12.726	17.909	2.27	5.182	1.... H.1-1
38	M38	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H.1-1
39	M39	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H.1-1
40	M40	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H.1-1
41	M41	L3X2X0.188	.839	1	1	.215	0	1	5.25	8.273	.394	3.076	1 H.1-1
42	M42	L2X2X0.188	.760	2.687	1	.000	0	1	3.905	6.573	.196	2.051	1 H.1-1
43	M43	L3X2X0.188	.149	2.687	1	.000	0	1	4.688	8.273	.356	3.076	1 H.1-1
44	M44	L2X2X0.188	.592	.67	8	.073	0	8	3.262	6.573	.196	2.051	1 H.1-1
45	M45	L2X2X0.188	.537	.688	1	.060	0	8	2.487	6.573	.196	2.051	1 H.1-1
46	M46	L2X2X0.188	.736	.712	1	.051	0	8	1.813	6.573	.196	2.051	1 H.1-1
47	M47	L2X2X0.188	.401	.706	9	.023	0	9	3.723	6.573	.183	2.051	1 H.1-1
48	M48	L3X2X0.188	.822	.675	9	.218	.338	8	10.165	17.733	.634	7.142	1 H.1-1
49	M49	L2X2X0.188	.761	2.688	1	.000	0	1	3.904	6.573	.196	2.051	1 H.1-1
50	M50	L3X2X0.188	.153	2.688	2	.000	0	1	4.687	8.273	.356	3.076	1 H.1-1
51	M51	L2X2X0.188	.216	2.819	1	.000	0	1	3.742	6.573	.196	2.051	1 H.1-1
52	M52	L2X2X0.188	.354	2.819	1	.000	0	1	3.742	6.573	.196	2.051	1 H.1-1
53	M53	L2X2X0.188	.358	2.819	1	.000	0	1	3.742	6.573	.196	2.051	1 H.1-1
54	M54	L2X2X0.188	.366	2.819	9	.000	0	1	3.742	6.573	.196	2.051	1 H.1-1
55	M55	L3X2X0.188	.176	2.819	2	.000	0	1	4.553	8.273	.356	3.076	1 H.1-1
56	M56	L1.5x1.5x.1...	.668	1.836	8	.000	3.456	8	1.355	4.794	.114	1.534	1 H.1-1



Company : Larson Engineering Inc
 Designer : MK
 Job Number : 21210330.000
 Model Name : Hamlin Middle School

Apr 30, 2021
 4:49 PM
 Checked By: _____

Envelope AA ADM1-15: ASD - Building Aluminum Code Checks (Continued)

Member	Shape	Code Ch...	Loc(ft)	LC	Shear Ch...	Loc(ft)	LC	Pnc/Om[k]	Pnt/Om[k]	Mn/Om[k]	Vn/Om[k]	Cb	Eqn
57	M57	L1.5x1.5x.1...	.521	1.836	8	.000	3.456	5	1.355	4.794	.103	1.534	1 H.1-1
58	M58	L1.5x1.5x.1...	.224	1.494	9	.000	2.868	8	1.939	4.794	.103	1.534	1 H.1-1
59	M59	L3X2X0.188	.038	1.08	8	.000	2.16	3	5.142	8.273	.356	3.076	1 H.1-1
60	M60	L3X2X0.188	.176	.495	6	.041	2.16	7	5.142	8.273	.356	3.076	1 H.1-1
61	M61	L3X2X0.188	.285	.25	8	.132	0	8	7.077	8.273	.356	3.076	1 H.1-1
62	M62	L1.5x1.5x.1...	.198	1.832	9	.000	3.448	4	1.361	4.794	.103	1.534	1 H.1-1
63	M63	L1.5x1.5x.1...	.198	1.832	9	.000	0	1	1.362	4.794	.103	1.534	1 H.1-1
64	M64	L3X2X0.188	.391	.25	8	.181	0	8	7.077	8.273	.356	3.076	1 H.1-1
65	M65	L3X2X0.188	.739	6	9	.020	6	8	.861	8.273	.356	3.076	1 H.1-1
66	M66	L3X2X0.188	.442	3.914	7	.100	4.42	7	2.68	8.273	.356	3.076	1 H.1-1
67	M67	L1.5x1.5x.1...	.251	1.849	7	.000	0	4	1.336	4.794	.103	1.534	1 H.1-1
68	M68	L1.5x1.5x.1...	.226	1.841	7	.000	0	5	1.347	4.794	.103	1.534	1 H.1-1
69	M69	L1.5x1.5x.1...	.206	1.667	9	.000	0	8	1.584	4.794	.103	1.534	1 H.1-1
70	M70	L1.5x1.5x.1...	.210	1.667	9	.000	0	8	1.584	4.794	.103	1.534	1 H.1-1
71	M71	L2X2X0.188	.058	1	8	.000	2	8	4.781	6.573	.196	2.051	1 H.1-1
72	M72	L2X2X0.188	.058	1	8	.000	2	8	4.781	6.573	.196	2.051	1 H.1-1
73	M73	L3X2X0.188	.700	1.145	1	.106	0	1	6.983	17.733	.919	7.142	1 H.1-1
74	M74	L3X2X0.188	.533	0	1	.300	.25	1	7.077	8.273	.394	3.076	1 H.1-1
75	M75	USC4X1.85	.714	0	8	.214	1.119	9	13.493	14.273	1.451	3.927	1.... H.1-1
76	M76	L2X2X0.188	.295	.415	9	.000	.83	8	5.252	6.573	.183	2.051	1 H.1-1
77	M77	USC4X1.85	.386	4.25	8	.033	0	8	6.318	30.595	3.303	9.164	1.... H.1-1
78	M78	USC4X1.85	.714	0	8	.214	1.119	9	13.493	14.273	1.451	3.927	1.... H.1-1
79	M79	L2X2X0.188	.295	.415	9	.000	.83	8	5.252	6.573	.183	2.051	1 H.1-1
80	M80	USC4X1.85	.386	4.25	8	.033	0	8	6.318	30.595	3.303	9.164	1.... H.1-1
81	M81	L3X2X0.188	.457	.25	8	.078	0	8	8.854	17.733	.634	7.142	1 H.1-1
82	M82	L3X2X0.188	.353	.25	9	.061	.25	8	6.197	8.273	.394	3.076	1 H.1-1
83	M83	L3X2X0.188	.112	0	9	.013	0	9	8.854	17.733	.919	7.142	1 H.1-1
84	M84	L3X2X0.188	.175	.25	9	.036	.5	8	6.197	8.273	.356	3.076	1 H.1-1
85	M85	L3X2X0.188	.207	1.5	8	.016	1.5	8	8.854	17.733	.919	7.142	1 H.1-1
86	M86	L3X2X0.188	.530	.245	8	.114	.25	9	6.197	8.273	.394	3.076	1 H.1-1
87	M87	L3X2X0.188	.705	1.25	9	.124	1.5	9	8.854	17.733	.634	7.142	1 H.1-1
88	M88	L3X2X0.188	.621	0	9	.287	.25	9	7.077	8.273	.356	3.076	1 H.1-1
89	M89	L3X2X0.188	.334	.25	8	.057	0	8	8.854	17.733	.634	7.142	1 H.1-1
90	M90	L3X2X0.188	.413	.25	9	.060	.25	8	6.197	8.273	.394	3.076	1 H.1-1
91	M91	L3X2X0.188	.210	1.25	8	.025	0	9	8.854	17.733	.634	7.142	1 H.1-1
92	M92	L3X2X0.188	.265	0	8	.058	.25	9	6.197	8.273	.356	3.076	1 H.1-1
93	M93	L3X2X0.188	.195	1.5	8	.018	1.5	8	8.854	17.733	.919	7.142	1 H.1-1
94	M94	L3X2X0.188	.526	.25	8	.107	.25	9	6.197	8.273	.394	3.076	1 H.1-1
95	M95	L3X2X0.188	.661	1.25	9	.114	1.5	9	8.854	17.733	.634	7.142	1 H.1-1
96	M96	L3X2X0.188	.574	0	9	.265	.25	9	7.077	8.273	.356	3.076	1 H.1-1
97	M97	L2X2X0.188	.019	1	4	.000	2	8	4.781	6.573	.183	2.051	1 H.1-1
98	M98	L1.5x1.5x.1...	.855	1.075	8	.000	2.106	8	2.798	4.794	.103	1.534	1 H.1-1
99	M99	L3X2X0.188	.627	0	9	.387	.25	8	6.211	8.273	.356	3.076	1 H.1-1
100	M100	L3X2X0.188	.272	0	8	.010	0	8	7.483	17.733	.919	7.142	1 H.1-1
101	M101	USC4X1.85	.930	.248	8	.320	.254	8	14.273	14.273	1.451	3.927	1.... H.1-1
102	M102	L2X2X0.188	.024	1	4	.000	2	8	4.781	6.573	.183	2.051	1 H.1-1
103	M103	L1.5x1.5x.1...	.855	1.075	8	.000	0	8	2.798	4.794	.103	1.534	1 H.1-1
104	M104	L3X2X0.188	.629	0	9	.386	.25	8	6.211	8.273	.356	3.076	1 H.1-1
105	M105	L3X2X0.188	.272	0	8	.010	0	8	7.516	17.733	.919	7.142	1 H.1-1
106	M106	USC4X1.85	.930	.248	8	.320	.254	8	14.273	14.273	1.451	3.927	1.... H.1-1
107	M107	L3X2X0.188	.196	0	8	.002	0	8	7.077	8.273	.356	3.076	1 H.1-1
108	M108	L3X2X0.188	.190	0	8	.002	0	8	7.251	8.273	.356	3.076	1 H.1-1



Longitudinal Bracing Analysis

Brace Properties - L1.5x1.5x3/16

$$A := 0.527 \text{ in}^2$$

$$F_{ty} := 30 \cdot \text{ksi}$$

Loading - Sway

$$S := 24 \text{ plf}$$

sway load

$$L := 12 \text{ ft}$$

tributary area to frame

$$R := 13$$

total number of rows (footboards)

$$B := 6$$

number of cross braces

$$V_{\text{sway}} := \frac{S \cdot R \cdot L}{B} = 0.624 \cdot \text{kip}$$

$$w := 6 \text{ ft}$$

width of frame

$$h := 48 \text{ in}$$

height of brace

$$T := V_{\text{sway}} \cdot \left[\sqrt{\left(\frac{h}{w} \right)^2 + 1} \right] = 0.75 \cdot \text{kip}$$

$$f_t := \frac{T}{A} = 1.423 \cdot \text{ksi}$$

Interaction Equation

$$\left(\frac{f_t}{F_{ty}} \right) = 0.047$$

Verify uplift on anchors

$$h_{\text{bleacher}} := 14 \text{ ft} = 168 \cdot \text{in}$$

$$Z := V_{\text{sway}} \cdot \left(\frac{h_{\text{bleacher}}}{w} \right) = 1.456 \cdot \text{kip}$$

$$DL := 0.2 \text{ kip}$$

RISAN5

$$LL := 2.1 \text{ kip}$$

$$LC := 1.2DL + 1.0LL - 1.6Z = 0.01 \cdot \text{kip}$$

No net uplift at anchor

Larson Engineering, Inc.
 1488 Bond Street, Suite 100
 Naperville, IL 60563
 630.357.0540

Hamlin Middle School
 Springfield, OR
 Longitudinal Brace Analysis

Sheet No.
 Project No. 21210330.000
 By MK Date 04/30/2021



Anchors - Ultimate Forces (LRFD)

Third Base Line

Reactions at N44

Dead Load

$$P_{DL} := 0.002 \text{ kip}$$

Wind Load

$$P_{WL} := -1.072 \text{ kip}$$

$$V_{WL} := 0.102 \text{ kip}$$

Guard Load

$$P_{Guard} := -1.411 \text{ kip}$$

$$V_{Guard} := 0.04 \text{ kip}$$

0.9DL+1.0 WL

$$P_{ult} := 0.9P_{DL} + 1.0P_{WL} = -1.07 \cdot \text{kip}$$

$$V_{ult} := V_{WL} = 0.102 \cdot \text{kip}$$

1.2DL+1.6Guard

$$P_{ult} := 1.2P_{DL} + 1.6P_{Guard} = -2.255 \cdot \text{kip}$$

$$V_{ult} := 1.6 \cdot V_{Guard} = 0.064 \cdot \text{kip}$$

Guard load case control

Larson Engineering, Inc.
 1488 Bond Street, Suite 100
 Naperville, IL 60563
 630.357.0540

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 Springfield, OR
 Longitudinal Brace Analysis

Sheet No.
 Project No. 21210330.000
 By MK Date 04/30/2021



First Base Line

Reactions at N96

Dead Load

$$P_{DL} := 0.002 \text{ kip}$$

Wind Load

$$P_{WL} := -2.166 \text{ kip}$$

$$V_{WL} := 0.138 \text{ kip}$$

Guard Load

$$P_{Guard} := -1.476 \text{ kip}$$

$$V_{Guard} := 0.025 \text{ kip}$$

0.9DL+1.0 WL

$$P_{ult} := 0.9P_{DL} + 1.0P_{WL} = -2.164 \cdot \text{kip}$$

$$V_{ult} := V_{WL} = 0.138 \cdot \text{kip}$$

1.2DL+1.6Guard

$$P_{ult} := 1.2P_{DL} + 1.6P_{Guard} = -2.359 \cdot \text{kip}$$

$$V_{ult} := 1.6 \cdot V_{Guard} = 0.04 \cdot \text{kip}$$

Guard load case control

www.hilti.us

Company: LEI
Specifier: MK
Address:
Phone | Fax: |
E-Mail:

Page: 1
Project: Hamlin MS
Sub-Project | Pos. No.: 21210330.000
Date: 5/4/2021

Specifier's comments: Typical Anchor

1 Input data

Anchor type and diameter:

Kwik Bolt TZ - CS 3/8 (2 3/4)



Effective embedment depth:

$h_{ef,act} = 2.750$ in., $h_{nom} = 3.063$ in.

Material:

Carbon Steel

Evaluation Service Report:

ESR-1917

Issued | Valid:

1/1/2020 | 5/1/2021

Proof:

Design method ACI 318-14 / Mech.

Stand-off installation:

$e_b = 0.000$ in. (no stand-off); $t = 0.187$ in.

Anchor plate:

$l_x \times l_y \times t = 2.000$ in. \times 12.000 in. \times 0.187 in.; (Recommended plate thickness: not calculated)

Profile:

no profile

Base material:

cracked concrete, $f_c' = 3,500$ psi; $h = 6.000$ in.

Installation:

hammer drilled hole, Installation condition: Dry

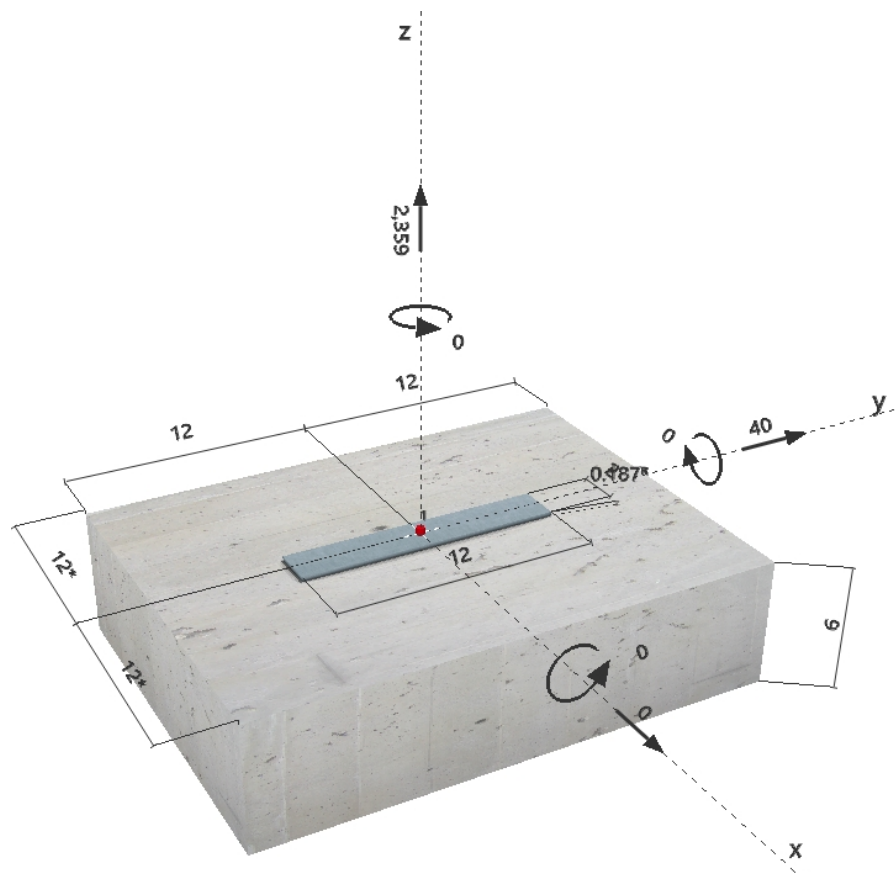
Reinforcement:

tension: condition B, shear: condition B; no supplemental splitting reinforcement present

edge reinforcement: none or \leq No. 4 bar

^R - The anchor calculation is based on a rigid anchor plate assumption.

Geometry [in.] & Loading [lb, in.lb]



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Profis Anchor 2.9.2

Company: LEI
 Specifier: MK
 Address:
 Phone | Fax: |
 E-Mail:

Page: 2
 Project: Hamlin MS
 Sub-Project | Pos. No.: 21210330.000
 Date: 5/4/2021

2 Load case/Resulting anchor forces

Load case: Design loads

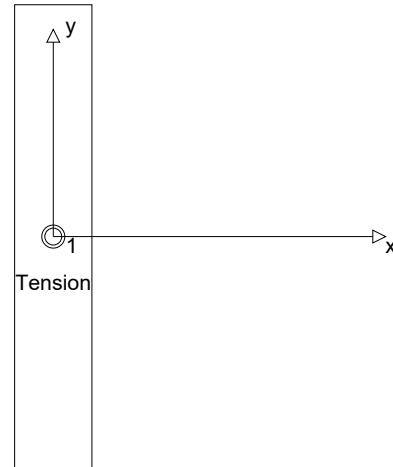
Anchor reactions [lb]

Tension force: (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	2,359	40	0	40

max. concrete compressive strain: - [‰]
 max. concrete compressive stress: - [psi]
 resulting tension force in (x/y)=(0.000/0.000): 2,359 [lb]
 resulting compression force in (x/y)=(0.000/0.000): 0 [lb]

Anchor forces are calculated based on the assumption of a rigid anchor plate.



3 Tension load

	Load N_{ua} [lb]	Capacity ϕN_n [lb]	Utilization $\beta_N = N_{ua}/\phi N_n$	Status
Steel Strength*	2,359	4,875	49	OK
Pullout Strength*	2,359	2,426	98	OK
Concrete Breakout Strength**	2,359	2,981	80	OK

* anchor having the highest loading **anchor group (anchors in tension)

3.1 Steel Strength

N_{sa} = ESR value refer to ICC-ES ESR-1917
 $\phi N_{sa} \geq N_{ua}$ ACI 318-14 Table 17.3.1.1

Variables

$A_{se,N}$ [in. ²]	f_{uta} [psi]
0.05	125,000

Calculations

N_{sa} [lb]
6,500

Results

N_{sa} [lb]	ϕ_{steel}	ϕN_{sa} [lb]	N_{ua} [lb]
6,500	0.750	4,875	2,359

3.2 Pullout Strength

$N_{pn,f_c} = N_{p,2500} \lambda_a (f_c'/2500)^{0.5}$ refer to ICC-ES ESR-1917
 $\phi N_{pn,f_c} \geq N_{ua}$ ACI 318-14 Table 17.3.1.1

Variables

f_c' [psi]	λ_a	$N_{p,2500}$ [lb]
3,500	1.000	3,155

Calculations

$(f_c'/2500)^{0.5}$
1.183

Results

N_{pn,f_c} [lb]	$\phi_{concrete}$	$\phi N_{pn,f_c}$ [lb]	N_{ua} [lb]
3,733	0.650	2,426	2,359

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3.3 Concrete Breakout Strength

$$N_{cb} = \left(\frac{A_{Nc}}{A_{Nc0}} \right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b \quad \text{ACI 318-14 Eq. (17.4.2.1a)}$$

$$\phi N_{cb} \geq N_{ua} \quad \text{ACI 318-14 Table 17.3.1.1}$$

$$A_{Nc} \text{ see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)}$$

$$A_{Nc0} = 9 h_{ef}^2 \quad \text{ACI 318-14 Eq. (17.4.2.1c)}$$

$$\psi_{ec,N} = \left(\frac{1}{1 + \frac{2 e_N}{3 h_{ef}}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.4.2.4)}$$

$$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5 h_{ef}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.4.2.5b)}$$

$$\psi_{cp,N} = \text{MAX} \left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5 h_{ef}}{c_{ac}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.4.2.7b)}$$

$$N_b = k_c \lambda_a \sqrt{f_c} h_{ef}^{1.5} \quad \text{ACI 318-14 Eq. (17.4.2.2a)}$$

Variables

h_{ef} [in.]	$e_{c1,N}$ [in.]	$e_{c2,N}$ [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$
2.750	0.000	0.000	12.000	1.000

c_{ac} [in.]	k_c	λ_a	f_c [psi]
4.125	17	1.000	3,500

Calculations

A_{Nc} [in. ²]	A_{Nc0} [in. ²]	$\psi_{ec1,N}$	$\psi_{ec2,N}$	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [lb]
68.06	68.06	1.000	1.000	1.000	1.000	4,587

Results

N_{cb} [lb]	$\phi_{concrete}$	ϕN_{cb} [lb]	N_{ua} [lb]
4,587	0.650	2,981	2,359

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4 Shear load

	Load V_{ua} [lb]	Capacity ϕV_n [lb]	Utilization $\beta_v = V_{ua}/\phi V_n$	Status
Steel Strength*	40	2,337	2	OK
Steel failure (with lever arm)*	N/A	N/A	N/A	N/A
Pryout Strength**	40	6,421	1	OK
Concrete edge failure in direction y+**	40	4,231	1	OK

* anchor having the highest loading **anchor group (relevant anchors)

4.1 Steel Strength

V_{sa} = ESR value refer to ICC-ES ESR-1917
 $\phi V_{steel} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

Variables

$A_{se,V}$ [in. ²]	f_{uta} [psi]
0.05	125,000

Calculations

V_{sa} [lb]
3,595

Results

V_{sa} [lb]	ϕ_{steel}	ϕV_{sa} [lb]	V_{ua} [lb]
3,595	0.650	2,337	40

4.2 Pryout Strength

$$V_{cp} = k_{cp} \left[\left(\frac{A_{Nc}}{A_{Nc0}} \right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b \right] \quad \text{ACI 318-14 Eq. (17.5.3.1a)}$$

$$\phi V_{cp} \geq V_{ua} \quad \text{ACI 318-14 Table 17.3.1.1}$$

A_{Nc} see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)

$$A_{Nc0} = 9 h_{ef}^2 \quad \text{ACI 318-14 Eq. (17.4.2.1c)}$$

$$\psi_{ec,N} = \left(\frac{1}{1 + \frac{2 e_N}{3 h_{ef}}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.4.2.4)}$$

$$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5 h_{ef}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.4.2.5b)}$$

$$\psi_{cp,N} = \text{MAX} \left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5 h_{ef}}{c_{ac}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.4.2.7b)}$$

$$N_b = k_c \lambda_a \sqrt{f_c} h_{ef}^{1.5} \quad \text{ACI 318-14 Eq. (17.4.2.2a)}$$

Variables

k_{cp}	h_{ef} [in.]	$e_{c1,N}$ [in.]	$e_{c2,N}$ [in.]	$c_{a,min}$ [in.]
2	2.750	0.000	0.000	12.000

$\psi_{c,N}$	c_{ac} [in.]	k_c	λ_a	f_c [psi]
1.000	4.125	17	1.000	3,500

Calculations

A_{Nc} [in. ²]	A_{Nc0} [in. ²]	$\psi_{ec1,N}$	$\psi_{ec2,N}$	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [lb]
68.06	68.06	1.000	1.000	1.000	1.000	4,587

Results

V_{cp} [lb]	$\phi_{concrete}$	ϕV_{cp} [lb]	V_{ua} [lb]
9,173	0.700	6,421	40

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4.3 Concrete edge failure in direction y+

$$V_{cb} = \left(\frac{A_{Vc}}{A_{Vc0}} \right) \psi_{ed,V} \psi_{c,V} \psi_{h,V} \psi_{parallel,V} V_b \quad \text{ACI 318-14 Eq. (17.5.2.1a)}$$

$$\phi V_{cb} \geq V_{ua} \quad \text{ACI 318-14 Table 17.3.1.1}$$

$$A_{Vc} \text{ see ACI 318-14, Section 17.5.2.1, Fig. R 17.5.2.1(b)}$$

$$A_{Vc0} = 4.5 c_{a1}^2 \quad \text{ACI 318-14 Eq. (17.5.2.1c)}$$

$$\psi_{ec,V} = \left(\frac{1}{1 + \frac{2e_v}{3c_{a1}}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.5.2.5)}$$

$$\psi_{ed,V} = 0.7 + 0.3 \left(\frac{c_{a2}}{1.5c_{a1}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.5.2.6b)}$$

$$\psi_{h,V} = \sqrt{\frac{1.5c_{a1}}{h_a}} \geq 1.0 \quad \text{ACI 318-14 Eq. (17.5.2.8)}$$

$$V_b = \left(7 \left(\frac{l_e}{d_a} \right)^{0.2} \sqrt{d_a} \right) \lambda_a \sqrt{f'_c} c_{a1}^{1.5} \quad \text{ACI 318-14 Eq. (17.5.2.2a)}$$

Variables

c_{a1} [in.]	c_{a2} [in.]	e_{cV} [in.]	$\psi_{c,V}$	h_a [in.]
8.000	12.000	0.000	1.000	6.000
l_e [in.]	λ_a	d_a [in.]	f'_c [psi]	$\psi_{parallel,V}$
2.750	1.000	0.375	3,500	1.000

Calculations

A_{Vc} [in. ²]	A_{Vc0} [in. ²]	$\psi_{ec,V}$	$\psi_{ed,V}$	$\psi_{h,V}$	V_b [lb]
144.00	288.00	1.000	1.000	1.414	8,548

Results

V_{cb} [lb]	$\phi_{concrete}$	ϕV_{cb} [lb]	V_{ua} [lb]
6,044	0.700	4,231	40

5 Combined tension and shear loads

β_N	β_V	ζ	Utilization $\beta_{N,V}$ [%]	Status
0.972	0.017	1.000	83	OK

$$\beta_{NV} = (\beta_N + \beta_V) / 1.2 \leq 1$$

6 Warnings

- The anchor design methods in PROFIS Anchor require rigid anchor plates per current regulations (ETAG 001/Annex C, EOTA TR029, etc.). This means load re-distribution on the anchors due to elastic deformations of the anchor plate are not considered - the anchor plate is assumed to be sufficiently stiff, in order not to be deformed when subjected to the design loading. PROFIS Anchor calculates the minimum required anchor plate thickness with FEM to limit the stress of the anchor plate based on the assumptions explained above. The proof if the rigid anchor plate assumption is valid is not carried out by PROFIS Anchor. Input data and results must be checked for agreement with the existing conditions and for plausibility!
- Condition A applies when supplementary reinforcement is used. The Φ factor is increased for non-steel Design Strengths except Pullout Strength and Pryout strength. Condition B applies when supplementary reinforcement is not used and for Pullout Strength and Pryout Strength. Refer to your local standard.
- Refer to the manufacturer's product literature for cleaning and installation instructions.
- Checking the transfer of loads into the base material and the shear resistance are required in accordance with ACI 318 or the relevant standard!
- Hilti post-installed anchors shall be installed in accordance with the Hilti Manufacturer's Printed Installation Instructions (MPII). Reference ACI 318-14, Section 17.8.1.

Fastening meets the design criteria!

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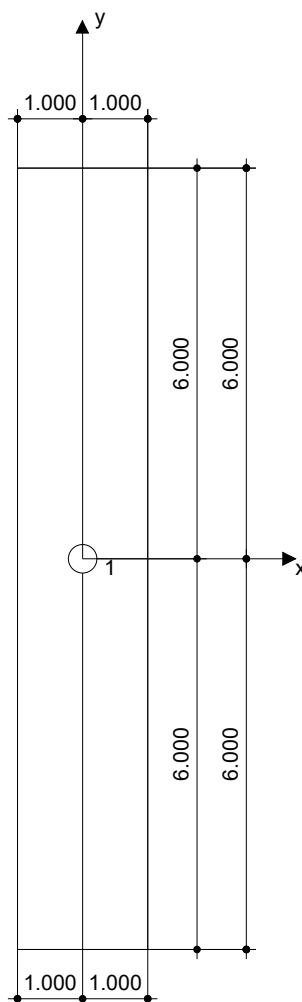
7 Installation data

Anchor plate, steel: -
 Profile: no profile
 Hole diameter in the fixture: $d_f = 0.438$ in.
 Plate thickness (input): 0.187 in.
 Recommended plate thickness: not calculated
 Drilling method: Hammer drilled
 Cleaning: Manual cleaning of the drilled hole according to instructions
 for use is required.

Anchor type and diameter: Kwik Bolt TZ - CS 3/8 (2 3/4)
 Installation torque: 300.000 in.lb
 Hole diameter in the base material: 0.375 in.
 Hole depth in the base material: 3.375 in.
 Minimum thickness of the base material: 5.000 in.

7.1 Recommended accessories

Drilling	Cleaning	Setting
<ul style="list-style-type: none"> Suitable Rotary Hammer Properly sized drill bit 	<ul style="list-style-type: none"> Manual blow-out pump 	<ul style="list-style-type: none"> Torque controlled cordless impact tool (Hilti Safeset System) Torque wrench Hammer



Coordinates Anchor in.

Anchor	x	y	C-x	C+y	C-y	C+y
1	0.000	0.000	12.000	12.000	12.000	12.000

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8 Remarks; Your Cooperation Duties

- Any and all information and data contained in the Software concern solely the use of Hilti products and are based on the principles, formulas and security regulations in accordance with Hilti's technical directions and operating, mounting and assembly instructions, etc., that must be strictly complied with by the user. All figures contained therein are average figures, and therefore use-specific tests are to be conducted prior to using the relevant Hilti product. The results of the calculations carried out by means of the Software are based essentially on the data you put in. Therefore, you bear the sole responsibility for the absence of errors, the completeness and the relevance of the data to be put in by you. Moreover, you bear sole responsibility for having the results of the calculation checked and cleared by an expert, particularly with regard to compliance with applicable norms and permits, prior to using them for your specific facility. The Software serves only as an aid to interpret norms and permits without any guarantee as to the absence of errors, the correctness and the relevance of the results or suitability for a specific application.
- You must take all necessary and reasonable steps to prevent or limit damage caused by the Software. In particular, you must arrange for the regular backup of programs and data and, if applicable, carry out the updates of the Software offered by Hilti on a regular basis. If you do not use the AutoUpdate function of the Software, you must ensure that you are using the current and thus up-to-date version of the Software in each case by carrying out manual updates via the Hilti Website. Hilti will not be liable for consequences, such as the recovery of lost or damaged data or programs, arising from a culpable breach of duty by you.

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Hamlin Middle School
Springfield, OR
Longitudinal Brace Analysis

Sheet No.
Project No. 21210330.000
By MK Date 04/30/2021



Home Plate

Press Box Frame

Reactions at N124

Dead Load

$$P_{DL} := 0.509 \text{ kip}$$

Dead load from adjacent post

Wind Load

$$P_{WL} := -3.549 \text{ kip}$$

$$V_{WL} := 0.937 \text{ kip}$$

0.9DL+1.0 WL

$$P_{ult} := 0.9P_{DL} + 1.0P_{WL} = -3.091 \cdot \text{kip}$$

$$V_{ult} := V_{WL} = 0.937 \cdot \text{kip}$$

Wind load cases control

Bleacher Frame

Reactions at N155

Dead Load

$$P_{DL} := 0.128 \text{ kip}$$

Dead load from adjacent post

Wind Load

$$P_{WL} := -2.497 \text{ kip}$$

$$V_{WL} := 0.099 \text{ kip}$$

Guard Load

$$P_{Guard} := -1.725 \text{ kip}$$

$$V_{Guard} := 0.032 \text{ kip}$$

0.9DL+1.0 WL

$$P_{ult} := 0.9P_{DL} + 1.0P_{WL} = -2.382 \cdot \text{kip}$$

$$V_{ult} := V_{WL} = 0.099 \cdot \text{kip}$$

1.2DL+1.6Guard

$$P_{ult} := 1.2P_{DL} + 1.6P_{Guard} = -2.606 \cdot \text{kip}$$

Guard load case control

$$V_{ult} := 1.6 \cdot V_{Guard} = 0.051 \cdot \text{kip}$$

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Specifier's comments: Press Box Anchor

1 Input data

Anchor type and diameter:

Kwik Bolt TZ - CS 1/2 (3 1/4)



Effective embedment depth:

$h_{ef,act} = 3.250 \text{ in.}$, $h_{nom} = 3.625 \text{ in.}$

Material:

Carbon Steel

Evaluation Service Report:

ESR-1917

Issued | Valid:

1/1/2020 | 5/1/2021

Proof:

Design method ACI 318-14 / Mech.

Stand-off installation:

$e_b = 0.000 \text{ in.}$ (no stand-off); $t = 0.187 \text{ in.}$

Anchor plate:

$l_x \times l_y \times t = 2.000 \text{ in.} \times 12.000 \text{ in.} \times 0.187 \text{ in.}$; (Recommended plate thickness: not calculated)

Profile:

no profile

Base material:

cracked concrete, $f_c' = 3,500 \text{ psi}$; $h = 6.000 \text{ in.}$

Installation:

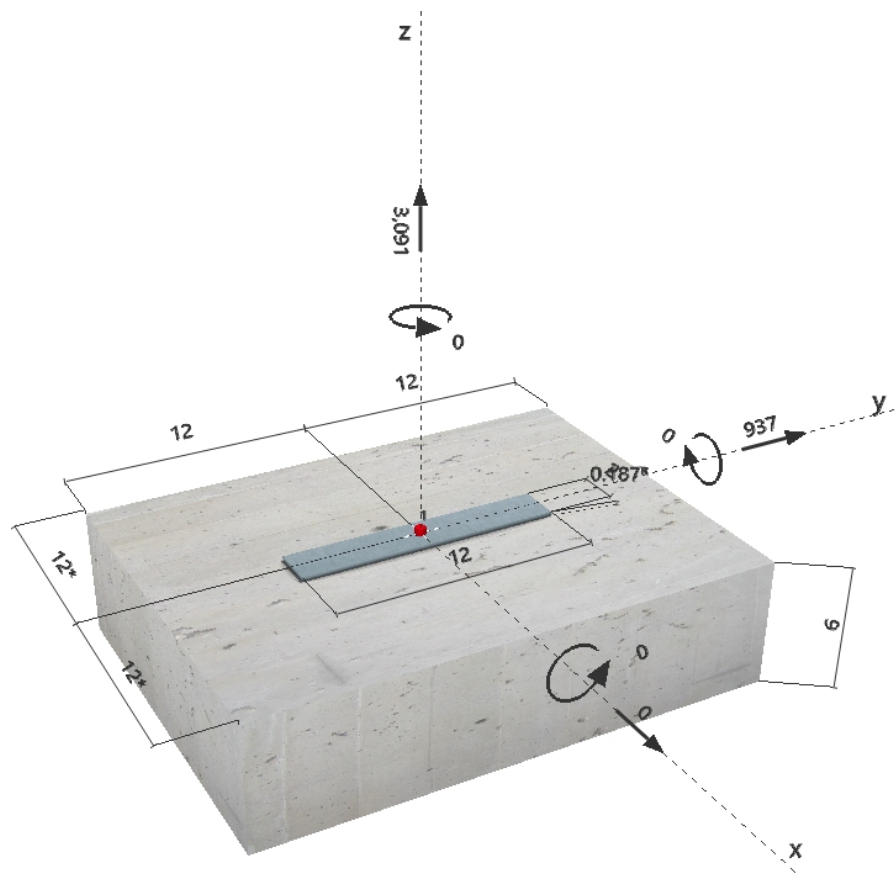
hammer drilled hole, Installation condition: Dry

Reinforcement:

tension: condition B, shear: condition B; no supplemental splitting reinforcement present
 edge reinforcement: none or < No. 4 bar

^R - The anchor calculation is based on a rigid anchor plate assumption.

Geometry [in.] & Loading [lb, in.lb]



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2 Load case/Resulting anchor forces

Load case: Design loads

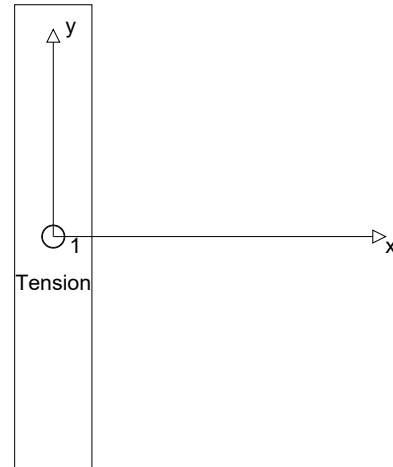
Anchor reactions [lb]

Tension force: (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	3,091	937	0	937

max. concrete compressive strain: - [‰]
 max. concrete compressive stress: - [psi]
 resulting tension force in (x/y)=(0.000/0.000): 3,091 [lb]
 resulting compression force in (x/y)=(0.000/0.000): 0 [lb]

Anchor forces are calculated based on the assumption of a rigid anchor plate.



3 Tension load

	Load N_{ua} [lb]	Capacity ϕN_n [lb]	Utilization $\beta_N = N_{ua}/\phi N_n$	Status
Steel Strength*	3,091	8,029	39	OK
Pullout Strength*	3,091	3,780	82	OK
Concrete Breakout Strength**	3,091	3,830	81	OK

* anchor having the highest loading **anchor group (anchors in tension)

3.1 Steel Strength

N_{sa} = ESR value refer to ICC-ES ESR-1917
 $\phi N_{sa} \geq N_{ua}$ ACI 318-14 Table 17.3.1.1

Variables

$A_{se,N}$ [in. ²]	f_{uta} [psi]
0.10	106,000

Calculations

N_{sa} [lb]
10,705

Results

N_{sa} [lb]	ϕ_{steel}	ϕN_{sa} [lb]	N_{ua} [lb]
10,705	0.750	8,029	3,091

3.2 Pullout Strength

$N_{pn,f_c} = N_{p,2500} \lambda_a (f_c'/2500)^{0.5}$ refer to ICC-ES ESR-1917
 $\phi N_{pn,f_c} \geq N_{ua}$ ACI 318-14 Table 17.3.1.1

Variables

f_c' [psi]	λ_a	$N_{p,2500}$ [lb]
3,500	1.000	4,915

Calculations

$(f_c'/2500)^{0.5}$
1.183

Results

N_{pn,f_c} [lb]	$\phi_{concrete}$	$\phi N_{pn,f_c}$ [lb]	N_{ua} [lb]
5,816	0.650	3,780	3,091

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3.3 Concrete Breakout Strength

$$N_{cb} = \left(\frac{A_{Nc}}{A_{Nc0}} \right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b \quad \text{ACI 318-14 Eq. (17.4.2.1a)}$$

$$\phi N_{cb} \geq N_{ua} \quad \text{ACI 318-14 Table 17.3.1.1}$$

$$A_{Nc} \text{ see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)}$$

$$A_{Nc0} = 9 h_{ef}^2 \quad \text{ACI 318-14 Eq. (17.4.2.1c)}$$

$$\psi_{ec,N} = \left(\frac{1}{1 + \frac{2 e_N}{3 h_{ef}}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.4.2.4)}$$

$$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5 h_{ef}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.4.2.5b)}$$

$$\psi_{cp,N} = \text{MAX} \left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5 h_{ef}}{c_{ac}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.4.2.7b)}$$

$$N_b = k_c \lambda_a \sqrt{f_c} h_{ef}^{1.5} \quad \text{ACI 318-14 Eq. (17.4.2.2a)}$$

Variables

h_{ef} [in.]	$e_{c1,N}$ [in.]	$e_{c2,N}$ [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$
3.250	0.000	0.000	12.000	1.000
c_{ac} [in.]	k_c	λ_a	f_c [psi]	
7.500	17	1.000	3,500	

Calculations

A_{Nc} [in. ²]	A_{Nc0} [in. ²]	$\psi_{ec1,N}$	$\psi_{ec2,N}$	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [lb]
95.06	95.06	1.000	1.000	1.000	1.000	5,893

Results

N_{cb} [lb]	$\phi_{concrete}$	ϕN_{cb} [lb]	N_{ua} [lb]
5,893	0.650	3,830	3,091

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4 Shear load

	Load V_{ua} [lb]	Capacity ϕV_n [lb]	Utilization $\beta_v = V_{ua}/\phi V_n$	Status
Steel Strength*	937	3,572	27	OK
Steel failure (with lever arm)*	N/A	N/A	N/A	N/A
Pryout Strength**	937	8,250	12	OK
Concrete edge failure in direction y+**	937	4,769	20	OK

* anchor having the highest loading **anchor group (relevant anchors)

4.1 Steel Strength

V_{sa} = ESR value refer to ICC-ES ESR-1917
 $\phi V_{steel} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

Variables

$A_{se,V}$ [in. ²]	f_{uta} [psi]
0.10	106,000

Calculations

V_{sa} [lb]
5,495

Results

V_{sa} [lb]	ϕ_{steel}	ϕV_{sa} [lb]	V_{ua} [lb]
5,495	0.650	3,572	937

4.2 Pryout Strength

$$V_{cp} = k_{cp} \left[\left(\frac{A_{Nc}}{A_{Nc0}} \right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b \right] \quad \text{ACI 318-14 Eq. (17.5.3.1a)}$$

$$\phi V_{cp} \geq V_{ua} \quad \text{ACI 318-14 Table 17.3.1.1}$$

A_{Nc} see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)

$$A_{Nc0} = 9 h_{ef}^2 \quad \text{ACI 318-14 Eq. (17.4.2.1c)}$$

$$\psi_{ec,N} = \left(\frac{1}{1 + \frac{2 e_{N}}{3 h_{ef}}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.4.2.4)}$$

$$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5 h_{ef}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.4.2.5b)}$$

$$\psi_{cp,N} = \text{MAX} \left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5 h_{ef}}{c_{ac}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.4.2.7b)}$$

$$N_b = k_c \lambda_a \sqrt{f'_c} h_{ef}^{1.5} \quad \text{ACI 318-14 Eq. (17.4.2.2a)}$$

Variables

k_{cp}	h_{ef} [in.]	$e_{c1,N}$ [in.]	$e_{c2,N}$ [in.]	$c_{a,min}$ [in.]
2	3.250	0.000	0.000	12.000

$\psi_{c,N}$	c_{ac} [in.]	k_c	λ_a	f'_c [psi]
1.000	7.500	17	1.000	3,500

Calculations

A_{Nc} [in. ²]	A_{Nc0} [in. ²]	$\psi_{ec1,N}$	$\psi_{ec2,N}$	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [lb]
95.06	95.06	1.000	1.000	1.000	1.000	5,893

Results

V_{cp} [lb]	$\phi_{concrete}$	ϕV_{cp} [lb]	V_{ua} [lb]
11,785	0.700	8,250	937

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4.3 Concrete edge failure in direction y+

$$V_{cb} = \left(\frac{A_{Vc}}{A_{Vc0}} \right) \psi_{ed,V} \psi_{c,V} \psi_{h,V} \psi_{parallel,V} V_b \quad \text{ACI 318-14 Eq. (17.5.2.1a)}$$

$$\phi V_{cb} \geq V_{ua} \quad \text{ACI 318-14 Table 17.3.1.1}$$

$$A_{Vc} \text{ see ACI 318-14, Section 17.5.2.1, Fig. R 17.5.2.1(b)}$$

$$A_{Vc0} = 4.5 c_{a1}^2 \quad \text{ACI 318-14 Eq. (17.5.2.1c)}$$

$$\psi_{ec,V} = \left(\frac{1}{1 + \frac{2e_v}{3c_{a1}}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.5.2.5)}$$

$$\psi_{ed,V} = 0.7 + 0.3 \left(\frac{c_{a2}}{1.5c_{a1}} \right) \leq 1.0 \quad \text{ACI 318-14 Eq. (17.5.2.6b)}$$

$$\psi_{h,V} = \sqrt{\frac{1.5c_{a1}}{h_a}} \geq 1.0 \quad \text{ACI 318-14 Eq. (17.5.2.8)}$$

$$V_b = \left(7 \left(\frac{l_e}{d_a} \right)^{0.2} \sqrt{d_a} \right) \lambda_a \sqrt{f'_c} c_{a1}^{1.5} \quad \text{ACI 318-14 Eq. (17.5.2.2a)}$$

Variables

c_{a1} [in.]	c_{a2} [in.]	e_{cV} [in.]	$\psi_{c,V}$	h_a [in.]
8.000	12.000	0.000	1.000	6.000
l_e [in.]	λ_a	d_a [in.]	f'_c [psi]	$\psi_{parallel,V}$
3.250	1.000	0.500	3,500	1.000

Calculations

A_{Vc} [in. ²]	A_{Vc0} [in. ²]	$\psi_{ec,V}$	$\psi_{ed,V}$	$\psi_{h,V}$	V_b [lb]
144.00	288.00	1.000	1.000	1.414	9,635

Results

V_{cb} [lb]	$\phi_{concrete}$	ϕV_{cb} [lb]	V_{ua} [lb]
6,813	0.700	4,769	937

5 Combined tension and shear loads

β_N	β_V	ζ	Utilization $\beta_{N,V}$ [%]	Status
0.818	0.262	5/3	83	OK

$$\beta_{NV} = \beta_N^\zeta + \beta_V^\zeta \leq 1$$

6 Warnings

- The anchor design methods in PROFIS Anchor require rigid anchor plates per current regulations (ETAG 001/Annex C, EOTA TR029, etc.). This means load re-distribution on the anchors due to elastic deformations of the anchor plate are not considered - the anchor plate is assumed to be sufficiently stiff, in order not to be deformed when subjected to the design loading. PROFIS Anchor calculates the minimum required anchor plate thickness with FEM to limit the stress of the anchor plate based on the assumptions explained above. The proof if the rigid anchor plate assumption is valid is not carried out by PROFIS Anchor. Input data and results must be checked for agreement with the existing conditions and for plausibility!
- Condition A applies when supplementary reinforcement is used. The Φ factor is increased for non-steel Design Strengths except Pullout Strength and Pryout strength. Condition B applies when supplementary reinforcement is not used and for Pullout Strength and Pryout Strength. Refer to your local standard.
- Refer to the manufacturer's product literature for cleaning and installation instructions.
- Checking the transfer of loads into the base material and the shear resistance are required in accordance with ACI 318 or the relevant standard!
- Hilti post-installed anchors shall be installed in accordance with the Hilti Manufacturer's Printed Installation Instructions (MPII). Reference ACI 318-14, Section 17.8.1.

Fastening meets the design criteria!

www.hilti.us

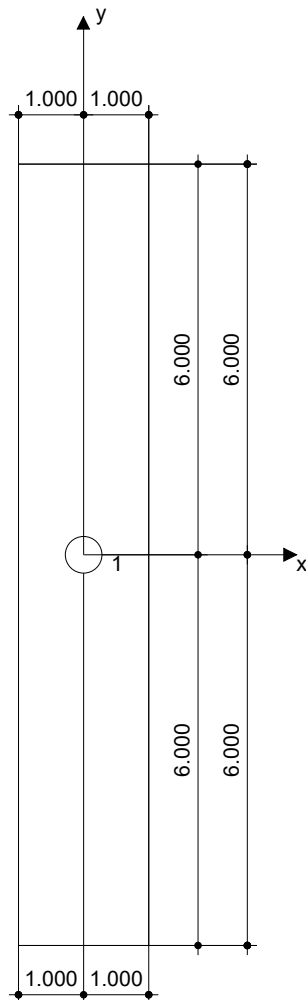
Company:	LEI	Page:	6
Specifier:	MK	Project:	Hamlin MS
Address:		Sub-Project I Pos. No.:	21210330.000
Phone I Fax:		Date:	5/5/2021
E-Mail:			

7 Installation data

Anchor plate, steel: -	Anchor type and diameter: Kwik Bolt TZ - CS 1/2 (3 1/4)
Profile: no profile	Installation torque: 480.001 in.lb
Hole diameter in the fixture: $d_f = 0.563$ in.	Hole diameter in the base material: 0.500 in.
Plate thickness (input): 0.187 in.	Hole depth in the base material: 4.000 in.
Recommended plate thickness: not calculated	Minimum thickness of the base material: 6.000 in.
Drilling method: Hammer drilled	
Cleaning: Manual cleaning of the drilled hole according to instructions for use is required.	

7.1 Recommended accessories

Drilling	Cleaning	Setting
<ul style="list-style-type: none"> Suitable Rotary Hammer Properly sized drill bit 	<ul style="list-style-type: none"> Manual blow-out pump 	<ul style="list-style-type: none"> Torque controlled cordless impact tool (Hilti Safeset System) Torque wrench Hammer



Coordinates Anchor in.

Anchor	x	y	C-x	C+y	C-y	C+y
1	0.000	0.000	12.000	12.000	12.000	12.000

www.hilti.us

Profis Anchor 2.9.2

Company: LEI
 Specifier: MK
 Address:
 Phone | Fax: |
 E-Mail:

Page: 7
 Project: Hamlin MS
 Sub-Project | Pos. No.: 21210330.000
 Date: 5/5/2021

8 Remarks; Your Cooperation Duties

- Any and all information and data contained in the Software concern solely the use of Hilti products and are based on the principles, formulas and security regulations in accordance with Hilti's technical directions and operating, mounting and assembly instructions, etc., that must be strictly complied with by the user. All figures contained therein are average figures, and therefore use-specific tests are to be conducted prior to using the relevant Hilti product. The results of the calculations carried out by means of the Software are based essentially on the data you put in. Therefore, you bear the sole responsibility for the absence of errors, the completeness and the relevance of the data to be put in by you. Moreover, you bear sole responsibility for having the results of the calculation checked and cleared by an expert, particularly with regard to compliance with applicable norms and permits, prior to using them for your specific facility. The Software serves only as an aid to interpret norms and permits without any guarantee as to the absence of errors, the correctness and the relevance of the results or suitability for a specific application.
- You must take all necessary and reasonable steps to prevent or limit damage caused by the Software. In particular, you must arrange for the regular backup of programs and data and, if applicable, carry out the updates of the Software offered by Hilti on a regular basis. If you do not use the AutoUpdate function of the Software, you must ensure that you are using the current and thus up-to-date version of the Software in each case by carrying out manual updates via the Hilti Website. Hilti will not be liable for consequences, such as the recovery of lost or damaged data or programs, arising from a culpable breach of duty by you.

DESIGN LOADS:

1.

DESIGN LIVE LOADS:
DEAD LOAD 6psf.
LIVE LOAD 100psf.
SEAT & FOOTBOARDS 120psf.
SWAY (PERPENDICULAR) X NUMBER OF SEATING ROWS 10PLF
SWAY (PARALLEL) X NUMBER OF SEATING ROWS 24PLF
*GUARDAILS/HANDRAILS 50plf
*OR 200 LB CONCENTRATED LOAD APPLIED TO RAIL AT ANY
POINT IN ANY DIRECTION.
2.

WIND:
V = 102 MPH
EXPOSURE: C
3.

SEISMIC:
SEISMIC USE GROUP III
Sds 0.566 g
Sd1 0.515 g
SITE CLASS D - DEFAULT
SEISMIC DESIGN CATEGORY D
4.

SNOW:
Pg: 11 PSF
IMPORTANCE FACTOR:1.1

GENERAL NOTES:

1.

BLEACHER DESIGNED TO COMPLY WITH 2019 OREGON
STRUCTURAL SPECIALTY CODE (REF INTERNATIONAL BUILDING
CODE 2018 IBC) AND SUPPLEMENT ICC 300.
2.

ALL STRUCTURAL ALUMINUM TO CONFORM TO ALLOY 6061-T6.
3.

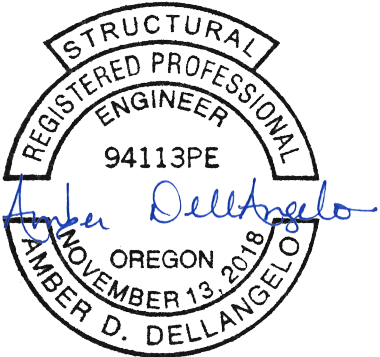
STRUCTURAL BOLTS TO BE:
HOT-DIP GALVANIZED GR2



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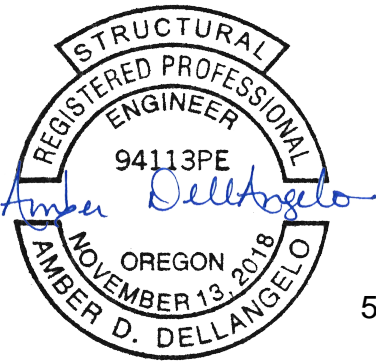
EXPIRATION DATE:12/31/2021

1	5/4/21	HAMLIN MIDDLE SCHOOL SPRINGFIELD, OR	
10	JBR RPT	TYPE GENERAL NOTES	Attachment 5, Page 129 of 236



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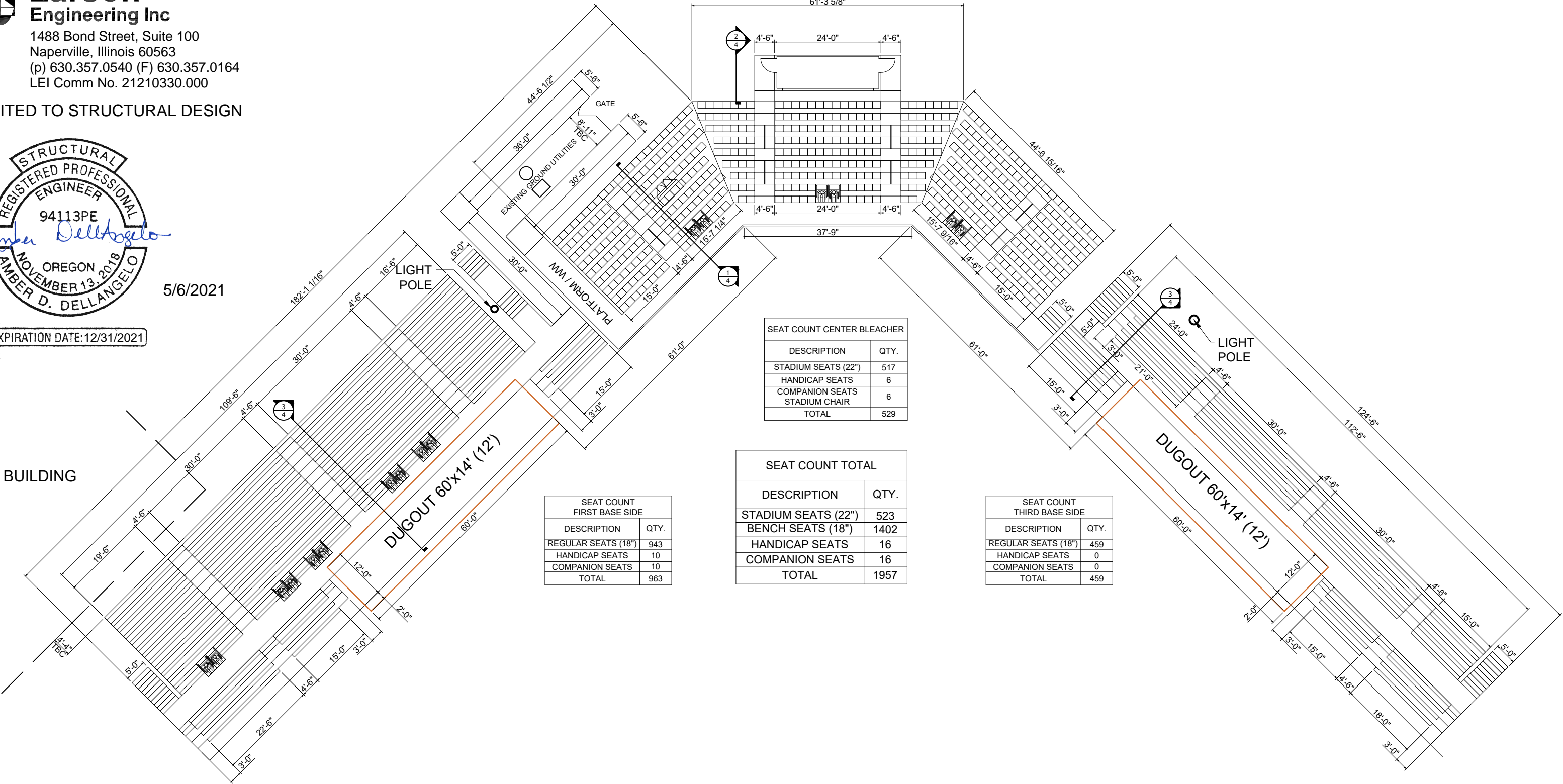
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EXPIRATION DATE: 12/31/2021

BUILDING



SEAT COUNT CENTER BLEACHER	
DESCRIPTION	QTY.
STADIUM SEATS (22")	517
HANDICAP SEATS	6
COMPANION SEATS	6
STADIUM CHAIR	6
TOTAL	529

SEAT COUNT TOTAL	
DESCRIPTION	QTY.
STADIUM SEATS (22")	523
BENCH SEATS (18")	1402
HANDICAP SEATS	16
COMPANION SEATS	16
TOTAL	1957

SEAT COUNT FIRST BASE SIDE	
DESCRIPTION	QTY.
REGULAR SEATS (18")	943
HANDICAP SEATS	10
COMPANION SEATS	10
TOTAL	963

SEAT COUNT THIRD BASE SIDE	
DESCRIPTION	QTY.
REGULAR SEATS (18")	459
HANDICAP SEATS	0
COMPANION SEATS	0
TOTAL	459

HAMLIN MIDDLE SCHOOL
SPRINGFIELD, OR

TYPE
PLAN VIEW

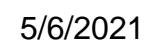


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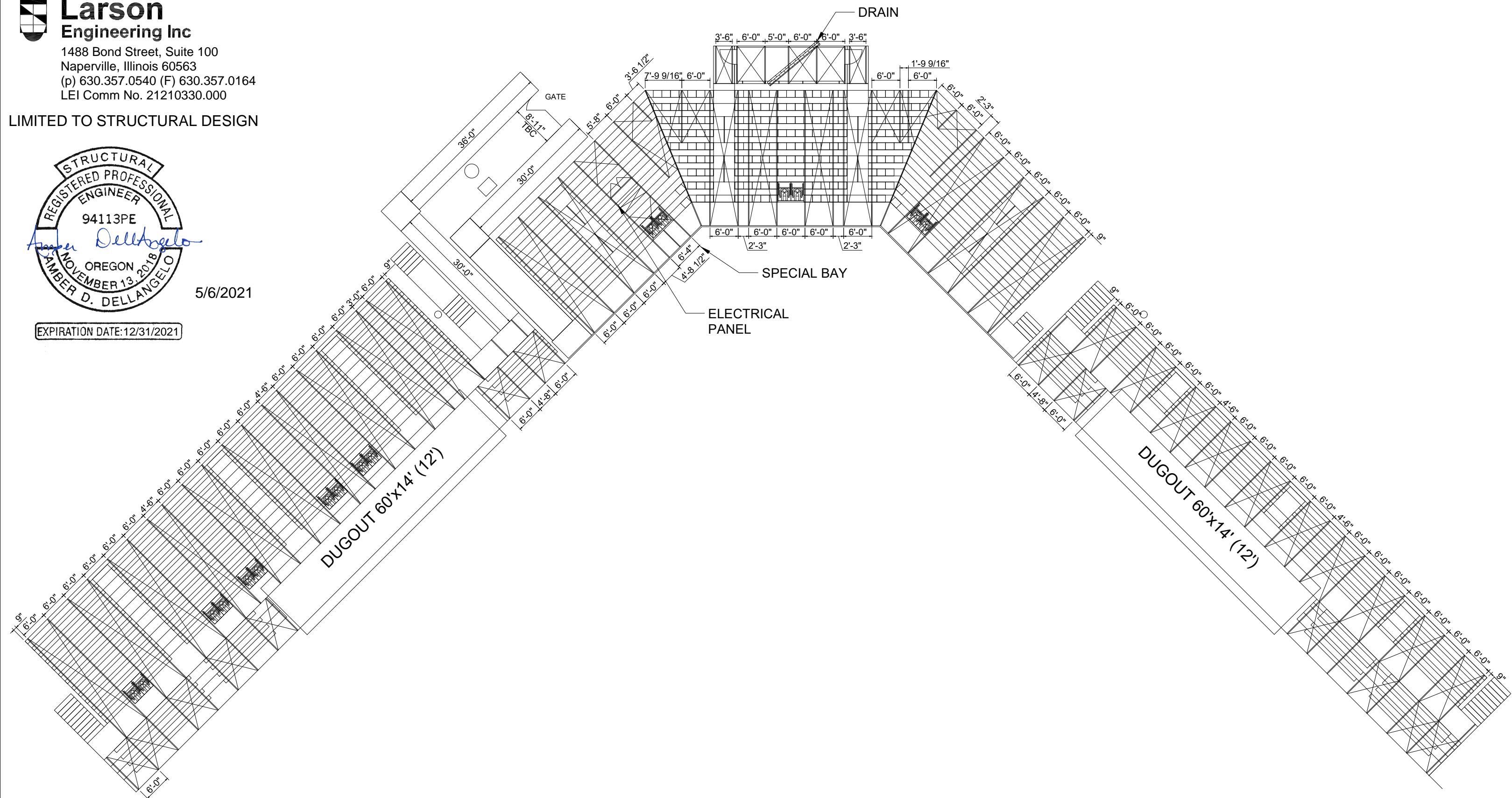


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5/4/21	DRAWN JBR	CHECKED RPT
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HAMLIN MIDDLE SCHOOL
SPRINGFIELD, OR

TYPE
FRAMING

Attachment 5, Page 131 of 236

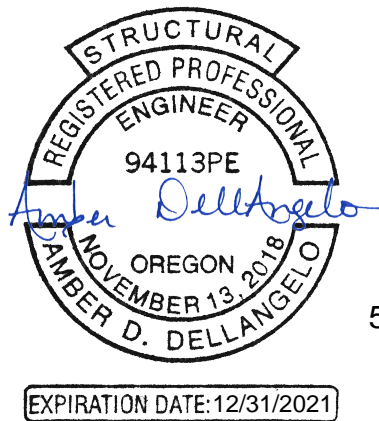


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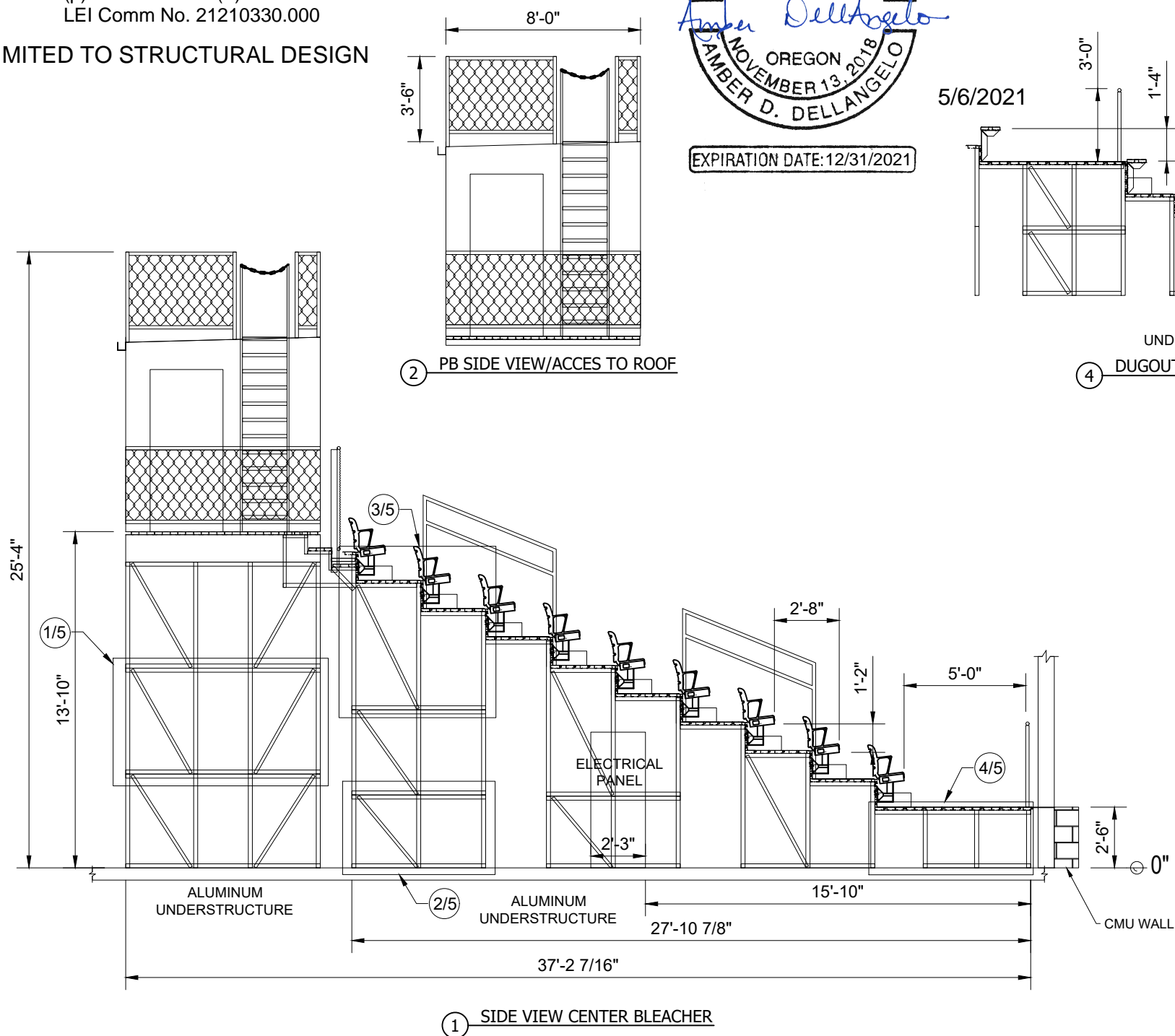


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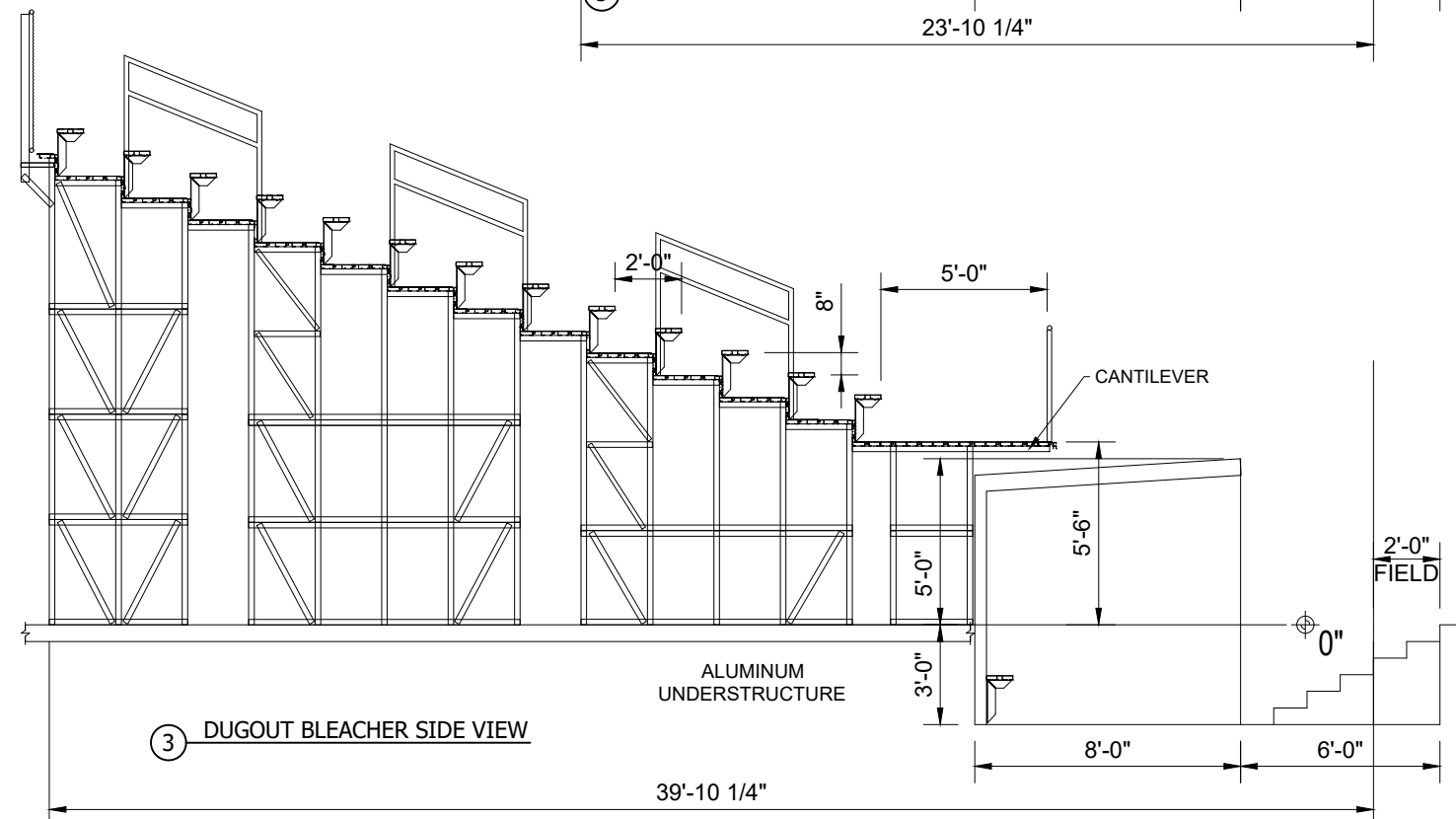
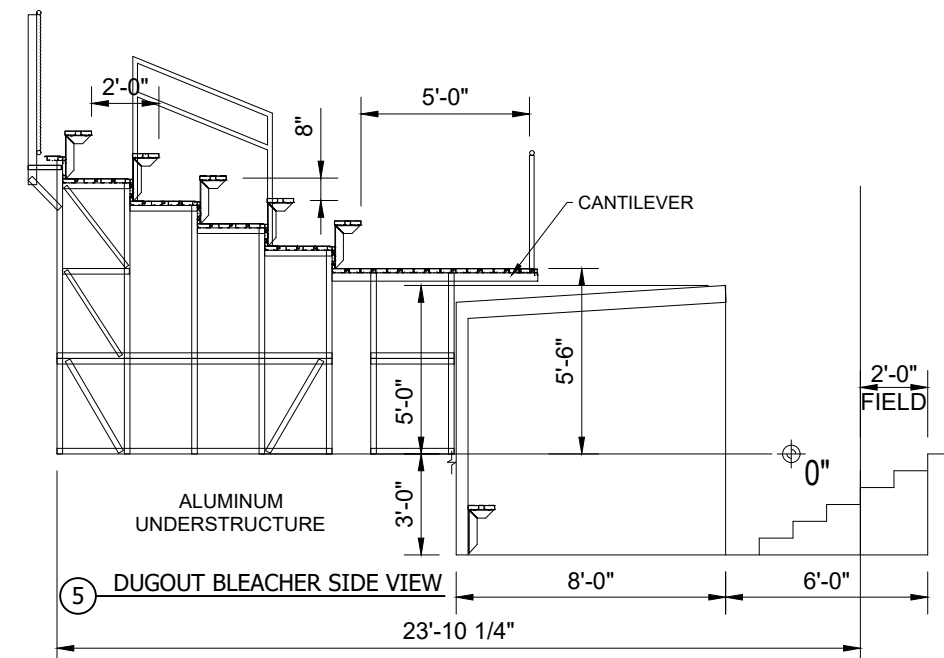
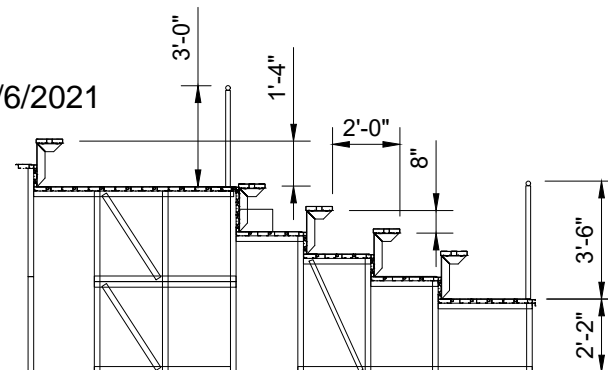
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4
5/4/21
JBR
RPT
10

HAMLIN MIDDLE SCHOOL
SPRINGFIELD, OR

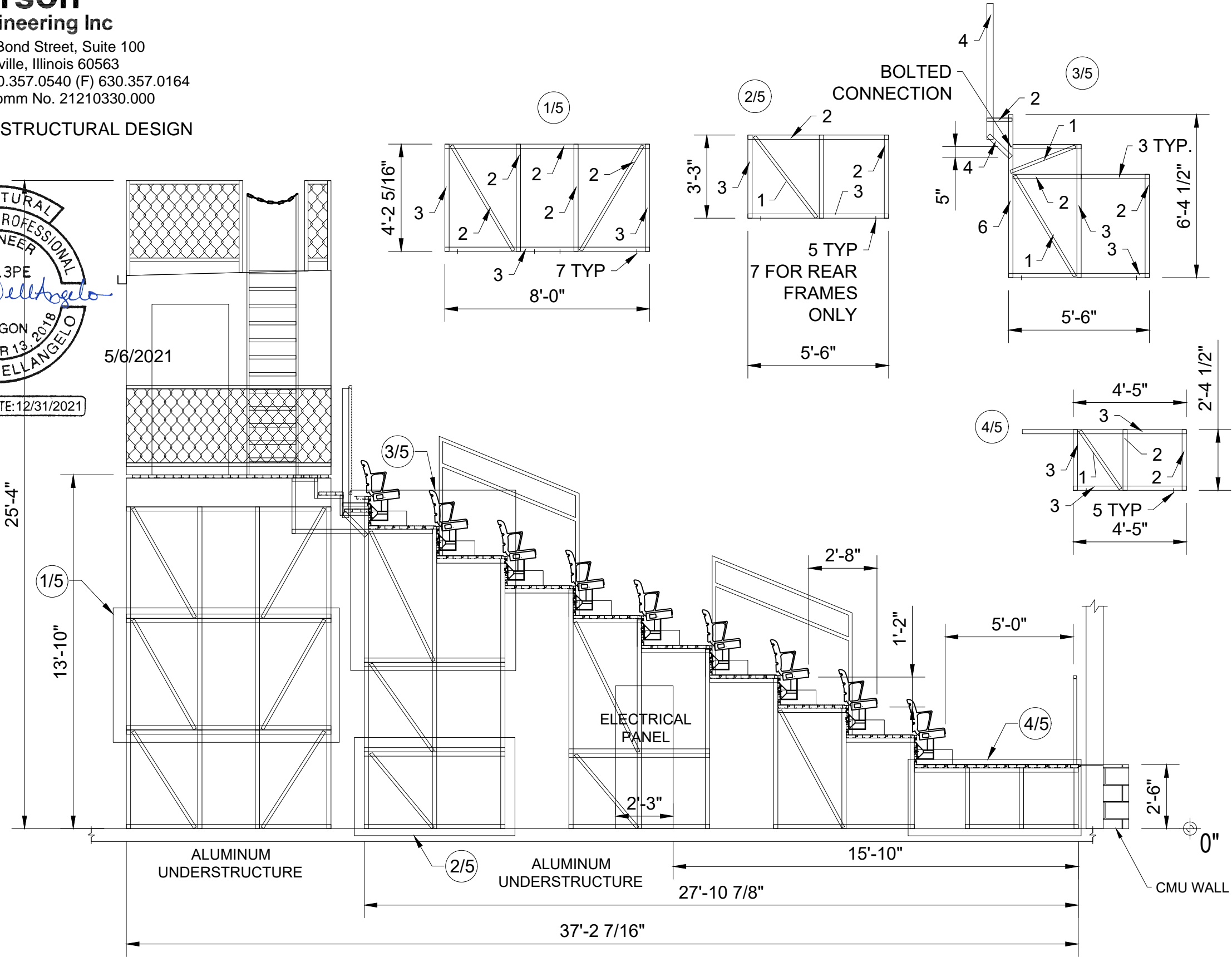
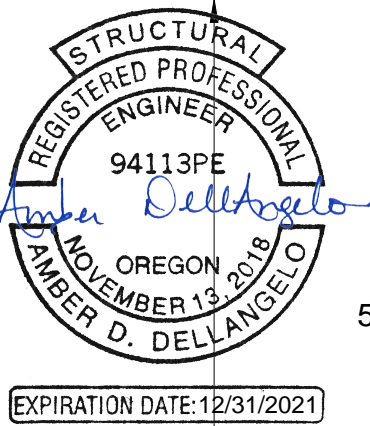
TYPE
SECTION VIEW

Attachment 5, Page 132 of 236

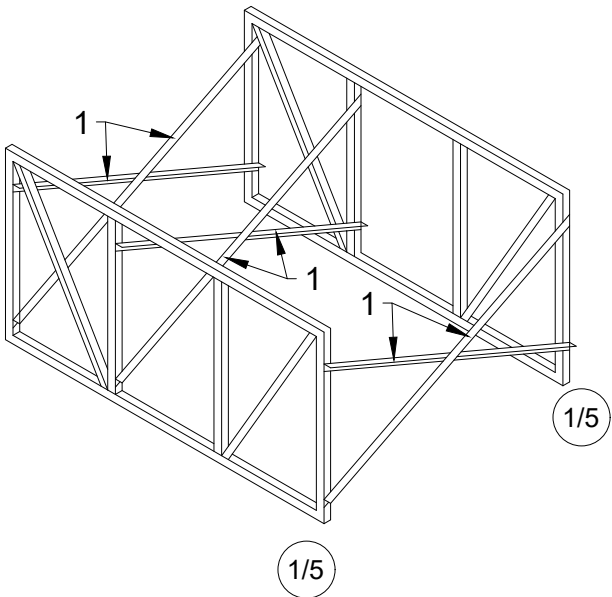
Bleachers
International

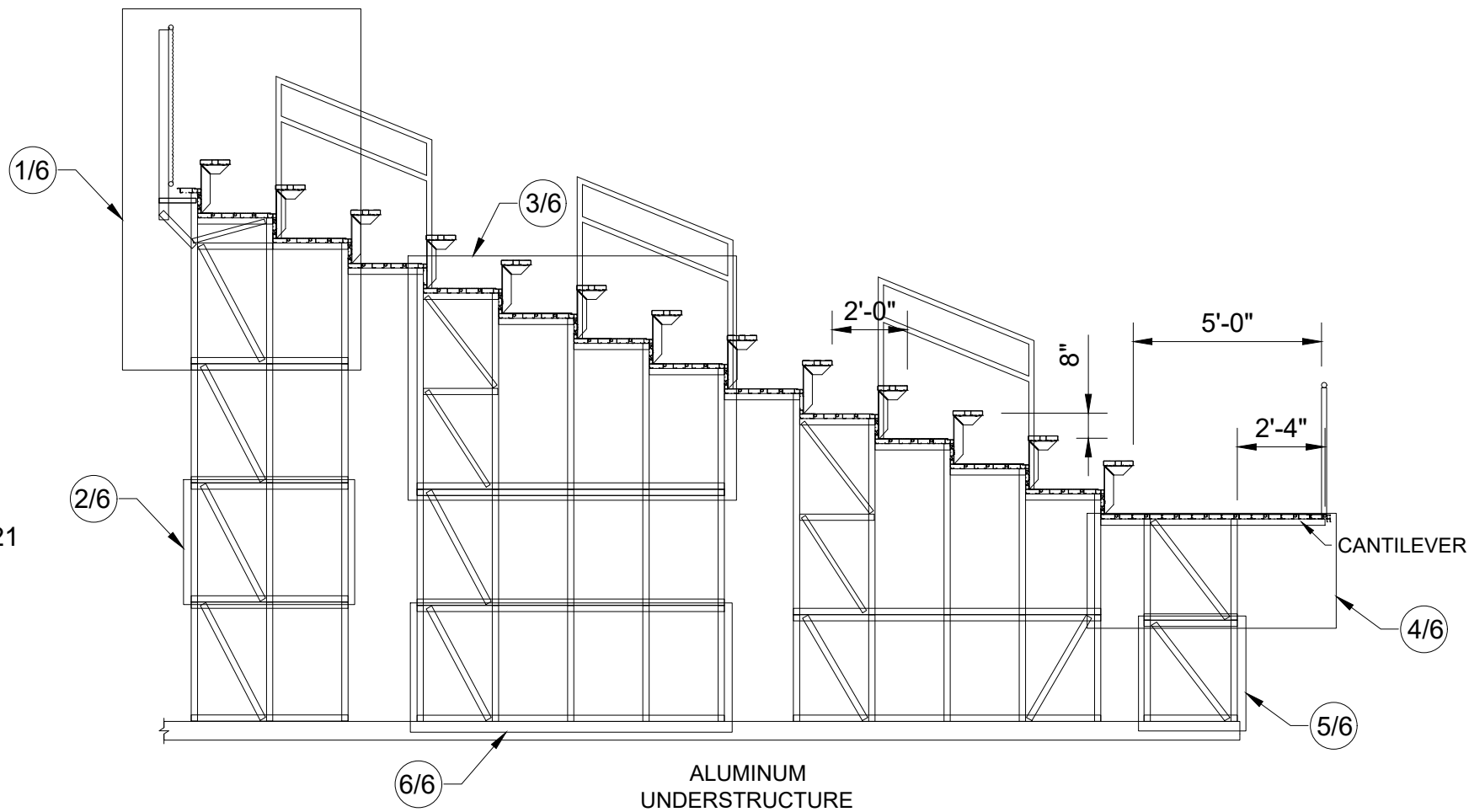
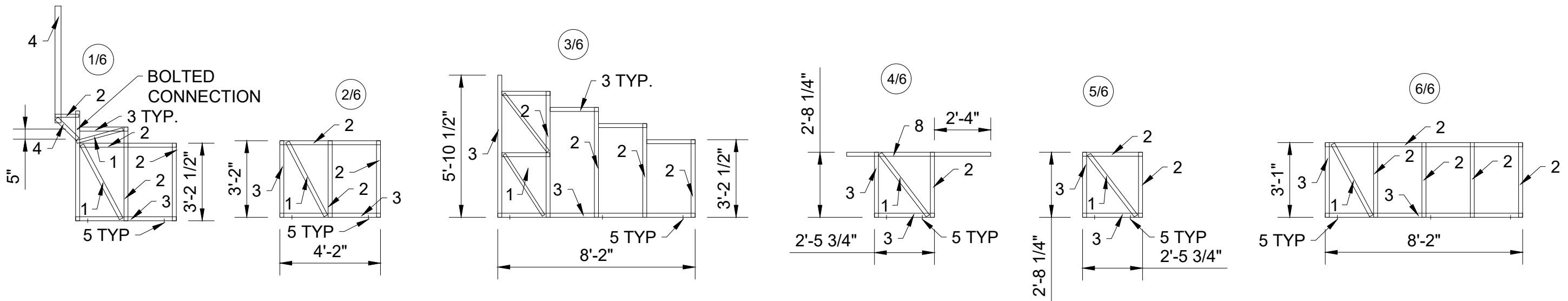
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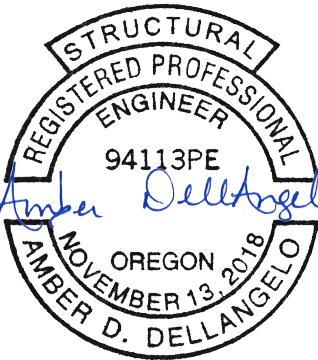


ITEM	MATERIAL
1	∠1.5"X1.5"X ³ / ₁₆ " ALUMINUM
2	∠2"X2"X ³ / ₁₆ " ALUMINUM
3	∠3"X2"X ³ / ₁₆ " ALUMINUM
4	C4X1.85 ALUMINUM
5	³ / ₈ "ØX2 ³ / ₄ " EMBED HILTI KWIK BOLT-TZ
6	∠3"X2"X ¹ / ₄ " ALUMINUM
7	¹ / ₂ " X 3- ¹ / ₂ " EMBED HILTI KWIK BOLT-TZ





ITEM	MATERIAL
1	∠1.5"X1.5"X ³ / ₁₆ " ALUMINUM
2	∠2"X2"X ³ / ₁₆ " ALUMINUM
3	∠3"X2"X ³ / ₁₆ " ALUMINUM
4	C4X1.85 ALUMINUM
5	³ / ₈ "ØX2 ³ / ₄ " EMBED HILTI KWIK BOLT-TZ
6	∠3"X2"X ¹ / ₄ " ALUMINUM
7	¹ / ₂ " X 3- ¹ / ₂ " EMBED HILTI KWIK BOLT-TZ
8	C5X2.32



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6	5/4/21	HAMLIN MIDDLE SCHOOL SPRINGFIELD, OR	
		TYPE SECTION VIEW	
10	JBR RPT	Attachment 5, Page 134 of 236	



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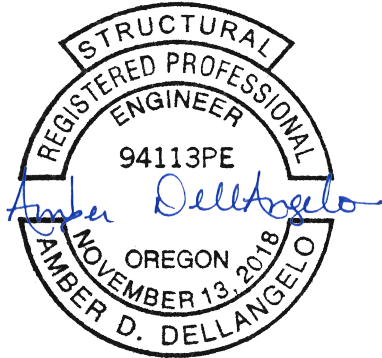
ITEM	MATERIAL
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2	∠2"X2"X ³ / ₁₆ " ALUMINUM
3	∠3"X2"X ³ / ₁₆ " ALUMINUM
4	C4X1.5X ³ / ₁₆ " ALUMINUM
5	³ / ₈ "ØX2 ³ / ₄ " EMBED HILTI KWIK BOLT-TZ



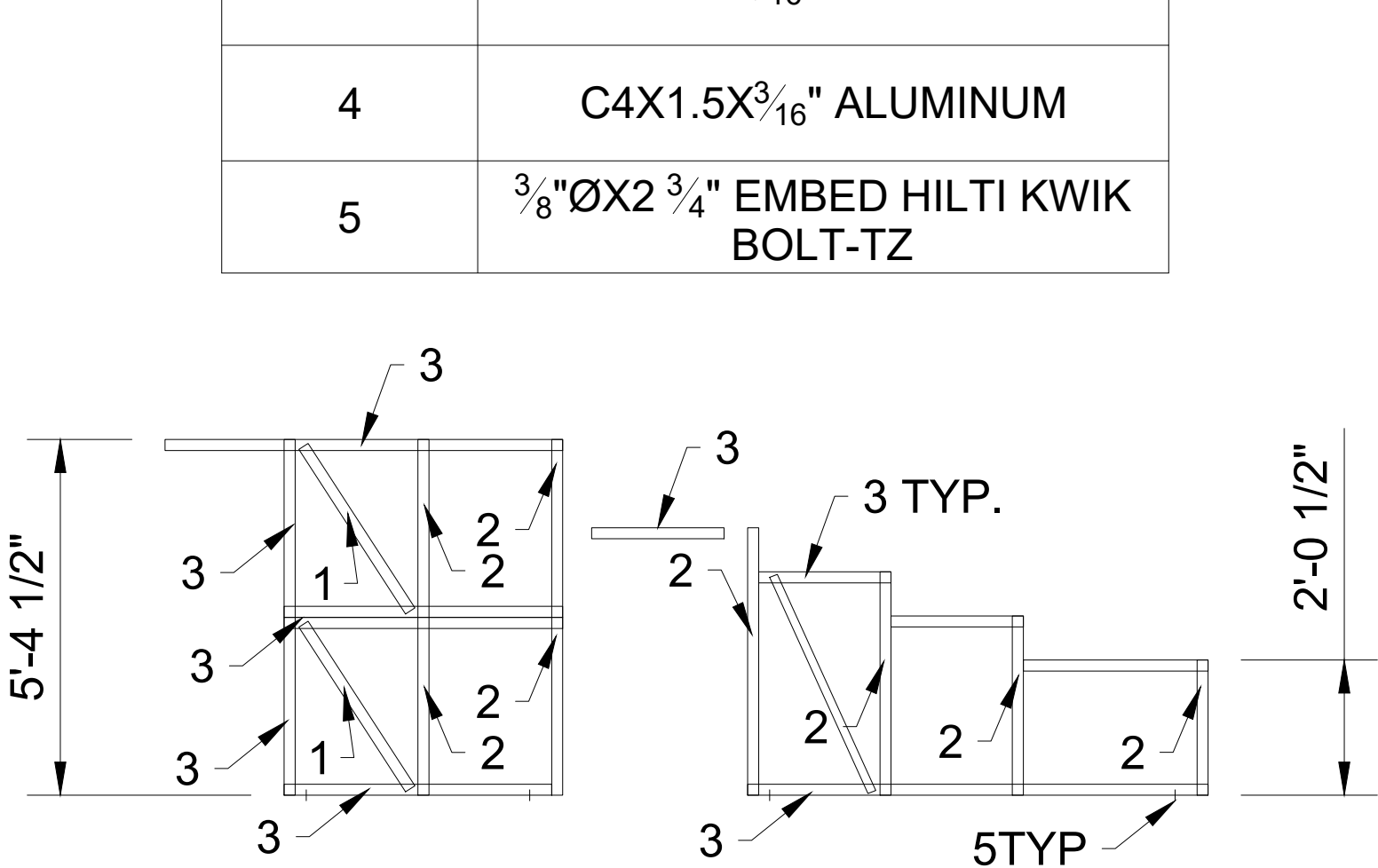
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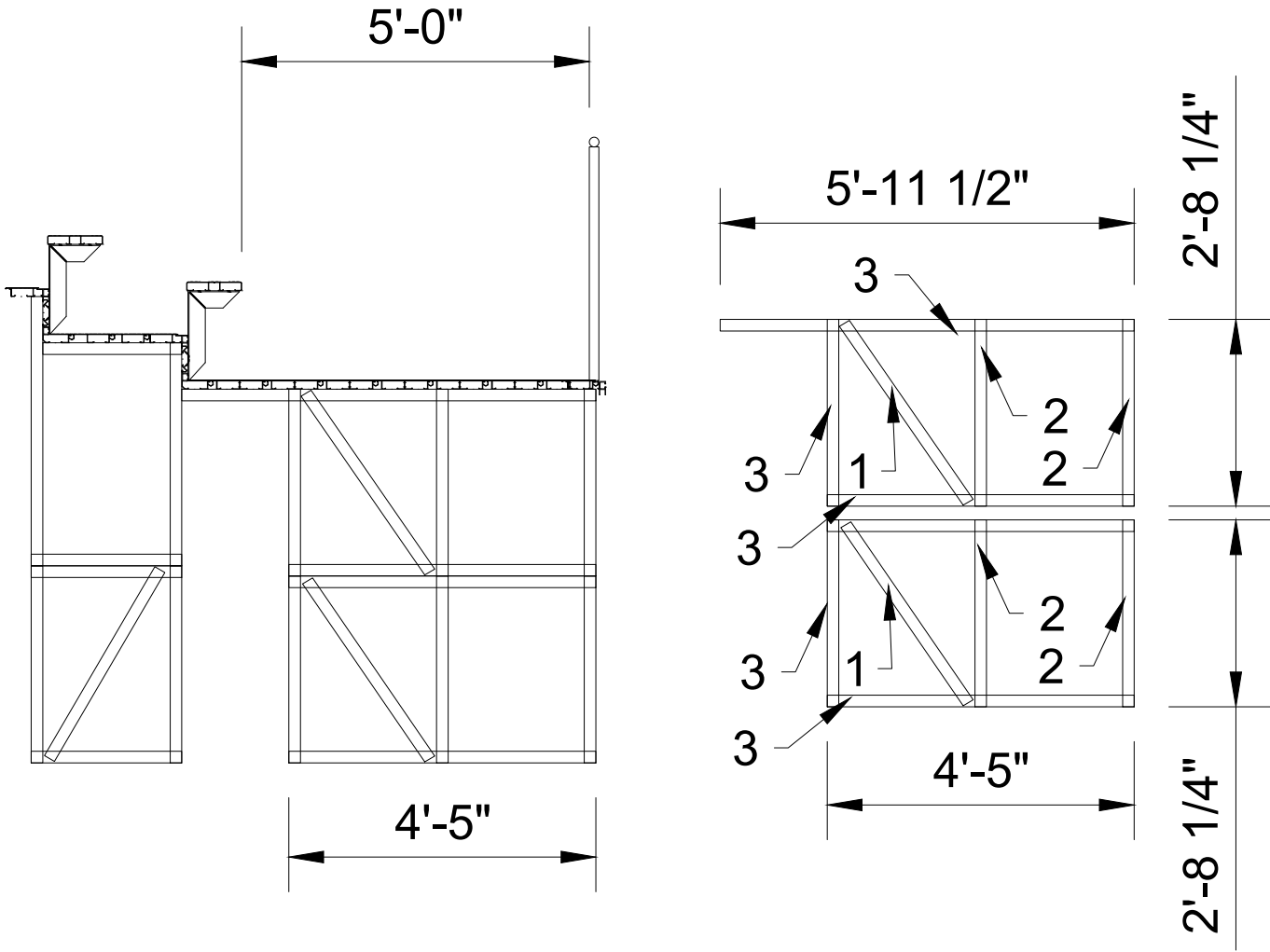
LIMITED TO STRUCTURAL DESIGN



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④ DUGOUT BLEACHER SIDE VIEW



① WALKWAY NEXT TO DUGOUT

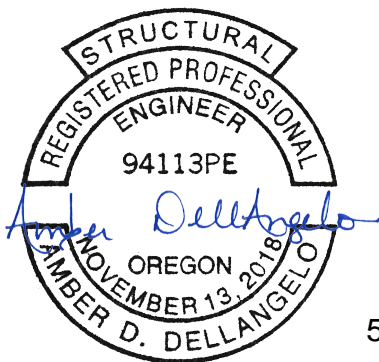


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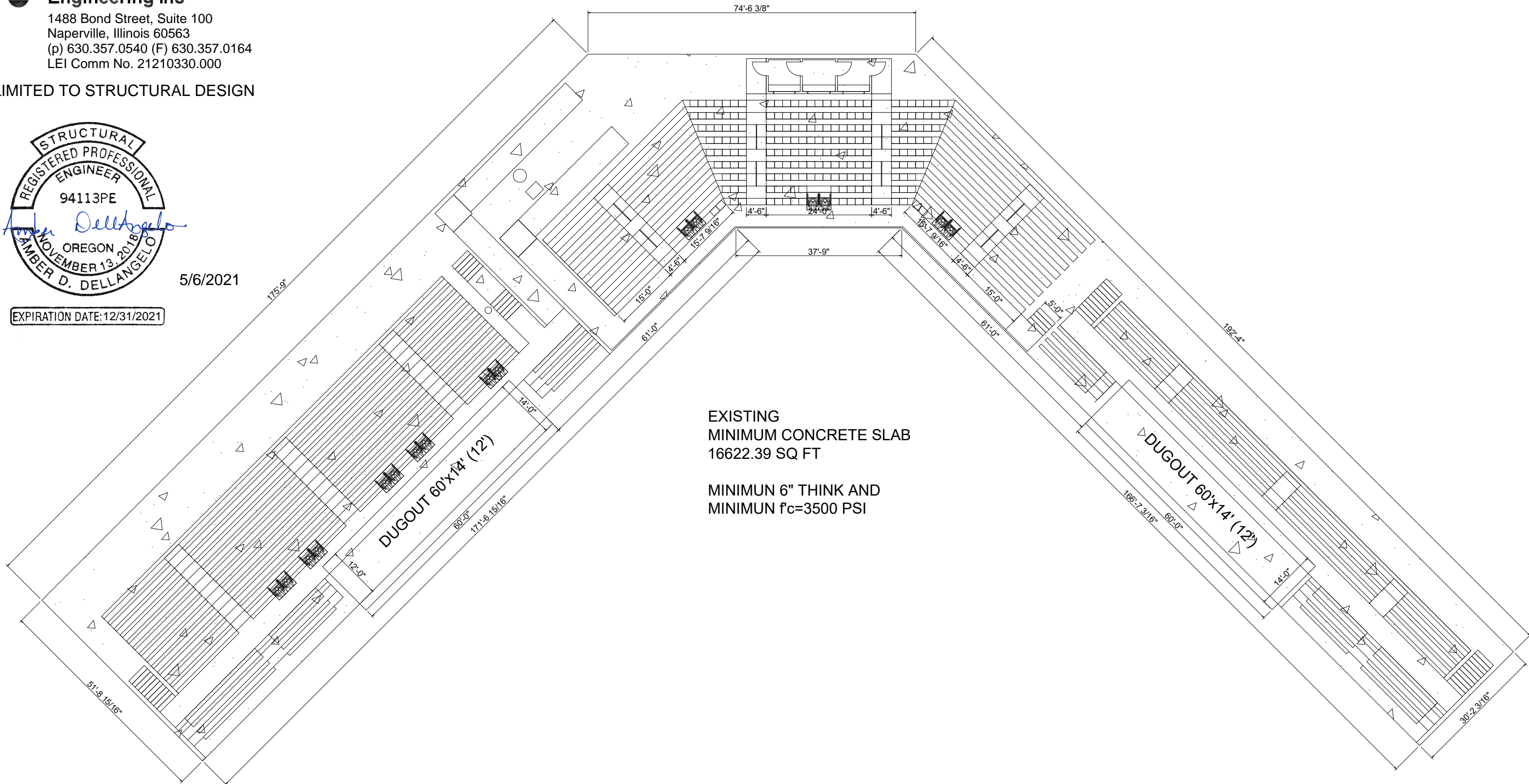
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EXISTING
MINIMUM CONCRETE SLAB
16622.39 SQ FT

MINIMUM 6" THICK AND
MINIMUM $f'_c=3500$ PSI

5/4/21

DRAWN **CHECKED**
JBR **RPT**

HAMLIN MIDDLE SCHOOL
SPRINGFIELD, OR

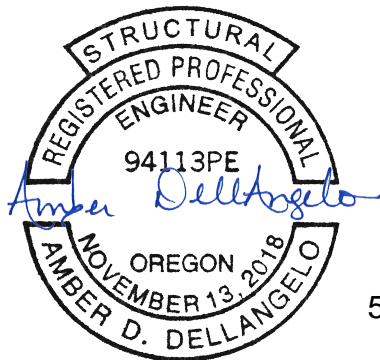
TYPE
FOUNDATION

Attachment 5, Page 136 of 236



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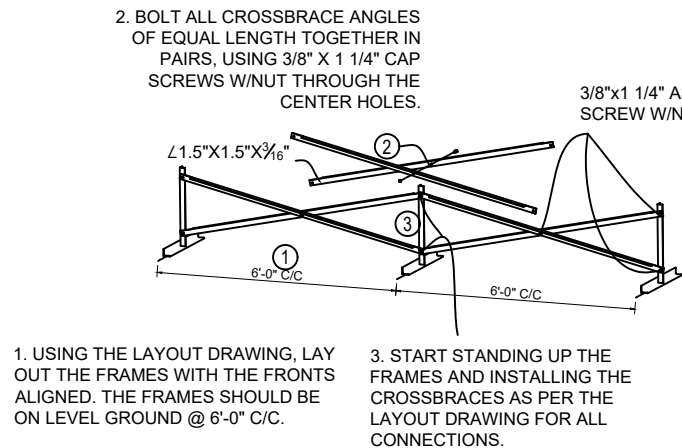


LIMITED TO STRUCTURAL DESIGN EXPIRATION DATE:12/31/2021

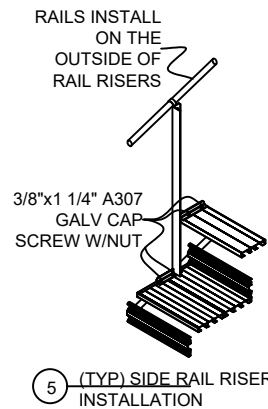
HAMLIN MIDDLE SCHOOL
SPRINGFIELD, OR
TYPE
INSTALLATION DETAILS



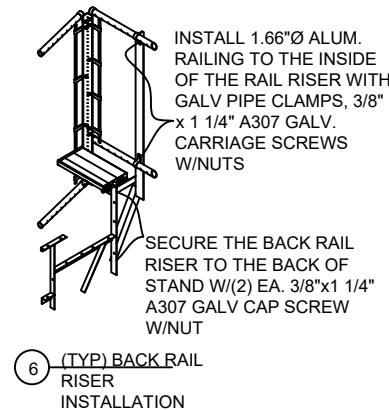
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1 (TYPICAL) CROSS BRACING INSTALLATION

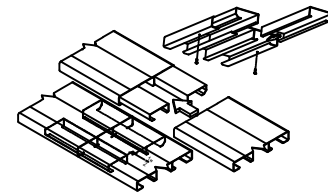


SET THE SIDE RAIL RISER ON THE SEAT & TREAD PLANKS (ON ROW TO INSTALL) WITH THE LIP OF THE HORIZONTAL ANGLES AGAINST THE OUTSIDE LIP OF THE END CAPS. MARK THE LOCATIONS OF THE HOLES, MAKING SURE THE HOLES WILL CLEAR THE VERTICAL MEMBERS OF THE PLANK AND THAT WHEN COMPLETE, THE RISER WILL BE SQUARE WITH THE STAND. DRILL THE HOLES WITH A 7/16" DRILL BIT AND BOLT INTO PLACE WITH 3/8" x 1 1/4" CAP SCREWS W/NUTS.



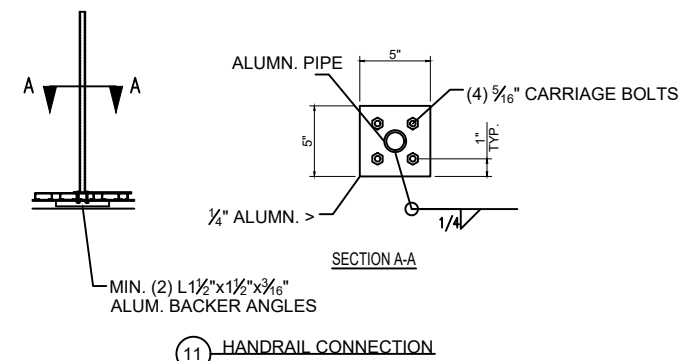
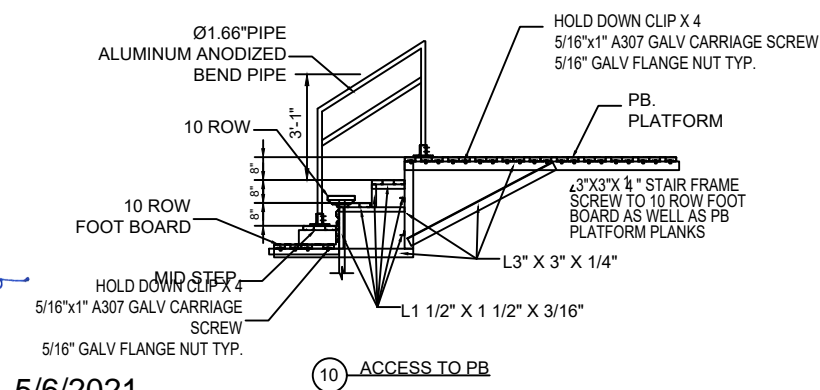
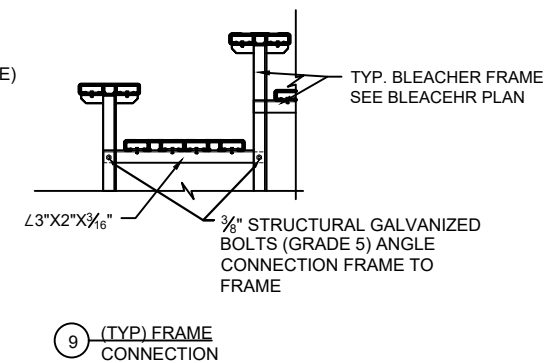
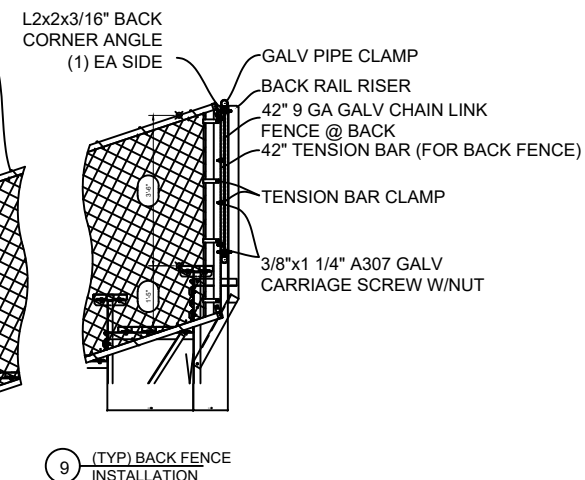
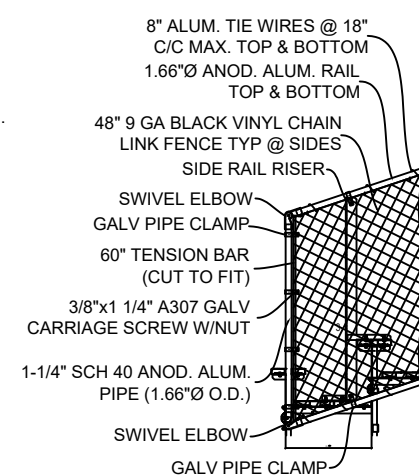
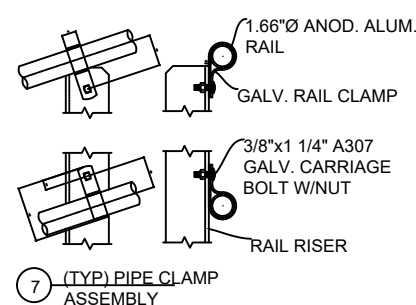
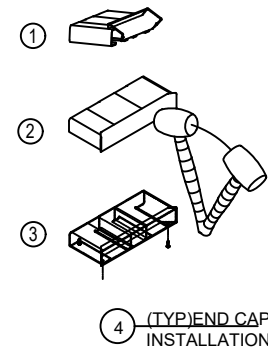
TYP. TREAD, RISER & SEAT CONNECTION
HOLD DOWN CLIP
5/16"x1" A307 GALV CARRIAGE SCREW
5/16" STRUCTURAL GALVANIZED BOLTS (GRADE 5) GALV FLANGE NUT

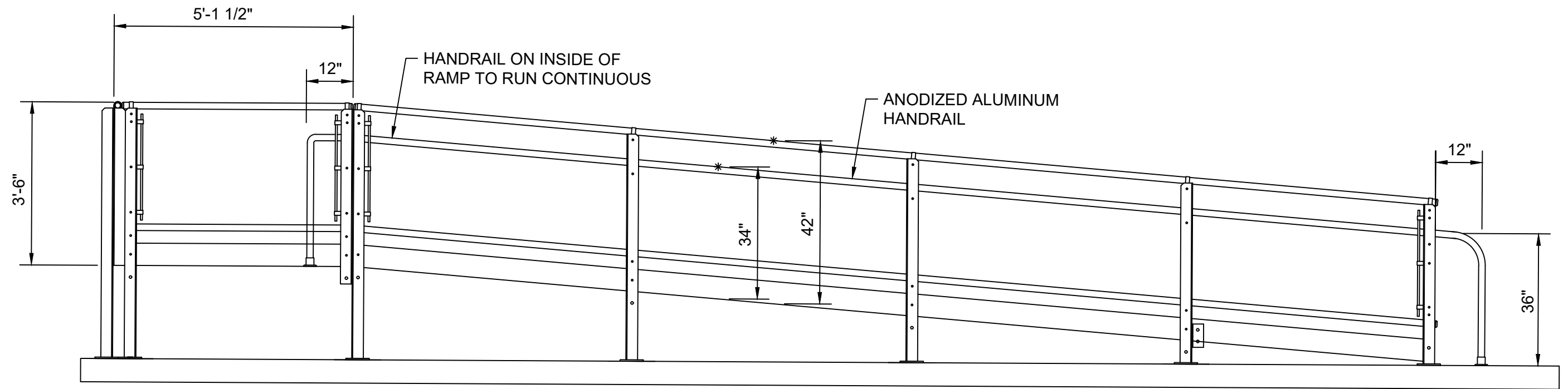
2 (TYPICAL) PLANK INSTALLATION



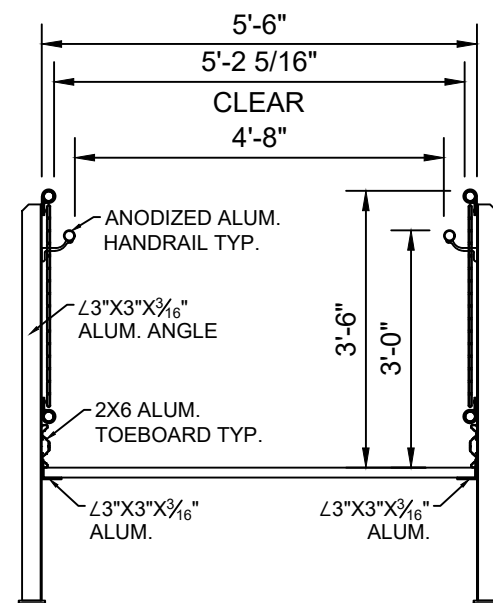
3 (TYPICAL) PLANK SLEEVE INSTALLATION

1. INSERT THE TWIN JOINT SLEEVES APPROXIMATELY HALFWAY INTO THE PLANK, STAGGERED 1/2"±.
2. ANCHOR WITH TEK 2 SCREWS OR 3/16" POP RIVETS (WHICHEVER IS INCLUDED).
3. SLIDE THE END OF THE NEXT PLANK OVER THE TWIN JOINT SLEEVES UNTIL THE PLANKS ARE SNUG AGAINST EACH OTHER. DO NOT ANCHOR THIS SECOND PLANK TO THE TWIN JOINTS.

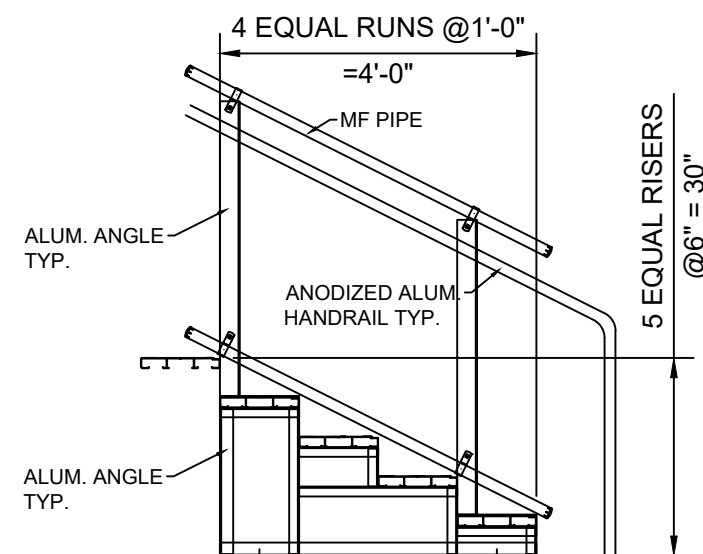




1 (TYP) RAMP
DETAIL



2 (TYP) RAMP
SECTION



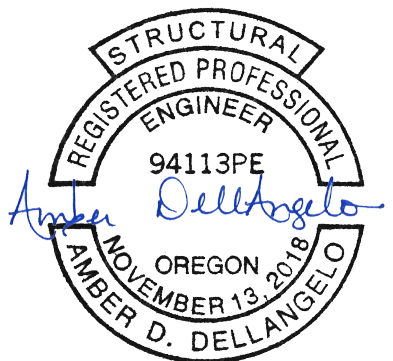
3 (TYP) STAIR
FRAME



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10	5/4/21	HAMLIN MIDDLE SCHOOL SPRINGFIELD, OR
10	JBR RPT	TYPE EGRESS DETAILS

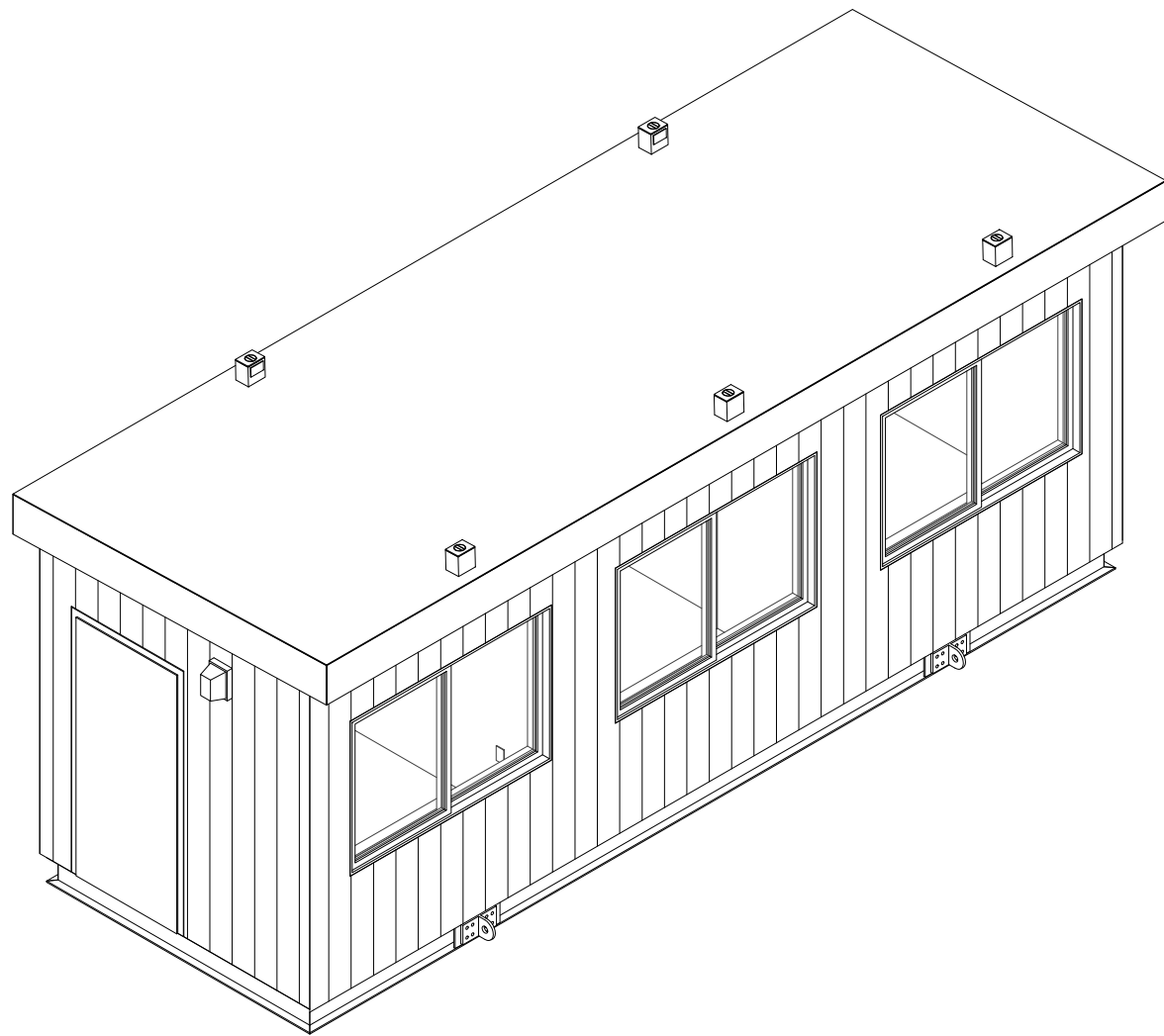


FASTENING SCHEDULE^(a)

NOTE: TABLE PROVIDED FOR COMMONLY USED CONNECTIONS, FOR COMPLETE TABLE REFER TO OSSC-2019. CONNECTIONS CALLED OUT IN PLAN DETAILS, SUPERCEDED THOSE LISTED HERE		
CONNECTION DESCRIPTION	QTY & TYPE OF FASTENER	SPACING & LOCATION
2. CEILING JOIST TO TOP PLATE	3-8d (2 1/2"x0.131")	EA. JOIST, TOENAIL
3. CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITION	3-16d (3 1/2"x0.162")	FACE NAIL
4. CEILING JOIST ATTACHED TO RAFTER OR TRUSS TO TOP PLATE	PER TABLE 2308.7.3.1	FACE NAIL
6. STUD TO STUD (NOT AT BRACED WALL PANEL)	3-10d (3"x0.148")	TOENAIL (b)
9. STUD TO STUD AT WALL CORNERS & BRACED WALL PANELS	16d (3 1/2"x0.162")	24"o.c. FACE NAIL
10. BUILT UP HEADER (2x TO 2x)	16d (3 1/2"x0.162")	16"o.c. FACE NAIL
11. CONTINUOUS HEADER TO STUD	16d (3 1/2"x0.162")	16"o.c. EA EDGE
12. TOP PLATE TO TOP PLATE	4-8d (2 1/2"x0.131")	TOENAIL
13. TOP PLATE TO TOP PLATE @ ENDS	16d (3 1/2"x0.162")	16"o.c. FACE NAIL
14. BOTTOM PLATE TO JOIST, RIM JOIST OR BLOCKING (NOT BRACED PANELS)	8-16d (3 1/2"x0.162")	EA. SIDE OF END JOINT, FACE NAIL (24" MIN LAP)
15. BOTTOM PLATE TO JOIST, RIM JOIST AT BRACED WALL PANELS	16d (3 1/2"x0.162")	12"o.c. FACE NAIL
17. TOP/BOTTOM PLATE TO STUD	2-16d (3 1/2"x0.162")	16"o.c. FACE NAIL
18. TOP PLATES, LAPS @ CORNERS & INT.	2-16d (3 1/2"x0.162")	END NAIL
22. JOIST TO SILL, TOP PLATE, OR GIRDER	3-8d (2 1/2"x0.131")	FACE NAIL
28. LEDGER STRIP SUPPORTING JOISTS	3-16d (3 1/2"x0.162")	TOENAIL
		EA. JOIST OR RAFTER, FACE NAIL

BUILDING ELEMENT	QTY & TYPE OF FASTENER	EDGE	INTERMEDIATE
SUB-FLOOR, ROOF & WALL SHEATHING TO FRAMING			
- 1/2" & LESS (SUBFLOOR/WALL)	6d COMMON OR DEFORMED (2"x0.113")	6"	12"
- 1/2" & LESS (ROOF)	1 3/4"-16ga W/ 7/16" CROWN 8d BOX OR DEFORMED (2 1/2"x0.113")	4"	8"
- 19/32" TO 3/4"	8d COMMON (2 1/2"x0.131")	6"	12"
- 7/8" TO 1 1/4"	6d DEFORMED (2"x0.113") 10d COMMON (3"x0.148") 8d DEFORMED (2 1/2"x0.131")	6"	12"
PANEL SIDING			
- 1/2" & LESS	6d CORROSION RES. SIDING (1 7/8"x0.106")	6"	12"
- 5/8"	8d CORROSION RES SIDING (2 3/8"x0.128")	6"	12"
PANELING	4d CASING (1 1/2"x0.080") OR FINISH (1 1/2"x0.072")	6"	12"
MISC.			
ALUMINUM DRIP RAIL, OR DRIP EDGE	#6x3/4" HEX HEAD SCREWS @ 4 1/2"o.c.		
STEEL GALVANIZED ROOFING	PER MANUFACTURES INSTRUCTIONS		
MEMBRANE ROOFING	PER MANUFACTURES INSTRUCTIONS		
a.	EXERPTS FROM OSSC2019 TABLE 2304.10.1 (NOTE: NOT ALL ITEMS AND FASTENERS ARE USED ON ALL JOBS.) REFER TO FULL TABLE FOR MORE OPTIONS		
b.	WHERE A RAFTER IS FASTENED TO AN ADJACENT PARALLEL CEILING JOIST IN ACCORDANCE WITH THIS SCHEDULE, THE NUMBER OF TOENAILS IN THE RAFTERS SHALL BE PERMITTED TO BE REDUCED BY ONE NAIL.		

8'X24' MODULAR PRESS BOX



CODE ANALYSIS

THIS STRUCTURE MEETS CONSTRUCTION REQUIREMENTS OF 2019 OSSC (IBC 2018) INTERNATIONAL BUILDING CODE AS AMENDED FOR OREGON STATE GOLD LABEL INSIGNIAS.

BUILDING TYPE:	VB	DESIGN LOADS	
OCCUPANCY GROUP:	B	ROOF LIVE:	30psf
BUILDING USE:	PRESS BOX	PONDING:	N/A
BUILDING AREA:	188 SQ. FT.	FLOOR LIVE:	100psf
NUMBER OF OCCUPANTS (OSSC TABLE 1004.5)		PRESS BOX:	N/A
(AREA / FLOOR AREA PER PERSON)		N/A:	N/A
OFFICE:	188 / 150 2	N/A:	N/A
N/A:	-- / -- --	CONCENTRATED:	2,000psf
N/A:	-- / --	WIND LOAD:	110mph
TOTAL OCCUPANTS:	2	EXPOSURE:	B

ENERGY CODE: 2019 OEECS (ASHRAE 90.1 2016) SEISMIC DESIGN REQUIREMENTS: COMPLIANCE METHOD: COMP. PERF. DESIGN CATEGORY: D CLIMATE ZONE: 4C DESIGN Sds: TBD GLAZING PERCENTAGE: DESIGN Ss: TBD GLAZING AREA / GROSS WALL AREA: 144 / 530 = 27.1%

NOTES:
1. REFER TO PLAN AND SECTIONS FOR INSTALLED INSULATION VALUES

SHEET INDEX

SHEET NO.	SHEET NAME
A.0	COVER SHEET
A.1	FLOOR PLAN
A.2	CROSS SECTION
A.3	EXTERIOR ELEVATIONS
E.1	ELECTRICAL PLAN
S.1	FRAMING PLAN
S.2	FRAME DETAILS

BUILDING ENVELOPE:

- ALL INSULATION MATERIALS SHALL BE INSTALLED PER MANUFACTURES INSTRUCTIONS TO MAINTAIN PROPER DENSITIES, MAINTAIN CLEARANCES, AND OBTAIN FULL R-VALUES
- EXTERIOR WALL CAVITIES SHALL BE FULLY INSULATED TO THE LEVELS OF THE SURROUNDING WALLS
- VAPOR RETARDER SHALL BE INSTALLED ON THE WARM SIDE (IN WINTER) OF INSULATION. ROOF/CEILING VAPOR BARRIER MAY BE OMITTED WHEN ALL INSULATION IS INSTALLED BETWEEN ROOF MEMBRANE AND ROOF DECKING
- EXTERIOR JOINTS AROUND WINDOWS AND DOOR FRAMES, OPENINGS BETWEEN WALLS AND ALL OTHER OPENINGS IN THE BUILDING ENVELOPE SHALL BE SEALED
- BUILDING EQUIPPED WITH ELECTRICAL WALL HEATERS

RELEASE: PRELIM

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WHITLEY EVERGREEN, INC.

MOBILE AND MODULAR BUILDINGS

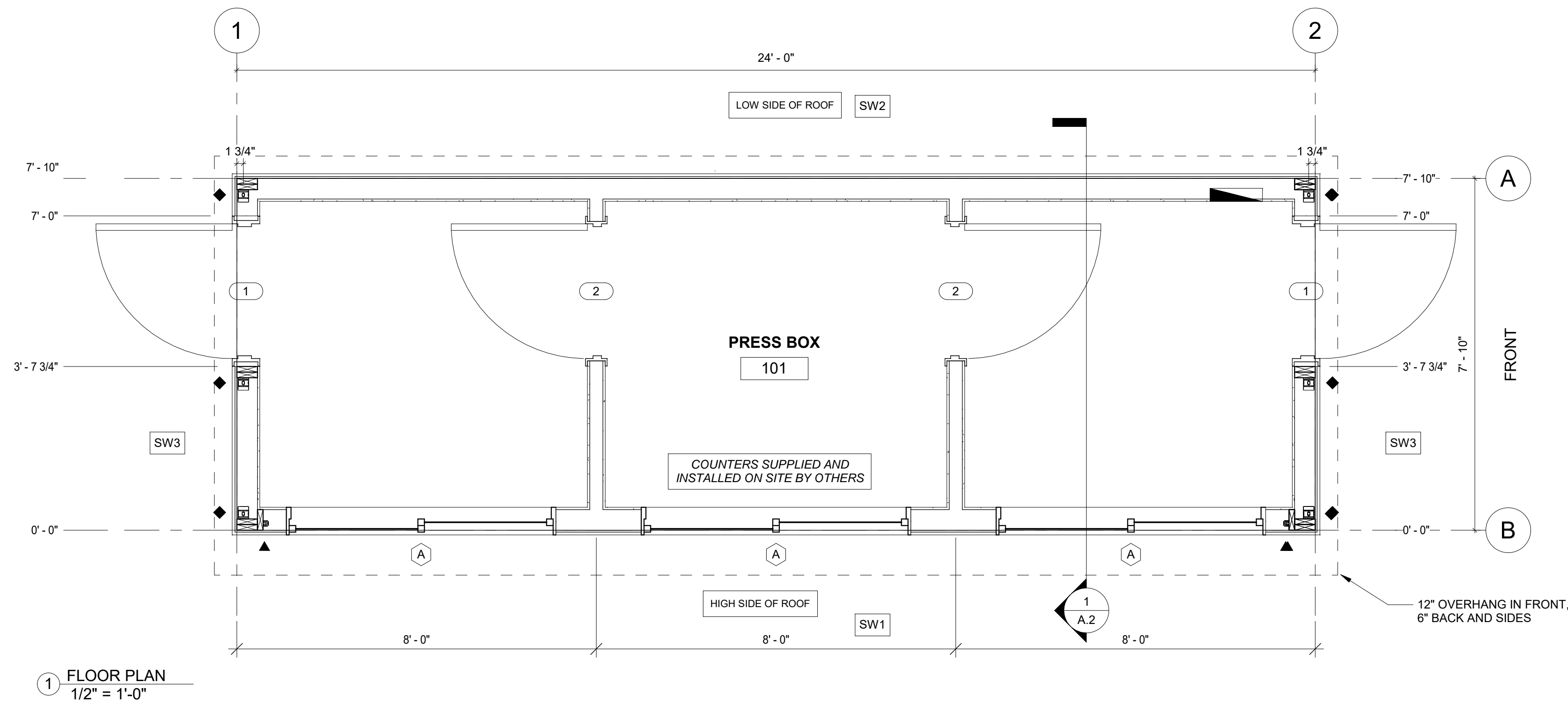
14219 SMOKEY POINT BLVD., BLDG No. 10 MARYSVILLE, WA 98271

PH. 360.653.5790 FAX: 360.659.7735 WEB: WWW.WHITLEYMAN.COM

CUSTOMER NAME:	BLEACHER'S INTER.
PROJECT NAME:	HAMLIN MIDDLE SCHOOL
PROJECT DESC.:	8"X24' PRESS BOX
SHEET NAME:	COVER SHEET

S/N:	0421-109					JOB NUMBER:
STD PLAN No:						4482
DRAWN BY: MDP						SHEET No.: A.0
REVISED BY:						DATE: 5-5-21
CHKD BY:						SCALE: 1/4" = 1'-0"
No.	DESCRIPTION	DATE	BY			

PLOT STAMP: 5/10/2021 3:13:55 PM



1 FLOOR PLAN
1/2" = 1'-0"

DOOR SCHEDULE																
MARK	Count	DOOR DESCRIPTION	DOOR						ENVELOPE	FRAME	Wall Thk	Frame Finish	ROUGH OPENING		COMMENTS	
			WD	HGT	THK.	MATERIAL	FINISH	GLAZING	DOOR U-VALUE	TYPE		WD	HGT			
1	2	HINGED SINGLE - FLUSH	3'- 0"	6'- 8"	0' - 1 3/4"	18 GA INS. METAL	PAINT	N/A	0.37 DEFAULT	WELDED HM PUNCHED& DIMPLED	8 1/6	PAINT	3'- 4 1/4"	6'- 10 1/4"		
2	2	HINGED SINGLE - FLUSH	3'- 0"	6'- 8"	0' - 1 3/4"	WOOD - SOLID CORE	EMBOSSED	N/A	--	WHITE TIMELY		WHITE	3'- 1 1/4"	6'- 9"		

DOOR HARDWARE SCHEDULE	
DOOR 1	
SS-BBH NRP HINGES FALCON W511 KEYED ENTRY LEVER	
DOOR 2	
FALCON W101 PASSAGE LEVER	

WINDOW SCHEDULE																
TYPE MARK	QTY.	MFR.	MODEL	DESCRIPTION	SIZE	SIZE	SILL HGT.	HEAD HEIGHT	ROUGH OPENING	ROUGH OPENING	U VALUE	SHGC	WINDOW AREA	Total Area		COMMENTS
					WD.	HGT.			WD.	HGT.						
A	3	PRIME	6000	HORIZONTAL SLIDER W SCREEN	6'-0"	4'-0"	2'-10"	6'-10"	72"	48"	0.26 NFRC	0.29 NFRC	24 SF	72 SF		EMBOSSED ALPINE OAK LINER AND CASING

RELEASE: **PRELIM**

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BLDG No. 10
MARYSVILLE, WA 98271

PH. 360.653.5790
FAX: 360.659.7735
WEB: WWW.WHITLEYMAN.COM

CUSTOMER NAME: **BLEACHER'S INTER.**

PROJECT NAME: **HAMLIN MIDDLE SCHOOL**

PROJECT DESC.: **8"X24' PRESS BOX**

SHEET NAME: **FLOOR PLAN**

S/N: **0421-109**

STD PLAN No:

DRAWN BY: **MDP**

REVISED BY:

CHKD BY:

2					
1	PRELIM	5-6-21			
No.	DESCRIPTION	DATE	BY	SCALE: As indicated	

JOB NUMBER: **4482**

SHEET No.: **A.1**

DATE: **5-5-21**

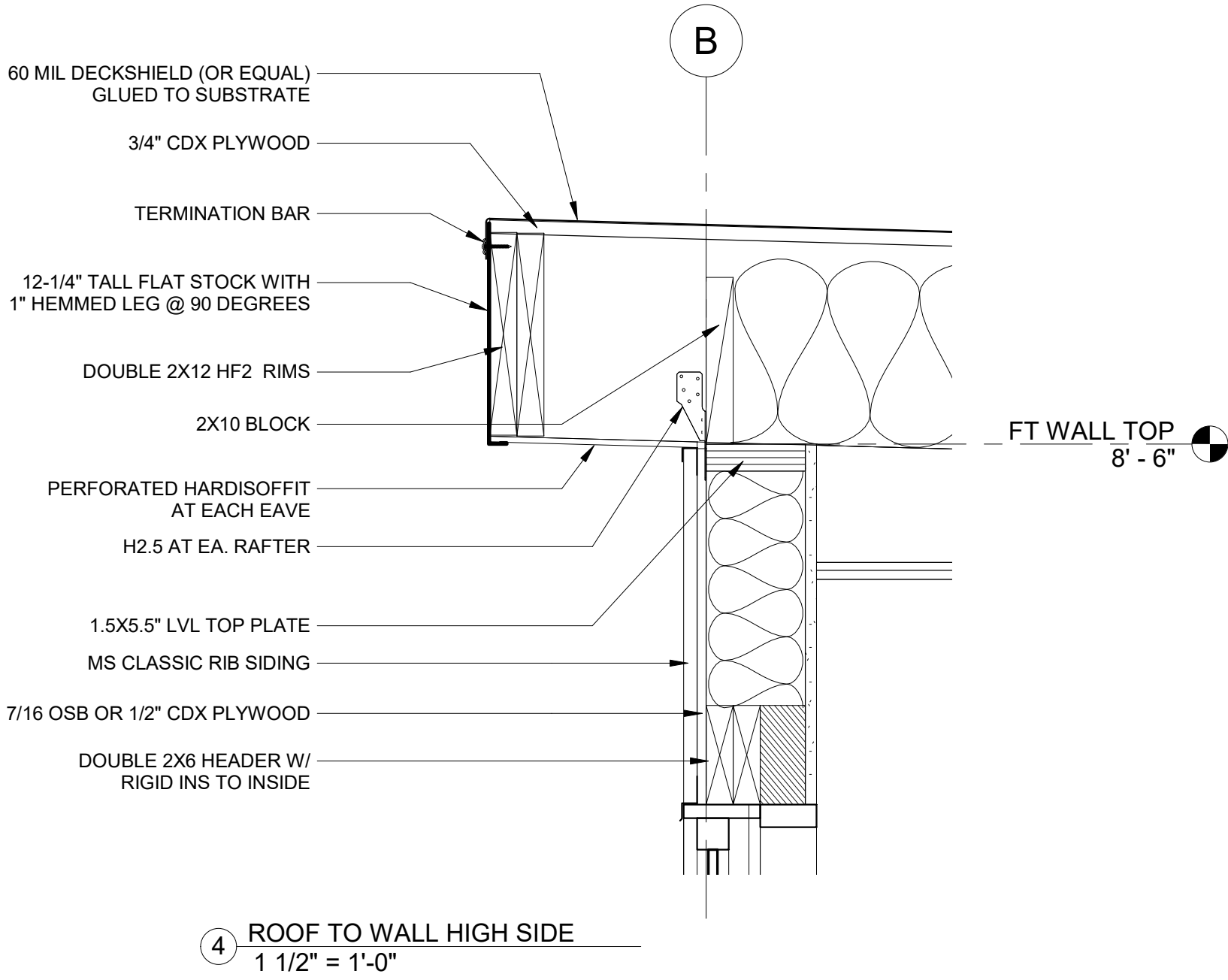
FRAME:
TYPE: PERIMETER STEEL - C8X11.5 WITH (2) C8X11.5 CROSSMEMBERS

FLOOR:
UNDERCLOSURE: 30 GAUGE GALVANIZED
INSULATION: R-30 FIBERGLASS - TWO LAYERS OF R-15
RIMS: 2X8 H/F #2 BOLTED INSIDE STEEL FRAME
JOISTS: 2X8 H/F #2 @ 16" O.C. TRANSVERSE
DECKING: 3/4" T & G OSB STURDIFLOOR - GLUED AND NAILED TO JOISTS SCREWED AT PERIMETER TO STEEL FRAME
UNDERLAYMENT: 1/4" SUREPLY
COVERING: 1/8" VINYL COMPOSITION TILE - 50% OFFSET LAYOUT
BASE TRIM: 4" RUBBER BASE

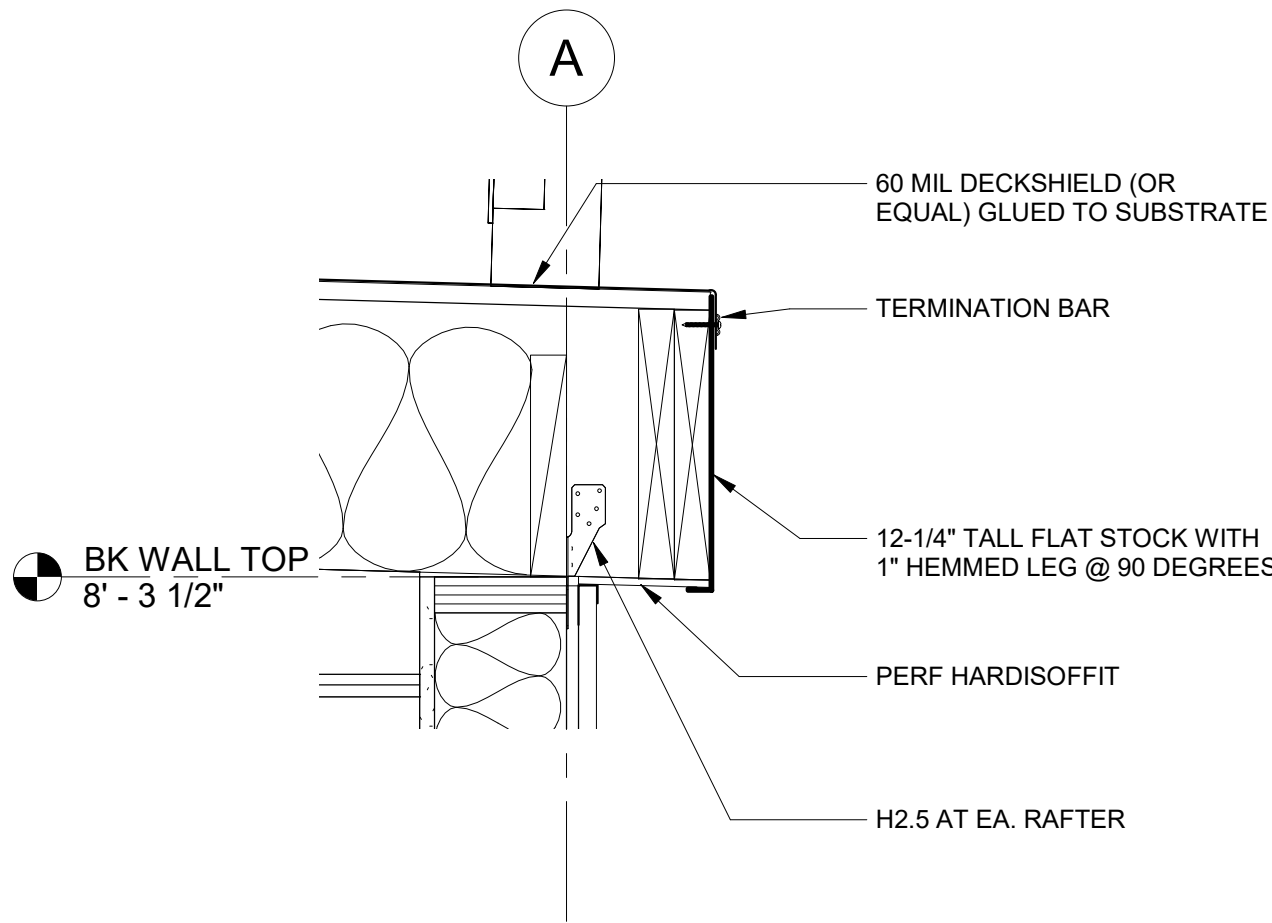
EXTERIOR WALL:
STUDS: 2X6 HF STD GRADE @ 16"O.C. - 8'-6" TALL ON HIGH SIDE
SINGLE MICROLAM TOP PLATE
COVERING: 5/8" VINYL COVERED GYPSUM WALLBOARD
RELIEF CUT OVER DOORS & OVER/UNDER WINDOWS
TRIM: VINYL COVERED WOOD BATT CORNER TRIM
INSULATION: R-21 UNFACED WITH VAPOR BARRIER
SHEATHING: 7/16 OSB OR 1/2" CDX PLYWOOD
SIDING: 26 GAUGE METAL SALES CLASSIC RIB STEEL PANELS OVER HOUSE WRAP
TRIM: 26 GAUGE BASE TRIM
26 GAUGE C-CASING AROUND WINDOWS AND DOORS

INTERIOR WALL:
STUDS: 2X4 HF STD GRADE @ 16"O.C.
COVERING: 5/8" VINYL COVERED GYPSUM WALLBOARD
RELIEF CUT OVER DOORS & OVER/UNDER WINDOWS
TRIM: VINYL COVERED WOOD BATT CORNER TRIM
INSULATION: R-11 FIBERGLASS FULL HEIGHT IN ALL INTERIOR WALLS

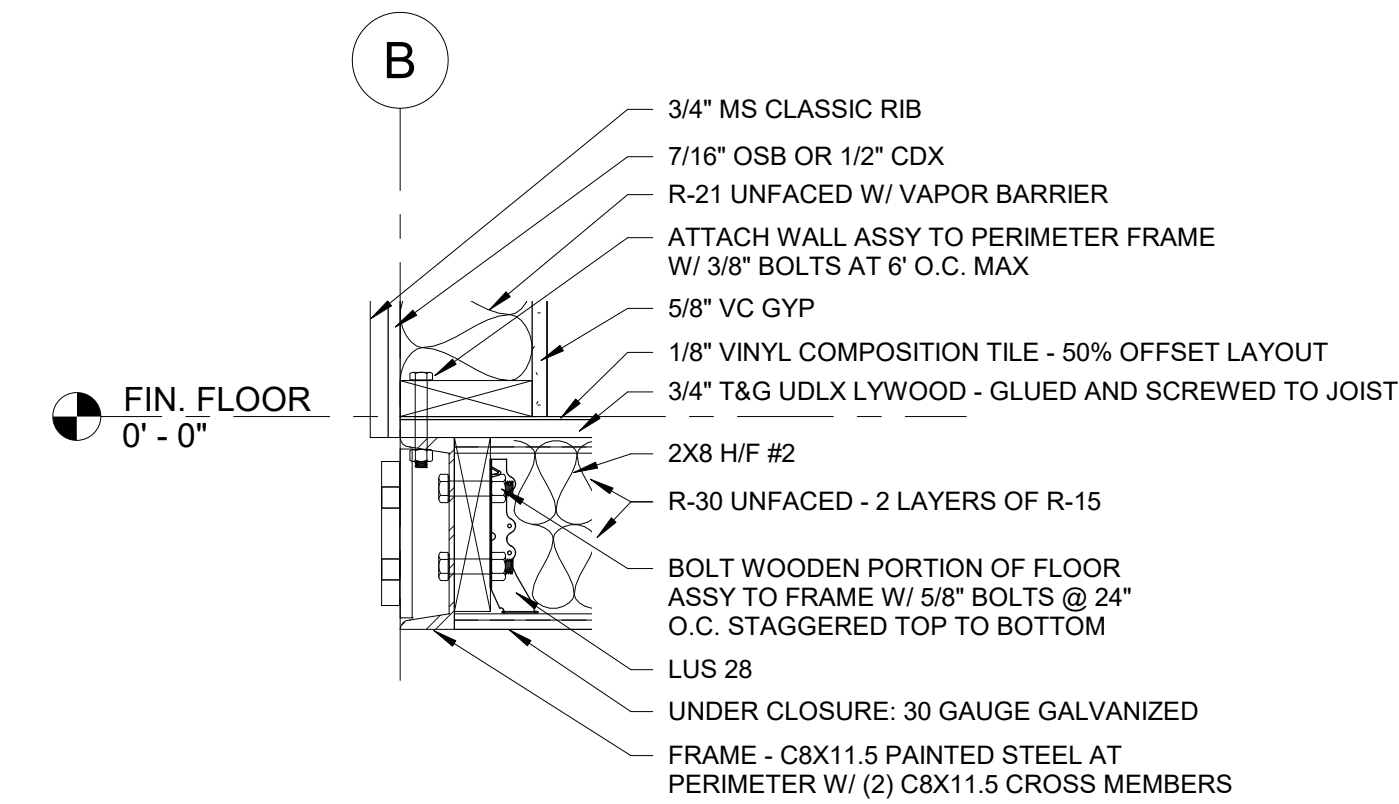
ROOF/CEILING:
FRAMING: 2X12 HF2 RAFTERS AT 16" O.C. - DOUBLE RAFTERS AT EACH END
RIMS: DOUBLE 2X12 HF2
(2) 1/2" X 6-1/2" CARRIAGE BOLTS INSTALLED FROM THE INSIDE OF THE DOUBLE RIMS FOR SITE SUPPLIED AND INSTALLED RAILING
SHIP LOOSE 4-1/2"X4-1/2"X1/2" NEOPRENE GASKETS AND ALL 1/2" NUTS FOR SITE INSTALLATION BY OTHERS
SLOPE: 2-1/2" FROM FASCIA TO FASCIA - SLOPE FROM WINDOW SIDE TO BACK
CEILING: 2'X4' SUSPENDED CEILING WITH CORTEGA #769A TILE
CEILING HEIGHT: 7'-10 1/2" ABOVE FINISH FLOOR
INSULATION: R-38C UNFACED BATT WITH VAPOR BARRIER
SHEATHING: 3/4" CDX PLYWOOD
ROOFING: 60 MIL DECKSHIELD (OR EQUAL) GLUED TO SUBSTRATE
OVERHANG: 6" AT ENDS AND BACK - 12" ON WINDOW SIDE
FASCIA: 12-1/4" TALL FLAT STOCK WITH 1" HEMMED LEG @ 90 DEGREES
VENTING: PERFORATED HARDISOFFIT AT EACH EAVE
GUTTERS/D.S.: NONE



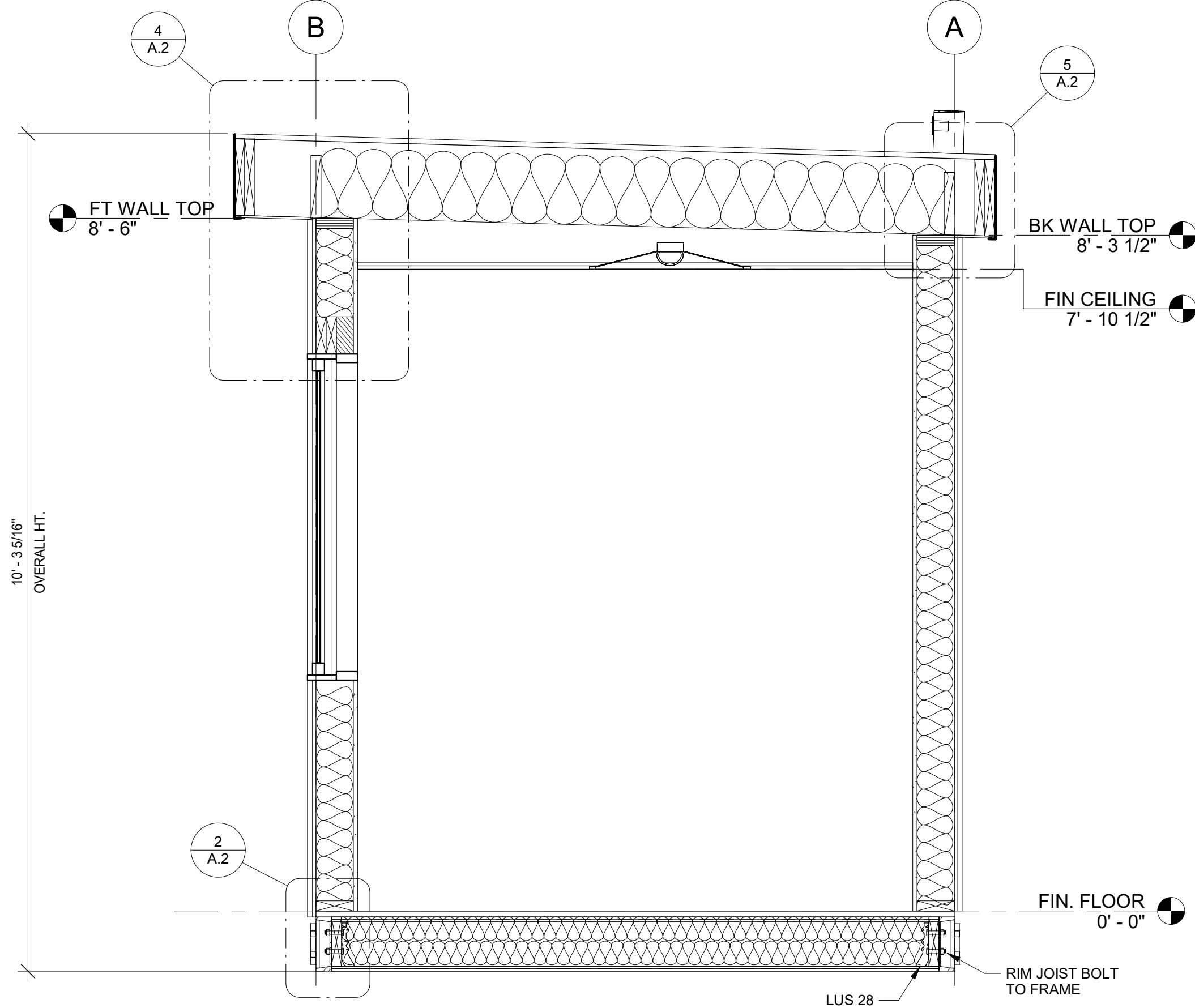
4 ROOF TO WALL HIGH SIDE
1 1/2" = 1'-0"



5 ROOF TO WALL LOW SIDE
1 1/2" = 1'-0"

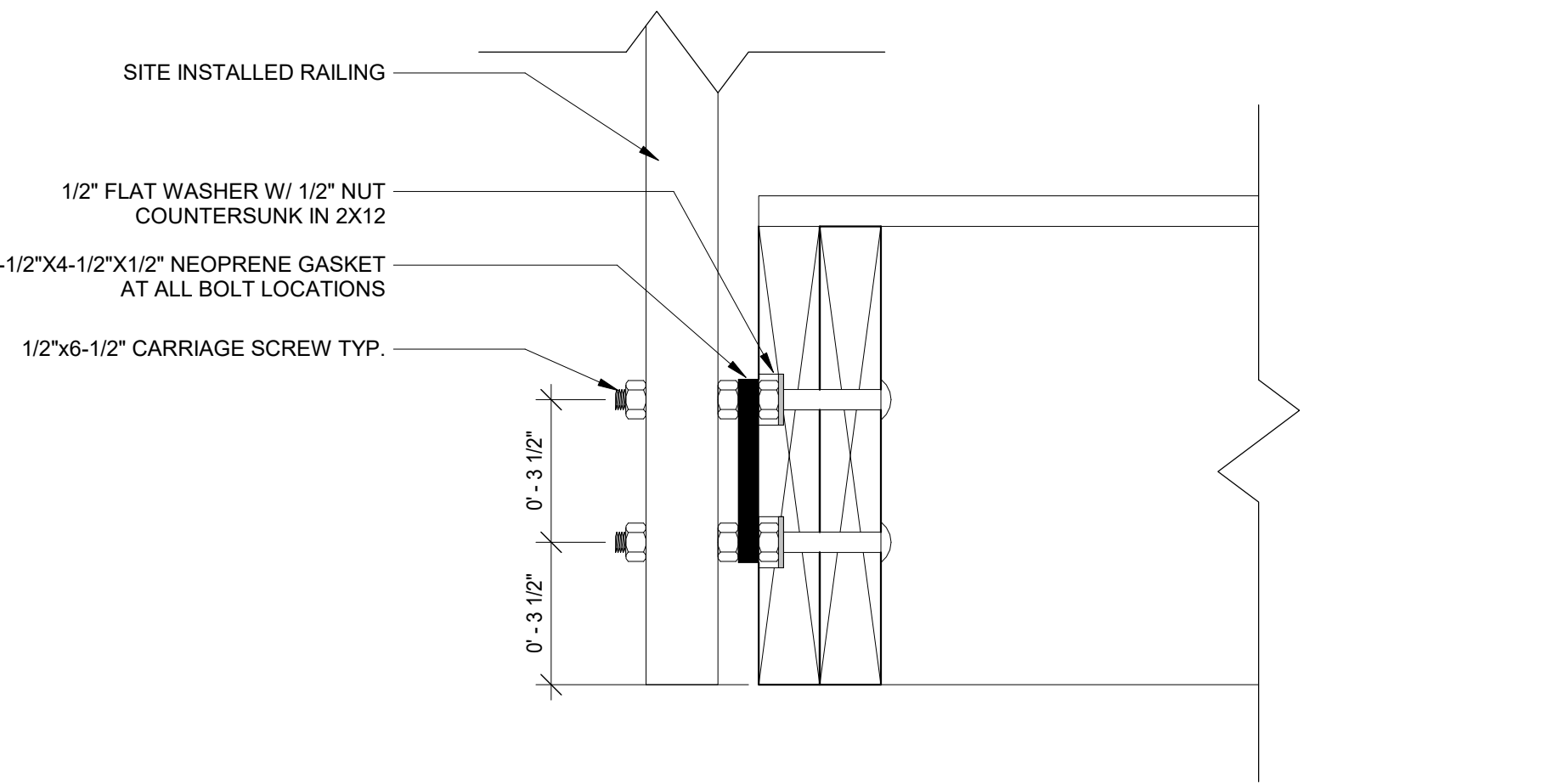


2 WALL TO FLOOR
1 1/2" = 1'-0"



1 CROSS SECTION
3/4" = 1'-0"

SHIP LOOSE 4-1/2"X4-1/2"X1/2" NEOPRENE GASKETS AND ALL 1/2" NUTS FOR SITE INSTALLATION BY OTHERS



6 RAIL MOUNTING
3" = 1'-0"

RELEASE: **PRELIM**

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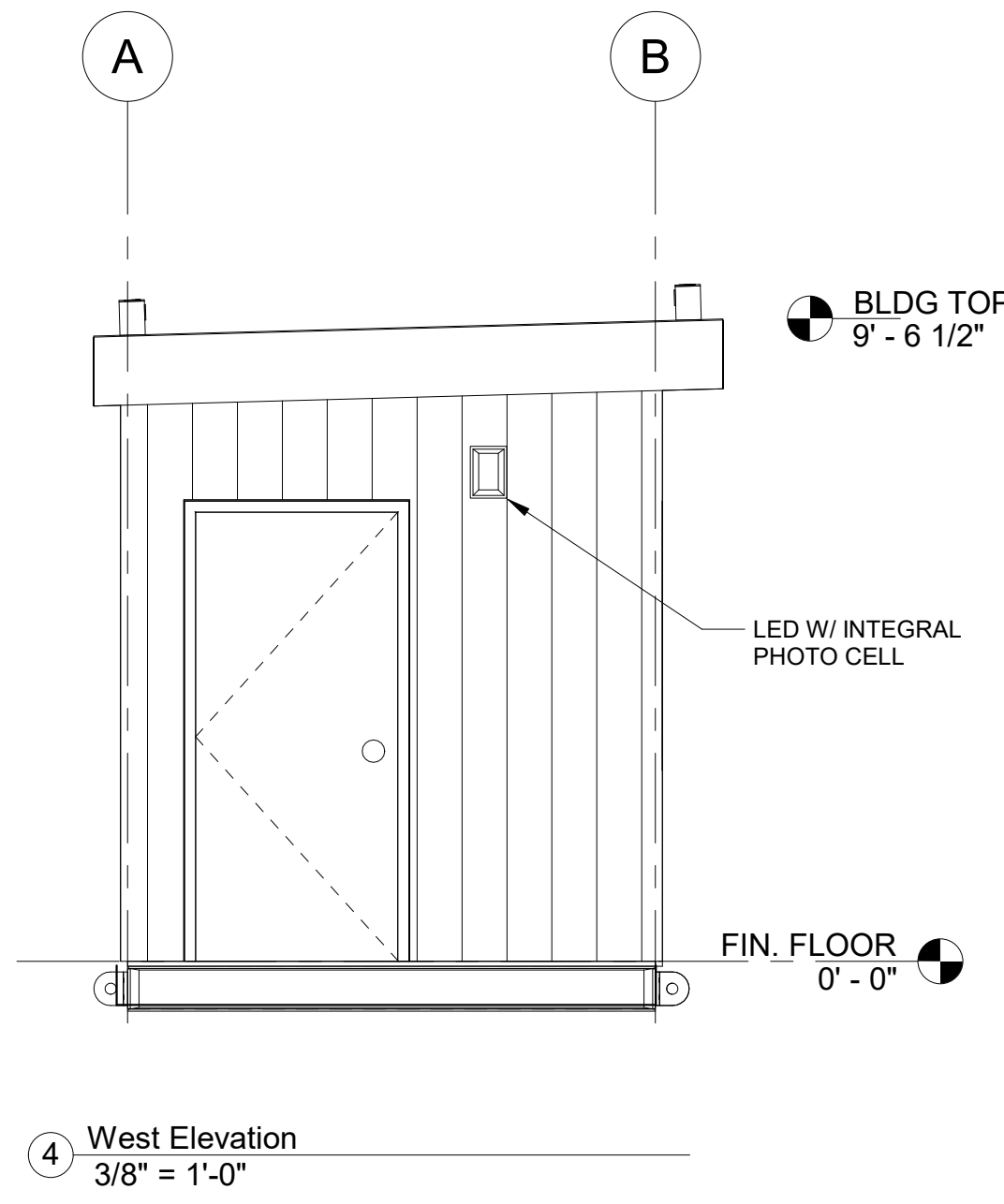
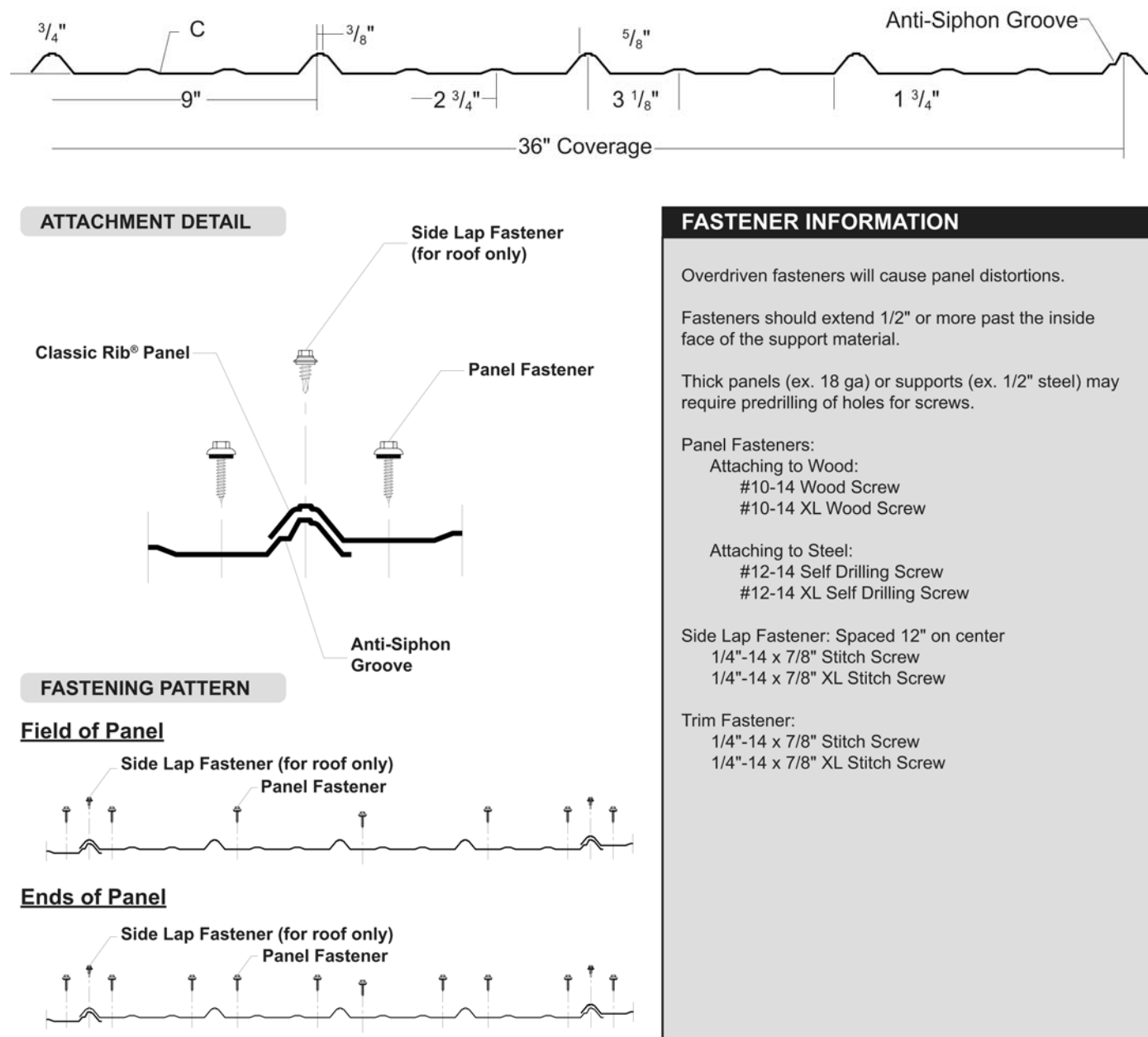
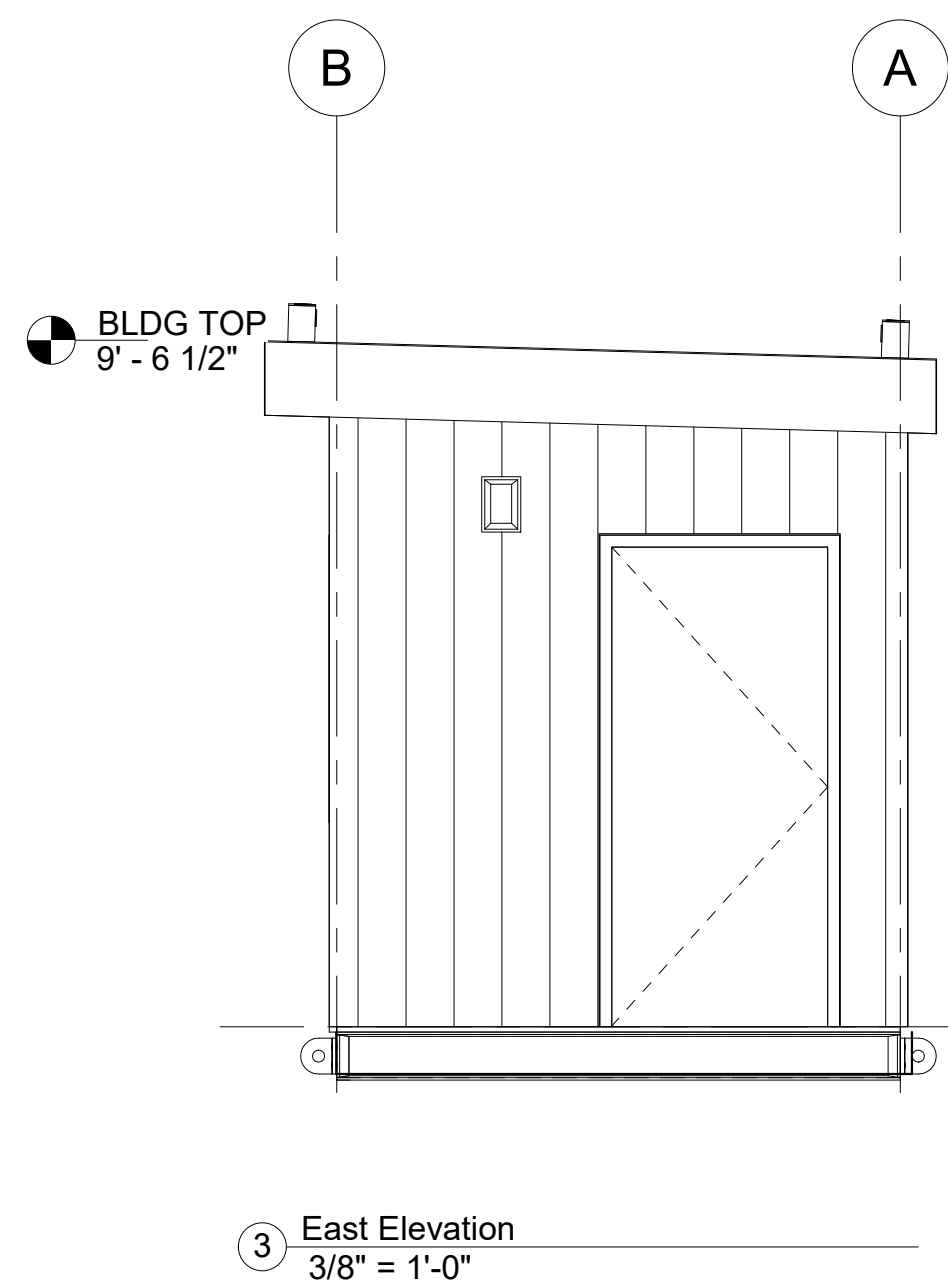
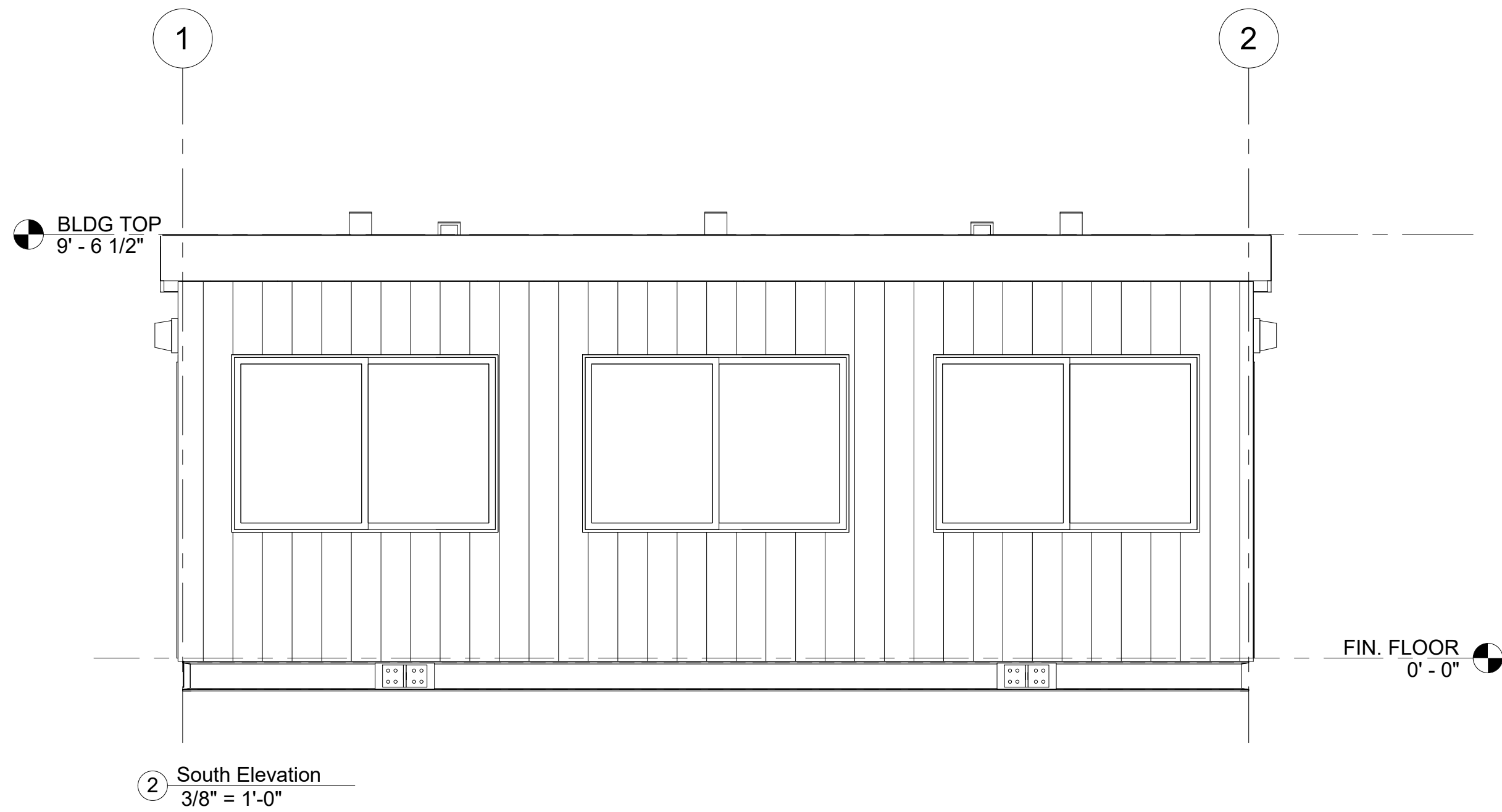
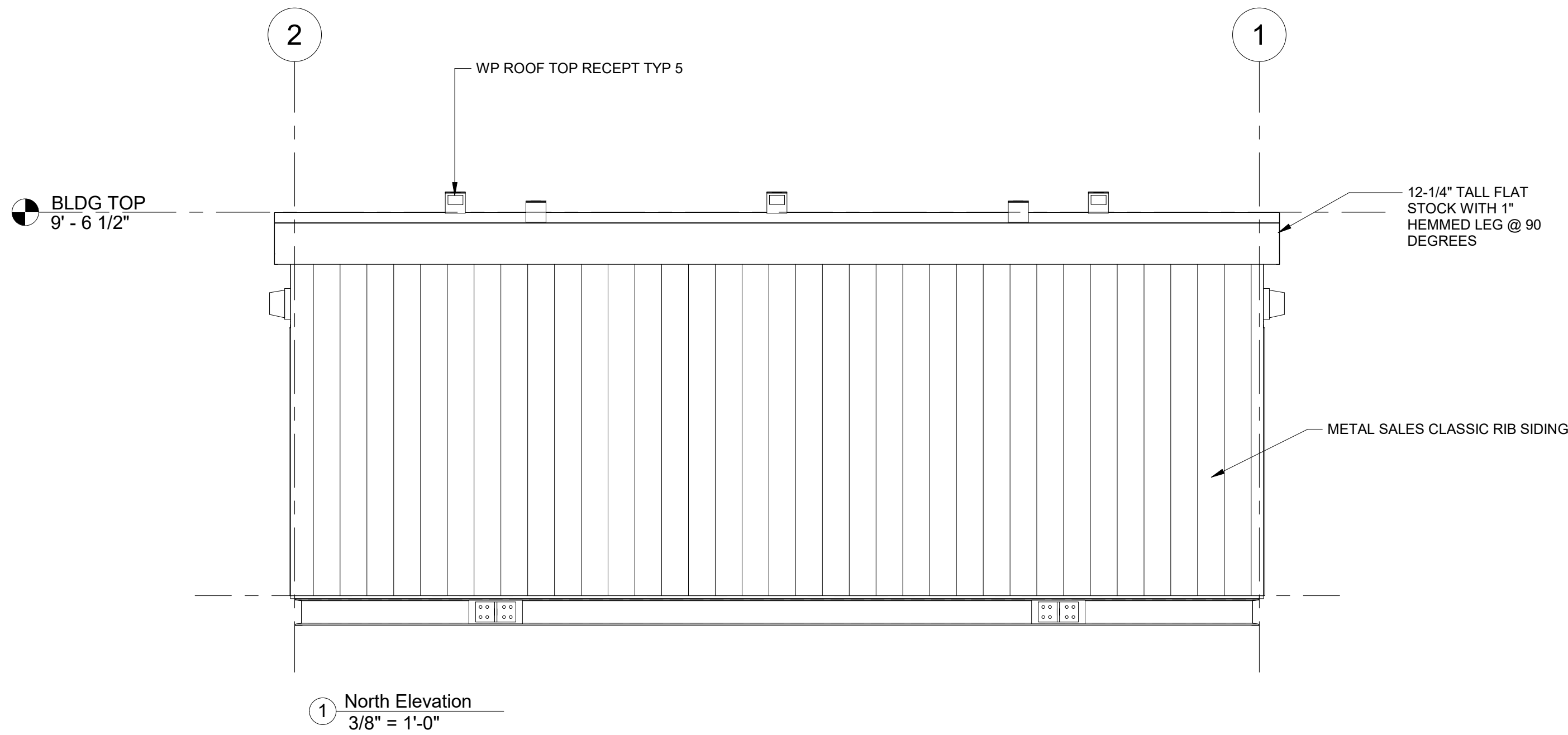


WHITLEY EVERGREEN, INC.
MOBILE AND MODULAR BUILDINGS

14219 SMOKEY POINT BLVD.,
BLDG No. 10
MARYSVILLE, WA 98271
PH. 360.653.5790
FAX: 360.659.7735
WEB: WWW.WHITLEYMAN.COM

CUSTOMER NAME: **BLEACHER'S INTER.**
PROJECT NAME: **HAMLIN MIDDLE SCHOOL**
PROJECT DESC.: **8"X24' PRESS BOX**
SHEET NAME: **CROSS SECTION**

S/N: 0421-109					JOB NUMBER: 4482
STD PLAN No:					SHEET No.: A.2
DRAWN BY: MDP					DATE: 5-5-21
REVISED BY:					
CHKD BY:					
2	1	PRELIM	5-6-21		
No.		DESCRIPTION	DATE	BY	SCALE: As indicated



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MOBILE AND MODULAR BUILDINGS

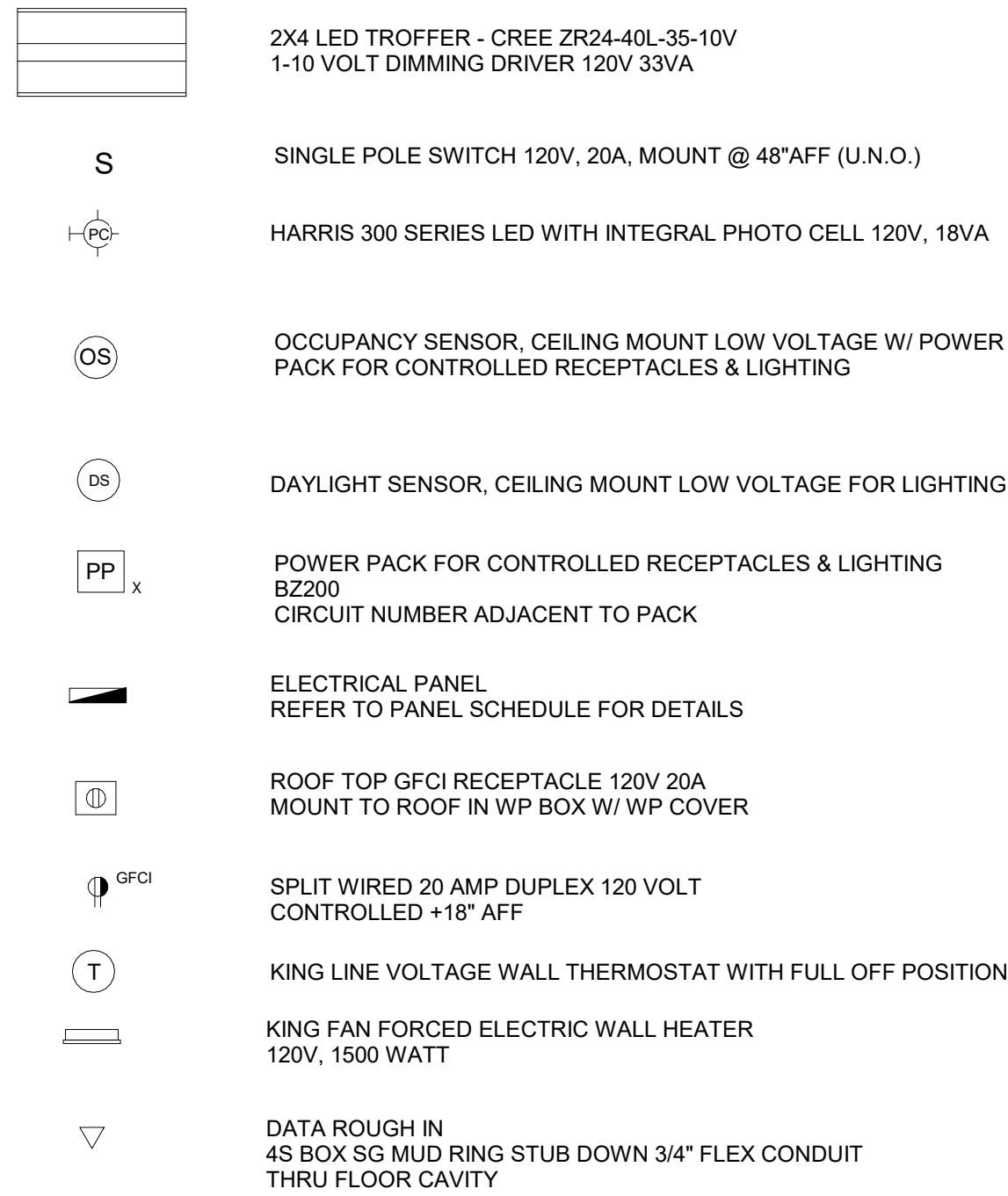
14219 SMOKEY POINT BLVD.,
BLDG No. 10
MARYSVILLE, WA 98271
PH. 360.653.5790
FAX: 360.659.7735
WEB: WWW.WHITLEYMAN.COM

CUSTOMER NAME: **BLEACHER'S INTER.**
PROJECT NAME: **HAMLIN MIDDLE SCHOOL**
PROJECT DESC.: **8"X24' PRESS BOX**
SHEET NAME: **EXTERIOR ELEVATIONS**

RELEASE: **PRELIM**

S/N: 0421-109					JOB NUMBER: 4482
STD PLAN No:					SHEET No.: A.3
DRAWN BY: MDP					DATE: 5-5-21
REVISED BY:					SCALE: As indicated
CHKD BY:					
1 PRELIM		5-6-21			
No.	DESCRIPTION	DATE	BY		

ELECTRICAL DEVICE LEGEND



GENERAL

1. ALL DIMENSIONS ARE IN INCHES FROM FINISH FLOOR TO CENTER OF BOX UNLESS NOTED OTHERWISE

2. DEFINITIONS: U.N.O. - UNLESS NOTED OTHERWISE
AFF - ABOVE FINISH FLOOR

3. ITALICS INDICATE WORK DONE ON SITE

ELECTRICAL

1. BUILDING TO BE WIRED IN MC, EMT, OR FLEX

2. TYPICAL WIRE SIZES:

15 AMP - #14 CU	30 AMP - #10 CU
20 AMP - #12 CU	35 AMP - # 8 CU

3. SERVICE ENTRANCE - BY OTHERS

4. ALL RECEPTACLES TO BE INSTALLED 18" A.F.F. TO CENTER OF RECEPTACLE, UNLESS OTHERWISE SPECIFIED.

5. GROUND FAULT CIRCUIT PROTECTION REQUIRED FOR ALL RECEPTACLES IN WET AREAS.

6. ALL CONDUCTORS AND CONDUITS SHALL BE SIZED AND
INSTALLED TO COMPLY WITH THE 2020 N.E.C. AND 2021 OESC

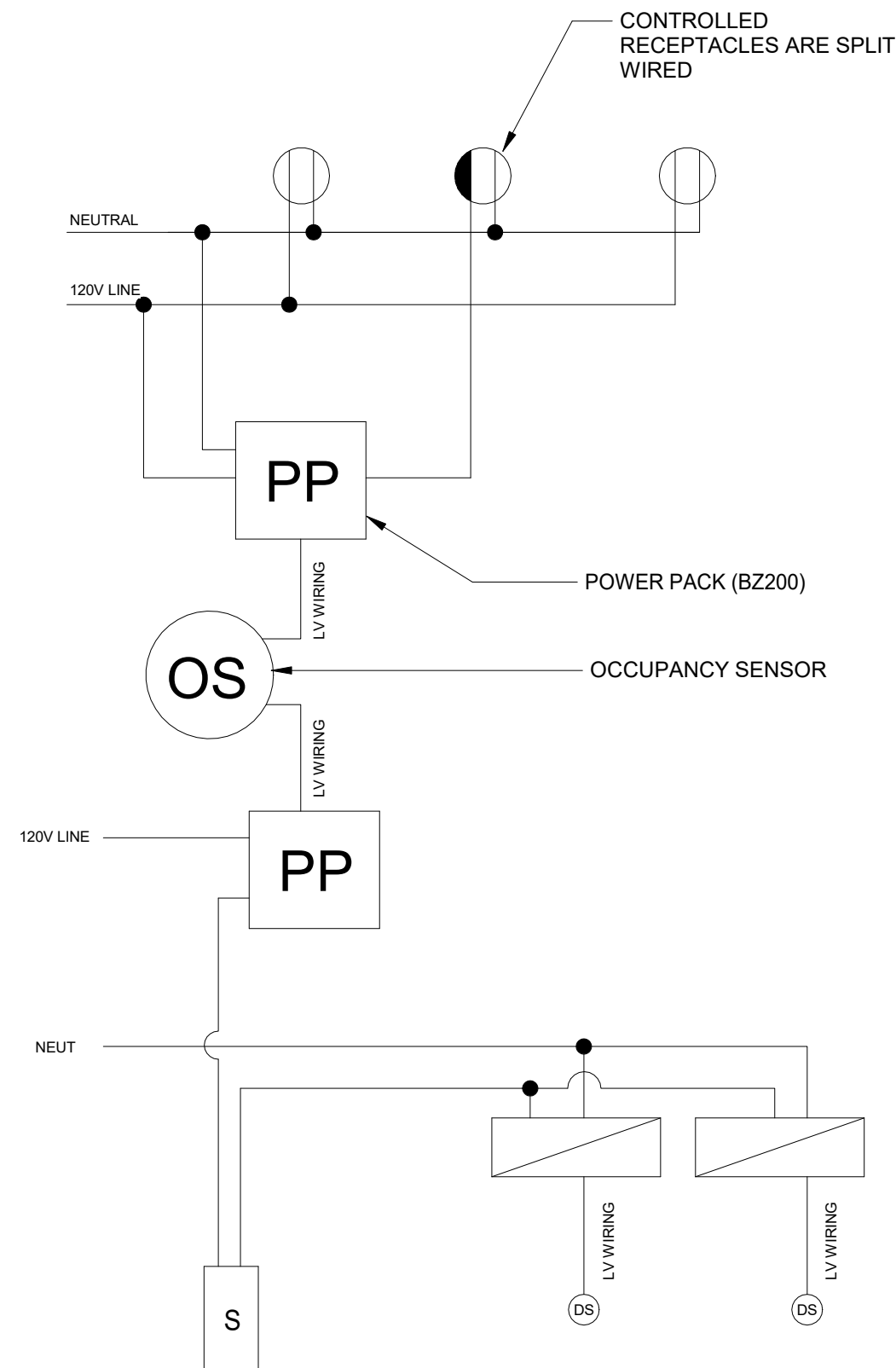
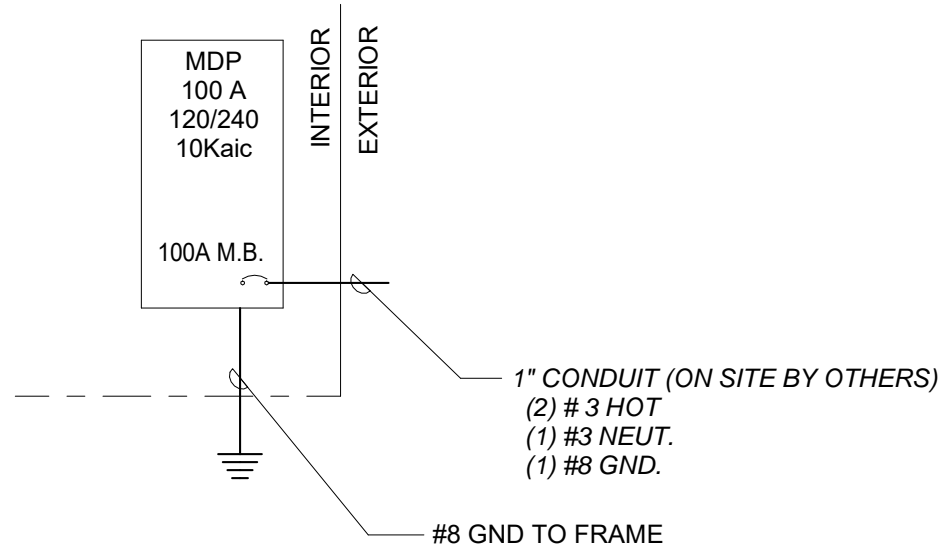
7. ELECTRICAL PANEL SUPPLIED IS EATON. PER END USER REQUIREMENTS TO ENSURE ALL EQUIPMENT IS COMPATIBLE FOR COORDINATION.

8. ALL CONSTRUCTION MEANS AND METHODS SHALL COMPLY WITH
NEC 2020 AND 2021 OESC

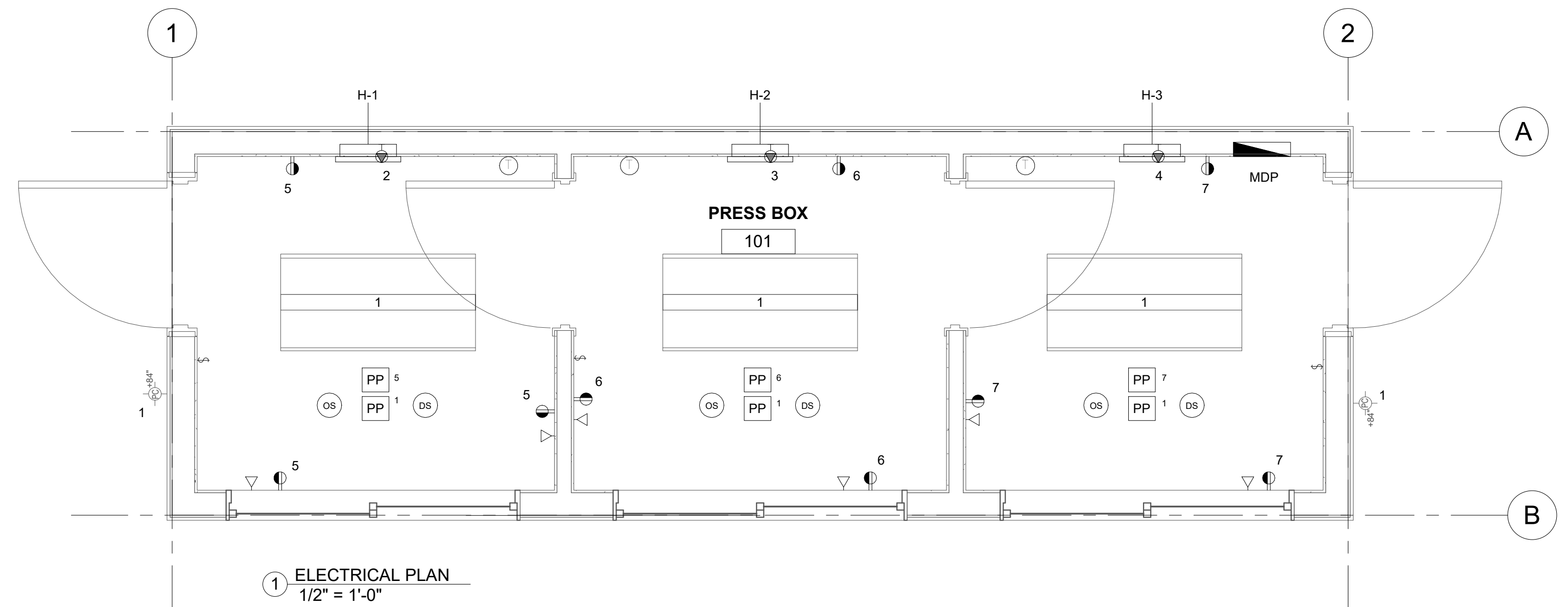
9. ALL INDICATED WIRE SIZES BASED ON 75-DEG EQUIPMENT TERMINAL RATINGS IN ACCORDANCE WITH NEC 310-15(B)(16). WHERE EQUIPMENT IS PROVIDED AT LESS THAN 75-DEGREE, CONTRACTOR SHALL PROVIDE CONDUCTOR SIZE ADJUSTED ACCORDINGLY TO REFLECT EQUIPMENT RATINGS.

10. ALL LOW VOLTAGE CABLE AND DEVICES ON SITE BY OTHERS
IDF SUPPLIED AND INSTALLED ON SITE BY OTHERS
AMPLIFIER SUPPLIED AND INSTALLED ON SITE BY OTHERS
NO OTHER ELECTRICAL DEVICES OR CONDUIT SUPPLIED BY
WHITLEY

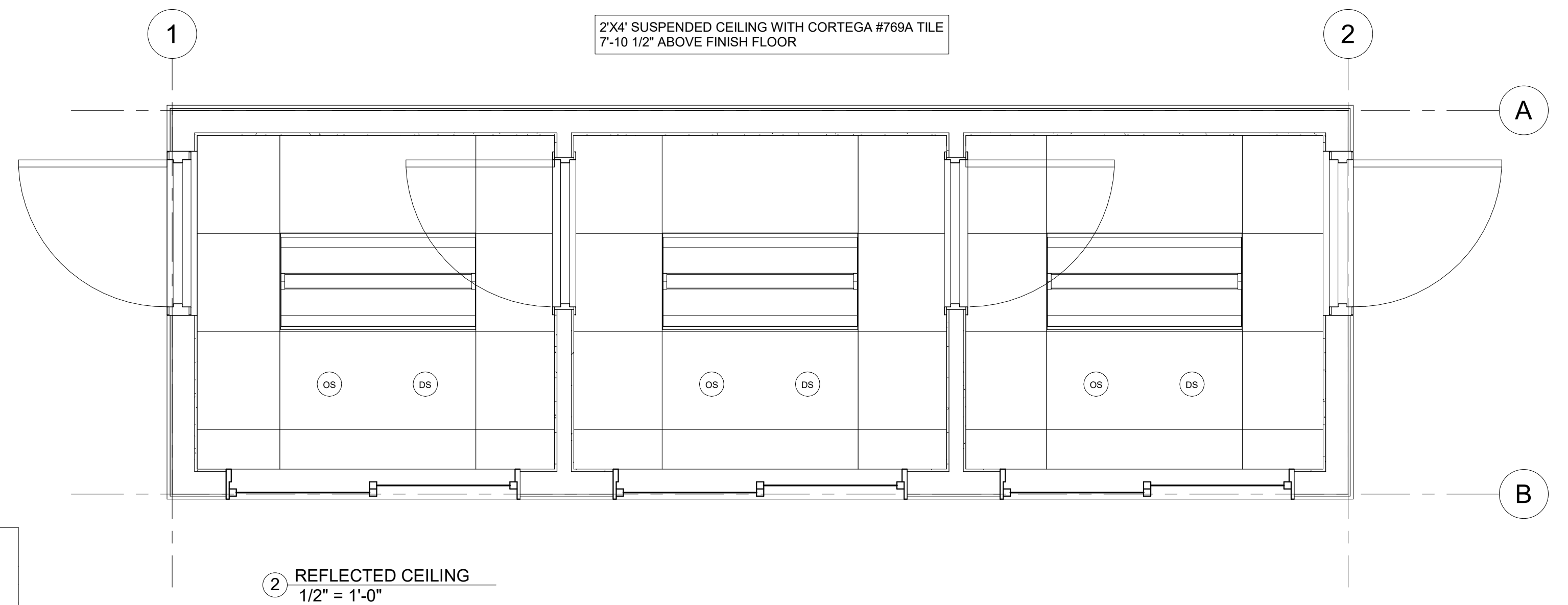
NOTE: WHITLEY SCOPE OF WORK IS LIMITED TO INSTALL OF PANEL AND BRANCH CIRCUITS WITHIN MODULAR BUILDING ONLY, EXTENSION OF CONDUIT TO METER OR POINT OF CONNECTION AND INSTALLATION OF CONDUCTORS AND GROUNDING ELECTRODE SYSTEM ARE ON SITE BY OTHERS UNDER SEPARATE LOCAL PERMIT.



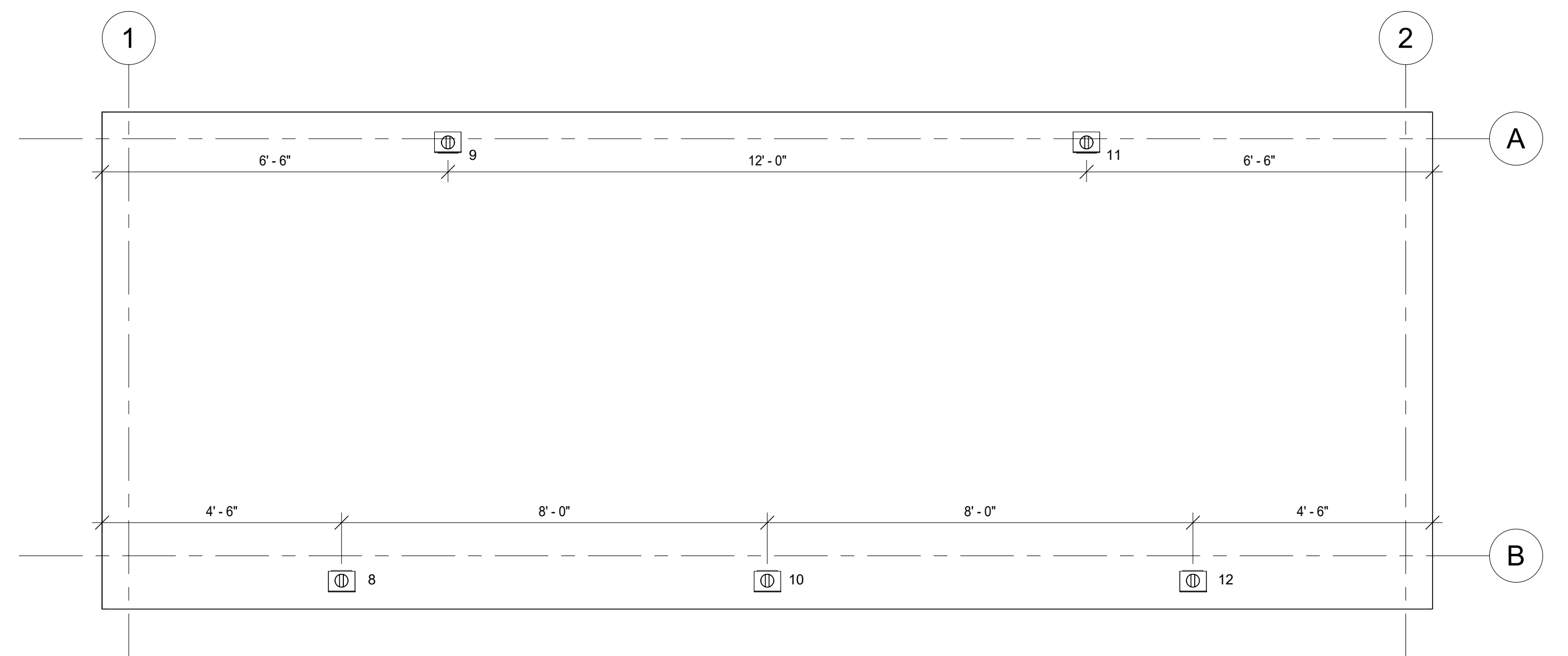
LIGHTING AND RECEPTACLE CONTROLS



1 ELECTRICAL PLAN
1/2" = 1'-0"



② REFLECTED CEILING
1/2" = 1'-0"



③ ROOF ELECTRICAL
1/2" = 1'-0"

Branch Panel: MDP

Location: Room 104

Supply From:

Mounting: Recessed

Enclosure:

Volts: 120/240 Single

Phases: 1

Wires: 3

A.I.C. Rating:

Mains Type: FIXED

Mains Rating: 100 A

MCB Rating: 100 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	LIGHTING INT. EXT	20 A	1	167 VA	1500 VA			1	20 A	H-1	2
3	H-2	20 A	1			1500 VA	1500 VA	1	20 A	H-3	4
5	RECEPTS	20 A	1	540 VA	540 VA			1	20 A	RECEPTS	6
7	RECEPTS	20 A	1			540 VA	1500 VA	1	20 A	ROOFTOP RECEPT	8
9	ROOFTOP RECEPT	20 A	1	1500 VA	1500 VA			1	20 A	ROOFTOP RECEPT	10
11	ROOFTOP RECEPT	20 A	1			1500 VA	1500 VA	1	20 A	ROOFTOP RECEPT	12
13											14
15											16
17											18
19											20
Total Load:				5746 VA		8040 VA					
Total Amps:				48 A		67 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Heating	4500 VA	100.00%	4500 VA	
Lighting	167 VA	100.00%	167 VA	Total Conn. Load: 13786 VA
Receptacle	9120 VA	100.00%	9120 VA	Total Est. Demand: 13786 VA
				Total Conn.: 57 A
				Total Est. Demand: 57 A

Notes:

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**WHITLEY
EVERGREEN, INC.**

MOBILE AND MODULAR BUILDINGS

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BLDG No. 10
MARYSVILLE, WA 98271

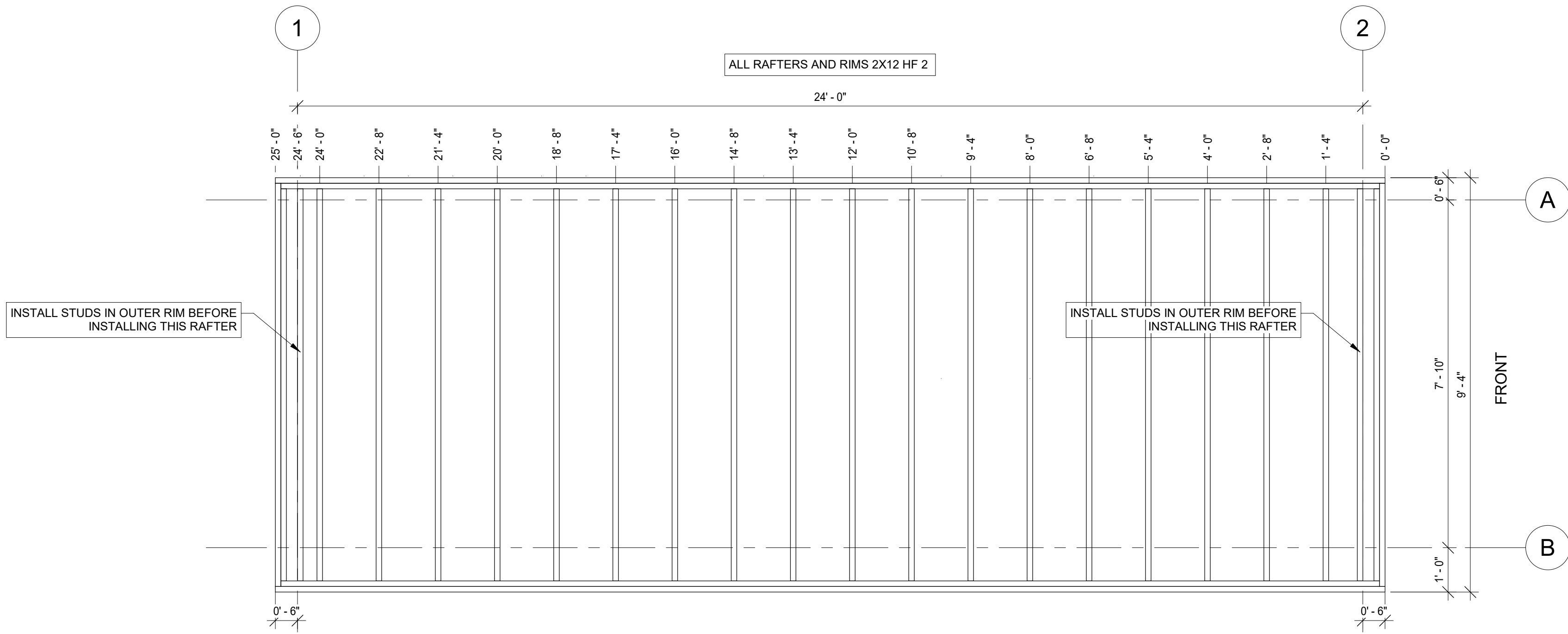
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CUSTOMER NAME:	BLEACHER'S INTER.
PROJECT NAME:	HAMLIN MIDDLE SCHOOL
PROJECT DESC.:	8"X24' PRESS BOX
SHEET NAME:	ELECTRICAL PLAN

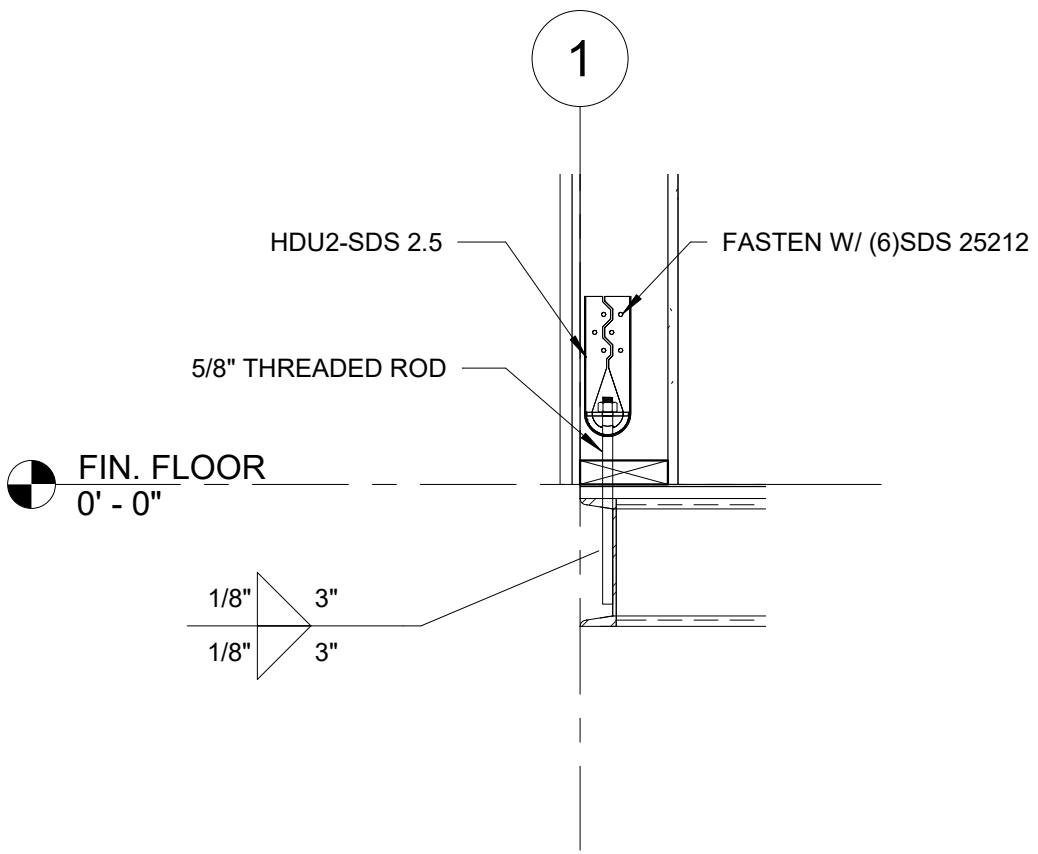
RELEASE: **PRELIM**

S/N: 0421-109					JOB NUMBER: 4482
STD PLAN No:					SHEET No.: E.1
DRAWN BY: MDP		2	PRELIM	5-6-21	DATE: 5-5-21
REVISED BY:					
CHKD BY:		No.	DESCRIPTION	DATE	BY
					SCALE: As indicated

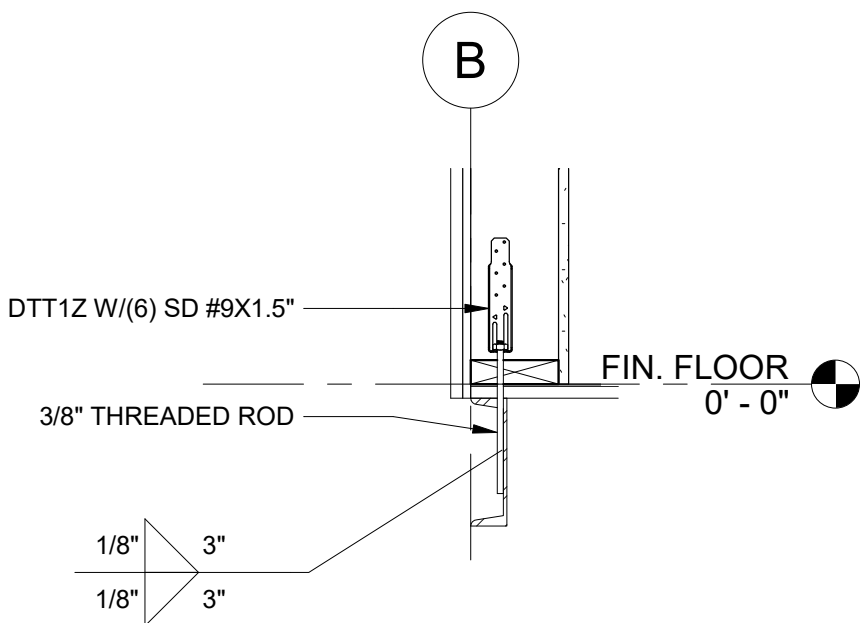
LOT STAMP: 5/10/2021 3:13:59 PM



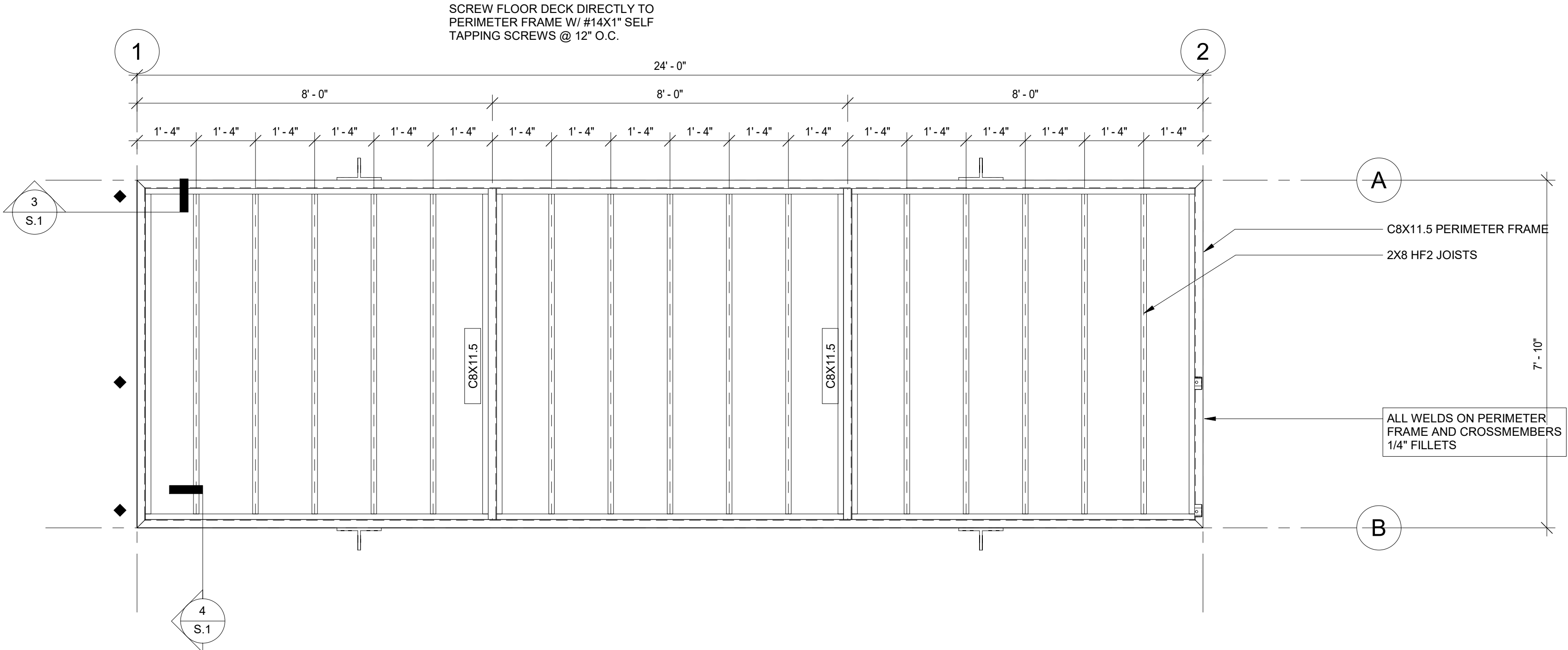
2 ROOF FRAMING
1/2" = 1'-0"



3 HDU DETAIL
1" = 1'-0"



4 HOLD DOWN AT LONG WALL
1" = 1'-0"



1 FRAME PLAN
1/2" = 1'-0"

HAMLIN MIDDLE SCHOOL DRAINAGE STUDY
June 30, 2021

SITE CHARACTERISTICS

The subject site currently is a natural turf baseball field with dugouts and concrete walks. This proposal is to replace the existing natural turf on the baseball field with artificial turf, along with adding bleachers, new dugouts and concrete picnic areas adjacent to the baseball field

EXISTING HYDROLOGY

The site is relatively flat and the site drains into the existing bio-swales inside of the property.

PROPOSED HYDROLOGY

The proposed drainage system consists of piping the proposed impervious drainage to two treatment ponds. See attached Hydrology Map. An infiltration rate of 2" per hour was assumed to size the treatment ponds.

North Basin

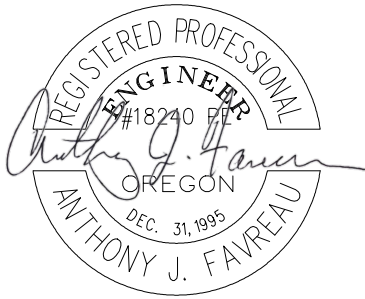
The north basin collects the drainage from the concrete picnic areas and landscape areas (1,200 s.f.). The impervious area (17,500 s.f.) included a future restroom building and drain to a proposed treatment pond. The treatment pond was sized using the City of Eugene's Stormwater Surface Filtration/Infiltration Facility Sizing Spreadsheet and is attached. The minimum required size for an Infiltration Rain Garden is 529 s.f. at the top of the facility. The proposed treatment pond is over 1,170 s.f.

South Basin

The south basin collects the drainage from the concrete picnic areas. The impervious area (5,600 s.f.) drains to a proposed treatment pond. The treatment pond was sized using the City of Eugene's Stormwater Surface Filtration/Infiltration Facility Sizing Spreadsheet and is attached. The minimum required size for an Infiltration Rain Garden is 190 s.f. at the top of the facility. The proposed treatment pond is over 450 s.f.

CONCLUSION

Based on my calculations and the proposed drainage systems are sized properly and will provide the necessary treatment.





Stormwater Surface Filtration/Infiltration Facility Sizing Spreadsheet

24 Hour Storm, NRCS Type 1A Rainfall Distribution

City of Eugene

Version 2.1

Project Information

Project Name:	<u>Hamlin Middle School</u>	Date:	<u>6/30/2021</u>
Project Address:		Permit Number:	<u>[Permit #]</u>
		Catchment ID:	<u>North basin</u>
Designer:	<u>Anthony J. Favreau</u>		
Company:	<u>The Favreau Group</u>		

Instructions:

1. Complete this form for each drainage catchment in the project site that is to be sized per the Presumptive Approach.
2. Provide a distinctive Catchment ID for each facility coordinated with the site basin map to correlate the appropriate calculations with the facility.
3. The maximum drainage catchment to be modeled per the Presumptive Approach is 1 acre (43,560 SF)
4. For infiltration facilities in Class A or B soils where no infiltration testing has been performed use an infiltration rate of 0.5 in/hr. For all facilities use a maximum soil infiltration rate of 2.5 in/hr for topsoil/growing medium.

Design Requirements:

Choose "Yes" from the dropdown boxes below next to the design standards requirements for this facility.

Pollution Reduction (PR)	<u>Yes</u>	
Flow Control (FC)	<u>No</u>	
Destination (DT)	<u>No</u>	*An infiltration facility must be chosen as the facility type to meet destination requirements

Site Data-Post Development

Total Square Footage Impervious Area=	<u>17500</u> sqft	Total Square Footage Pervious Area=	<u>1200</u> sqft
Impervious Area CN=	<u>98</u>	Pervious Area CN=	<u>85</u>
Total Square Footage of Drainage Area=	<u>18700</u> sft	Time of Concentration Post Development=	<u>5</u> min
Weighted Average CN=	<u>97</u>		

Site Data-Pre Development (Data in this section is only used if Flow Control is required)

Pre-Development CN=	<u>85</u>	Time of Concentration Pre-Development=	<u>10</u> min
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Soil Data

Tested Soil Infiltration Rate=	<u>2</u> in/hr (See Note 4)	Destination Design=	<u>N/A</u> in/hr
Design Soil Infiltration Rate=	<u>2</u> in/hr	Soil Infiltration Rate	

Design Storms Used For Calculations

Requirement	Rainfall Depth	Design Storm
Pollution Reduction	1.4 inches	Water Quality
Flow Control	3.6 inches	Flood Control
Destination	3.6 inches	Flood Control

Facility Data

Facility Type=	<u>Infiltration Rain Garden</u>	Facility Surface Area=	<u>529</u> sqft
Surface Width=	<u>23</u> ft	Facility Surface Perimeter=	<u>92</u> ft
Surface Length=	<u>23</u> ft	Facility Bottom Area=	<u>289</u> sqft
Facility Side Slopes=	<u>3</u> to 1	Facility Bottom Perimeter=	<u>68</u> ft
Max. Ponding Depth in Stormwater Facility=	<u>12</u> in	Basin Volume=	<u>427.0</u> cf
Depth of Growing Medium (Soil)=	<u>4</u> in	Ratio of Facility Area to Impervious Area=	<u>0.028</u>

Pollution Reduction-Calculation Results

Peak Flow Rate to Stormwater Facility = 0.136 cfs
Total Runoff Volume to Stormwater Facility = 1713 cf
Max. Depth of Stormwater in Facility = 11.6 in
Drawdown Time = 2.8 hours

Peak Facility Overflow Rate = 0.000 cfs
Total Overflow Volume = 0 cf

Yes Facility Sizing Meets Pollution Reduction Standards?

YES Meets Requirement of No Facility Flooding?

YES Meets Requirement for Maximum of 18 Hour Drawdown Time?

Flow Control-Calculation Results

Peak Flow Rate to Stormwater Facility = 0.397 cfs
Total Runoff Volume to Stormwater Facility = 5088 cf
Max. Depth of Stormwater in Facility = 12.0 in
Drawdown Time = 6.2 hours

Peak Facility Overflow Rate = 0.373 cfs
Total Overflow Volume = 2762 cf
Peak Off-Site Flow Rate
Filtration Facility Underdrain = N/A cfs

Pre-Development Runoff Data

Peak Flow Rate = 0.223 cfs
Total Runoff Volume = 3278 cf

N/A Facility Sizing Meets Flow Control Standards?

N/A Meets Requirement for Post Development offsite flow less or equal to Pre-Development Flow?

N/A Meets Requirement for Maximum of 18 Hour Drawdown Time?

Destination-Calculation Results

Peak Flow Rate to Stormwater Facility = N/A cfs
Total Runoff Volume to Stormwater Facility = N/A cf
Max. Depth of Stormwater in Facility = N/A in
Drawdown Time = N/A hours

Peak Facility Overflow Rate = N/A cfs
Total Overflow Volume = N/A cf

N/A Facility Sizing Meets Destination Standards?

N/A Meets Requirement of No Facility Flooding?

N/A Meets Requirement for Maximum of 30 hour Drawdown Time?



Stormwater Surface Filtration/Infiltration Facility Sizing Spreadsheet

24 Hour Storm, NRCS Type 1A Rainfall Distribution

City of Eugene

Version 2.1

Project Information

Project Name: Hamlin Middle School

Date: 6/30/2021

Project Address:

Permit Number: [Permit #]

Catchment ID: South basin

Designer: Anthony J. Favreau

Company: The Favreau Group

Instructions:

1. Complete this form for each drainage catchment in the project site that is to be sized per the Presumptive Approach.
2. Provide a distinctive Catchment ID for each facility coordinated with the site basin map to correlate the appropriate calculations with the facility.
3. The maximum drainage catchment to be modeled per the Presumptive Approach is 1 acre (43,560 SF)
4. For infiltration facilities in Class A or B soils where no infiltration testing has been performed use an infiltration rate of 0.5 in/hr. For all facilities use a maximum soil infiltration rate of 2.5 in/hr for topsoil/growing medium.

Design Requirements:

Choose "Yes" from the dropdown boxes below next to the design standards requirements for this facility.

Pollution Reduction (PR) Yes
Flow Control (FC) No
Destination (DT) No

*An infiltration facility must be chosen as the facility type to meet destination requirements

Site Data-Post Development

Total Square Footage Impervious Area= 5600 sqft
Impervious Area CN= 98

Total Square Footage Pervious Area= 0 sqft
Pervious Area CN= 85

Total Square Footage of Drainage Area= 5600 sft
Weighted Average CN= 98

Time of Concentration Post Development= 5 min

Site Data-Pre Development (Data in this section is only used if Flow Control is required)

Pre-Development CN= 85

Time of Concentration Pre-Development= 10 min

Soil Data

Tested Soil Infiltration Rate= 2 in/hr (See Note 4)

Destination Design= N/A in/hr

Design Soil Infiltration Rate= 2 in/hr

Soil Infiltration Rate

Design Storms Used For Calculations

Requirement	Rainfall Depth	Design Storm
Pollution Reduction	1.4 inches	Water Quality
Flow Control	3.6 inches	Flood Control
Destination	3.6 inches	Flood Control

Facility Data

Facility Type= Infiltration Rain Garden
Surface Width= 10 ft
Surface Length= 19 ft
Facility Side Slopes= 3 to 1
Max. Ponding Depth
in Stormwater Facility= 12 in
Depth of Growing Medium (Soil)= 4 in

Facility Surface Area= 190 sqft
Facility Surface Perimeter= 58 ft
Facility Bottom Area= 52 sqft
Facility Bottom Perimeter= 34 ft
Basin Volume= 139.0 cf
Ratio of Facility Area to Impervious Area= 0.034

Pollution Reduction-Calculation Results

Peak Flow Rate to Stormwater Facility = 0.044 cfs
Total Runoff Volume to Stormwater Facility = 550 cf
Max. Depth of Stormwater in Facility = 11.8 in
Drawdown Time = 3.0 hours

Peak Facility Overflow Rate = 0.000 cfs
Total Overflow Volume = 0 cf

Yes Facility Sizing Meets Pollution Reduction Standards?

YES Meets Requirement of No Facility Flooding?

YES Meets Requirement for Maximum of 18 Hour Drawdown Time?

Flow Control-Calculation Results

Peak Flow Rate to Stormwater Facility = 0.121 cfs
Total Runoff Volume to Stormwater Facility = 1568 cf
Max. Depth of Stormwater in Facility = 12.0 in
Drawdown Time = 6.8 hours

Peak Facility Overflow Rate = 0.112 cfs
Total Overflow Volume = 754 cf
Peak Off-Site Flow Rate
Filtration Facility Underdrain = N/A cfs

Pre-Development Runoff Data

Peak Flow Rate = 0.067 cfs
Total Runoff Volume = 982 cf

N/A Facility Sizing Meets Flow Control Standards?

N/A Meets Requirement for Post Development offsite flow less or equal to Pre-Development Flow?

N/A Meets Requirement for Maximum of 18 Hour Drawdown Time?

Destination-Calculation Results

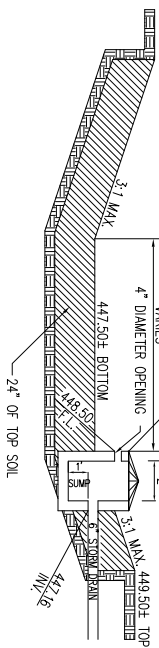
Peak Flow Rate to Stormwater Facility = N/A cfs
Total Runoff Volume to Stormwater Facility = N/A cf
Max. Depth of Stormwater in Facility = N/A in
Drawdown Time = N/A hours

Peak Facility Overflow Rate = N/A cfs
Total Overflow Volume = N/A cf

N/A Facility Sizing Meets Destination Standards?

N/A Meets Requirement of No Facility Flooding?

N/A Meets Requirement for Maximum of 30 hour Drawdown Time?



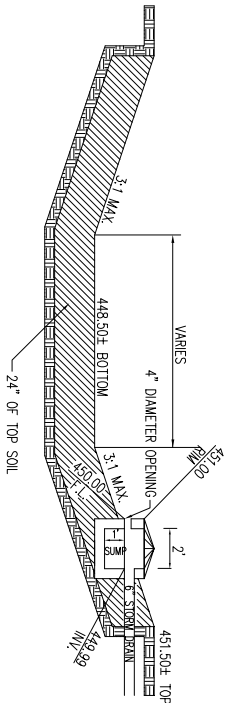
1. THE THICKNESS OF THE CONSTRUCTED MEDIUM, INCLUDING OR IN ADDITION TO THE GROWING MEDIUM, AT THE BASE OF THE POND SHALL BE A MINIMUM OF 24 INCHES THICK.
2. THE BASE OF THE POND SHALL INCLUDE A CONSTRUCTED MEDIUM COMPRISING A MIXTURE OF SAND, NATIVE SOIL, LOAM, AND COMPOST. THE FRACTION OF ORGANIC CARBON (FOC) IN THE CONSTRUCTED MEDIUM SHALL BE A MINIMUM OF 0.20 (I.E., 40-50%) ORGANIC MATTER. IF THE GROWING MEDIUM DOES NOT CONFORM TO THIS MINIMUM FOC REQUIREMENT, THEN THE CONSTRUCTED MEDIUM WOULD BE PLACED IN ADDITION TO THE REQUIRED GROWING MEDIUM.
3. SEED MIX SHALL BE REXIUS STORMWATER SWALE MIX.

EQUAL NUMBER OF PLANTS FOR EACH ZONE SPACED ONE FOOT ON CENTER OVER THE ENTIRE FACILITY

ZONE A (BELOW ELEVATION 449.20)	ZONE B (ABOVE ELEVATION 449.20)
CAREX OBNUPA 4" POTS	CAMASSIA QUAMASH 4" POTS
JUNCUS PATENS 4" POTS	DESCHAMPSIA CAESPITOSA 4" POTS

NORTH DETENTION POND DETAIL

NO SCALE



1. THE THICKNESS OF THE CONSTRUCTED MEDIUM, INCLUDING OR IN ADDITION TO THE GROWING MEDIUM, AT THE BASE OF THE POND SHALL BE A MINIMUM OF 24 INCHES THICK.
2. THE BASE OF THE POND SHALL INCLUDE A CONSTRUCTED MEDIUM COMPRISING A MIXTURE OF SAND, NATIVE SOIL, LOAM, AND COMPOST. THE FRACTION OF ORGANIC CARBON (FOC) IN THE CONSTRUCTED MEDIUM SHALL BE A MINIMUM OF 0.20 (I.E., 40-50%) ORGANIC MATTER. IF THE GROWING MEDIUM DOES NOT CONFORM TO THIS MINIMUM FOC REQUIREMENT, THEN THE CONSTRUCTED MEDIUM WOULD BE PLACED IN ADDITION TO THE REQUIRED GROWING MEDIUM.
3. SEED MIX SHALL BE REXIUS STORMWATER SWALE MIX.

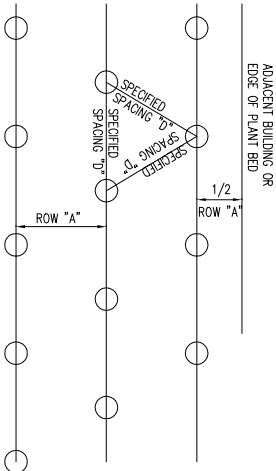
EQUAL NUMBER OF PLANTS FOR EACH ZONE SPACED ONE FOOT ON CENTER OVER THE ENTIRE FACILITY

ZONE A (BELOW ELEVATION 451.00)	ZONE B (ABOVE ELEVATION 451.00)
CAREX OBNUPA 4" POTS	CAMASSIA QUAMASH 4" POTS
JUNCUS PATENS 4" POTS	DESCHAMPSIA CAESPITOSA 4" POTS

SOUTH DETENTION POND DETAIL

NO SCALE

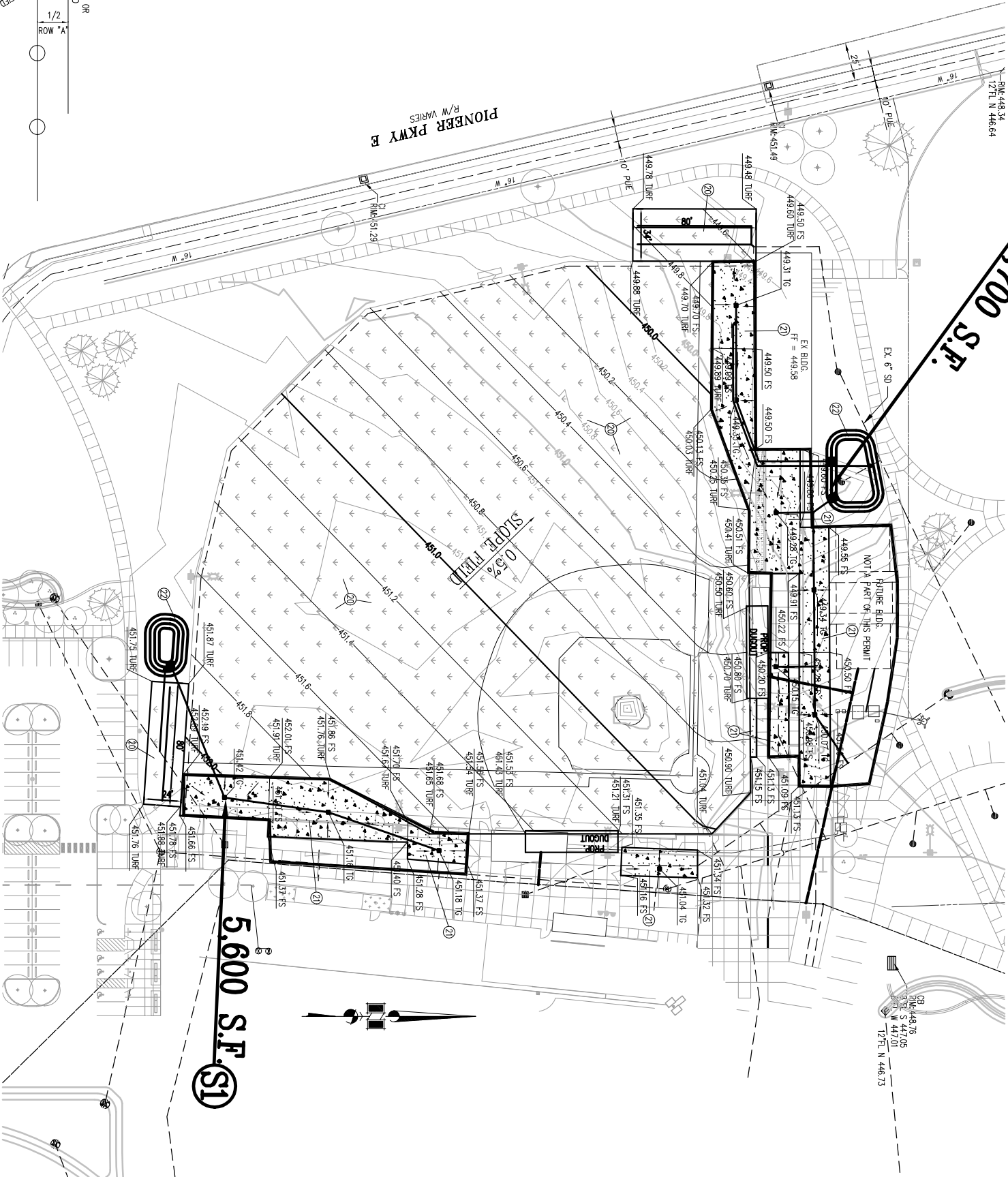
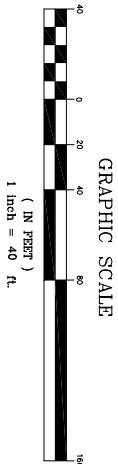
Vegetation shall not become overgrown and shall be managed to include controlling invasions or invasive vegetation. At the end of the first year and again at the end of the 2-year warranty period, all plants that do not survive must be replaced by developer. Establishment procedures, such as control of invasive weeds, animal and vermin damage, mulching, re-staking, watering, and mesh or tube protection shall be included in the construction contract to ensure plant survival. The developer shall be responsible for the maintenance of the vegetation after the warranty period is the responsibility of the property owner.



SPACING "D"		ROW "A"	ROW "B"
3"	O.C.	2.6'	1.6'
6"	O.C.	5.2'	3.2'
9"	O.C.	7.8'	4.8'
12"	O.C.	10.4'	6.4'
15"	O.C.	13.0'	8.0'

GROUNDCOVER SPACING DIAGRAM

NO SCALE



- CONSTRUCTION NOTES
- 20 INSTALL ARTIFICIAL TURF AND OPEN ROCK BASE PER MANUFACTURER'S SPECIFICATIONS
 - 21 CONSTRUCT 6" THICK CONCRETE
 - 22 CONSTRUCT DETENTION POND PER DETAIL THIS SHEET

GENERAL NOTE:
SEE ARCHITECTURAL PLANS FOR BLEACHERS, GATES, DUGOUT, AND FENCE DETAILS

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PLANS PREPARED BY:
THE FAVREAU GROUP
CIVIL ENGINEERING

3750 NORWICH AVE.
EUGENE, OR 97408 (541) 683-7048





Stormwater Surface Filtration/Infiltration Facility Sizing Spreadsheet

24 Hour Storm, NRCS Type 1A Rainfall Distribution

City of Eugene

Version 2.1

Project Information

Project Name:	<u>Hamlin Middle School</u>	Date:	<u>7/9/2021</u>
Project Address:		Permit Number:	<u>[Permit #]</u>
		Catchment ID:	<u>North basin</u>
Designer:	<u>Anthony J. Favreau</u>		
Company:	<u>The Favreau Group</u>		

Instructions:

1. Complete this form for each drainage catchment in the project site that is to be sized per the Presumptive Approach.
2. Provide a distinctive Catchment ID for each facility coordinated with the site basin map to correlate the appropriate calculations with the facility.
3. The maximum drainage catchment to be modeled per the Presumptive Approach is 1 acre (43,560 SF)
4. For infiltration facilities in Class A or B soils where no infiltration testing has been performed use an infiltration rate of 0.5 in/hr. For all facilities use a maximum soil infiltration rate of 2.5 in/hr for topsoil/growing medium.

Design Requirements:

Choose "Yes" from the dropdown boxes below next to the design standards requirements for this facility.

Pollution Reduction (PR)	<u>Yes</u>	
Flow Control (FC)	<u>No</u>	
Destination (DT)	<u>No</u>	*An infiltration facility must be chosen as the facility type to meet destination requirements

Site Data-Post Development

Total Square Footage Impervious Area=	<u>20100</u> sqft	Total Square Footage Pervious Area=	<u>4400</u> sqft
Impervious Area CN=	<u>98</u>	Pervious Area CN=	<u>85</u>
Total Square Footage of Drainage Area=	<u>24500</u> sft	Time of Concentration Post Development=	<u>5</u> min
Weighted Average CN=	<u>96</u>		

Site Data-Pre Development (Data in this section is only used if Flow Control is required)

Pre-Development CN=	<u>85</u>	Time of Concentration Pre-Development=	<u>10</u> min
---------------------	-----------	--	---------------

Soil Data

Tested Soil Infiltration Rate=	<u>1.5</u> in/hr (See Note 4)	Destination Design=	<u>N/A</u> in/hr
Design Soil Infiltration Rate=	<u>1.5</u> in/hr	Soil Infiltration Rate	

Design Storms Used For Calculations

Requirement	Rainfall Depth	Design Storm
Pollution Reduction	1.4 inches	Water Quality
Flow Control	3.6 inches	Flood Control
Destination	3.6 inches	Flood Control

Facility Data

Facility Type=	<u>Infiltration Rain Garden</u>	Facility Surface Area=	<u>920</u> sqft
Surface Width=	<u>23</u> ft	Facility Surface Perimeter=	<u>126</u> ft
Surface Length=	<u>40</u> ft	Facility Bottom Area=	<u>578</u> sqft
Facility Side Slopes=	<u>3</u> to 1	Facility Bottom Perimeter=	<u>102</u> ft
Max. Ponding Depth in Stormwater Facility=	<u>12</u> in	Basin Volume=	<u>767.0</u> cf
Depth of Growing Medium (Soil)=	<u>4</u> in	Ratio of Facility Area to Impervious Area=	<u>0.038</u>

Pollution Reduction-Calculation Results

Peak Flow Rate to Stormwater Facility = 0.155 cfs
Total Runoff Volume to Stormwater Facility = 1981 cf
Max. Depth of Stormwater in Facility = 7.7 in
Drawdown Time = 2.3 hours

Peak Facility Overflow Rate = 0.000 cfs
Total Overflow Volume = 0 cf

Yes Facility Sizing Meets Pollution Reduction Standards?

YES Meets Requirement of No Facility Flooding?

YES Meets Requirement for Maximum of 18 Hour Drawdown Time?

Flow Control-Calculation Results

Peak Flow Rate to Stormwater Facility = 0.501 cfs
Total Runoff Volume to Stormwater Facility = 6331 cf
Max. Depth of Stormwater in Facility = 12.0 in
Drawdown Time = 8.2 hours

Peak Facility Overflow Rate = 0.469 cfs
Total Overflow Volume = 3148 cf
Peak Off-Site Flow Rate
Filtration Facility Underdrain = N/A cfs

Pre-Development Runoff Data

Peak Flow Rate = 0.293 cfs
Total Runoff Volume = 4295 cf

N/A Facility Sizing Meets Flow Control Standards?

N/A Meets Requirement for Post Development offsite flow less or equal to Pre-Development Flow?

N/A Meets Requirement for Maximum of 18 Hour Drawdown Time?

Destination-Calculation Results

Peak Flow Rate to Stormwater Facility = N/A cfs
Total Runoff Volume to Stormwater Facility = N/A cf
Max. Depth of Stormwater in Facility = N/A in
Drawdown Time = N/A hours

Peak Facility Overflow Rate = N/A cfs
Total Overflow Volume = N/A cf

N/A Facility Sizing Meets Destination Standards?

N/A Meets Requirement of No Facility Flooding?

N/A Meets Requirement for Maximum of 30 hour Drawdown Time?

Job Name: _____	Client Name: _____
Job Location - City: _____ State: _____	Created By: _____ Date: _____
Product: DS330 Quote: _____	Customer Approval: _____ Date: _____

SPECIFICATIONS

Pole Shaft - The pole shaft is fabricated from hot rolled welded steel tubing of one-piece construction with a minimum yield strength of 55 KSI.

Pole Top - A removable pole cap is provided for poles receiving drilling patterns for side-mount luminaire arm assemblies. For top mount luminaire and/or bracket consult the factory. Consult the luminaire manufacturer for correct tenon size or drill pattern. Other pole top options include pole cap only (PC) or plain top (PL) which is typical when the pole top diameter matches the necessary slip fit dimensions.

Handhole - A reinforced handhole with grounding provision is provided at 1'-6" from the base end of the pole assembly. Each handhole includes an easy to install, self-contained Swing Latch handhole cover assembly. U.S. Patent Swing Latch cover is fabricated from durable polycarbonate/ABS blend plastic. All pole assemblies are provided with a 2.50" x 5.00" rectangular handhole. Handhole dimensions are nominal.

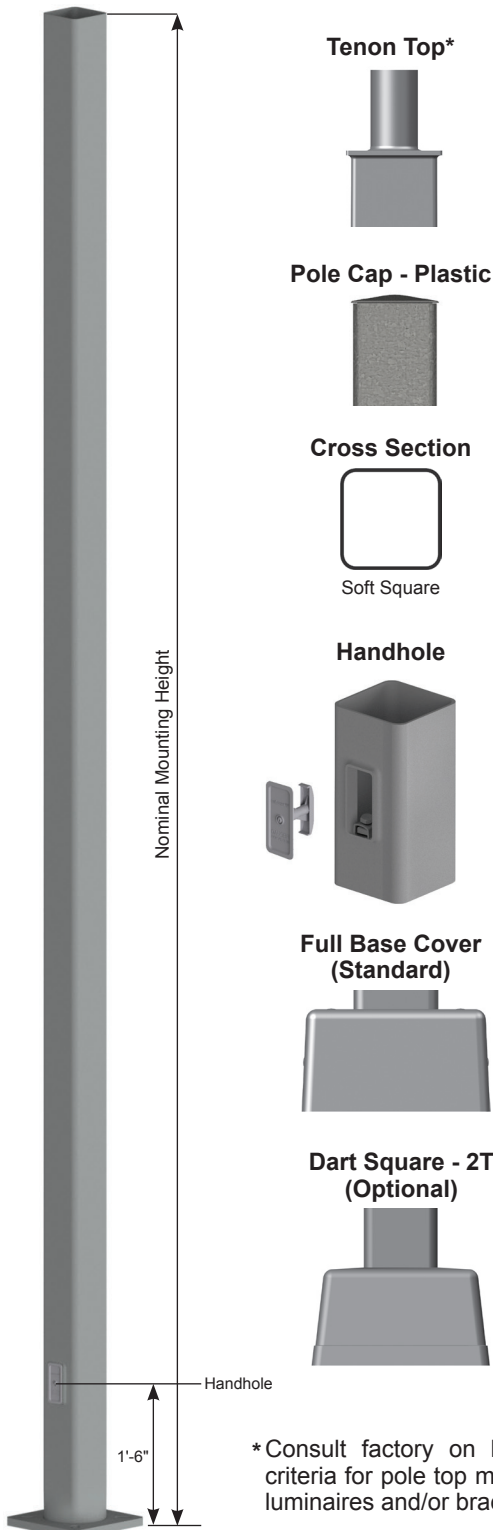
Base Cover - A two-piece full base cover fabricated from ABS plastic is provided with each pole assembly. Additional base cover options, including the dart square (2T) cast aluminum cover, are available upon request.

Anchor Bolts - Anchor bolts conform to ASTM F1554 Grade 55 and are provided with two hex nuts and two flat washers. Bolts have an "L" bend on one end and are galvanized a minimum of 12" on the threaded end.

Hardware - All structural fasteners are galvanized high strength carbon steel. All non-structural fasteners are galvanized or zinc-plated carbon steel or stainless steel.

Finish - Standard finishes are either Galvanized (GV) or Finish Painted (FP). Additional finish options including Finish Paint over Galvanizing (FPGV) or any of the V-PRO™ Finish Coating Systems are available upon request. See the product ordering code for color options.

Design Criteria - Please reference Design Criteria Specification for appropriate design conditions.



*Consult factory on loading criteria for pole top mounted luminaires and/or brackets.

DS330

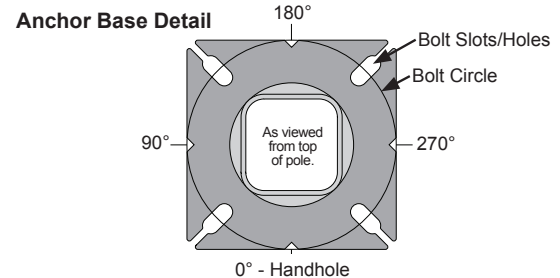
Fatigue Resistant Soft Square Steel Post

valmont®
STRUCTURES

Job Name: _____	Client Name: _____
Job Location - City: _____ State: _____	Created By: _____ Date: _____
Product: DS330 Quote: _____	Customer Approval: _____ Date: _____

ANCHORAGE DATA

POLE POLE BASE SQUARE (IN)	WALL THK (GA)	BASE PLATE		ANCHOR BOLTS					
		BOLT CIRCLE		SQUARE (IN)	THK (IN)	DIA x LENGTH x HOOK (IN)	PROJECTION (IN)	± (IN)	
4.00	11	8.50	0.50	8.25	0.750	0.75 x 17.00 x 3.00	3.50	0.25	
4.00	7	8.50	0.50	8.25	0.875	0.75 x 17.00 x 3.00	3.63	0.25	
5.00	11	11.00	1.00	11.00	1.000	0.75 x 17.00 x 3.00	3.75	0.25	
5.00	7	11.00	1.00	11.00	1.000	0.75 x 17.00 x 3.00	3.75	0.25	
6.00	7	12.00	1.00	12.50	1.000	1.00 x 36.00 x 4.00	4.25	0.25	



DESIGNATION, LOAD AND DIMENSIONAL DATA

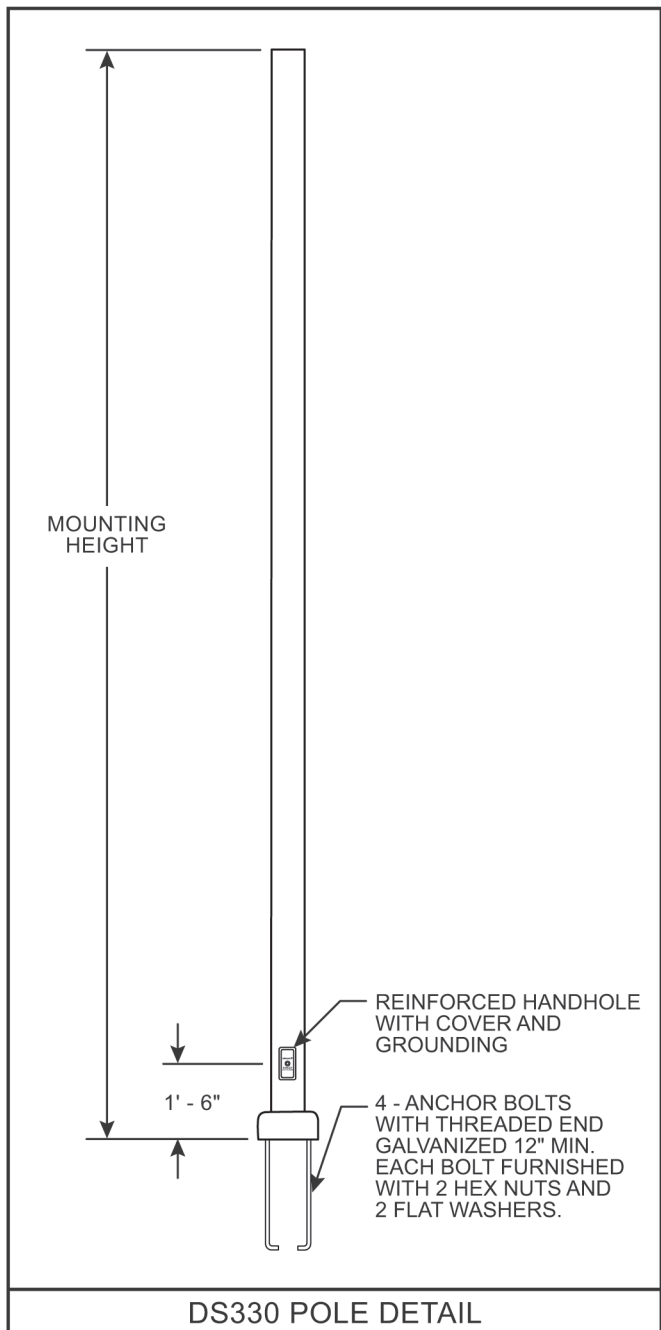
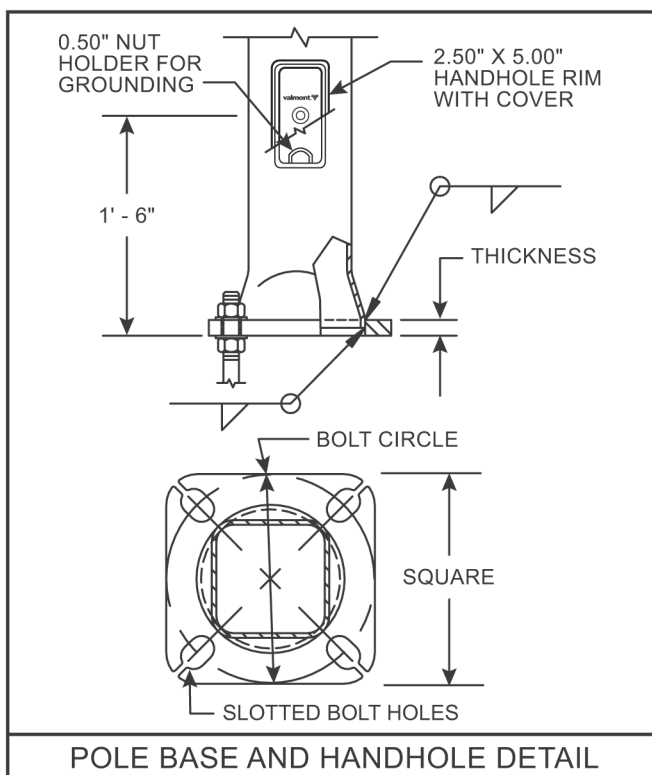
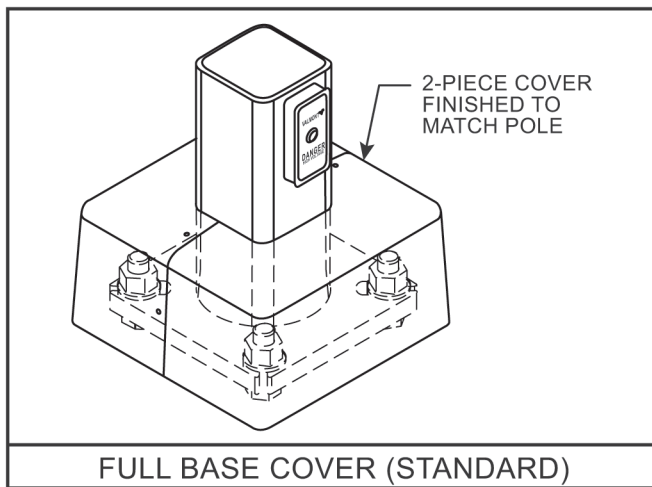
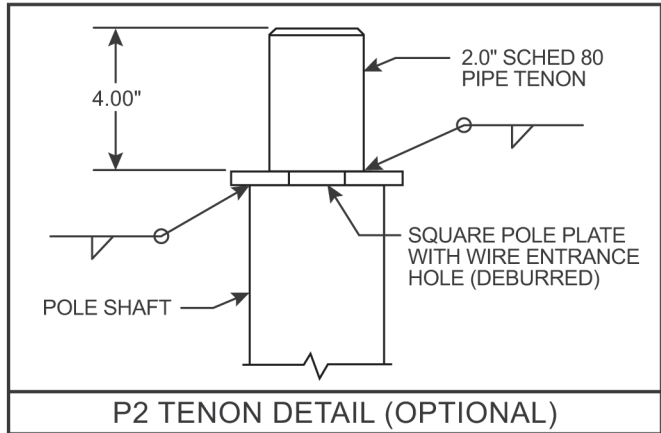
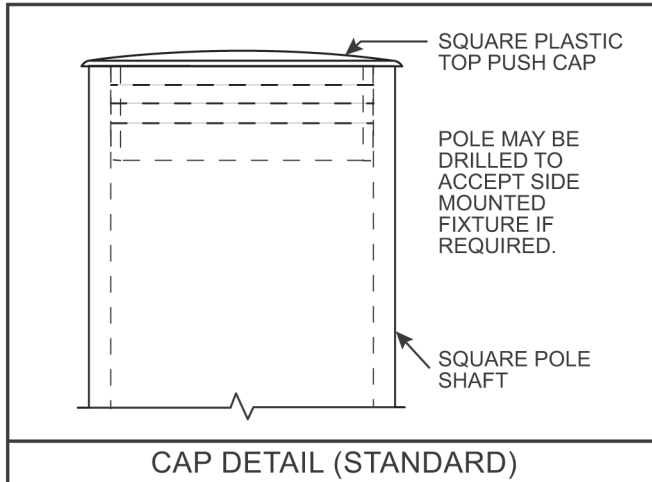
DESIGN INFORMATION							POLE DIMENSIONS ³				DESIGNATION
NOMINAL MOUNTING HEIGHT	80 MPH w/1.3 GUST		90 MPH w/1.3 GUST		100 MPH w/1.3 GUST		SHAFT BASE SQUARE ³ (IN)	SHAFT TOP SQUARE (IN)	WALL THK (GA)	STRUCTURE WEIGHT ² (LBS)	
	MAX EPA ¹ (SQ FT)	MAX WEIGHT ¹ (LBS)	MAX EPA ¹ (SQ FT)	MAX WEIGHT ¹ (LBS)	MAX EPA ¹ (SQ FT)	MAX WEIGHT ¹ (LBS)					
10'-0"	30.6	765	23.8	595	18.9	473	4.00	4.00	11	75	400Q100
12'-0"	24.4	610	18.8	470	14.8	370	4.00	4.00	11	90	400Q120
14'-0"	19.9	498	15.1	378	11.7	293	4.00	4.00	11	100	400Q140
16'-0"	15.9	398	11.8	295	8.9	223	4.00	4.00	11	115	400Q160
18'-0"	12.6	315	9.2	230	6.7	168	4.00	4.00	11	125	400Q180
20'-0"	9.6	240	6.7	167	4.5	150	4.00	4.00	11	140	400Q200
	17.7	443	12.7	343	9.4	235	5.00	5.00	11	185	500Q200
	28.1	703	21.4	535	16.2	405	5.00	5.00	7	265	500W200
25'-0"	4.8	150	2.6	100	1.0	50	4.00	4.00	11	170	400Q250
	10.8	270	7.7	188	5.4	135	4.00	4.00	7	245	400W250
	9.8	245	6.3	157	3.7	150	5.00	5.00	11	225	500Q250
	18.5	463	13.3	333	9.5	238	5.00	5.00	7	360	500W250
30'-0"	6.7	168	4.4	110	2.6	65	4.00	4.00	7	291	400W300
	4.7	150	2.0	50	N/A	N/A	5.00	5.00	11	265	500Q300
	10.7	267	6.7	167	3.9	100	5.00	5.00	7	380	500W300
	19.0	475	13.2	330	9.0	225	6.00	6.00	7	520	600W300
35'-0"	5.9	150	2.5	100	N/A	N/A	5.00	5.00	7	440	500W350
	12.4	310	7.6	190	4.2	105	6.00	6.00	7	540	600W350
40'-0"	7.2	180	3.0	75	N/A	N/A	6.00	6.00	7	605	600W400

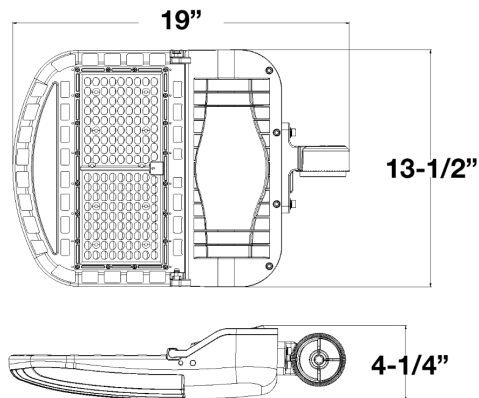
- Maximum EPA (Effective Projected Area) and weight values are based on side mounted fixtures only. Consult factory on loading criteria for pole top mounted luminaires and/or brackets. Variations from sizes above are available upon inquiry at the factory. Satisfactory performance of poles is dependent upon the pole being properly attached to a supporting foundation of adequate design.
- Structure weight is a nominal value which includes the pole shaft and base plate only.
- Belled-bottom will have reduced thickness due to the cold-working process. However, the belled-bottom meets or exceeds the structural capacity of the original square section. In addition, the rounded section provides better fatigue resistance.

PRODUCT ORDERING CODES

MODEL	DESIGNATION	FIXTURE MOUNTING	FINISH SYSTEM	STANDARD COLOR OPTIONS	BASE COVER	ANCHOR BOLTS	SUPPLEMENTAL INFO
DS330							
	Select Correct Designation from the Load and Dimensional Data Chart.	Drill Mounting (See Orientation) D1 = (1) Drilling @ 270° D2 = (2) Drillings @ 90° & 270° D4 = (4) Drillings @ 0°, 90°, 180°, & 270° D5 = (2) Drillings @ 180° & 270° D6 = (3) Drillings @ 90°, 180°, & 270° Tenon Mounting P2 = 2.38" OD x 4" tenon P4 = 4.00" OD x 6" tenon P5 = 2.88" OD x 4" tenon P6 = 2.88" OD x 5" tenon P7 = 2.38" OD x 5" tenon P9 = Special Size (Specify) Other Options PC = Pole Cap PL = Plain Top (No Cap)	GV = Galvanized FP = Finish Painted ----- OPTIONAL FPGV = Finish Paint over Galvanizing VP30 = V-PRO™ 30 System VP32 = V-PRO™ 32 System VP53 = V-PRO™ 53 System VP54 = V-PRO™ 54 System VP57 = V-PRO™ 57 System VP100 = V-PRO™ 100 System VP105 = V-PRO™ 105 System	GV = Galvanized BK = Black DB = Dark Bronze MB = Medium Bronze WH = White LG = Light Gray CB = Bronze DG = Dark Green ST = Sandstone HTG = Hunter Green SG = Slate Gray SL = Silver SC = Special Color (Specify)	FBC = Full Base Cover ----- OPTIONAL 2T = Square Dart Cover	AB = With Anchor Bolts LAB = Without Anchor Bolts	

DS330 - Fatigue Resistant Square Non-Tapered Steel Pole





Part#	Wattage	Volts	Housing Color	Light Pattern	Lumens	CCT	CRI	Dimming	Lumens/Watt	DLC Product ID# Area Light	DLC Product ID# Flood Light
74010A	150	120-277	Bronze	Type III	19186	5000	75.0	0-10V/PWM/VR	130.1	PL3P3X8C8SW2	PLWTUITQXBWO
74012A	150	120-277	White	Type III	19186	5000	75.0	0-10V/PWM/VR	130.1	PL3P3X8C8SW2	PLWTUITQXBWO
74008A	150	120-277	Bronze	Type III	18931	4000	75.0	0-10V/PWM/VR	128.5	PLABV9LGR8KI	PL49WKINNF8K
74014A	150	347-480	Bronze	Type III	19274	5000	75.0	0-10V/PWM/VR	130.0	PLVMLQ0E8DUK	PLU184OY5RDH
74011A	150	120-277	Bronze	Type IV	19367	5000	75.0	0-10V/PWM/VR	131.1	PLURU0YEQF0M	PLM8ZY28RS2J
74013A	150	120-277	White	Type IV	19367	5000	75.0	0-10V/PWM/VR	129.7	PLURU0YEQF0M	PLM8ZY28RS2J
74009A	150	120-277	Bronze	Type IV	19139	4000	75.0	0-10V/PWM/VR	129.7	PL1ZLHFSXT7S	PLN6RVZGE4SP
74015A	150	347-480	Bronze	Type IV	18694	5000	75.0	0-10V/PWM/VR	126.3	PLOIENBYK2E7	PL6UBJ0LQYCF
74053A	150	120-277	Bronze	Type V	19142	5000	75.0	0-10V/PWM/VR	129.6	PL9IMPD3N3XB	PLIOBVXOEGOL
74055A	150	120-277	Bronze	Type V	18907	4000	75.1	0-10V/PWM/VR	128.0	PL41SCTU1FCK	PLW97EPMTYDP
74054A	150	347-480	Bronze	Type V	18668	5000	75.0	0-10V/PWM/VR	126.2	PL09Q2RXSOYH	PLS5FBC7P8ZP

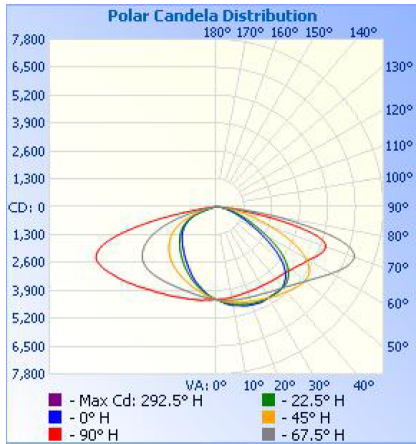


Area Light 8 3'



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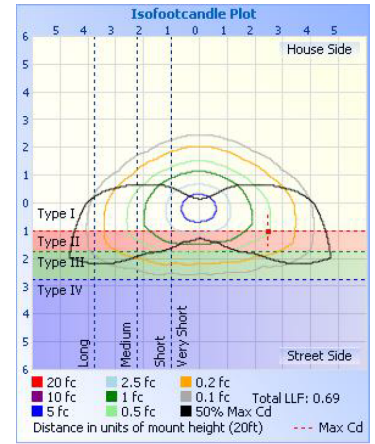
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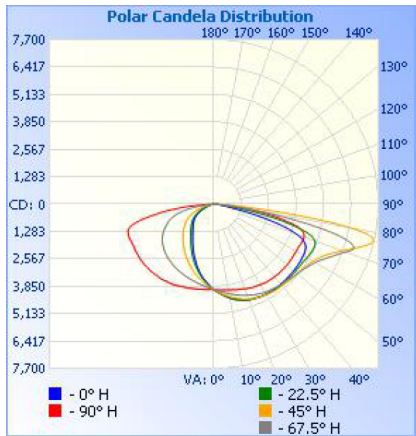
Illuminance at a Distance

	Center Beam fc	Beam Width
17.0ft	14.9 fc	40.4 ft 108.4 ft
34.0ft	3.73 fc	80.8 ft 216.7 ft
51.0ft	1.66 fc	121.2 ft 325.1 ft
68.0ft	0.93 fc	161.6 ft 433.5 ft
85.0ft	0.60 fc	201.9 ft 541.9 ft
102.0ft	0.41 fc	242.3 ft 650.2 ft

Vert. Spread: 99.8°
Horiz. Spread: 145.2°



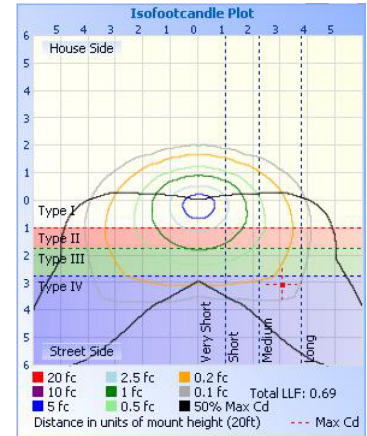
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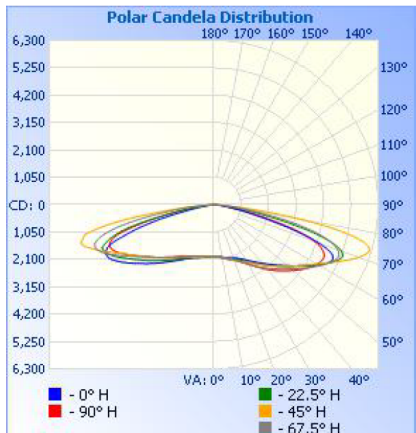
Illuminance at a Distance

	Center Beam fc	Beam Width
17.0ft	13.9 fc	35.6 ft 17.2 ft
34.0ft	3.47 fc	71.3 ft 34.4 ft
51.0ft	1.54 fc	106.9 ft 51.6 ft
68.0ft	0.87 fc	142.5 ft 68.8 ft
85.0ft	0.55 fc	178.1 ft 86.0 ft
102.0ft	0.39 fc	213.8 ft 103.2 ft

Vert. Spread: 92.7°
Horiz. Spread: 53.7°



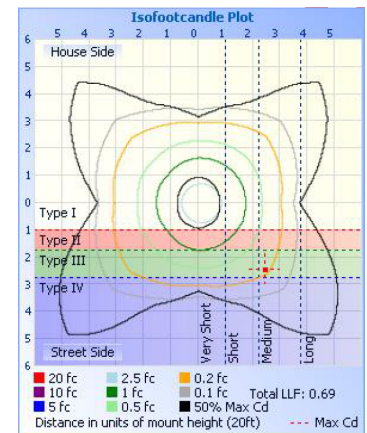
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Illuminance at a Distance

	Center Beam fc	Beam Width
17.0ft	6.90 fc	143.8 ft 60.9 ft
34.0ft	1.72 fc	287.5 ft 121.7 ft
51.0ft	0.77 fc	431.3 ft 182.6 ft
68.0ft	0.43 fc	575.1 ft 243.5 ft
85.0ft	0.28 fc	718.9 ft 304.4 ft
102.0ft	0.19 fc	862.6 ft 365.2 ft

Vert. Spread: 153.4°
Horiz. Spread: 121.6°





Area Light 8 3'



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Voltage	L70	Current	PF	THD	R9	DUV	Chromati city (x,y)	Chromati city (u,v)	Driver Output (Volts)	Driver Output (Amps)	BUG Rating	Surge Protection
120-277	>50k hrs	1.2327- 0.5533	0.996- 0.929	7.05%- 9.75%	0	-0.001	x=0.3817 y=0.3754	u=0.2265 v=0.5012	43V	3.1A	G2	10kV
277-480	>50k hrs	0.5366- 0.3268	0.997- 0.935	3.54%- 8.26%	0	-0.0011	x=0.3817 y=0.3752	u=0.2266 v=0.5011	43V	3.1A	G2	10kV

Component Specification:

LED Series 3030

Manufacturer: -

Manufacturer: -

Manufacturer: -

Manufacturer: -

M

Manufacturer: -

Manufacturer: -

Manufacturer: -

5WYggcf | Yg. BRONZE: WHITE:

Pole Mount: Cat # 740C3a2t # 37A403

Slipfitter Mount: Cat # 740C3a4t # 57A403

Yoke Mount: Cat # 740B6 Cat # 4073A

Manufacturer: Cat # 740C3a8t # 4093A

Manufacturer: Cat # 740B4 Cat # 47A404

Motion Detector: Cat # 74072 Cat # N/A

Listings:

UL Listed 47:4299

Cart Qty: 1

Weight: 4.1 lb

EP Rating: 2: f t

Morris Products carries a 5-year warranty on all products purchased against defects in workmanship (assuming normal use).



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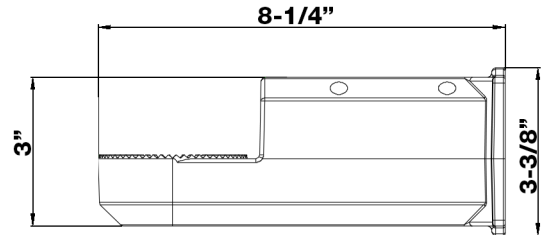
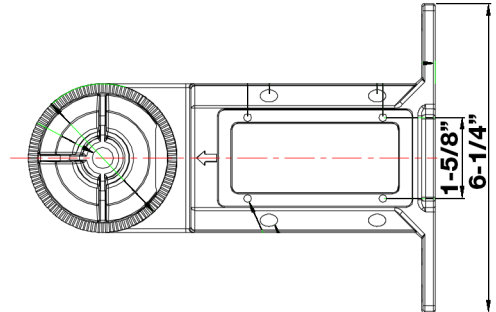
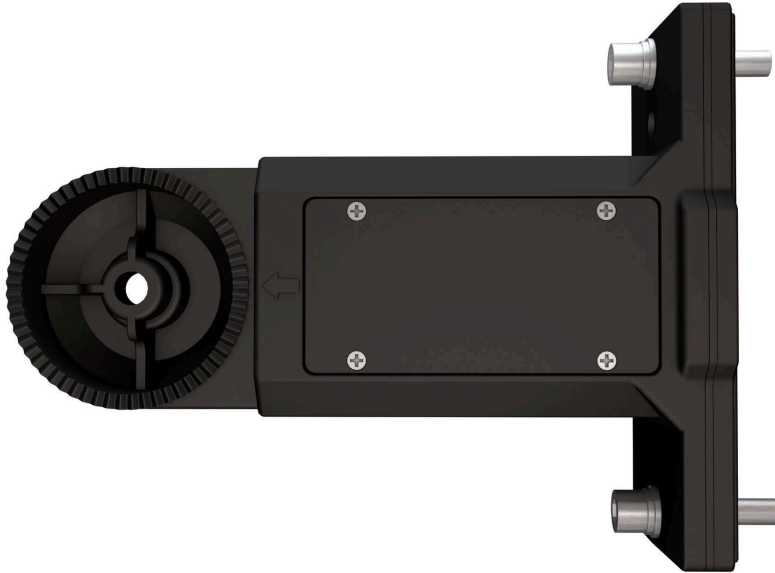
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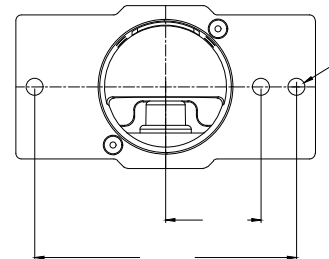
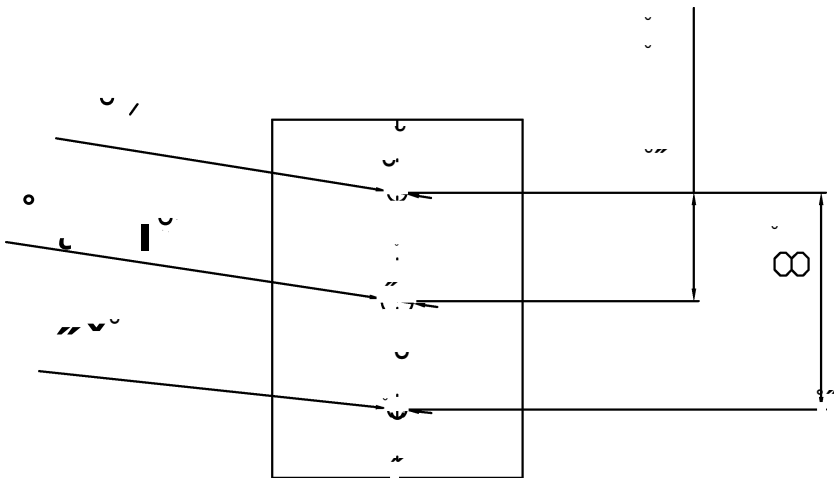
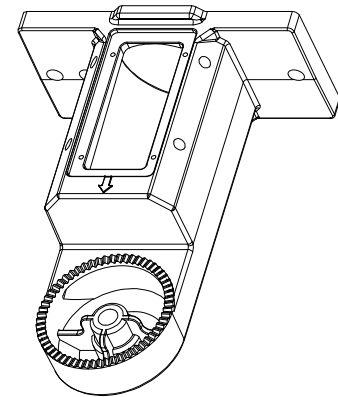
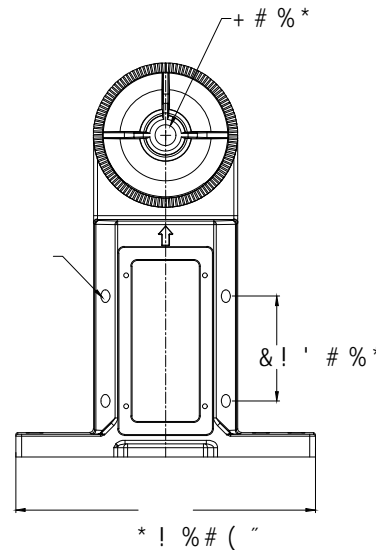
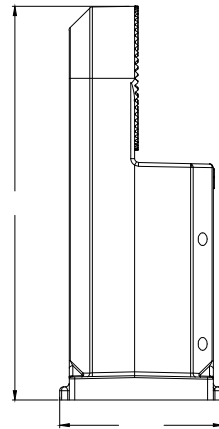
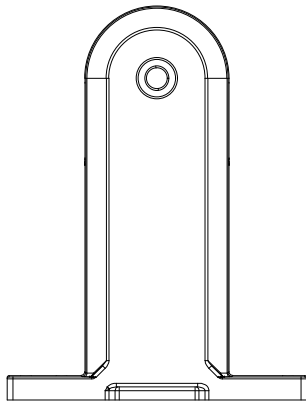
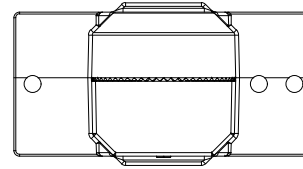
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 ' "7 c a Y k g] F Y j Y U g _ D h U g K U] W
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CED
155 GARFIELD ST., SUITE H1
EUGENE OR 97402
TEL: 541 683-2474 FAX: 541 343-8454

SLS: 0813
INSL: 0011
BY: RK
FOB: SHIPPING POINT
FRT: PREPAID

QUOTE #: 5001156
DATE: 07/09/21
REV #: 001
REV DATE: 07/09/21

CONTACT: ROGER KUHL
QUOTE FOR: OLSSON INDUST ELECT INC
ACCT #: LL-65374 OLSSON INDUST ELECT INC

QUOTE EXPIRES 08/08/2021

PO BOX 70413
SPRINGFIELD, OR 97475
TEL: (541)747-8460

CUS PO #:
JOB NAME: HAMLIN MIDDLE SCHOOL

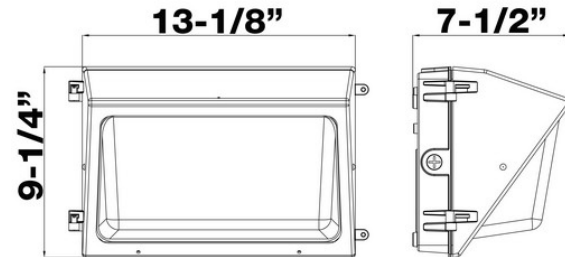
LN	TYPE/DESIG	QTY	MFR	CATALOG#	DESCRIPTION	PRICE	UOM	EXT AMT
01		1	MORRI	74010A		153.00	E	153.00
02					600+ IN NY			
03		1	MORRI	74043A		33.00	E	33.00
04					400+ IN NY			
05								
06					WALLPACK OPTIONS			
07		1	MORRI	71437C	45W FIXTURE 150W MH REPLACEMENT.	63.00	E	63.00
08					OR			
09		1	MORRI	71440B	120W FIXTURE 400W MH REPLACEMENT.	158.00	E	158.00
MDSE:								407.00
Shipping Charge:								0.00
TOTAL:								407.00

PLEASE NOTE: THIS IS NOT AN OFFER TO CONTRACT, BUT MERELY A QUOTATION OF CURRENT PRICES FOR YOUR CONVENIENCE AND INFORMATION. ORDERS BASED ON THIS QUOTATION ARE SUBJECT TO YOUR ACCEPTANCE OF THE TERMS AND CONDITIONS LOCATED AT SALES.OUR-TERMS.COM, WHICH WE MAY CHANGE FROM TIME TO TIME WITHOUT PRIOR NOTICE. WE MAKE NO REPRESENTATION WITH RESPECT TO COMPLIANCE WITH JOB SPECIFICATIONS.



MORRIS CAT#: 71437C

LED U e i m Classic WallPack 45W, 120-277V, 5000K Bronze



Features

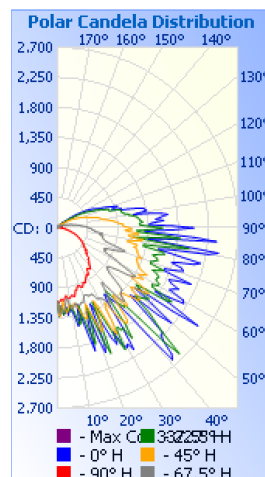
- Surge protection inside
- 5 Year Limited Warranty
- Aluminum, polyester powder coated

Aluminum Heat Sink, customized for optimal heat dissipation
Heat Resistant Directed Optics

Polycarbonate

DUfh = bdi h# KUhhU[Y	h@i aYbg 7H 7F= 8] aa] b[@] [\ h@i aYbg # DUhhYf bKUhh
7 FIHÖ	1 2 0 EGİİ	K - Öæ!æ*^

PHOTOMETRY





MORRIS CAT#: 71437C

LED U e i m Classic Wall Pack 45W, 120-277V, 5000K Bronze

u o

Electrical:

Input Voltage: 120
Current: 0.38 A @ 120 V
Frequency: 50 / 60 Hz
Power Factor: ≥ .9
THD: 20 % @ 120 V

Product Parameters:

Wattage: 45W
Lumen: 4900
Efficiency: 108 lm/watt
50,000+ Hour L70 Life Span
CCT: 5000 (K) (White)

Chromaticity Measurements:

Beam Angle: 120°
Beam Diameter: 10.3" @ 100'
CRI: > 72
R9: 2

Component

Specifications:

LED: 100% SMD
100% RoHS Compliant
Driver: 500mA
IKV Surge Protection

Dimming: V

Operating Temperature:

Minimum: -40°F to 31°F

Construction:

Housing: Aluminum
Powder Coated
Rating: Suitable for outdoor locations

Material: Recycled polycarbonate
UV Resistant

Mounting: Spider Plate

Listings:

Accessories:

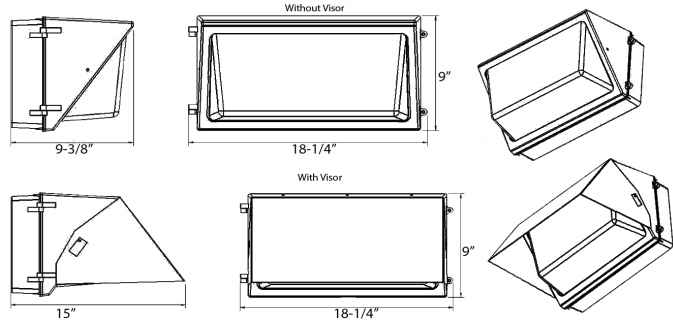
Emergency Pack	CAT#:
LED Button Style Photocell	CAT#:
LED Shutter Style Photocell	CAT#:
LED Pencil Style Photocell	CAT#:
Semi Cutoff Visor	CAT#:
Wire Guard	CAT#:

Warranty:

Morris Products warrants the product against defects in materials and workmanship and proper usage).



LED Large Classic Wall Packs

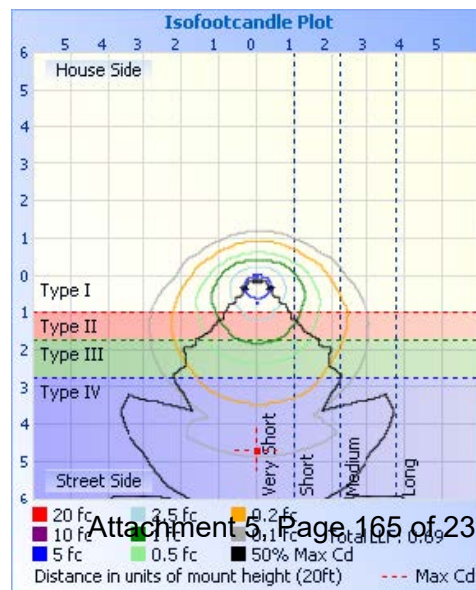
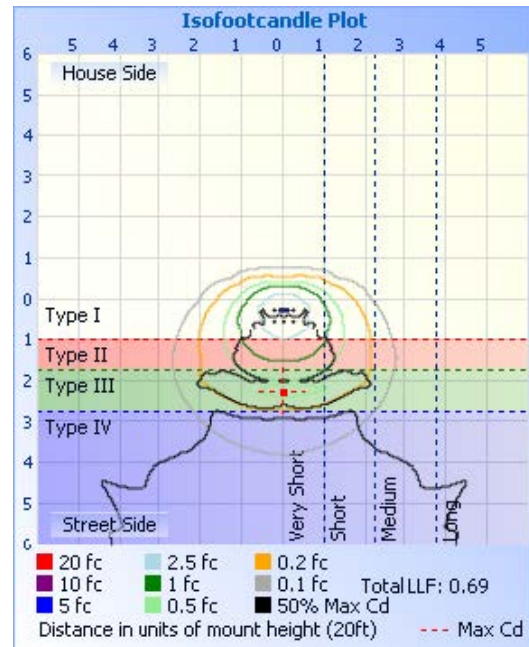
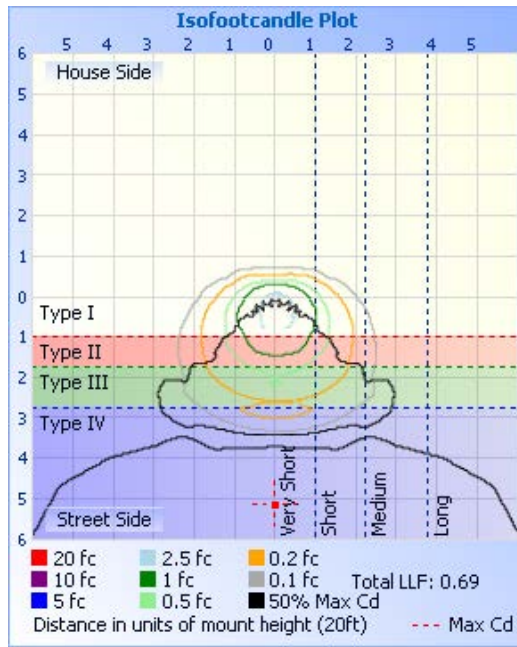
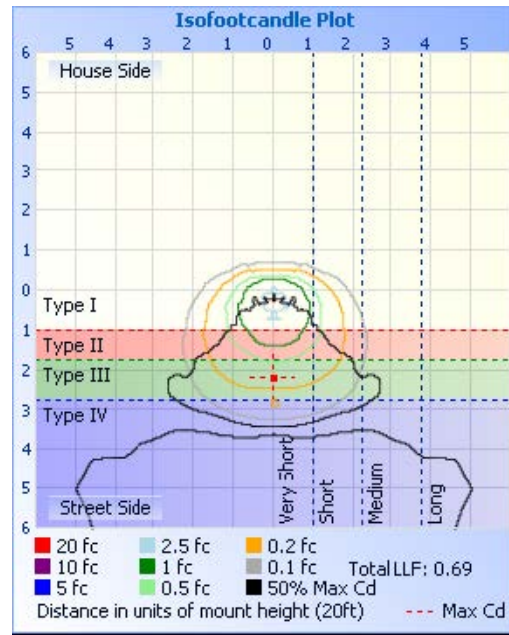
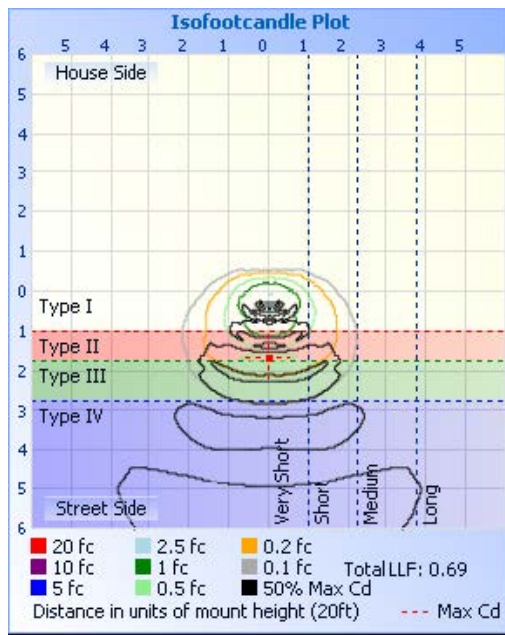


Aluminum Housing in Stainless Steel
Polycarbonate Lens
Aluminum Heat Sink Design
for Optimal Heat Dissipation
Heat Resistant Optics
Borosilicate Lens
Treaded Top, Visor Available
Rear Mount

Light Pattern: H
Emergency Battery Backup Available
Hardwired or Non-wired
Near Limited Warranty
Pre-rated
Certification: ETL, cETL
Entrusted to the Manufacturer
5 Year Life Expectancy
cETLus Listed
Photocontrols Sold Separately

New Cat#	Old Cat#	Watts	Volts	Housing Color	Lumens	HID Equivalent	Input Current Amps @120V	Dimming	Weight	Order Qty
Large Wall Packs - 120-277V										
71440B	71440A	120	120-277	Bronze	14,475	400W	0.96	0-10V	11	1
71441B	71441A	120	120-277	White	14,475	400W	0.96	0-10v	11	1
Large Wall Packs - 347-480V										
71450B		120	347-480	Bronze	4,997	400W	0.25	0-10V	9	1
Accessories										
71463B	71442	Full Cutoff Visor Bronze							3	1
71443B	71433	Full Cutoff Visor White							3	1
71460B		Wire Guard							3	1

PHOTOMETRY





LED Medium Classic Wall Pack

Technical Specifications

Electrical:

Input Voltage: 120V; 120V 480V

Current: 0.7A

Frequency: 50 / 60 Hz

Power Factor: $\geq .9$

THD: 20% @120V

Operating Temperature: -4°F to 131°F

Construction:

Housing: Die Cast Aluminum

Powder Coat Finish

Lens Material: Polycarbonate Borosilicate
UV Resistant

Product Parameters:

Efficiency: 100lm/watt

50,000+ Hour L70 Life

CCT: 5000K (Cool White)

Listing: ETL

Chromaticity Measurements:

Beam Angle: 90° X V109

Beam Spread: 32-60

CRI: 72

R9: 12

Accessories:

Full Cutoff Visor

Full Cutoff Visor White

Component Specifications:

Lumileds 3030

120V 277V OR 347 480V

50 - 60 HZ Driver 500mA Output Voltage

Driver

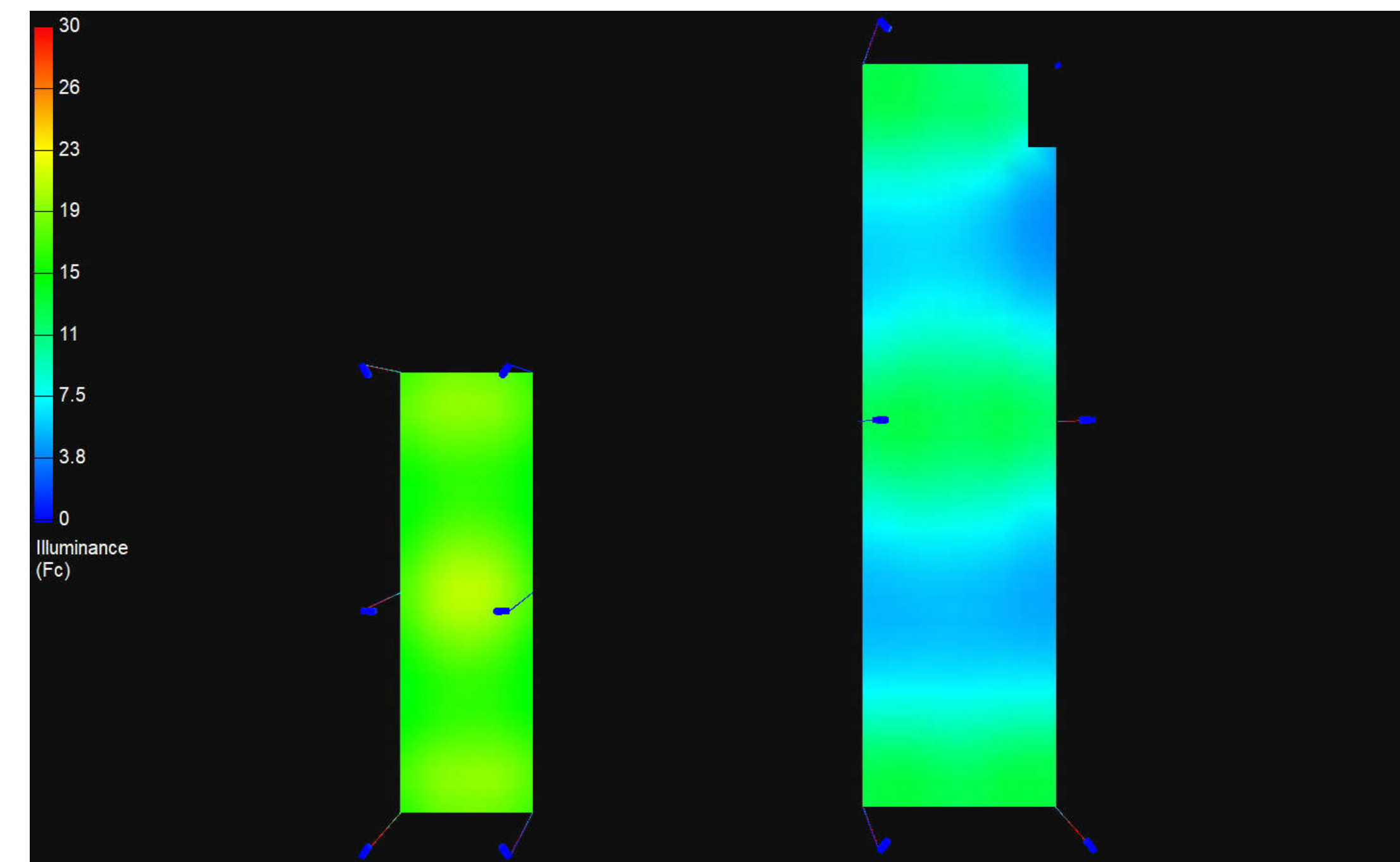
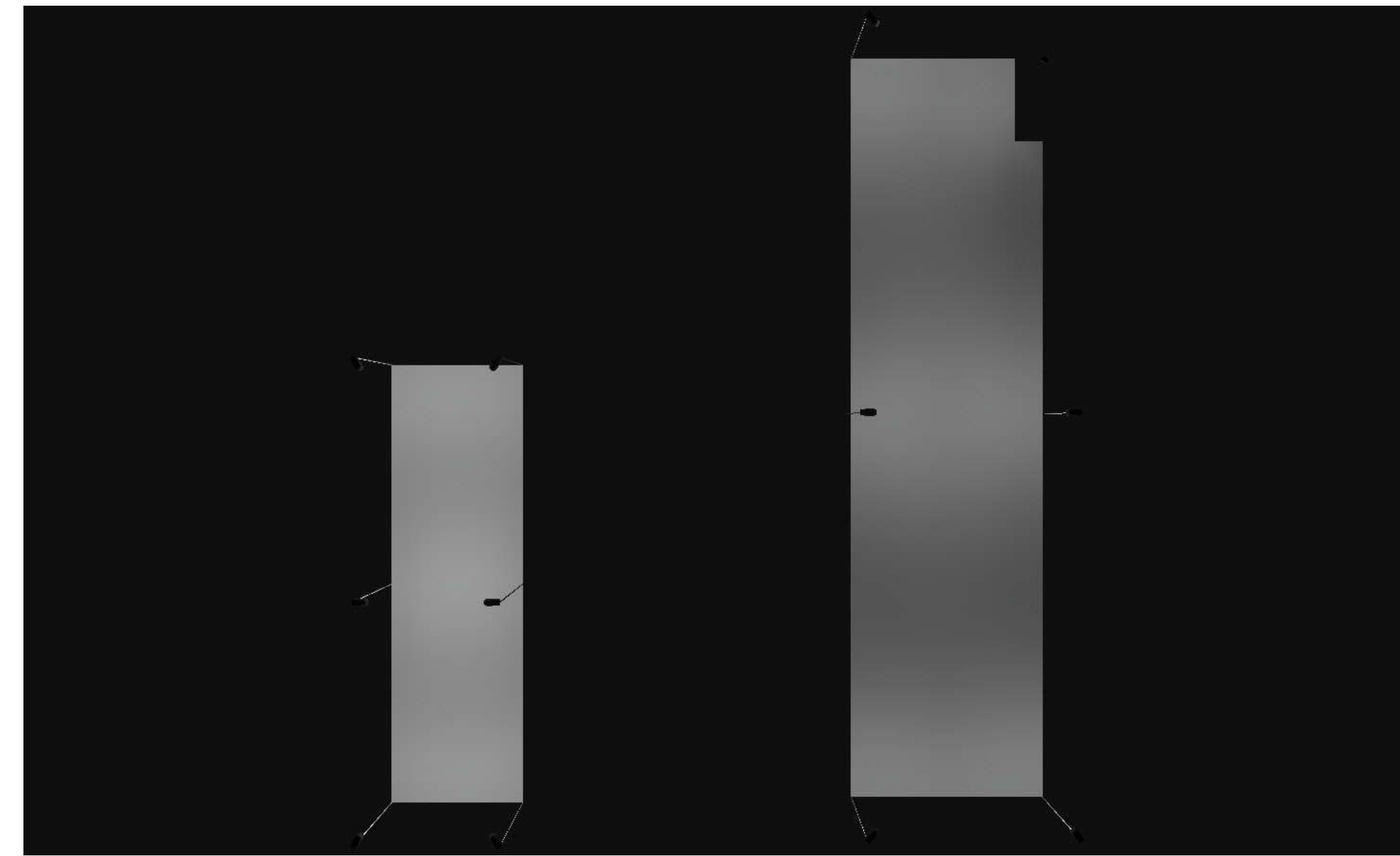
Emergency Backup for

KV Surge Protection

Dimming: V

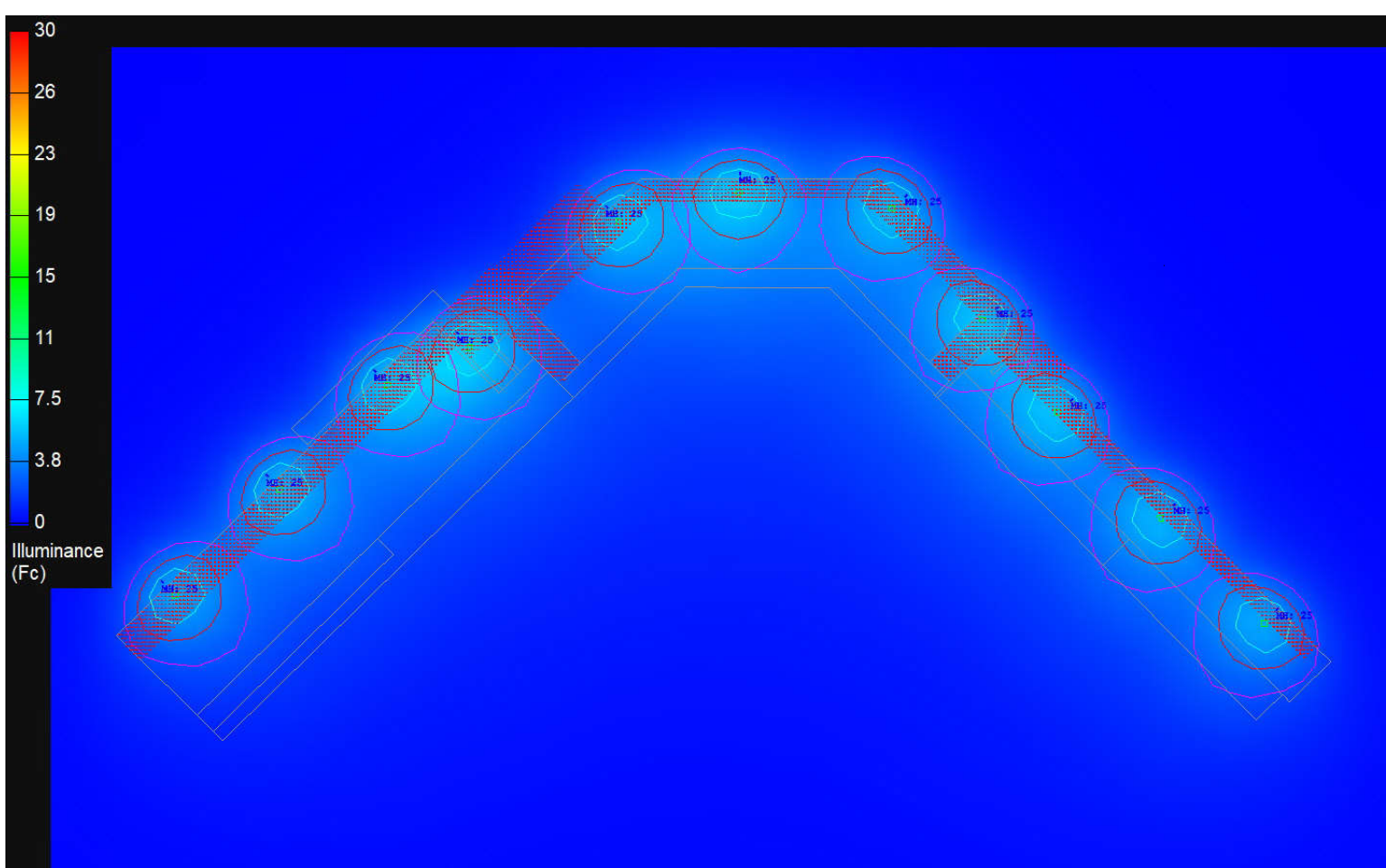
Warranty:

Morris Products warrants the product against defects in materials and workmanship for a period of five (5) years from the date of purchase (proper usage).

[illegible]

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PROJECT TEAM

The project is comprised of two team rooms and a toilet room facility under construction on the grounds of Middle School, adjacent to the baseball fields.

Construction Type is V-B, and includes CIVIL Structural
CMU, wood and steel roof structure with X.XX XXXXX
metal roofing, and metal wall panels. CX.XX XXXXX

The project also includes concrete walkways that connect to existing walkways.

TAX MAP / TAX LOT: TM17032634 / TL620

TAX MAP / TAX LOT: TM17032634 / TL620

X X X X X X X

A map of the study area in the city of Valencia, Spain. The map shows a grid of streets and a river (Turia) flowing through the city. A red outline highlights the study site, which is located in the central part of the city, near the river. The map also shows the city center and the river's course.

PROJECT SITE

OWNER:
Springfield Public Schools
5245 Mill Street
Springfield, OR 97477
Contact: Brett Yancey
Phone: (541) 726-3206
Email: brett.yancey@springfield

CIVIL ENGINEER:
Favreau Engineering
2206 Country Haven Drive
Eugene, OR 97408
Contact: Eric Favreau
Phone: (541) 556-5425
Email: favreaueng@gmail.com

ARCHITECT:
BBT Architects
1140 SW Simpson Ave, Suite 200
Bend, OR 97702
Contact: Kevin Shaver
Phone: (541) 382-5535
Email: kshaver@bbtarchitects.co
DRAWING INDEX

STRUCTURAL ENGINEER:
Walker Structural Engineering
2863 NW Crossing Drive, Suite 2
Bend, OR 97701
Contact: Craig Davis
Phone: (541) 330-6869
Emails: cdavis@walkerse.com

MECHANICAL / PLUMBING ENGINE
Systems West Engineering
411 High Street
Eugene, OR 97401
Contact: Paul Fooks
Phone: (541) 342-7210
Email: pfooks@systemswestengine

ELECTRICAL / LOW VOLTAGE ENG
Conley Engineering Inc
1433 Lakeside Court, Suite 100
Yakima, WA 98902
JUN 11 1997
Contact: Jeff Gray
Phone: (509) 895-0043
Email: jdg@coneng.com

**SCHOOB
DGB T**

A R C H I T E C T S

1140 sw Simpson Ave - Suite 200
Bend, OR 97702 - t 541-382-5535

SPS HAMLIN MIDDLE TEAM / RESTROOM	326 CENTENNIAL BLVD. SPRINGFIELD, OR 97477
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ISSUED:	DATE:
PROGRESS PRINT	7/26/2011

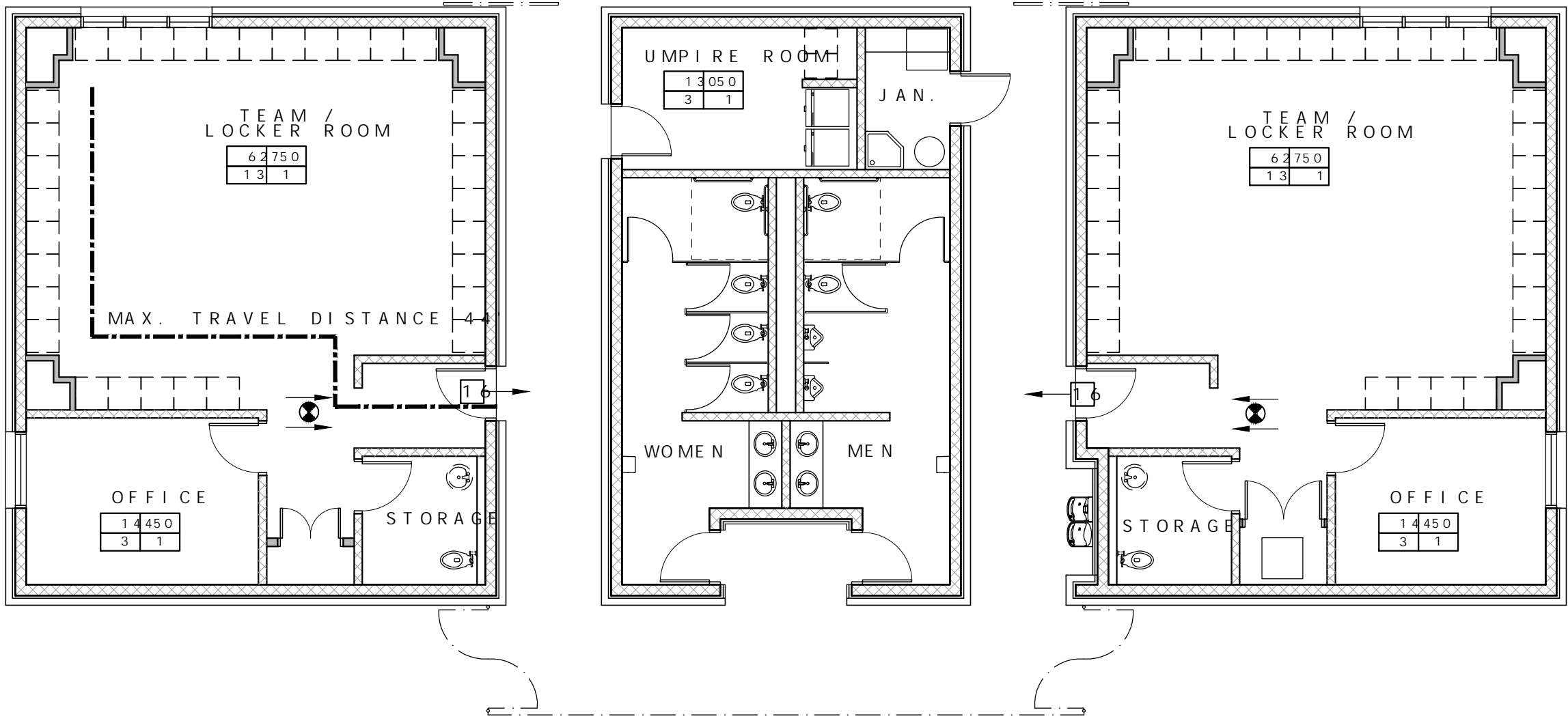
J O B N U M B E R	21:11
D R A W N B Y	E J H
C H E C K E D	B K S

SHEET TITLE

OVER SHEET

SHEET NUM

PRELIMINARY SHEET NUMBER
NOT FOR CONSTRUCTION 60



1 OCCUPANCY AND EXIT PLAN
SCALE: 1/8" = 1'-0"

BUILDING CODE SUMMARY

GENERAL INFORMATION

APPLICABLE BUILDING CODE: 2009 IBC
BUILDING DEPT. JURISDICTION: SPRINGFIELD
PROJECT DESCRIPTION: NEW CONSTRUCTION OF BASEBALL TEAM / LOCKER ROOMS AND ROOM FACILITY
OCCUPANCY CATEGORY: I
OCCUPANCY CLASSIFICATION: EDUCATIONAL
CONSTRUCTION TYPE: V-B
FIRE PROTECTION: NONE

ALLOWABLE AREA & HEIGHT: 504.4 SF, 40' / 2 STORIES
ACTUAL HEIGHT: 18' / 1 STORY
ALLOWABLE AREA: 9,500 SF
ACTUAL AREA: 3,300 SF (INCLUDES EXTERIOR COVERED AREAS)

EGRESS

OCCUPANT LOAD (OSSC 1006.4.5) EGRESS PLAN
MAX EXIT ACCESS TRAVEL DISTANCE (OSSC 1017.2) 200'
MAX COMMON PATH OF EGRESS TRAVEL (OSSC 1006.2.1) 75'
EXIT SIGNAGE (OSSC 1006.3.5) ELECTRICAL LIGHTING PLANS AND EGRESS PLANS DRAFTSTOPPING IN ATTENTION NOT REQUIRED PER 718.4

FIRE RESISTANCE RATINGS

BUILDING ELEMENT (OSSC TABLE 601):
STRUCTURAL FRAME: 1-HOUR
BEARING WALLS:
EXTERIOR: 0-HOUR
INTERIOR: 0-HOUR
NON-BEARING WALLS:
EXTERIOR: 0-HOUR
INTERIOR: 0-HOUR
FLOOR CONSTRUCTION: 0-HOUR
ROOF CONSTRUCTION: 0-HOUR

EXTERIOR WALL CONSTRUCTION (OSSC TABLE 602):
FSD > 30' 0-HOUR
10' < FSD < 300' 0-HOUR

OPENINGS IN EXTERIOR WALLS (OSSC TABLE 705.8):
FSD = 10' TO LESS THAN 101 SF (W5%) ALLOWED: 25 SF ACTUAL
FSD = 30' OR GREATER NO LIMIT

RATED SEPARATIONS & INTERIOR WALL/FLOOR/CEILING ASSEMBLIES

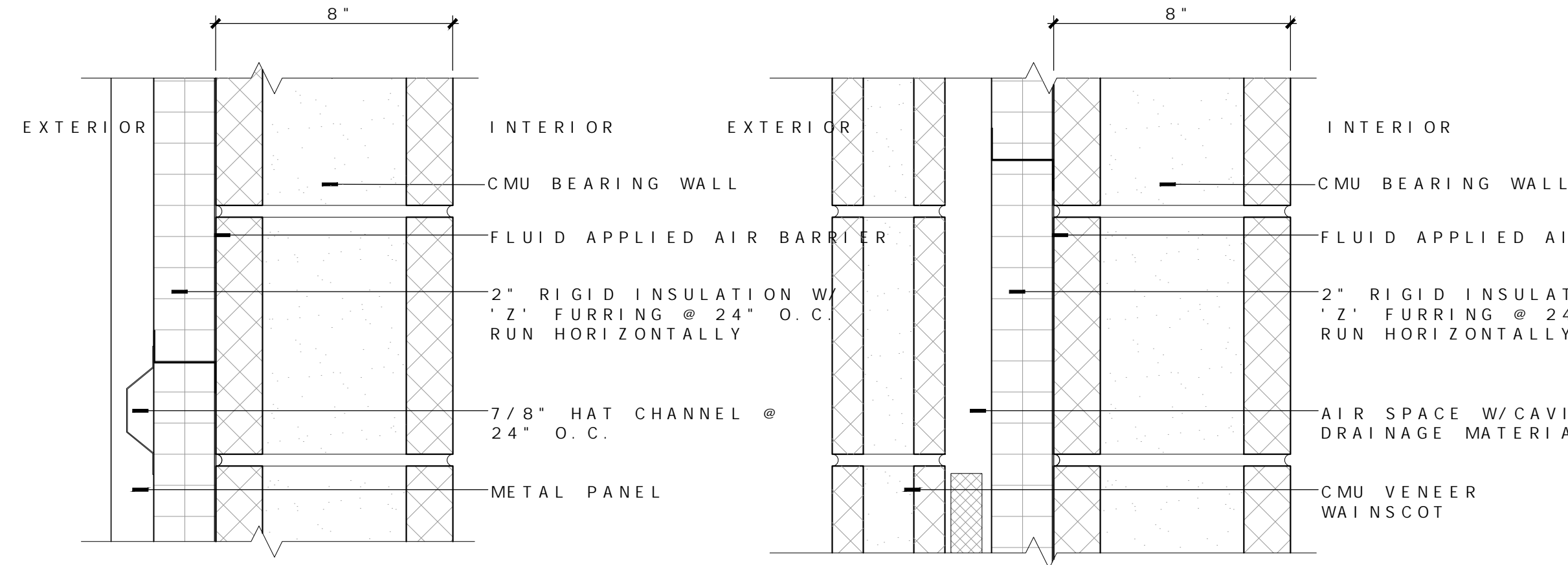
OCCUPANCY SEPARATION	RATED ASSEMBLY
DUCT PENETRATIONS	PROTECTED WHERE REQUIRED BY SECTION 713, 714, AND MECHANICAL & ELECTRICAL CODES
PARAPETS	NOT REQUIRED PER 705.11, EXTERIOR INSULATION: R-30 C.I.
ELECTRICAL ROOM	NON-RATED
FIREBLOCKING	AS REQUIRED PER 718.2: PROVIDED IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS AT CEILING AND FLOOR LEVELS, AND AT 10 FEET MAX IN BETWEEN

PLUMBING FIXTURE COUNT (OSSC TABLE

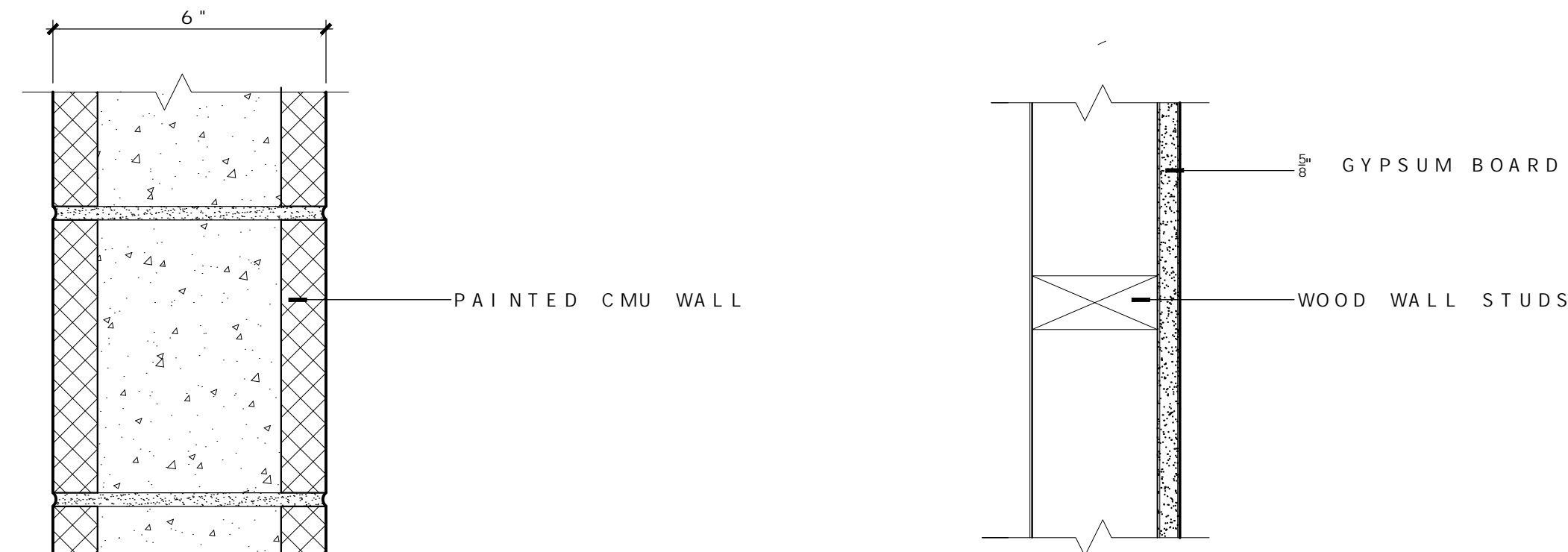
GROUP A: ASSEMBLY (BLEACHERS)
BLEACHER CAPACITY IS 1,950. HOWEVER, STANDARD IS EXPECTED TO BE APPROXIMATELY 300 PEOPLE. THE STANDARD MAXIMUM USE, IN THE CASE OF AN E BLEACHER OCCUPANCY, A COMBINATION OF PORTABLE ROOMS IN THE SCHOOL GYM WING WILL BE ENACTED.
SEE SITE PLAN FOR PROPOSED LOCATION OF PORTABLE
NUMBER OF OCCUPANTS: 300 (150 MALE / 150 FEMALE)
WATER CLOSETS
REQUIRED MALE: 2 (1 PER 100) REQUIRED FEMALE: 4 (1 PROVIDED MALE: 2 WC, 2 PROVIDED FEMALE: 4
LAVATORIES
REQUIRED MALE: 1 (1 PER 100) REQUIRED FEMALE: 1 (1 PROVIDED MALE: 2 PROVIDED FEMALE: 2
DRINKING FOUNTAINS
REQUIRED: 1 PROVIDED: 2

ENERGY EFFICIENCY

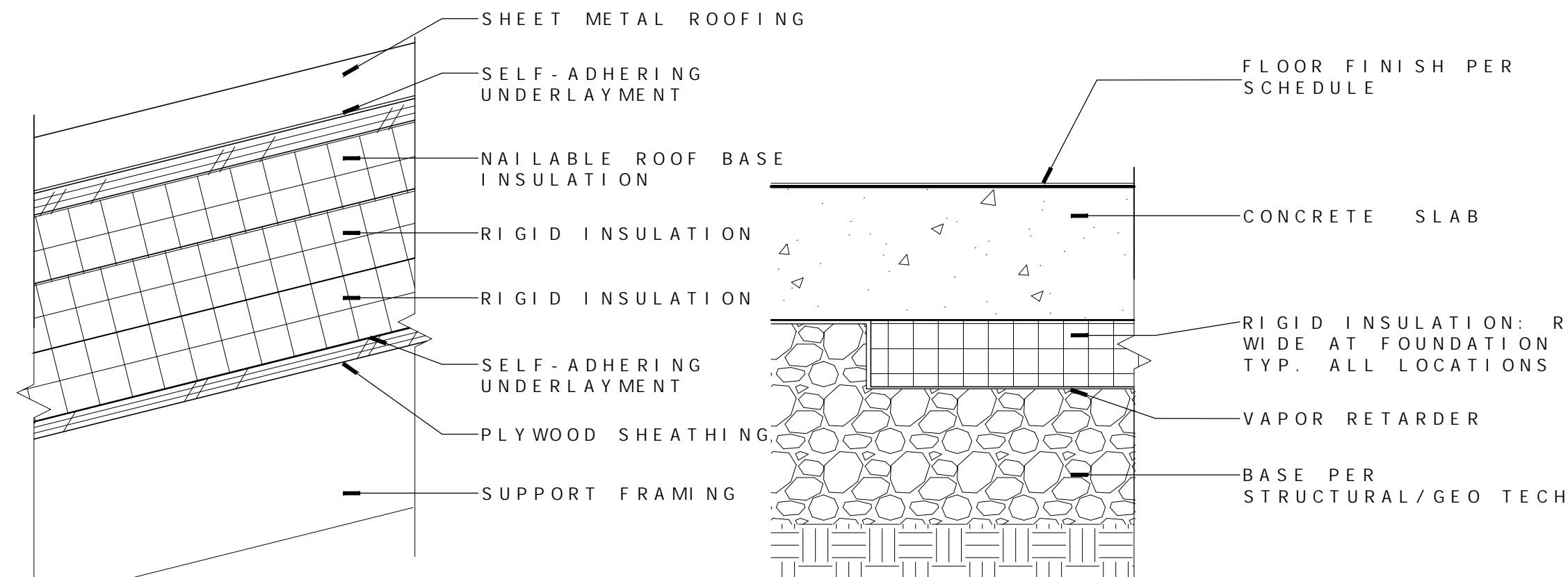
CLIMATE ZONE: 4
EXTERIOR INSULATION: R-30 C.I.
WALL INSULATION: MASS WALLS, R-9.5 C.I.
FLOOR SLAB INSULATION: UNHEATED, R-15 FOR 24"



EXTERIOR WALL TYPE - E1
SCALE: 3/8" = 1'-0"



INTERIOR WALL TYPE - A1
SCALE: 3/8" = 1'-0"



ROOF ASSEMBLY - R1
SCALE: 3/8" = 1'-0"

FLOOR TYPE - F1
SCALE: 3/8" = 1'-0"

SCHROEDT
ARCHITECTS
1140 SW Simpson Ave - Suite 200
Bend, OR 97702 - t 541-382-5535

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SPRINGFIELD, OR 97477

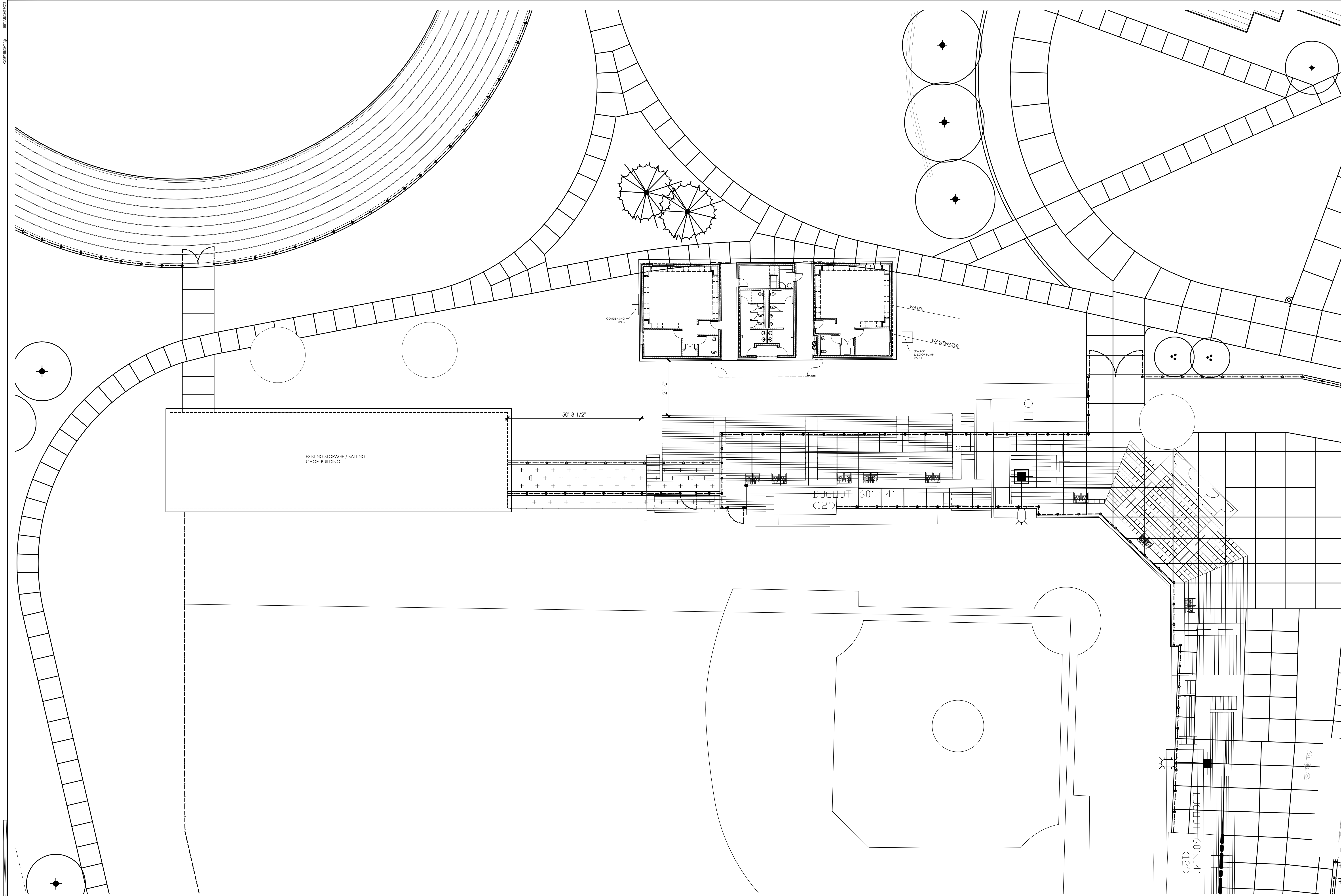
ISSUED: DATE: 7/26/21
PROGRESS PRINT

JOB NUMBER: 22R11
DRAWN BY: EJH
CHECKED: BWS

SHEET TITLE:
CODE SUMMARY
OCCUPANCY PLAN
ASSEMBLY TYPE

SHEET NUMBER:
GO.C

PRELIMINARY
NOT FOR CONSTRUCTION



1 SITE PLAN
A1.01 SCALE: 1/16" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

SCHUBT
BLDG

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Bend, OR 97702 - t 541-382-5535

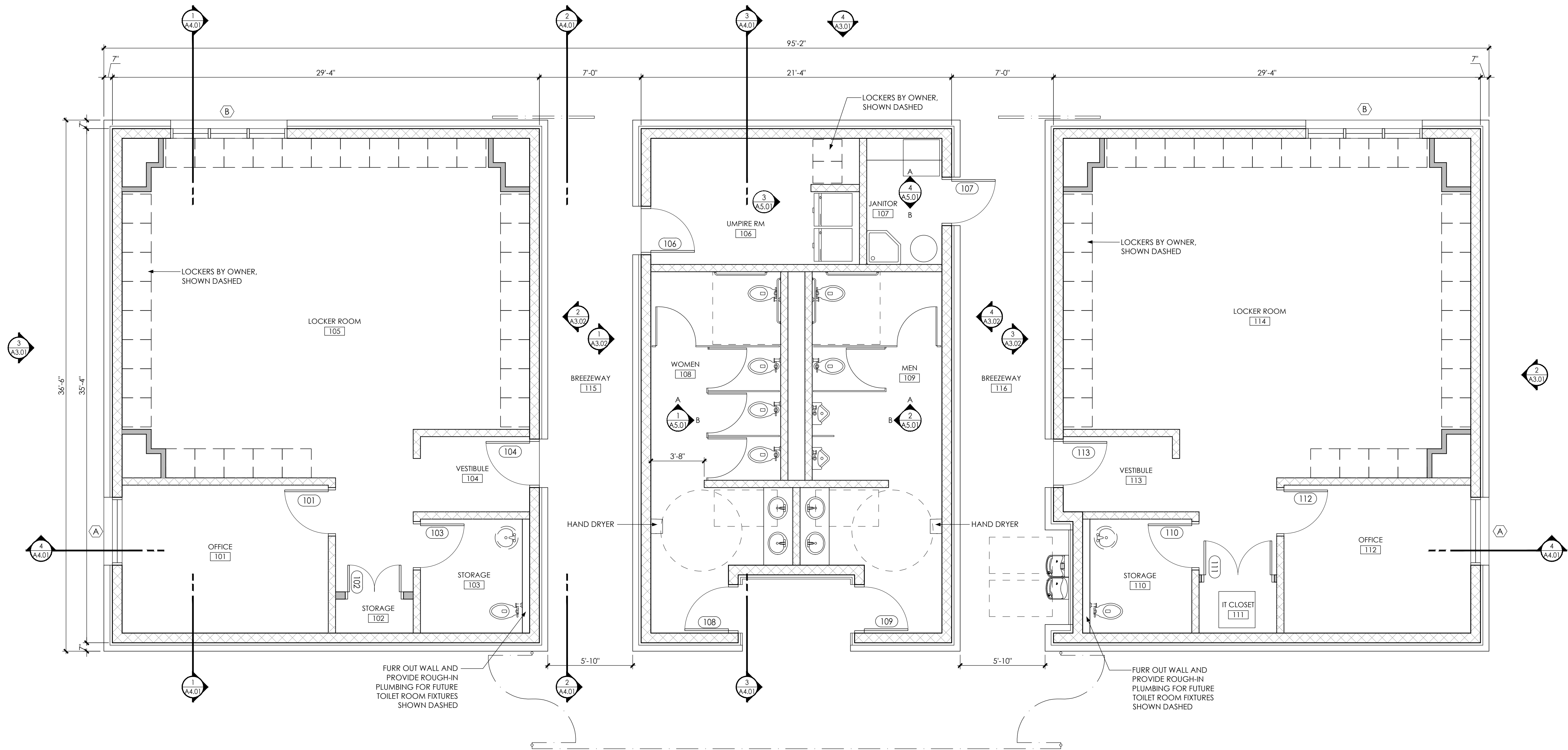
SPS HAMLIN MIDDLE
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326 CENTENNIAL BLVD.
SPRINGFIELD, OR 97477

ISSUED:	DATE:
	7/26/21
	PROGRESS PRINT

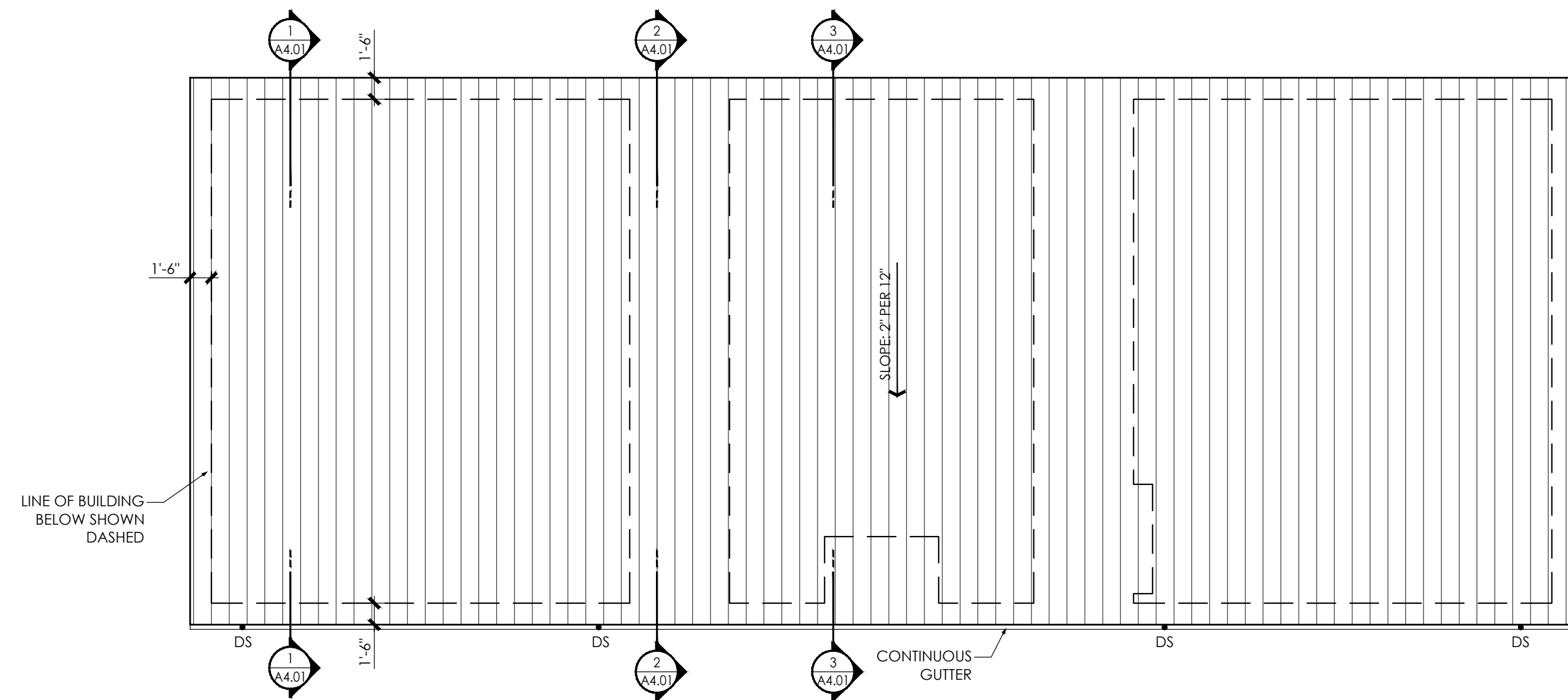
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DRAWN BY:	EJH
CHECKED BY:	KS

SHEET TITLE
SITE PLAN

SHEET NUMBER
A1.01



1 FLOOR PLAN
A2.01 SCALE: 1/4" = 1'-0"



2 ROOF PLAN
A2.01 SCALE: 1/8" = 1'-0"



PRELIMINARY
NOT FOR CONSTRUCTION

B B T

A R C H I T E C T S
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SPS HAMLIN MIDDLE SCHOOL
TEAM / RESTROOM BLDG

326 CENTENNIAL BLVD.
SPRINGFIELD, OR 97477

ISSUED: DATE: 7/26/21
PROGRESS PRINT

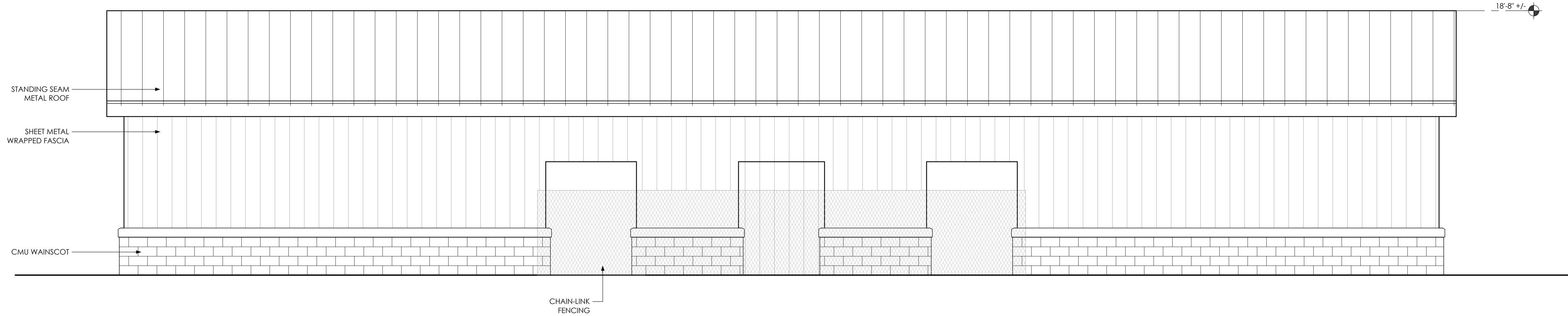
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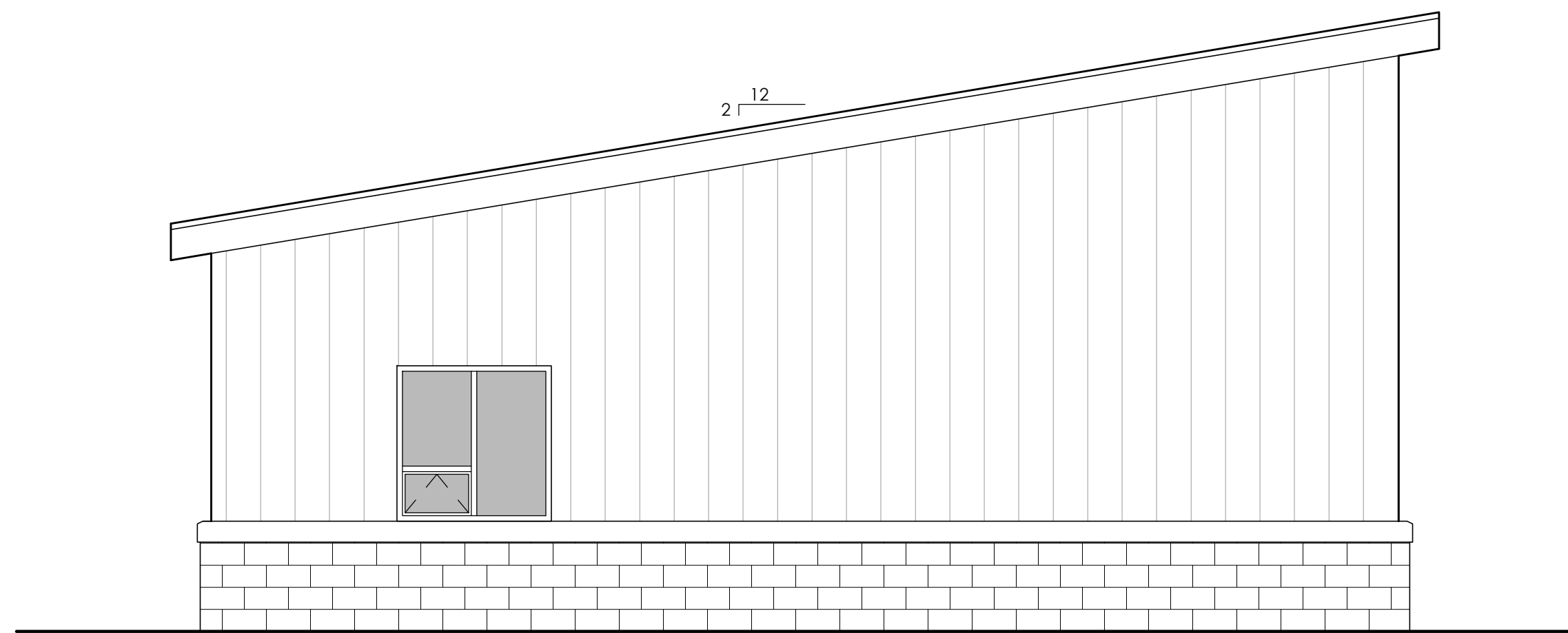
FLOOR PLAN
ROOF PLAN

SHEET NUMBER

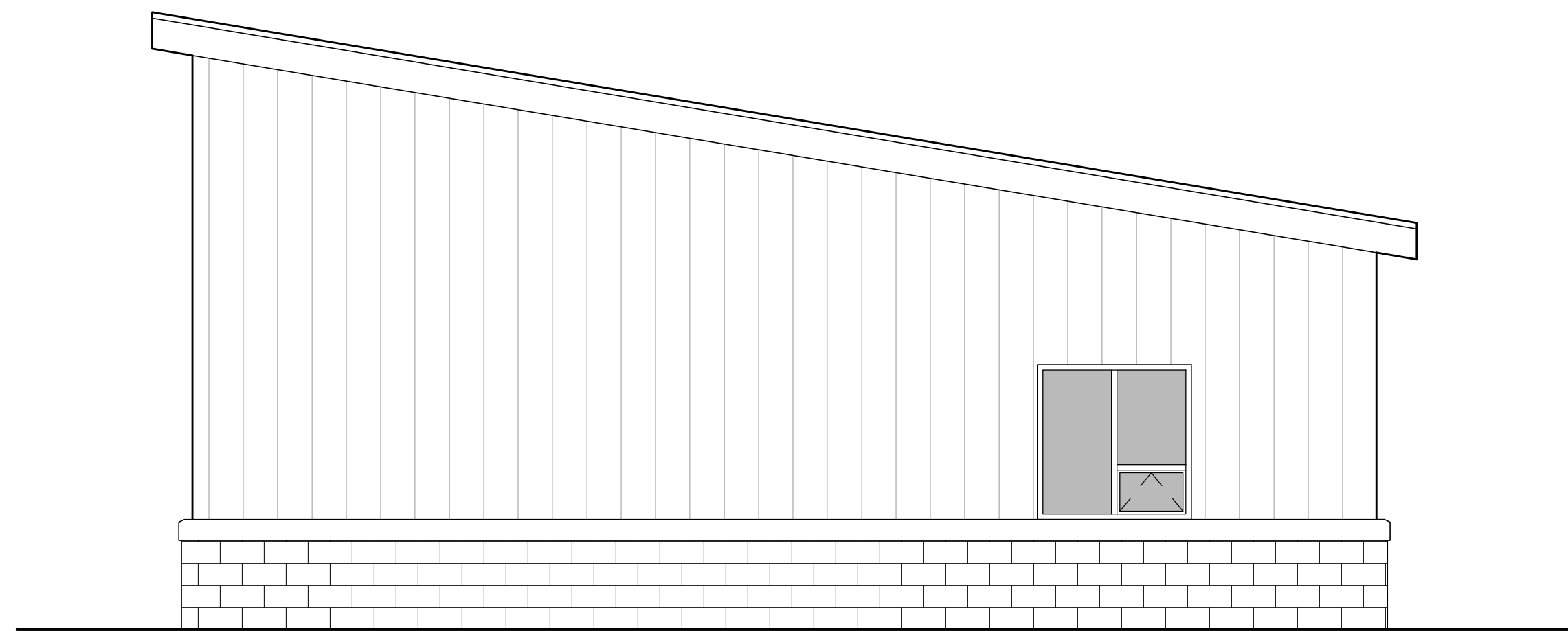
A2.01



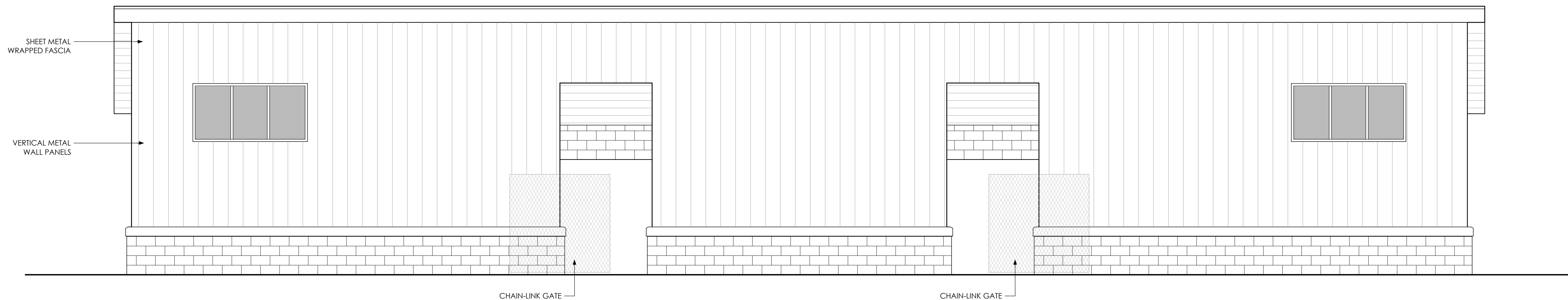
1 SOUTH ELEVATION
A3.01 SCALE: 1/4" = 1'-0"



2 EAST ELEVATION
A3.01 SCALE: 1/4" = 1'-0"



3 WEST ELEVATION
A3.01 SCALE: 1/4" = 1'-0"



4 NORTH ELEVATION
A3.01 SCALE: 1/4" = 1'-0"

PRELIMINARY
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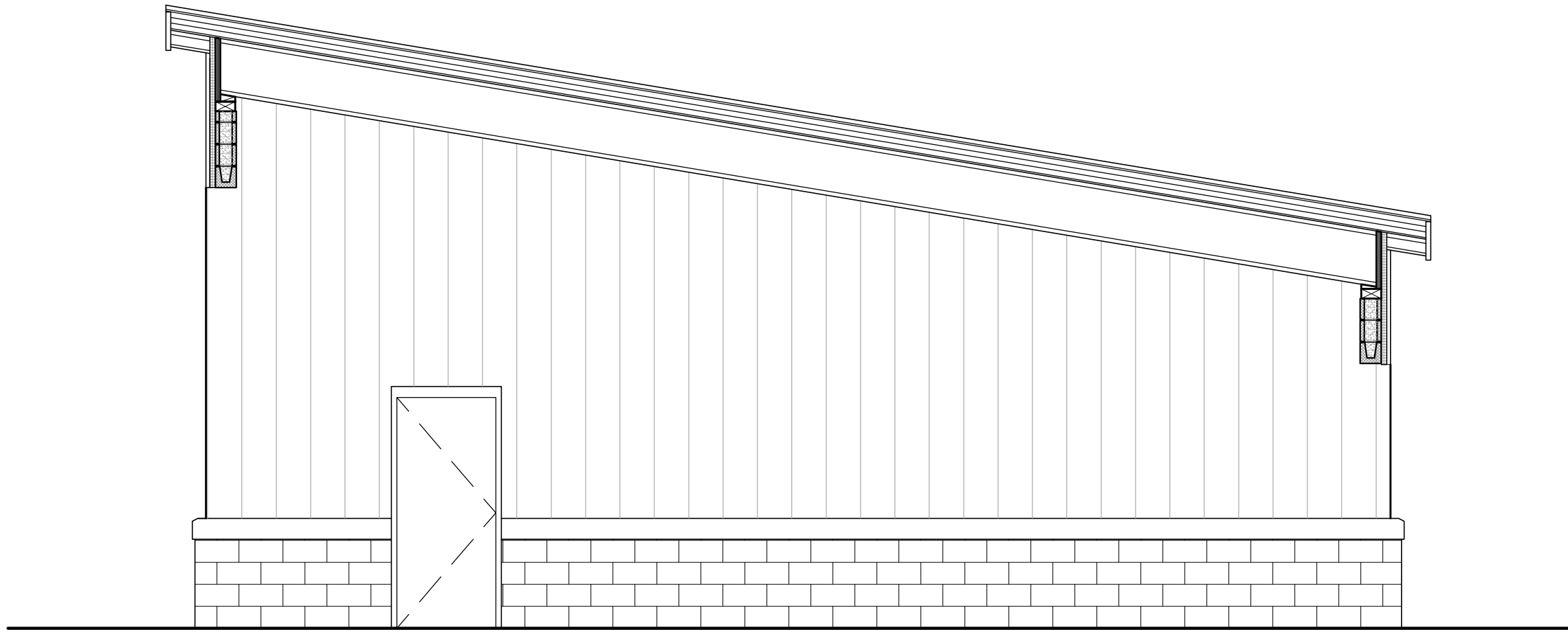
SPS HAMLIN MIDDLE SCHOOL
TEAM / RESTROOM BLDG
326 CENTENNIAL BLVD.
SPRINGFIELD, OR 97477

ISSUED: DATE: 7/26/21
PROGRESS PRINT

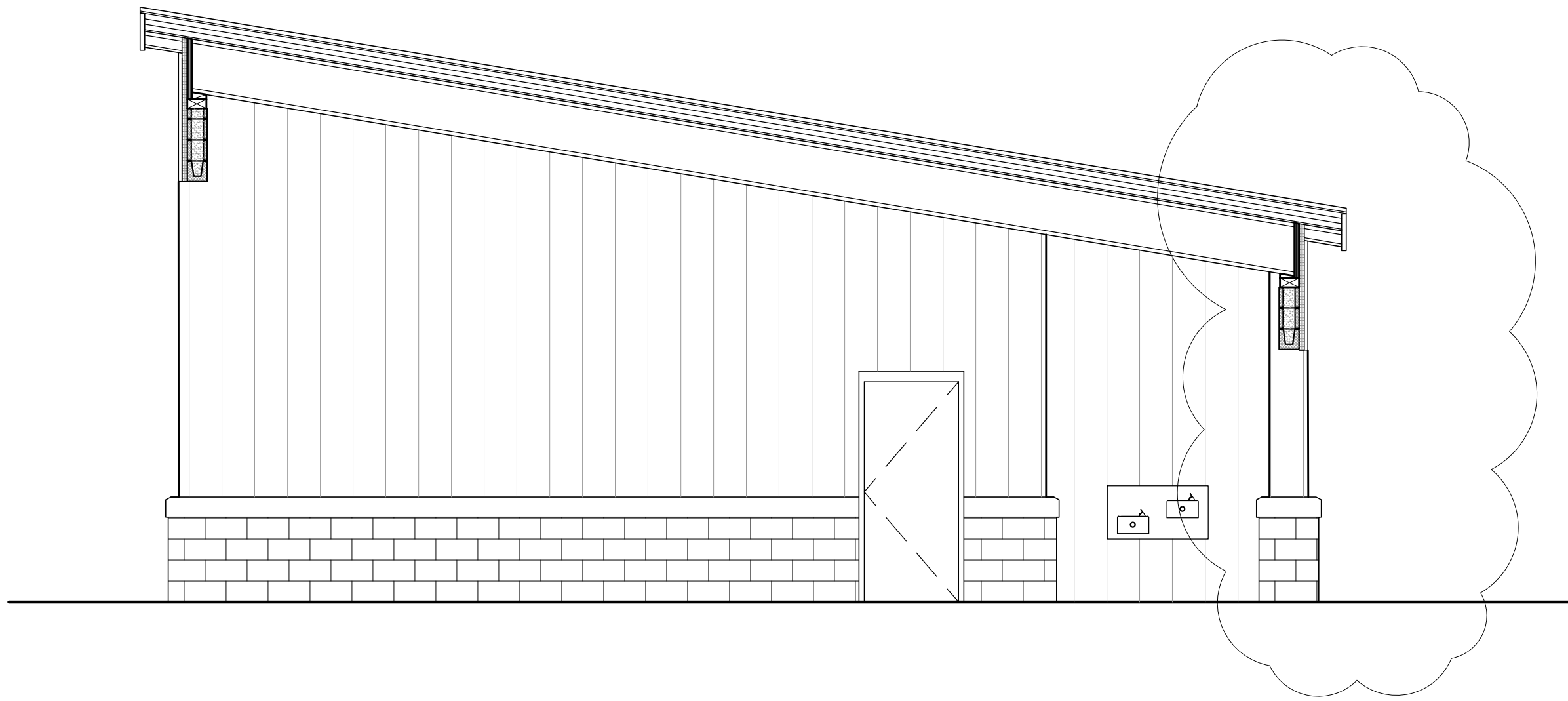
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CHECKED BY: KS

SHEET TITLE
EXTERIOR ELEVATIONS

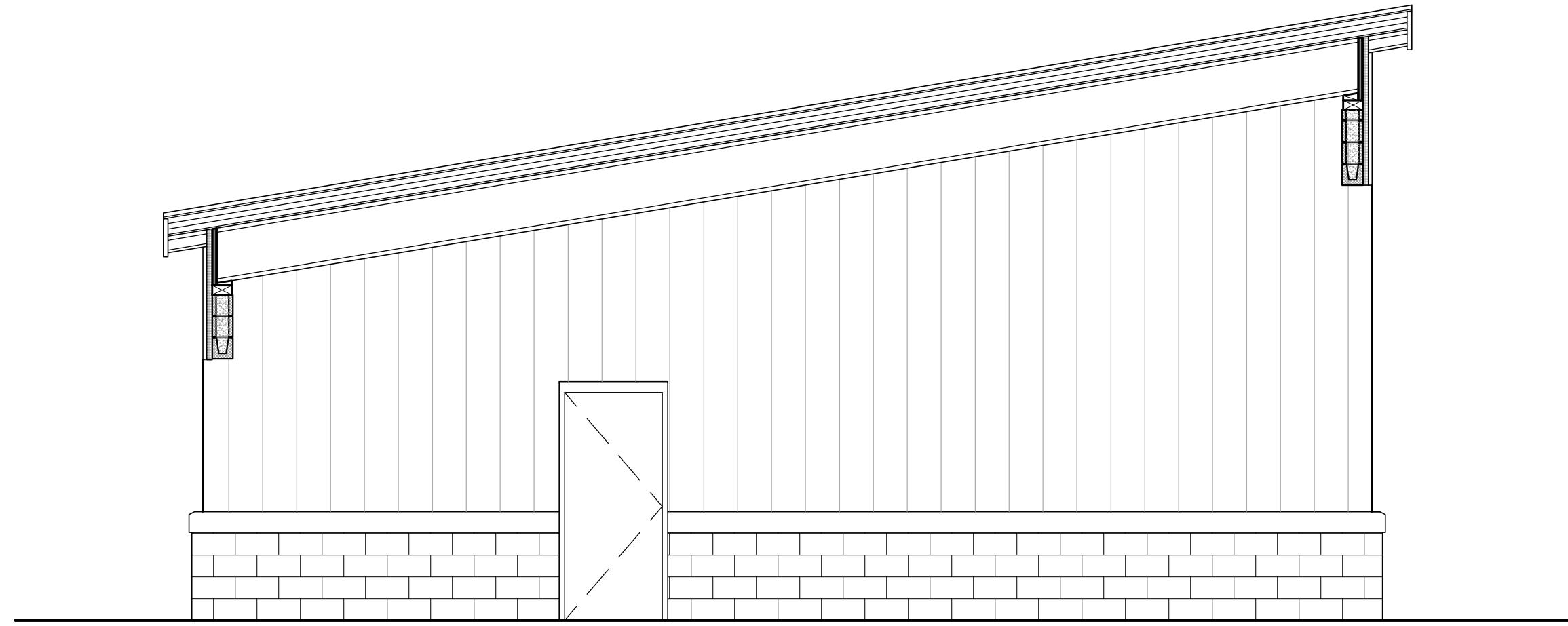
SHEET NUMBER
A3.01



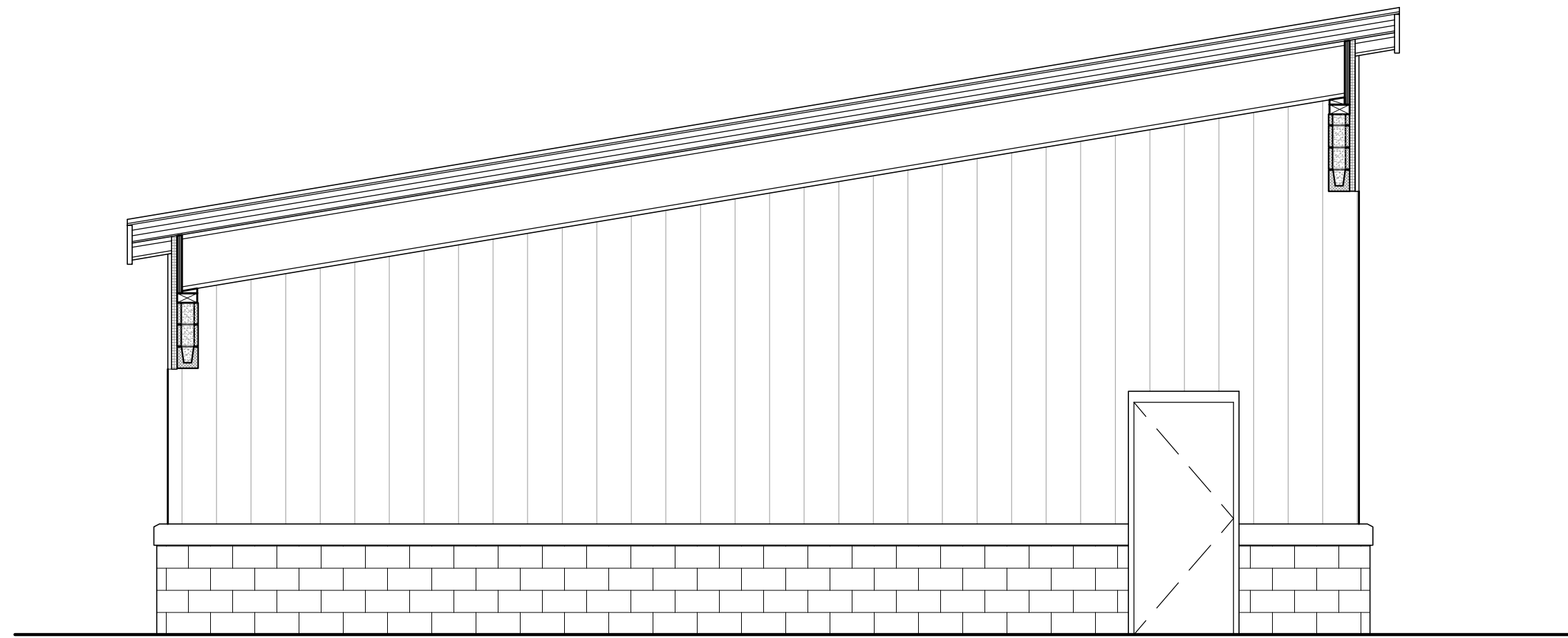
1 **BREEZEWAY 115 - EAST ELEVATION**
A3.02 SCALE: 1/4" = 1'-0"



3 **BREEZEWAY 116 - EAST ELEVATION**
A3.02 SCALE: 1/4" = 1'-0"



2 **BREEZEWAY 115 - WEST ELEVATION**
A3.02 SCALE: 1/4" = 1'-0"



4 **BREEZEWAY 116 - WEST ELEVATION**
A3.02 SCALE: 1/4" = 1'-0"

PRELIMINARY
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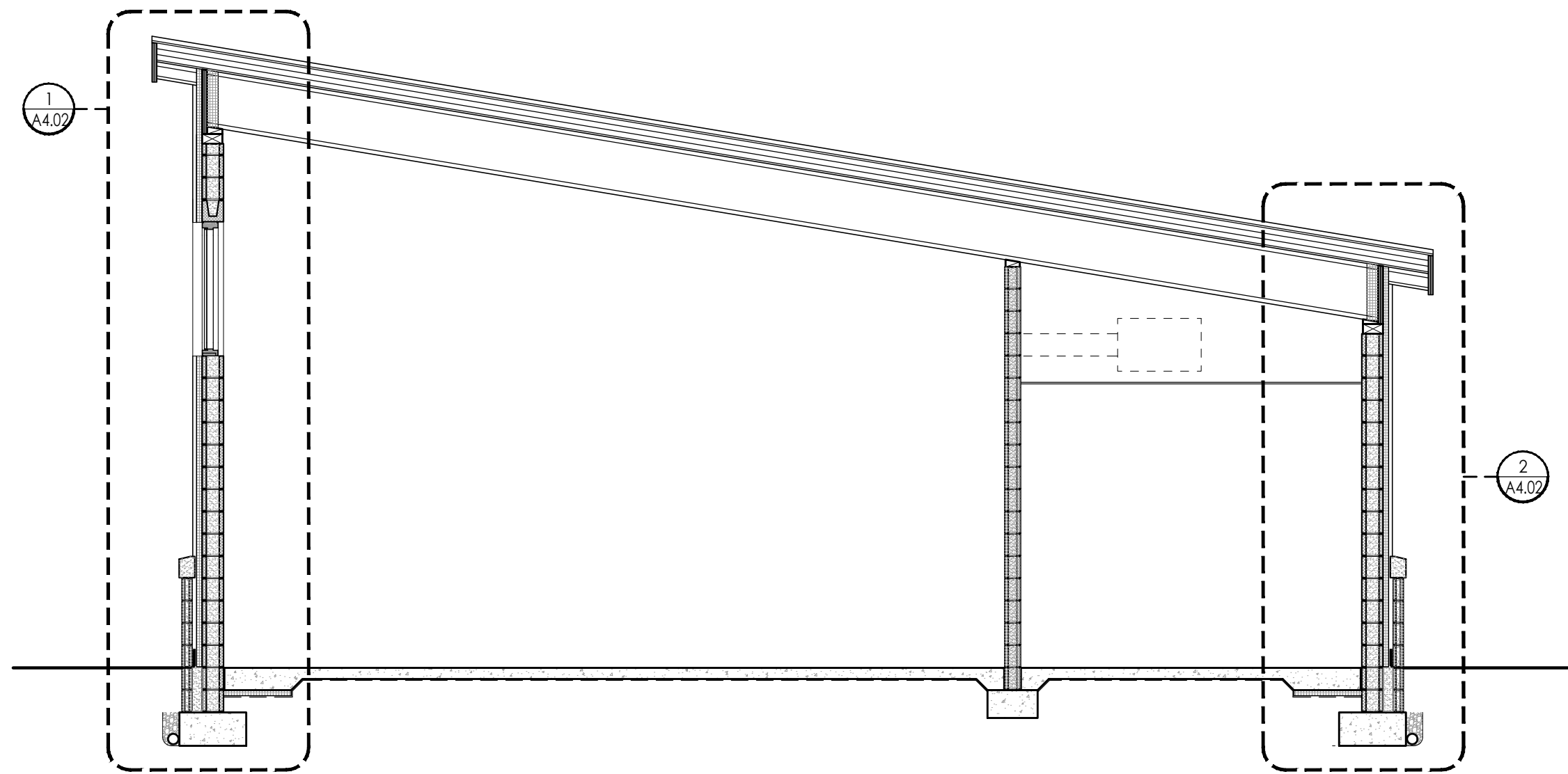
SPS HAMLIN MIDDLE SCHOOL
TEAM / RESTROOM BLDG
326 CENTENNIAL BLVD.
SPRINGFIELD, OR 97477

ISSUED:	DATE:
	7/26/21
PROGRESS PRINT	

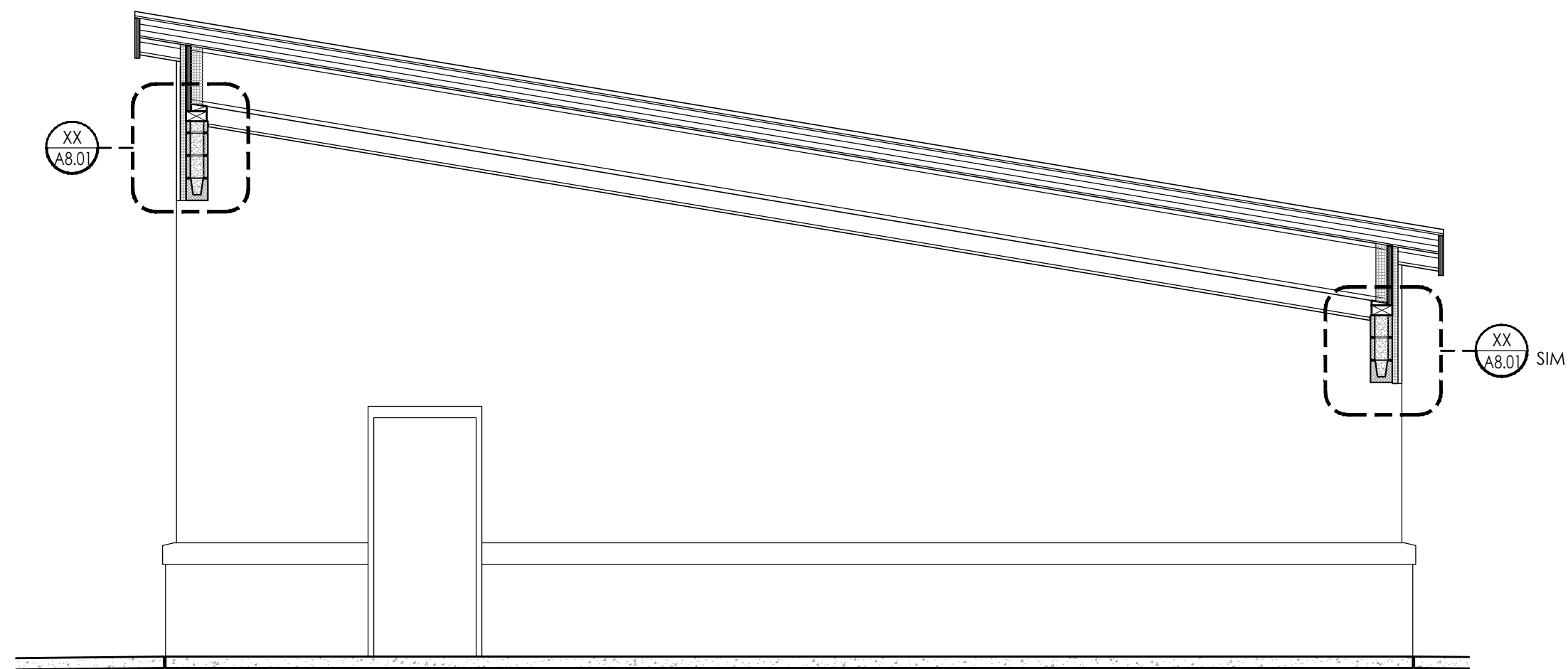
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CHECKED BY:	KS

SHEET TITLE
EXTERIOR ELEVATIONS

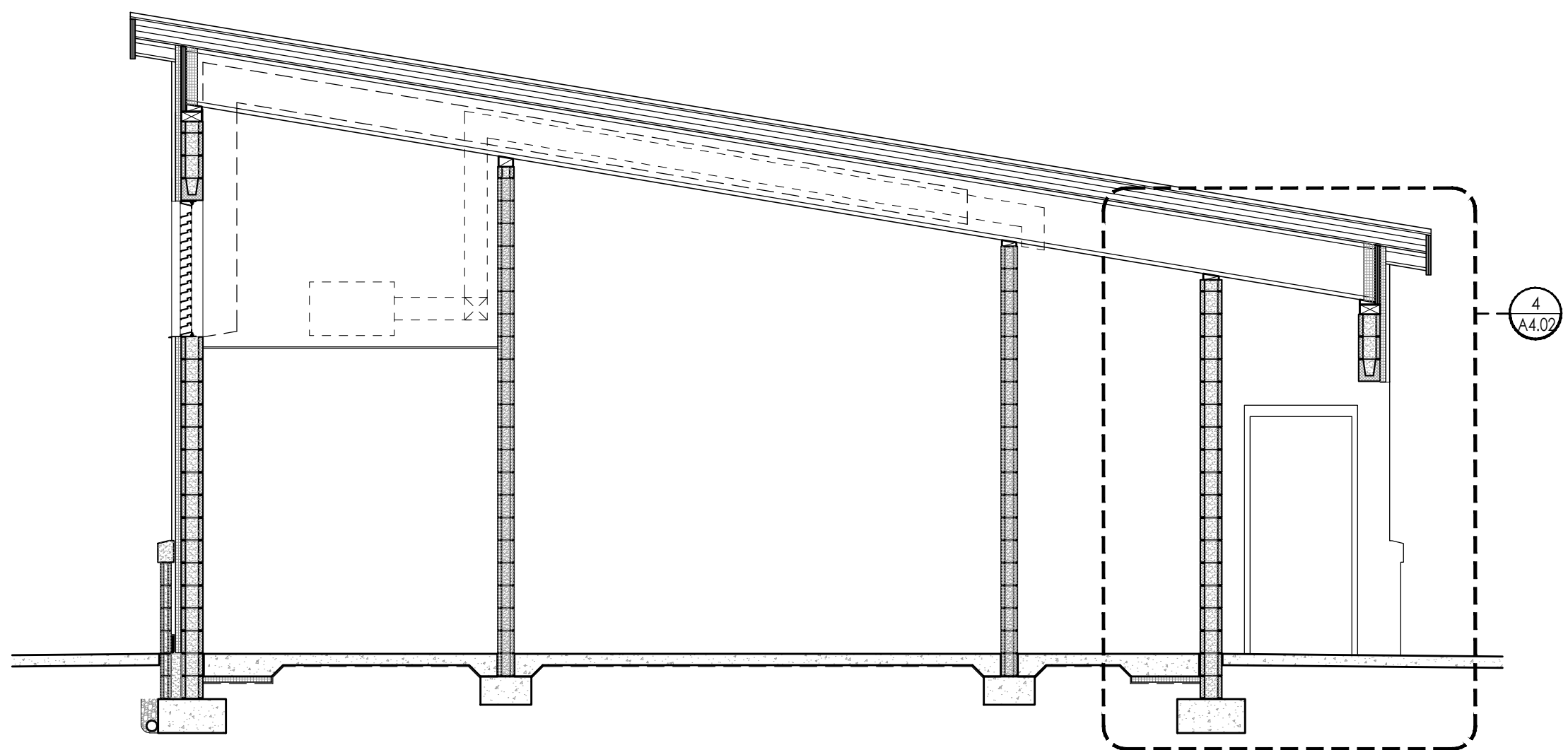
SHEET NUMBER
A3.02



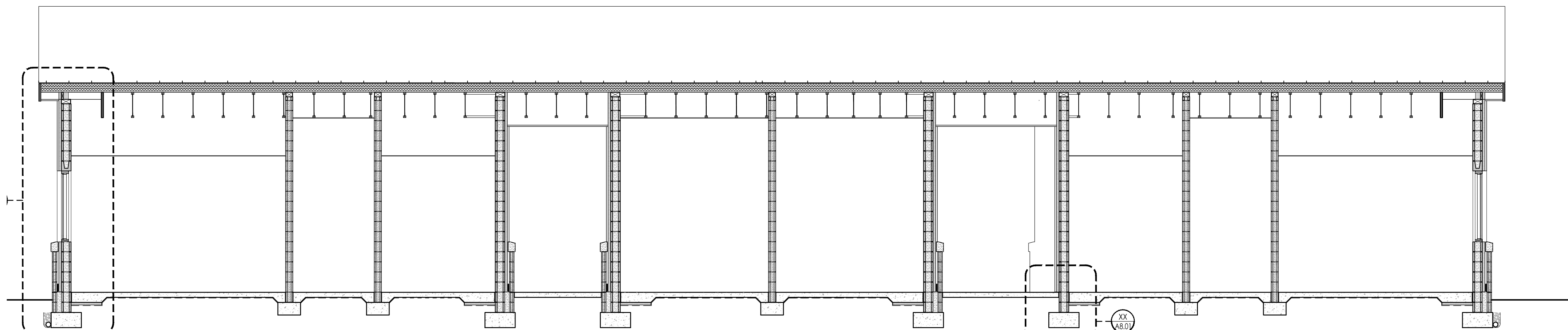
1 BUILDING SECTION
A4.01 SCALE: 1/4" = 1'-0"



2 BUILDING SECTION
A4.01 SCALE: 1/4" = 1'-0"



3 BUILDING SECTION
A4.01 SCALE: 1/4" = 1'-0"



4 BUILDING SECTION
A4.01 SCALE: 1/4" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

BBT

ARCHITECTS
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SPS HAMLIN MIDDLE SCHOOL
TEAM / RESTROOM BLDG

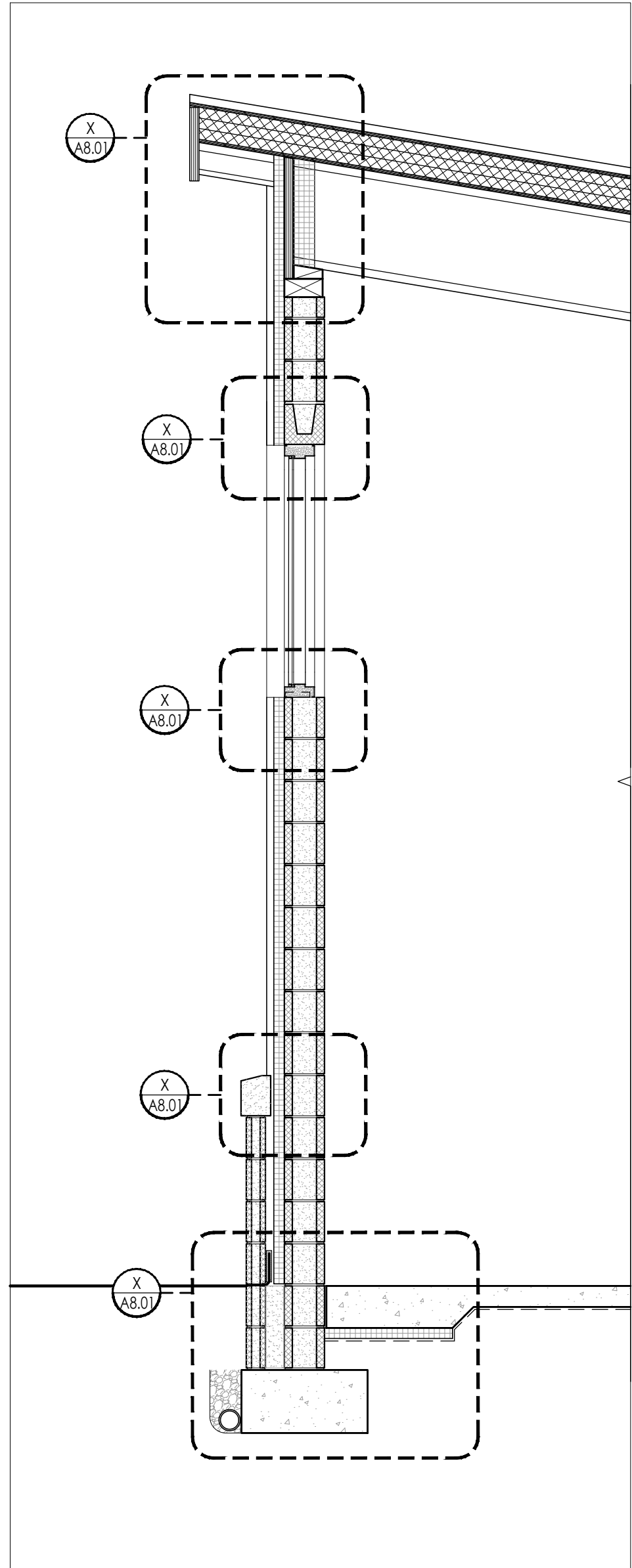
326 CENTENNIAL BLVD.
SPRINGFIELD, OR 97477

ISSUED:	DATE:	7/26/21
	PROGRESS PRINT	

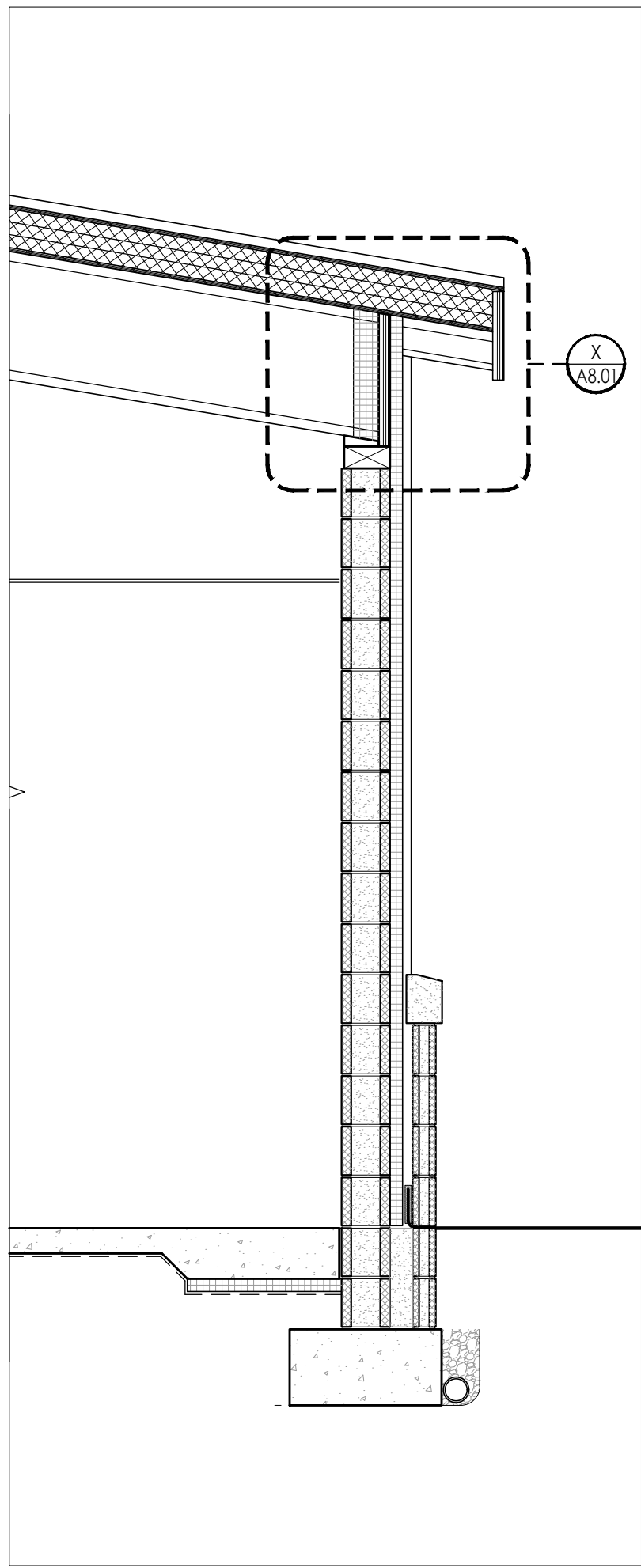
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CHECKED BY:	KS

SHEET TITLE
BUILDING SECTIONS

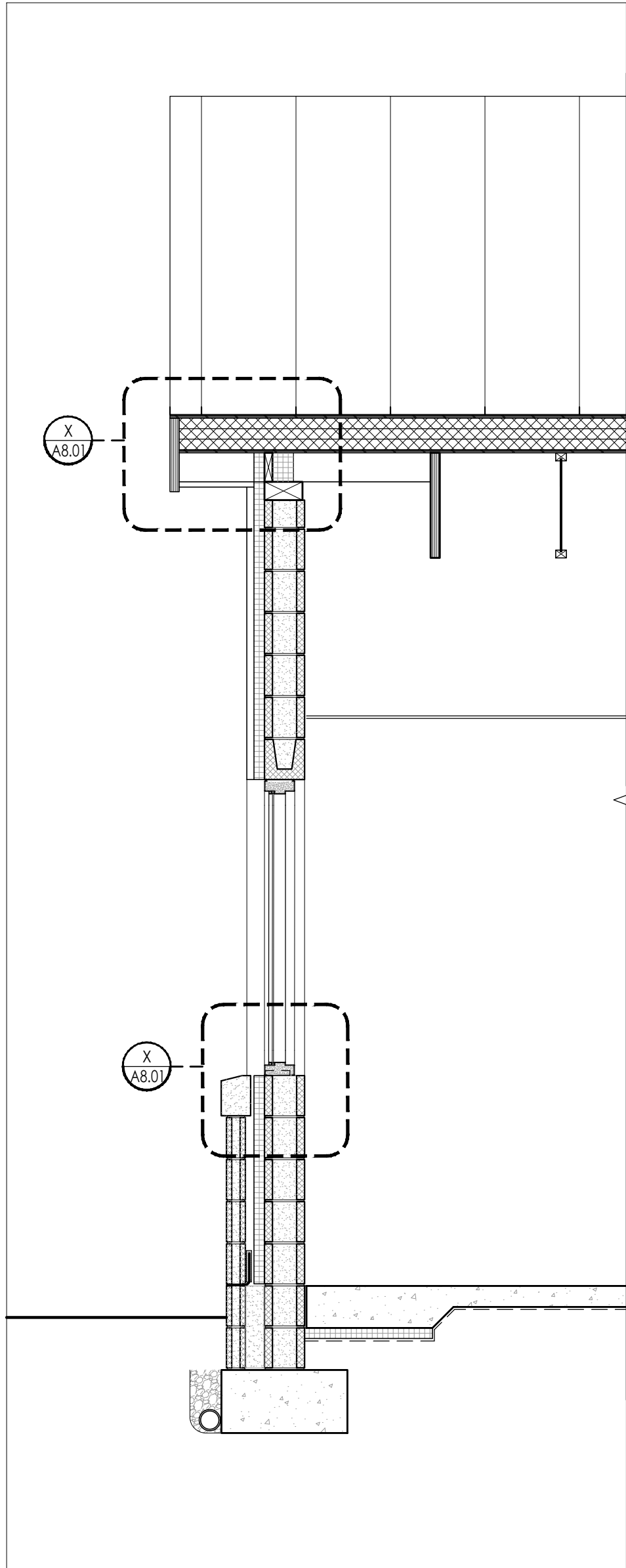
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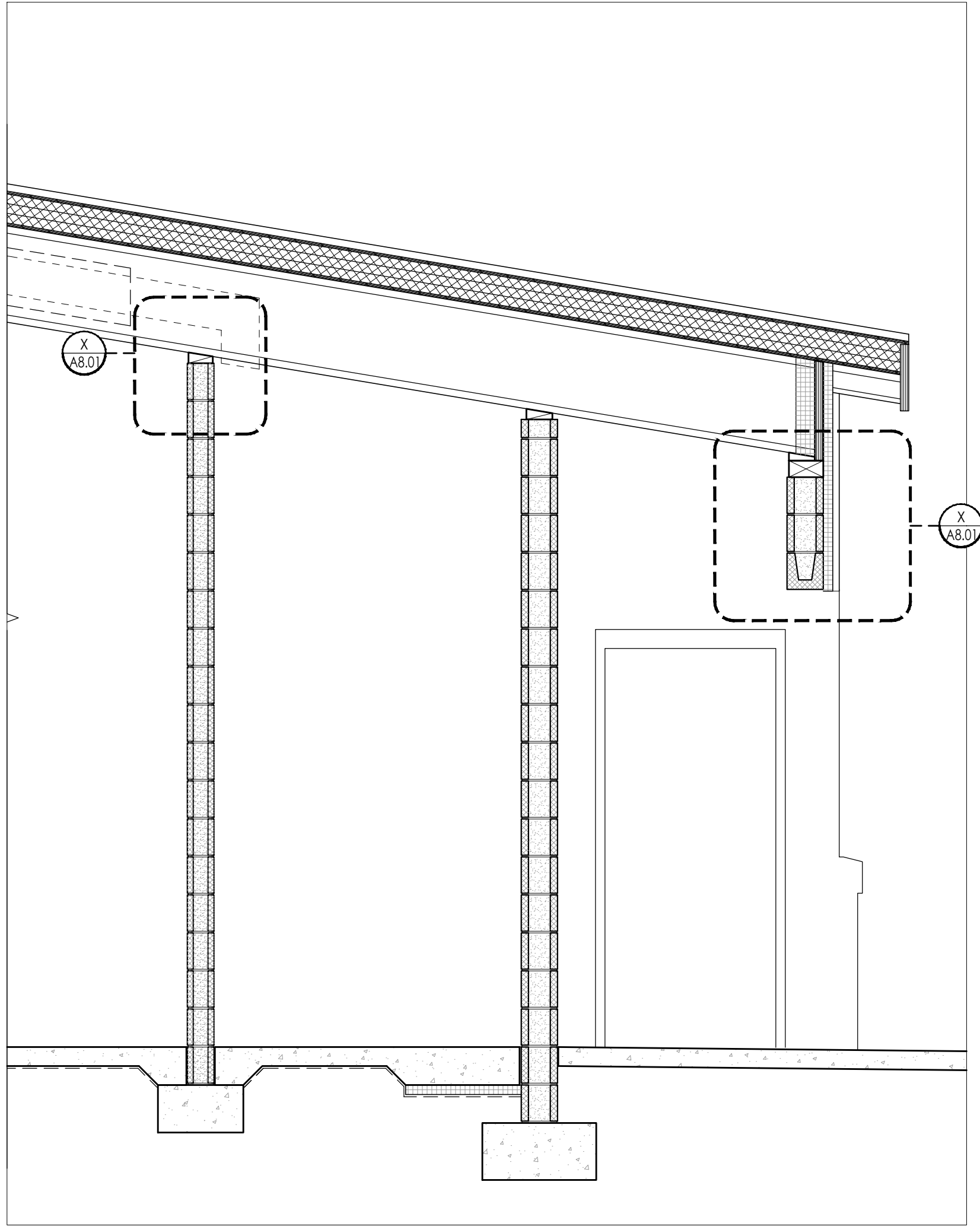
1
A4.02 WALL SECTION
SCALE: 1/2" = 1'-0"



2
A4.02 WALL SECTION
SCALE: 1/2" = 1'-0"



3
A4.02 WALL SECTION
SCALE: 1/2" = 1'-0"



4
A4.02 WALL SECTION
SCALE: 1/2" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

BBT

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SPS HAMLIN MIDDLE SCHOOL
TEAM / RESTROOM BLDG

326 CENTENNIAL BLVD.
SPRINGFIELD, OR 97477

ISSUED:	DATE:	7/26/21
	PROGRESS PRINT	

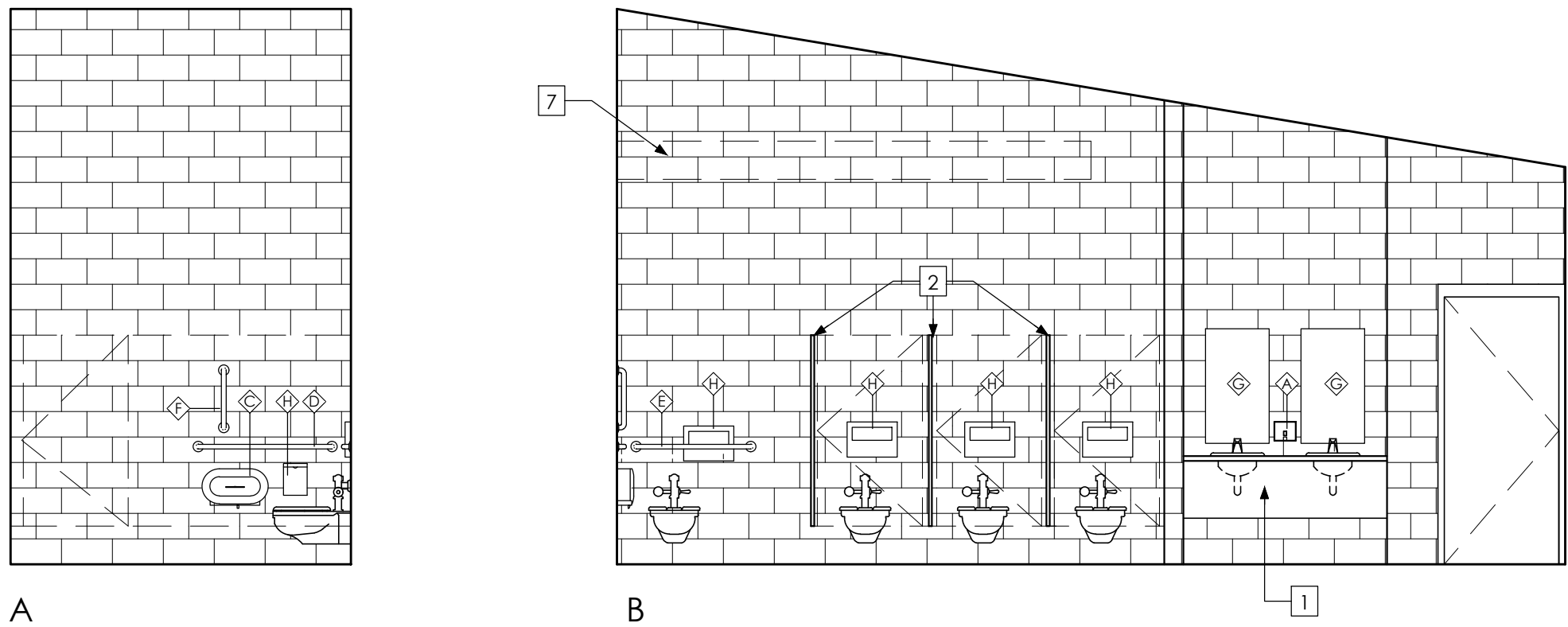
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CHECKED BY:	KS

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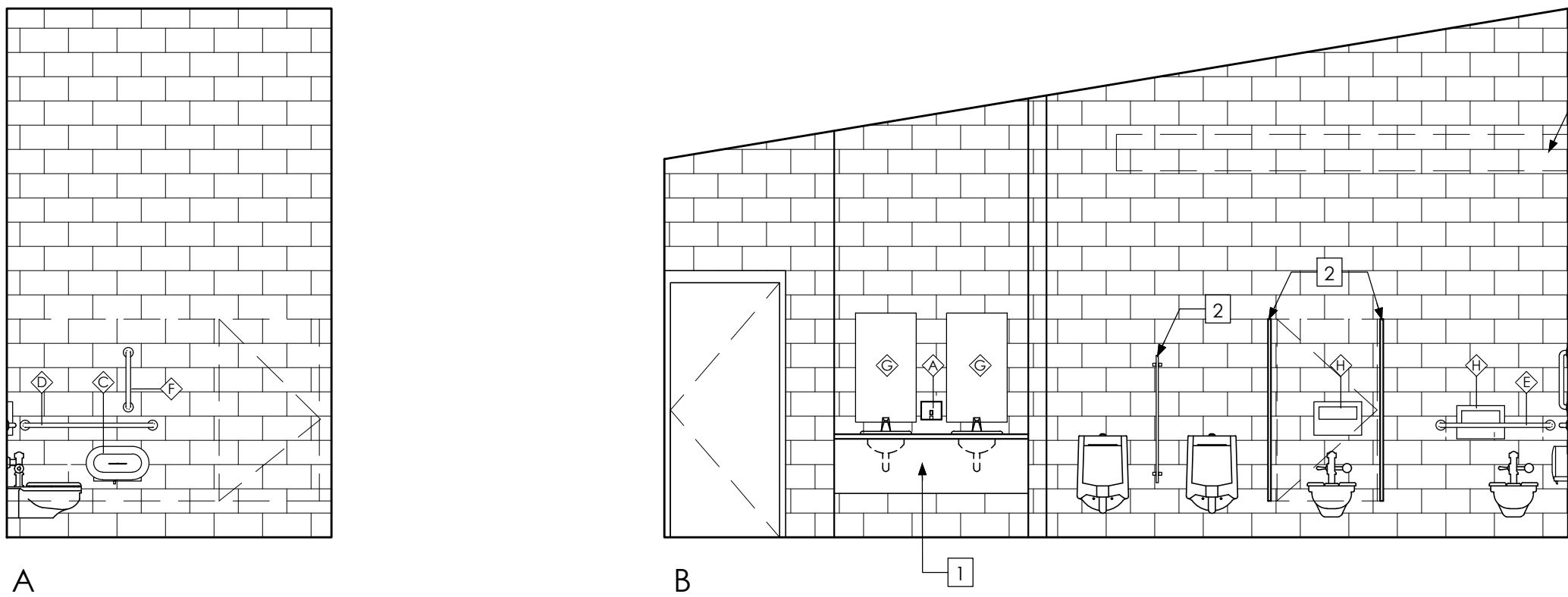
WALL SECTIONS

SHEET NUMBER

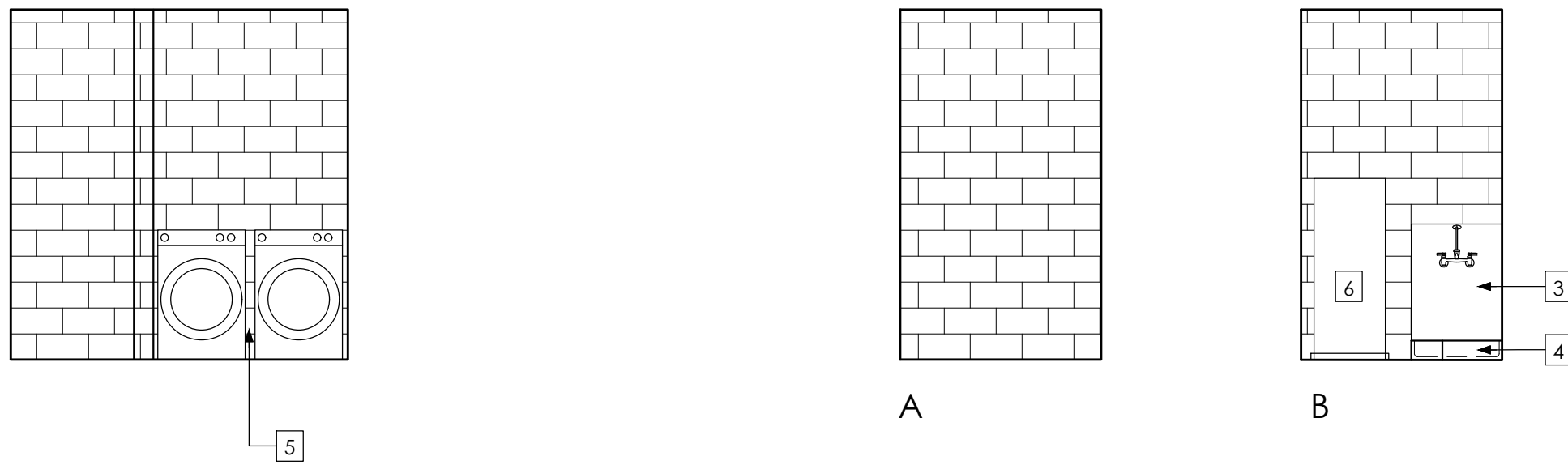
A4.02



1 **WOMEN'S RESTROOM 108**
A5.01 SCALE: 1/4" = 1'-0"



2 **MEN'S RESTROOM 109**
A5.01 SCALE: 1/4" = 1'-0"



3 **UMPIRE RM 106**
A5.01 SCALE: 1/4" = 1'-0"

4 **JANITOR 107**
A5.01 SCALE: 1/4" = 1'-0"

GENERAL NOTES

- A. DON NOT SCALE THE DRAWINGS.
- B. SEE X/A8.0X FOR TYPICAL DOOR HEAD/JAMB FRAMING DETAILS.
- C. SEE ADA STANDARDS DIAGRAM THIS SHEET FOR FIXTURE AND ACCESSORY LOCATION DIMENSIONS.

ACCESSORY SCHEDULE

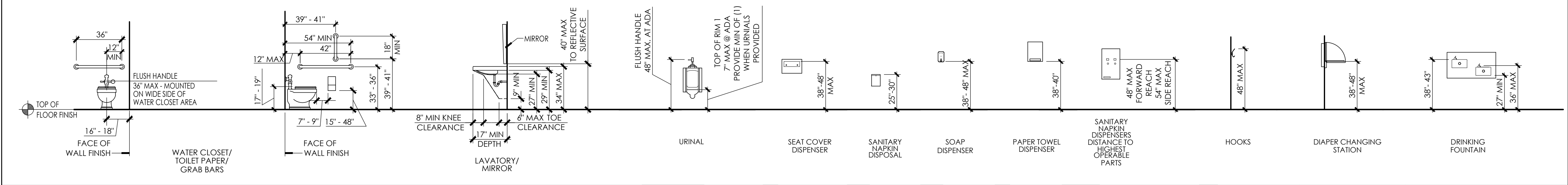
NOTE: ALL ACCESSORIES FURNISHED BY CONTRACTOR UNLESS NOTED OFCI.

- ◇ SOAP DISPENSER, OFCI
- ◇ ELECTRONIC HAND DRYER
- ◇ TOILET PAPER DISPENSER, OFCI
- ◇ 42" GRAB BAR
- ◇ 36" GRAB BAR
- ◇ 18" VERTICAL GRAB BAR
- ◇ 20x36 MIRROR
- ◇ SANITARY NAPKIN DISPOSAL, OFCI (AT ALL STALLS IN WOMEN'S RR)
- ◇ TOILET SEAT COVER DISPENSER, OFCI

KEYNOTES

- 1 PLASTIC LAMINATE COUNTERTOP AND SKIRT
- 2 TOILET STALL PARTITION
- 3 FIBERGLASS REINFORCED PANEL (FRP) TO 4'-0"; WIDTH OF MOP SINK
- 4 MOP SINK
- 5 WASHER AND DRYER
- 6 WATER HEATER
- 7 MECHANICAL DUCT SHOWN DASHED
- 8 EXPOSED CMU, PAINTED
- 8 EXPOSED CMU, ACCENT PAINT (SHOWN HATCHED)

▲ ADA STANDARDS: GENERAL REQUIREMENTS FOR RESTROOM FIXTURES AND ACCESSORIES



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SPRINGFIELD, OR 97477

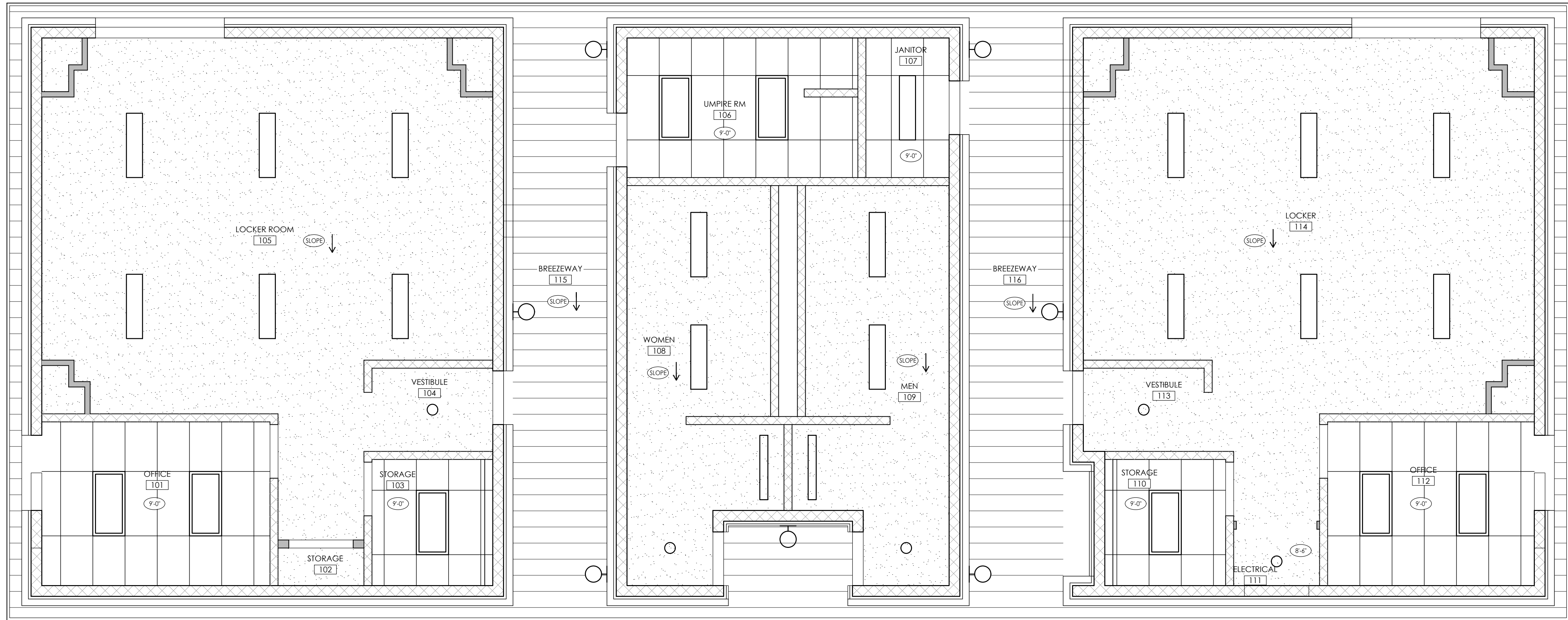
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PROGRESS PRINT

DATE:
7/26/21

JOB NUMBER: 2111
DRAWN BY: EJH
CHECKED BY: KS

SHEET TITLE
INTERIOR ELEVATIONS

SHEET NUMBER
A5.01



1
A6.01
CEILING PLAN
SCALE: 1/4" = 1'-0"



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SHEET NUMBER
A6.01

DOOR SCHEDULE												
DOOR NO.	NOMINAL DOOR SIZE WIDTH X HT.	DOOR			FRAME			HARDWARE GROUP	ARCH. DETAIL (AD/XX)			NOTES
		TYPE	MATL	FIN	TYPE	MATL	FIN		HEAD	JAMB	SILL	
101	3'-0" x 7'-0"	A	HS	PT	1	HS	PT	X				
102	1'-10" x 7'-0" PR	B	HS	PT	2	HS	PT	X				
103	3'-0" x 7'-0"	A	HS	PT	1	HS	PT	X				
104	3'-0" x 7'-0"	A	HS	PT	1	HS	PT	X				
106	3'-0" x 7'-0"	A	HS	PT	1	HS	PT	X				
107	3'-0" x 7'-0"	A	HS	PT	1	HS	PT	X				
108	3'-0" x 7'-0"	A	HS	PT	1	HS	PT	X				
109	3'-0" x 7'-0"	A	HS	PT	1	HS	PT	X				
110	3'-0" x 7'-0"	A	HS	PT	1	HS	PT	X				
111	2'-4" x 7'-0" PR	C	HS	PT	2	HS	PT	X				VENTED DOORS
112	3'-0" x 7'-0"	A	HS	PT	1	HS	PT	X				
113	3'-0" x 7'-0"	A	HS	PT	1	HS	PT	X				

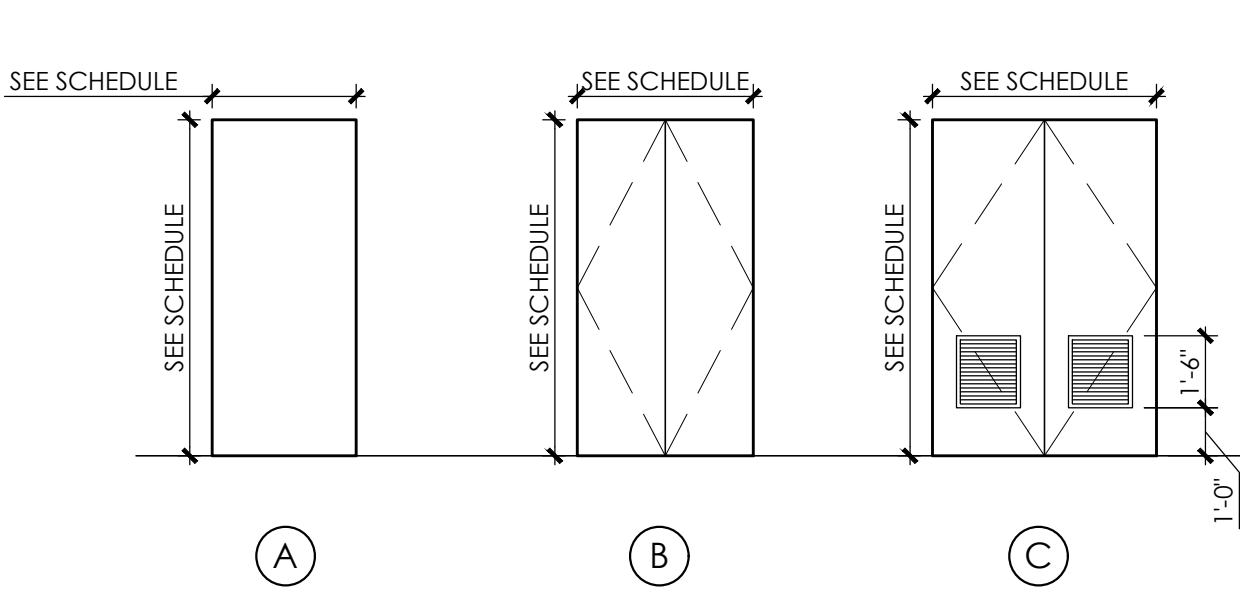
ABBREVIATIONS:
HS: HOLLOW STEEL
PT: PAINT

GENERAL NOTES: SEE PLANS FOR SWING

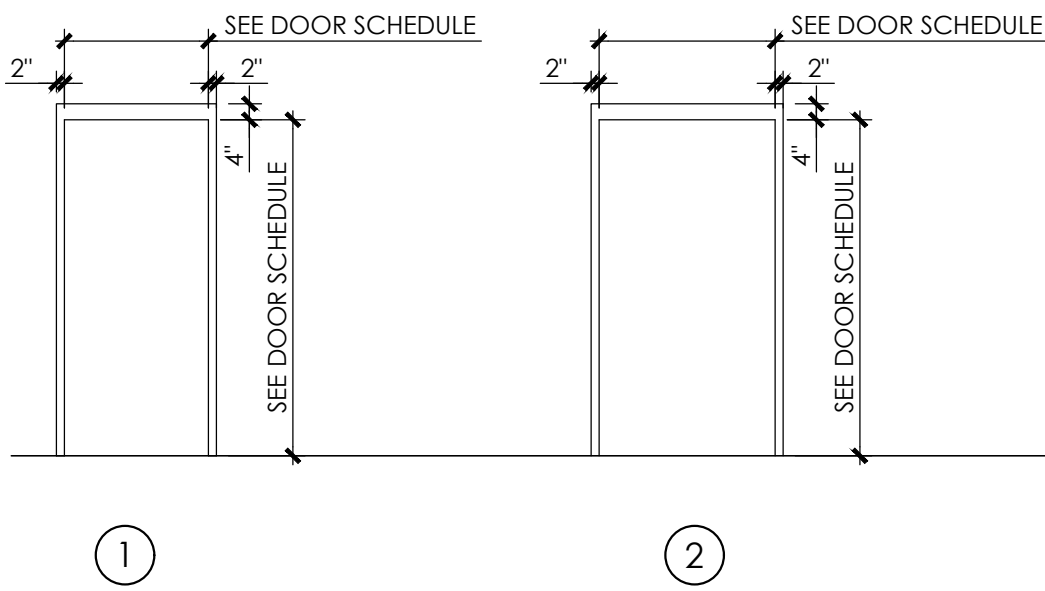
WINDOW SCHEDULE									
WINDOW TYPE (A)	FRAME SIZE (WXH)	OPERATION	FRAME MATERIAL	FINISH	HEAD HGT.	ARCHITECTURAL DETAIL			NOTES
						HEAD	JAMB	SILL	
A	4'-8" x 5'-4"	F - A	AL	FF	8'-0"				
B	4'-0" x 8'-0"	F	AL	FF	13'-4"				

ABBREVIATIONS:
FF: FACTORY FINISH F: FIXED
A: AWNING

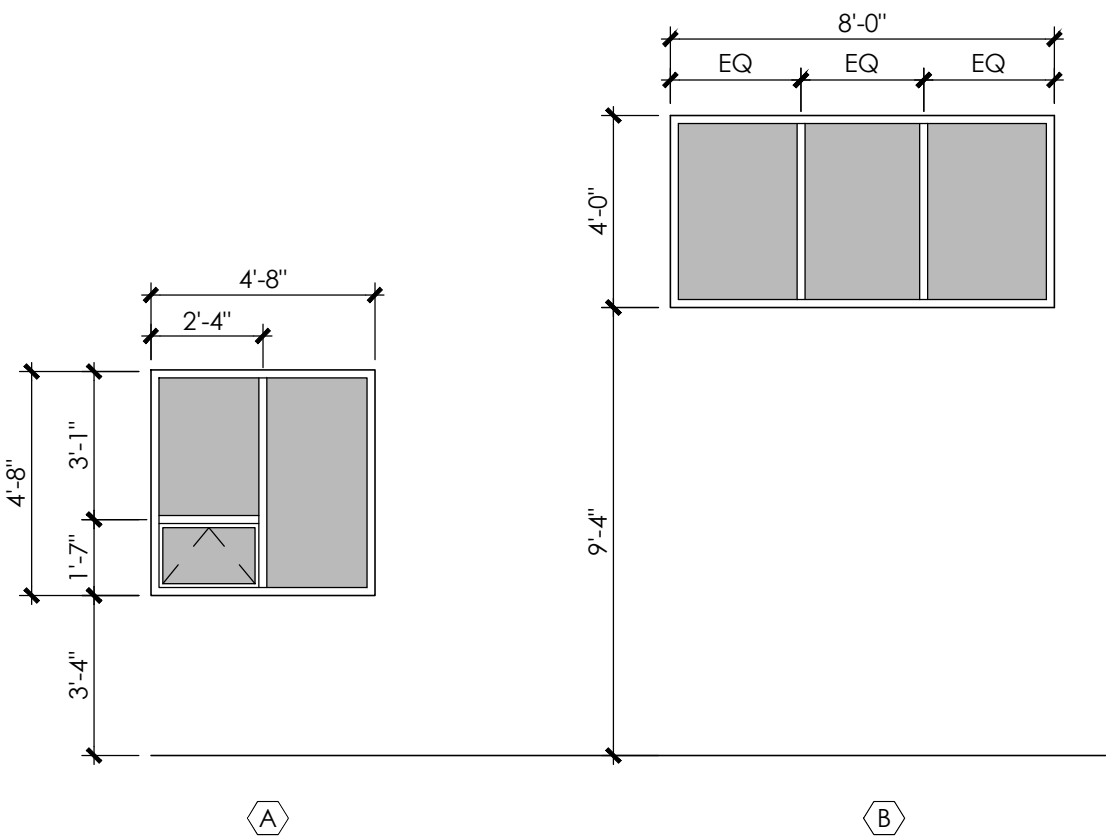
DOOR TYPES



FRAME TYPES



WINDOW TYPES



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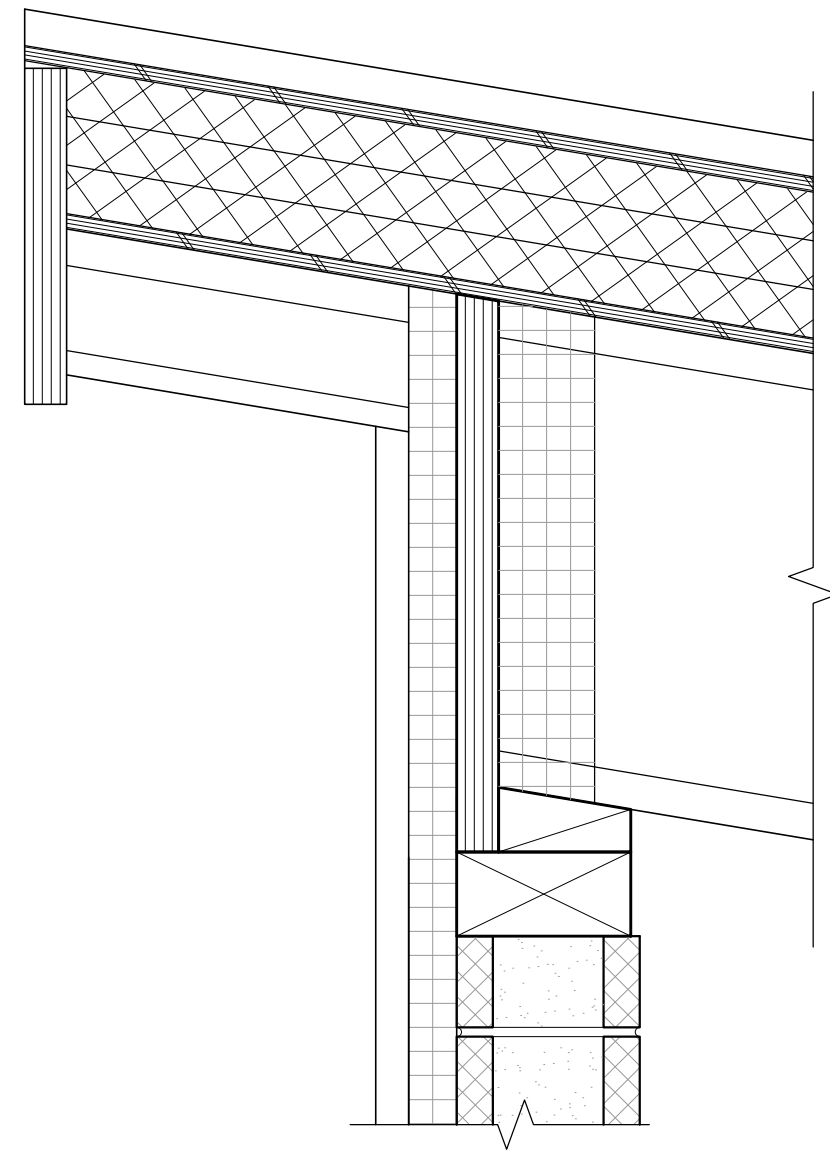
CHECKED BY: KS

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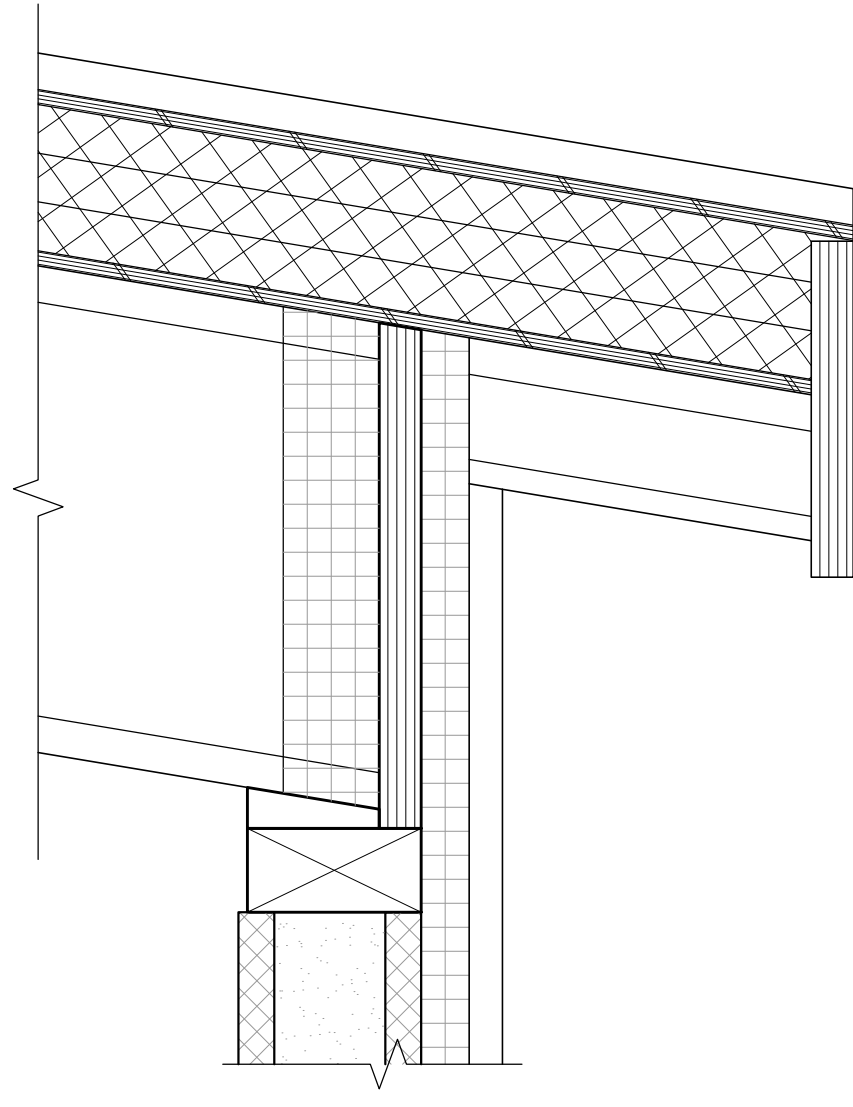
DOOR & WINDOW
SCHEDULES

SHEET NUMBER

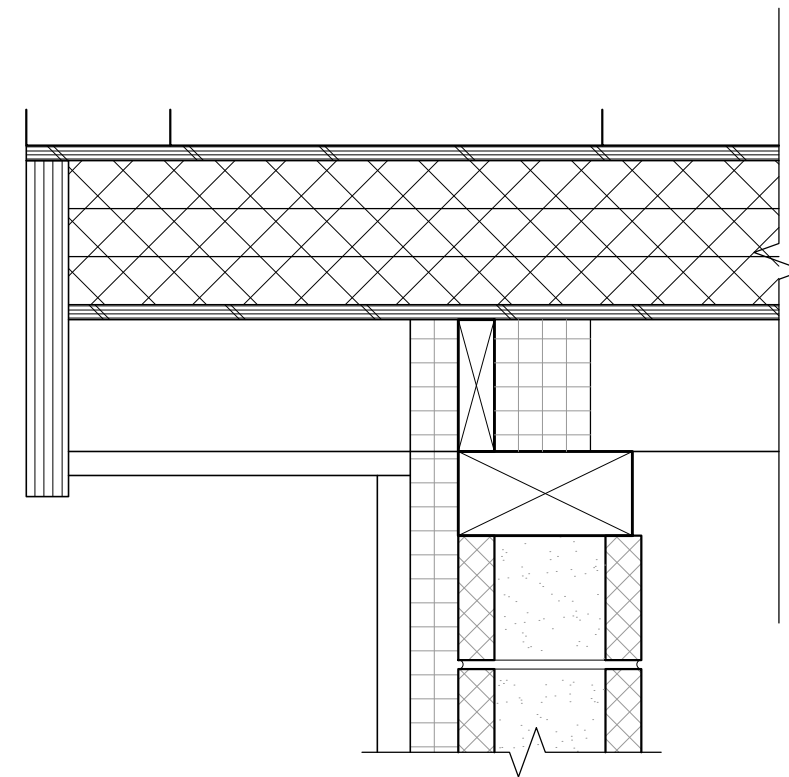
A8.01



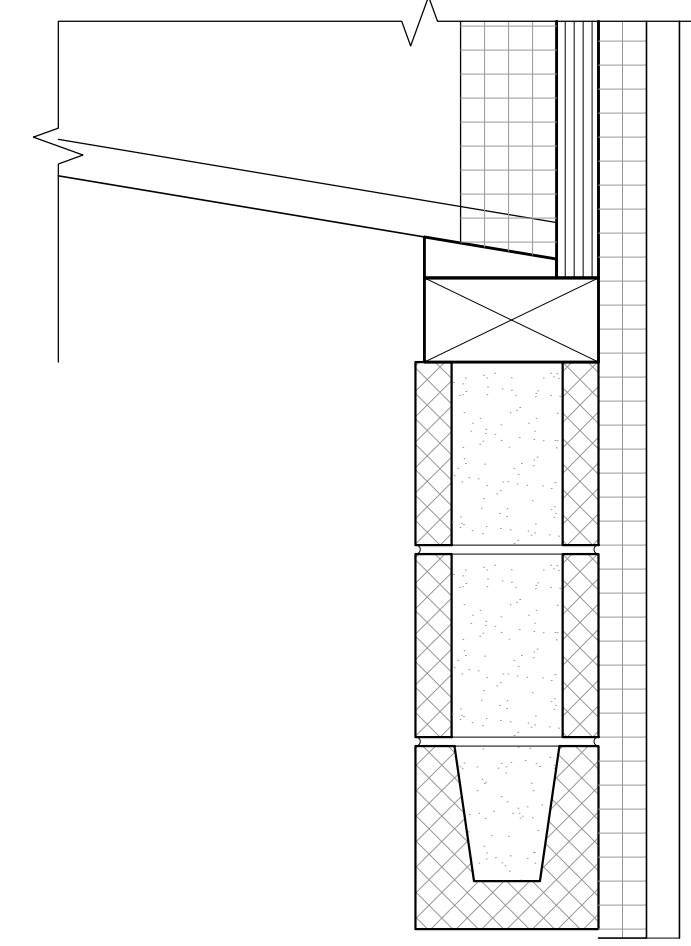
1 EAVE FRAMING AT HIGH END
SCALE: 1 1/2" = 1'-0"



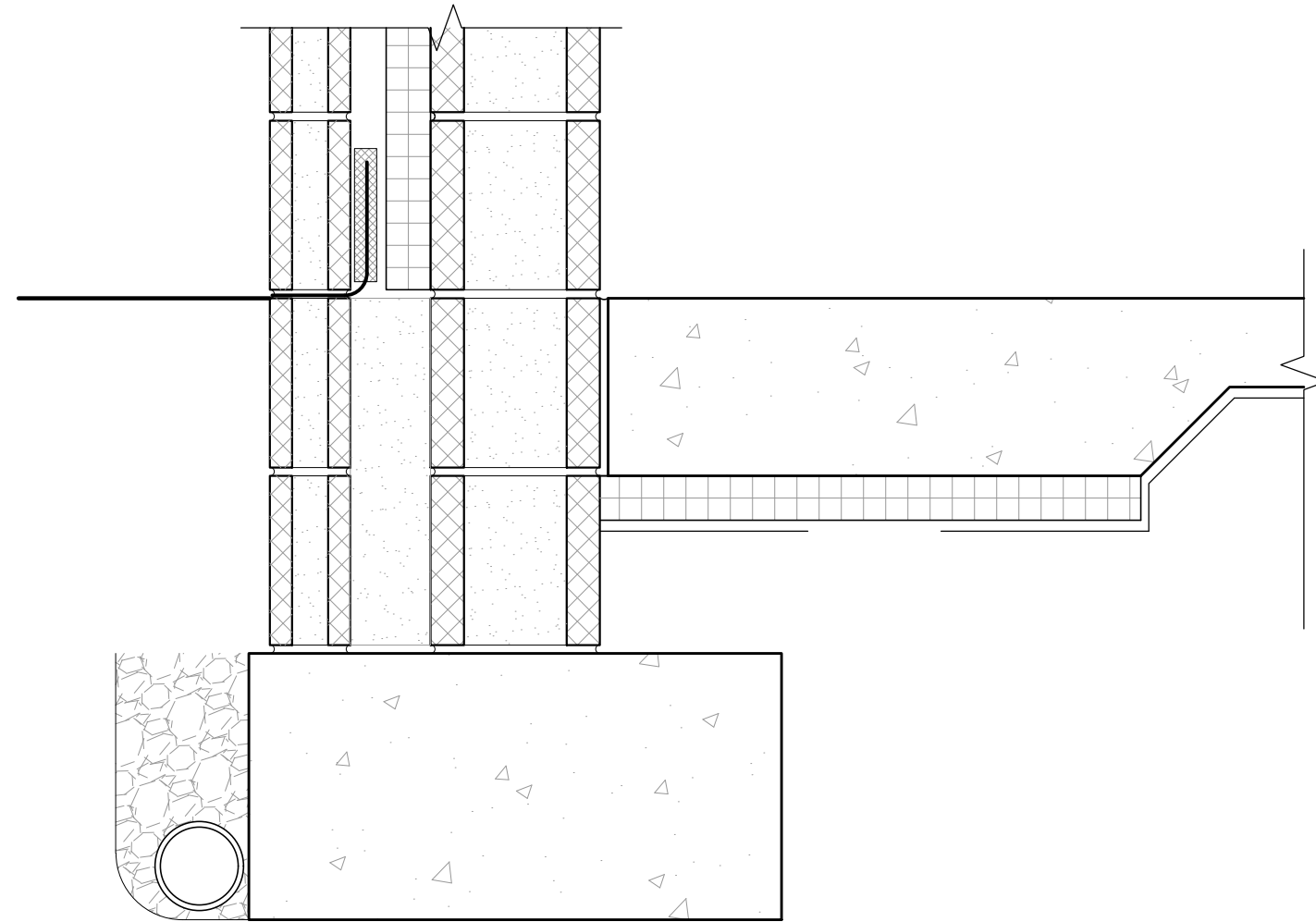
2 EAVE FRAMING AT LOW END
SCALE: 1 1/2" = 1'-0"



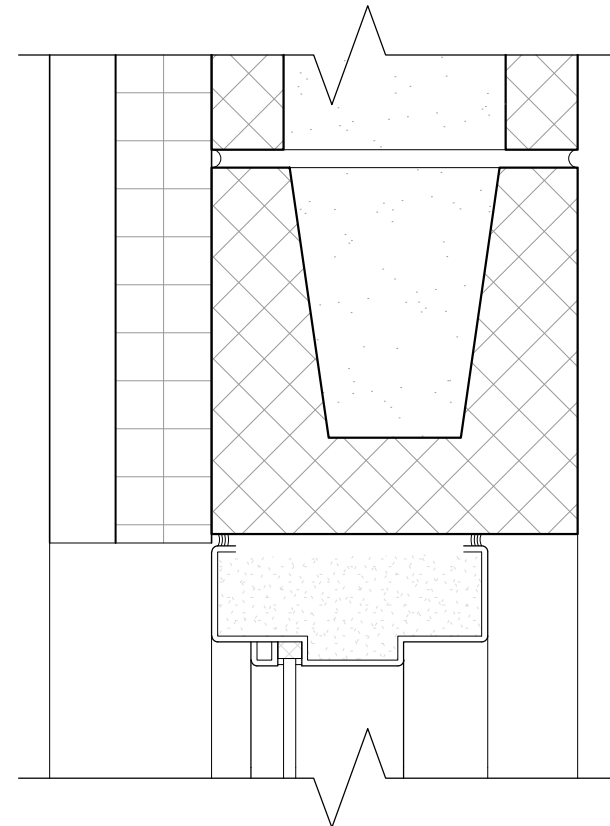
3 RAKE FRAMING
SCALE: 1 1/2" = 1'-0"



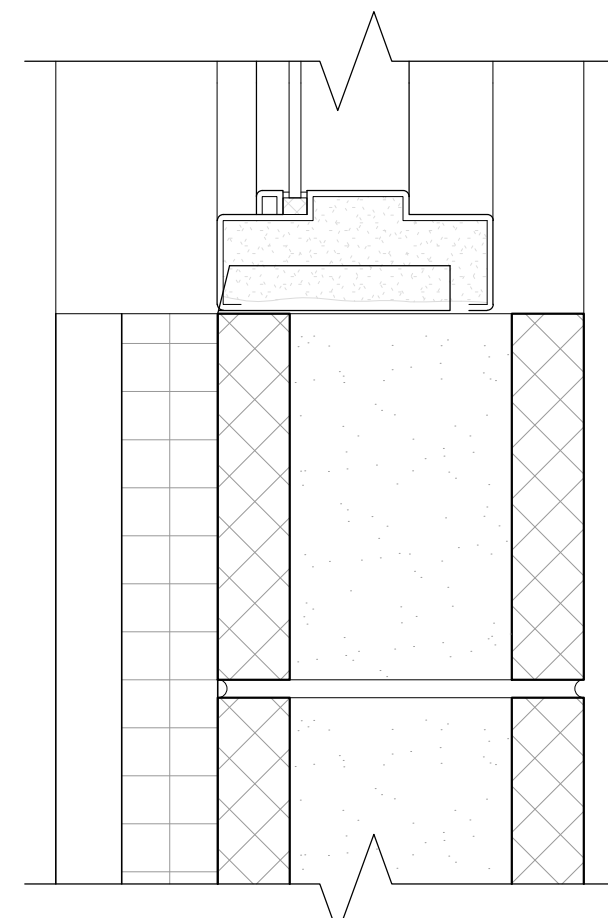
4 FRAMING @ TOILET RM ENTRY, BREEZEWAYS SIM.
SCALE: 1 1/2" = 1'-0"



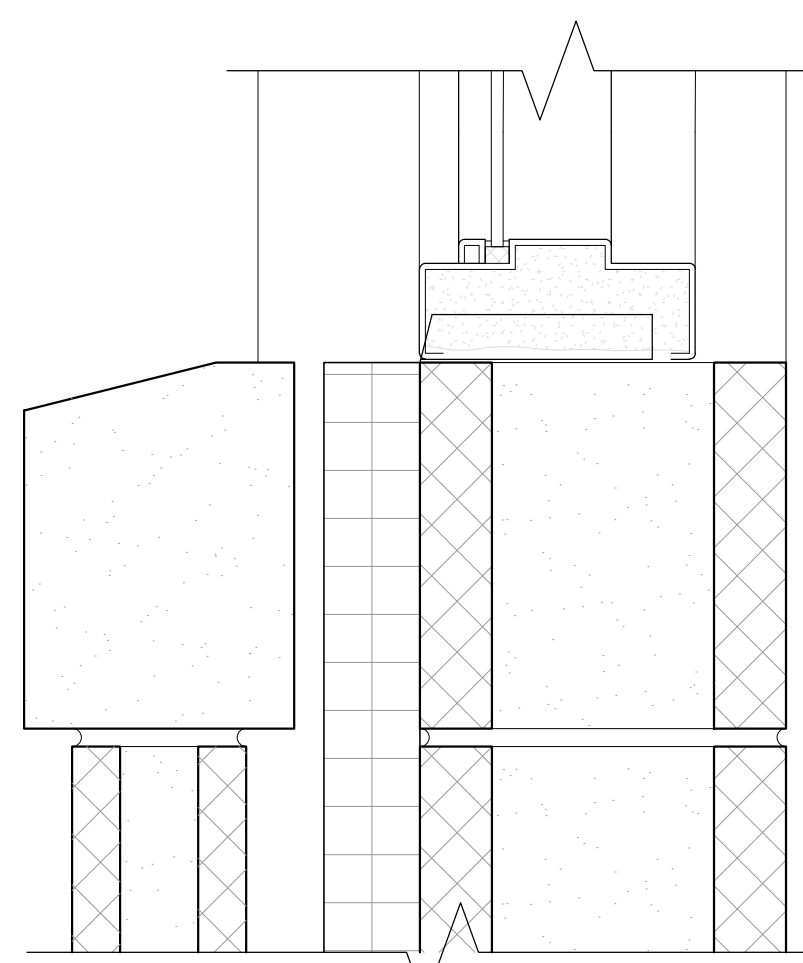
5 TYP. FOOTING DETAIL
SCALE: 1 1/2" = 1'-0"



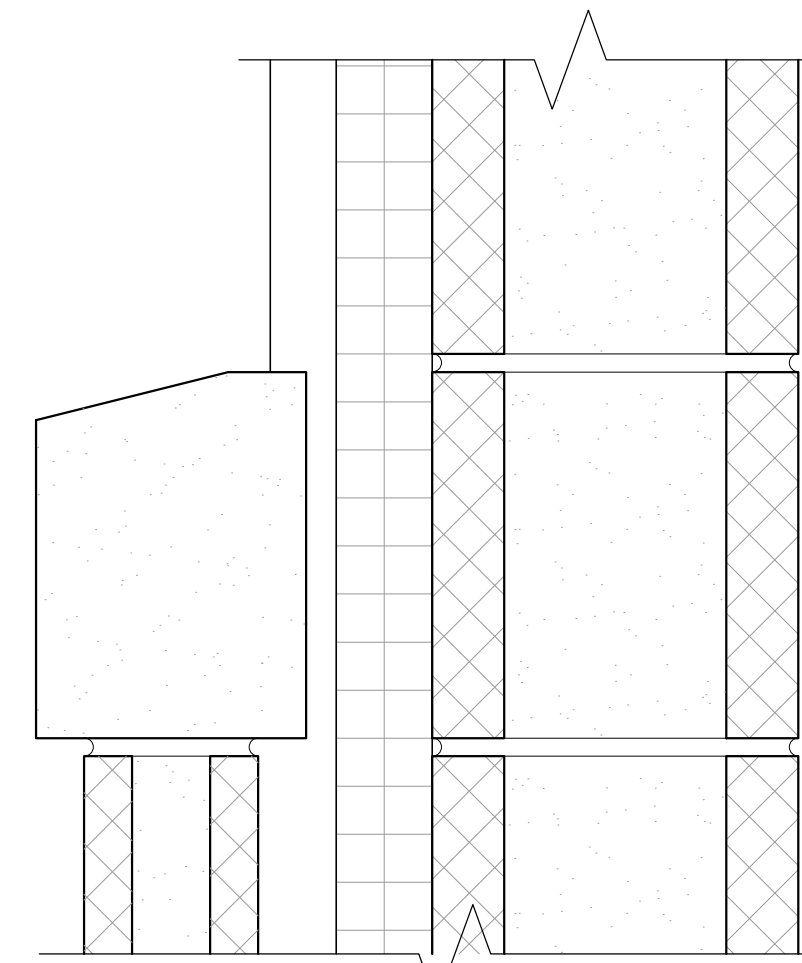
9 TYP. WINDOW HEAD
SCALE: 3" = 1'-0"



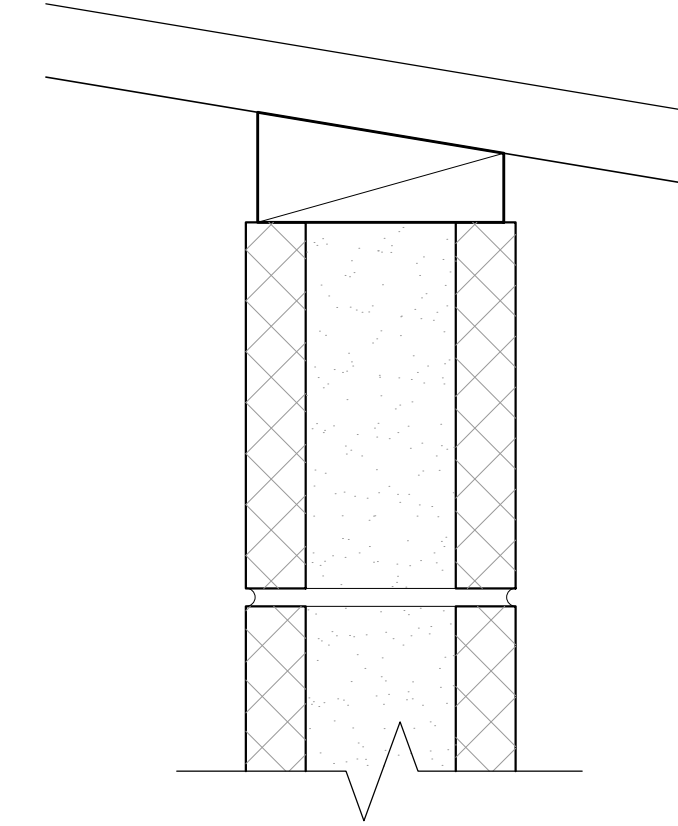
10 WINDOW SILL @ METAL PANEL
SCALE: 3" = 1'-0"



11 WINDOW SILL @ CMU WAINSCOT
SCALE: 3" = 1'-0"



12 METAL PANEL TO CMU WAINSCOT
SCALE: 3" = 1'-0"



13 CMU PARTITION WALL TO STRUCTURE
SCALE: 3" = 1'-0"

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DETAILS

SHEET NUMBER

A8.10

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GENERAL STRUCTURAL NOTES

- GENERAL NOTES:
- ALL CONSTRUCTION AND DESIGN SHALL CONFORM TO THE 2018 INTERNATIONAL BUILDING CODE AS AMENDED BY THE STATE OF OREGON (2019 OISC).
 - THE STRUCTURAL DRAWINGS SHALL BE UTILIZED IN CONJUNCTION WITH OTHER DESIGN CONSULTANT'S DRAWINGS (ARCHITECTURAL, MECHANICAL, ETC.). IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE REQUIREMENTS OF THE DRAWINGS INTO THEIR SHOP DRAWINGS AND CONSTRUCTION.
 - THE GENERAL STRUCTURAL NOTES ARE INTENDED FOR USE IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS. IN THE EVENT OF A CONFLICT BETWEEN THE TWO, THE GENERAL STRUCTURAL NOTES SHALL SUPERSEDE THE PROJECT SPECIFICATIONS. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER.
 - CONSTRUCTION SEQUENCE AND METHODS:
 - THE STRUCTURAL DRAWINGS ARE INTENDED FOR THE STRUCTURE TO ACT AS A WHOLE ONCE CONSTRUCTION IS COMPLETE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE SAFETY AND STABILITY (I.E. TEMPORARY BRACING IF REQUIRED) DURING CONSTRUCTION AS A RESULT OF CONSTRUCTION METHODS AND SEQUENCES.
 - THE CONTRACTOR SHALL TAKE INTO ACCOUNT COLD WEATHER CONSTRUCTION AND THE EFFECTS OF THERMAL MOVEMENT DURING THE CONSTRUCTION SCHEDULE.
 - NON-CANTILEVERED OR RESTRAINED RETAINING WALLS SHALL NOT BE BACKFILLED UNTIL THE WALL HAS BEEN TIED INTO THE LOWER AND UPPER SLAB SUPPORTS UNLESS ADEQUATE ENGINEERED BRACING HAS BEEN PROVIDED.
 - THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS. THE ARCHITECT AND/OR ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY BETWEEN THE EXISTING CONDITIONS AND CONSTRUCTION DOCUMENTS.
 - SUBMITTALS:
 - SUBMITTALS OF SHOP DRAWINGS, MILL TEST REPORTS, PRODUCT DATA FOR ITEMS AND BIDDER DESIGN ITEMS SHALL BE MADE TO THE ARCHITECT/ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION. BEFORE SUBMISSION TO THE ARCHITECT/ENGINEER, THE CONTRACTOR SHALL REVIEW THE SUBMITTALS FOR COMPLETENESS. VERIFICATION OF DIMENSIONS AND QUANTITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL MARK THE SHOP DRAWING WITH ALL NECESSARY COMMENTS AND DETAILER REQUESTED INFO BEFORE FORWARDING TO THE ARCHITECT/ENGINEER. SUBMITTALS SHALL BE MADE IN TIME TO PROVIDE A MINIMUM OF TWO WEEKS FOR REVIEW BY THE ARCHITECT/ENGINEER.
 - SHOP DRAWINGS FOR ALL STRUCTURAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION. SUCH ITEMS INCLUDE:

CONCRETE MIX DESIGNS, CONCRETE AND MASONRY REINFORCEMENT (INCLUDING MILL TEST REPORTS), EMBEDDED STEEL ITEMS, STRUCTURAL STEEL (INCLUDING MILL TEST REPORTS) AND WOOD I-JOISTS.

SHOP DRAWINGS OR CONTRACTOR ENGINEERED DETAILS SHALL BEAR THE SEAL AND SIGNATURE OF A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF OREGON IF IT DIFFERS FROM THE DESIGN OF THE STRUCTURAL DRAWINGS. ANY REVISION FROM THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED ALONG WITH SUPPORTING CALCULATIONS BEARING THE SEAL AND SIGNATURE OF A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF OREGON TO THE ARCHITECT/ENGINEER FOR REVIEW AND ACCEPTANCE.

C. CALCULATIONS, DESIGN DRAWINGS, AND SHOP DRAWINGS FOR THE DESIGN, FABRICATION AND CONSTRUCTION OF THE BIDDER DESIGN ITEMS SHALL BEAR THE SEAL AND SIGNATURE OF A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF OREGON AND SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER PRIOR TO FABRICATION. BIDDER DESIGN ITEMS FOR THIS PROJECT INCLUDE:

- GLAZING SYSTEMS.
1. CALCULATIONS AND BIDDER DESIGN DRAWINGS SHALL INCLUDE THE DESIGN, CONNECTION TO THE STRUCTURE, AND ACCOUNTING OF ANY LOCALIZED EFFECTS THE CONNECTIONS OR SYSTEMS MAY INDUCE ON THE STRUCTURE. ALL SUCH BIDDER DESIGNED ITEMS SHALL BE BASED ON THE DESIGN REQUIREMENTS AS SPECIFIED IN THE GENERAL STRUCTURAL NOTES.
2. DESIGN CRITERIA:

- CODE: 2018 INTERNATIONAL BUILDING CODE AS AMENDED BY THE STATE OF OREGON (2019 OISC).
- LOADS AND DESIGN CRITERIA: THE FOLLOWING LIVE LOADS AND CRITERIA WERE USED IN ADDITION TO THE DEAD LOAD OF THE STRUCTURE.

LIVE LOADS:

ROOF:

GROUND SNOW LOAD.....	20 PSF
SNOW EXPOSURE FACTOR.....	C _e = 1.0
SNOW IMPORTANCE FACTOR.....	I _s = 1.0
THERMAL FACTOR.....	C _t = 1.1
ROOF SNOW LOAD (SLOPES < 1:12).....	25 PSF (PLUS ADDED SNOW DRIFT IF SHOWN ON PLANS)
SOIL CRITERIA: (NO REPORT USE ASSUMED VALUES)	
FOOTING (FGS) DEPTH.....	1'-6" MIN. BELOW GRADE
ALLOWABLE SOIL BEARING VALUES	
ON ENGINEERED FILL OR NATIVE SOILS.....	1500 PSF (W/ 1/3 INCREASE FOR SHORT TERM LATERAL LOADS)
RETAINING WALLS	
ACTIVE - UNRESTRAINED.....	35 PCF (LEVEL BACKFILL)
ACTIVE - RESTRAINED.....	50 PCF (LEVEL BACKFILL)
PASSIVE.....	250 PSF/FT. BELOW NATURAL GRADE (ENGINEERED FILL OR NATIVE SOILS)
FRICTION COEFFICIENT.....	0.35 (ENGINEERED FILL OR NATIVE SOILS)

LATERAL CRITERIA:

RISK CATEGORY..... II |

WIND (DIRECTIONAL DESIGN PROCEDURE PER 2019 OISC)

ULT. DESIGN WIND SPEED, Vult (3-SEC GUST)..... 110 MPH |

WIND EXPOSURE..... B |

INTERNAL PRESSURE COEFFICIENT..... 0.18 |

COMPONENTS AND CLADDING DESIGN PRESSURE NOTES:

1. PLUS & MINUS SIGNIFY PRESSURES ACTING TOWARD & AWAY FROM THE SURFACES, RESPECTIVELY.

2. REFER TO FIGURE 30.4-1 ASCE 7-16 FOR ZONES

3. GABLE, HT=30', EXP. ADJ.=0.713

ULT. NET DESIGN WIND PRESSURE (PSF) FOR 10 ft ²	
ROOF (PSF)	
WALL (PSF)	

SEISMIC (EQUIVALENT LATERAL FORCE PROCEDURE)

IMPORTANCE FACTOR (SEISMIC)..... I_e= 1.0 |

SITE CLASS..... D |

SPECTRAL RESPONSE ACCELERATIONS..... S₁= 0.390 |

SPECTRAL RESPONSE COEFFICIENTS..... S₂= 0.164 |

SEISMIC DESIGN CATEGORY..... D |

BOTH DIRECTIONS:

RESPONSE MODIFICATION COEFFICIENT..... R= 6.5 (LIGHT FRAMED PLYWOOD S.W.S.) |

SEISMIC RESPONSE COEFFICIENT..... C= 0.043 |

DESIGN BASE SHEAR (ULT.)..... V= (rho=1.3) |

- CONCRETE AND REINFORCING STEEL:
- CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318-14 AND THE 2018 INTERNATIONAL BUILDING CODE AS AMENDED BY THE STATE OF OREGON (2019 OISC).
 - THE MINIMUM 28 DAY CONCRETE STRENGTHS SHALL BE AS FOLLOWS:

F_c = 3500 PSI (MAX. w/cm = 0.55).....FOR ALL USES UNLESS NOTED OTHERWISE.

(NOTE: FOOTINGS / STEM WALLS DESIGNED FOR F_c=2500 PSI, CONCRETE SPECIAL INSPECTION NOT REQUIRED FOR FOOTINGS / STEM WALLS).
 - CONCRETE MIX DESIGNS, ALONG WITH TEST DATA AS REQUIRED, BY ACI 318-14, SECTION 26.4, SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW A MINIMUM OF TWO WEEKS PRIOR TO CONCRETE POURS.
 - SPECIFIED CONCRETE STRENGTHS SHALL BE VERIFIED BY STANDARD 28-DAY CYLINDER TESTS PER ASTM C39, WHEN AND WHERE SPECIAL INSPECTION IS REQUIRED.
 - A 20% MAXIMUM OF THE CEMENT CONTENT MAY BE SUBSTITUTED WITH FLYASH CONFORMING TO ASTM C618, TYPE F OR C, HIGHER PERCENTAGES OF FLYASH MAY BE UTILIZED WITH ACCEPTANCE AND APPROVAL BY THE STRUCTURAL ENGINEER. ANY CONCRETE MIX UTILIZING FLYASH SHALL BE VERIFIED WITH TEST DATA.
 - ADDITIONAL WATER SHALL NOT BE ADDED TO THE CONCRETE MIX AT THE JOBSITE. WATER REDUCING ADMIXTURES CONFORMING TO ASTM C494 MAY BE UTILIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - IF CONCRETE IS TO BE POURED AGAINST AN EXISTING CONCRETE SURFACE, THE EXISTING SURFACE SHALL BE CLEANED AND ROUGHENED TO A MIN. 1/4" AMPLITUDE.
 - SLEEVES, OPENINGS, CONDUITS, AND OTHER EMBEDDED ITEMS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER BEFORE POURING. CONDUITS EMBEDDED IN SLABS SHALL NOT BE LARGER IN OUTSIDE DIAMETER THAN ONE THIRD THE THICKNESS OF THE SLAB AND SHALL NOT BE SPACED CLOSER THAN THREE DIAMETERS ON CENTER. PROVIDE 3/4" CHAMFERS ON ALL EXPOSED CONCRETE EDGES UNLESS NOTED OTHERWISE.
 - SHORING AND RESHORING:

SHORING AND RESHORING SHALL CONFORM TO ACI347.2 R-05. SHORING AND SUPPORTING FORMWORK SHALL NOT BE REMOVED FROM HORIZONTAL MEMBERS BEFORE CONCRETE STRENGTH IS AT LEAST 70 PERCENT OF DESIGN STRENGTH, AS DETERMINED BY FIELD CURED CYLINDERS. IN ADDITION, SHORING SHALL NOT BE REMOVED SOONER THAN RECOMMENDED BY ACI 347.2R-05. FORMWORK SHALL NOT BE REMOVED IN LESS THAN (10) DAYS.
 - REINFORCING STEEL:
 - REINFORCING STEEL SHALL BE DETAILED, FABRICATED, AND INSTALLED ACCORDING TO THE "MANUAL OF STANDARD PRACTICE OF REINFORCED CONCRETE CONSTRUCTION" BY THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI).
 - REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
 - SMOOTH BARS OR WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
 - REINFORCING STEEL REQUIRING WELDING OR PLACED WITHIN A SPECIFIED BOUNDARY ELEMENT OR MOMENT FRAME ELEMENT SHALL CONFORM TO WELDABLE ASTM A706.
 - ALL LAP SPLICES OF REINFORCEMENT SHALL CONFORM TO CLASS B LAPS AS SHOWN ON THE LAP SPLICE SCHEDULE. UNLESS NOTED OTHERWISE, ANY MECHANICAL BAR SPLICES SHOWN SHALL BE MADE WITH DAYTON BAR-GRIP COUPLERS OR WITH AN APPROVED PRODUCT SUBMITTED TO THE ENGINEER OF RECORD WITH AN ICBO REPORT.
 - UNLESS NOTED OTHERWISE, REINFORCING STEEL SHALL HAVE THE MINIMUM COVER OR PROTECTION FOR THE FOLLOWING USES AS NOTED BELOW:

BEAMS, JOISTS, AND COLUMNS	1-1/2" (TO TIES OR STRUTS)
SLABS	1"
WALLS	
INTERIOR FACES EXPOSED TO EARTH OR WEATHER	1-1/2" (#5 BARS AND SMALLER)
	2" (#6 BARS AND LARGER)
FOOTINGS	3"

- CONCRETE WALLS:
 - PROVIDE THE MINIMUM WALL REINFORCING AS SHOWN BELOW UNLESS NOTED OTHERWISE ON PLANS OR DETAILS:

WALL THICKNESS	#4 VERT. @ 24" O.C. & #4 HORIZ. @ TOP & BOTTOM OF WALL
----------------	--
 - HOOKED DOWELS FROM FOUNDATIONS SHALL BE PROVIDED TO MATCH VERTICAL WALL REINFORCING.
 - PROVIDE HOOKED DOWELS MATCHING SLAB REINFORCING FROM WALLS TO SLABS OR HOOK SLAB REINFORCEMENT INTO WALLS.
 - UNLESS NOTED OTHERWISE, PLACE (2) #5 BARS IN WALLS W/ (2) LAYERS OF REINF. IN BOTH DIRECTIONS & (1) #5 BAR IN WALLS HAVING SINGLE LAYER OF REINF. IN BOTH DIRECTIONS, ON ALL SIDES OF SLAB AND WALL OPENINGS EXTENDED 36" BEYOND OPENING. PROVIDE (1) OR (2) 4'-8" LONG DIAGONAL #5 BARS AT EACH CORNER OF THE OPENING MATCHING THE LAYERS OF REINFORCING.
- ADDITIONAL CONCRETE ITEMS:
 - HEADED SHEAR STUDS AND DEFORMED BAR ANCHORS SHALL BE AN APPROVED NELSON PRODUCT OR APPROVED EQUAL.
 - WEDGE ANCHORS OR EXPANSION BOLTS SHALL BE HILTI KWIK BOLT-TZ OR AN APPROVED EQUAL SUBMITTED WITH ICBO REPORTS TO THE ENGINEER FOR REVIEW.
 - EPOXY ANCHORS OR DOWELS SHALL BE INSTALLED WITH HILTI HIT-RE 500-V3 EPOXY ADHESIVE, AN APPROVED EQUAL IN CRACKED OR UNCRACKED CONCRETE WITH ICBO REPORTS MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
 - UNLESS NOTED OTHERWISE, PERMANENTLY EXPOSED EMBEDDED PLATE AND ANGLE ASSEMBLIES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION. WELDS OR LOADS SHALL NOT BE PLACED ON THE EMBEDDED ASSEMBLIES FOR A MINIMUM OF (7) DAYS AFTER CASTING IN CONCRETE.
- REINFORCEMENT SHALL BE SECURED IN FORMS WITH SUITABLE TIES AND ANCHORAGE TO PREVENT DISPLACEMENT. BARS ADJACENT TO EARTH SHALL BE SUPPORTED BY CEMENT MORTAR CUBES.
- REINFORCING STEEL SHALL NOT BE DISPLACED FOR THE CONVENIENCE OF OTHER TRADES UNLESS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
- "WET SETTING" OF REINFORCEMENT, ANCHOR BOLTS AND INSERTS IS NOT PERMITTED.

CONCRETE REINFORCING LAP SPLICE SCHEDULE				
F _c = 3,000 psi				
BAR SIZE	TOP BARS		OTHER BARS	
	CASE 1	CASE 2	CASE 1	CASE 2
#3	28	42	22	32
#4	37	56	29	43
#5	47	70	36	54
#6	56	84	43	64
#7	81	122	63	94
#8	93	139	72	107
#9	105	157	81	123
#10	118	177	91	136
#11	131	196	101	151

- LAP SPLICE SCHEDULE NOTES:
- LAP LENGTHS ARE IN INCHES AND ARE BASED ON GRADE 60 REINFORCING STEEL AND NORMAL WEIGHT CONCRETE.
 - WHERE CLASS A LAP SPLICES ARE NOTED ON THE PLANS OR DETAILS, DIVIDE THE TABULATED VALUES BY 1.3.
 - FOR LIGHTWEIGHT AGGREGATE CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3.
 - TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
 - CASES 1 AND 2 ARE DEFINED AS FOLLOWS:

BEAMS OR COLUMNS:

CASE 1: COVER AT LEAST 1.0 DB AND C.C. SPACING AT LEAST 2.0 DB (WHERE DB = BAR DIAMETER).

CASE 2: COVER LESS THAN 1.0 DB OR C.C. SPACING LESS THAN 2.0 DB.

ALL OTHERS:

CASE 1: COVER AT LEAST 1.0 DB AND C.C. SPACING AT LEAST 3.0 DB.

CASE 2: COVER LESS THAN 1.0 DB OR C.C. SPACING LESS THAN 3.0 DB.

- MASONRY:
- MASONRY CONSTRUCTION SHALL CONFORM TO TMS 402-16 AND THE 2018 INTERNATIONAL BUILDING CODE AS AMENDED BY THE STATE OF OREGON (2019 OISC).
 - CONCRETE MASONRY UNITS SHALL COMPLY WITH ASTM C90 WITH A MINIMUM COMPRESSIVE STRENGTH OF 1,900 PSI ON AVERAGE NET AREA. ASSEMBLIES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF F_m=1,500 PSI AS VERIFIED BY PRISM TESTS BEFORE AND DURING CONSTRUCTION.
 - MORTAR:

A. MORTAR SHALL BE TYPE S PER ASTM C270, AND SHALL CONFORM TO 2018 IBC SECTION 2103.
 - GROUT:

A. GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2,000 PSI AND SHALL CONFORM TO 2018 IBC SECTION 2103. ALL WALLS SHALL BE FULLY GROUTED UNLESS NOTED OTHERWISE.
 - REINFORCING STEEL:
 - REINFORCING STEEL SHALL CONFORM TO 2018 IBC SECTION 2103.4. DEFORMED BARS SHALL BE ASTM A615, GRADE 60. BARS SHALL BE PLACED IN ACCORDANCE WITH 2018 IBC SECTION 2104.
 - LAP ALL REINFORCING STEEL IN ACCORDANCE WITH THE MASONRY LAP SPLICE SCHEDULE, UNLESS NOTED OTHERWISE.
 - PROVIDE TWO #5 HORIZONTAL BARS IN BOND BEAM AT ALL FLOOR AND ROOF LINES AND AT THE TOP OF WALLS. BOND BEAMS SHALL BE STEPPED AS REQUIRED TO MATCH ROOF SLOPES.
 - PROVIDE TWO #5 HORIZONTAL BARS IN BOND BEAM ABOVE AND BELOW ALL OPENINGS, AND EXTEND THESE BARS 2'-0" PAST THE OPENING AT EACH SIDE. PROVIDE ONE BAR, MATCHING VERTICAL BAR SIZE, FOR THE FULL HEIGHT OF THE WALL AT EACH SIDE OF OPENINGS, WALL ENDS, AND INTERSECTIONS.
 - PLACE ALL HORIZONTAL BARS IN BOND BEAM UNITS. WHEN TWO BARS EXIST IN BOND BEAM, STAGGER LAPS 6'-0" MIN.
 - PROVIDE DOWELS INTO FOUNDATION TO MATCH SPACING & DIAMETER OF VERTICAL REINFORCING. LAP BARS IN ACCORDANCE WITH THE MASONRY LAP SPLICE SCHEDULE. DOWELS TO BE STRAIGHT AND PLUMB.
 - INSTALL VERTICAL REINFORCING WITH BAR POSITIONERS @ 8'-0" O.C. MAXIMUM.
 - PROVIDE CORNER REINF. BARS EQUAL TO SIZE & SPACING OF HORIZ. REINF. @ ALL CORNERS AND INTERSECTIONS. LAP BARS IN ACCORDANCE WITH THE MASONRY LAP SPLICE SCHEDULE.
 - ALL CELLS CONTAINING REINFORCING SHALL BE GROUTED SOLID.

MASONRY REINFORCING LAP SPLICE SCHEDULE			
BAR SIZE	MIN. LAP FOR BAR SPACING > 3"	MIN. LAP FOR BAR SPACING < 3"	
#4	24"	31"	
#5	30"	39"	
#6	36"	47"	
#7	42"	55"	
#8	48"	63"	

- MASONRY WALLS:
 - PROVIDE THE MINIMUM WALL REINFORCING AS SHOWN BELOW UNLESS NOTED OTHERWISE:

WALL THICKNESS	VERTICAL BARS		HORIZONTAL BARS	
	RUNNING BOND	STACK BOND	RUNNING BOND	STACK BOND
6"	#5 @ 48" O.C.	#4 @ 24" O.C.	#4 @ 48" O.C.	#4 @ 24" O.C.
8"	#5 @ 32" O.C.	#4 @ 24" O.C.	(2) #4 @ 48" O.C.	#5 @ 24" O.C.
- CONTROL JOINTS SHALL BE PLACED IN ALL MASONRY WALLS @ A MAXIMUM SPACING OF 25 FT. O.C. OR AS NOTED ON DRAWINGS (REF. ARCH. DOCUMENTS FOR SPECIFIC LOCATIONS). HORIZONTAL WIRE AND BOND BEAM REINFORCEMENT SHALL BE DISCONTINUOUS @ ALL CONTROL JOINTS. HORIZONTAL BOND BEAM REINFORCEMENT @ LINTEL BEAMS, FLOOR AND ROOF LEVELS SHALL BE CONTINUOUS THROUGH CONTROL JOINTS. TWO #5 VERTICAL BARS SHALL BE PLACED ON EACH SIDE OF WALL CONTROL JOINTS. ADDITIONAL VERTICAL BARS SHALL BE DOWELED TO FOUNDATION.
- ALL BLOCK CELLS CONTAINING METAL INSERTS, ANCHOR BOLTS, STUD BOLTS, ETC. SHALL BE FILLED WITH GROUT.
- ALL CELLS FILLED WITH GROUT TO BE MECHANICALLY CONSOLIDATED @ EVERY LIFT.
- ALL BOLTS IN MASONRY SHALL CONFORM TO ASTM SPECIFICATION A307 U.N.D. AND SHALL BE OF THE SIZE INDICATED ON THE DRAWINGS.
- LEVEL 2 QUALITY ASSURANCE PROGRAM REQUIRED PER 2018 IBC & TMS 602, TABLE 4 & 5 UNLESS NOTED OTHERWISE ON DRAWINGS.

- COMPOSITE WOODS
- COMPOSITE WOODS SHALL BE OF THE TYPE AND SIZE AS SHOWN ON THE DRAWINGS. THE MATERIAL TYPE AND GRADE SHALL BE AS SHOWN BELOW:

TYPE	GRADE
LSL	E = 1,550,000 PSI, F _b = 2,325 PSI
LVL	E = 1,900,000 PSI, F _b = 2,600 PSI
PSL (BEAMS)	E = 2,000,000 PSI, F _b = 2,900 PSI
PSL (COLUMNS)	E = 1,800,000 PSI, F _b = 2,400 PSI

- COMPOSITE WOOD SYMBOLS:

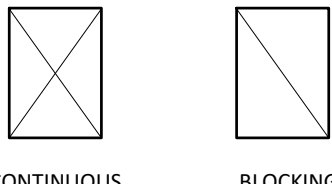
SAWN LUMBER:

- ALL SAWN LUMBER SHALL CONFORM TO THE WESTERN WOOD PRODUCTS ASSOCIATION OR THE WEST COAST LUMBER INSPECTION BUREAU GRADING RULES. LUMBER SHALL BE OF THE SPECIES AND GRADE SHOWN BELOW:

MEMBER	GRADE
2X & 3X FRAMING	DOUGLAS FIR-LARCH NO. 1
5X & GREATER STUDS & PMS	DOUGLAS FIR-LARCH NO. 1
POSTS/ COLUMNS	DOUGLAS FIR-LARCH NO. 1
P&S DECKING	DOUGLAS FIR-COMMERCIAL DEX

MEMBER	HANGER
2X & 3X MEMBERS	U TYPE HANGERS
4X MEMBERS	HU TYPE HANGERS
6X MEMBERS	HUT TYPE HANGERS
I-JOIST MEMBERS	MIT HANGERS
GLU-LAM MEMBERS	LEG HANGERS

- ALL LUMBER IN CONTACT WITH THE GROUND, CONCRETE OR CMU SHALL BE PRESSURE TREATED. CONTRACTOR MAY SUBMIT FOR APPROVAL, A MOISTURE BARRIER IN-LEU OF THE PRESSURE TREATED WOOD.
- ALL METAL HARDWARE AND FRAMING ACCESSORIES SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE COMPANY OR AN APPROVED EQUAL. SUBSTITUTION OF AN APPROVED EQUAL SHALL NOT BE MADE WITHOUT THE APPROVAL OF THE ENGINEER. THE SUBMITTAL SHALL INCLUDE DOCUMENTATION SHOWING THE ALLOWABLE LOADS OF THE SPECIFIED SIMPSON ITEM ALONG WITH TABULATED ALLOWABLE LOADS FOR THE SUBSTITUTED ITEMS. ALL ITEMS SHALL BE INSTALLED PER THE MANUFACTURERS INSTALLATION REQUIREMENTS. ALL NAIL HOLES SHALL BE FILLED WITH THE RECOMMENDED FASTENER UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- WHERE FRAMING HANGERS ARE REQUIRED BUT ARE NOT SPECIFICALLY SIZED, THE FOLLOWING SIZES SHALL BE USED. SLOPE, SKEW, TURN IN FLANGES AND PROVIDE TOP FLANGE HANGERS AS REQUIRED FOR THE SPECIFIC CONDITIONS AT THE END OF THE MEMBER.
- ALL WALLS SHALL HAVE DOUBLE TOP PLATES AND SHALL BE SPLICED PER THE TYPICAL TOP PLATE SPLICE DETAIL, UNLESS NOTED OTHERWISE. TOP PLATES AT WALL INTERSECTIONS SHALL BE LAPPED AND NAILED WITH (3) 16D NAILS.
- HOLES FOR BOLTS SHALL BE DRILLED WITH A BIT OF THE SAME NOMINAL DIAMETER AS THE BOLT + 1/16".
- ALL BOLTS, CARRIAGE BOLTS, LAG SCREWS, EXPANSION BOLTS AND EPOXY BOLTS SHALL BE INSTALLED WITH STANDARD CUT WASHERS UNDER THE BOLT HEADS AND NUTS THAT BEAR DIRECTLY ON THE WOOD. ALL NUTS SHALL BE TIGHTENED AT THE TIME OF INSTALLATION AND RE-TIGHTENED IF NECESSARY, DUE TO WOOD SHRINKAGE, PRIOR TO CLOSE-IN OR AT THE COMPLETION OF THE PROJECT. BOLTS AND LAG SCREWS SHALL CONFORM TO ANSI/ASME STANDARD B18.2.1-2012.
- DRILLING, CUTTING AND NOTCHING OF JOISTS SHALL BE IN CONFORMANCE WITH 2012 IBC 2308.4.2.4 CUTS/ NOTCHES IN THE TOP AND BOTTOM SHALL NOT BE DEEPER THAN ONE SIXTH THE JOIST DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE ONE-THIRD OF THE SPAN. HOLES BORED IN JOISTS SHALL NOT BE WITHIN 2 INCHES OF THE TOP OR BOTTOM OF JOISTS, AND THE DIAMETER OF ANY SUCH HOLE SHALL NOT EXCEED ONE-THIRD THE JOIST DEPTH. DRILLING, CUTTING AND NOTCHING IN EXCESS OF THESE LIMITS IS PROHIBITED WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- DRILLING/ CUTTING AND NOTCHING OF STUDS SHALL BE IN CONFORMANCE WITH 2012 IBC AND 2308.5.9 AND 2308.5.10 CUTS/ NOTCHES SHALL NOT EXCEED 25% THE WIDTH OF THE STUD. HOLES BORED IN STUDS SHALL NOT EXCEED 40% THE WIDTH OF THE STUD. DRILLING, CUTTING AND NOTCHING IN EXCESS OF THESE LIMITS IS PROHIBITED WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- WOOD SYMBOLS:



- ALL NAILS FOR STRUCTURAL WORK SHALL BE COMMON WIRE NAILS. HOLES SHALL BE PRE-DRILLED WHERE NECESSARY TO PREVENT SPLITTING. NAILING NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE PER THE NAILING SCHEDULE BELOW:

NAIL TYPE	SHANK DIAMETER	MINIMUM PENETRATION - INCHES
6d	0.113	1.13
8d	0.131	1.31
10d	0.148	1.48
16d	0.162	1.62

NAILING SCHEDULE

- JOIST SITTING ON SILL OR GIRDER (3) 8D TOENAILS, EA. SIDE
- BRIDGING TO JOIST (2) 8D TOENAILS, EA. SIDE, EA. END
- TOP PLATE TO STUD (2) 16D
- STUD TO SILL PLATE (2) 16D END NAILS OR (4) 8D TOENAILS
- DOUBLE STUDS 16D @ 24" O.C.
- DOUBLE TOP PLATES - BETWEEN SPLICE MAILING 16D @ 16" O.C.
- DOUBLE TOP PLATES - EACH SIDE OF SPLICED PLATE (8) 16D
- BLOCKING TO TOP PLATE (3) 8D TOENAILS EACH SIDE
- RIM JOIST TO TOP PLATE OR SILL PLATE 16D TOENAILS @ 6" O.C.
- CONTINUOUS (2) & (3) PIECE HEADERS 16D @ 16" O.C. ALONG EA. EDGE
- CEILING JOIST LAPS OVER PARTITIONS (3) 16D FACE NAILS
- RATHER TO TOP PLATE OR SILL PLATE (3) 8D TOENAILS EA. SIDE
- BUILT-UP CORNER STUDS 16D @ 24" O.C.
- TONGUE & GROOVE DECKING (2) 16D @ EA. BEARING
- CROSS BRIDGING (2) 10D EA. END

WOOD STRUCTURAL PANELS:

- STRUCTURAL WOOD PANELS SHALL CONFORM TO THE REQUIREMENTS OF ONE OF THE FOLLOWING STANDARDS AND PUBLICATIONS:
 - U.S. PRODUCT STANDARD PS 1 FOR CONSTRUCTION AND INDUSTRIAL PLYWOOD.
 - U.S. PRODUCT STANDARD PS 2 PERFORMANCE STANDARD FOR WOOD BASED STRUCTURAL USE PANELS.
 - APA PRP-108 PERFORMANCE STANDARDS.
 - ANY CODE-APPROVED STANDARD OR PUBLICATION. APPROVAL MUST BE OBTAINED FROM W.S.E. STRUCTURAL ENGINEERS.
- ROOF PANELS SHALL BE 3/4" APA RATED 40/20, EXPOSURE 1 SHEATHING, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- WALL PANELS SHALL BE 3/4" APA RATED 24/16, EXPOSURE 1 SHEATHING, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- ALL ROOF AND FLOOR SHEATHING SHALL BE INSTALLED WITH THE FACE GRAIN PERPENDICULAR TO THE SUPPORTS AND A 3" GAP AT ALL PANEL EDGES UNLESS RECOMMENDED OTHERWISE BY THE PANEL MANUFACTURER.
- WHERE BLOCKING IS NOT SPECIFICALLY REQUIRED FOR THE ROOF SHEATHING, PLY CLIPS OR TONGUE AND GROOVE PLYWOOD SHALL BE USED.
- SUB-FLOOR SHEATHING SHALL BE UNBLOCKED UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS. SUB-FLOOR SHEATHING SHALL BE GLUED DOWN TO THE SUPPORTING MEMBERS AND GLUED AT THE TONGUE AND GROOVE JOINT WHEN PROVIDED.
- ALL NAILS SHALL BE COMMON NAILS EXCEPT AT ROOF SHEATHING WHERE RING SHANK NAILS SHALL BE USED. GALVANIZED NAILS SHALL BE USED AT PERMANENTLY EXPOSED EXTERIOR AREAS. GALVANIZED NAILS SHALL BE HOT DIPPED OR TUMBLED ONLY.
- ALL NAILS AT FIRE-TREATED SHEATHING SHALL BE HOT-DIPPED ZINC-COATED GALVANIZED, UNLESS OTHERWISE SPECIFIED BY MANUFACTURER.

MANUFACTURED WOOD I-JOISTS/ OPEN WEB JOISTS:

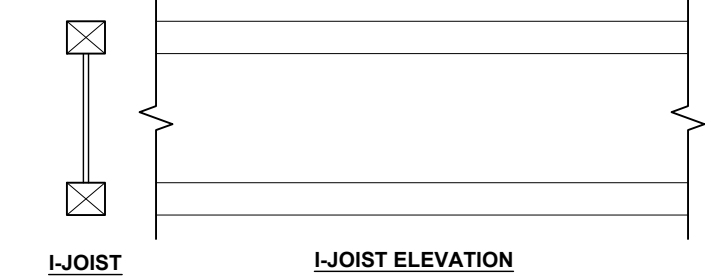
- IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN ENGINEERING FOR THE MANUFACTURED WOOD I-JOISTS/ OPEN WEB JOISTS. THE DESIGN SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR APPROVAL. THE JOISTS SHALL BE OF THE SAME SIZE AND TYPE AS SHOWN ON THE DRAWINGS. THE JOISTS SHALL BE MANUFACTURED IN CONFORMANCE WITH APA EWS STANDARD PRJ-400, PERFORMANCE STANDARD FOR APA EWS I-JOISTS.
- BRIDGING, BLOCKING, HANGERS AND OTHER ACCESSORIES REQUIRED FOR PROPER INSTALLATION AND FUNCTION OF THE JOISTS SHALL BE PROVIDED IN CONFORMANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
- ALL ROOF, FLOOR JOISTS AND BRIDGING SHALL BE DESIGNED TO RESIST THE GRAVITY FORCES SHOWN BELOW:

ROOF	25 PSF (PLUS ADDED DRIFT SNOW LOADS IF SHOWN ON PLANS)
ROOF SNOW LOAD	20 PSF
ROOF DEAD LOAD	REFERENCE WIND PRESSURE TABLE IN "DESIGN CRITERIA" SECTION.
ROOF UPLIFT (WIND, ULT.)	

- JOISTS SHALL BE DESIGNED TO MEET THE FOLLOWING DEFLECTION CRITERIA:

LOADING	DEFLECTION LIMIT
ROOF LIVE LOAD	L/360
ROOF TOTAL LOAD	L/240

- CONTRACTOR SHALL VERIFY ALL WEIGHTS AND LOCATIONS OF LOADS DUE TO ROOF TOP MECHANICAL EQUIPMENT, PIPING, ELECTRICAL UNITS, AND OTHER ADDITIONAL LOADS PRIOR TO JOIST FABRICATION.
- DO NOT DRILL OR NOTCH JOIST MEMBERS WITHOUT WRITTEN APPROVAL OF THE JOIST MANUFACTURER AND THEIR ENGINEER.
- THE CONTRACTOR/ JOIST MANUFACTURE SHALL PROVIDE SHOP DRAWING WITH THE FOLLOWING INFORMATION:
 - JOIST LAYOUT, SIZE, SPACING, AND GRADE OF ALL MEMBERS ALONG WITH ANY DETAILING REQUIRED FOR THE TRUSS CONNECTIONS OR CONNECTIONS TO THE SUPPORTING STRUCTURE.
 - SUPPORTING CALCULATIONS FOR THE TRUSS SHOP DRAWINGS. BOTH THE SHOP DRAWINGS AND THE CALCULATIONS SHALL BEAR THE SEAL OF AN ENGINEER REGISTERED IN THE STATE OF OREGON.
 - WHERE JOIST HANGERS ARE REQUIRED BUT NOT SPECIFICALLY IDENTIFIED ON THE DRAWINGS, IJS TYPE HANGERS SHALL BE USED AT FACE MOUNT CONDITIONS AND ITS TYPE HANGERS AT TOP FLANGE ONLY CONDITIONS.
 - IF ANOTHER I-JOIST/ OPEN WEB JOIST PRODUCT IS TO BE SUBSTITUTED, THE SUBSTITUTED PRODUCT MUST BE EQUAL OR BETTER IN STRENGTH, STIFFNESS, AND PERFORMANCE AS THE PRODUCT SPECIFIED FOR THIS PROJECT. THE SUPPLIER SHALL BE RESPONSIBLE FOR THE STRUCTURAL PLANS OR DETAILS DUE TO THE SUBSTITUTION OF THEIR PRODUCT.
 - ALTERNATIVE PRODUCTS AND DESIGN MUST BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO BID.
- I-JOIST SYMBOLS:



DRAWING INDEX

- S0.01 GENERAL STRUCTURAL NOTES & DRAWING INDEX
- S0.02 SPECIAL INSPECTION TABLES
- S2.01 FOUNDATION PLAN
- S2.21 ROOF FRAMING PLAN
- S5.01 STRUCTURAL DETAILS: FOUNDATION
- S6.01 STRUCTURAL DETAILS: FRAMING

ANCHORED MASONRY OR STONE VENEER:

- VENEER SHALL HAVE A MINIMUM WIDTH OF 2-5/8" AND NOT EXCEED 40 PSF INSTALLED WEIGHT.
- PROVIDE 1" MINIMUM AND 4-1/2" MAXIMUM AIR SPACE BETWEEN INSIDE FACE OF VENEER AND OUTSIDE FACE OF SUBSTRATE (MASONRY CONCRETE OR SHEATHING ON STUD WALL FRAMING) IF CORRUGATED SHEET METAL ANCHORS ARE USED 1" MAXIMUM AIR SPACE IS ALLOWED.
- MASONRY VENEER SHALL BE ANCHORED DIRECTLY TO WALL STUDS, COLUMNS, CONCRETE WALLS, MASONRY WALLS OR OTHER STRUCTURAL ELEMENTS PER TMS 402-16, SECTION 12.2 AND 2018 IBC, SECTION 1404.6

MASONRY VENEER ANCHOR TABLE					
SUBSTRATE	TYPE OF ANCHOR	MAX WALL SURFACE AREA (FT ²) - (SDC D, E, F)	ANCHOR SPACING (SEE NOTE 8)		
			MAX VERTICAL (FT)	MAX HORIZONTAL (FT)	
MASONRY	WIRE, ADJUSTABLE, OR JOINT REINF.	2.67 - (2.0)	25"	32"	
CONCRETE	ADJUSTABLE	2.67 - (2.0)	25"	32"	
STEEL STUD	ADJUSTABLE	2.67 - (2.0)	25"	32"	

MASONRY VENEER ANCHOR TABLE NOTES:

- WHEN ANCHORED VENEER IS LAID IN OTHER THAN RUNNING BOND, VENEERS SHALL HAVE JOINT REINF. OF AT LEAST ONE W1.7 WIRE AT 18" O.C. MAX. VERTICALLY.
- AROUND OPENINGS LARGER THAN 16" IN EITHER DIRECTION, ANCHORS SHALL BE WITHIN 12" OF OPENING AND SPACED AT 3" O.C. MAX.
- ALL ANCHORS AND FASTENERS TO BE CORROSION-RESISTANT.
- EMBED ANCHORS INTO MORTAR OR GROUT A MINIMUM OF 1-1/2" WITH AT LEAST 3/8" MORTAR OR GROUT COVER TOO OUTSIDE FACE
- WIRE ANCHORS SHALL BE A LEAST W1.7 (9 GAUGE) AND HAVE ENDS BENT TO FORM AN EXTENSION FROM THE BEND AT LEAST 2" LONG.
- ADJUSTABLE ANCHORS SHALL CONSIST OF SHEET METAL AND WIRE COMPONENTS AND DETAILED TO PREVENT DISENGAGEMENT.
- IN SEISMIC OCCUPANCY CATEGORIES III AND IV, ANCHORS SHALL BE MECHANICALLY ATTACHED WITH CLIPS OR HOOKS TO JOINT REINF. OF AT LEAST W1.7 WIRE AT 18" O.C. VERTICALLY.
- SPACING LISTED IS MAXIMUM ALLOWED PER EACH DIRECTION. MAXIMUM WALL SURFACE AREA MUST STILL BE MET (EXAMPLE: MAXIMUM WALL SURFACE AREA IS 2.67 ft² AND HORIZONTAL SPACING IS 32" O.C. MAXIMUM VERTICAL SPACING = (2.67 ft²)/(144 in²/ft²) / 32" = 12" O.C.)

SPECIAL INSPECTIONS:

1. THE ITEMS NOTED SHALL BE INSPECTED IN ACCORDANCE WITH 2018 IBC/2019 OSSC CHAPTER 17 BY A CERTIFIED SPECIAL INSPECTION FROM AN ESTABLISHED TESTING AGENCY. FOR MATERIAL SAMPLING AND TESTING REQUIREMENTS, REFER TO THE MATERIAL SAMPLING AND TESTING SECTION, THE PROJECT SPECIFICATIONS, AND THE SPECIFIC GENERAL NOTES SECTIONS. THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ARCHITECT, ENGINEER, CONTRACTOR, AND BUILDING OFFICIAL. ANY MATERIALS WHICH FAIL TO MEET THE PROJECT SPECIFICATIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

2. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL BIDDER DESIGNED COMPONENTS. SPECIAL INSPECTION IS NOT REQUIRED FOR WORK PERFORMED BY AN APPROVED FABRICATOR PER 2018 IBC/2019 OSSC SECTION 1704.2.5.1.

3. CONTINUOUS SPECIAL INSPECTION MEANS THAT THE SPECIAL INSPECTOR IS ON SITE AT ALL TIMES OBSERVING THE WORK REQUIRING SPECIAL INSPECTION PER 2018 IBC/2019 OSSC 1702. PERIODIC SPECIAL INSPECTION MEANS THAT THE SPECIAL INSPECTOR IS ON SITE AT TIME INTERVALS NECESSARY TO CONFIRM THAT ALL WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE.

4. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION, SCHEDULING AND TIMELY NOTIFICATION OF THE DESIGNATED SPECIAL INSPECTOR PRIOR TO ALL WORK REQUIRING SPECIAL INSPECTION.
- STATEMENT OF SPECIAL INSPECTION NOTES:

1. SPECIAL INSPECTIONS SHALL CONFORM TO SECTION 1705 OF THE 2018 IBC/2019 OSSC, CONTRACT DOCUMENTS AND APPROVED SUBMITTALS. REFER TO SPECIAL INSPECTION AND TESTING TABLES FOR PROJECT REQUIREMENTS.

2. SPECIAL INSPECTIONS AND ASSOCIATED TESTING SHALL BE PERFORMED BY AN APPROVED ACCREDITED INDEPENDENT AGENCY MEETING THE REQUIREMENTS OF ASTM E329 (MATERIALS). THE INSPECTION AND TESTING AGENCY SHALL FURNISH TO THE STRUCTURAL ENGINEER ARCHITECT A COPY OF THEIR SCOPE OF ACCREDITATION. SPECIAL INSPECTORS SHALL BE APPROVED BY THE BUILDING OFFICIAL. WELDING INSPECTORS SHALL BE QUALIFIED PER SECTION 6.3.4.1(1) OF AWS D1.1.

3. THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND NOTED IN THE INSPECTION REPORTS.

4. THE SPECIAL INSPECTOR AND GEOTECHNICAL ENGINEER SHALL FURNISH INSPECTION REPORTS FOR EACH INSPECTION TO THE BUILDING OFFICIAL, STRUCTURAL ENGINEER, ARCHITECT, CONTRACTOR, AND OWNER. THE SPECIAL INSPECTION AGENCY SHALL SUBMIT A FINAL REPORT STATING THAT THE WORK REQUIRING SPECIAL INSPECTION WAS INSPECTED AND IS IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THAT ALL DISCREPANCIES NOTED IN THE INSPECTION REPORTS HAVE BEEN CORRECTED.

5. QUALITY ASSURANCE (QA) IS REQUIRED FOR STRUCTURAL STEEL ITEMS PER AISC 360 AND 341 UNLESS SPECIFICALLY NOTED OTHERWISE. QUALITY CONTROL (QC) TO BE PROVIDED BY THE FABRICATOR, ERECTOR OR OTHER RESPONSIBLE CONTRACTOR AS APPLICABLE. CONTRACTOR AND SPECIAL INSPECTOR TO DOCUMENT QUALITY CONTROL AS REQUIRED IN AISC 360 SECTION N3 AND AISC 341 SECTION J2.

6. INSPECTION TYPES: CONTINUOUS - THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. PERIODIC - THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK. OBSERVE - OBSERVE THESE FUNCTIONS ON A RANDOM, DAILY BASIS. OPERATIONS NEED NOT BE DELAYED PENDING OBSERVATIONS. PERFORM - INSPECTIONS SHALL BE PERFORMED PRIOR TO THE FINAL ACCEPTANCE OF THE ITEM.

7. PERFORM INSPECTION PRIOR TO FINAL ACCEPTANCE OF THE ITEM FOR TEN WELDS TO BE MADE BY A GIVEN WELDER, WITH THE WELDER DEMONSTRATING UNDERSTANDING OF REQUIREMENTS AND POSSESSION OF SKILLS AND TOOLS TO VERIFY THESE ITEMS, THE PERFORM DESIGNATION OF THIS TASK SHALL BE REDUCED TO OBSERVE, AND THE WELDER SHALL PERFORM THIS TASK. SHOULD THE INSPECTOR DETERMINE THAT THE WELDER HAS DISCONTINUED PERFORMANCE OF THIS TASK, THE TASK SHALL BE RETURNED TO PERFORM UNTIL SUCH TIME AS THE INSPECTOR HAS RE-ESTABLISHED ADEQUATE ASSURANCE THAT THE WELDER WILL PERFORM THE INSPECTION TASKS LISTED.

8. SPECIAL INSPECTION OF MECHANICAL POST INSTALLED ANCHORS SHALL BE IN STRICT CONFORMANCE WITH THE ICC REPORT AND MANUFACTURER'S INSTALLATION REQUIREMENTS. ANCHOR INSTALLERS SHALL BE QUALIFIED AS REQUIRED BY JURISDICTION REQUIREMENTS. INSPECTION REPORTS SHALL IDENTIFY NAMES OF INSTALLERS. SPECIAL INSPECTOR SHALL PROVIDE DOCUMENTATION AT THE END OF ANCHOR INSTALLATIONS STATING THAT THE ANCHORS WERE INSPECTED PER APPROVED ANCHOR EVALUATION REPORT.

9. TESTING ABBREVIATIONS:

NDT - NON-DESTRUCTIVE TESTING

C.J.P. - COMPLETE JOINT PENETRATION

MT - MAGNETIC PARTICLE TESTING

RBS - REDUCED BEAM SECTION

10. DOCUMENT (D): INDICATES CONTRACTOR AND SPECIAL INSPECTOR TO PROVIDE DOCUMENTATION IN ACCORDANCE WITH AISC 341.

GENERAL - SPECIAL INSPECTIONS					
SYSTEM OR MATERIAL	CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY (NOTE 6)		REMARKS
			CONTINUOUS	PERIODIC	
FABRICATORS	1705.10 1704.2.5				SPECIAL INSPECTION IS REQUIRED FOR STRUCTURAL LOAD-BEARING MEMBERS AND ASSEMBLIES FABRICATED ON THE PREMISES OF A FABRICATOR'S SHOP. SPECIAL INSPECTIONS SHALL BE PERFORMED DURING FABRICATION. PERFORMING SPECIAL INSPECTIONS IS NOT REQUIRED, WHERE FABRICATOR HAS BEEN APPROVED AS AN APPROVED FABRICATOR, PER SECTION 1704.2.5.1.
DEFERRED SUBMITTALS				X	SPECIAL INSPECTION REQUIREMENTS FOR DEFERRED SUBMITTAL ITEMS, INCLUDING REQUIREMENTS FOR DESIGNATED SEISMIC SYSTEMS IN ACCORDANCE WITH IBC SECTION 1705.12.4 IF APPLICABLE, TO BE SPECIFIED BY THE SYSTEM ENGINEER AND INCLUDED WITH DEFERRED SUBMITTAL DOCUMENTS.
SUBMITTALS TO THE BUILDING OFFICIAL	1704.5			X	CERTIFICATES OF COMPLIANCE, REPORTS OF PRE-CONSTRUCTION TESTS, OR REPORTS OF MATERIAL PROPERTIES SHALL BE SUBMITTED TO THE BUILDING OFFICIAL.
POST INSTALLED ADHESIVE ANCHORS WITH SUSTAINED TENSION LOADS INSTALLED HORIZONTALLY OR AT AN UPWARD INCLINE IN HARDENED CONCRETE AND COMPLETED MASONRY			X		
POST INSTALLED MECHANICAL ANCHORS AND ADHESIVE ANCHORS (EXCLUDING CONDITIONS NOTED ABOVE) IN HARDENED CONCRETE AND COMPLETED MASONRY				X	
WIND RESISTING COMPONENTS - SPECIAL INSPECTIONS					
ROOF COVERING, ROOF DECK AND ROOF FRAMING CONNECTIONS	1705.11.3			X	
EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING	1705.11.3			X	

SOILS/GEOTECHNICAL - SPECIAL INSPECTIONS					
SYSTEM OR MATERIAL	CODE REFERENCE	CODE OR STANDARDS REFERENCE	FREQUENCY (NOTE 6)		REMARKS
			CONTINUOUS	PERIODIC	
SOILS					
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	1705.6	GEOTECHNICAL REPORT		X	BY THE GEOTECHNICAL ENGINEER OR QUALIFIED SPECIAL INSPECTOR
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL				X	
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS				X	
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL			X		
PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY				X	

SOILS/GEOTECHNICAL - TESTING					
SYSTEM OR MATERIAL	CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY (NOTE 6)		REMARKS
			CONTINUOUS	PERIODIC	
FILL IN-PLACE DENSITY OR PREPARED SUBGRADE DENSITY	1705.6	VARIABLES: GEOTECHNICAL REPORT OR MINIMUM PER APPENDIX J107.5, WHICHEVER IS GREATER		X	BY THE GEOTECHNICAL ENGINEER OR QUALIFIED SPECIAL INSPECTOR
MATERIAL VERIFICATION		VARIABLES: CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS		X	BY THE GEOTECHNICAL ENGINEER OR QUALIFIED SPECIAL INSPECTOR
TEST ELEMENTS	"1705.6 1705.7"		REFERENCE SPECIFICATIONS FOR PERFORMANCE VARIATION AND PROOF LOAD TESTING REQUIREMENTS		BY THE GEOTECHNICAL ENGINEER

MASONRY MINIMUM VERIFICATION REQUIREMENTS					
MINIMUM VERIFICATION	REQUIRED FOR QUALITY ASSURANCE LEVEL			CODE REFERENCE	REMARKS
	QUALITY ASSURANCE LEVEL 1	QUALITY ASSURANCE LEVEL 2	QUALITY ASSURANCE LEVEL 3		
PRIOR TO CONSTRUCTION, VERIFICATION OF COMPLIANCE OF SUBMITTALS.	R	R	R	ART. 1.5	
PRIOR TO CONSTRUCTION VERIFICATION OF Fm AND FAAC, EXCEPT WHERE SPECIFICALLY EXEMPTED BY THE CODE.	NR	R	R	ART. 1.4 B	
DURING CONSTRUCTION, VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) WHEN SELF-CONSOLIDATING GROUT IS DELIVERED TO THE PROJECT SITE.	NR	R	R	ART. 1.5 & 1.6.3	
DURING CONSTRUCTION, VERIFICATION OF Fm AND FAAC FOR EVERY 5,000 SQ. FT.	NR	NR	R	ART 1.4 B	
DURING CONSTRUCTION, VERIFICATION OF PROPORTIONS OF MATERIALS AS DELIVERED TO THE PROJECT SITE FOR PREMIXED OR PREBLENDED MORTAR, PRESTRESSING GROUT, AND GROUT OTHER THAN SELF-CONSOLIDATING GROUT.	NR	NR	R	ART 1.4 B	
NOTE: R=REQUIRED, NR=NOT REQUIRED (SEE NOTE 6)					

MASONRY MINIMUM SPECIAL INSPECTION REQUIREMENTS					
INSPECTION TASK	FREQUENCY			CODE REFERENCE	
	QUALITY ASSURANCE LEVEL 1	QUALITY ASSURANCE LEVEL 2	QUALITY ASSURANCE LEVEL 3	TMS 402-16	TMS 602-16 Table 4 (5-26)
1. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:					
A. PROPORTIONS OF SITE-PREPARED MORTAR	NR	P	P		ART. 2.1, 2.6 A, & 2.6 C
B. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES	NR	P	P		ART. 2.4 B & 2.4 H
C. GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES	NR	P	P		ART. 3.4 & 3.6 A
D. PRESTRESSING TECHNIQUE	NR	P	P		ART. 3.6 B
E. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	NR	C/P	C		ART. 2.1 C.1
F. SAMPLE PANEL CONSTRUCTION	NR	P	C		ART. 1.6 D
2. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:					
A. GROUT SPACE	NR	P	C		ART. 3.2 D & 3.2 F
B. PLACEMENT OF PRESTRESSING TENDONS AND ANCHORAGES	NR	P	P	SEC. 10.8 & 10.9	ART. 2.4 & 3.6
C. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS	NR	P	C	SEC. 6.1, 6.3.1, 6.3.6 & 6.3.7	REFERENCE THE GENERAL TABLE FOR SPECIAL INSPECTION REQUIRED FOR POST INSTALLED ANCHORS INTO COMPLETED MASONRY.
D. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	NR	P	P		ART. 2.6 B & 2.4 G-1.b
3. VERIFY COMPLIANCE OF THE FOLLOWING DURING CONSTRUCTION:					
A. MATERIALS AND PROCEDURES WITH THE APPROVED SUBMITTALS	NR	P	P		ART. 1.5
B. PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION	NR	P	P		ART. 3.3 B
C. SIZE AND LOCATION OF STRUCTURAL MEMBERS	NR	P	P		ART. 3.3 F
D. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION	NR	P	C	SEC. 1.2.1 (e), 6.2.1 & 6.3.1	
E. WELDING OF REINFORCEMENT	NR	C	C	SEC. 6.1.6.1.2	
F. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40 F) OR HOT WEATHER (TEMPERATURE ABOVE 90 F)	NR	P	P		ART. 1.8 C & 1.8 D
G. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE	NR	C	C		ART. 3.6 B
H. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE	NR	C	C		ART. 3.5 & 3.6 C
I. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	NR	C/P	C		ART. 3.3 B.9 & 3.3 F.1.b
4. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS	NR	P	C		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

MASONRY- REQUIRED TESTING		
SYSTEM OR MATERIAL	IBC CODE REFERENCE OR REFERENCED STANDARD	REMARKS
UNIT STRENGTH METHOD-MASONRY UNIT	IBC 1705.4, TMS 602 1.4.B, TMS 602.2.3, TMS 602 2.3 E, ASTM REFERENCES PER REMARKS	CONCRETE MASONRY (ASTM C90) CONCRETE MASONRY UNIT MATERIALS TO CONFORM TO ASTM C55, C73, C90, C129, C744, OR C1634 AS SPECIFIED. CLAY MASONRY (ASTM C62, ASTM C216, OR ASTM C652), CLAY OR SHALE MASONRY UNITS TO CONFORM TO ASTM C34, C56, C62, C126, C212, C216, C652, C1088, OR C1405 OR TO ANSI A 137.1 AS SPECIFIED. AAC MASONRY UNITS TO CONFORM TO ASTM C1691 AND ASTM C1693.
UNIT STRENGTH METHOD-COMPRESSIVE STRENGTH OF MORTAR	IBC 1705.4, TMS 602 2.1, ASTM C270	MORTAR SHALL COMPLY WITH ASTM C270. FOR AAC (ASTM C1660)
UNIT STRENGTH METHOD-COMPRESSIVE STRENGTH OF GROUT	IBC 1705.4, TMS 602 2.2, ASTM C476	GROUT SHALL COMPLY WITH ASTM C476. WHEN Fm EXCEEDS 2,000 PSI PROVIDE COMPRESSIVE STRENGTH THAT EQUALS OR EXCEEDS Fm. DETERMINE COMPRESSIVE STRENGTH OF GROUT IN ACCORDANCE WITH ASTM C1019. DO NOT USE ADMIXTURES UNLESS ACCEPTABLE. FIELD ADDITION OF ADMIXTURES IS NOT PERMITTED IN SELF-CONSOLIDATING GROUT.
PRISM TEST METHOD	IBC 1705.4, TMS 602 1.4 B.2.3, 1.4 B.4, ASTM C1314	FOR BOTH CLAY AND CONCRETE MASONRY, TEST IN ACCORDANCE WITH ASTM C1314. DETERMINE LENGTH, WIDTH AND HEIGHT DIMENSIONS OF THE PRISM AND TEST PRISMS WHEN AT LEAST 28 DAYS OLD IN ACCORDANCE WITH ASTM C1314.
TESTING PRISMS FROM CONSTRUCTED MASONRY	IBC 1705.4, TMS 602 1.4 B.4.a, 1.4 B.4.b, 1.4 B.4.c, ASTM C1532	PRISM SAMPLING AND REMOVAL- FOR EACH 5000 SQUARE FEET OF WALL AREA IN QUESTION, SAW-CUT A MINIMUM OF THREE PRISMS FROM COMPLETED MASONRY. SELECT, REMOVE, AND TRANSPORT PRISMS PER ASTM C1532/C1532M.

CONCRETE - SPECIAL INSPECTIONS					
SYSTEM OR MATERIAL	CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY (NOTE 6)		REMARKS
			CONTINUOUS	PERIODIC	
GENERAL	"1705.3 1901.6"	ACI 318: 26.13			SPECIAL INSPECTIONS OF CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 1705.3 OF THE IBC AND SECTION 26.13 OF ACI 318.
REINFORCING STEEL AND (POST TENSIONED/PRETENSIONED) TENDON PLACEMENT	"1901.5.2 1908.4"	"ACI 318: CH. 20, 25.2, 25.3, 26.6.1-26.6.3, 26.13.3.2"		X	REINFORCING TO COMPLY WITH ALL CODE PROTECTION, SPACING AND TOLERANCE LIMITS.
WELDING REINFORCING STEEL					
1. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706	"1705.3.1 1705.3.2 1903.1 1903.2"	"AWS D1.4 ACI 318: 26.6.4"		X	
2. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16" FILLET				X	
3. ALL OTHER REINFORCING STEEL WELDING,			X		
INSPECT ANCHORS/BOLTS CAST IN CONCRETE	-	ACI 318: 17.8.2	X	X	ALL CAST-IN-PLACE ANCHORS/BOLTS SHALL BE VISUALLY INSPECTED. REFERENCE STEEL INSPECTIONS FOR ADDITIONAL INSTALLATION, MATERIAL AND WELDING INSPECTIONS OF STEEL ITEMS EMBEDDED IN CONCRETE (HEADED STUDS, DBAs, ETC.)
VERIFYING USE OF REQUIRED MIX DESIGN(S)	"1904.1 1904.2 1908.2 1908.3"	ACI 318: CH. 19, 26.4.3, 26.4.4		X	
CONCRETE SPECIMENS FOR TESTING	1908.10	"ASTM C172 ASTM C31 ACI 318: 26.5, 26.12"	X		PRIOR TO CONCRETE PLACEMENT, FABRICATE CONCRETE SPECIMENS FOR TESTING. SEE THE CONCRETE TESTING TABLE FOR ADDITIONAL INFORMATION.
CONCRETE/SHOTCRETE PLACEMENT, NON-SHRINK GROUT	1908.6, 1908.7, 1908.8	ACI 318: 26.5, 26.13.3.2(a)	X		
CONCRETE/SHOTCRETE CURING	1908.9	ACI 318: 26.5.3 - 26.5.5, 26.13.3.3		X	VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURES AND TECHNIQUES
VERIFICATION OF FORMWORK	" "	ACI 318: 26.11.1.2(b), 26.13.3.3		X	SPECIAL INSPECTIONS APPLY TO SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED
EMBEDDED ITEMS IN CONCRETE				X	ALL NON-STRUCTURAL EMBEDDED ITEMS, SUCH AS CONDUITS, PIPES AND SLEEVES, SHALL BE REVIEWED FOR CONFORMANCE WITH STRUCTURAL DOCUMENTS FOR SIZE, SPACING, LOCATION, EDGE DISTANCE AND TRIM REINFORCING.

CONCRETE - TESTING				
SYSTEM OR MATERIAL	CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY (NOTE 6)	REMARKS
CONCRETE STRENGTH	"1705.3 ASTM C172 ASTM C 31 ACI 318 26.12, ACI 318 26.5"	ASTM C39	EACH 150 CY NOR LESS THAN EACH 5000 SF OF SLAB OR WALL PLACED EACH SHIFT	FABRICATE SPECIMENS AT TIME FRESH CONCRETE IS PLACED
CONCRETE SLUMP		ASTM C143		
CONCRETE AIR CONTENT		ASTM C231		
CONCRETE TEMPERATURE		ASTM C1064		

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Description	Date	No.

Project Number 21170

Date AUGUST 13, 2021

Drawn By GAT

Checked By CED

SPECIAL INSPECTION TABLES

S0.02

ARCHITECTS

1160 W. Glenview Ave. - Suite 100 - Bend, Oregon 97702
t 541.382.5535 | f 541.389.8033

WALKER

STRUCTURAL ENGINEERING P.C.

2863 N.W. CROSSING DRIVE, SUITE 201 BEND, Oregon 97703
TEL. (541) 330-6869
www.walkerse.com

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326 CENTENNIAL BLVD, SPRINGFIELD, OR 97477

Description	Date	No.

Project Number 21170

Date AUGUST 13, 2021

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Checked By CED

SPECIAL INSPECTION TABLES

S0.02

FOOTING SCHEDULE			
MARK	SIZE "A" x "B"	"T"	REINFORCING
A	1'-6" x CONT. (THICKENED SLAB)	10"	(2) #4 CONT., BTM.
B	3'-0" x CONT. (THICKENED SLAB)	10"	(3) #4 CONT., BTM.
C	2'-0" x CONT.	10"	(3) #4 CONT., BTM.

CMU WALL SCHEDULE				
MARK	CMU WALL THICKNESS	HORIZ. REINF.	VERT. REINF.	REMARKS
1	6"	(2) #4 @ 48" O.C.	#4 @ 16" O.C. (CENTERED)	---
2	8"	(2) #4 @ 48" O.C.	#5 @ 32" O.C. (CENTERED)	TYP. REINFORCING, U.N.O.
3	8"	(2) #4 @ 48" O.C.	#5 @ 24" O.C. (CENTERED)	---

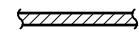
SCHEDULE NOTES:


- ALL CMU WALLS TO BE FULLY GROUTED.
- VERTICAL CONTROL JOINTS SHALL BE PLACED IN ALL MASONRY WALLS AT LOCATIONS INDICATED ON THE STRUCTURAL PLANS OR IN THE GENERAL STRUCTURAL NOTES. REFERENCE DETAIL 3/SS.01 FOR TYPICAL CONTROL JOINT CONSTRUCTION.
- WALL CORNERS / INTERSECTIONS SHALL BE CONSTRUCTED PER DETAIL 4/SS.01.
- REF. GENERAL STRUCTURAL NOTES FOR ADDITIONAL REINFORCING INFORMATION.


PLAN NOTES


1.

DO NOT USE STRUCTURAL DRAWINGS ALONE FOR BUILDING LAYOUT. DO NOT SCALE THESE DRAWINGS MANUALLY OR ELECTRONICALLY. COORDINATE LOCATIONS OF ALL STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO, COLUMNS, WALLS, SLAB EDGES, DEPRESSIONS AND OPENINGS WITH ARCHITECTURAL DRAWINGS AND RESOLVE ANY CONFLICTS BETWEEN DRAWINGS OR ELEMENTS PRIOR TO CONSTRUCTION. A REGISTERED SURVEYOR SHALL PERFORM BUILDING LAYOUT AND LOCATION OF ALL STRUCTURAL ELEMENTS AT ALL LEVELS. REF. ARCH. DRAWINGS FOR ALL DIMENSIONS/ ELEVATIONS NOT SHOWN. CONTRACTOR IS RESPONSIBLE FOR CROSS REFERENCING ALL DIMENSIONS/ ELEVATIONS SHOWN WITH ARCHITECTURAL DRAWINGS NOTIFY ARCHITECT / ENGINEER OF RECORD IF THERE ARE ANY DISCREPANCIES.
2.

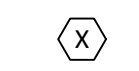
 INDICATES 8" CMU WALL PER PLAN.
3.

 INDICATES 6" CMU WALL PER PLAN.
4.

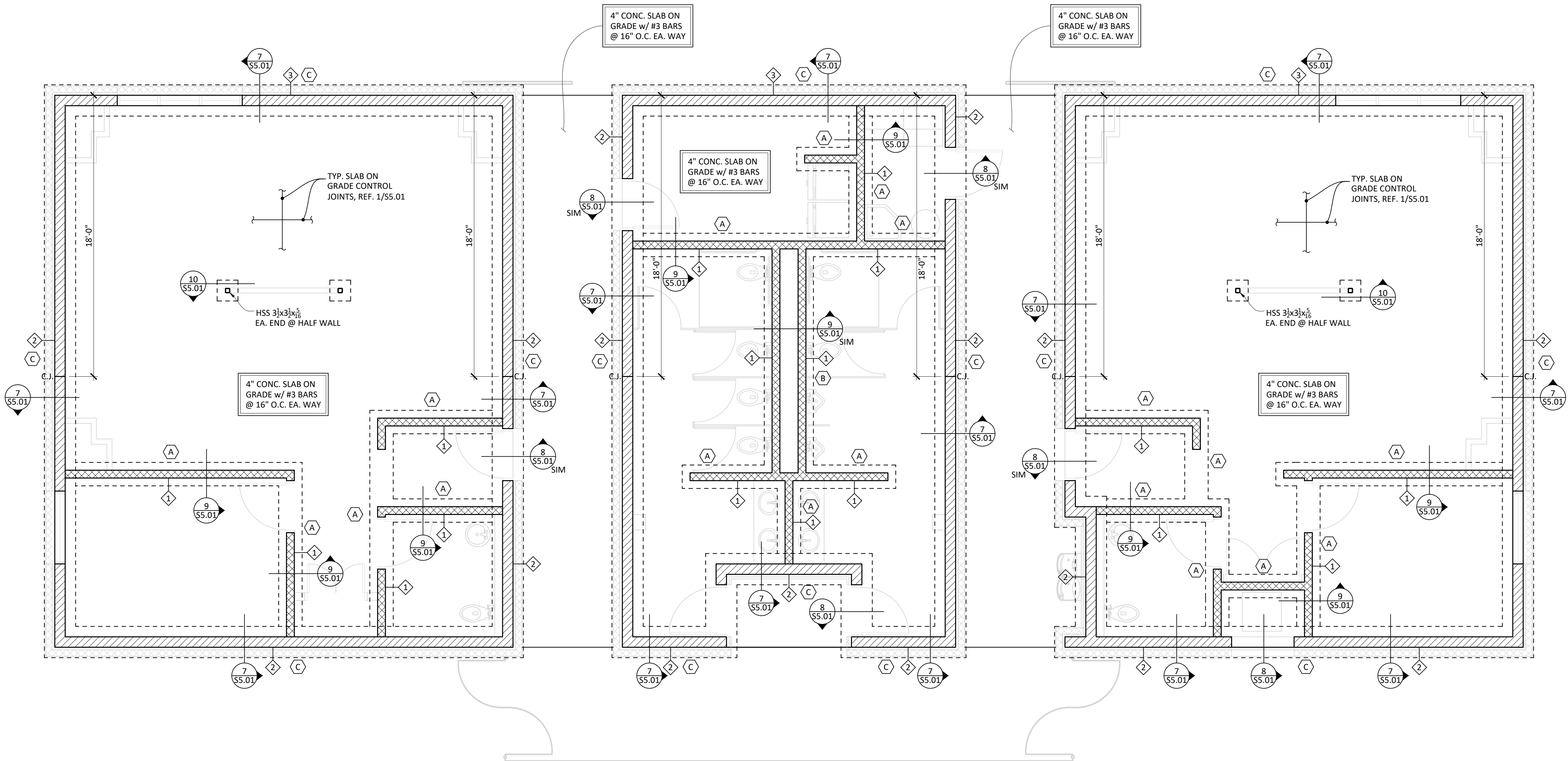
 INDICATES VENEER PER ARCH., REF. GENERAL STRUCTURAL NOTES FOR ATTACHMENT.
5.

 INDICATES STRUCTURAL DETAIL, REF. STRUCTURAL DETAIL SHEET.
6.

WHERE PIPES, CONDUITS, ETC. EXTEND BELOW/ THROUGH CONCRETE FOOTINGS/ STEMWALLS, REFERENCE DETAIL 2/SS.01 FOR ACCEPTABLE LOCATIONS & STRUCTURAL REQUIREMENTS. PIPES, CONDUITS, ETC. SHALL BE ROUTED TO AVOID AREAS BELOW COLUMNS & PAD FOOTINGS.
7.

 INDICATES FOOTING TYPE, REFERENCE FOOTING SCHEDULE.
8.

C.I. INDICATES CMU CONTROL JOINT, REF. DETAIL 3/SS.01 FOR TYPICAL CONTROL JOINT CONSTRUCTION.



1 FOUNDATION PLAN
S2.01 SCALE:1/4"=1'-0"

COMPASS ARCHITECTS

BBT ARCHITECTS

1160 W. Simpson Ave. - Suite 100 - Bend, Oregon 97702
t 541.382.5335 | f 541.389.8033

WALKER

STRUCTURAL ENGINEERING P.C.

2863 N.W. CROSSING DRIVE, SUITE 201 BEND, Oregon 97703
TEL. (541) 330-6869
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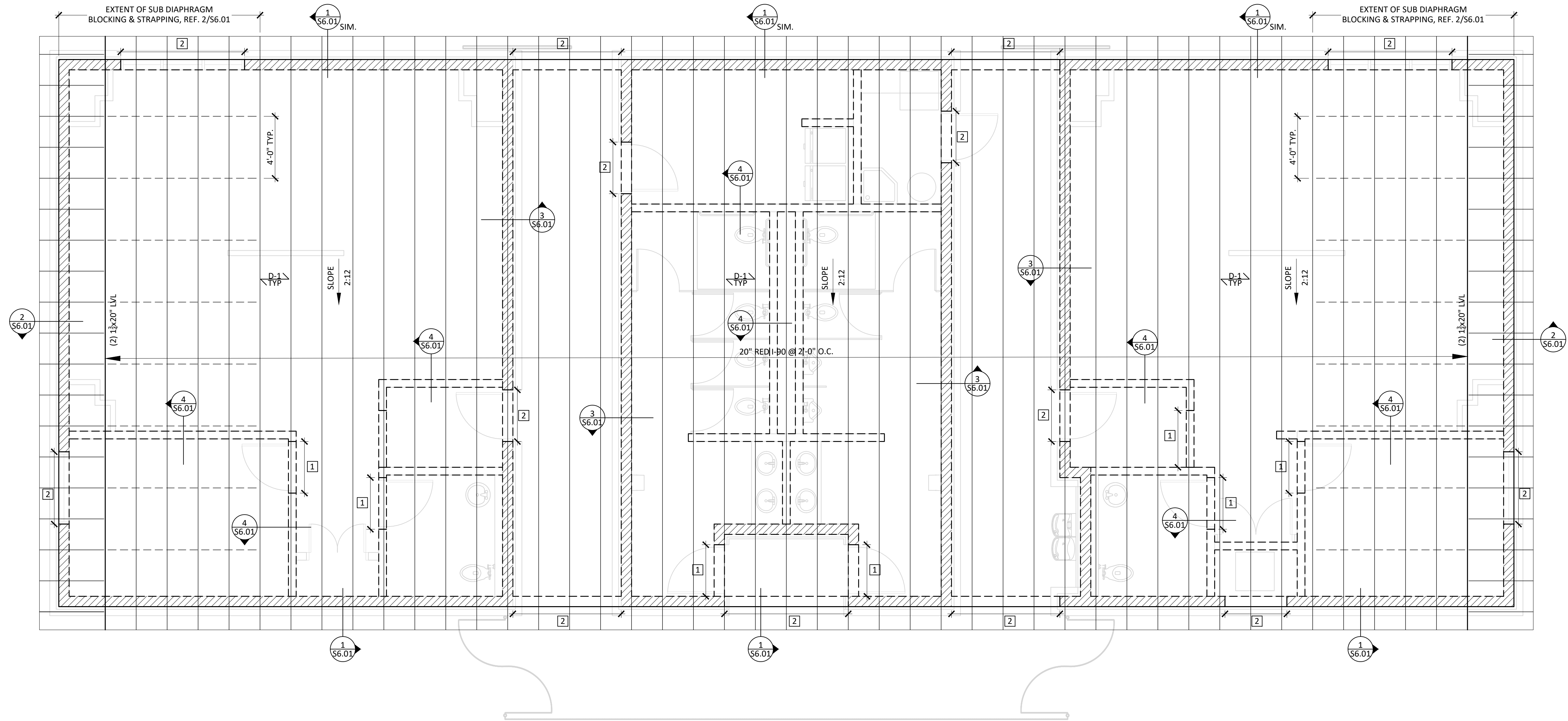
No.	Description	Date

Project Number	21170
Date	AUGUST 13, 2021
Drawn By	GAT
Checked By	CED

FOUNDATION PLAN

S2.01

75% CD PROGRESS SET



1 ROOF FRAMING PLAN
S2.21 SCALE:1/4"=1'-0"

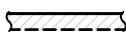

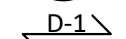
CMU LINTEL SCHEDULE

MARK	SIZE	REINFORCING	REMARKS
1	6" x 1'-4"	(2) #4 BARS @ BTM	6" CMU WALL, LINTEL BLOCK @ BOTTOM
2	8" x 1'-4"	(2) #5 BARS @ BTM	8" CMU WALL, LINTEL BLOCK @ BOTTOM

SCHEDULE NOTES:

1. LINTEL REINFORCING BARS SHALL BE EXTENDED 48 BAR DIAMETERS OR 24" BEYOND EA. EDGE OF OPENING WHICHEVER IS GREATER, REINFORCING TO BE CONTINUOUS THROUGH WALL CONTROL JOINTS.
2. HORIZONTAL & VERTICAL WALL REINFORCING SHALL CONTINUE THROUGH LINTEL & LINTEL BEAM SHALL BE GROUTED SOLID FOR DEPTH INDICATED.

PLAN NOTES

1. DO NOT USE STRUCTURAL DRAWINGS ALONE FOR BUILDING LAYOUT. DO NOT SCALE THESE DRAWINGS MANUALLY OR ELECTRONICALLY. COORDINATE LOCATIONS OF ALL STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO, COLUMNS, WALLS, SLAB EDGES, DEPRESSIONS AND OPENINGS WITH ARCHITECTURAL DRAWINGS AND RESOLVE ANY CONFLICTS BETWEEN DRAWINGS OR ELEMENTS PRIOR TO CONSTRUCTION. A REGISTERED SURVEYOR SHALL PERFORM BUILDING LAYOUT AND LOCATION OF ALL STRUCTURAL ELEMENTS AT ALL LEVELS. REF. ARCH. DRAWINGS FOR ALL DIMENSIONS/ ELEVATIONS NOT SHOWN. CONTRACTOR IS RESPONSIBLE FOR CROSS REFERENCING ALL DIMENSIONS/ ELEVATIONS SHOWN WITH ARCHITECTURAL DRAWINGS NOTIFY ARCHITECT / ENGINEER OF RECORD IF THERE ARE ANY DISCREPANCIES.
2.  INDICATES CMU WALL.
3.  INDICATES STRUCTURAL FRAMING DETAIL, REFERENCE STRUCTURAL DETAIL SHEET.
4.  INDICATES SPAN DIRECTION OF 5/8" APA SHEATHING (APA INDEX 40/20). ATTACH TO ROOF FRAMING W/ 8d NAILS @ 6" O.C. @ ALL PANEL EDGES AND 12" O.C. @ INTERMEDIATE FRAMING MEMBERS. EDGE NAIL @ ALL BLOCKING & DRAG STRUTS.

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COMPASS BY ARCHITECTS

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ARCHITECTS

1160 NW Kingston Ave. - Suite 100 - Bend, Oregon 97703
t 541.382.5335 | f 541.389.8033

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STRUCTURAL ENGINEERING P.C.

2863 N.W. CROSSING DRIVE, SUITE 201 BEND, Oregon 97703
TEL. (541) 330-6869
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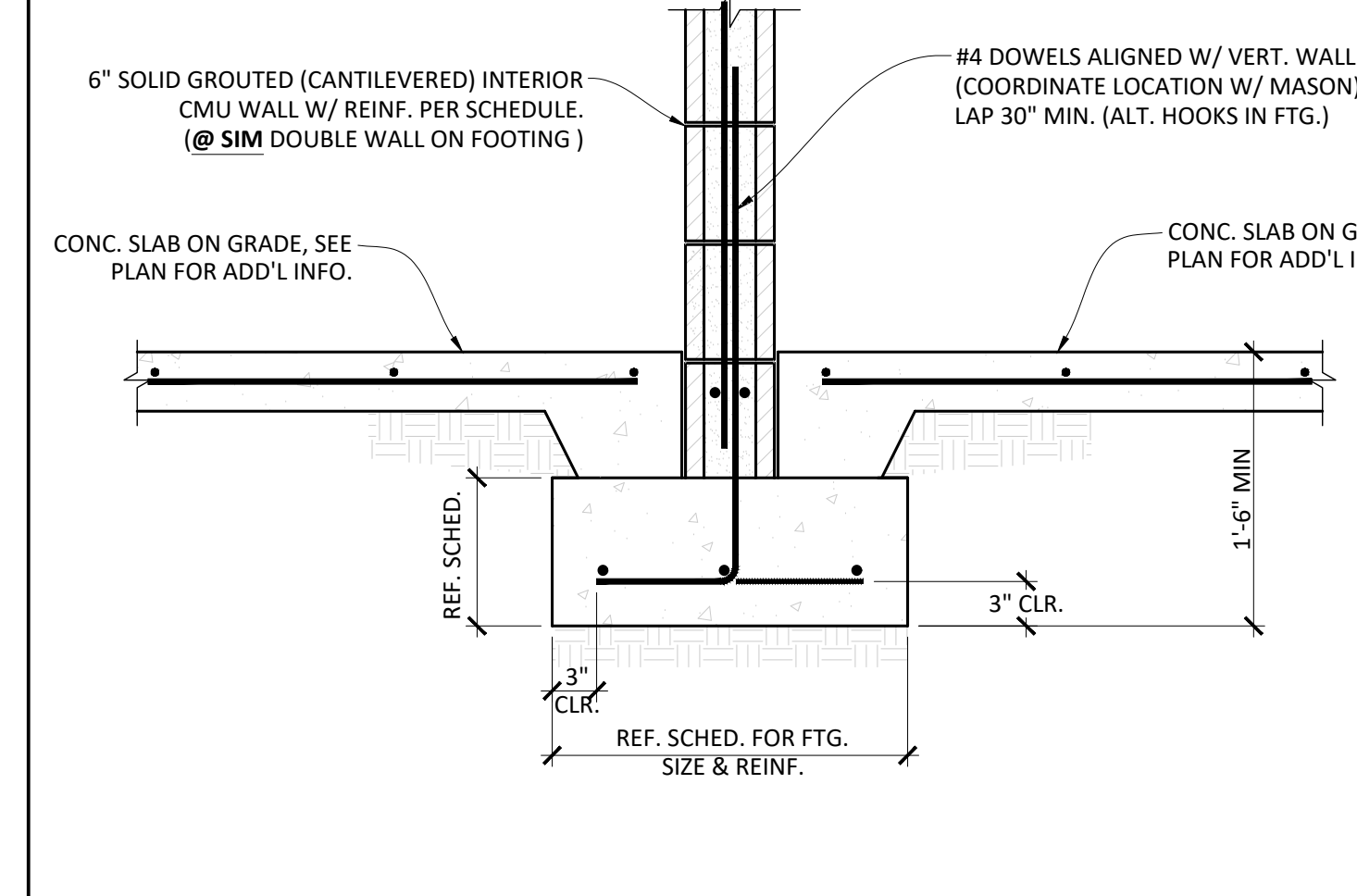
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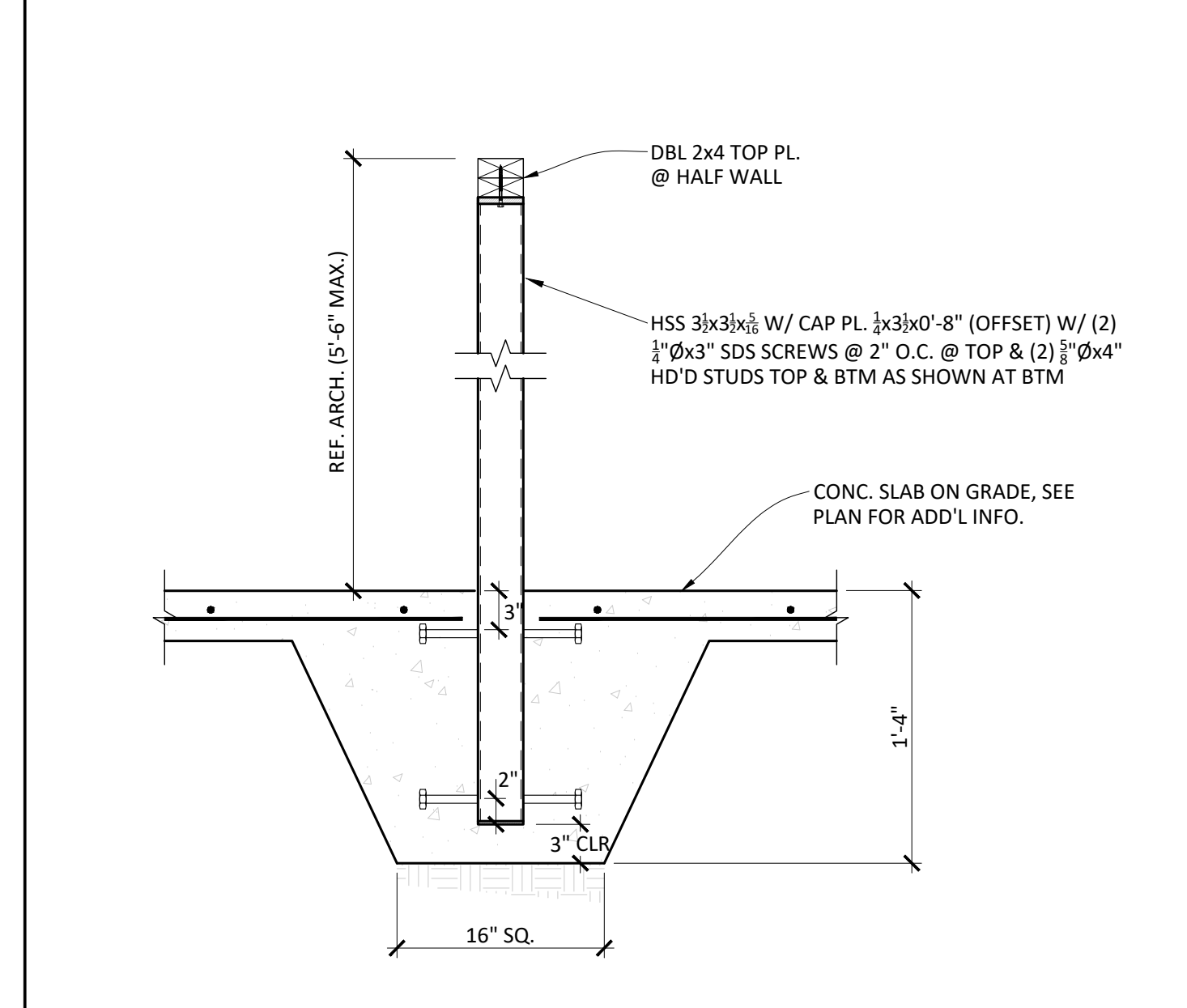
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ROOF FRAMING PLAN

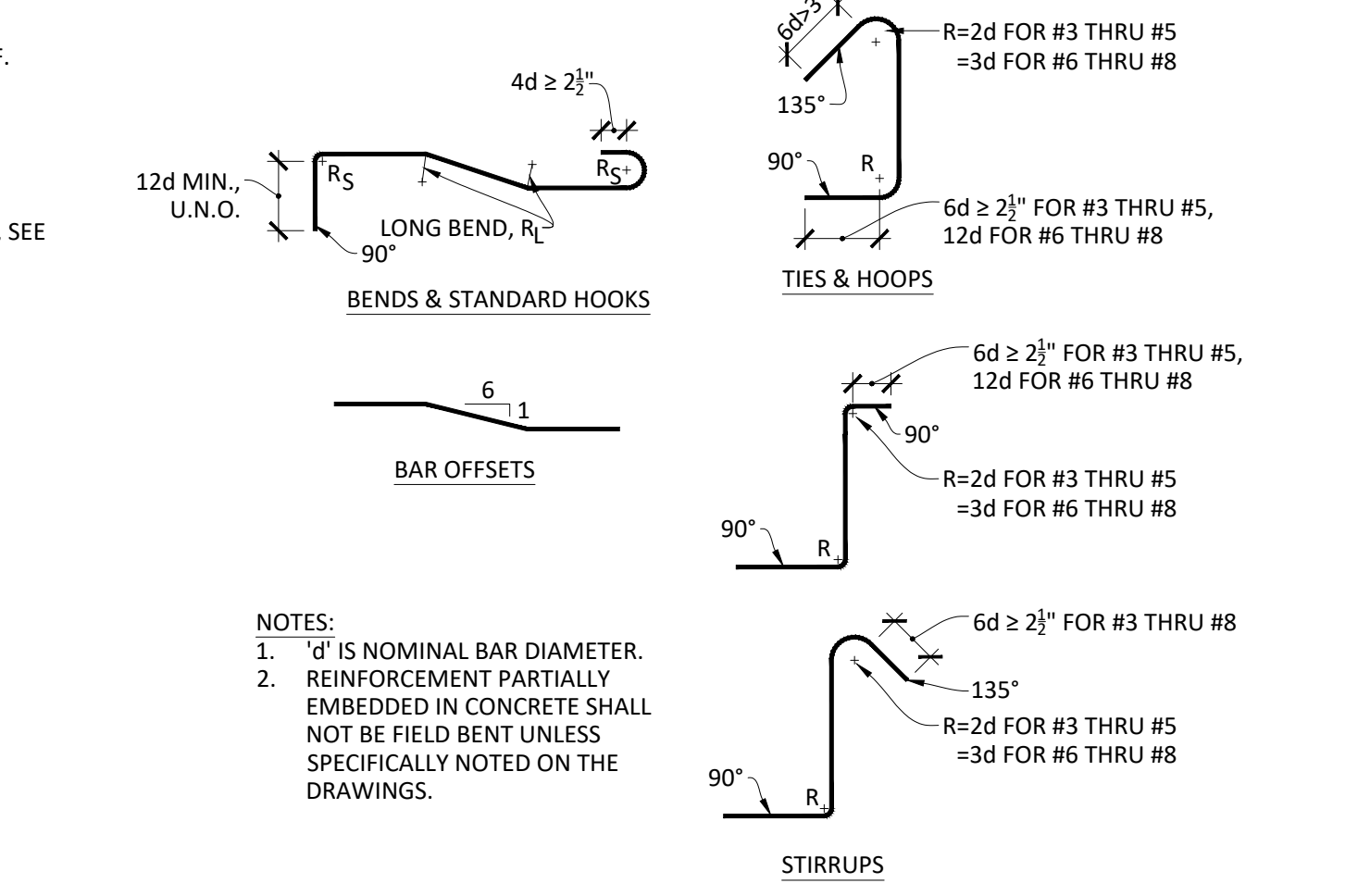
S2.21



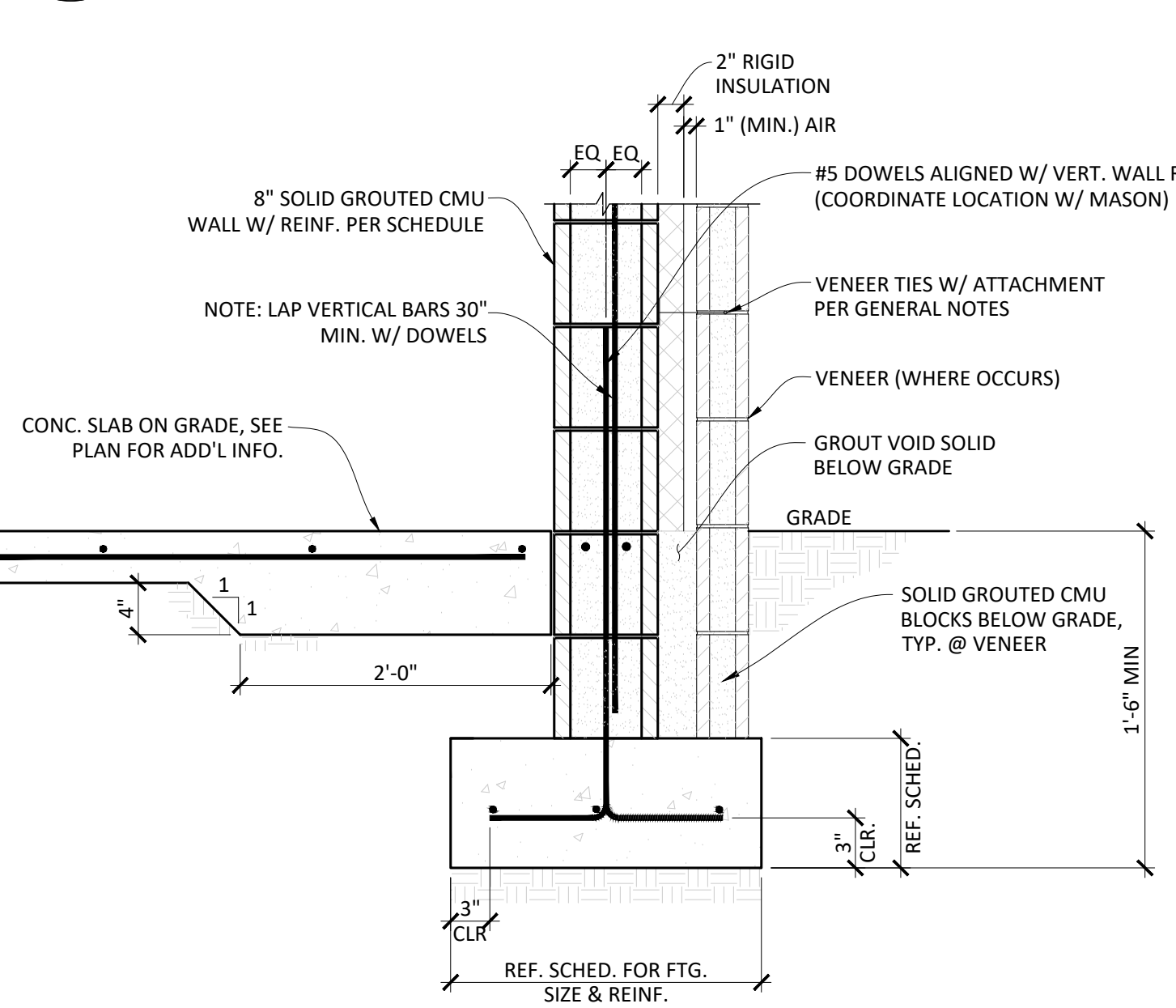
9 NON-STRUCTURAL INTERIOR CANTILEVERED CMU PARTITION WALL
SCALE: 1" = 1'-0"



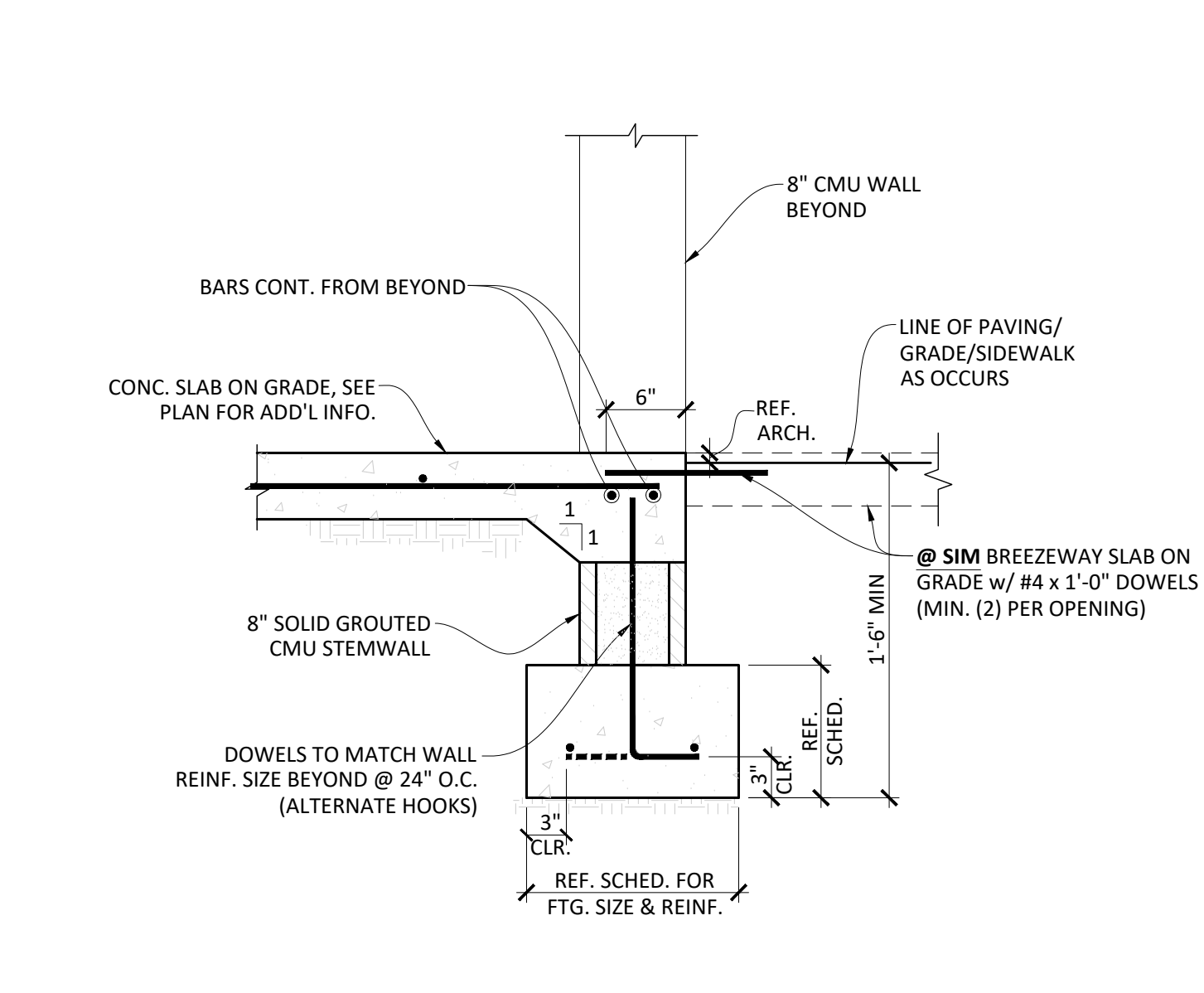
10 HSS SUPPORT @ HALF WALL
SCALE: 1" = 1'-0"



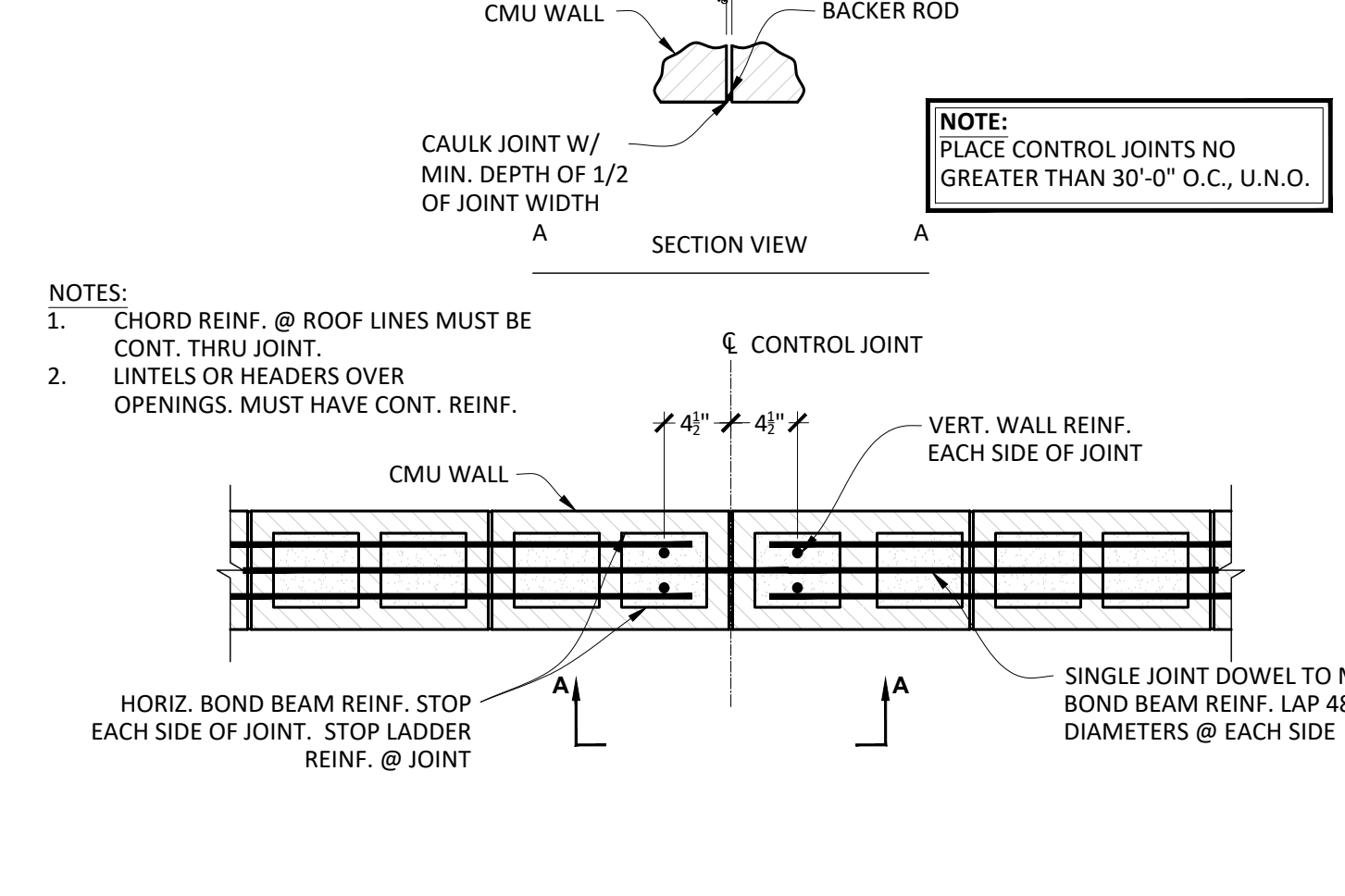
6 REINF. HOOKS & BENDS
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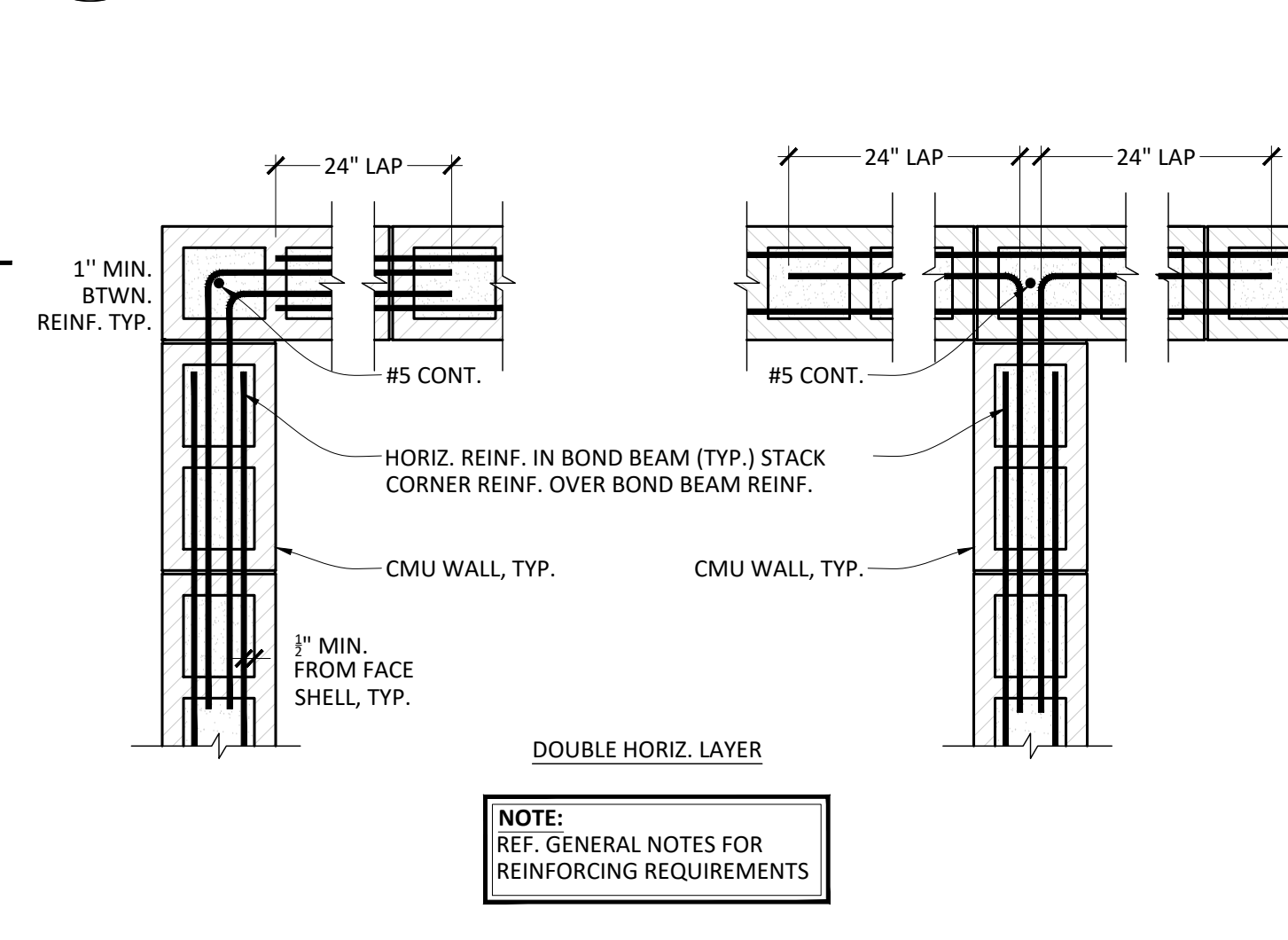
7 8" CMU PERIMETER FOOTING
SCALE: 1" = 1'-0"



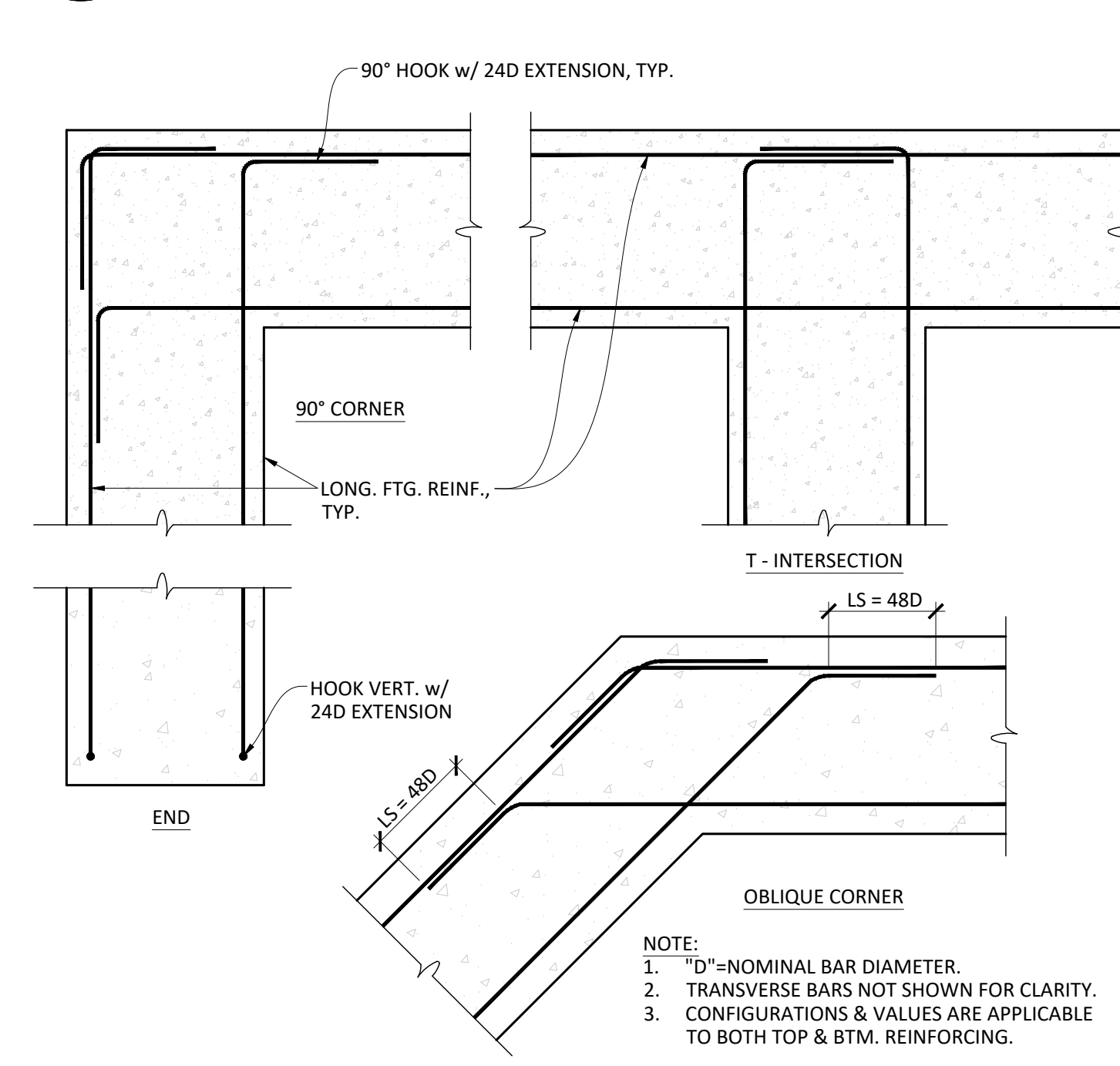
8 THICKENED SLAB EDGE @ DOOR OPENING
SCALE: 1" = 1'-0"



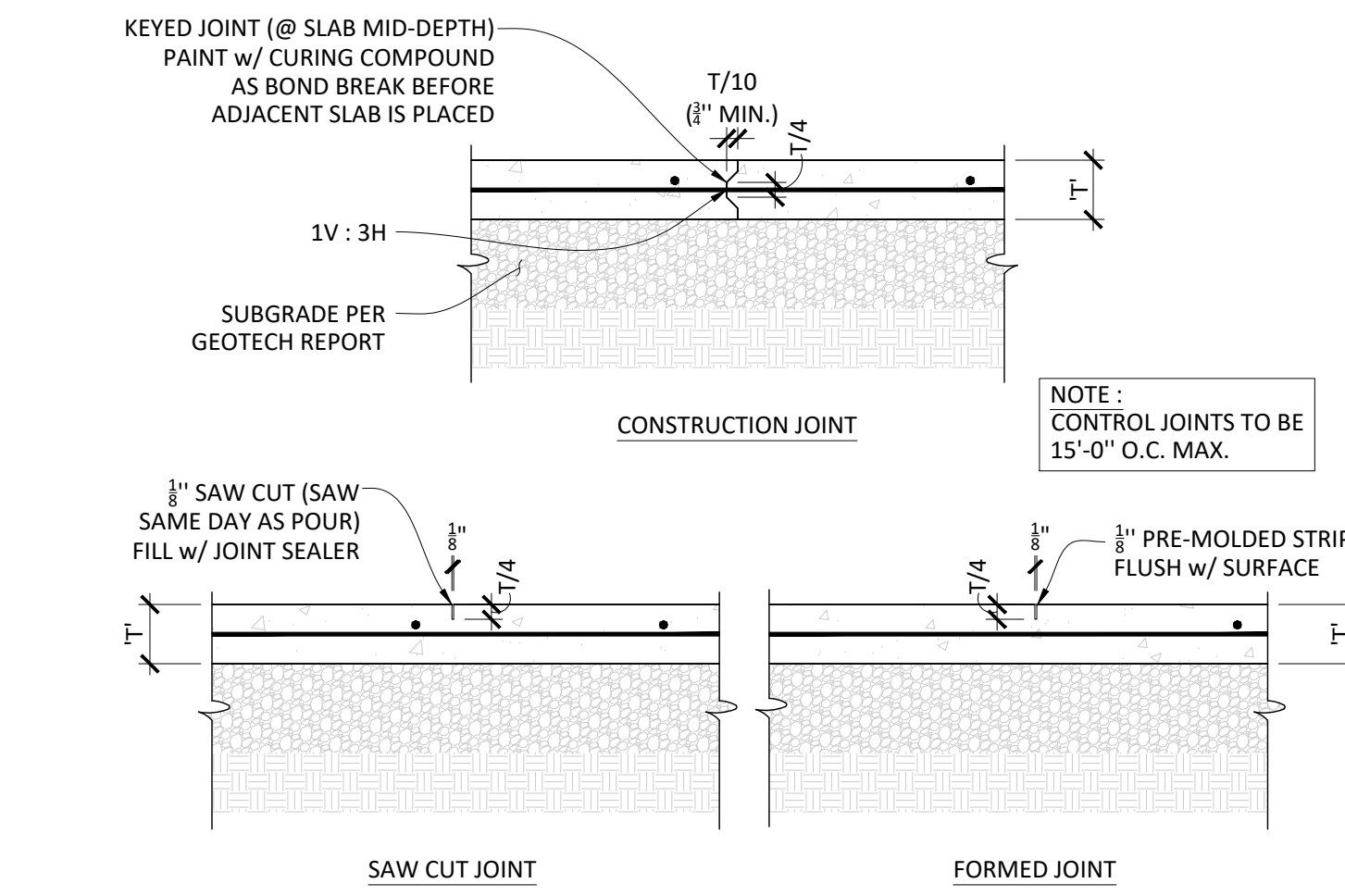
3 TYPICAL CMU CONTROL JOINT DETAIL
SCALE: 1" = 1'-0"



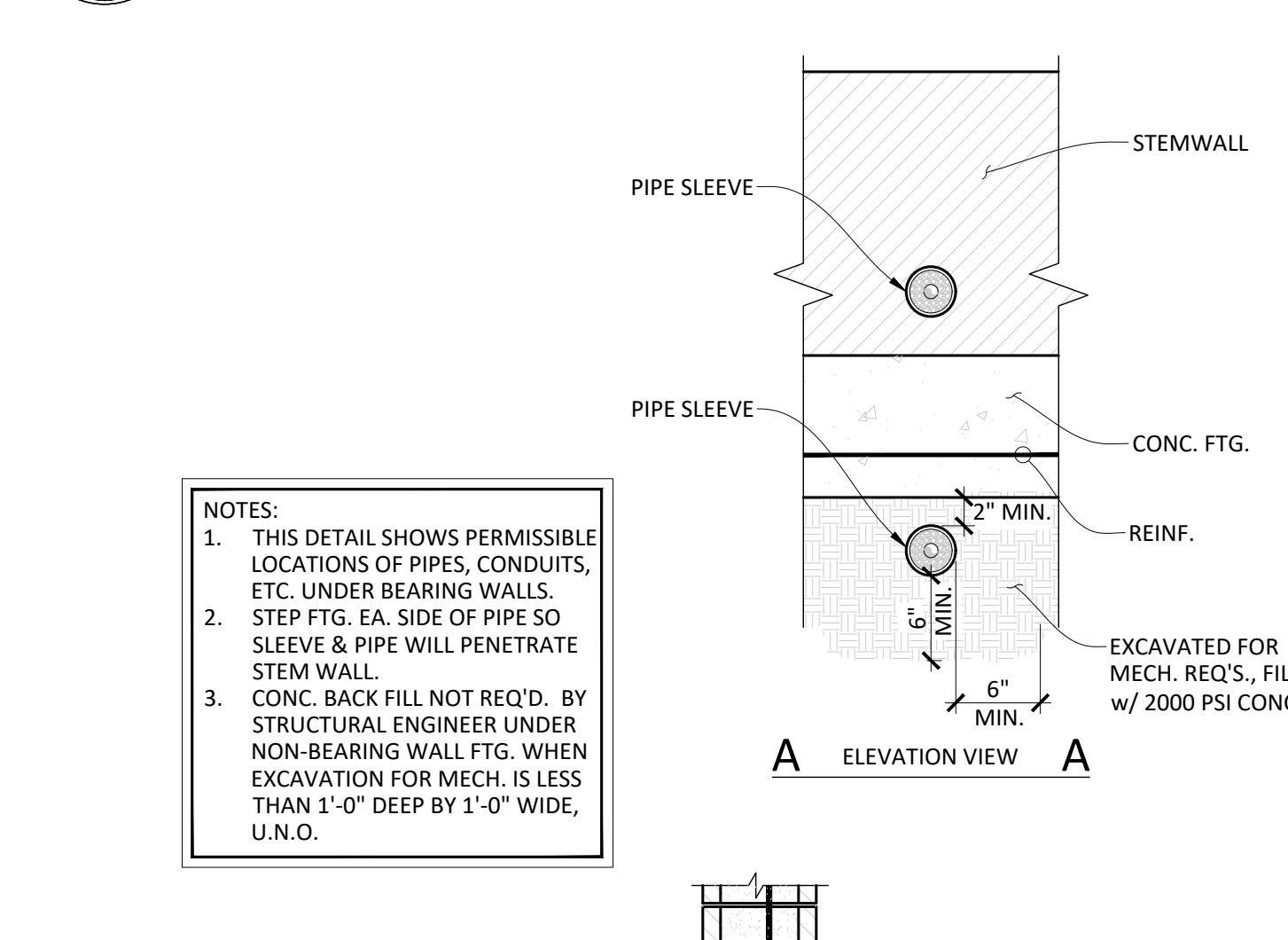
4 CMU WALL CORNER DETAIL
SCALE: 1" = 1'-0"



5 FOOTING REINF. @ CORNERS & INTERSECTIONS
SCALE: 1" = 1'-0"

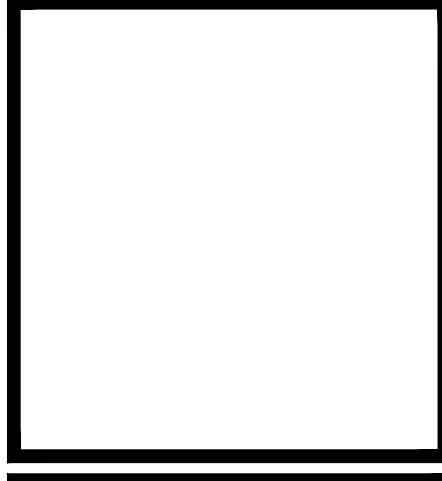


1 TYPICAL SLAB ON GRADE
SCALE: 1" = 1'-0"



2 TYP. PIPE AT CMU STEM/CONC. FTG.
SCALE: 1" = 1'-0"

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BT ARCHITECTS
1160 W. Burnham Ave. - Suite 100 - Bend, Oregon 97703
TEL: (541) 330-5335 | F: 541.339.0033

WALKER
STRUCTURAL ENGINEERING P.C.
2863 N.W. CROSSING DRIVE, SUITE 201 BEND, Oregon 97703
TEL: (541) 330-6869
www.walkerse.com

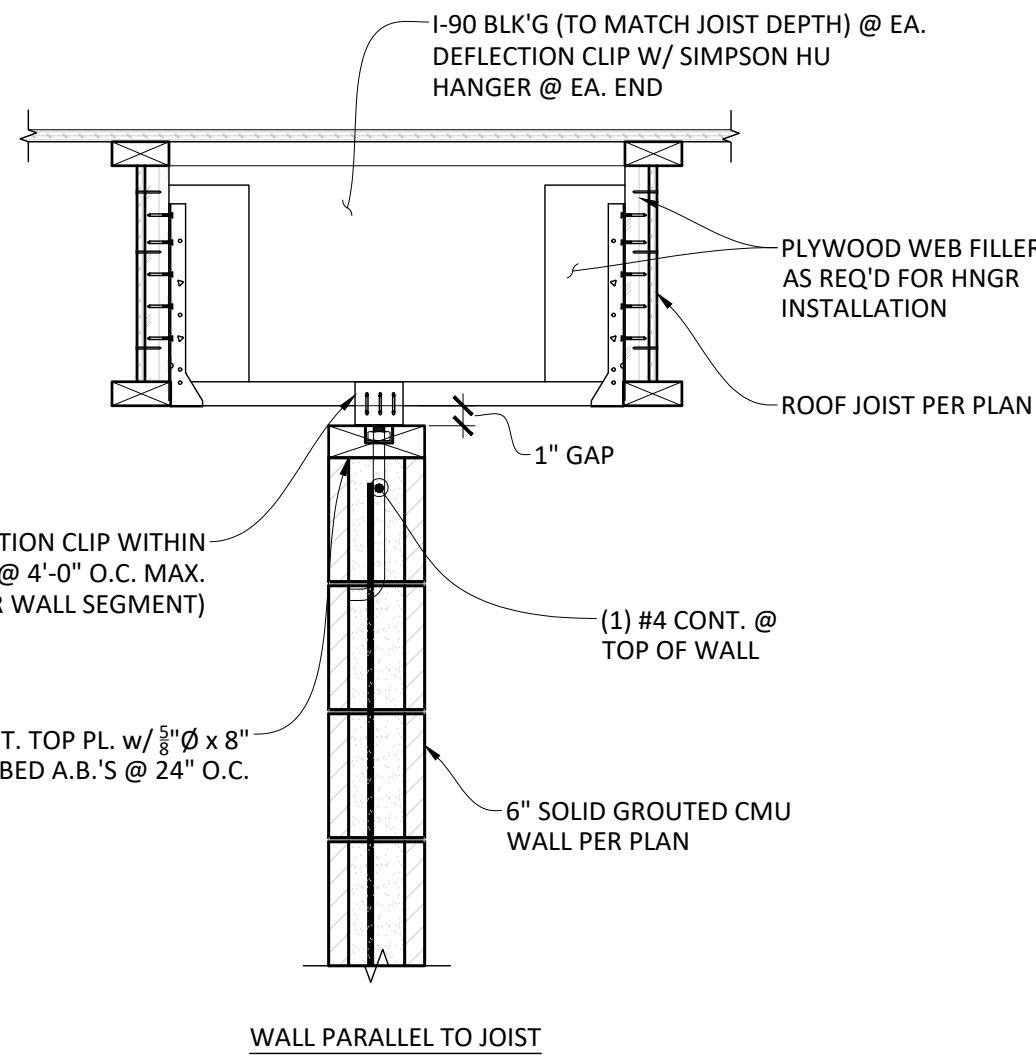
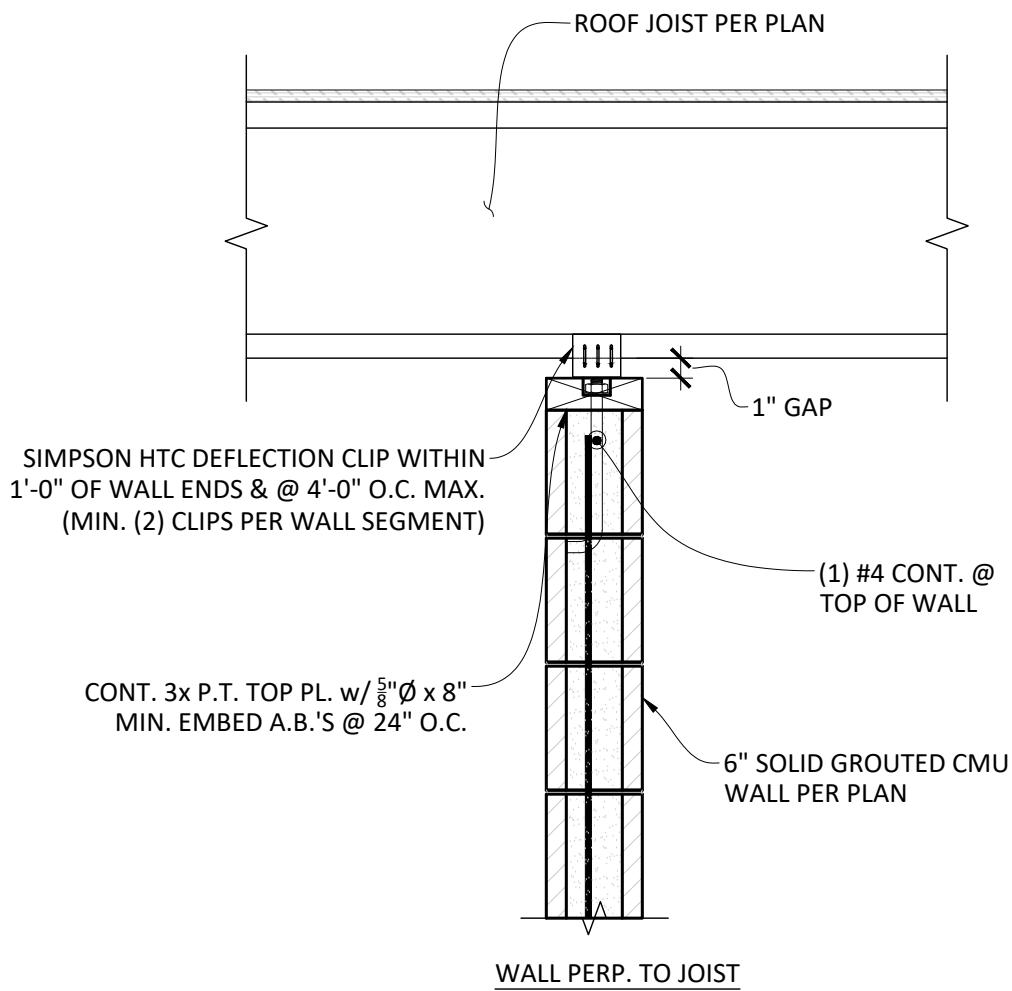
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No.	Description	Date

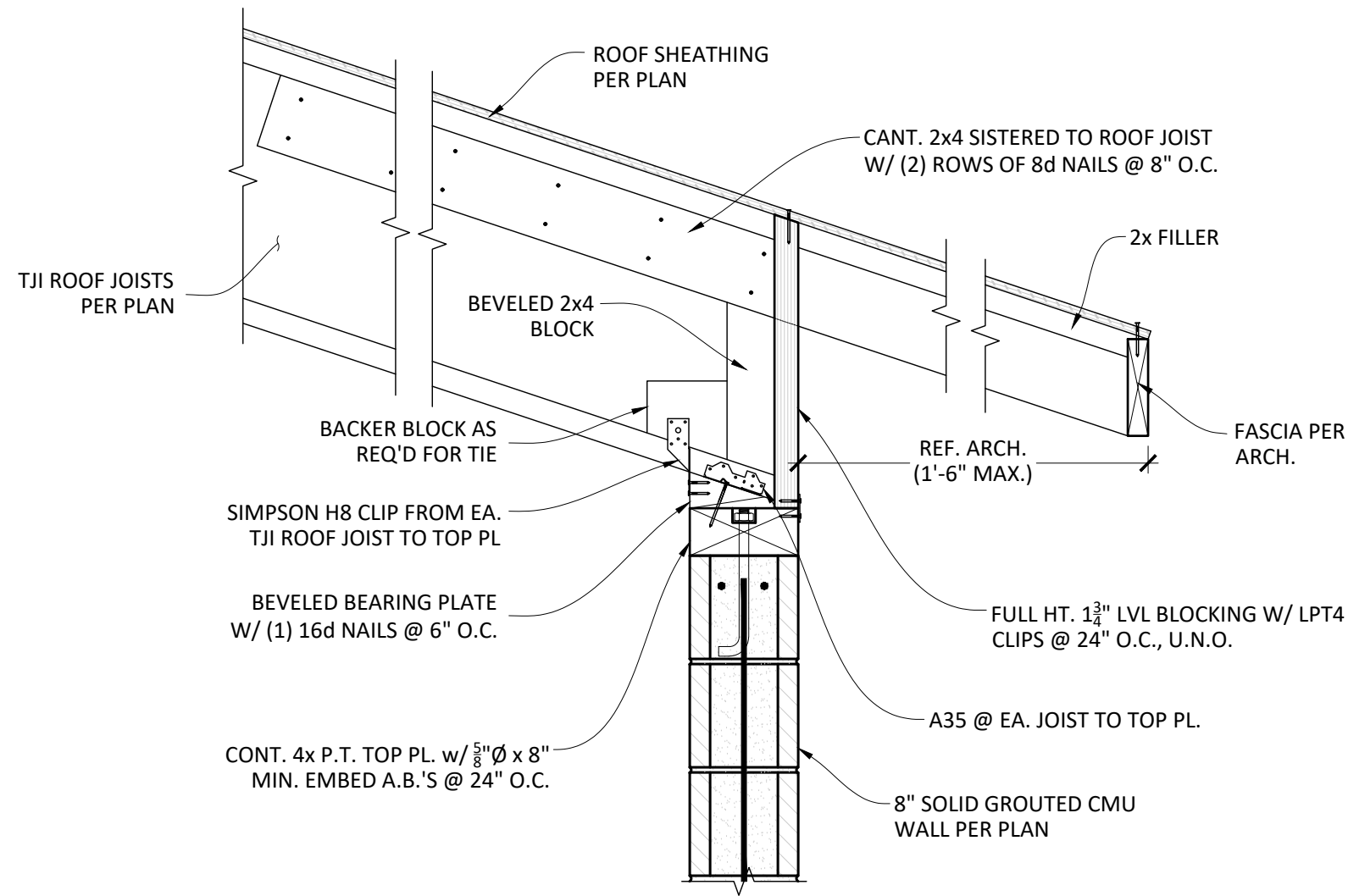
Project Number 21170
Date AUGUST 13, 2021
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STRUCTURAL DETAILS: FOUNDATION

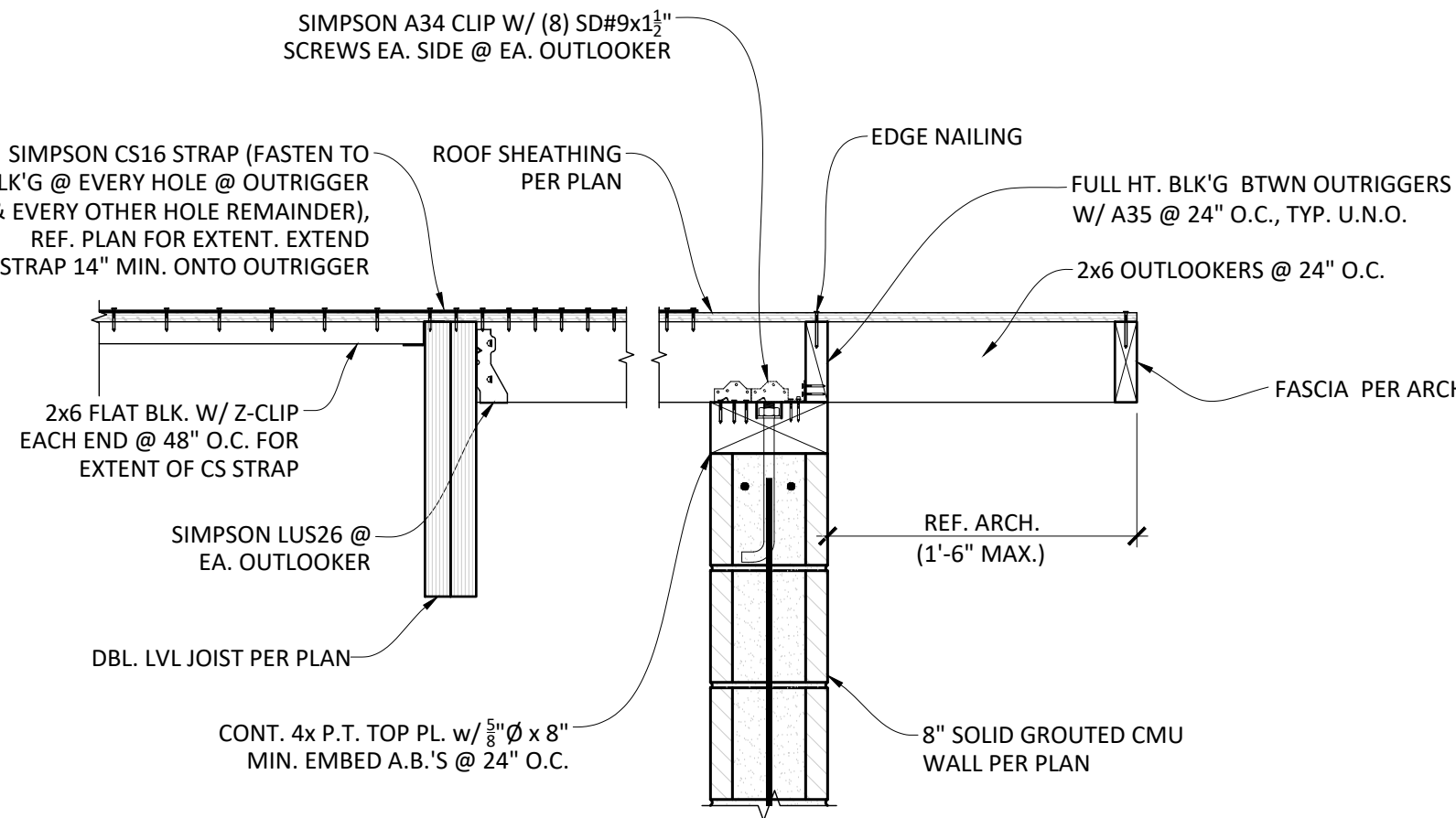
S5.01



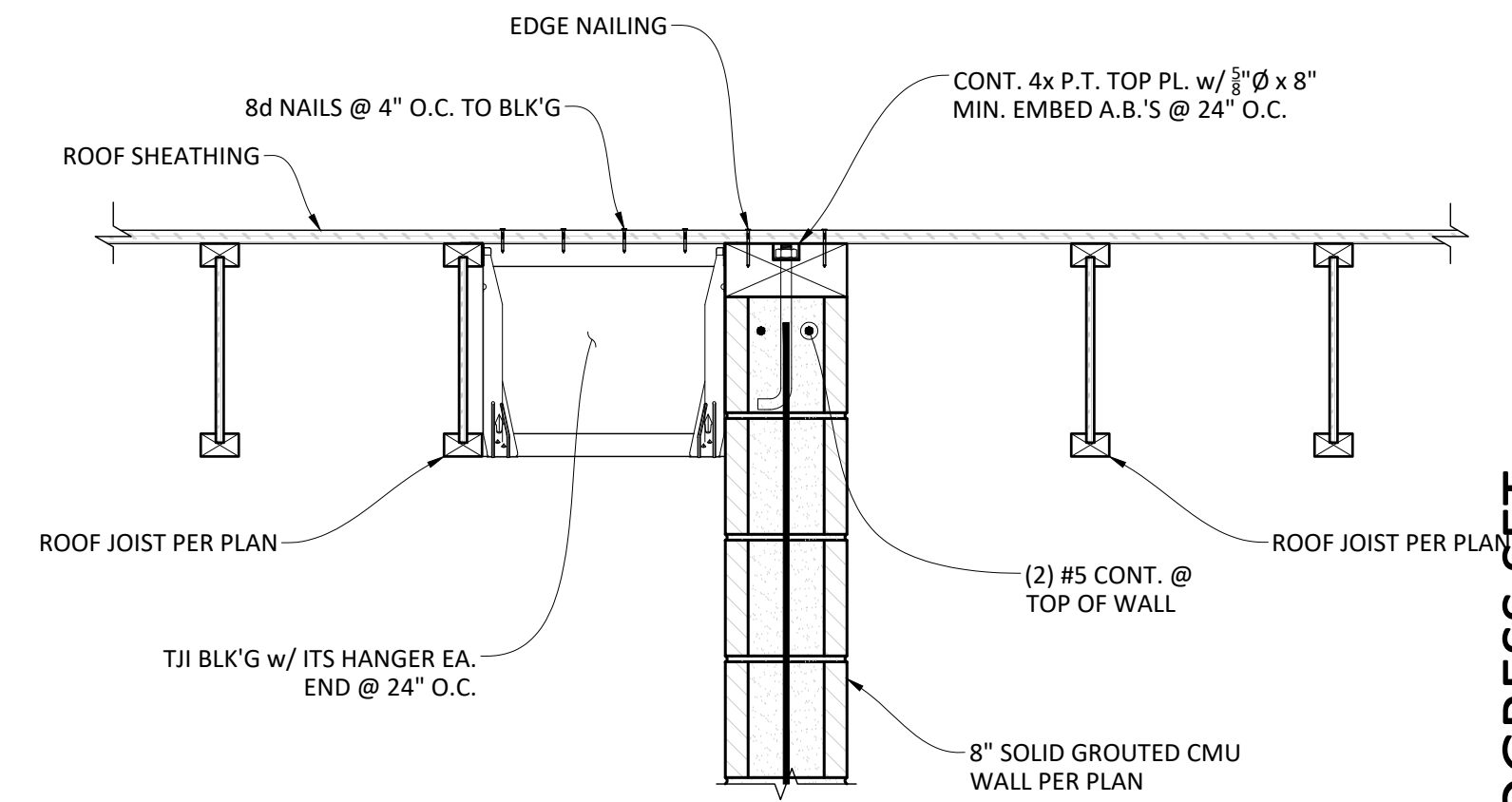
4
S6.01
NON-STRUCTURAL CMU WALL @ ROOF JOISTS
SCALE: 1" = 1'-0"



1
S6.01
ROOF JOIST @ CMU WALL (HIGH END, SIM. SLOPE OPP. DIRECTION)
SCALE: 1" = 1'-0"



2
S6.01
EAVE FRAMING @ RAKED CMU WALL
SCALE: 1" = 1'-0"



3
S6.01
ROOF JOIST @ CMU WALL
SCALE: 1" = 1'-0"

75% CD PROGRESS SET

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1160 NW Simpson Ave. - Suite 100 - Bend, Oregon 97702
t 541.382.5335 | f 541.389.0033

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STRUCTURAL ENGINEERING P.C.

2863 N.W. CROSSING DRIVE, SUITE 201 BEND, Oregon 97703
TEL. (541) 330-6869
www.walkerse.com

SPS HAMLIN MIDDLE SCHOOL TEAM / RESTROOM BLDG.

326 CENTENNIAL BLVD., SPRINGFIELD, OR 97477

No.	Description	Date

Project Number 21170

Date AUGUST 13, 2021

Drawn By GAT


















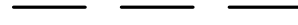
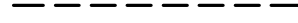
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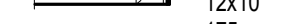






STRUCTURAL DETAILS: FRAMING


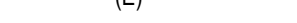
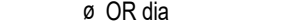










S6.01

















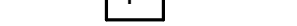


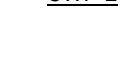






Attachment 5, Page 186 of 236

MECHANICAL LEGEND

SYMBOL	ABBREV.	DESCRIPTION
HYDRONIC PIPING:		
	CWS	CHILLED WATER SUPPLY
	CWR	CHILLED WATER RETURN
	HS	HEATING WATER SUPPLY
	HR	HEATING WATER RETURN
	CDS	CONDENSER WATER SUPPLY
	CDR	CONDENSER WATER RETURN
FIRE PROTECTION PIPING:		
	F	FIRE SPRINKLER SUPPLY
PLUMBING PIPING:		
	CW	POTABLE COLD WATER
	HW	POTABLE HOT WATER
	HWR	POTABLE HOT WATER RETURN
	TW	POTABLE TEMPERED HOT WATER
	NP	NON-POTABLE COLD WATER
	W	SANITARY WASTE
	PW	PUMPED WASTE
	V	VENT
	D	DRAIN
	SD	STORM DRAIN
	OD	OVERFLOW DRAIN
	PSW	PUMPED STORM WATER

SYMBOL	ABBREV.	DESCRIPTION
	SA	RECTANGULAR SUPPLY AIR DUCT UP
	RA	RECTANGULAR RETURN AIR DUCT UP
	EA	RECTANGULAR EXHAUST AIR UP
	OSA	RECTANGULAR OUTSIDE AIR UP
	MAS	RECTANGULAR MAKE-UP AIR DUCT UP
		RECTANGULAR SUPPLY AIR, & MAKE-UP AIR DUCT DOWN
		RECTANGULAR RETURN AIR DOWN
		RECTANGULAR EXHAUST AIR or OUTSIDE AIR DOWN
		ROUND DUCTWORK UP
		ROUND DUCTWORK DOWN
		TURN VANE ELBOW
		STANDARD RADIUS ELBOW
		FLEXIBLE DUCT CONNECTION
		DUCT SIZE: WIDTH (IN) x DEPTH (IN)
		DIFFUSER TYPE
		SIZE (IN) - BLOW PATTERN (4-WAY IF NONE SHOWN)
		AIR VOLUME IN CUBIC FEET per MINUTE (CFM)
		GRILLE TYPE
		SIZE (IN)
		AIR VOLUME IN CUBIC FEET per MINUTE (CFM)
		SIZE (IN)
		AIR VOLUME IN CUBIC FEET per MINUTE (CFM)
		SIZE (IN)
		AIR VOLUME IN CUBIC FEET per MINUTE (CFM)
		INTERNALLY LINED OR DOUBLE WALL DUCTWORK
		MANUAL VOLUME DAMPER
		AUTOMATIC CONTROL DAMPER
		RECTANGULAR DUCT ANGLED CHANGE IN ELEVATION
		ROUND DUCT ANGLED CHANGE IN ELEVATION
		CONCENTRIC TRANSITION
		ECCENTRIC TRANSITION
		45 DEGREE LATERAL BRANCH, ROUND
		45 DEGREE ENTRY BRANCH, ROUND OR RECTANGULAR
		CONICAL BRANCH, ROUND

SYMBOL	DESCRIPTION
	EXISTING
	DIAMETER
	NEW TO EXISTING POINT OF CONNECTION
	NOTE REFERENCE MARKER
	PLAN OR DETAIL NUMBER
	SECTION LETTER
	EQUIPMENT TYPE
	EQUIPMENT NUMBER
	ROOM NUMBER
	EXISTING SHOWN LIGHT
	NEW WORK SHOWN BOLD
	EXISTING TO BE REMOVED
	PACKAGE EQUIPMENT BOUNDARY

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PROCESS PIPING SIGNAL		ACTUATOR - ELECTRIC
	ELECTRICAL SIGNAL		AUTOMATIC CONTROL DAMPER
	SPACE THERMOSTAT		BAS INPUT/OUTPUT POINT
	SPACE TEMPERATURE		ALARM
	TEMPERATURE MEASUREMENT		EQUIPMENT CONTROL PANEL (W/EQUIP. INDICATED UNDERLINED)
	PRESSURE MEASUREMENT		RELAY
	FLOW MEASUREMENT		VARIABLE FREQUENCY DRIVE
	RELAY OR SWITCH		RELAY
	C = ELECTRIC CURRENT		RELAY
	FS = FLOW SWITCH		RELAY
	HP = HIGH PRESSURE		RELAY
	LP = LOW PRESSURE		RELAY
	RELAY FREEZE PROTECTION		RELAY

- GENERAL NOTES
- SIZE AND LOCATION OF ALL PIPING AND OTHER MECHANICAL EQUIPMENT IS APPROXIMATE. CONTRACTOR SHALL SITE VERIFY THE LOCATION OF EXISTING PIPING AND EQUIPMENT AND CONSTRUCT WORK FROM FIELD DIMENSIONS. CONTRACTOR SHALL MAKE ADJUSTMENTS NECESSARY TO ACCOMMODATE MINOR DEVIATIONS AT NO COST TO OWNER.
 - FINE (LIGHT) LINE WORK INDICATES EXISTING PIPING AND OTHER MECHANICAL EQUIPMENT. BOLD (HEAVY) LINE WORK INDICATES NEW PIPING AND OTHER MECHANICAL EQUIPMENT.

ABBREVIATIONS			
ACH	AIR CHANGES PER HOUR	IN	INCHES
AFF	ABOVE FINISHED FLOOR	IN WC	INCHES WATER COLUMN
AFS	AUTOMATIC FIRE SPRINKLER	PLV	INTEGRATED PART LOAD VALUE
AL	ALUMINUM	IW	INDIRECT WASTE
ALT	ALTERNATE	LAT	LEAVING AIR TEMPERATURE
APD	AIR PRESSURE DROP	LBS	POUNDS
BAS	BUILDING AUTOMATION SYSTEM	LWT	LEAVING WATER TEMPERATURE
BHP	BRAKE HORSEPOWER	mA	MILLIAMPERE
BOD	BOTTOM OF DUCT	MAX	MAXIMUM
BTUH	BRITISH THERMAL UNITS PER HOUR	MBH	THOUSAND BTUs per HOUR
CFH	CUBIC FEET per HOUR	MCA	MINIMUM CIRCUIT AMPS
CFM	CUBIC FEET per MINUTE	MFR	MANUFACTURER
CMU	CONCRETE MASONRY UNIT	MIN	MINIMUM
CONC	CONCRETE	MOP	MAX. OVERCURRENT PROTECTION
CONT	CONTINUATION	(N)	NEW
(D)	DEMOLITION	NC	NOISE CRITERIA
DB	DRY BULB	NC	NORMALLY CLOSED
dba	DECIBELS ACOUSTIC	NIC	NOT IN CONTRACT
DEMO	DEMOLITION	NO	NORMALLY OPEN
DN	DOWN	NPLV	NON-STANDARD PART LOAD VALUE
DP	DIFFERENTIAL PRESSURE	NPSH	NET POSITIVE SUCTION HEAD
(E)	EXISTING	OFCl	OWNER FURNISHED/ CONTRACTOR INSTALLED
EAT	ENTERING AIR TEMPERATURE	OSA	OUTSIDE AIR
EER	ENERGY EFFICIENCY RATIO	PD	PRESSURE DROP
EFF	EFFICIENCY	PH	PHASE
EG	EXHAUST GRILLE	PPH	POUNDS per HOUR
ESP	EXTERNAL STATIC PRESSURE	PSI	POUNDS per SQUARE INCH
EWT	ENTERING WATER TEMPERATURE	REQD	REQUIRED
FLA	FULL LOAD AMPS	RF	RETURN FAN
FPM	FEET per MINUTE	RG	RETURN GRILLE
FT	FEET	RH	RELATIVE HUMIDITY
FT WC	FEET WATER COLUMN	RPM	REVOLUTIONS per MINUTE
FUT	FUTURE	SD	SUPPLY DIFFUSER
GPH	GALLONS per HOUR	SEER	SEASONAL ENERGY EFFICIENCY RATIO
GPM	GALLONS per MINUTE	SF	SUPPLY FAN
GYP BD	GYP SUM WALL BOARD	SS	STAINLESS STEEL
HP	HORSEPOWER	STL	STEEL
HSPF	HEATING SEASONAL PERFORMANCE FACTOR	TSP	TOTAL STATIC PRESSURE
HVAC	HEATING, VENTILATING, & AIR CONDITIONING	TYP	TYPICAL
HZ	HERTZ (CYCLES per SECOND)	VFD	VARIABLE FREQUENCY DRIVE
IAQ	INDOOR AIR QUALITY	WB	WET BULB
		WC	WATER COLUMN
		WG	WATER GAUGE

SHEET INDEX - MECHANICAL

M0.01	LEGEND, GENERAL NOTES & SHEET INDEX
M1.21	FLOOR PLAN
M5.01	DETAILS
M6.01	SCHEDULES

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ARCHITECTS
1140 SW Simpson Ave - Suite 200
Bend, OR 97702 - t 541-382-5635

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541.342.7210
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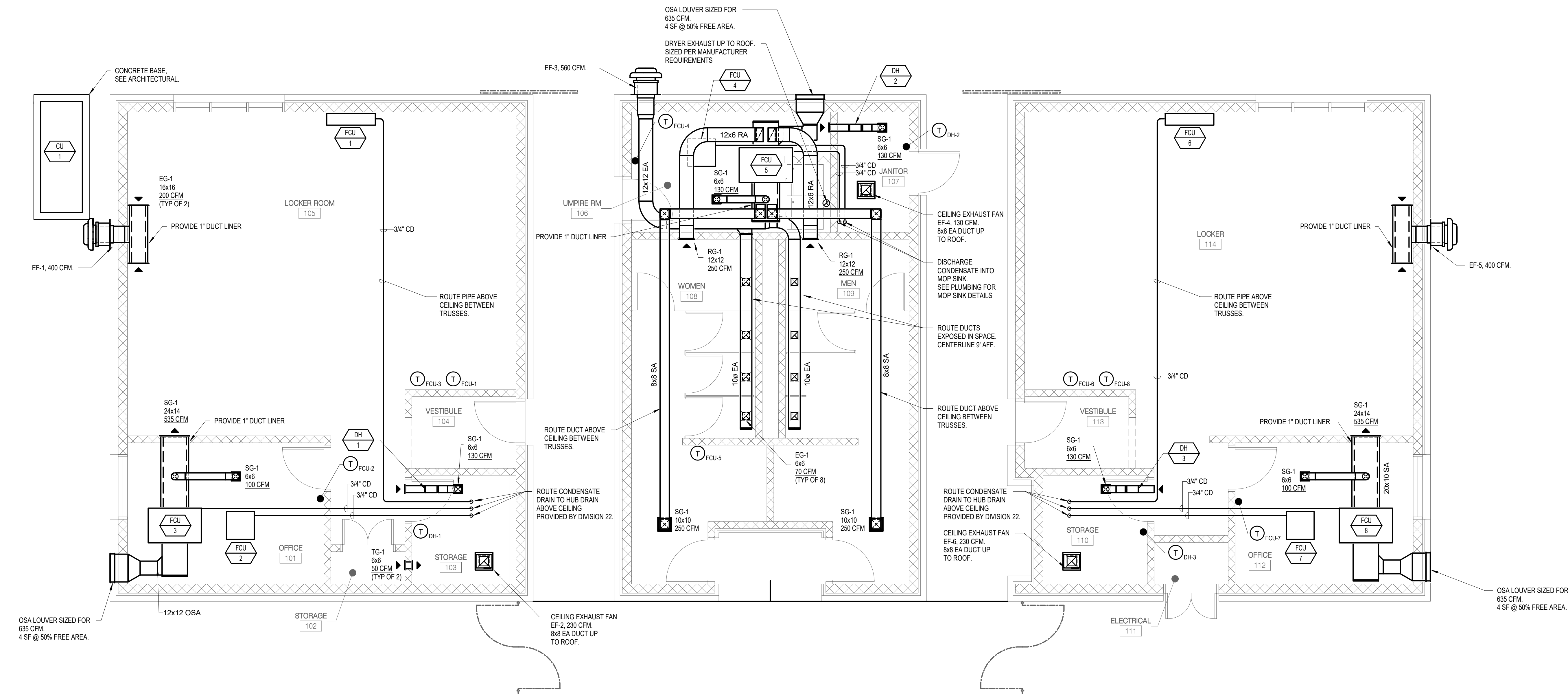
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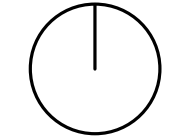
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LEGEND, GENERAL NOTES & SHEET INDEX

SHEET NUMBER
M0.01



1
M1.21

FIRST FLOOR MECHANICAL FLOOR PLAN
SCALE: 1/4" = 1'-0"



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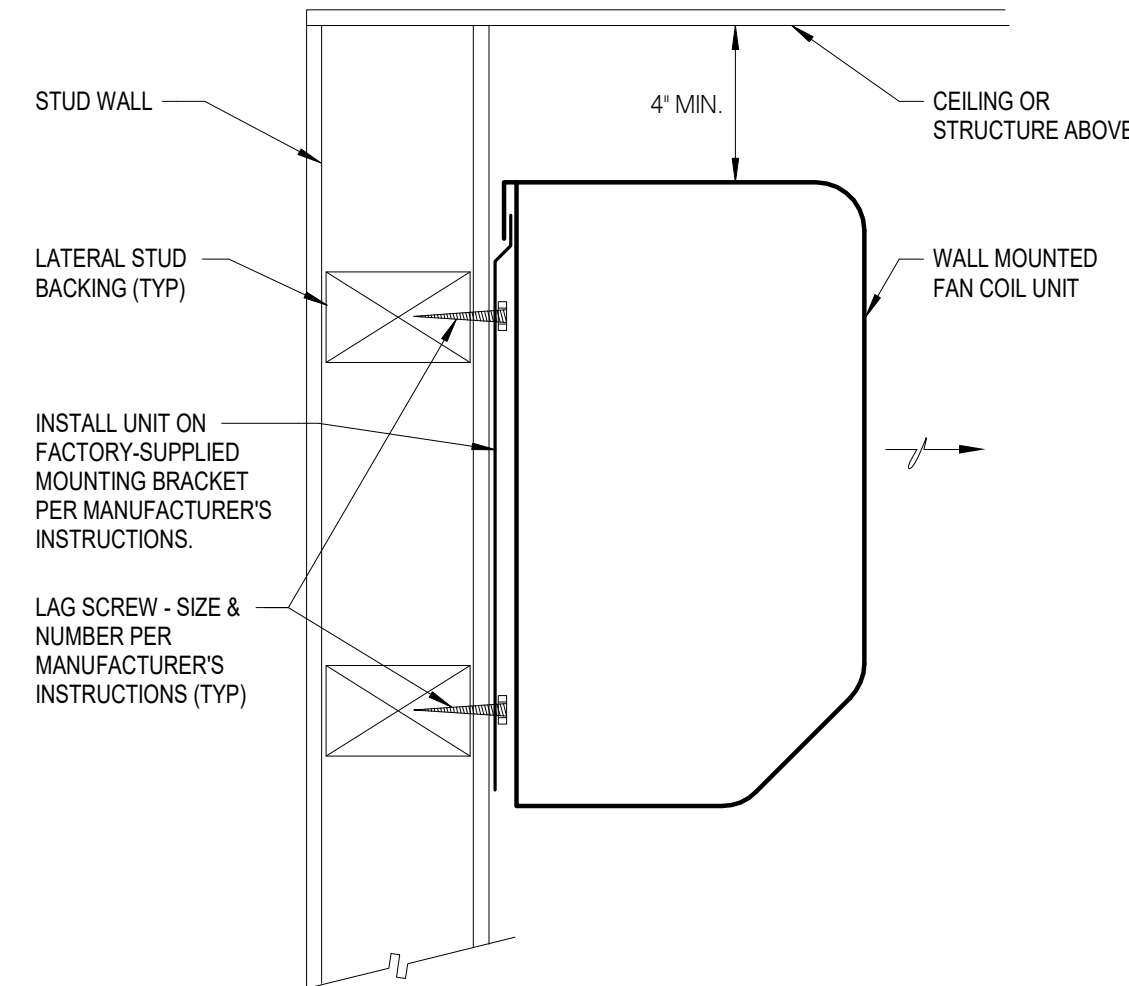
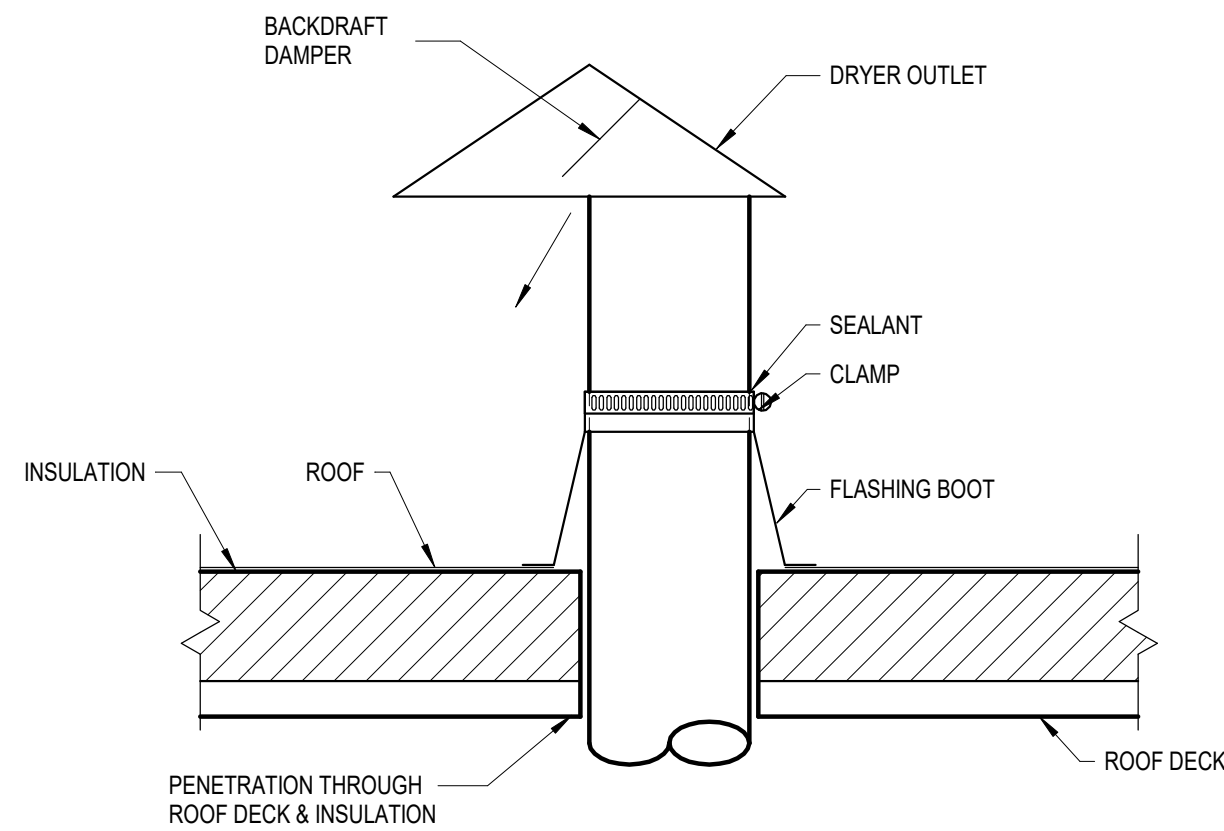
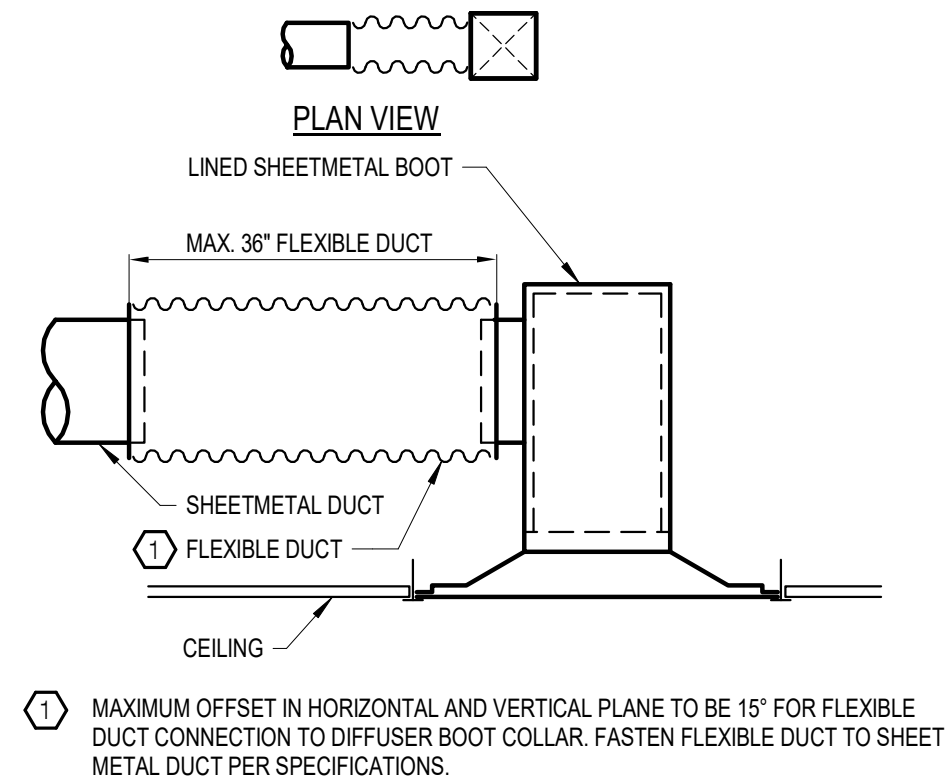
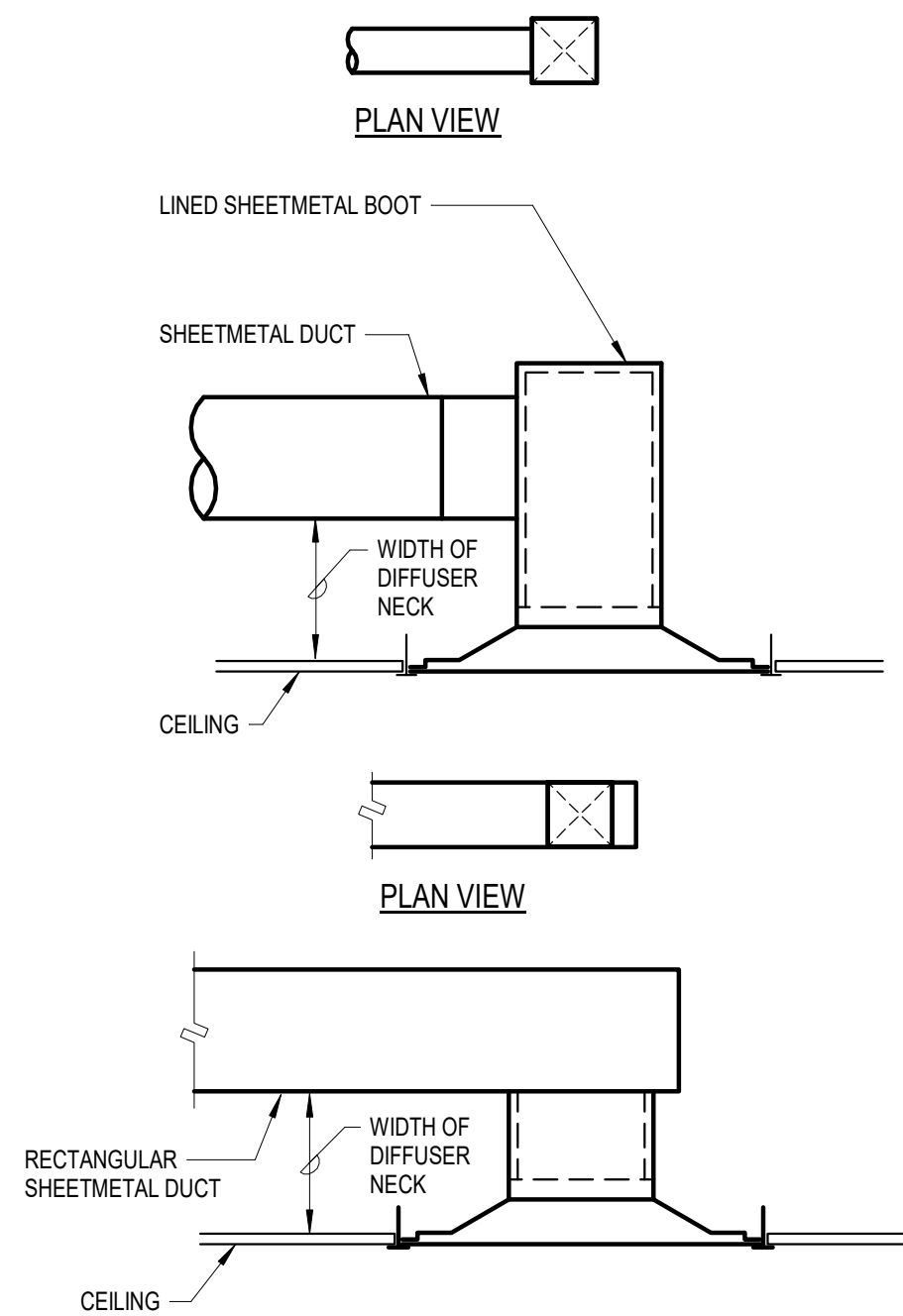
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FLOOR PLAN

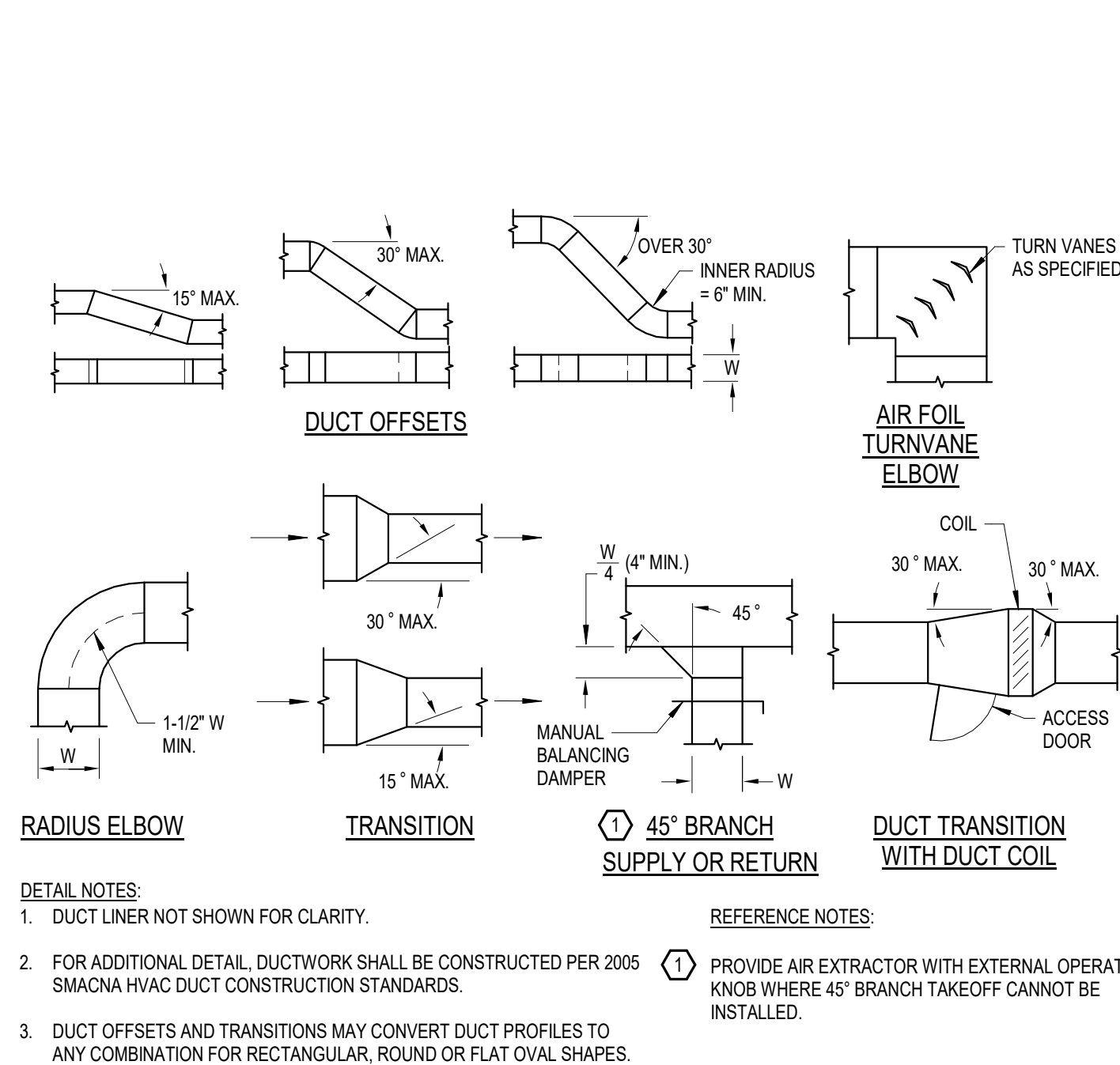
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M1.21



1 DIFFUSER GRILL & REGISTER CONNECTION
NOT TO SCALE

2 ROOF DRYER OUTLET
NOT TO SCALE

3 WALL MOUNTED FAN COIL
NOT TO SCALE

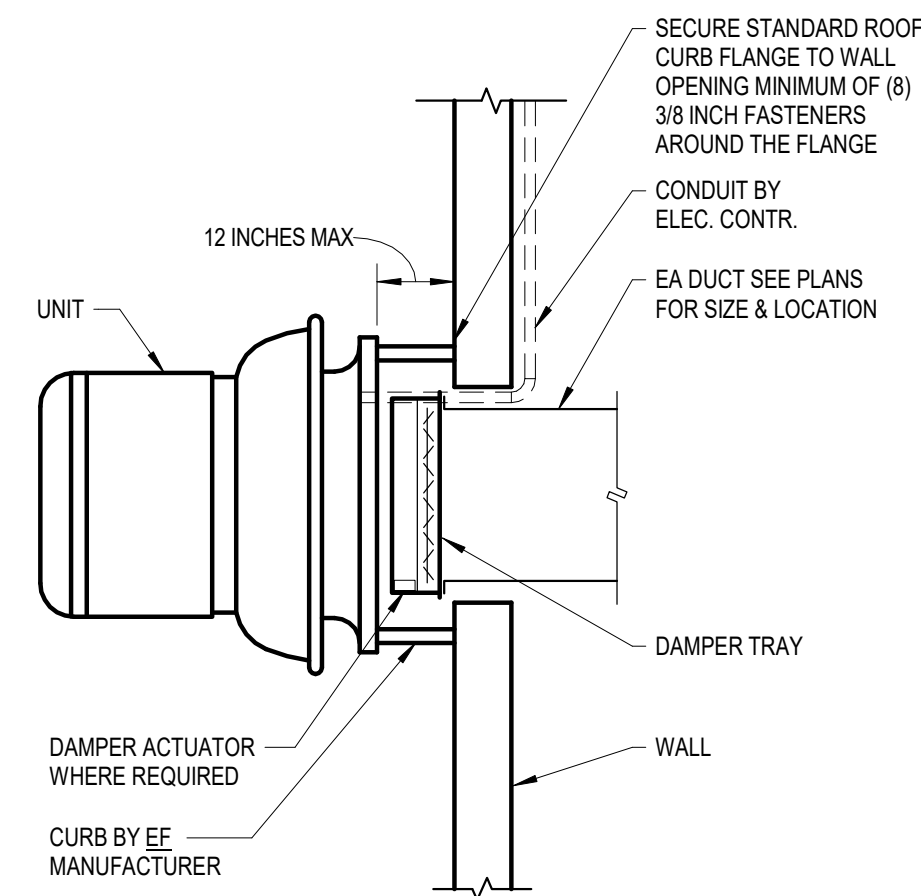


4 DUCT CONSTRUCTION
NOT TO SCALE

5 ROUND DUCT CONSTRUCTION
NOT TO SCALE

6 HORIZONTAL FAN COIL
NOT TO SCALE

7 SIDEWALL EXHAUST FAN
NOT TO SCALE



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SHEET TITLE
DETAILS

SHEET NUMBER
M5.01

EXHAUST FANS														
(1)MOTOR CONTROLS FURNISHED BY DIV. 23 (2)MS: MOTOR STARTER, VFD: VARIABLE FREQUENCY DRIVE, ECM: ECM MOTOR CONTROLLER, CR:CONTROL RELAY														
TAG	MANUFACTURER	MODEL	TYPE	PERFORMANCE				SOUND LEVEL (SONES)	MOTOR				WEIGHT (LBS)	REMARKS
				AIRFLOW (CFM)	TSP (IN)	SPEED (RPM)	POWER (BHP)		VOLTS	PHASE	HP	WATTS		
EF-1	GREENHECK	G-090-VG	WALL MOUNTED	400	0.5	1475	0.07	6.8	115	1	0.1	74	30	ECM
EF-1	GREENHECK	G-090-VG	WALL MOUNTED	400	0.5	1475	0.07	6.8	115	1	0.1	74	30	ECM
EF-2	GREENHECK	SP-A250	CEILING	230	0.3	1000	0.03	3.0	115	1		83	25	
EF-4	GREENHECK	SP-A250	CEILING	130	0.4	1400	0.03	1.5	115	1		47	20	
EF-6	GREENHECK	SP-A250	CEILING	230	0.3	1000	0.03	3.0	115	1		83	25	

ELECTRIC DUCT HEATER												
TAG	LENGTH (IN)	HEIGHT (IN)	AIRFLOW (CFM)	DELTA T (°F)	KW	No. of STAGES	ELECTRICAL		MCA	REMARKS		
							VOLTS	PHASE				
DH-1	10.5	8	130	26	1	2	120	1	8.3			
DH-2	10.5	8	130	26	1	2	120	1	8.3			
DH-3	10.5	8	130	26	1	2	120	1	8.3			

VRF FAN COIL UNIT																			
(1) MINIMUM CIRCUIT AMPACITY. (2) PROVIDE CONDENSATE PUMP.																			
TAG No.	MANUFACTURER	MODEL	TYPE	COND UNIT	AIRFLOW (CFM)	HEATING			COOLING				SENS. CAPACITY (BTU/HR)	SOUND LEVEL (dB)	UNIT WEIGHT (LBS)	ELECTRICAL			REMARKS
						EAT (°F)	LAT (°F)	CAPACITY (BTU/HR)	EAT (°F)	WB (°F)	DB (°F)	LAT (°F)	TOTAL CAPACITY (BTU/HR)			VOLTS	PHASE	MCA (1)	
FCU-1	DAIKIN	FXA024PVJU	WALL MOUNTED	CU-1	635	47	43	26500	95	75	80	67	24000	18000	47	35	208	1	0.6 (2)
FCU-2	DAIKIN	FXQ121TAVJU	CEILING CASSETTE	CU-1	300	47	43	13500	95	75	80	67	12000	7800	51	40	208	1	0.4 (2)
FCU-3	DAIKIN	FXM048MFVJU	OSA DUCTED	CU-1	635	47	43	30000	95	75	80	67	48000	0	42	190	208	1	2.1 (2)
FCU-4	DAIKIN	FXQ121TAVJU	CEILING CASSETTE	CU-1	300	47	43	13500	95	75	80	67	12000	7800	51	40	208	1	0.4 (2)
FCU-5	DAIKIN	FXM048MFVJU	OSA DUCTED	CU-1	635	47	43	30000	95	75	80	67	48000	0	42	190	208	1	2.1 (2)
FCU-6	DAIKIN	FXA024PVJU	WALL MOUNTED	CU-1	635	47	43	26500	95	75	80	67	24000	18000	47	35	208	1	0.6 (2)
FCU-7	DAIKIN	FXQ121TAVJU	CEILING CASSETTE	CU-1	300	47	43	13500	95	75	80	67	12000	7800	51	40	208	1	0.4 (2)
FCU-8	DAIKIN	FXM048MFVJU	OSA DUCTED	CU-1	635	47	43	30000	95	75	80	67	48000	0	42	190	208	1	2.1 (2)

VRF AIR COOLED CONDENSING UNIT																	
(1) MINIMUM CIRCUIT AMPACITY. (2) MAXIMUM OVERCURRENT PROTECTION. (3) MCA = 36.3+36.3 & MOP = 45+45																	
UNIT TAG	MANUFACTURER	MODEL	AMBIENT DESIGN		CAPACITY		EFFICIENCY		SOUND LEVEL (dB)	UNIT WEIGHT (LBS)	ELECTRICAL				REMARKS		
			HEAT (°F)	COOL (°F)	HEATING (MBTU/HR)	COOLING (MBTU/HR)	HEAT (COP)	COOL (EER)			VOLTS	PHASE	MCA (1)	MOP (2)			
CU-1	DAIKIN	RXYQ2161TJU	47	95	231	206	3.7	11.7	61	1060	208	3	73	90 (3)			

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1140 sw Simpson Ave - Suite 200
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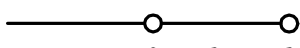
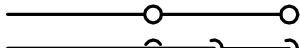
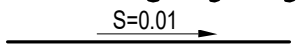
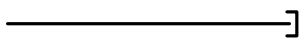
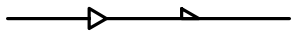
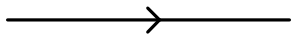
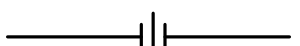


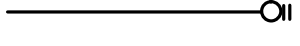

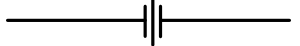
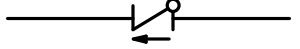


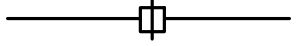

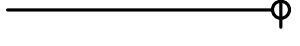
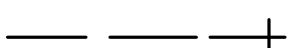




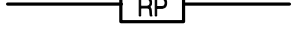

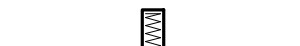




















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







SCHEDULES

SHEET NUMBER

M6.01

PLUMBING LEGEND

SYMBOL	ABBREV.	DESCRIPTION	SYMBOL	ABBREV.	DESCRIPTION
FIRE PROTECTION PIPING:					
	F	FIRE SPRINKLER SUPPLY			PIPING UP
					SLOPE OF PIPE IN DECIMALS OF FEET CAPPED PIPE
	CW	POTABLE COLD WATER			PIPE REDUCING FITTING: CONCENTRIC, ECCENTRIC
	HW	POTABLE HOT WATER			DIRECTION OF FLOW
	HWR	POTABLE HOT WATER RETURN			UNION
	TW	POTABLE TEPID HOT WATER			PUMP
	NP	NON-POTABLE COLD WATER		DV	DRAIN VALVE
	W	SANITARY WASTE		BV	BALL VALVE
	PW	PUMPED WASTE		BFV	BUTTERFLY VALVE
	D	DRAIN		CHV	CHECK VALVE
	SD	STORM DRAIN		GV	GATE VALVE
	OD	OVERFLOW DRAIN		GBV	GLOBE VALVE
	PSW	PUMPED STORM WATER			ECCENTRIC PLUG VALVE
				COTG, FCO	CLEANOUT TO GRADE, FLOOR CLEANOUT
				WCO	WALL CLEANOUT
				FD	FLOOR DRAIN
				HB	HOSE BIBB (DIAGRAM)
				HB	HOSE BIBB (PLAN)
					REDUCED-PRESSURE PRINCIPLE BACKFLOW PREVENTER
					DOUBLE CHECK BACKFLOW PREVENTER
					WATER HAMMER ARRESTOR
					PENETRATION THROUGH WALL, FLOOR, OR ROOF
					DIAPHRAGM VALVE

SYMBOL	ABBREVIATION	DESCRIPTION
	DIA	DIAMETER
		NEW TO EXISTING POINT OF CONNECTION
		NOTE REFERENCE MARKER
		PLAN OR DETAIL REFERENCE MARKER
		SECTION REFERENCE MARKER
		EQUIPMENT MARKER
		ROOM NUMBER
		NEW WORK SHOWN BOLD

ABBREVIATIONS	
ABS	ACRYLONITRILE BUTADIENE STYRENE
AC	AIR COMPRESSOR
ACFM	ACTUAL CUBIC FEET PER MINUTE
ACT	ACUSTICAL CEILING TILE
AD	AREA DRAIN
ADA	AMERICANS WITH DISABILITY ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFS	AUTOMATIC FIRE SPRINKLER
AHJ	AUTHORITY HAVING JURISDICTION
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ARCH	ARCHITECT/ARCHITECTURAL
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING, & AIR-CONDITIONING
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
ASSE	AMERICAN SOCIETY OF SANITARY ENGINEERING
AVTR	ACID VENT THROUGH ROOF
AWWA	AMERICAN WATER WORKS ASSOCIATION
BAS	BUILDING AUTOMATION SYSTEM
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BLDG	BUILDING
BHP	BRAKE HORSEPOWER
BOP	BOTTOM OF PIPE
BTUH	BRITISH THERMAL UNITS PER HOUR
CFCI	CONTRACTOR FURNISHED/ CONTRACTOR INSTALLED
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFOI	CONTRACTOR FURNISHED/ OWNER INSTALLED
CGA	COMPRESSED GAS ASSOCIATION
CI	CAST IRON
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
CONC	CONCRETE
CONT	CONTINUATION
COTG	CLEANOUT TO GRADE
CPVC	CHLORINATED POLYVINYL CHLORIDE
CR	CONTROL RELAY
(D)	DEMOLISH, DEMOLITION
DBA	DECIBELS ACOUSTIC
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
DCV	DOUBLE CHECK VALVE
DF	DRINKING FOUNTAIN
DFU	DRAINAGE FIXTURE UNIT
DIA	DIAMETER
DI	DUCTILE IRON
DI WATER	DEIONIZED WATER
DN	DOWN
DW	DISTILLED WATER
DWG	DRAWING
(E)	EXISTING
ECM	ELECTRONICALLY COMMUTATED MOTOR
EEM	ENERGY EFFICIENCY MEASURE
ELEC	ELECTRICAL
EPDM	ETHYLENE PROPYLENE-DIENE MONOMER
EWT	ENTERING WATER TEMPERATURE
FA	FIRE ALARM
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FFE	FINISHED FLOOR ELEVATION
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FS	FLOOR SINK
FT	FEET
FT WC	FEET WATER COLUMN
FU	FIXTURE UNIT
GAL	GALLON
GALV	GALVANIZED
GI	GREASE INTERCEPTOR
GPD	GALLONS PER DAY
GPF	GALLONS PER FLUSH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HOPE	HIGH-DENSITY POLYETHYLENE
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HVAC	HEATING, VENTILATING, & AIR CONDITIONING
HZ	HERTZ
IAPMO	INTERNATIONAL ASSOCIATION OF PLUMBING, MECHANICAL OFFICIALS
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH, INCHES
IN WC	INCHES WATER COLUMN
IPS	IRON PIPE SIZE
IW	INDIRECT WASTE
KW	KILOWATT
KWH	KILOWATT-HOUR
LBS	POUNDS
LAV	LAVATORY
LF	LINEAR FEET
LPG	LIQUIFIED PETROLEUM GAS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTUS PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MECH	MECHANICAL
MFGR	MANUFACTURER
MIN	MINIMUM
MOP	MAXIMUM OVERCURRENT PROTECTION
MS	MOTOR STARTER
(N)	NEW
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
(NL)	NEW LOCATION
NO	NORMALLY OPEN
NPSH	NET POSITIVE SUCTION HEAD
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED/ CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED/ OWNER INSTALLED
OPSC	OREGON PLUMBING SPECIALTY CODE
OSHA	OCCUPATION SAFETY AND HEALTH ADMINISTRATION
PD	PRESSURE DROP
PDI	PLUMBING & DRAINAGE INSTITUTE
PE	POLYETHELENE
PEX	CROSS-LINKED POLYETHELENE
PLBG	PLUMBING
POC	POINT OF CONNECTION
PH	PHASE
PP	POLYPROPYLENE
PPH	POUNDS PER HOUR
PPM	PARTS PER MILLION
PRV	PRESSURE REGULATING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PTE	POLYTETRAFLUOROETHYLENE (TEFLON)
PVC	POLYVINYL CHLORIDE
PVDF	POLYVINYLIDENE FLUORIDE
(R)	RELOCATE
RD	ROOF DRAIN
REQD	REQUIRED
RO	REVERSE OSMOSIS
RP/RPBP	REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
SCCR	SHORT CIRCUIT CURRENT RATING
SCFM	STANDARD CUBIC FEET PER MINUTE
SCH	SCHEDULE
SDR	STANDARD DIMENSIONAL RATIO
SPKR	SPRINKLER
SQFT	SQUARE FEET
SS	STAINLESS SEEL
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
TPA	TRAP PRIMER ARRAY
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
U	URNAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UCN	UNLESS OTHERWISE NOTED
UPC	UNIFORM PLUMBING CODE
UV	ULTRAVIOLET
V	VOLTAGE
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THROUGH ROOF
W	WATT
WB	WET BULB
WC	WATER CLOSET
WG	WATER GAUGE
WH	WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WSFU	WATER SUPPLY FIXTURE UNITS

GENERAL NOTES
2. SIZE AND LOCATION OF ALL PIPING AND OTHER MECHANICAL EQUIPMENT IS APPROXIMATE. CONTRACTOR SHALL SITE VERIFY THE LOCATION OF EXISTING PIPING AND EQUIPMENT AND CONSTRUCT WORK FROM FIELD DIMENSIONS. CONTRACTOR SHALL MAKE ADJUSTMENTS NECESSARY TO ACCOMMODATE MINOR DEVIATIONS AT NO COST TO OWNER.
3. FINE (LIGHT) LINE WORK INDICATES EXISTING PIPING AND OTHER MECHANICAL EQUIPMENT. BOLD (HEAVY) LINE WORK INDICATES NEW PIPING AND OTHER MECHANICAL EQUIPMENT.

SHEET INDEX - PLUMBING

P0.01	LEGEND, GENERAL NOTES & SHEET INDEX
P1.10	FOUNDATION PLAN
P1.21	FLOOR PLAN
P5.01	DETAILS
P6.01	SCHEDULES

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Springfield, OR 97477
541.342.7210
systemswestengineers.com
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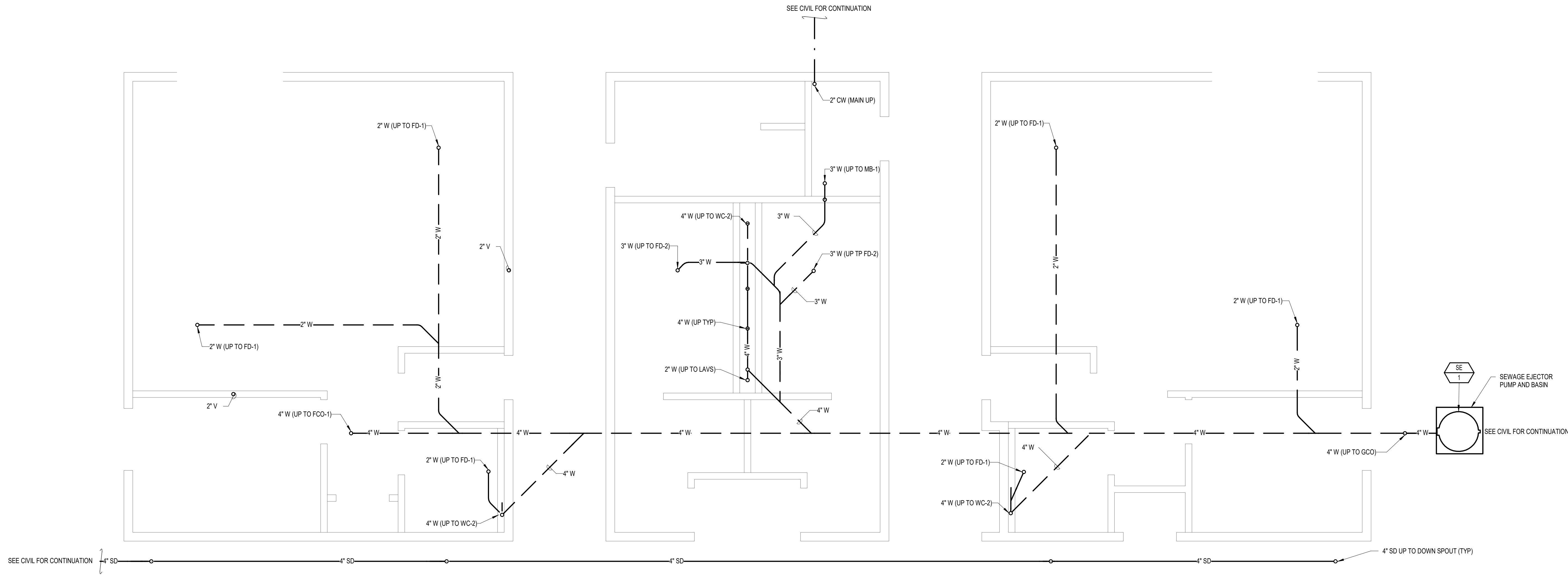
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LEGEND, GENERAL
NOTES & SHEET INDEX

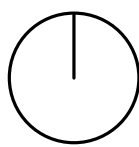
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1
P1.10

FOUNDATION PLUMBING FLOOR PLAN

SCALE: 1/4" = 1'-0"



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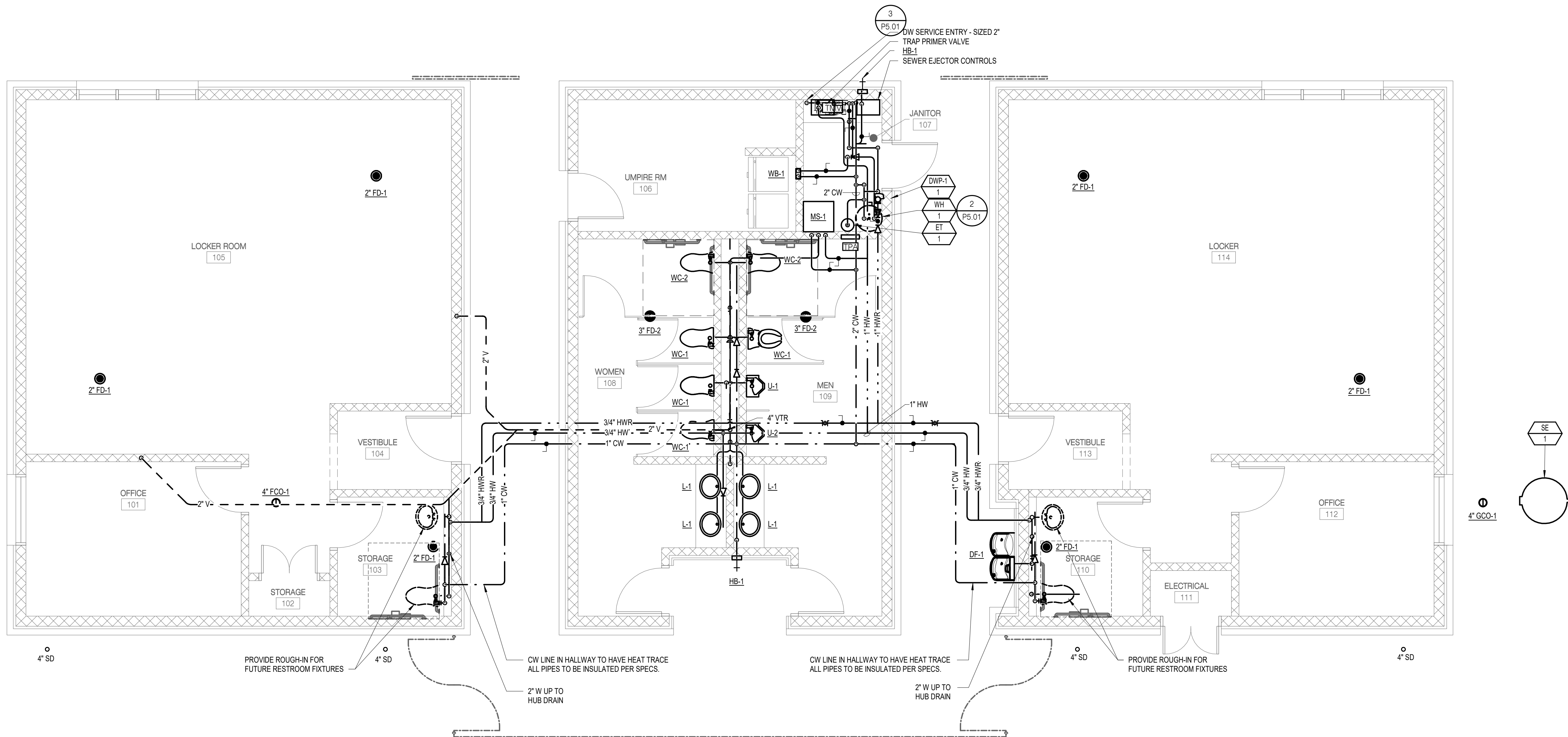
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FOUNDATION PLAN

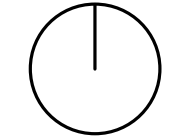
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P1.10



1
P1.21

FIRST FLOOR PLUMBING FLOOR PLAN
SCALE: 1/4" = 1'-0"



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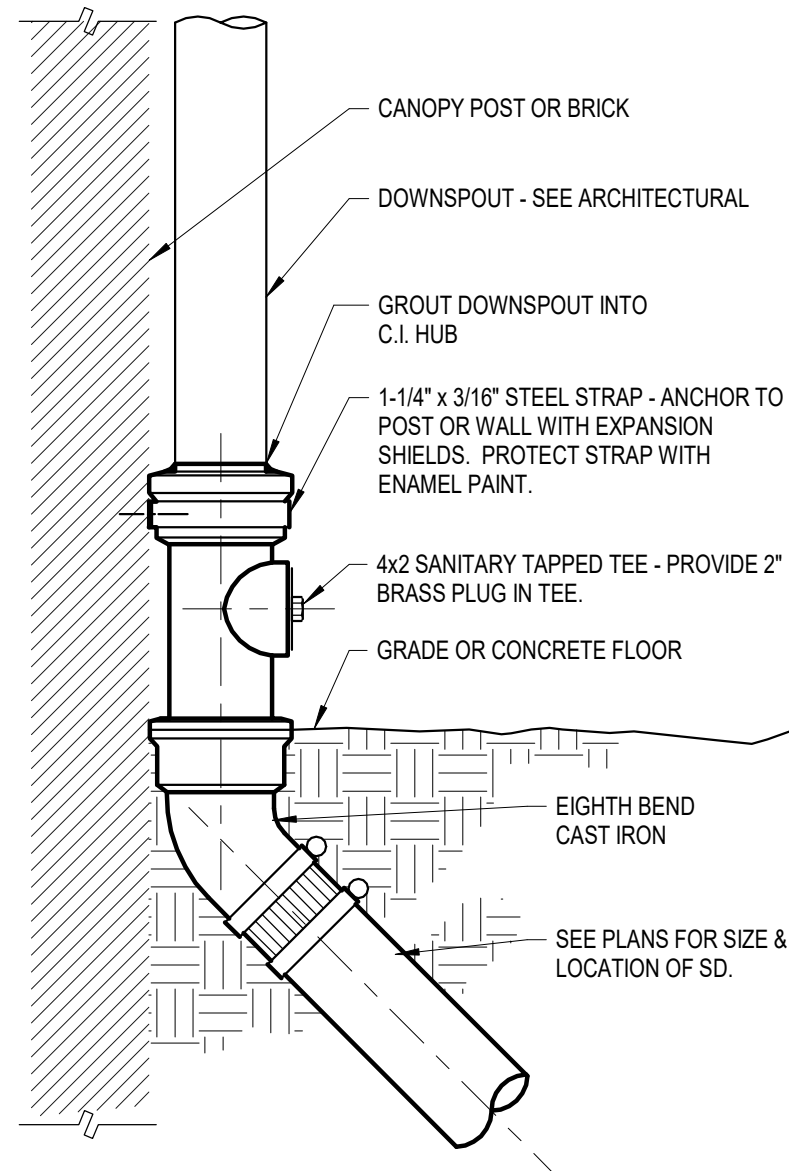
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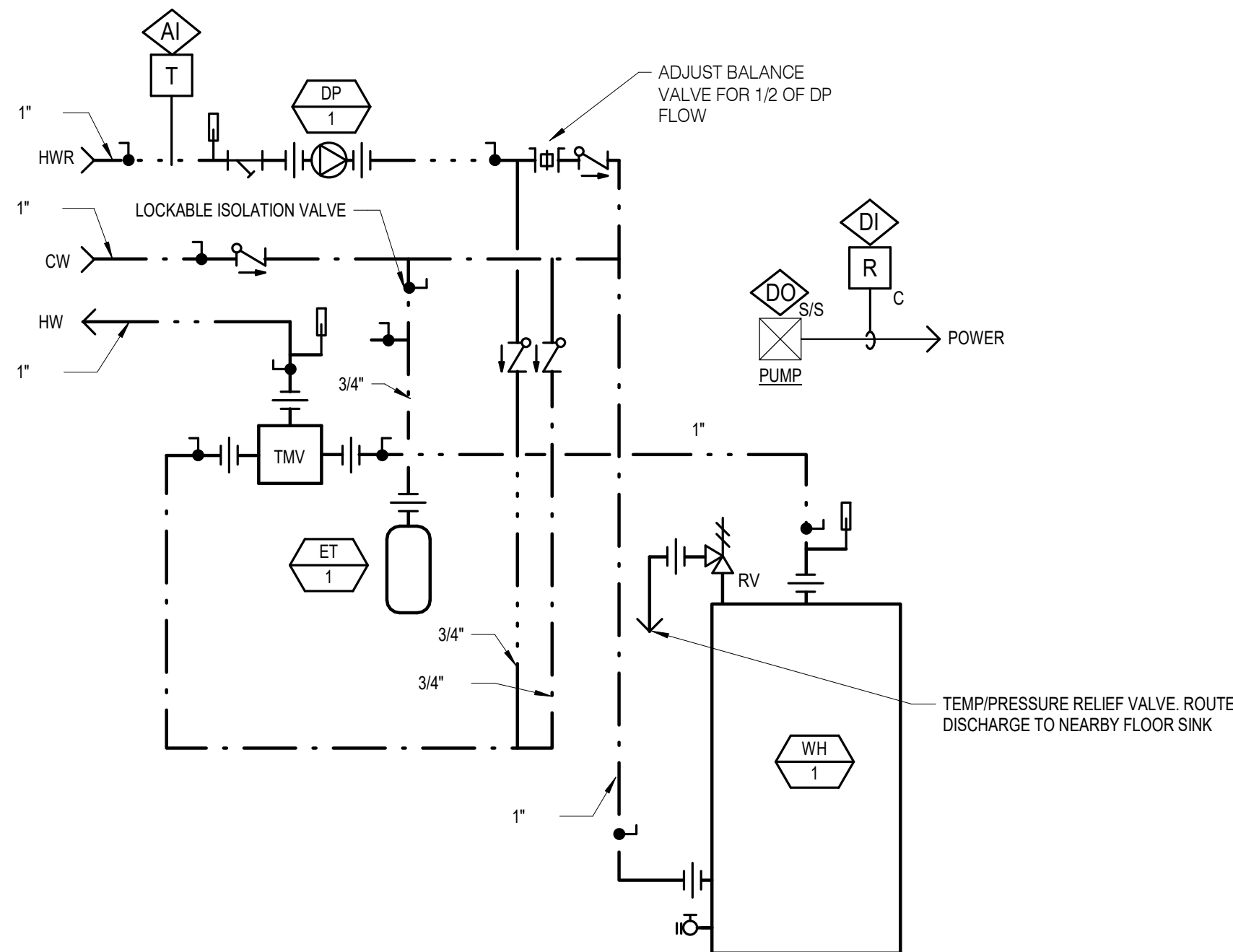
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SHEET TITLE
FLOOR PLAN

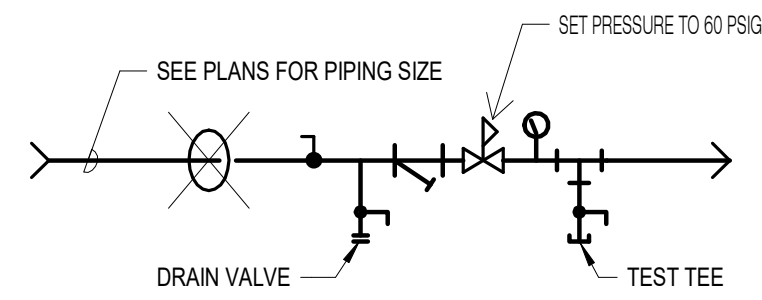
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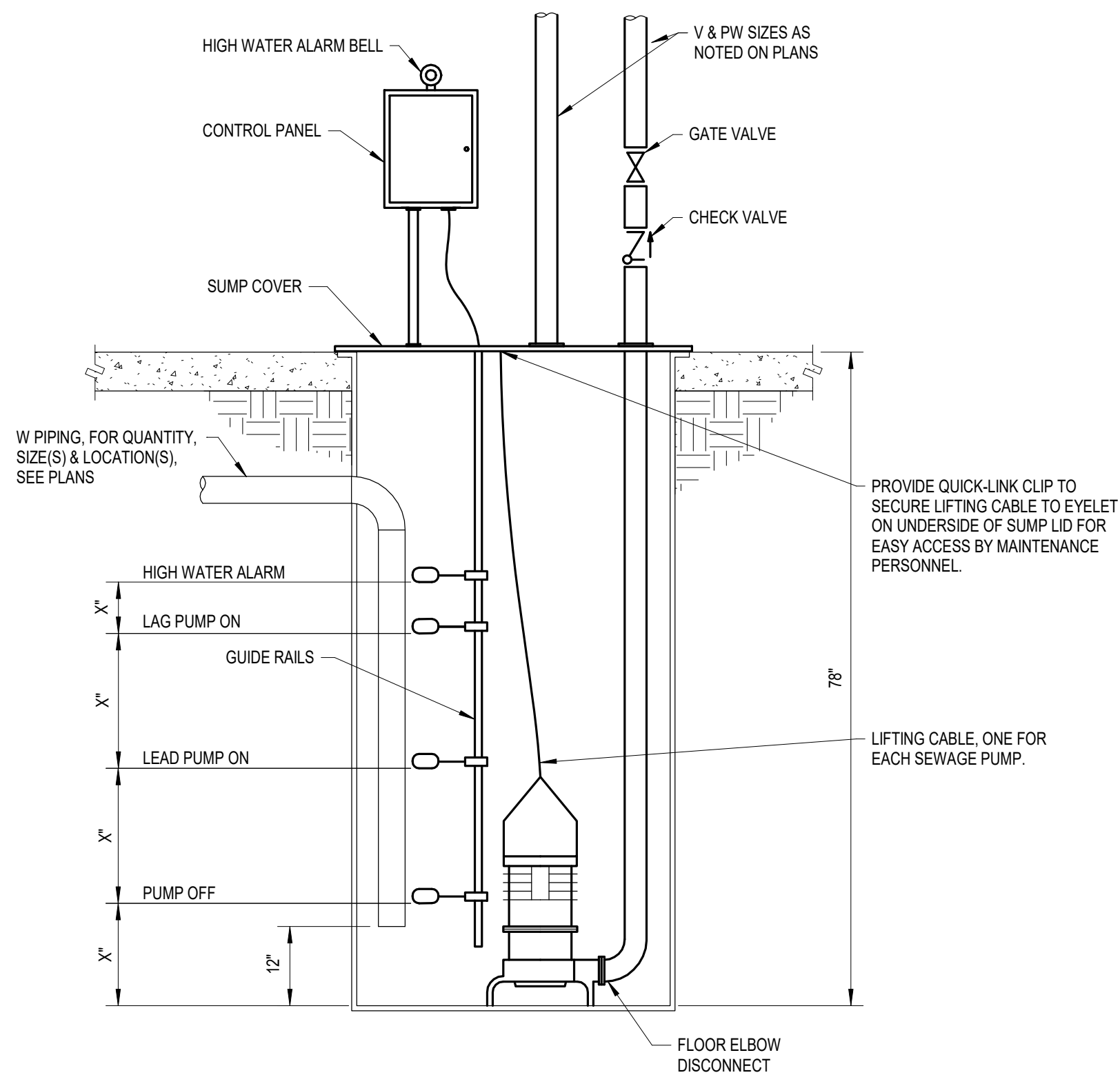
1 DOWNSPOUT CONNECTION WITH INTEGRAL CLEANOUT
NOT TO SCALE



2 DOMESTIC WATER HEATER - ELECTRIC
NOT TO SCALE



3 DOMESTIC WATER SERVICE ENTRANCE
NOT TO SCALE



4 SEWAGE EJECTOR INSTALLATION
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DETAILS

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DOMESTIC WATER DESIGN CRITERIA
BASIS OF DESIGN: 2021 OREGON PLUMBING SPECIALTY CODE, APPENDIX A 'RECOMMENDED RULES FOR SIZING THE WATER SUPPLY SYSTEM'. PIPING SIZED ON 4 PSI/100 FT. DROP UNLESS OTHERWISE NOTED. VELOCITIES NOT TO EXCEED 8 FT./SEC. (COLD WATER) AND NOT TO EXCEED 5 FT./SEC. (HOT WATER). WATER PIPING SIZING ASSUMES TYPE L COPPER AS BASIS OF DESIGN.

SANITARY WASTE AND VENT DESIGN CRITERIA
BASIS OF DESIGN: 2021 OREGON PLUMBING SPECIALTY CODE, CHAPTER 7, 'SANITARY DRAINAGE' AND CHAPTER 9, 'VENTS.' ALL WASTE PIPING SLOPED AT 1/4-INCH/FT. UNLESS OTHERWISE NOTED. ALL VENT PIPING SLOPED UPWARDS AT 1/8-INCH/FT. UNLESS OTHERWISE NOTED

EXPANSION TANK								
TAG	MANUFACTURER	MODEL	SERVICE	DIA. (IN)	LENGTH (IN)	VOLUME (GAL)	MAX OPERATING WEIGHT (LBS)	REMARKS
ET-1	BELL & GOSSETT	PTA-5		144	240	5	0	

PLUMBING CONNECTION							
TAG	FIXTURE	PIPE CONNECTIONS (IN)					REMARKS
		W	IW (INDIRECT)	V	CW	HW	
2" FD-1	FLOOR DRAIN	2	-	1 1/2	-	-	
3" FD-2	FLOOR DRAIN	3	-	1 1/2	-	-	
4" FCO-1	FLOOR CLEANOUT	4	-	-	-	-	
4" GCO-1	GROUND CLEANOUT	4	-	-	-	-	
L-1	LAVATORY	2	-	1 1/2	1/2	1/2	
MS-1	MOB SINK	3	-	1 1/2	3/4	3/4	
U-1	URINAL	2	-	1 1/2	3/4	-	
U-2	URINAL	2	-	1 1/2	3/4	-	ADA
WB-1	WASHER BOX	2	-	-	1/2	1/2	
WC-1	WATER CLOSET	4	-	2	1	-	
WC-2	WATER CLOSET	4	-	2	1	-	ADA

PLUMBING PUMP											
(1)MOTOR CONTROLS FURNISHED BY DIV. 22...											
TAG	MANUFACTURER	MODEL	SERVICE	TYPE	FLOW (GPM)	TOTAL HEAD (FT)	MOTOR			MOTOR CONTROL (1) (2)	REMARKS
DWP-1	TACO	00E SERIES	DOMESTIC WATER	IN-LINE CIRCULATOR	0	0	VOLTS	PHASE	RPM	HP	
SE-1	WEIL	2523	SANITARY WASTE	SEWAGE EJECTOR PUMP	26	31	120		0	1/16	CR
							208	3	0		MS
							CONTROL & MOTOR STARTER IN CONTROL PANEL, MOUNTED ON INTERIOR WALL IN MECHANICAL ROOM, DUPLEX 5 HP PUMPS. CONTROL PANEL: WEIL 8165P				

PLUMBING EQUIPMENT						
TAG	DESCRIPTION	VOLTS	PHASE	FLA	MCA	REMARKS
DF-1	ADA- BILEVEL DRINKING FOUNTAIN WITH BORRLE FILLER	115	1	1	-	
TMV	HydroGuard XP Hi/Lo Supply Fixture	-	-	-	-	
TPA	Trap Primer Array	120	1	1	-	

DOMESTIC WATER HEATER - ELEC														
TAG	MANUFACTURER	MODEL	STORAGE CAPACITY (GAL)	HEATING CAPACITY						ELECTRICAL CONNECTION			REMARKS	
				FLOW (GPH)	EWT (°F)	LWT (°F)	# of ELEMENTS	KW per ELEMENT	KW MAXIMUM	VOLT	PHASE	FLA		
WH-1	LOCKINVAR	HSX09050	50	37	50	120	3	3	9	208	3	29		

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SCHEDULES

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P6.01

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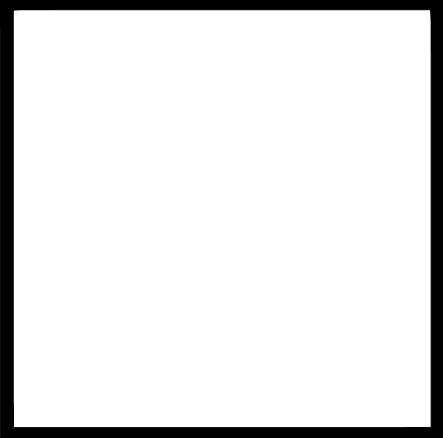
SYMBOL SCHEDULE FOR ELEMENTARY WIRING DIAGRAM	
SYMBOL	DESCRIPTION
	PANEL OR DEVICE WIRING
	FIELD WIRING--BY ELECTRICAL CONTRACTOR
	EQUIPMENT/DEVICE ENCLOSURE
	WIRING CONNECTED
	WIRING NOT CONNECTED
	DEVICE OR EQUIPMENT TERMINAL
	CONTROL PANEL TERMINAL
	MOC TERMINAL
	TRANSFORMER WINDING
	FUSE
	GROUND
	ARC SUPPRESSOR (METAL OXIDE VARISTOR)
	DIODE
CONTACT/BLOCK OPERATORS	
	PUSHBUTTON (1PB,2PB,ETC.)
	MUSHROOM HEAD PUSHBUTTON (1PB,2PB,ETC.)
	SELECTOR SWITCH (1SS,2SS,ETC.) "X" = CLOSED IN THIS POSITION
CONTACTS	
	SINGLE BREAK CONTACTS
	DOUBLE BREAK CONTACTS (CONTACT BLOCKS)
RELAY CONTACTS	
	INSTANTANEOUS CONTACT OF RELAY (1CR,2CR,ETC.)
	TIMED DELAY CONTACT OF RELAY (DELAY ON ENERGIZATION--ON DELAY) (1TR,2TR,ETC.)
	TIMED DELAY CONTACT OF RELAY (DELAY ON DE--ENERGIZATION--OFF DELAY) (1TR,2TR,ETC.)
	OVERLOAD RELAY (1OL,2OL,ETC.)
MAGNETIC COILS	
	CONTROL RELAY (1CR,2CR,ETC.)
	TIMED DELAY RELAY (1CR,2CR,ETC.)
	MAGNETIC MOTOR STARTER (1M,2M,ETC.)
	MAGNETIC CONTACTOR (1CON,2CON,ETC.)
	DEVICE MOTOR DRIVE
	SOLENOID (1SV,2SV,ETC.) (FOR VALVE UNLESS OTHERWISE NOTED)
EXAMPLES:	
WIRE TYPES	
1PR#18	ONE TWISTED PAIR OF UNSHIELDED #18 CONDUCTORS
2/C#18	TWO 18 AWG CONDUCTORS UNDER A COMMON SHEATH
2#18	TWO SEPARATE 18 AWG CONDUCTORS
UC5	UNSHIELDED CATEGORY 5 CONDUCTORS
UC5E	UNSHIELDED CATEGORY 5E CONDUCTORS
UC6	UNSHIELDED CATEGORY 6 CONDUCTORS

SYMBOL SCHEDULE FOR ONE LINE DIAGRAM	
SYMBOL	DESCRIPTION
	DEVICE OR EQUIPMENT TERMINAL
	WIRING CONNECTED
	BUS
	WIRING
	EQUIPMENT/DEVICE ENCLOSURE
	PLUG-IN CONNECTION
	NON--AUTOMATIC BREAKER
	THERMAL MAGNETIC BREAKER
	MAGNETIC ONLY BREAKER
	SWITCH
	FUSE
	POWER TRANSFORMER
	CONTROL POWER TRANSFORMER
	THERMAL OVERLOAD
	CURRENT TRANSFORMER
	CONTACTOR
	CAPACITOR
	GROUND CONNECTION
	TRANSFER SWITCH
	WATT-HOUR METER (REVENUE METERING)
	SOLID NEUTRAL
	MOTOR--NO. = HORSEPOWER
	LIMIT SWITCH
	FLOAT SWITCH
	PRESSURE SWITCH
	CONTROL STATION/PUSHBUTTON
	LOAD BREAK FUSE HOLDER AND FUSE
ABBREVIATIONS	
A	AMPERES
ACP	ACCESS CONTROL PANEL
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
C	CONDUIT
ENCL	ENCLOSURE
EOL	END OF LINE RESISTOR
EXIST OR (E)	EXISTING
FATC	FIRE ALARM TERMINAL CABINET
FACP	FIRE ALARM CONTROL PANEL
FVNR	FULL VOLTAGE NON REVERSING
G	GROUNDING CONDUCTOR
HC	HORIZONTAL CROSSCONNECT
IC	INTERRUPTING CAPACITY
IP	INTERNET PROTOCOL
KA	KILOAMPERES
KVAR	KILO VOLT--AMPERES REACTIVE
KW	KILOWATTS
LSI	LONG--SHORT--INSTANTANEOUS TRIP
M	MAGNETIC CONTACTOR
MC	MAIN CROSSCONNECT
MHO	MAGNETIC HOLD OPEN
N	NEUTRAL CONDUCTOR
NAC	NOTIFICATION APPLIANCE CIRCUIT
NEMA	NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION
OL	OVERLOAD
P	POLES
PV	PHOTOVOLTAIC
SP	SECURITY (INTRUSION) PANEL
SPD	SURGE PROTECTIVE DEVICE
SHL'D	SHIELDED
SUSE	SUITABLE FOR USE AS SERVICE ENTRANCE
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
WG	WIRE GUARD
XFMR	POWER TRANSFORMER

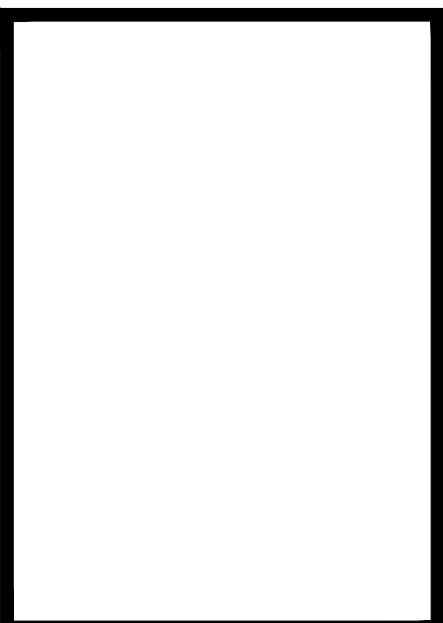
SYMBOL SCHEDULE FOR ELECTRICAL PLAN DRAWINGS	
SYMBOL	DESCRIPTION
POWER DISTRIBUTION AND CONTROL	
	DISTRIBUTION/CONTROL EQUIPMENT -- FLOOR MOUNTED
	DISTRIBUTION/CONTROL EQUIPMENT -- WALL MOUNTED
	PANELBOARD -- WALL MOUNTED
	SWITCH (SAFETY OR DISCONNECT)
	SWITCH (FUSIBLE)
	MOTOR STARTER WITH SWITCH OR BREAKER (COMBINATION MAGNETIC STARTER)
LIGHTING FIXTURES	
	ROUND FIXTURE CEILING MOUNTED (RECESSED, SURFACE, OR PENDANT)
	FIXTURE POLE MOUNTED
	FIXTURE WALL MOUNTED (SURFACE OR ARM)
	LINEAR FIXTURE CEILING MOUNTED (RECESSED, SURFACE OR PENDANT)
	RECESSED FIXTURE (ARROW INDICATES FIXTURE AIMING)
	MULLION MOUNT EXTERIOR LIGHTING OR EXIT FIXTURE POWER SUPPLY
	(INDICATES FACE) EXIT LIGHT FIXTURE (INDICATES ARROW DIRECTION)
SWITCHING	
	(SEE DETAIL 4 ON SHEET E1.20) LIGHTING SWITCH -- WALL MOUNTED (NO NUMBER INDICATES SINGLE SWITCH)
	LOWER CASE LETTERS = SWITCH LEG DESIGNATIONS 2 = 2--BUTTON (TYPICAL OFFICE) 4D = 4--BUTTON SCENE (TYPICAL CLASSROOM) D = SINGLE SWITCH DIMMER 3,5, OR 6Dxx = CUSTOM F = 277V TOGGLE PILOT LIGHT SWITCH
	OCCUPANCY & DAYLIGHT SENSOR, CEILING MOUNTED (SEE DETAIL 6&7/E1.20)
	EMERGENCY UL924 LIGHTING CONTROL UNIT (SWITCH OVERRIDE) (SEE DETAILS 9&10/E1.20)
	ROOM FEED MWS STARTER CABLE (SEE DETAILS 10&11, SHEET E1.20)
	RECEPTACLE CONTROLS -- SINGLE RELAY RECEPTACLE CONTROLLER (SEE DETAIL 5/E1.20)
	WM (LOCATIONS PER LIGHTING CONTROL SHOP DRAWINGS)
RECEPTACLE OUTLETS	
	DUPLEX RECEPTACLE OUTLET -- WALL MOUNTED (NEMA 5--20R UNLESS OTHERWISE SPECIFIED)
	QUADPLEX RECEPTACLE OUTLET -- WALL MOUNTED
	OCCUPANCY CONTROLLED SPLIT DUPLEX RECEPTACLE OUTLET -- WALL MOUNTED (SEE DETAILS ON SHEET E1.20)
	FLOORBOX -- PLANS INDICATE COMBINATION OF SYSTEMS TO BE USED WITH FLOORBOX (I.e. POWER, COMMUNICATIONS, A/V)
	DUPLEX RECEPTACLE OUTLET-- CEILING MOUNTED
	SPECIAL PURPOSE RECEPTACLE OUTLET
	SPECIAL PURPOSE RECEPTACLE OUTLET -- WALL MOUNTED
	DUPLEX RECEPTACLE OUTLET -- MOUNTED 4" O.C. ABOVE BACKSPLASH OR COUNTER TOP IF NO BACKSPLASH (VERIFY HEIGHT WITH ARCHITECTURAL ELEVATIONS)
	QUADUPLEX RECEPTACLE OUTLET -- MOUNTED 4" O.C. ABOVE BACKSPLASH OR COUNTER TOP IF NO BACKSPLASH (VERIFY HEIGHT WITH ARCHITECTURAL ELEVATIONS)
SPECIAL PURPOSE CONNECTIONS	
	SPECIAL PURPOSE EQUIPMENT CONNECTION
	SPECIAL PURPOSE EQUIPMENT CONNECTION -- WALL MOUNTED
	MECHANICAL EQUIPMENT TAG, (SEE EQUIPMENT SCHEDULE ON SAME SHEET)
ELECTRICAL DEVICES	
	MOTOR (NUMBER = HORSEPOWER)
	MOTOR RATED SNAP SWITCH
	SWITCH WITH TIMER
GENERAL WIRING SYMBOLS	
	JUNCTION BOX
	JUNCTION BOX -- WALL MOUNTED
	WIRING RUN CONCEALED IN BUILDING STRUCTURE UNLESS OTHERWISE NOTED ON DRAWINGS
	WIRING RUN CONCEALED UNDER SLAB OR BELOW GRADE UNLESS OTHERWISE NOTED ON DRAWINGS
	INDICATES WIRE SIZE IF OTHER THAN #12AWG LINE OR PHASE CONDUCTOR CROSSMARKS INDICATE NEUTRAL CONDUCTOR QUANTITY AND USE GROUNDING CONDUCTOR OF CONDUCTORS
	ARROWHEAD INDICATES HOMERUN TO EQUIPMENT/DEVICE NOTED AT END OF ARROWHEAD, NUMBER (WHERE NOTED) INDICATES CIRCUIT WITHIN EQUIPMENT/DEVICE NOTED.
	CONDUIT TURN UP FROM BELOW SLAB OR BELOW FLOOR LEVEL
	CONDUIT TURN DOWN FROM CEILING OR THROUGH ROOF

SYMBOL SCHEDULE FOR ELECTRICAL PLAN DRAWINGS	
SYMBOL	DESCRIPTION
INTERCOM/CLOCK SYSTEM (SEE DETAIL 3/E1.63)	
	70V INTERCOM SPEAKER -- CEILING MOUNTED (INDICATES ZONE, TYPICAL)
	70V INTERCOM SPEAKER -- WALL MOUNTED (INDICATES EXTERIOR WEATHERPROOF)
	IP DIGITAL CLOCK/INTERCOM SPEAKER COMBINATION (INDICATES LARGE VERSION)
	IP DIGITAL CLOCK/INTERCOM -- CEILING MOUNTED DOUBLE FACE
TELECOMMUNICATIONS SYSTEM	
	COMMUNICATIONS DEVICE BOX.
	W = WALL PHONE HANDSET ONE CATEGORY 6 8P8C (RJ--45) AND ONE CATEGORY 6 CABLE.
	# = NUMBER OF CATEGORY 6 8P8C (RJ--45) PORTS AND CATEGORY 6 CABLES
	COMMUNICATIONS DEVICE BOX -- MOUNTED 4" O.C. ABOVE BACKSPLASH. (VERIFY HEIGHT WITH ARCHITECTURAL ELEVATIONS).
	DIGITAL SIGNAGE LOCATION, MOUNT WITH MONITOR TV LOCATION, MOUNT WITH MONITOR (SEE BELOW IN CLASSROOM A/V)
	WIRELESS ACCESS POINT, #--NUMBER OF CATEGORY 6A 8P8C (RJ--45) PORTS AND CATEGORY 6A CABLES
	COMMUNICATIONS BISCUIT JACK PROVIDE ONE CATEGORY 6 RJ--45 AND ONE CATEGORY 6 CABLE (UNLESS OTHERWISE NOTED) (CAM = COMMUNICATIONS BISCUIT JACK FOR SECURITY CAMERA) (BAS = BUILDING AUTOMATION SYSTEM LOCATION) (AUX = AUXILIARY, MISCELLANEOUS)
	(EXT CAM = COMMUNICATIONS BISCUIT JACK FOR EXTERIOR SECURITY CAMERA)
	(WM = LIGHTING WIRELESS MANAGER)
CLASSROOM A/V SYSTEM (SEE DETAIL 8/E1.62)	
	HDMI/VGA INPUT MODULE #1 -- WALL MOUNTED
	HDMI/VGA INPUT MODULE #2 -- WALL MOUNTED
	A/V CONTROLLER -- WALL MOUNTED
	PROJECTOR AND PROJECTOR MOUNT -- WALL MOUNTED OR PROMETHEAN DISPLAY. SEE NOTES ON DRAWINGS FOR CLARIFICATIONS. SPEAKER -- RECESSED CEILING MOUNTED
	CEILING BOX FOR CLASSROOM A/V -- CEILING MOUNTED
	ASSISTED LISTENING PORT INDICATED ON COMMUNICATIONS DEVICE IN ROOM
SOUND REINFORCEMENT SYSTEM	
	REMOTE IR RECEIVER -- WALL MOUNTED
	REMOTE SELECTOR SWITCH, TOUCH SCREEN AND/OR REMOTE INPUTS -- WALL MOUNTED
	WIRELESS MICROPHONE REMOTE ANTENNA PORT
	WIRELESS ASSISTED LISTENING ANTENNA
	SPEAKER -- CEILING OR PENDANT MOUNTED
	SPEAKER -- WALL MOUNTED
	SUBWOOFER SPEAKER -- CEILING OR PENDANT MOUNTED
	SUBWOOFER SPEAKER -- WALL MOUNTED
	AUXILIARY INPUT JACK -- WALL MOUNTED
	MICROPHONE INPUT JACK (XLR) -- WALL MOUNTED
	MICROPHONE INPUT JACK LEFT AND RIGHT (XLR) -- WALL MOUNTED
	MICROPHONE INPUT JACK STEREO (3.5 mm) -- WALL MOUNTED
VIDEO DISTRIBUTION SYSTEM	
	VIDEO I/O LOCATION, PROVIDE RJ--45 OR HDMI AS INDICATED ON A/V DETAILS -- WALL MOUNTED
	VIDEO INPUT, # CORRESPONDS TO INPUT ON MATRIX SWITCHER, IF NO NUMBER IS SHOWN, THEN IT REPRESENTS A DIRECT INPUT. VIDEO OUTPUT, # CORRESPONDS TO OUTPUT ON MATRIX SWITCHER, IF NO NUMBER IS SHOWN, THEN IT REPRESENTS A DIRECT OUTPUT.
	LOCATION OF DIGITAL SIGNAGE SYSTEM MONITOR(S), RECESSED DEVICE BOXES, WALL BRACKET(S), AND MEDIA PLAYER.
	LOCATION OF TV, RECESSED DEVICE BOX, AND WALL BRACKET

SYMBOL SCHEDULE FOR ELECTRICAL PLAN DRAWINGS	
SYMBOL	DESCRIPTION
INTRUSION DETECTION/ACCESS CONTROL SYSTEM	
	DOOR CONTACT
	PROXIMITY CARD READER -- WALL MOUNTED
	PROXIMITY CARD READER W/KEYPAD -- WALL MOUNTED
	INTRUSION SYSTEM KEYPAD ENTRY DEVICE -- WALL MOUNTED
	MOTION SENSOR -- CEILING MOUNTED
	DOOR MAGNETIC HOLD OPEN (SECURITY RELEASED)
	ELECTRIC RETRACTABLE LATCH CONNECTION (LATCH INCLUDED WITH DOOR HARDWARE)
	ELECTRIC STRIKE CONNECTION (STRIKE INCLUDED WITH DOOR HARDWARE)
	HOLD OPEN CLOSER CONNECTION (CLOSER INCLUDED WITH DOOR HARDWARE)
	VAPING DETECTOR -- CEILING DETECTOR
	SECURITY RELAY
	REQUEST TO EXIT (INCLUDED WITH DOOR HARDWARE, UNLESS OTHERWISE NOTED)
	SECURITY PANIC BUTTON "LOCK DOWN"
	SECURITY DOOR RELEASE BUTTON
	SECURITY MAGNETIC LOCK
	HIGH TEMP ALARM
	DOOR 2--WAY INTERCOM AND CAMERA -- WALL MOUNTED
	BLUE VISUAL ONLY ALARM -- WALL MOUNTED
	ACCESS CONTROL DOOR TAG -- REFER TO ACCESS CONTROL SCHEDULE
VIDEO SURVEILLANCE SYSTEM	
	FIXED DOME CAMERA -- RECESSED MOUNTED (ARROW INDICATES DIRECTION OR FIELD--OF--VIEW)
	FIXED DOME CAMERA -- POLE OR WALL MOUNTED W/BACKET (ARROW INDICATES DIRECTION OR FIELD--OF--VIEW)
	ADJUSTABLE MULTI--LENS DOME CAMERA -- SURFACE MOUNT (ARROWS INDICATES DIRECTION OR FIELD--OF--VIEW OF EACH LENS, A DOT IN THE CENTER INDICATES LENS POINTED STRAIGHT DOWN, ARM INDICATES, INCLUSION OF A POLE OR WALL MOUNT BRACKET)
	PAN TILT ZOOM LENS CAMERA (ARM INDICATES, INCLUSION OF A POLE OR WALL MOUNT)
	CAMERA EQUIPMENT TAG -- REFER TO CAMERA SCHEDULE
FIRE DETECTION AND ALARM SYSTEM	
	AUDIBLE/VISUAL ALARM -- WALL MOUNTED
	VISUAL ONLY ALARM -- WALL MOUNTED
	AUDIBLE/VISUAL ALARM -- CEILING MOUNTED
	STROBE ONLY ALARM -- CEILING MOUNTED
	MANUAL PULL STATION -- WALL MOUNTED
	MANUAL PULL STATION W/ANNUNCIATING COVER WALL MOUNTED
	DUCT SMOKE DETECTOR WITH SAMPLING TUBES
	FIRE SMOKE DAMPER -- SEE DETAIL 8/M6.02
	REMOTE TEST SWITCH -- WALL MOUNTED
	SHUTDOWN RELAY
	DOOR MAGNETIC HOLD OPEN (FIRE AND SECURITY RELEASED)
	SMOKE DETECTOR
	FIXED TEMPERATURE AND RATE OF RISE HEAT DETECTOR
	TAMPER SWITCH
	FLOW SWITCH
	LOW PRESSURE SWITCH



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ARCHITECTS
1140 sw Simpson Ave - Suite 200
Bend, OR 97702 - 1.541.382-5535



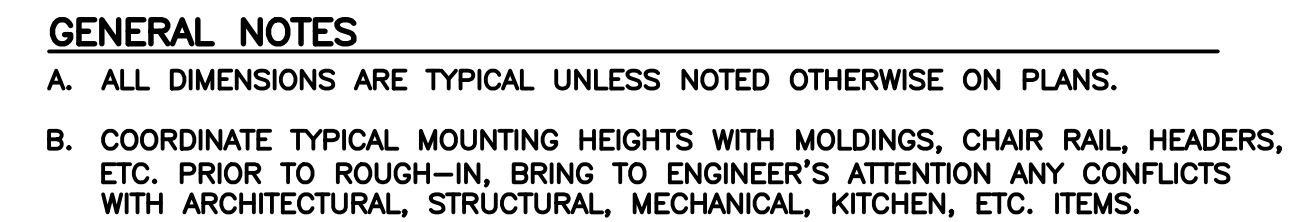
HAMLIN MIDDLE SCHOOL
TEAM / RESTROOM BLDG
326 CENTENNIAL BLVD.
SPRINGFIELD, OR 97477

ISSUED:	DATE:
xxx	06/12/2021

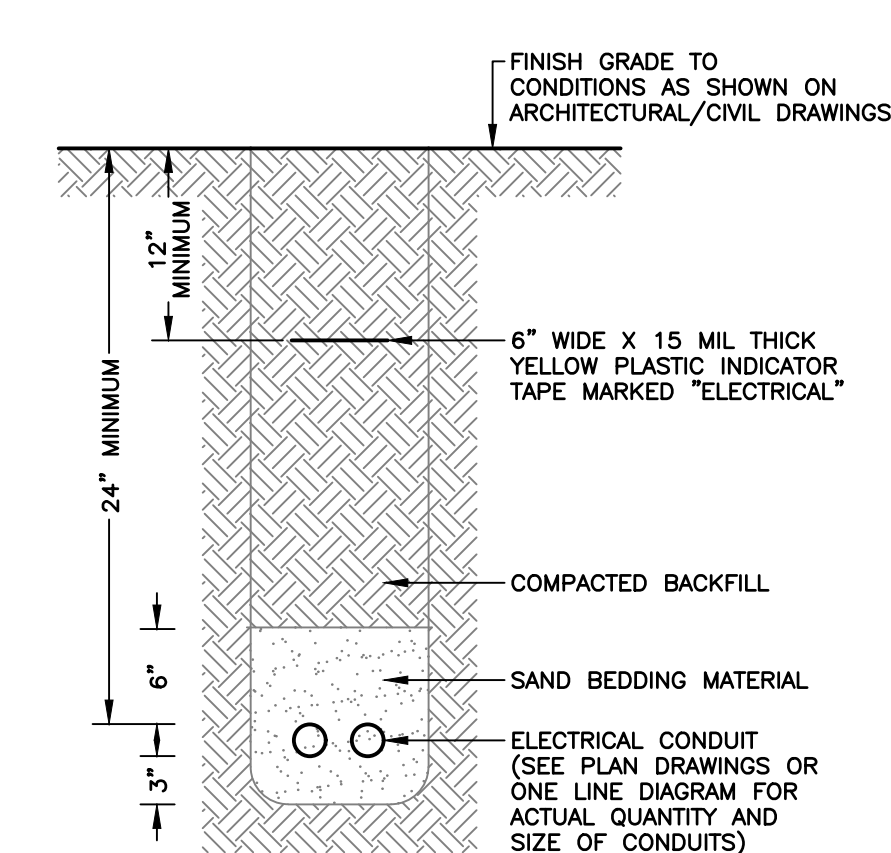
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SHEET TITLE
ELECTRICAL SYMBOL
SCHEDULE

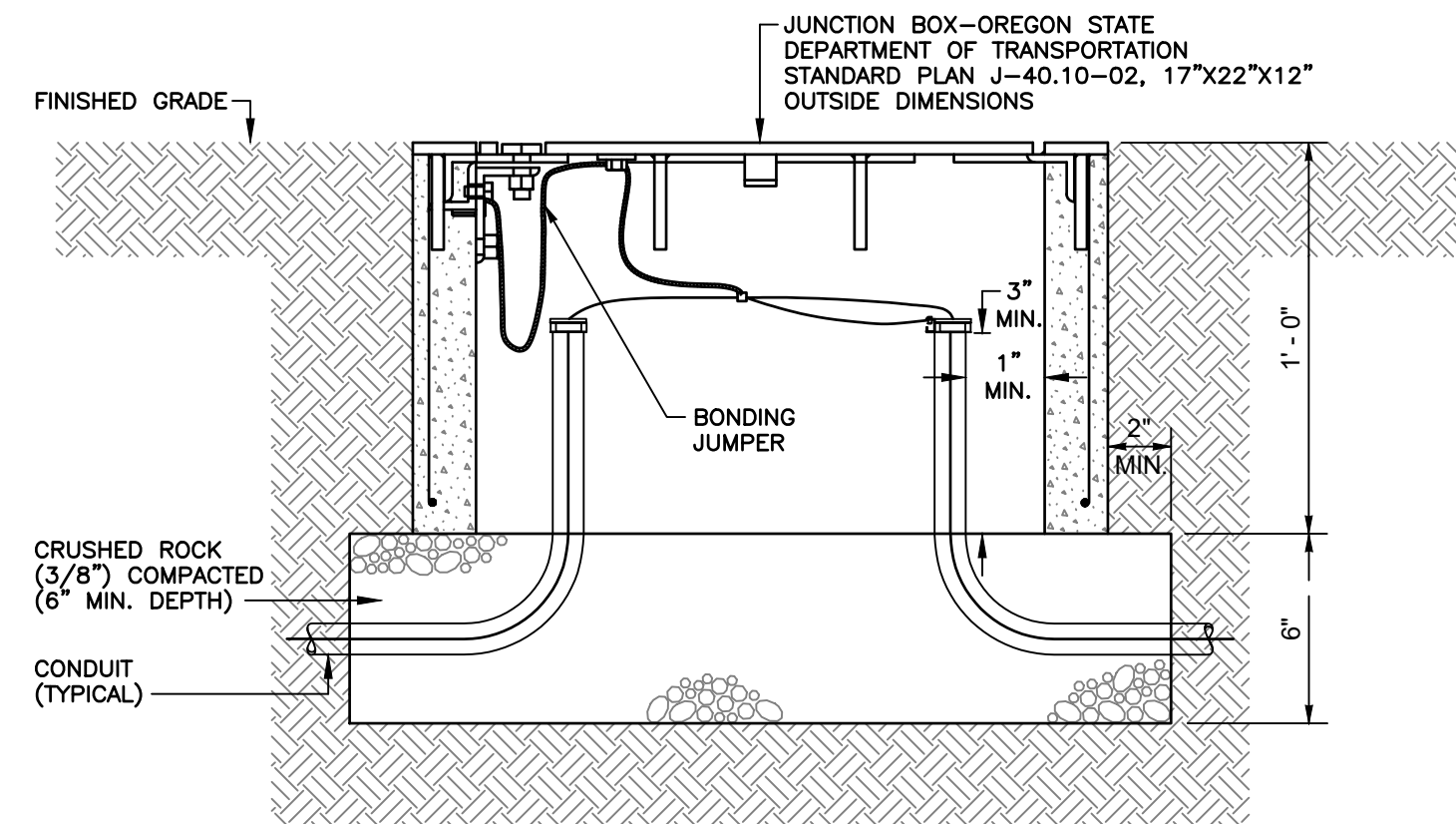
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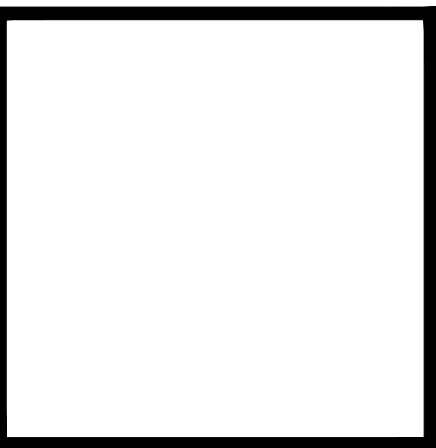
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DETAIL 1/T1.02
TRENCH FOR ELECTRICAL CIRCUITS
SECONDARY POWER OR SIGNAL CIRCUITS
SCALE: 1"=1'-0"



DETAIL 2/T1.02
TYPE IIL JUNCTION BOX
SCALE: NONE
NOTE: CONDUITS ARE SHOWN DIAGRAMMATICALLY.
SEE PLAN DRAWING FOR ACTUAL CONDUIT
QUANTITIES AND SIZES. PROVIDE CUSTOMER
WITH KEY FOR IJD.



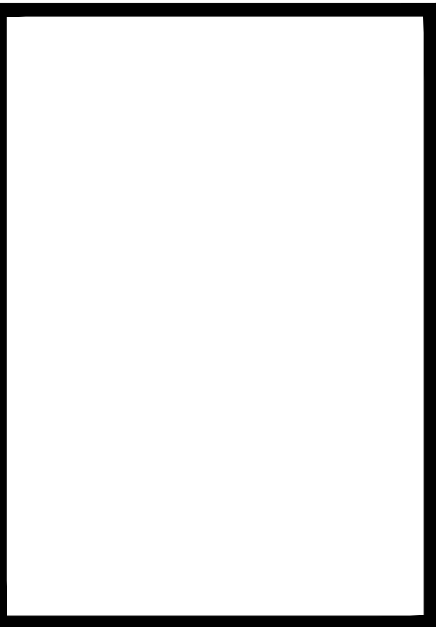
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HAMLIN MIDDLE SCHOOL

TEAM / RESTROOM BLDG

326 CENTENNIAL BLVD.
SPRINGFIELD, OR 97477

ISSUED:	DATE:
	08/12/2021

JOB NUMBER:	2111
DRAWN BY:	
CHECKED BY:	

SHEET TITLE

ELECTRICAL SITE
DETAILS

SHEET NUMBER

E0.03

PARTIAL ELECTRICAL SITE PLAN
HAMLIN MIDDLE SCHOOL
SCALE: 1/16"=1'-0"

SHEET NOTES

1. PROVIDE 2-2 STRANDS OF SINGLE-MODE FIBER FROM EXISTING ENCLOSURE MOUNTED ON EXISTING LIGHT POLE TO NEW RACK IN TELECOM ROOM.
FUSION SPLICED FIBER TO 2 OF 4 EXISTING SPARE STRANDS IN ENCLOSURE, AT LIGHT POLE & TERMINATE (WITH LC CONNECTORS) IN FIBER PATCH PANEL IN TELECOM ROOM.
2. STUB SPARE CONDUITS OUT TO APPROXIMATE LOCATION SHOWN. CAP AND MARK FOR FUTURE EXTENSION.

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**HAMLIN MIDDLE SCHOOL
TEAM / RESTROOM BLDG**

326 CENTENNIAL BLVD.
SPRINGFIELD, OR 97477

ISSUED: _____ DATE: _____

ISSUED:	DATE:
xxx	08/12/2021

JOB NUMBER:	2111
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DRAWN BY:	
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CHECKED BY:	
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SHEET TITLE
ELECTRICAL SITE PLAN

SHEET NUMBER

E1.01

200A Main Lugs										Client: BBT											
Surface Mounted										No 2111											
Indoor Enclosure w ith Lockable Door										Revision: 8/12/21											
10KAIC										Section 1 of 2											
										200 Amp, 208Y/120 Volt, 3 Phase, 4 Wire											
CIRCUIT BREAKER																					
PANELBOARD SCHEDULE																					
Panel BLR																					
LOAD DESCRIPTION										LOAD DESCRIPTION											
Okt #	Demand Type	Item	Breaker Type	Wire Size	Circuit KVA (AMPS)	Pole #	Phase A	Phase B	Phase C	Pole #	Circuit KVA (AMPS)	Wire Size	Breaker Type	Item	Demand Type	Okt #					
1	HVAC	CU-1	3P-90A	#2	26.28 (73.00)	1	8.81 (73.39)			2	0.05 (0.39)	#12	1P-20A	EF-4	HVAC	2					
						3		11.78 (98.13)		4	6.03 (29.00)			#8	2P-40A	WH-1	HVAC	4			
						5			11.78 (98.13)	6											
7	HVAC	FOU-2	2P-15A	#12	0.08 (0.40)	7	0.22 (1.85)			8	0.18 (1.50)	#12	1P-20A	EF-3	HVAC	8					
						9		0.64 (5.35)		10	0.60 (5.00)			#12	1P-20A	DF-1	HVAC	10			
									0.82 (6.82)	12	0.50 (5.00)					#12	1P-20A	DH-2	HVAC	12	
11	HVAC	FOU-3	2P-20A	#12	0.44 (2.10)	11	1.21 (10.12)			14	1.00 (8.30)	#12	1P-20A	DF-2	HVAC			14			
15	HVAC	DH-1	1P-20A	#12	1.00 (8.30)	15	1.08 (8.99)			16	0.08 (0.69)	#12	1P-20A	EF-6	HVAC	16					
17	HVAC	EF-2	1P-20A	#12	0.08 (0.69)	17		0.12 (1.04)		18	0.08 (0.40)	#12	2P-15A	FOU-7	HVAC	18					
19	HVAC	FOU-4	2P-15A	#12	0.08 (0.40)	19	0.08 (0.69)			20											
						21	0.26 (2.17)			22	0.44 (2.10)										
23	HVAC	FOU-5	2P-20A	#12	0.44 (2.10)	23	0.28 (2.34)			24	0.44 (3.64)	#12	2P-20A	FOU-8	HVAC	22					
						25	0.24 (2.34)			26	0.12 (0.60)										
						27	HVAC	DH-2	1P-20A	#12	1.00 (8.30)						27	1.06 (8.82)			28
29	HVAC	EF-5	1P-20A	#12	0.07 (0.62)	29		2.10 (17.62)		30	2.04 (17.00)	#10	1P-30A	HAND DRYER 1	Misc N-Cont.	30					
31	HVAC	FOU-1	2P-20A	#12	0.12 (0.60)	31	2.10 (17.52)			32	2.04 (17.00)	#10	1P-20A	HAND DRYER 2	Misc N-Cont.	32					
						33		0.83 (5.21)		34	0.56 (4.69)	#12	1P-20A	WEST LOCKERROOM LIGHTING	Light	34					
									0.64 (5.31)	36	0.56 (4.69)	#12	1P-20A	EAST LOCKERROOM LIGHTING	Light	36					
35	HVAC	EF-1	1P-20A	#12	0.07 (0.62)	35				38		1P-20A	Spare			38					
37	Light	EXTERIOR LIGHTING	1P-20A	#12	0.31 (2.56)	37	0.31 (2.56)			40	0.60 (5.00)						#12	1P-20A	LT. ROOM RECEPTACLES	Rec.	40
39	Light	RESTROOM & OFFICE LIGHTING	1P-20A	#12	0.30 (2.50)	39	0.90 (7.50)			42	0.60 (5.00)										
41		Spare	1P-20A			41															
					Amps	108.47	136.17	137.56													
					KVA	13.02	16.34	16.51													
					Total KVA	45.86															
					Total KVA Sections 1 & 2	63.86															

3P-200A Main Breaker										Client: BBT									
Surface Mounted										No 2111									
Indoor Enclosure w/ith Lockable Door										Revision: 8/12/21									
10KAIC										Section 2 of 2									
										200 Amp, 208Y/120 Volt, 3 Phase, 4 Wire									
CIRCUIT BREAKER																			
PANELBOARD SCHEDULE																			
Panel BLR																			
LOAD DESCRIPTION										LOAD DESCRIPTION									
Okt. #	Demand Type	Item	Breaker Type	Wire Size	Circuit KVA (AMPS)	Pole #	Phase A	Phase B	Phase C	Pole #	Circuit KVA (AMPS)	Wire Size	Breaker Type	Item	Demand Type	Okt. #			
43	Rec.	LOCKER RECEPTACLES	1P-20A	#12	0.72 (6.00)	1	1.44 (12.00)			2	0.72 (6.00)	#12	1P-20A	LOCKER RECEPTACLES	Rec.	44			
45	Rec.	LOCKER RECEPTACLES	1P-20A	#12	0.72 (6.00)	3		1.44 (12.00)		4	0.72 (6.00)	#12	1P-20A	LOCKER RECEPTACLES	Rec.	46			
47	Rec.	LOCKER RECEPTACLES	1P-20A	#12	0.72 (6.00)	5			1.44 (12.00)	6	0.72 (6.00)	#12	1P-20A	LOCKER RECEPTACLES	Rec.	48			
49	Rec.	LOCKER RECEPTACLES	1P-20A	#12	0.72 (6.00)	7	1.44 (12.00)			8	0.72 (6.00)	#12	1P-20A	LOCKER RECEPTACLES	Rec.	50			
51	Rec.	LOCKER RECEPTACLES	1P-20A	#12	0.72 (6.00)	9		1.44 (12.00)		10	0.72 (6.00)	#12	1P-20A	LOCKER RECEPTACLES	Rec.	52			
53	Rec.	LOCKER RECEPTACLES	1P-20A	#12	0.72 (6.00)	11			1.44 (12.00)	12	0.72 (6.00)	#12	1P-20A	LOCKER RECEPTACLES	Rec.	54			
55	Rec.	LOCKER RECEPTACLES	1P-20A	#12	0.72 (6.00)	13	1.44 (12.00)			14	0.72 (6.00)	#12	1P-20A	LOCKER RECEPTACLES	Rec.	56			
57	Rec.	LOCKER RECEPTACLES	1P-20A	#12	0.72 (6.00)	15		1.44 (12.00)		16	0.72 (6.00)	#12	1P-20A	LOCKER RECEPTACLES	Rec.	58			
59	Rec.	LOCKER RECEPTACLES	1P-20A	#12	0.54 (4.50)	17			1.08 (9.00)	18	0.54 (4.50)	#12	1P-20A	LOCKER RECEPTACLES	Rec.	60			
61	Rec.	LOCKER RECEPTACLES	1P-20A	#12	0.54 (4.50)	19	1.08 (9.00)			20	0.54 (4.50)	#12	1P-20A	LOCKER RECEPTACLES	Rec.	62			
63	Rec.	OFFICE RECEPTACLES	1P-20A	#12	0.72 (6.00)	21		1.44 (12.00)		22	0.72 (6.00)	#12	1P-20A	OFFICE RECEPTACLES	Rec.	64			
65	Rec.	RECEPTACLES RESTROOM	1P-20A	#12	0.54 (4.50)	23			1.08 (9.00)	24	0.54 (4.50)	#12	1P-20A	RECEPTACLES	Rec.	66			
67	Rec.	OFFICE/ELECTRICAL ROOM RECEPTACLES	1P-20A	#12	0.90 (7.50)	25	0.90 (7.50)			26			1P-20A	Spare		68			
69	Rec.	OFFICE/ELECTRICAL ROOM RECEPTACLES	1P-20A	#12	0.90 (7.50)	27	0.90 (7.50)			28			1P-20A	Spare		70			
71		Spare	1P-20A			29			0.00 (0.00)	30			1P-20A	Spare		72			
73		Spare	1P-20A			31	0.00 (0.00)			32			1P-20A	Spare		74			
75		Spare	1P-20A			33			0.00 (0.00)	34			1P-20A	Spare		76			
77		Spare	1P-20A			35			0.00 (0.00)	36			1P-20A	Spare		78			
79		Spare	1P-20A			37	0.00 (0.00)			38			1P-20A	Spare		80			
81		Spare	1P-20A			39			0.00 (0.00)	40			1P-20A	Spare		82			
83		Spare	1P-20A			41			0.00 (0.00)	42			1P-20A	Spare		84			
BBT2111PANEL BLR.kim					Amps	52.50	55.50	42.00											
					KVA	6.30	6.56	5.04											
Total KVA					18.00														
Total KVA Sections 1 & 2					63.86														



A. FAULT CURRENT CALCULATIONS AND AIC RATINGS ARE SHOWN ON THE PANEL SCHEDULE SHEETS ON THE PANEL SCHEDULES AND THE FAULT CURRENT CALCULATION TABLE. AVAILABLE FAULT CURRENTS SHOWN THERE ARE BASED ON AN ASSUMED UTILITY TRANSFORMER SIZE. ACTUAL AVAILABLE FAULT CURRENTS SHALL BE DETERMINED AS PART OF THE ELECTRICAL SYSTEM REPORTS. ALL EQUIPMENT SHALL BE RATED AT LEAST 125% OF THE AVAILABLE FAULT CURRENT CALCULATED IN THE ELECTRICAL SYSTEM REPORTS. EXISTING AIC RATINGS ONLY ARE INDICATED ON THIS PLAN.

B. SEE FEEDER SCHEDULE ON THIS SHEET FOR FEEDER INFORMATION.

1. SEE PANELBOARD CIRCUIT SCHEDULES SHEETS E1.12 THROUGH E1.17 FOR BRANCH CIRCUIT INFORMATION.
2. METERING MAY BE PROVIDED IN SWITCHGEAR / PANELBOARD OR AS A STANDALONE UNIT. PROVIDE DATA CIRCUIT TO METER UNIT. PROVIDE 120V POWER CIRCUIT IF UNITS ARE STANDALONE. PROVIDE THREE PHASE CURRENT METERING ON BREAKER AS INDICATED. ELECTRONIC METERING ON SWITCHGEAR INTERFACE MAY BE LOCATED IN PANEL ADJACENT TO OR INTEGRAL TO SWITCHBOARD. PROVIDE CURRENT TRANSFORMERS OR CURRENT TRANSMITTERS AS NEEDED FOR BREAKER NOMINAL CURRENT TO BE 50% TO 80% OF FULL SCALE OF RECORDING CURRENT METERING SYSTEM INPUTS. PROVIDE MANUFACTURER RECOMMENDED CABLEING BETWEEN TRANSMITTERS AND RECORDING DEVICE. ROUTE ALL CONDUCTORS AND CABLES NOT CONTAINED WITHIN ELECTRICAL EQUIPMENT IN CONDUIT, MINIMUM OF 1" SIZE. DATA COMMUNICATIONS CABLES MAY BE DAISY-CHAINED IF MANUFACTURER ALLOWS. LIMIT RUNS TO 100' OR LESS.
3. PROVIDE PROVISION(S) (BUS TIE BARS, MOUNTING HARDWARE) FOR FUTURE CIRCUIT BREAKER(S) IN REMAINING SPACE OF DISTRIBUTION PANELBOARD(S), SWITCHBOARDS.
4. SEE GROUNDING PLAN SHEET E4.02 FOR FURTHER INFORMATION.

BBT
A R C H I T E C T S
1140 sw Simpson Ave - Suite 200
Bend, OR 97702 - t 541-382-5535

**HAMLIN MIDDLE SCHOOL
TEAM / RESTROOM BLDG**

**326 CENTENNIAL BLVD.
SPRINGFIELD, OR 97477**

ISSUED:	DATE:
xxx	08/12/2021

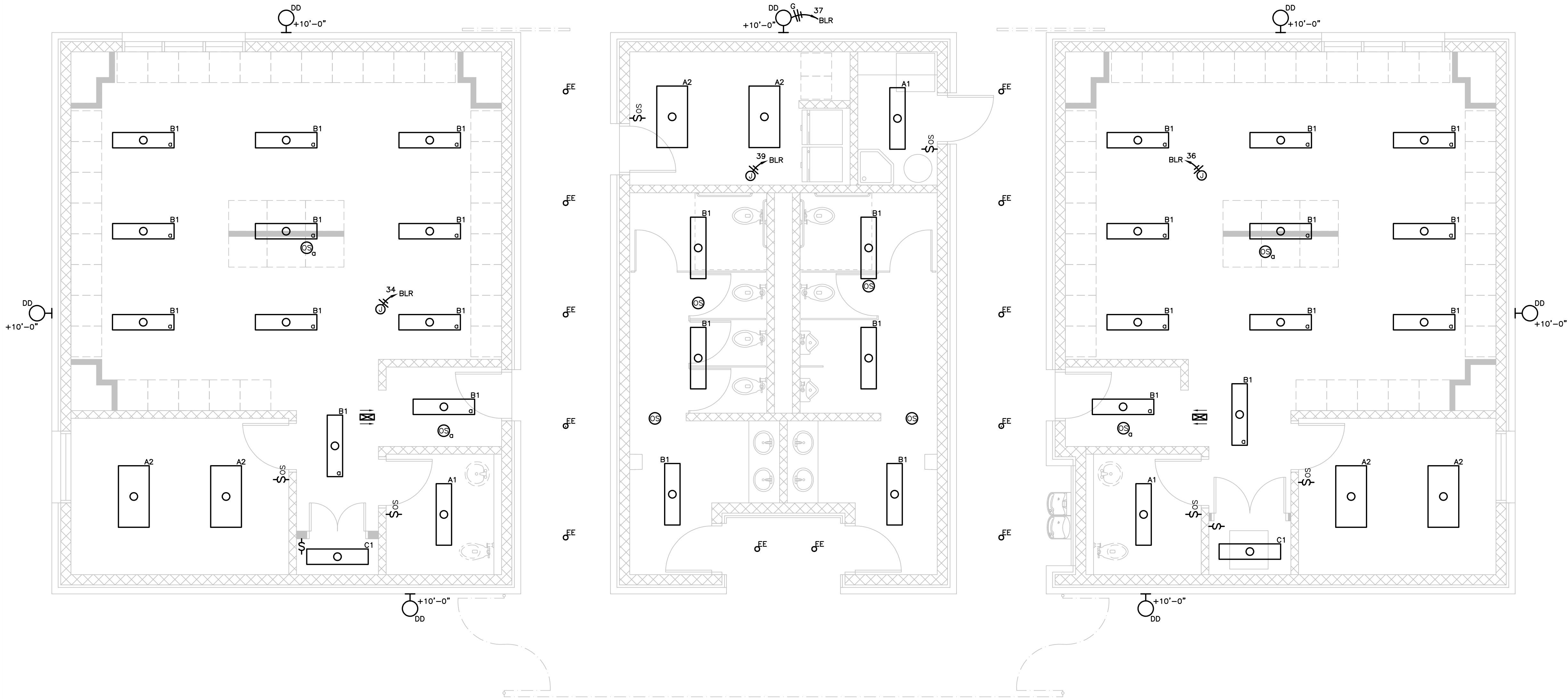
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SHEET TITLE
ONE LINE DIAGRAM

SHEET NUMBER

E1.10

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BASEBALL LOCKER ROOM LIGHTING PLAN
HAMLIN MIDDLE SCHOOL
SCALE: 1/4"=1'-0"

INTERIOR LUMINAIRES									
Type Mark	Description	Manufacturer	Catalog Number	No. of Lamps	Lumens	Lamp Type	Ballast Type	Input Watts	Remarks
A1	LED, COMMERCIAL, 1' X 4' RECTANGULAR RECESSED, NEMA G, 22GA ROLLED STEEL HOUSING, LATCHING LENS ACCESSIBLE FROM BELOW, EXTRUDED ACRYLIC LENS, 120 VOLT, 5 YEAR WARRANTY	PINNACLE METALUX	LU14A-35MO-G1-277-1C-W 14RLN-LD5-31-277-L835-CD1	1	3089	LED 3500K	0-10V DIMMING LED DRIVER	35.8	FIXTURES WITH 'EM' DESIGNATION ARE CONNECTED TO AN INVERTER OR BATTERY BACKED
A2	LED, COMMERCIAL, 2' X 4' RECTANGULAR RECESSED, NEMA G, 22GA ROLLED STEEL HOUSING, LATCHING LENS ACCESSIBLE FROM BELOW, EXTRUDED ACRYLIC LENS, 120 VOLT, 5 YEAR WARRANTY	PINNACLE METALUX	LU24A-35MO-G1-277-1D-W 24RLN-LD5-36-277-L835-HCD1	1	3663	LED 3500K	0-10V DIMMING LED DRIVER	40.8	FIXTURES WITH 'EM' DESIGNATION ARE CONNECTED TO AN INVERTER OR BATTERY BACKED
B1	LED, COMMERCIAL, 5' X 4' SURFACE MOUNT / PENDANT CABLE SUSPENDED, FROSTED LINEAR LENS, 10% UPLIGHT, STEEL HOUSING, BAKED WHITE ACRYLIC MATTE, 120 VOLT, 5 YEAR WARRANTY	DAYBRITE METALUX	LFR4FLPER37352DZT-SVCC60-UNV 4SNLED-LD5-375L-LW-UNV-L835-CD1SCA-XX	1	3700	LED 3500K	LED DRIVER	37	FIXTURES WITH 'EM' DESIGNATION ARE CONNECTED TO AN INVERTER OR BATTERY BACKED
C1	LED, INDUSTRIAL, 6' X 4' SURFACE MOUNT / PENDANT CABLE SUSPENDED, VAPORTITE, POLYCARBONATE LENS, MOLDED FIBERGLASS HOUSING, WHITE FINISH, 120/277 VOLT, 5 YEAR WARRANTY	METALUX	4VT2-LD4-4-FR50-UNV-L840-CD1 VT2 CHAIN / SET-U	1	4366	LED 4000K	LED DRIVER	38	FIXTURES WITH 'EM' DESIGNATION ARE CONNECTED TO AN INVERTER OR BATTERY BACKED
EXTERIOR LUMINAIRES									
DD	LED, EXTERIOR, WALL MOUNTED, SCONCE, FULL CUT OFF, TYPE 4, DIE-CAST ALUMINUM TRAPEZOID HOUSING, CLEAR GLASS LENS, DARK BRONZE PAINT FINISH, 120 VOLT, WET LISTED, 5 YEAR WARRANTY	EATON INVUE	ENT-E01-LED-E1-BL4-BZ	1	2613	LED 4000K	LED INTEGRAL DRIVER	25	FIXTURES WITH 'EM' DESIGNATION ARE CONNECTED TO AN INVERTER OR BATTERY BACKED
EE	LED, COMMERCIAL, RECESSED, 4" ROUND DOWNLIGHT, CLEAR SEMI-SPECULAR REFLECTOR, MEDIUM SPREAD, SELF FLANGED POLISHED, 120 VOLTS, 5 YEAR WARRANTY	PORTFOLIO	L04B20D010 EU4B10208040 4LBSM1H HB26	1	2000	LED 4000K	0-10V DIMMING LED DRIVER	11	FIXTURES WITH 'EM' DESIGNATION ARE CONNECTED TO AN INVERTER OR BATTERY BACKED

- GENERAL NOTES**
- A. SEE SHEET E0.02 FOR MOUNTING HEIGHT AND DEVICE GROUPING DETAILS. PRIOR TO ROUGH-IN: VERIFY EACH DEVICE LOCATION WITH THE REFLECTED CEILING PLAN, ARCHITECTURAL INTERIOR/EXTERIOR ELEVATIONS, AND CASEWORK SHOP DRAWINGS AND/OR CASEWORK INSTALLER. NOTE ANY CONFLICTS IN LOCATIONS, INCLUDING CONFLICTS WITH SEAMS/BREAKS, IN ARCHITECTURAL MATERIALS, AND NOTIFY THE ENGINEER (FOR ISSUES THAT CANNOT BE RESOLVED ON SITE).
- B. CONTRACTOR SHALL MARK THE EXTERIOR OF EACH JUNCTION BOX WITH PANEL AND CIRCUIT IDENTIFICATION NUMBERS FOR ALL CIRCUITS WITHIN, USING PERMANENT INK OR LABEL SYSTEM. ALL MARKINGS SHALL BE LEGIBLE AND NEAT.
- C. CONDUIT WITH INDIVIDUAL INSULATED CONDUCTORS SHALL BE USED IN LIEU OF MC CABLE FOR ANY HOME RUN AND ANY AREA THAT THE CONDUIT IS EXPOSED OR THAT IS SUSCEPTIBLE TO DAMAGE.
- D. NOT ALL PARTS MAY BE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR A COMPLETE WORKING INSTALLATION, INCLUDING ANY MISCELLANEOUS APPURTENANCES NECESSARY.
- E. SEE SHEET E1.20 FOR OCCUPANCY, DAYLIGHTING, AND LOW VOLTAGE DIMMING WIRING DIAGRAM DETAILS.
- F. ROUTE EXTERIOR CIRCUIT VIA EXTERIOR LIGHTING CONTROL SYSTEM.
- G. MOUNT LIGHTING CONTROLLERS IN ANY ACCESSIBLE CEILING SPACE, NO HIGHER THAN +12" ABOVE GRID. PROVIDE REFLECTIVE STICKERS ON CEILING GRID RIB TO INDICATE CONTROLLERS' LOCATION. COORDINATE WITH MAINTENANCE SUPERVISOR FOR COLORS AND TYPES OF STICKER.

SHEET NOTES

BBT

ARCHITECTS

1140 sw Simpson Ave - Suite 200
Bend, OR 97702 - 1 541-382-5535

HAMLIN MIDDLE SCHOOL
TEAM / RESTROOM BLDG

326 CENTENNIAL BLVD.
SPRINGFIELD, OR 97477

ISSUED:
xxx

DATE:
08/12/2021

JOB NUMBER: 2111

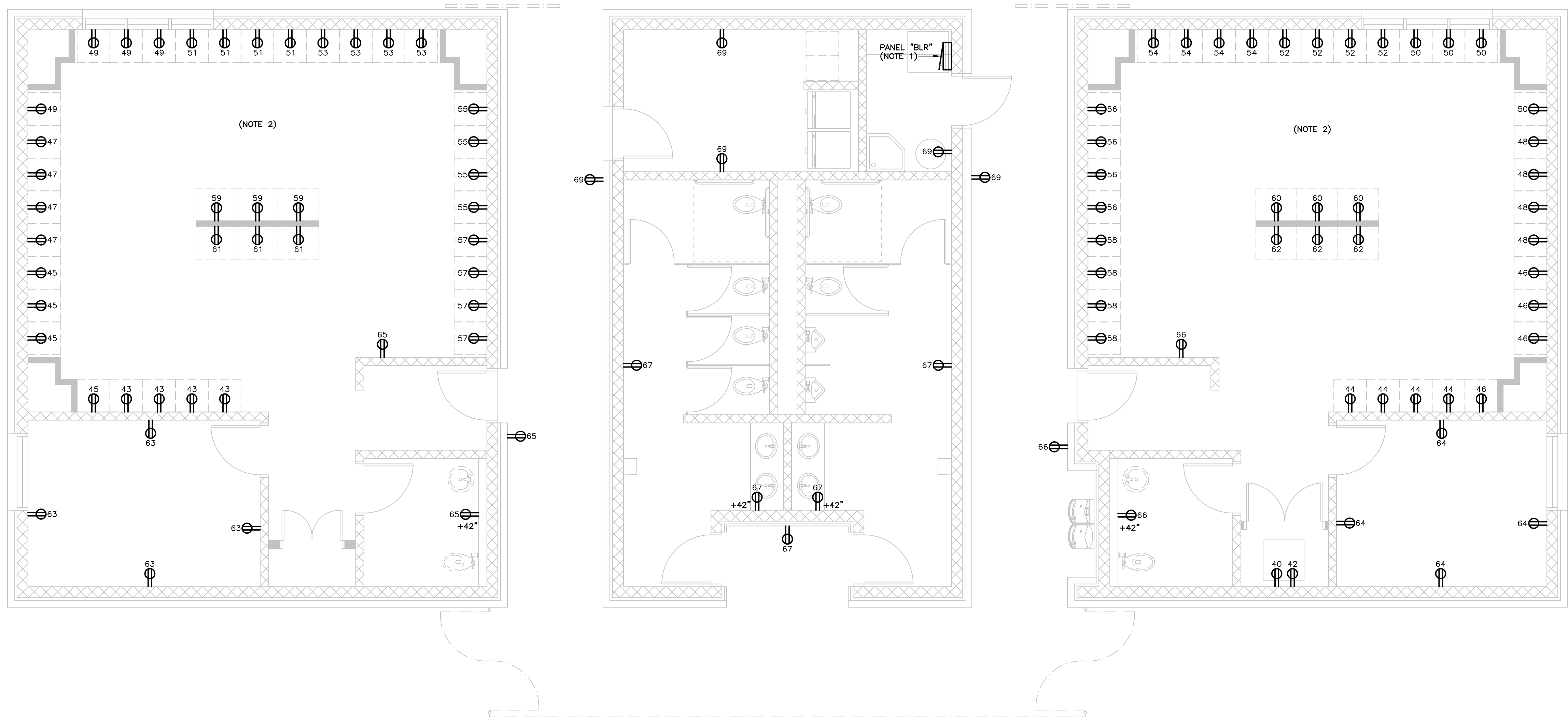
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LIGHTING PLAN

SHEET NUMBER
E2.01

Attachment 5, Page 202 of 236



BASEBALL LOCKER ROOM POWER PLAN
HAMLIN MIDDLE SCHOOL
SCALE: 1/4"=1'-0"

GENERAL NOTES

- A. SEE SHEET E0.02 FOR MOUNTING HEIGHT AND DEVICE GROUPING DETAILS. PRIOR TO ROUGH-IN, VERIFY EACH DEVICE LOCATION WITH THE REFLECTED CEILING PLAN, ARCHITECTURAL INTERIOR/EXTERIOR ELEVATIONS, CASEWORK SHOP DRAWINGS AND/OR CASEWORK INSTALLER. NOTE ANY CONFLICTS IN LOCATIONS, INCLUDING CONFLICTS WITH SEAMS/BREAKS, IN ARCHITECTURAL MATERIALS AND NOTIFY THE ENGINEER FOR ISSUES THAT CANNOT BE RESOLVED ON SITE.
- B. DEVICE BOXES SHALL NOT BE MOUNTED BACK-TO-BACK FOR SOUND PURPOSES. CONTRACTOR SHALL FOLLOW SOUND INSULATING PROCEDURES OUTLINED IN THE ARCHITECTURAL/ACOUSTICAL DRAWING AND SPECIFICATIONS.
- C. CONTRACTOR SHALL MARK THE EXTERIOR OF EACH JUNCTION BOX WITH PANEL AND CIRCUIT IDENTIFICATION NUMBERS FOR ALL CIRCUITS WITHIN, USING PERMANENT INK OR LABEL SYSTEM. ALL MARKINGS SHALL BE LEGIBLE AND NEAT.
- D. PROVIDE LABELING ON DEVICE PLATES AS REQUIRED IN SPECIFICATIONS FOR CONTROLLERS, ETC., MOUNTED ABOVE CEILINGS. PROVIDE REFLECTIVE STICKER ON CEILING GRID STRINGER TO INDICATE CONTROLLER LOCATIONS.
- E. CONDUIT WITH INDIVIDUAL INSULATED CONDUCTORS SHALL BE USED IN LIEU OF MC CABLE FOR ALL HOME RUNS AND ANY AREA THAT THE CONDUIT IS EXPOSED OR SUSCEPTIBLE TO DAMAGE.
- F. TAMPER PROOF, AFCI, AND GFCI RECEPTACLES ARE NOT SPECIFICALLY NOTED ON THESE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AFCI AND GFCI RECEPTACLES WHERE REQUIRED BY THE NATIONAL ELECTRICAL CODE (NEC).
- G. ALL CIRCUITS SHALL BE RUN OVERHEAD OR IN WALL, UNLESS SPECIFICALLY NOTED. UNDERGROUND CIRCUITS THAT ARE SHOWN SHALL BE ROUTED A MINIMUM OF 6" BELOW SLAB.

SHEET NOTES

- 1. SEE ONLINE DIAGRAM SHEET E1.10, FOR CIRCUIT AND EQUIPMENT INFORMATION.
- 2. MOUNT RECEPTACLES RECESSED IN BACK OF EACH LOCKER. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION OF RECEPTACLE WITH OWNER PRIOR TO ROUGH-IN. OWNER IS MANUFACTURING LOCKERS.

BBT

ARCHITECTS

1140 sw Simpson Ave - Suite 200
Bend, OR 97702 - 1 541-382-5535

HAMLIN MIDDLE SCHOOL
TEAM / RESTROOM BLDG

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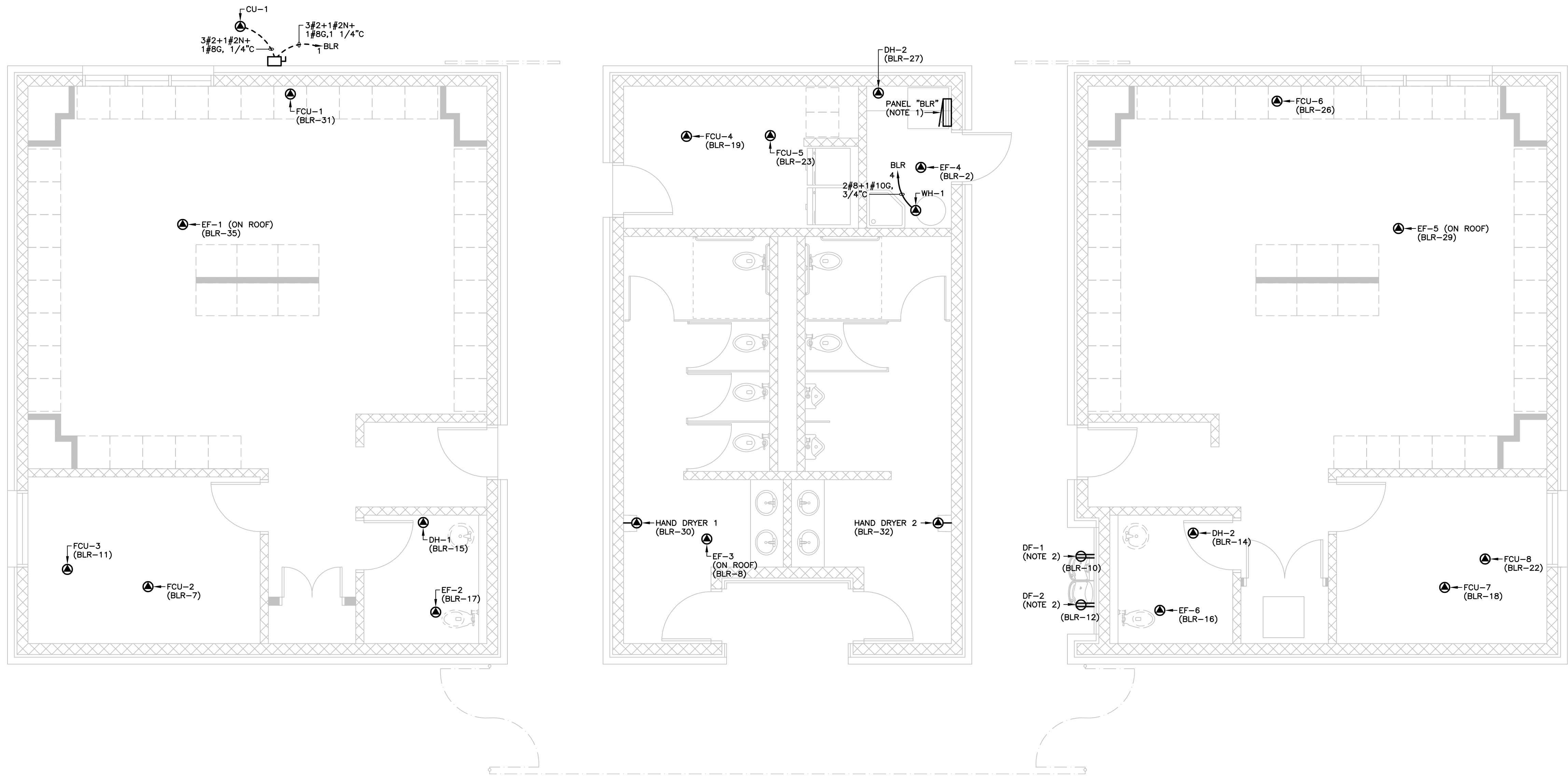
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SHEET TITLE
POWER PLAN

SHEET NUMBER
E3.01



BASEBALL LOCKER ROOM MECHANICAL PLAN
HAMLIN MIDDLE SCHOOL

SCALE: 1/4"=1'-0"

GENERAL NOTES

- A. SEE SHEET E0.02 FOR MOUNTING HEIGHT AND DEVICE GROUPING DETAILS. PRIOR TO ROUGH-IN, VERIFY EACH DEVICE LOCATION WITH THE REFLECTED CEILING PLAN, ARCHITECTURAL INTERIOR/EXTERIOR ELEVATIONS, CASEWORK SHOP DRAWINGS AND/OR CASEWORK INSTALLER. NOTE ANY CONFLICTS IN LOCATIONS, INCLUDING CONFLICTS WITH SEAMS/BREAKS, IN ARCHITECTURAL MATERIALS AND NOTIFY THE ENGINEER FOR ISSUES THAT CANNOT BE RESOLVED ON SITE.
- B. DEVICE BOXES SHALL NOT BE MOUNTED BACK-TO-BACK FOR SOUND PURPOSES. CONTRACTOR SHALL FOLLOW SOUND INSULATING PROCEDURES OUTLINED IN THE ARCHITECTURAL/ACOUSTICAL DRAWING AND SPECIFICATIONS.
- C. CONTRACTOR SHALL MARK THE EXTERIOR OF EACH JUNCTION BOX WITH PANEL AND CIRCUIT IDENTIFICATION NUMBERS FOR ALL CIRCUITS WITHIN, USING PERMANENT INK OR LABEL SYSTEM. ALL MARKINGS SHALL BE LEGIBLE AND NEAT.
- D. PROVIDE LABELING ON DEVICE PLATES AS REQUIRED IN SPECIFICATIONS FOR CONTROLLERS, ETC., MOUNTED ABOVE CEILINGS. PROVIDE REFLECTIVE STICKER ON CEILING GRID STRINGER TO INDICATE CONTROLLER LOCATIONS.
- E. CONDUIT WITH INDIVIDUAL INSULATED CONDUCTORS SHALL BE USED IN LIEU OF MC CABLE FOR ALL HOME RUNS AND ANY AREA THAT THE CONDUIT IS EXPOSED OR SUSCEPTIBLE TO DAMAGE.
- F. TAMPER PROOF, AFCI, AND GFCI RECEPTACLES ARE NOT SPECIFICALLY NOTED ON THESE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AFCI AND GFCI RECEPTACLES WHERE REQUIRED BY THE NATIONAL ELECTRICAL CODE (NEC).
- G. ALL CIRCUITS SHALL BE RUN OVERHEAD OR IN WALL, UNLESS SPECIFICALLY NOTED. UNDERGROUND CIRCUITS THAT ARE SHOWN SHALL BE ROUTED A MINIMUM OF 6" BELOW SLAB.

SHEET NOTES

1. SEE ONE LINE DIAGRAM SHEET E1.10, FOR CIRCUIT/FEEDER, OR EQUIPMENT INFORMATION.
2. MOUNT RECEPTACLE UP BEHIND WATER FOUNTAIN (BOTTLE FILLER) SO AS NOT TO EXPOSE UNIT POWER. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN. PROVIDE GFCI BREAKER.

HAMLIN MIDDLE SCHOOL
TEAM / RESTROOM BLDG
326 CENTENNIAL BLVD.
SPRINGFIELD, OR 97477

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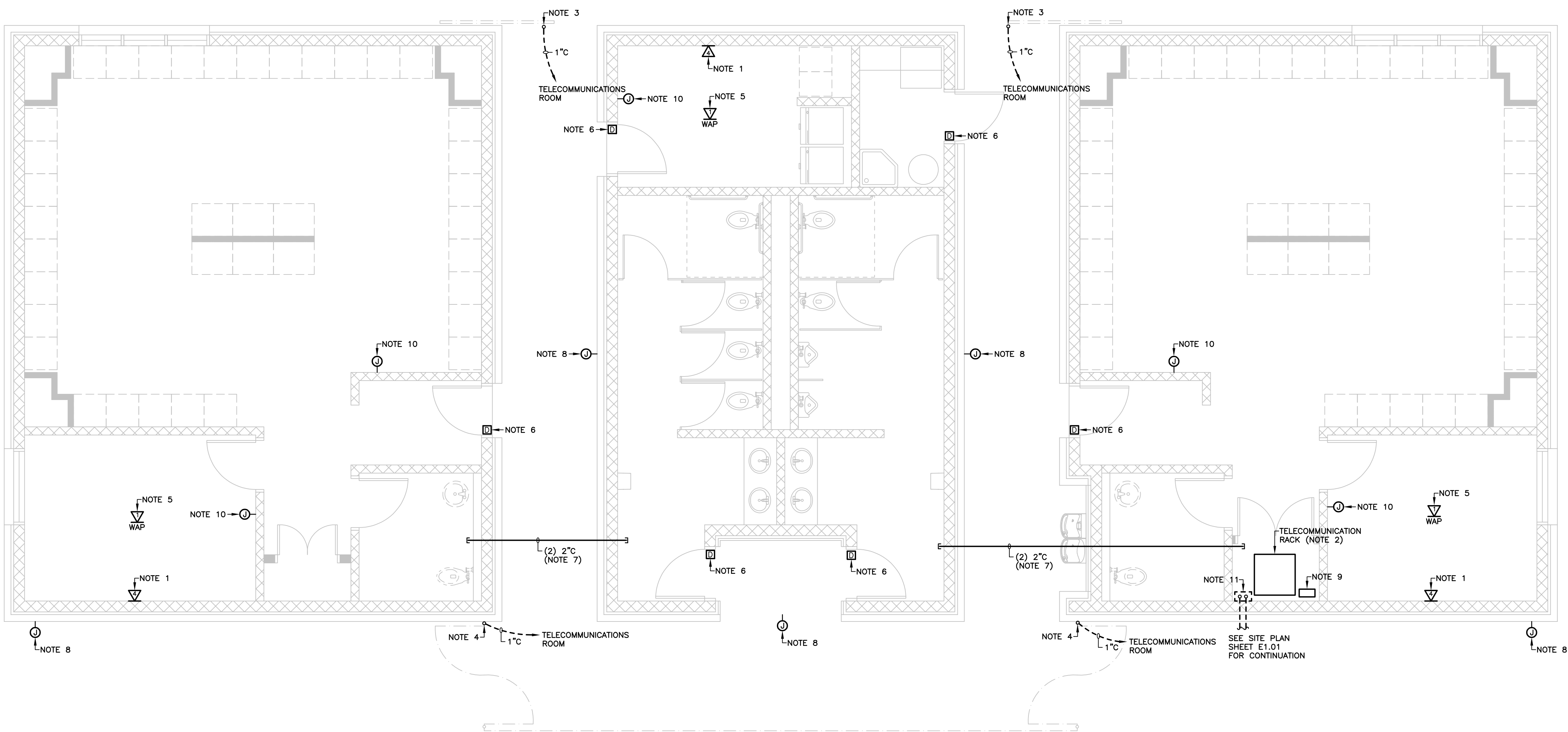
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SHEET TITLE
MECHANICAL PLAN

SHEET NUMBER

E4.01

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COMMUNICATIONS AND SECURITY PLAN
SCALE: 1/4"=1'-0"

GENERAL NOTES

- A. CONDUITS SHALL RUN OVERHEAD IN CEILING OR INTERSTITIAL SPACE, REGARDLESS OF FLOOR LEVEL, THEN DOWN WALLS. DO NOT RUN CONDUITS BELOW FLOOR, EXCEPT WHERE SPECIFICALLY NOTED ON DRAWINGS.
- B. PROVIDE OSP CABLE WHEN ROUTING UNDER SLAB.

SHEET NOTES

1. PROVIDE DATA DEVICE (BOX AND FACEPLATE TYPE), UNLESS OTHERWISE NOTED, SHALL BE 4-11/16" SQUARE 2-1/8" DEEP BOX, WITH SINGLE GANG MUD RING AND COVERPLATE. PROVIDE 1" CONDUIT TO TELECOMMUNICATIONS ROOM. PROVIDE BUSHING ON CONDUIT WITHIN DEVICE BOX AND A GROUNDING COLLAR/BUSHING ON TELECOMMUNICATION ROOM END WITH #6 AWG BONDING CONDUCTOR TIED TO BUSBAR. CATEGORY 6 CABLE PROVIDED BY OWNER.
2. PROVIDE CPI SWING GATE WALL RACK (CPI #11807-725) WITH ONE FIBER PATCH PANEL IN TOP RACK UNITS. MOUNT TOP OF RACK AT +6'-0" ABOVE FINISHED FLOOR.
3. STUB-UP CONDUIT IN GATE MULLION FOR FUTURE ACCESS CONTROL EQUIPMENT PROVIDED BY OWNER. GATE PROVIDED BY OWNER. COORDINATE EXACT STUB-UP LOCATION WITH OWNER PRIOR TO ROUGH-IN.
4. STUB-UP CONDUIT IN THIS APPROXIMATE LOCATION FOR FUTURE ACCESS CONTROL EQUIPMENT PROVIDED BY OWNER. GATE PROVIDED BY OWNER. COORDINATE EXACT STUB-UP LOCATION WITH OWNER PRIOR TO ROUGH-IN.
5. PROVIDE DATA DEVICE "WAP" (JACK TYPE), UNLESS OTHERWISE NOTED, SHALL BE A QUICKPORT IN-CEILING BRACKET WITH SUPPORT WIRE AND PLENUM SURFACE-MOUNT BOX. PROVIDE 1" CONDUIT WITHIN 12" OF DEVICE BOX AND ROUTE TO TELECOMMUNICATIONS ROOM. PROVIDE BUSHING ON CONDUIT WITHIN DEVICE BOX AND A GROUNDING COLLAR/BUSHING ON TELECOMMUNICATIONS ROOM END WITH #6 AWG BONDING CONDUCTOR TIED TO BUSBAR. CATEGORY 6A CABLE PROVIDED BY OWNER.
6. PROVIDE 1" CONDUIT FROM DOOR FRAME TO ACCESSIBLE CEILING SPACE UP TO BOTTOM OF ROOF TRUSS FOR FUTURE DOOR CONTACT INSTALLATION BY OWNER.
7. PROVIDE CONDUIT MOUNTED UP AT UNDERSIDE OF CEILING FOR FUTURE CABLE INSTALLATION BY OWNER.
8. PROVIDE RECESSED DEVICE BOX (FOR FUTURE CAMERA INSTALLATION). UNLESS OTHERWISE NOTED, SHALL BE 4-11/16" SQUARE 2-1/8" DEEP BOX, WITH SINGLE GANG MUD RING. PROVIDE 1" CONDUIT TO TELECOMMUNICATIONS ROOM. PROVIDE BUSHING ON CONDUIT WITHIN DEVICE BOX AND A GROUNDING COLLAR/BUSHING WITH #6 BONDING CONDUCTOR TIED TO BUSBAR. CAMERA & CATEGORY 6 CABLE PROVIDED BY OWNER. VERIFY EXACT LOCATION (& HEIGHT) OF JUNCTION BOX WITH OWNER PRIOR TO ROUGH-IN.
9. PROVIDE CPI GROUNDING BUSBAR (CPI #40153-012). MOUNT BUSBAR AT +12" ABOVE FINISHED FLOOR.
10. PROVIDE RECESSED DEVICE BOX (FOR FUTURE CLOCK/INTERCOM INSTALLATION). UNLESS OTHERWISE NOTED, SHALL BE 4-11/16" SQUARE 2-1/8" DEEP BOX, WITH SINGLE GANG MUD RING. PROVIDE 1" CONDUIT TO TELECOMMUNICATIONS ROOM. PROVIDE BUSHING ON CONDUIT WITHIN DEVICE BOX AND A GROUNDING COLLAR/BUSHING WITH #6 BONDING CONDUCTOR TIED TO BUSBAR. CAMERA & CATEGORY 6 CABLE PROVIDED BY OWNER. VERIFY EXACT LOCATION (& HEIGHT) OF JUNCTION BOX WITH OWNER PRIOR TO ROUGH-IN.
11. STUB-UP UNDERGROUND CONDUITS IN CORNER OF TELECOM ROOM.

BBT ARCHITECTS 1140 SW Simpson Ave - Suite 200 Bend, OR 97702 - 1 541-382-5535	
HAMLIN MIDDLE SCHOOL TEAM / RESTROOM BLDG 326 CENTENNIAL BLVD. SPRINGFIELD, OR 97477	
ISSUED: xxx	DATE: 08/12/2021
JOB NUMBER: 2111	
DRAWN BY:	
CHECKED BY:	
SHEET TITLE COMMUNICATIONS & SECURITY PLAN	
SHEET NUMBER E6.01	

DESCRIPTION

The Entri LED luminaire features a classic and stylish design with the added benefits of solid state lighting technology, offering outstanding uniformity and energy savings. Using Cooper Lighting Solutions' proprietary LED LightSquare technology and AccuLED Optics™ system, the Entri LED luminaire offers designers vast versatility in system design, function and performance. Use Entri LED for wall mount architectural lighting applications and egress lighting requirements. UL/cUL listed for use in wet locations.

SPECIFICATION FEATURES

Construction

HOUSING: Heavy wall, one-piece, die-cast aluminum construction for precise tolerance control and repeatability in manufacturing. Integral extruded aluminum heat sink provides superior thermal heat transfer in +40°C ambient environments. **FACEPLATE / DOOR:** One-piece, die-cast aluminum construction. Captive, side hinged faceplate swings open via release of one flush mount die-cast aluminum latch on housing side panel. **GASKET:** One-piece molded silicone gasket mates perfectly between the door and housing for repeatable seal. **LENS:** Uplight lens is impact-resistant, 5/32" thick tempered frosted glass sealed to housing with continuous bead silicone gasket. Downlight lens is an LED LightSquare with integral optics sealed for IP66 rating. **HARDWARE:** Stainless steel mounting screws and latch hardware allow access to electrical components for installation and servicing.

Optics

Choice of 9 patented, high efficiency AccuLED Optics™ distributions. Optics are precisely designed to shape the light output, maximizing efficiency and application spacing. AccuLED Optics technology creates consistent distributions with the

scalability to meet customized application requirements. CRI and CCT offering includes 2200K, 2700K, 3000K, 3500K, 4000K, 5000K, and 5700K with minimum 70CRI and 2700K and 3000K with minimum 80CRI all within 5-step MacAdam ellipse.

Electrical

LED drivers mount to die-cast aluminum back housing for optimal heat sinking, operation efficacy, and prolonged life. Standard drivers feature electronic universal voltage (120-277V 50/60Hz), 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Greater than 0.9 power factor, less than 20% harmonic distortion, and is suitable for operation in -40°C to 40°C ambient environments and optional 50C construction available. All fixtures are shipped standard with 10kV/10kA common – and differential – mode surge protection. LightSquare feature an IP66 enclosure rating and maintain greater than 98% lumen maintenance at 60,000 hours per IESNA TM-21. Emergency egress options for -20°C ambient environments, WaveLinX™, occupancy sensor, and dimming options available.

Mounting

JUNCTION BOX: Standard with

zinc-plated, quick-mount junction box plate that mounts directly to 4" J-Box. LightSquare mounts facing downward. Fixture slides over mounting plate and is secured with two stainless steel fasteners. Mounting plate features a one-piece EPDM gasket on back side of plate to firmly seal fixture to wall surface, forbidding entry of moisture and particulates. Optional mounting arrangements utilize a die-cast mounting adaptor box to allow for LED battery pack, surface conduit and trough branch wiring. The Entri LED luminaire is approved for mounting on combustible surfaces.

Finish

Housing is finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. LightSquare cover plates are standard white and may be specified to match finish of luminaire housing. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult Outdoor Architectural Colors brochure for a complete selection.

Warranty

Five-year warranty.



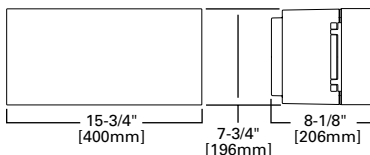
ENC/ENT/ENV ENTRI LED

LightSquare
Solid State LED

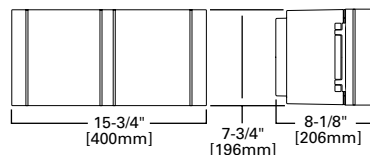
ARCHITECTURAL WALL
LUMINAIRE

DIMENSIONS

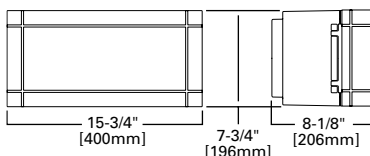
ENC (Round Clean)



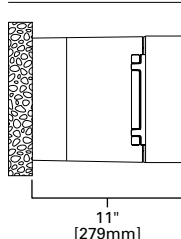
ENT (Triangle Reveals)



ENV (Round Reveals)



CONDUIT MOUNT / BATTERY BACK BOX



CERTIFICATION DATA

DesignLights Consortium® Qualified*
UL/cUL Listed
ISO 9001
IP66 LightSquares
LM79 / LM80 Compliant

ENERGY DATA

Electronic LED Driver

>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 & 60Hz, 347V/60Hz, 480V/60Hz
-30°C Minimum Temperature
40°C Ambient Temperature Rating (Optional)

SHIPPING DATA

Approximate Net Weight:
15.2 lbs. (6.9 kgs.) - Without backbox
29.1 lbs. (13.2 kgs.) - With backbox

ORDERING INFORMATION

Sample Number: ENC-SA1C-740-U-T4W-GM-ULG-HA-ZW-SWPD4BK

Product Family ¹	Light Engine		Color Temperature	Voltage	Distribution	Finish
	Configuration	Drive Current				
ENC=Entri Round Clean ENT=Entri Triangle Reveals ENV=Entri Round Reveals	SA1=1 Square	A=350mA B=450mA C=600mA D=800mA E=1000mA F=1200mA	722=70CRI, 2200K ³ 727=70CRI, 2700K ³ 730=70CRI, 3000K ³ 735=70CRI, 3500K 740=70CRI, 4000K 750=70CRI, 5000K ³ 760=70CRI, 5700K ³ 827=80CRI, 2700K ³ 830=80CRI, 3000K ³ 835=80CRI, 3500K ³	U=UNV (120-277) 1=120 2=208 3=240 4=277 8=480 9=347	T2=Type II T3=Type III T4FT=Type IV Forward Throw T4W=Type IV Wide SL2=Type II w/Spill Control SL3=Type III w/Spill Control SL4=Type IV w/Spill Control SLL=90° Spill Light Eliminator Left SLR=90° Spill Light Eliminator Right	BZ=Bronze AP=Grey BK=Black DP=Dark Platinum GM=Graphite Metallic WH=White
Options (Add as Suffix)				Accessories (Order Separately)		
F=Singled fused (Must specify voltage, fused on single hot leg of 120, 277, or 347) FF=Doubled fused (Must specify voltage, fused on both hot legs of 208, 240, or 480) X=Driver Surge Protection (6kV) Only 20K=Series 20kV UL 1449 Surge Protective Device DIM=0-10V Dimming Driver ^{5,6} EBP=Battery Pack with Back Box (Must specify voltage, available in 120V or 277V) ^{2,4,9} CBP=Battery Pack with Back Box, Cold Weather Rated (Must specify voltage, available in 120V or 277V) ^{2,4,10} CBP-CEC=Battery Pack with Back Box, Cold Weather Rated, CEC compliant (Must specify voltage, available in 120V or 277V) ^{2,4,10} R90=Rotated Right 90° L90=Rotated Left 90° HSS=Factory Installed House Side Shield ¹⁶ LCF=LightSquare Trim Plate Matches Housing Finish ¹⁵ ULG=Uplight Glow ⁷ HA=50°C High Ambient ⁸ WG=Wire Guard TR=Tamper Resistant Hardware BOX=Empty back box (1/2" NPT, each side with plugs installed) BPC=Button Type Photocontrol (Must specify voltage, available in 120, 208, 240, 277V, 347, and 480) AHD145=After Hours Dim, 5 Hours, 50% ¹⁷ AHD245=After Hours Dim, 6 Hours, 50% ¹⁷ AHD255=After Hours Dim, 7 Hours, 50% ¹⁷ AHD355=After Hours Dim, 8 Hours, 50% ¹⁷ SPB1=Dimming Occupancy Sensor with Bluetooth Interface, <8' Mounting ^{13,22} SPB2=Dimming Occupancy Sensor with Bluetooth Interface, 8'-20' Mounting ^{13,22} SPB4=Dimming Occupancy Sensor with Bluetooth Interface, 21'-40' Mounting ^{13,22} MS-L08=Motion Sensor for ON/OFF Operation, Up to 8' Mounting Height ^{11,12,13} MS-L20=Motion Sensor for ON/OFF Operation, 9' - 20' Mounting Height ^{11,12,13} MS/DIM-L08=Motion Sensor for Dimming Operation, Up to 8' Mounting Height ^{11,12,13} MS/DIM-L20=Motion Sensor for Dimming Operation, 9' - 20' Mounting Height ^{11,12,13} ZW=Wavelinx-enabled 4-PIN Twistlock Receptacle ^{19,20} ZW-SWPD4XX=Wavelinx Wireless Sensor, 7' - 15' Mounting Height ^{19,20,21} ZW-SWPD5XX=Wavelinx Wireless Sensor, 15' - 40' Mounting Height ^{19,20,21} CC=Coastal Construction ²³				MA1253=10kV Circuit Module Replacement MA1253-480V=10kV Circuit Module Replacement (480V only) FSIR-100-PK=Wireless Configuration Tool for Occupancy Sensor ¹¹ VA6172SA=Wireguard Accessory VA6173=Tamper-Resistant Driver Bit VA6174=Vandal Shield Accessory VA2001-XX=Thru-Way Conduit Box SWPD4-XX=Wavelinx Wireless Sensor, 7' - 15' Mounting Height (Available colors: BZ=Bronze; WH=White; BK=Black) ^{19,20,21} SWPD5-XX=Wavelinx Wireless Sensor, 15' - 40' Mounting Height (Available colors: BZ=Bronze; WH=White; BK=Black) ^{19,20,21} WOLC-7P-10A=WaveLinX Outdoor Control Module (7-pin) LS/HSS=House Side Shield (Works with all distributions listed for Entri)		

NOTES:

- DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details. DLC Family Code: MMMSPQ
- EBP or CBP options limited to 25°C, 120-277V only. Control option limited to BPC=Button Type Photocontrol (must specify voltage).
- Extended lead times apply. Use dedicated IES files when performing layouts.
- Not available with HA option.
- Cannot be used with other control options.
- Low voltage control lead brought out 18" outside fixture.
- ULG only available in 740
- Not available with ULG option
- EBP is rated for minimum operating temperature of 0°C (32°F). Operates downlight for 90-minutes.
- CBP is rated for minimum operating temperature of -20°C (-4°F). Operates downlight for 90-minutes.
- The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Cooper Lighting
- Replace LXX with the available mounting height options: L08, L20, L40 or L40W are the only choices.
- Includes integral photosensor.
- Bronze sensor is shipped with Bronze fixtures. White sensor shipped on all other housing color options.
- Not available with HSS option.
- Only for use with SL2, SL3 and SL4 distributions. The light square trim plate is painted black when the HSS option is selected.
- Requires the use of BPC photocontrol. See After Hours Dim supplemental guide for additional information.
- Control option limited to BPC=Button Type Photocontrol (must specify voltage).
- WAC Gateway required to enable field-configurability: Order WAC-PoE and WPOE-120 (10V to PoE injector) power supply if needed.
- Requires ZW.
- Replace XX with sensor color (WH, BZ, or BK).
- Smart device with mobile application required to change system defaults. See controls section for details.
- Coastal construction finish salt spray tested to over 5,000-hours per ASTM B117, with a scribe rating of 9 per ASTM D1654.

Project		Catalog #		Type	
Prepared by		Notes		Date	



Metalux

Vaportite LED

4' Industrial LED Lamp Vaportite Industrial Refrigerated Case

Typical Applications

Parking Garage • Cold Storage • Canopy • Warehouse • Food Processing • Manufacturing • Complex Environments

Interactive Menu

- Order Information page 2
- Photometric Data page 2
- Product Warranty

Product Certification



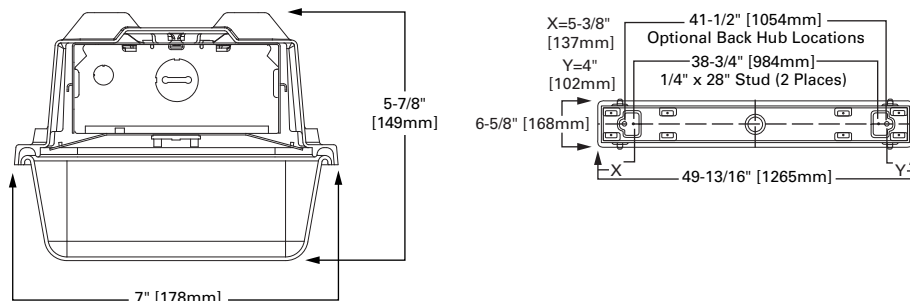
Product Features



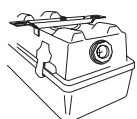
Top Product Features

- 2ft, 4ft, and 8ft Sealed and Gasketed Vaportite
- Lumen packages up to 22K lumens
- High-Performance efficacy up to 150 LPW
- LEDs available in 3500K, 4000K and 5000K at 80 CRI
- Rated for -40c to 35c ambient

Dimensional and Mounting Details



Installation Data



MOUNTING BRACKETS
Furnished
Two per 2' and 4' Unit
Four per 8' Unit

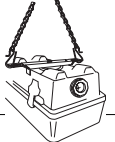


OPTIONAL CHAN HANGING SET
(VT2-CHAIN/SET-U)
Includes 6 ft. of chain, 4 large S-Hooks and 4 small S-Hooks
Order One (1) Kit for each 2' or 4' Fixture

Order Information

SAMPLE ORDER NUMBER: **4VT2-LD5-4-DR-UNV-L840-CD1-WL-U**

Series	Lamp Type	LED Lumens Output	Lens	Distribution	Voltage	Remote Emergency Enclosure
Series ^{(1), (2)}	Lamp Type	LED Lumens Output	Lens	Distribution	Voltage	Remote Emergency Enclosure
4VT2=4' Vaportite	LD5=LED 5.0	4=4000 Lumens 6=6000 Lumens 8=8000 Lumens 11=11000 Lumens	DR=Internal Prismatic Lens/15% DR High Impact Additive DR100=Internal Prismatic Lens/100% DR High Impact Additive FR50=Frosted Lens/15% DR High Impact Additive ⁽³⁾	[Blank]=Medium (Standard) W=Wide Distribution	347V=347 Volt UNV=Universal Voltage 120-277	EL10W=10-watt, 120-277V emergency battery pack installed ⁽⁴⁾ VT-REM-EL=Remote Emergency Installed, 700 lumens ⁽⁴⁾
Notes (1) To order product that is compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act (TAA), use the online specification configurator to specify BAA or TAA. Please refer to DOMESTIC PREFERENCES LINK for more information. (2) DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.			Notes (3) Not available in wide distribution.			Notes (4) EL must specify 120 or 277V only.

Lamps	Driver Type	Label	Options	Packaging	Accessories
Lamps	Driver Type	Label	Options	Packaging	Accessories (order separately)
L835=3500K, LED L840=4000K, LED L850=5000K, LED	CD1=1 Dimming Driver 5LTD1=5th Light DALI	WL=Wet Location Label	SSL=Stainless Steel Latches GL=Single Element Fuse TH=(2) Top Watertite Hubs TEH=(2) Top and (2) End Watertite Hubs (all Watertite Hubs have 1/2" Conduit Entry) MS=Damp Listed Motion Sensor MSWL20=Wet Listed Motion Sensor, max 20ft mounting height HBE11=Wet location PIR Indoor/Outdoor Occupancy Sensor ⁽⁵⁾	U=Unit Pack	VT2-Chain/Set-U=Chain Hanging Set. Includes 6 ft. of chain, 4 large S-Hooks and 4 small S-Hooks Order One (1) Kit for each 2' or 4' Fixture VT2-SS-MBK=Stainless Steel Mounting Bracket
			Notes (5) Available for 120V, 277V, and 347V voltage only.		

Product Specifications

Construction

- Rugged and durable construction
- Fiberglass housing is reinforced polyester and self-extinguishing (ASTM-D635-74) plastic
- Full metal fixture liner
- Watertight housing
- 1/2" conduit entry at each end of housing (standard) for continuous feed
- Polyurethane gasketing provides a continuous seamless seal for the diffuser lens
- Four sturdy cam latches clamp diffuser tightly for a positive seal between housing, gasketing and diffuser
- Surface or chain mounting

Electrical

- Long-Life LED system coupled with electrical driver for optimal performance
- LED's available in 3500K, 4000K and 5000K with a CRI ≥ 80
- Projected life is 60,000 hours at 91% lumen output
- Electronic drivers are available for 120-277V applications
- 0-10V dimming control (standard)
- Operating temperature of -40°C to 35°C; Ideal for cold storage environments

Lens

- High-impact diffuser lens
- Internal Prismatic Lens with 15% DR High Impact Additive (DR) or Internal Prismatic Lens with 100% DR High Impact Additive (DR100)
- Frosted Lens with 15% DR High Impact Additive (FR50) option

Finish

- Housing is permanent pearl gray color

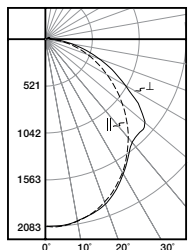
Warranty

- Five-year limited warranty

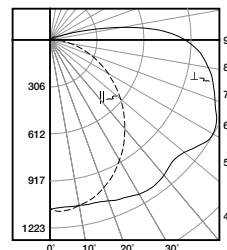
Compliance

- UL/cUL listed for Wet location
- RoHS compliant
- LED modules comply with IESNA LM-79 and LM-80 standards
- NSF listed
- DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium (refer to [www.designlights.org](#) for details)
- The VT2 Series ratings apply to Horizontal Mounting only

Photometric Data

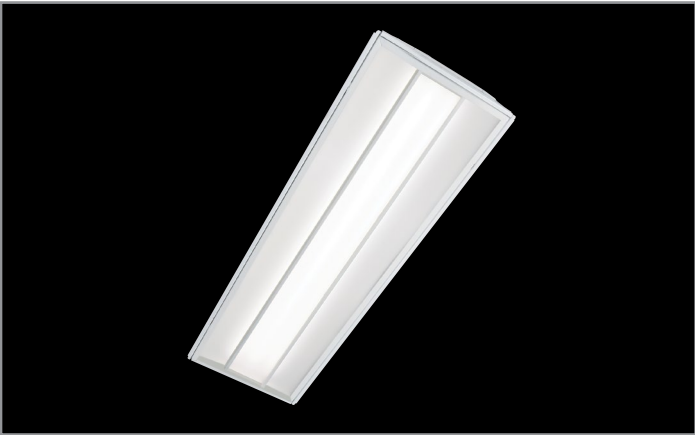
 View IES files


4VT2-LD5-6-DR-UNV-L840-CD1-WL-U
Electronic Driver
Linear LED 4000K
Spacing criterion: (II) 1.21 x mounting height,
(L) 1.22 x mounting height
Lumens: 6197
Input Watts: 50.6W
Efficacy: 122.5 lm/W
Test Report:
4VT2-LD5-6-DR-UNV-L840-CD1-WL-U.IES



4VT2-LD5-6-DR-W-UNV-L840-CD1-WL-U
Electronic Driver
Linear LED 4000K
Spacing criterion: (II) 1.22 x mounting height,
(L) 1.6 x mounting height
Lumens: 5931
Input Watts: 50.6W
Efficacy: 117.2 lm/W
Test Report:
4VT2-LD5-6-DR-W-UNV-L840-CD1-WL-U.IES

Project		Catalog #		Type	
Prepared by		Notes		Date	



Metalux

14RLN

1' x 4' Recessed LED
Specification Grade
Rectilinear Shielding

Typical Applications

- Commercial Office Spaces • Schools • Hospitals
- Retail Merchandising Areas

Interactive Menu

- Order Information [page 2](#)
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- VividTune™ Color Tuning Solutions [page 5](#)
- Product Warranty

Product Certification



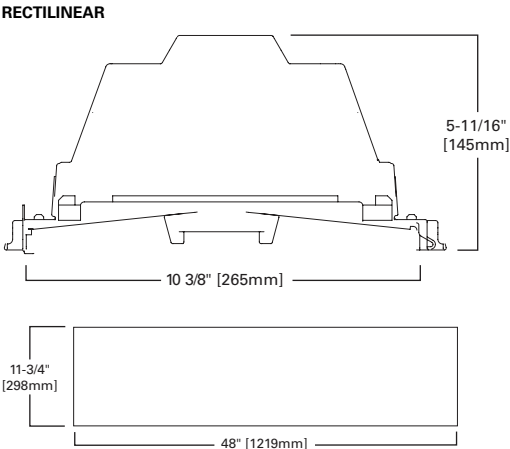
Product Features



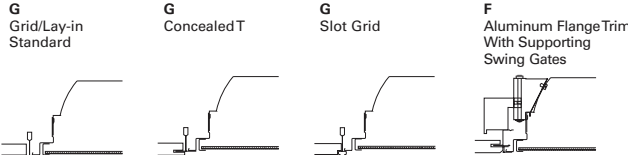
Top Product Features

- Luminous center panel with gently elevated luminous side panels for a visually pleasing appearance
- Efficacy up to 139 lm/W, uniform illumination for a pleasant ambient environment
- 3000K, 3500K, and 4000K at 80 or 90 CRI
- White tuning solutions available, either 3000K - 5000K or 2700K - 6500K
- LED driver access from below the ceiling

Dimensional and Mounting Details



Ceiling Compatibility



Ceiling Type	Trim Type
Exposed Grid	G
Concealed T	G
Slot Grid	G
Flange	F

(Verify compatibility/ consult Pre Sales Technical Support.)

Order Information

SAMPLE ORDER NUMBER: **14RLN-LD5-35-UNV-L835-CD1-U**

Rating	Series	Lamp Type	Lumen Output	Shielding	Voltage	Emergency	CCT
Rating	Series ⁽¹⁾	Lamp Type	Lumen Output	Shielding	Voltage ⁽³⁾	Emergency	CCT
[Blank] =Standard ATW =Chicago Rated	14RLN =1x4 RLN Series	LD5 =LED 5.0	23 =2300 Lumen ⁽²⁾ 26 =2600 Lumen 31 =3100 Lumen 35 =3500 Lumen 40 =4000 Lumen	Blank =Standard Lens RDP =Rectilinear with Round Pattern Insert	347V =347 Volt ⁽⁴⁾ UNV =Universal Voltage 120-277 48V =48 Volt Low-voltage (Class 2) ⁽⁵⁾ 120V =120 Volt ⁽⁵⁾ 277V =277 Volt ⁽⁵⁾	EL7W =7-watt, 120V-277V emergency battery pack installed ⁽⁶⁾ EL14W =14-watt 120V-277V emergency battery pack installed ⁽⁶⁾ ELV7W =Low-voltage system, 7-watt emergency battery pack ⁽²⁾ ELV14W =Low-voltage system, 14-watt emergency battery pack ⁽²⁾ GTR2 =Bodine Generator Transfer Relay ^{(7),(8)} ETRD =Iota Emergency Transfer Relay with dimming control ⁽⁷⁾	L830 =3000K L835 =3500K L840 =4000K L930 =3000K L935 =3500K L940 =4000K L83050 =80CRI 3000K-5000K White Tuning ⁽⁹⁾ L93050 =90CRI 3000K-5000K White Tuning ⁽⁹⁾ L82765 =80CRI 2700K-6500K White Tuning ⁽⁹⁾ L92765 =90CRI 2700K-6500K White Tuning ⁽⁹⁾
	Notes (1) DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.		Notes (2) Not compatible with WN driver.		Notes (3) Products also available in non-US voltages and frequencies for international markets. (4) 347V versions are not available with emergency options. (5) Must specify voltage as 120V or 277V when ordering GTR2 option. (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility.	Notes (6) With integral test switch/ indicator/laser test. For approximate delivered lumens multiply the lumens per watt of the desired fixture by the wattage of the emergency battery pack (100 lm/W x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. (7) Used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others). GTR2 option includes 2 relays on fixtures with dimming drivers. ETRD option only requires one relay when used on a dimming fixture. (8) Must specify voltage as 120V or 277V when ordering GTR2 option. (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility.	Notes (9) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with WZA driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity.

Factory Wiring	Driver Type	Number of Drivers	Integrated Sensing Systems	Packaging	Accessories
Factory Wiring	Driver Type	Number of Drivers	Integrated Sensing Systems	Packaging	Accessories
A3/8-4/18GDIM =3/8" Flex with 0-10V Dimming Leads. Multiple other configurations available. See below for details. A3/8-5/18GDIM =Flex with 0-10V Dimming leads and Blue for alternate wiring. See below for details.	CD =0-10V Dimming Driver (1%-100% Dimming) WN =WaveLinX Wireless Fixture, No Sensor. ^{(A),(G),(H)} 5LTD =Fifth Light DALI Driver (10%-100% Dimming) ^{(10),(E)} 5LTHD =Fifth Light Dimming Driver (1%-100% Dimming) ^(E) LV =Low-voltage System Dimming Driver (0%-100% Dimming) ^(C) SD =Step Dimming Driver (50% or 100% Dimming) ⁽¹⁰⁾ LH =Lutron HiLume (LDE1 series) 1%-100% EcoSystem Driver with Soft-on Fade to Black dimming ⁽⁷⁾ L5 =Lutron 5 Series (LDE5-Series) 5%-100% EcoSystem Driver ⁽⁷⁾ WZA =White Tuning, 2 ch, Intensity and CCT Control ⁽¹¹⁾ SR =Sensor-ready Dimming Driver (1%-100% Dimming)	1=1 Driver	[Blank] =No Sensor WAA =WaveLinX Wireless Integrated Sensor ^{(12),(A)} WAB =WaveLinX Lite Wireless Integrated Sensor ^{(13),(B)} WLA =Low-voltage Integrated Sensor ^{(14),(C)} SVPD1 =0-10V Stand-alone Integrated Sensor ^{(13),(D)}	U =Unit Pack PALC =Job Pack, in carton	EQ-CLIP-U =T-BAR Safety Earthquake Clips ⁽¹⁵⁾ F2M-14S-W-U =Field Installed Flange Kit DF-14W-U =1' x 4' Drywall Frame Kit SK-14-WT =Field Install Surface Mount Kit, Tall ISHH-01 =Programming Remote for Integrated Sensor ⁽²⁾ ISHH-02 =Personal Control Remote for Integrated Sensor ⁽²⁾
Flexible Metal Conduit Options Flex options available for 0-10V dimming control, DALI dimming control, emergency and night light functions. 72-inch factory-installed and pre-wired to driver, fitted to luminaire housing access plate with 90° enclosed FMC connector. Not all options may be combined and installation ratings vary by type. A3/8-4/18GDIM series notes: Factory installed dimming option 3/8" flexible metal conduit with 2-#18 power and ground wires and 2-#18 UL-listed jacketed 0-10V +/- control wires. Meets UL 66, 83, 1479, 1569, 1581, 2556, NEC® 250.118, 300.22(C), 392, 396, 330, 501, 502, 503, 530, 504, 505, 518, 520, 530, 645, 72; Federal Specification A-A-59544 (formerly J-C-308); all applicable OSHA and HUD Requirements. UL Classified 1-, 2-, and 3-hour through penetration with applicable fire stop product (not included). May be surface mounted, fished and/or embedded in plaster. Cable tray and approved raceway rated, install per NEC®; Environmental Air-Handling Space Installation per NEC® 300.22(C).	Notes (10) 2300, 2600 and 3100 Lumen packages not available with Step-Dim (SD) and Fifth Light (5LTD) driver option. (11) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with WZA driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (A) Consult WaveLinX system pages for additional details and compatibility. (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility. (E) Consult Fifth Light system pages for additional details and compatibility. (F) Consult Marketplace Options - Lutron system pages for additional details and compatibility. Compatible only with driver series shown, and may require two or more drivers. Requires field commissioning to operate or dim. Contact Lutron at www.lutron.com. (G) Not compatible with GTR, ETRD, or integrated sensor options. (H) Available with UNV voltage only.		Notes (12) WAA sensor to be used with CD or WZA driver. (13) WAB and SVPD1 sensor to be used with CD driver. (14) WLA sensor to be used with LV driver. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (A) Consult WaveLinX system pages for additional details and compatibility. (B) WaveLinX Lite devices are not currently compatible with the WaveLinX Wireless Area Controller. Consult WaveLinX Lite system pages for additional details and compatibility. (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility. (D) Consult SVPD series system pages for additional details and compatibility.		Notes (15) An EQ Grid Clip is recommended for all 9/16" ceiling systems. Four required per fixture. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (D) For use with SVPD sensor only. Consult SVPD series system pages for additional details and compatibility.

Project		Catalog #		Type	
Prepared by		Notes		Date	



Metalux

24RLN

2' x 4' Recessed LED
Specification Grade
Rectilinear Shielding

Typical Applications

- Commercial Office Spaces • Schools • Hospitals
- Retail Merchandising Areas

Interactive Menu

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- Photometric Data [page 4](#)
- Control Systems [page 5](#)
- VividTune™ Color Tuning Solutions [page 6](#)
- Product Warranty

Product Certification



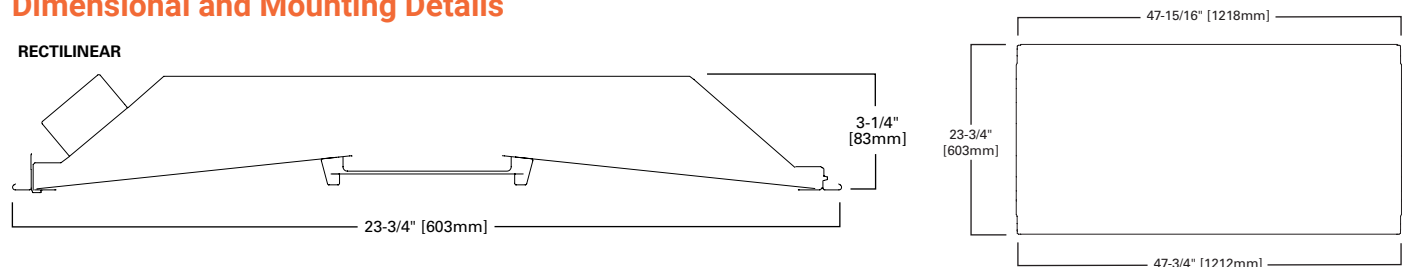
Product Features



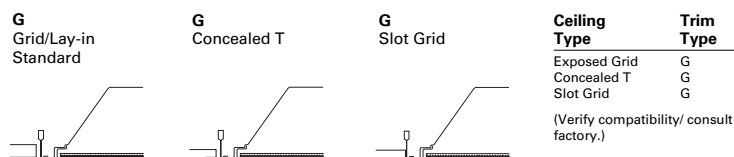
Top Product Features

- Luminous center panel with gently elevated luminous side panels for a visually pleasing appearance
- Efficacy up to 139 lm/W, uniform illumination for a pleasant ambient environment
- 3000K, 3500K, and 4000K at 80 or 90 CRI
- White tuning solutions available, either 3000K - 5000K or 2700K - 6500K
- LED driver access from below the ceiling

Dimensional and Mounting Details



Ceiling Compatibility



Order Information

SAMPLE ORDER NUMBER: **24RLN-LD5-45-UNV-L835-CD1-U**

Rating	Series	Door Frame	Lamp Type	Lumen Output	Shielding	Voltage	Emergency	CCT
Rating	Series ⁽¹⁾	Door Frame	Lamp Type	Lumen Output	Shielding	Voltage ⁽³⁾	Emergency	CCT
[Blank] =Standard ATW =Chicago SW4 =Chicago Rated	24RLN =2x4 RLN Series	Standard =Flat White Steel Door (Leave Blank)	LD5 =LED 5.0	Stock 45=4500 Lumen 55=5500 Lumen MTO 31=3100 Lumen 36=3600 Lumen 42=4200 Lumen 50=5000 Lumen 60=6000 Lumen 67=6700 Lumen 74=7400 Lumen ⁽²⁾ 80=8000 Lumen ⁽²⁾	[Blank] =Standard Lens RDP =Rectilinear with Round Pattern Insert	347V =347 Volt ⁽⁴⁾ UNV =Universal Voltage 120-277 48V =48 Volt Low-voltage (Class 2) ⁽⁵⁾ 120V =120 Volt ⁽⁵⁾ 277V =277 Volt ⁽⁵⁾	EL7W =7-watt, 120V-277V emergency battery pack installed ⁽⁶⁾ EL14W =14-watt 120V-277V emergency battery pack installed ⁽⁶⁾ ELV7W =Low-voltage system, 7-watt emergency battery pack ⁽⁵⁾ ELV14W =Low-voltage system, 14-watt emergency battery pack ⁽⁵⁾ GTR2 =Bodine Generator Transfer Relay ^{(7),(8)} ETRD =Iota Emergency Transfer Relay with dimming control ⁽⁷⁾	L830 =3000K L835 =3500K L840 =4000K L930 =3000K L935 =3500K L940 =4000K L83050 =80CRI 3000K-5000K White Tuning ⁽⁹⁾ L93050 =90CRI 3000K-5000K White Tuning ⁽⁹⁾ L82765 =80CRI 2700K-6500K White Tuning ⁽⁹⁾ L92765 =90CRI 2700K-6500K White Tuning ⁽⁹⁾
	Notes (1) DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium, refer to www. designlights.org for details.			Notes (2) Not compatible with WN driver.		Notes (3) Products also available in non-US voltages and frequencies for international markets. (4) 347V versions are not available with emergency options. (5) Must specify voltage as 120V or 277V when ordering GTR2 option. (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility.	Notes (6) With integral test switch/ indicator/laser test. For approximate delivered lumens multiply the lumens per watt of the desired fixture by the wattage of the emergency battery pack (100 lm/W x 7=700 lumens). IES-format photometry for luminaires under emergency operation available. (7) Used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others). GTR2 option includes 2 relays on fixtures with dimming drivers. ETRD option only requires one relay when used on a dimming fixture. (8) Must specify voltage as 120V or 277V when ordering GTR2 option. (C) Consult DLVP system pages for additional details and compatibility.	Notes (9) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity.

Factory Wiring	Driver Type	Number of Drivers	Integrated Sensing Systems	Packaging	Accessories
Factory Wiring	Driver Type	Number of Drivers	Integrated Sensing Systems	Packaging	Accessories
A3/8-4/18GDIM =3/8" Flex with 0-10V Dimming Leads. Multiple other configurations available. See below for details. A3/8-5/18GDIM =Flex with 0-10V Dimming leads and Blue for alternate wiring. See below for details.	CD =0-10V Dimming Driver (1%-100% Dimming) WN =WaveLinX Wireless Fixture, No Sensor ^{(A),(G),(H)} 5LTD =Fifth Light DALI Driver (10%-100% Dimming) ^{(10),(E)} 5LTHD =Fifth Light Dimming Driver (1%- 100% Dimming) ^(E) LV =Low-voltage System Dimming Driver (0%-100% Dimming) ^(C) SD =Step Dimming Driver (50% or 100% Dimming) ⁽¹⁰⁾ LH =Lutron HiLume (LDE1 series) 1%- 100% EcoSystem Driver with Soft-on Fade to Black dimming ⁽⁷⁾ L5 =Lutron 5 Series (LDE5-Series) 5%- 100% EcoSystem Driver ⁽⁷⁾ W2A =White Tuning, 2 ch, Intensity and CCT Control ⁽¹¹⁾ SR =Sensor-ready Dimming Driver (1%- 100% Dimming)	1 =1 Driver 2 =2 Drivers	[Blank] =No Sensor WAA =WaveLinX Wireless Integrated Sensor ^{(12),(A)} WAB =WaveLinX Lite Wireless Integrated Sensor ^{(13),(B)} WLA =Low-voltage Integrated Sensor ^{(14),(C)} SVPD1 =0-10V Stand-alone Integrated Sensor ^{(13),(D)}	U =Unit Pack PALC =Job Pack, in carton	EQ-CLIP-U =T-BAR Safety Earthquake Clips ⁽¹³⁾ DF-24W-U =2' x 4' Drywall Frame Kit SK-24-WS =Field Install Surface Mount Kit, Shallow SK-24-WT =Field Install Surface Mount Kit, Tall ISHH-01 =Programming Remote for Integrated Sensor ^(B) ISHH-02 =Personal Control Remote for Integrated Sensor ^(B)
Flexible Metal Conduit Options Flex options available for 0-10V dimming control, DALI dimming control, emergency and night light functions. 72-inch factory-installed and pre-wired to driver, fitted to luminaire housing access plate with 90° enclosed FMC connector. Not all options may be combined and installation ratings vary by type. A3/8-4/18GDIM series notes: Factory installed dimming option 3/8" flexible metal conduit with 2-#18 power and ground wires and 2-#18 UL-listed jacketed 0-10V +/- control wires. Meets UL 66, 83, 1479, 1569, 1581, 2556, NEC® 250.118, 300.22(C), 392, 396, 330, 501, 502, 503, 530, 504, 505, 518, 520, 530, 645, 72; Federal Specification A-A-59544 (formerly J-C-308); all applicable OSHA and HUD Requirements. UL Classified 1-, 2-, and 3-hour through penetration with applicable fire stop product (not included). May be surface mounted, fished and/or embedded in plaster. Cable tray and approved raceway rated, install per NEC®; Environmental Air-Handling Space Installation per NEC® 300.22(C).	Notes (10) 3100 and 3600 Lumen packages not available with Step-Dim (SD) and Fifth Light (5LTD) driver option. (11) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (A) Consult WaveLinX system pages for additional details and compatibility. (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility. (E) Consult Fifth Light system pages for additional details and compatibility. (F) Consult Marketplace Options - Lutron system pages for additional details and compatibility. Compatible only with driver series shown, and may require two or more drivers. Requires field commissioning to operate or dim. Contact Lutron at www.lutron.com . (G) Not compatible with GTR, ETRD, or integrated sensor options. (H) Available with UNV voltage only.		Notes (12) WAA sensor to be used with CD or W2A driver. (13) WAB and SVPD1 sensor to be used with CD driver. (14) WLA sensor to be used with LV driver. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (A) Consult WaveLinX system pages for additional details and compatibility. (B) WaveLinX Lite devices are not currently compatible with the WaveLinX Wireless Area Controller. Consult WaveLinX Lite system pages for additional details and compatibility. (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility. (D) Consult SVPD series system pages for additional details and compatibility.		Notes (13) An EQ Grid Clip is recommended for all 9/16" ceiling systems. Four required per fixture. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (D) For use with SVPD sensor only. Consult SVPD series system pages for additional details and compatibility.

Project		Catalog #		Type	
Prepared by		Notes		Date	



Metalux

SNLED Lensed

Lensed LED Strip Round and Square Lens

Typical Applications

Storage / Utility • Coves • Display Cases • Task and General Area

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- Photometric Data [page 3](#)
- Product Warranty

Product Certification



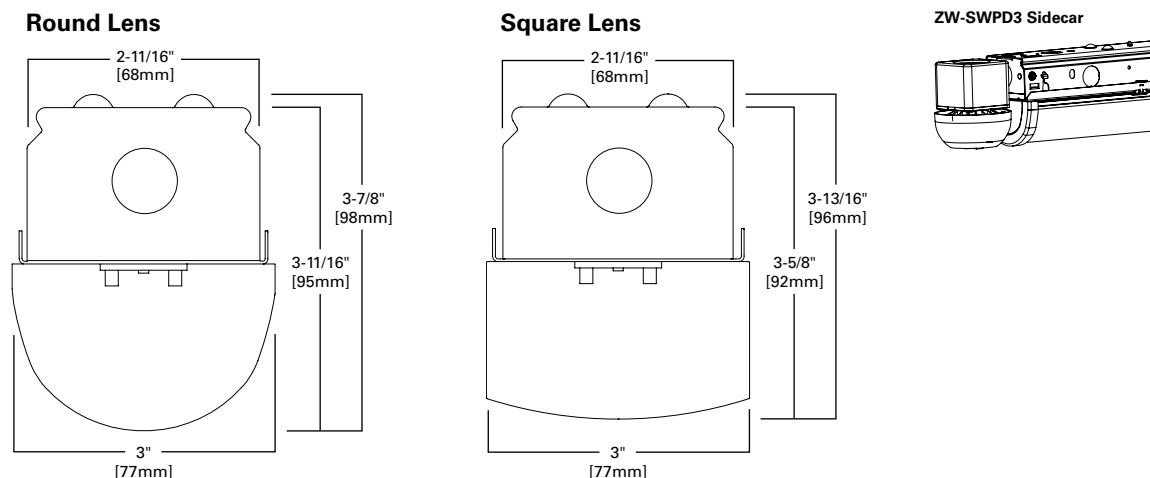
Product Features



Top Product Features

- Standard (SL) and High lumen/High Efficacy (HL) packages
- High efficiencies - up to 153 LPW
- Three different lens types for optical control
- Two different reflectors for precise distribution control
- Available CCT: 3000K, 3500K, 4000K and 5000K
- Minimum CRI of 80; 90 CRI available

Dimensional Details



[additional product diagrams](#)

Order Information

SAMPLE ORDER NUMBER: **4SNLED-LD5-46SL-LN-UNV-L835-CD1-U**
8TSNLED-LD5-200HL-SLN-UNV-EL7W-L840-CD2-U

Length	Series		Lamp Type
2=2 ft. 4=4 ft. 8T=8 ft.	SNLED=Commercial LED Striplight ⁽¹⁾		LD5=LED 5.0

LED Lumen Packages ⁽²⁾

2 ft. Round Lens			4 ft. Round Lens			8 ft. Round Lens			2 ft. Square Lens			4 ft. Square Lens			8 ft. Square Lens		
LC	LN	LW	LC	LN	LW	LC	LN	LW	SLC	SLN	SLW	SLC	SLN	SLW	SLC	SLN	SLW
18SL	18SL	16SL	18SL	18SL	16SL	60SL	60SL	54SL	19SL	19SL	16SL	19SL	19SL	15SL	60SL	64SL	50SL
22SL	22SL	20SL	22SL	22SL	20SL	68SL	68SL	61SL	24SL	24SL	20SL	23SL	23SL	19SL	70SL	70SL	58SL
26SL	26SL	23SL	26SL	26SL	23SL	75SL	75SL	67SL	27SL	27SL	22SL	27SL	27SL	22SL	78SL	77SL	64SL
34HL	32HL	30HL	30SL	30SL	27SL	83SL	83SL	74SL	37HL	37HL	30HL	30SL	30SL	25SL	84SL	84SL	70SL
Clear	Semi-frost narrow	Full frost wide	34SL	34SL	30SL	90SL	91SL	81SL	48HL	48HL	41HL	35SL	35SL	29SL	93SL	93SL	77SL
			37SL	37SL	33SL	98SL	98SL	88SL	Clear	Semi-frost narrow	Full frost wide	39SL	39SL	32SL	100SL	100SL	83SL
			41SL	41SL	37SL	105SL ⁽³⁾	106SL	95SL				42SL	42SL	35SL	108SL	108SL	90SL
			46SL	46SL	41SL	130HL ⁽³⁾	130HL ⁽³⁾	110HL				47SL	46SL	39SL	116SL	116SL	96SL
			49SL	53SL	44SL	170HL ⁽³⁾	170HL ⁽³⁾	150HL				50SL	50SL	41SL	125SL	125SL	104SL
			52SL	56SL	47SL	Clear	Semi-frost narrow	Full frost wide				54SL	54SL	45SL	131SL	130SL	108SL
			56SL	61SL	50SL							58SL	58SL	48SL	130HL	130HL	130HL
			63SL	64SL	56SL							63SL	63SL	52SL	170HL ⁽³⁾	170HL ⁽³⁾	170HL ⁽³⁾
			66SL	50HL	58SL							65SL	65SL	54SL	200HL	200HL	200HL
			52HL	54HL	44HL							77SL	78SL	64SL	Clear	Semi-frost narrow	Full frost wide
			55HL	60HL	48HL							85SL	85SL	70SL			
			60HL	74HL	54HL							54HL	54HL	46HL			
			76HL		65HL							57HL	57HL	48HL			
			Clear	Semi-frost narrow	Full frost wide							62HL	62HL	52HL			
												68HL	68HL	57HL			
												82HL	82HL	69HL			
												97HL	97HL	81HL			
												Clear	Semi-frost narrow	Full frost wide			

SL denotes standard lumen output. HL denotes high lumen output. Additional LEDs to obtain lumen package.
 For comparable lumen packages, HL efficacy is greater than SL efficacy.
 26SL: 2600 delivered lumens, standard lumen output
 170HL: 17000 delivered lumens, high output.

Same notes apply as round (column on left)

Lens	Voltage	Options		Color Temp / CCT	
Round LC =Clear Lens LN =Semi-Frost Lens - Narrow LW =Full Frost Lens - Wide Square SLC =Square / Flat Clear Lens SLN =Square / Flat Semi - Frost Lens - Narrow SLW =Square / Flat Full Frost Lens - Wide	UNV =Universal Voltage 120-277 347 =347V ^{(5), (6), (7)} 480 =480V ⁽⁴⁾	Emergency EL7W =7-watt, 120V-277V emergency battery pack installed ^{(8), (10)} EL14W =14-watt 120V-277V emergency battery pack installed ^{(8), (10)} GTR2 =Bodine Generator Transfer Relay ⁽¹¹⁾ ETRD =Iota Emergency Transfer Relay with dimming control ⁽¹¹⁾	Wiring PI/CPI =Plug in and cross over plug in options ⁽¹³⁾ PC6/515P =(NEMA 5-15P) 6 ft. Cord with NEMA Straight Plug ^{(12), (13)} PC6/L715 =(NEMA L7-15P) 6 ft. Cord with NEMA Twist Plug ^{(12), (13)} ZW-SWPD3 =WaveLinX Wireless Sensor, Sidecar mount, with 1200 sq ft. coverage	Motion Sensors ⁽¹⁴⁾ LB-ERMS360 =360° Low Bay Motion Sensor - End of Row LB-MRMS360 =360° Low Bay Motion Sensor - Middle of Row HB-ERMS360 =360° High Bay Motion Sensor - End of Row ⁽⁹⁾ HB-MRMS360 =360° High Bay Motion Sensor - Middle of Row ⁽⁹⁾	CCT/CRI L830 =3000K, 80 CRI L835 =3500K, 80 CRI L840 =4000K, 80 CRI L850 =5000K, 80 CRI L930 =3000K, 90 CRI L935 =3500K, 90 CRI L940 =4000K, 90 CRI L950 =5000K, 90 CRI

Drive Type	No. of Drivers	Paint Finish	Packaging	Accessories (Order Separately)		
CD =0-10V Dimming Driver (10%-100% Dimming) HCD =0-10V Dimming Driver (1%-100% Dimming) SD =Step-dim (Bi Level) ⁽¹⁵⁾ SLTD =Fifth Light (DALI) Driver ^{(15), (16)}	1=1 Driver 2=2 Drivers	[blank] =Standard White BLK =PAF Black ⁽¹⁷⁾	U =Unit Pack	AVC-Chain/Set =36" Chain Hanger (Use 1 set per fixture) SCF =Fixed Stem Set (Specify Length) SCS =Swivel Stem Set (Specify Length) SCA =Adjustable 48" Stem Set EYE-CHAIN/SET-B =Eye Bolt Chain (Use 1 set per fixture) WG/SNF-2FT =2 ft Wire Guard WG/SNF-4FT =4 ft Wire Guard A1B/Spacer-U =Spacer 1-1/2" to 2-1/2" from ceiling (Use 2 per fixture) TOGGLE =Single Toggle No. 2 (Specify Length) BKTY18-063_K =Y-Toggle, No. 2 (Specify length in inches), Use 2 per fixture GRP-SNF-U =Gripper Hanger 550702P PK =SNLED Long Row Aligner Extension	Round Replacement Lenses SNLED-LENS-LW-2FT-U =Replacement Lens 2 ft, Full Frost SNLED-LENS-LN-2FT-U =Replacement Lens 2 ft, Semi Frost SNLED-LENS-LC-2FT-U =Replacement Lens 2 ft, Clear SNLED-LENS-LW-4FT-U =Replacement Lens 4 ft, Full Frost SNLED-LENS-LN-4FT-U =Replacement Lens 4 ft, Semi Frost SNLED-LENS-LC-4FT-U =Replacement Lens 4 ft, Clear	Square Replacement Lenses SNLED-SQLENS-SLW-2FT-U =Replacement Lens 2 ft, Full Frost SNLED-SQLENS-SLN-2FT-U =Replacement Lens 2 ft, Semi Frost SNLED-SQLENS-SLC-2FT-U =Replacement Lens 2 ft, Clear SNLED-SQLENS-SLW-4FT-U =Replacement Lens 4 ft, Full Frost SNLED-SQLENS-SLN-4FT-U =Replacement Lens 4 ft, Semi Frost SNLED-SQLENS-SLC-4FT-U =Replacement Lens 4 ft, Clear

Notes: (1) DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details. (2) Nominal lumen values. See table for value and fixture length. (3) DALI and Step-dim versions require two drivers. (4) 4 ft. and 8 ft. only. (5) 347V CD driver is limited to 50W max output before requiring 2 drivers (no 85W 347V solution). (6) 347 SD Driver require qty 2 transformers for Dual switch legs can not offer with EBP due to space requirements for 3 ed transformer for EBP charge circuit. (7) All other drivers at 347V requires single transformer for Driver. If EBP is included, would require second transformer THD on PF affected by transformer (no DLC). (8) 4 ft. and 8 ft. only. (9) Motion Sensor offers dimmability. (10) With integral test switch/indicator/laser test. For approximate delivered lumens multiply the lumens per watt of the desired fixture by the wattage of the emergency battery pack (100 lm/W x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. (11) Used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others). GTR2 and ETR2 options include 2 relays on fixtures with dimming drivers. ETRD option only requires one relay when used on a dimming fixture. Must specify voltage as 120V or 277V when ordering these devices. (12) Most common C&P shown. Must specify location for cord. All "end" locations will be on the end with sensor installed. (13) Consult tech support on numerous options for this feature. (14) Sensors provided in separate externally mounted enclosure. See SRL spec sheet for fully integrated/connected sensors. (15) 4 ft. and 8 ft. only. (16) For a complete listing of Fifth Light products, visit www.cooperlighting.com (17) Black fixture and lens ends. Refer to Finish multiplier table for performance (page 3).

DESCRIPTION

4 inch LED recessed narrow, medium, or wide beam downlight designed for glare free even illumination. Featuring a two-stage diffused reflector system producing smooth distribution with excellent light control and low aperture brightness. Lumen packages range from 500 to 6000 with color temperatures of 2400K, 2700K, 3000K, 3500K, 4000K, and 5000K. VividTune: Dim-to-warm technology – similar to halogen at full power, the 3000K LED warms smoothly as dimmed to 1850K creating a rich warm glow within the space. Tunable white technology - adjust the color temperature from warm white to cool white while independently controlling intensity.

SPECIFICATION FEATURES

Lower Shielding Reflector

Painted die cast aluminum or spun aluminum lower reflector with a lensed upper optical chamber providing superior lumen output with minimal source brightness. Spun reflectors are offered in all Portfolio Alzak® finishes. Available with non-conductive polymer trim. Reflector is retained with two torsion springs holding the flange tight to the finished ceiling surface. Plaster lathing ring accessory offered for flush reflector transition.

Plaster Frame / Collar

Die cast aluminum 1-1/2" deep collar accommodates ceiling materials up to 2". Universal mounting bracket accepts 1/2" EMT, C channel and bar hangers and adjusts 5" vertically from above and below the ceiling.

Junction Box

Listed for (8) #12 AWG (four in, four out) 90°C conductors and feed thru branch wiring. (4) 1/2" and (2) 3/4" trade size pry outs positioned to allow straight conduit runs. Lever connectors for simple push in wiring.

Thermal

Aluminum heat sink conducts heat away from the LED module for optimal performance and long life.

LED

Chip on board with a multitude of highly efficient white LED's, combined with a high reflectance upper reflector and convex transitional lens produce even distribution with no pixilation. Lumen output shall not decrease by more than 10% over the minimum life of 55,000 hours (L90 > 55,000 hours).

Auto resetting, thermally protected, LED's are turned off when safe operating temperatures are exceeded. Color variation within 2-step MacAdam ellipses. Quick disconnect allows for tool-less replacement of LED engine from below ceiling. Available in 80, 90 or 97 CRI.

D2W™ – dim-to-warm shifts CCT from 3000K to 1850K as fixture dims mimicking halogen sources.

W2N - Tunable white CCT range 2700K to 6500K or 2000K to 5000K, 90 CRI.

Driver

Standard 120-277V 0-10V dimming driver provides flicker free dimming from 100% to 1%. Optional 120V leading edge, <1% 0-10V, Fifth Light, DMX or Lutron® Ecosystem. Driver can be serviced from above or through the aperture. Distributed low voltage power system combines power, lighting, and controls with ease of installation.

Connected Lighting System Options

Two WaveLinx connected systems to choose from. Refer to WaveLinx system specifications and application guides for details.

WaveLinx Wireless System Tilemount Sensor Kit

- WaveLinx Wireless WTA tile mount sensor kit offers daylight dimming, PIR motion sensing, scene and zone configuration, automatic commissioning; and optional RLTS - Real Time Location Services available.

WaveLinx Lite System Tilemount Sensor Kit

- WaveLinx Lite WTK tile mount sensor kit offers daylight dimming and PIR motion sensing, scene and grouping configuration.

WaveLinx Tilemount Kits Application

- The WTA and WTK tilemount kits include a control module mounted on the luminaire junction box via 1/2" knock-out, and a tilemount sensor on 54-inch whip; for ceiling installation by direct-mount spring clips or via mounting bracket in octagon ceiling boxes.
- The WTA and WTK tilemount kits may be ordered as factory installed on the luminaire, or ordered separately as a field installed accessory kit.

Code Compliance

Thermally protected and cULus listed for wet locations with covered ceiling. IP66 rated when used with IP66 gasket kit accessory. Optional City of Chicago environmental air (CCEA) marking for plenum applications. EMI/RFI emissions per FCC 47CFR Part 18 Class B consumer limits. 2000 lumen and above are Non-IC rated - Insulation must be kept 3" from top and sides of housing. IC rated up to 1500 lumens. 5000 lumen and above are marked spacing and must follow spacing requirements. RoHS Compliant. Photometric testing completed in accordance with IES LM 79. Lumen maintenance projections in accordance with IES LM-80-08 and TM-21-11.

Warranty

5-year warranty

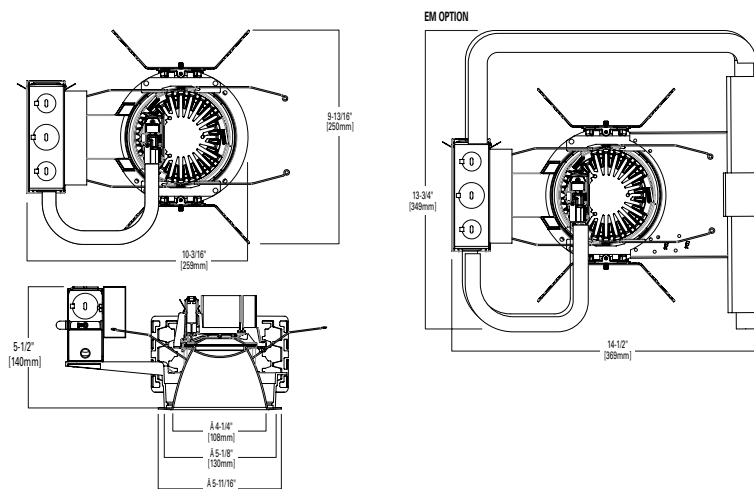


**LD4B EU4B
4LBW 4LBM
4LBN**

500-6000 Lumen LED

Narrow, Medium, or Wide Beam

New Construction



Housing	Lumens ¹	Voltage	Driver	Options ³
LD4B =LED Downlight 4" Nominal Aperture LD4BCP =LED Downlight 4" Nominal Aperture, Chicago Plenum	05 =500 lumens ¹⁹ 10 =1000 lumens 15 =1500 lumens 20 =2000 lumens 30 =3000 lumens 40 =4000 lumens 50 =5000 lumens ¹⁵ 60 =6000 lumens ¹⁵	Blank =120-277V 3 =347V (step down transformer)	500-4000 D010 =0-10V Dimming, 1% to 100%, 120V-277V D010TR =0-10V or Line Voltage Dimming, 5% to 100%, 120V-277V DE010 =0-10V Linear Dimming, 0% to 100%, 120V-277V D5LT =Fifth Light® (DALI) Logarithmic Dimming, 0% to 100%, 120V-277V DMX =DMX/RDM Logarithmic Dimming, 0% to 100%, 120V-277V ¹³ DMXC5 =DMX/RDM Logarithmic Dimming, 0% to 100%, 120V-277V, with RJ45 connection DL2 =Lutron® Hi-Lume Forward Phase Dimming, 1% to 100%, 120V Only DLE =Lutron Ecosystem dimming 1% to 100%, 120V-277V DLV =Low voltage dimming driver (1-100%) for use with DLVP system (3000 lumen and below) ^{3,14} 5000-6000 D010TE =0-10V 1% or trailing edge 10%, 120-277V (120V only with trailing edge dimming) Tunable white 1000-2000 Lumens ¹⁴ 1DE010W2N2050 =0-10V dimming, 0% to 100%, 120V, 2000K - 5000K 1DE010W2N2765 =0-10V dimming, 0% to 100%, 120V, 2700K - 6500K 1D5LTW2N2050 =Fifth Light (DALI), 0% to 100%, 120, 2000K - 5000K 1D5LTW2N2765 =Fifth Light (DALI), 0% to 100%, 120V, 2700K - 6500K 2DE010W2N2050 =0-10V dimming, 0% to 100%, 277V, 2000K - 5000K 2DE010W2N2765 =0-10V dimming, 0% to 100%, 277V, 2700K - 6500K 2D5LTW2N2050 =Fifth Light (DALI), 0% to 100%, 277V, 2000K - 5000K 2D5LTW2N2765 =Fifth Light (DALI), 0% to 100%, 277V, 2700K - 6500K	EMBOD =Bodine® Emergency Module with Remote Test Switch EMBOD7ST =Bodine® Emergency Module with Self Test Remote Test Switch EM7 =7W Emergency Module with Remote Test Switch EM14 =14W Emergency Module with Remote Test Switch IEMBOD =Bodine® Emergency Module with Integral Test Switch IEM7 =7W Emergency Module with Integral Test Switch IEM14 =14W Emergency Module with Integral Test Switch EMV7 =7W Low Voltage Emergency Module with Remote Test Switch ⁴ EMV14 =14W Low Voltage Emergency Module with Remote Test Switch ⁴ IEMV7 =7W Low Voltage Emergency Module with Integral Test Switch ⁴ IEMV14 =14W Low Voltage Emergency Module with Integral Test Switch ⁴ WTA = Factory installed WaveLinX sensor Kit ^{14 17} WTK = Factory installed WaveLinX Lite Sensor Kit ^{14 18}

SAMPLE NUMBER: EU4B10208035

Power Module	Lumen Levels ¹	CRI	Color		
EU4B =4" Universal LED Module	05 =500 lumens 1020 =1000, 1500, 2000 lumens 3040 =3000-4000 lumens 5000 =5000 lumens ¹⁵ 6000 =6000 lumens ¹⁵ 1015IC =1000, 1500 lumen IC rated	80 =80 CRI Minimum 90 =90 CRI Minimum 97 =97 CRI Minimum	80 CRI 27 =2700K 30 =3000K 35 =3500K 40 =4000K 50 =5000K	90 CRI 24 =2400K 27 =2700K 30 =3000K 35 =3500K 40 =4000K 50 =5000K	97 CRI 27 =2700K 30 =3000K
	Dim 2 Warm 109030D2W =1000 lumen, 90 CRI, Dim 2 Warm, IC rated 159030D2W =1500 lumen, 90 CRI, Dim 2 Warm, IC rated 209030D2W =2000 lumen, 90 CRI, Dim 2 Warm 309030D2W =3000 lumen, 90 CRI, Dim 2 Warm		Tunable white ¹⁴ 1020W2N902050 =1000, 1500, 2000 lumens, 90 CRI, tunable white 2000K-5000K 1020W2N902765 =1000, 1500, 2000 lumens, 90 CRI, tunable white 2700K-6500K		

SAMPLE NUMBER: 4LBM1LIE

Trim	Distribution ⁵	Flange	Finish	Options
4LB =4" LED	N =Narrow (30° Beam), Spun Aluminum M =Medium (50° Beam), Spun Aluminum W =Wide (75° Beam), Spun Aluminum S =Shallow (75° Beam), Spun Aluminum PS =Non-conductive Shallow (75° Beam), Injection Molded white ¹¹ CS =Cast Shallow (75° Beam), Die Cast Aluminum BA =Baffle, Spun Aluminum ⁷	0 =White Polymer Trim Ring 1 =Self-flanged ¹² 2 =White Painted Self-flanged	LI =Specular Clear ¹⁰ H =Semi-Specular Clear ¹⁰ WMH =Warm Haze ¹⁰ WH =Wheat ¹⁰ GPH =Graphite Haze ¹⁰ B =Specular Black ¹⁰ MW =Matte White MB =Matte Black ⁹ MMS =Matte Metallic Silver ⁹	E =Integral Emergency Test Switch Hole ⁶

Accessories
HSA4 =Slope Adapter for 4" Aperture Housings, Specify Slope in 5° increments TRM4 =Metal Trim Ring, Specify Color ² TRR4 =Rimless Trim Ring ² LGSKT4IP66 =IP66 Gasket Kit PRR4 =Rimless Plaster Ring for Flush Mount ² Bar Hangers HB26 =C-channel Bar Hanger, 26" Long, Pair HB50 =C-channel Bar Hanger, 50" Long, Pair RMB22 =Wood Joist Bar Hanger, 22" Long, Pair Transformers H347 =347 to 120V Step Down Transformer, 75VA H347200 =347 to 120V Step Down Transformer, 200VA Connected Lighting Systems ^{3, 14} WTA = Field installed WaveLinX sensor Kit ¹⁷ WTK = Field installed WaveLinX Lite Sensor Kit ¹⁸

Notes:

- Nominal Lumens will vary depending on selected color, driver and reflector finish.
- Order spun trim with polymer trim ring or die cast with rimless flange (Consult specification sheet for color ordering information and options).
- Not available with Chicago Plenum.
- ULUS approved only.
- Beam angles are nominal with LI finish trims.
- Only available with Narrow and Medium Spun Aluminum trims. Required for use with all IEMBOD, IEM7, and IEM14 housings.
- Only available with Matte White and Matte Black Finishes.
- Only available on CS distribution.
- Available only on BA and CS distributions.
- Not available on PS, CS or BA distributions.
- Matte white and self flanged only, 2000 lumen max.
- Flange is same finish as the reflector.
- DMX fixtures default to full on upon loss of DMX signal.
- Refer to system specifications for additional information, features, and benefits. Order either factory installed option or accessory. Use with 0-10V driver.
- Product is marked spacing and must be installed with the following minimum spacing
- Center to center of adjacent luminaires: 36"
- Center of luminaire to side of building member: 18"
- Minimum overhead: ½"
- Non-IC
- WTA = WaveLinX wireless sensor kit for daylight dimming, PIR motion sensing, and optional RLTS - Real Time Location Services, use with 0-10V only.
- WTK = WaveLinX Lite tile mount sensor kit for daylight dimming, PIR motion sensing, use with D010 only (Refer to WaveLinX Lite system specifications)
- Limited to D010 drivers.

PRODUCT SPECIFICATIONS

Elkay ezH2O[®] Bottle Filling Station, & Bi-Level High Efficiency Vandal-Resistant Cooler, Filtered Refrigerated Stainless. Chilling Capacity of 8.0 GPH (gallons per hour) of 50° F drinking water, based on 80° F inlet water and 90° F ambient, per ASHRAE 18 testing. Features shall include Antimicrobial, Filtered, Green Ticker[™], Hands Free, High Efficiency, Laminar Flow, Real Drain, Vandal Resistant, Visual Filter Monitor. Furnished with Vandal Resistant StreamSaver[™] bubbler. Electronic Bottle Filler Sensor with Mechanical Front Bubbler Button activation. Product shall be Wall Mount (On Wall), for Indoor applications, serving 2 station(s). Unit shall be certified to UL 399 and CAN/CSA C22.2 No. 120. Unit shall be lead-free design which is certified to NSF/ANSI 61 & 372 (lead free) and meets Federal and State low-lead requirements.

Special Features:	Antimicrobial, Filtered, Green Ticker [™] , Hands Free, High Efficiency, Laminar Flow, Real Drain, Vandal Resistant, Visual Filter Monitor
Finish:	Stainless Steel
Power:	115V/60Hz
Bubbler Style:	Vandal Resistant StreamSaver [™]
Activation by:	Electronic Bottle Filler Sensor with Mechanical Front Bubbler Button
Mounting Type:	Wall Mount (On Wall)
Chilling Capacity*:	8.0 GPH
Full Load Amps	1
Rated Watts:	260
Dimensions (L x W x H):	36-1/8" x 18-5/8" x 46-1/4"
Approx. Shipping Weight:	115 lbs.
Installation Location:	Indoor
No. of Stations Served:	2
*Based on 80° F inlet water & 90° F ambient air temp for 50° F chilled drinking water.	

- Mechanically-Activated bubbler continues to supply water in event of service disruptions.
- Visual Filter Monitor: LED Filter Status Indicator for when filter change is necessary.
- Filter is certified to NSF 42 and 53 for lead, particulate, chlorine, taste and odor reduction. 3,000 gal. capacity.
- High-performance compressor and insulation greatly reduce energy consumption.
- Green Ticker: Informs user of number of 20 oz. plastic water bottles saved from waste.
- Laminar flow provides clean fill with minimal splash.
- Silver Ion Antimicrobial protection on key plastic components to inhibit the growth of mold and mildew.
- Real Drain System eliminates standing water.

PART: _____ QTY: _____
 PROJECT: _____
 CONTACT: _____
 DATE: _____
 NOTES: _____
 APPROVAL: _____



Included with Product: Water Cooler (LVRGRNTL8WSC), Bottle Filler (LZWSR), Filter

▼ Ships in multiple boxes.

AMERICAN PRIDE. A LIFETIME TRADITION. Like your family, the Elkay family has values and traditions that endure. For almost a century, Elkay has been a family-owned and operated company, providing thousands of jobs that support our families and communities.



PRODUCT COMPLIANCE

ADA & ICC A117.1
 ASME A112.19.3/CSA B45.4
 Buy American Act
 CAN/CSA C22.2 No. 120
 GreenSpec[®]
 NSF/ANSI 42, 53, 61, & 372 (lead free)
 UL 399



Complies with ADA & ICC A117.1 accessibility requirements when installed according to the requirements outlined in these standards. Installation may require additional components and/or construction features to be fully compliant. Consult the local Authority Having Jurisdiction if necessary.

[Installation Instructions \(PDF\)](#)

5 Year Limited Warranty on the refrigeration system of the unit. Electrical components and water system are warranted for 12 months from date of installation. **Warranty pertains to drinking water applications only. Non-drinking water applications are not covered under warranty.**


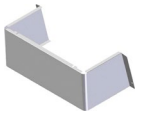


[Warranty \(PDF\)](#)

In keeping with our policy of continuing product improvement, Elkay reserves the right to change product specifications without notice. Please visit elkay.com for the most current version of Elkay product specification sheets. This specification describes an Elkay product with design, quality, and functional benefits to the user. When making a comparison of other producers' offerings, be certain these features are not overlooked.

COOLING SYSTEM

- Compressor: Hermetically-sealed, reciprocating type, single phase. Sealed-in lifetime lubrication.
- Condenser: Fan cooled, copper tube with aluminum fins. Fan motor is permanently lubricated.
- Cooling Unit: Combination tube-tank type. Continuous copper tubing with is fully insulated with EPS foam that meets UL requirements for self-extinguishing material.
- Refrigerant Control: Refrigerant HFC-134a is controlled by accurately calibrated capillary tube for positively trouble-free operation.
- Temperature Control: Easily accessible enclosed adjustable thermostat is factory preset. Requires no adjustment other than for altitude requirements.

Optional Accessories

51300C	Elkay WaterSentry Plus Replacement Filter (Bottle Fillers) Spec Sheet (PDF)	
98324C	Accessory - Cane Apron for HAC, HVR, EMABF & VRC Models (Stainless) Spec Sheet (PDF)	
36292C	Accessory - Power Block for Multistation Bottle Filling Stations Spec Sheet (PDF)	
WSF6000R-2PK	WaterSentry Fresh 6000 CTO Replacement Filter (2pack) Spec Sheet (PDF)	

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IMPORTANT! INSTALLER PLEASE NOTE :

This water cooler has been designed and built to provide water to the user which has not been altered by materials in the cooler waterways. The grounding of electrical equipment such as telephone, computer, etc. to water lines is a common procedure. The grounding may be in the building but may also occur away from the building. This grounding can cause electrical feedback into a water cooler creating an electrolysis which creates a metallic taste or causes an increase in the metal content of the water. This condition is avoidable by installing the cooler using the proper materials as shown below.

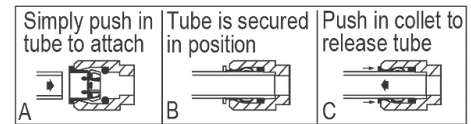
NOTICE

This water cooler must be connected to the water supply using a dielectric coupling. The cooler is furnished with a non-metallic strainer which meets this requirement. The drain trap which is provided by the installer should also be plastic to completely isolate the cooler from the building plumbing system.

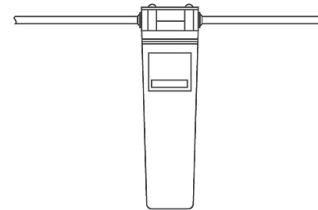
Bottle filler unit on bracket attached to wall by 6 holes (as shown). Water and electrical will connect through pre-punched hole in basin.

These products are designed to operate on 20 psi to 105 psi supply line pressure. Simultaneous operation of both bubblers on a bi-level unit may not be possible depending on water supply pressure. If simultaneous operation is desired, please ensure a minimum of 50 psi supply.

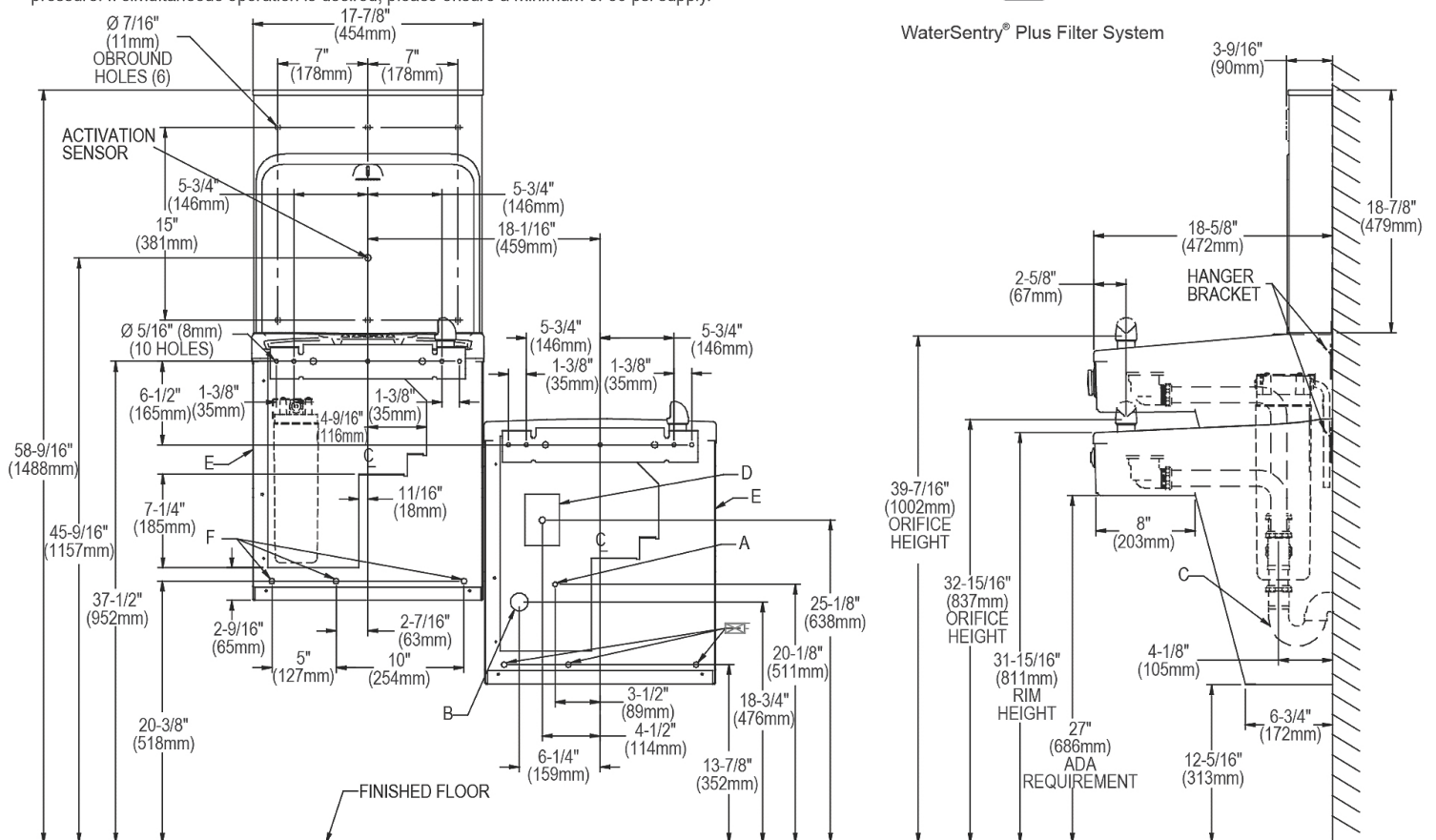
OPERATION OF QUICK CONNECT FITTINGS



Pushing tube in before pulling it out helps to release tube



WaterSentry[®] Plus Filter System



LEGEND:

REDUCE HEIGHT BY 3 INCHES FOR INSTALLATION OF CHILDRENS ADA COOLER

A = Recommended Water Supply location. Shut-off Valve (not furnished) to accept 3/8" O.D. unplated copper tube. Up to 3" (76mm) maximum out from wall.

B = Recommended Waste Outlet location. To accommodate 1-1/2" nominal drain. Drain stub 2" (51mm) out from wall.

C = 1-1/2" Trap (not furnished).

D = Electrical Supply (3) Wire Recessed Box Duplex Outlet.

E = Insure proper ventilation by maintaining 6" (152mm) minimum clearance from cabinet louvers to wall.

F = 7/16" (11mm) Bolt Holes for fastening to wall.

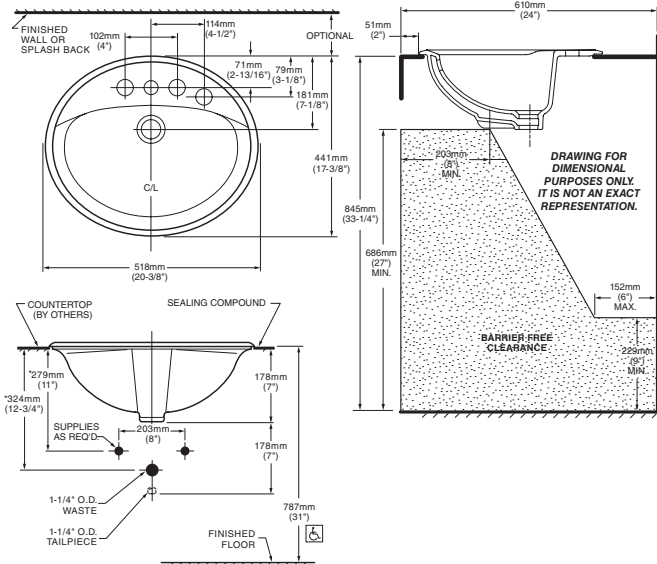
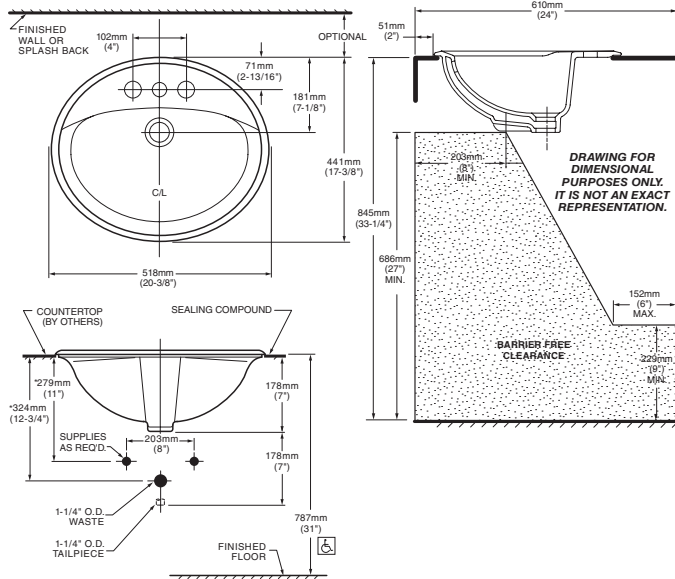
Note : New Installations Must Use Ground Fault Circuit Interrupter (GFCI). It is highly recommended that the circuit be dedicated and the load protection be sized for 20 amps.

In keeping with our policy of continuing product improvement, Elkay reserves the right to change product specifications without notice. Please visit elkay.com for the most current version of Elkay product specification sheets. This specification describes an Elkay product with design, quality, and functional benefits to the user. When making a comparison of other producers' offerings, be certain these features are not overlooked.

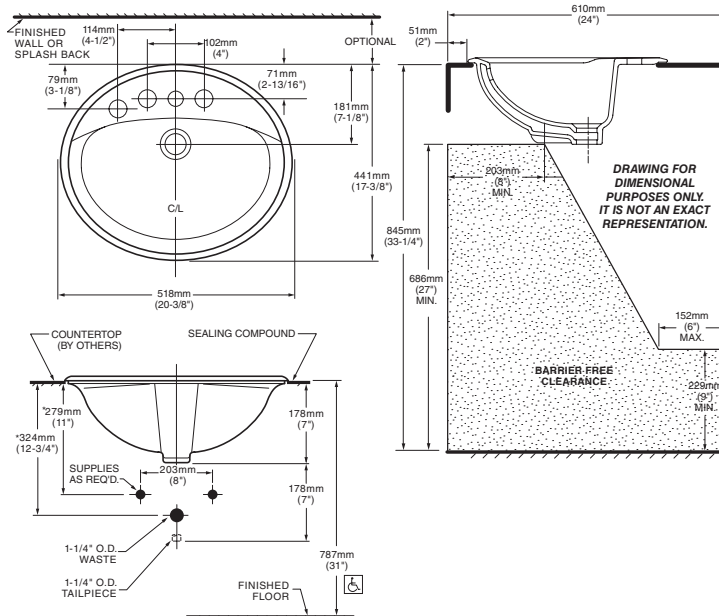
Attachment 5, Page 221 of 236

0476.028 Faucet holes on 4" (102mm) centers

0476.037 Faucet holes on 4" (102mm) centers
 • Extra right-hand hole



0475.035 Faucet holes on 4" (102mm) centers
 • Extra left-hand hole



MEETS THE AMERICANS WITH DISABILITIES ACT GUIDELINES AND ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES - CHECK LOCAL CODES.
 Install lavatory 864mm (34") from finished floor.
 Lavatory installed 51mm (2") minimum from front edge of countertop provides 686mm (27") knee clearance area.

NOTES:

* DIMENSIONS SHOWN FOR LOCATION OF SUPPLIES AND "P" TRAP ARE SUGGESTED.
 FOR COUNTERTOP CUTOUT AND INSTALLATION INSTRUCTIONS USE TEMPLATE SUPPLIED WITH SINK.
 FITTINGS NOT INCLUDED WITH FIXTURE AND MUST BE ORDERED SEPARATELY.
 SEALING COMPOUND SUPPLIED BY OTHERS.

IMPORTANT: Dimensions of fixtures are nominal and may vary within the range of tolerances established by ANSI Standard A112.19.2. These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided pages.

OPTIONS**Power Type**

☒ Hardwired

Body Type

☒ Mid

Mounting

☒ Deck

Power Supply

☒ Plug Adapter (PLG)
Hardwired Less Transformer (HLT)

Sensor Type

☒ Infrared (IR)

Flow Rate

☒ 0.5 gpm (2 Lpm) (0.5GPM)
0.35 gpm (1 Lpm) (0.35GPM)
1.0 gpm (4 Lpm) (1.0GPM)

Spray Type

☐ Aerated (AER)
☒ Multi-Laminar (MLM)
☐ Laminar (LAM)

Finish

☒ Polished Chrome (CP)

Control Access

☒ Above Deck

Mixer

☐ Integrated Side Mixer (ISM)
☐ Mixer Not Included
☒ Integrated Thermostatic Mixer (ITM)

Special Features

☐ IQ Click (IQ)
☐ Carbon Offset (CO)
☐ Less Logo (LL)
☐ IC Click (IC)
☐ Drain Pop Up (DPU)

Compliances & Certifications

☒ ADA Compliant
☒ ASME A112.18.1 Compliant
☐ CEC Compliant
☐ NYC604.4
☐ Proposition 65
☐ TAS



Image for a standard EAF-200 shown

DESCRIPTION

Optima® Hardwired-Powered Deck-Mounted Mid Body Faucet

FEATURES

Commercial Grade, ADA Compliant, Electronic, Sensor-Activated, Die-Cast Metal Hand Washing Faucet with the following features:

- Double Infrared Sensors with Automatic Setting Feature and Microprocessor
- Automatic Self-adapting Sensor Technology
- Magnetic Solenoid Valve
- Water Supply Connection with Flexible High-pressure Hose and Strainer
- 6 Volt DC Plug-in Adapter (must be ordered separately for Less Adapter/Transformer (-LT) faucets)
- Appropriate Mounting Hardware included
- 3 year limited warranty

DOWNLOADS

- [EAF 200/225/250/275 Installation Instructions](#)
- [EAF 200/225/250/275 \(SP\) Installation Instructions](#)
- [Faucet Spray Heads Repair and Maintenance Guide](#)
- [Optima Plus EAF 200 Repair and Maintenance Guide](#)
- [Additional Downloads](#)

VIDEOS

 Sloan Connect App®

FLORWELL™ SERVICE SINK

- Enameled cast iron
- 3" outlet
- Corner model

☐ **7741.000** Fixture only - Less rim guard

☐ **7745.811** Removable vinyl rim guard

Nominal Dimensions:

711 x 711 x 330mm
(28" x 28" x 13")

Compliance Certifications -

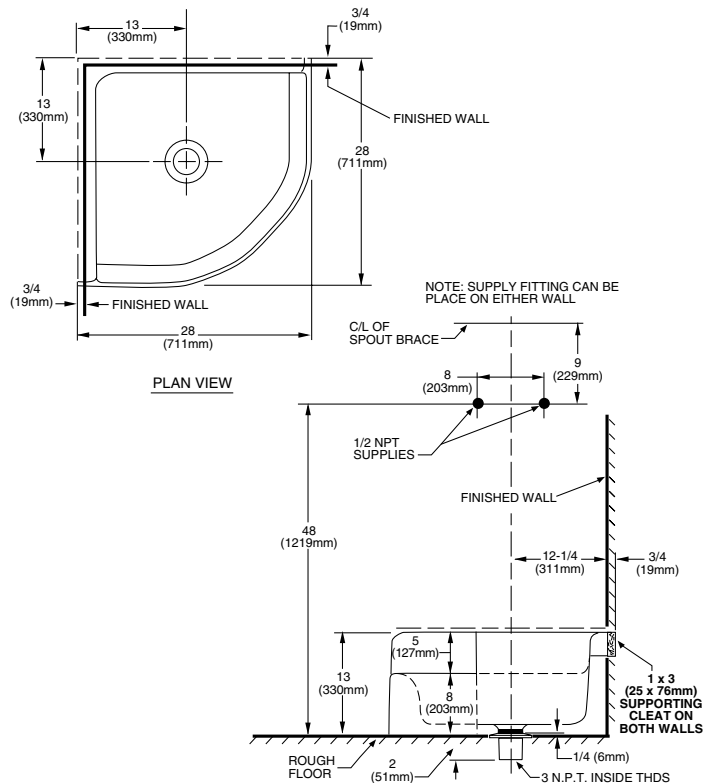
Meets or Exceeds the Following Specifications:

- ASME A112.19.1 for Cast Iron Plumbing Fixtures



To Be Specified:

- ☐ Faucet: 8344.112 faucet with top brace, stops, and vacuum breaker
- ☐ Alternative Faucet:
- ☐ Drain: 7721.038 flat grid drain
- ☐ Removable vinyl-coated rim guard: 7745.811 (black)



NOTES:

PROVIDE SUITABLE REINFORCEMENT FOR ALL WALL SUPPORTS. FITTINGS NOT INCLUDED AND MUST BE ORDERED SEPARATELY.

IMPORTANT: Dimensions of fixtures are nominal and may vary within the range of tolerances established by ANSI Standard A112.19.2. These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided pages.

Manual Sink Faucets

897-CRCF

Product Type

Wall-mounted manual sink faucet with 8" centers

Features & Specifications

- Round wall escutcheons
- Includes integral check valves
- 8" body, adjustable arms 7-5/8" - 8-3/8" centers
- Vandal Proof 2-3/8" lever handle
- Ceramic 1/4-turn operating cartridge, right-hand
- Ceramic 1/4-turn operating cartridge, left-hand
- CFNow! Item Ships in 3 Days


Performance Specification

- Rated Operating Pressure: 20-125 PSI
- Rated Operating Temperature: 40-140°F

Warranty

- 5-Year Limited Cartridge Warranty
- Lifetime Limited Faucet Warranty
- 1-Year Limited Finish Warranty

Codes & Standards

-  ASME A112.18.1/CSA B125.1

Job Name _____

Item Number _____

Section/Tag _____

Model Specified _____

Architect _____

Engineer _____

Contractor _____

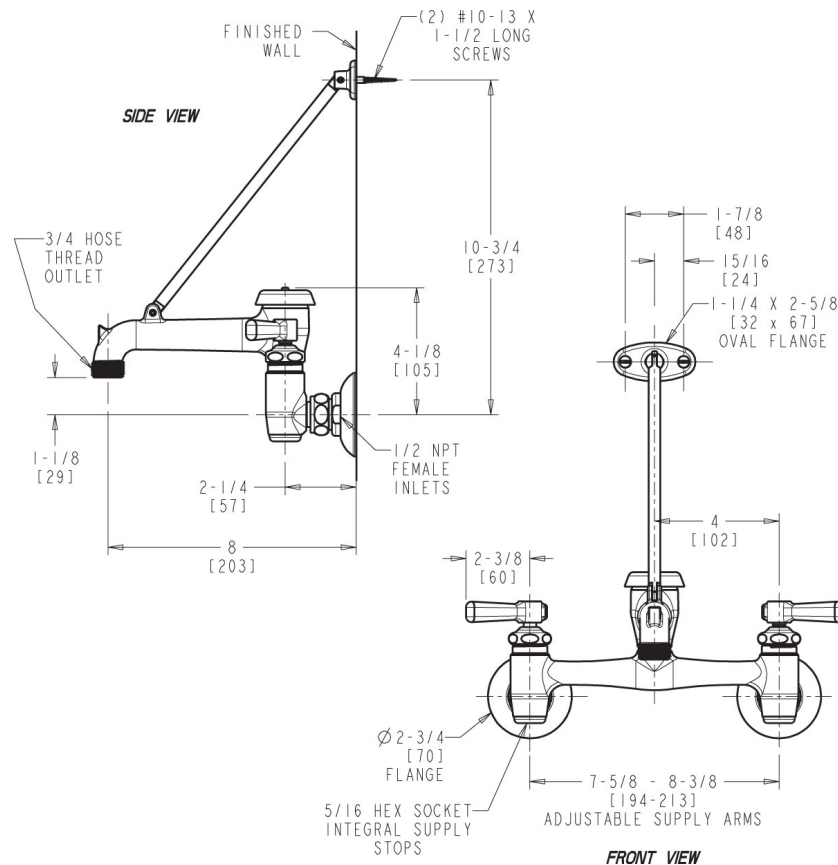
☐ Submitted as Shown ☐ Submitted with Variations

Date _____



Architect/Engineer Specification

Chicago Faucets No. 897-CRCF, Sink Faucet for hot and cold water, wall-mounted with 7-5/8" - 8-3/8" adjustable centers. Rough chrome plated. Includes integral hot and cold water supply stops. Vacuum breaker spout with pail hook and wall brace. 2-3/8" metal, vandal-proof, lever handles with sixteen-point, tapered broach and secured blue and red index buttons. Quatern™ rebuildable compression cartridge, opens and closes 90°, closes with water pressure, features square, tapered stem. Adjustable supply arms include 1/2" NPT female union nut and integral check valves. 3/4" male hose thread outlet. Round wall escutcheons. Integral stop valves for servicing the faucet. NOTE: Atmospheric vacuum breaker is NOT intended for continuous pressure applications. This product meets ADA ANSI/ICC A117.1 requirements and is tested and certified to industry standards: ASME A112.18.1/CSA B125.1.



Operation and Maintenance

Installation should be in accordance with local plumbing codes. Flush all pipes thoroughly before installation. After installation, remove spout outlet or flow control and flush faucet thoroughly to clear any debris. Care should be taken when cleaning the product. Do not use abrasive cleaners, chemicals or solvents as they can result in surface damage. Use mild soap and warm water for cleaning and protecting the life of Chicago Faucet products. For specific operation and maintenance refer to the installation instructions and repair parts documents that are located at www.chicagofaucets.com.

Chicago Faucets, member of the Geberit Group, is the leading brand of commercial faucets and fittings in the United States, offering a complete range of products for schools, laboratories, hospitals, office buildings, food service, airports and sport facilities. Call 1.800.TECTRUE or 1.847.803.5000 Option 1 for installation or other technical assistance.



DESCRIPTION

Complete vitreous china water closet.

Flush Cycle

Model ST-2459-A Universal Closet
(1.1 to 1.6 gpf/4.2 to 6.0 Lpf)
Code: 2102459

Flush volume is determined by the flushometer used with closet.



SPECIFICATIONS

Water Closet

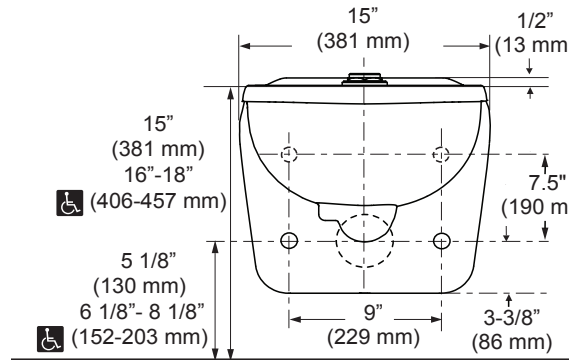
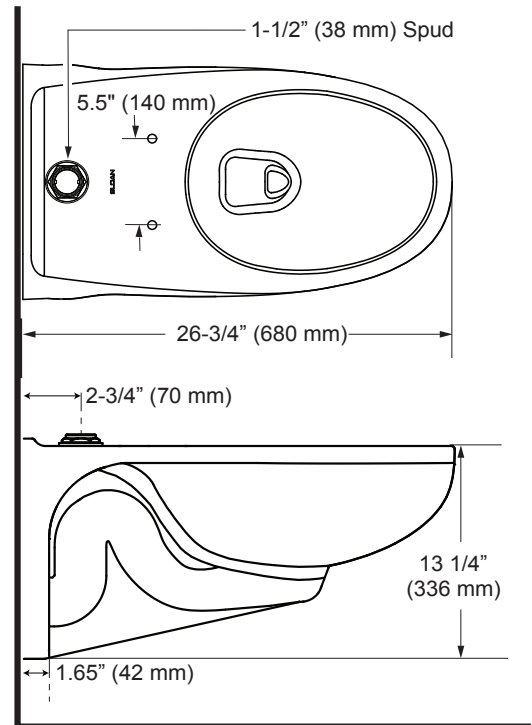
- Wall hung vitreous china elongated bowl
- Siphon jet flushing action
- 1-1/2" I.P.S. top spud inlet
- 2-1/8" fully glazed trapway diameter
- Mounting hardware, carrier and toilet seat not included
- Integral flushing rim
- Water spot area 11-1/4" x 8-1/2"
- ASME A112.19.2/CSA B45.1

Colors/Finishes

- White

Recommended Accessories

- Bemis:
1955CT/1955SSCT
2155CT/2155SSCT
- Church:
295CT/295SSCT
2155CT/2155SSCT



** This model meets the requirements for a High Efficiency Toilet when used with a high efficiency flushometer (1.28 gpf/4.8 Lpf or 1.1/1.6 gpf-4.2/6.0 Lpf dual-flush).



Meets the American Disabilities Guidelines and ANSI A117.1 requirements when installed according to these requirements.

NOTE:

Plumbing System Requirements

✓ Minimum **Flowing** Pressure: 25 PSI

✓ Maximum Static Pressure: 80 PSI

✓ Minimum Flow Rate: 18 gpm



NOTE: All vitreous china dimensions shown in these drawings are nominal. Dimensions can vary within the tolerances established in the governing ASME A112.19.2/CSA B45.1 standard. Please take this into consideration when planning rough-in and plumbing layouts.

Product Specification

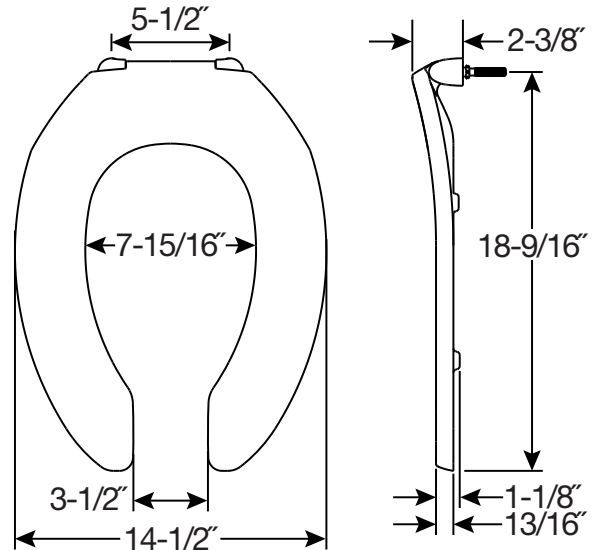
Elongated water closet shall be made of vitreous china with a 1-1/2" top spud inlet. Bowl shall be ADA compliant when installed at required height of 17"-19" from floor to top of fixture (including seat). Water Closet shall be Sloan Model ST-2459-A.

This space for Architect/Engineer approval	
Job Name	Date
Model Specified	Quantity
Variations Specified	
Customer/Wholesaler	
Contractor	
Architect	

SLOAN®

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Franklin Park, IL 60131
Phone: 1-800-982-5839
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www.sloanvalve.com

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ST-2459-A 09-15



FEATURES:

- **STA-TITE®**
Commercial Fastening System™
Eliminates callbacks for loosened seats

SPECIFICATIONS:

Size: Elongated

Material: Plastic

Style: Open Front less Cover

Ring Bumpers: Four

Hinges: Plastic Non Self-Sustaining Check Hinges (1955CT) or Self-Sustaining Check Hinges (1955SSCT) with Non-Corroding 300 Series Stainless Steel Posts and Pintles

Hardware: STA-TITE® Commercial Fastening System™

Codes & Standards:



Complies with
IAPMO/ANSI Z124.5
Performance Standards
Heavy-Duty Commercial



Proudly Made in the USA

Eco-Friendly



CODE NUMBER

3910168

DESCRIPTION

1.28 gpf, Polished Chrome Finish, Fixture Connection Top Spud, Single Flush, Royal® Exposed Manual Water Closet Flushometer.

DETAILS

- Flush Volume: 1.28 gpf (4.8 Lpf)
- Finish: Polished Chrome (CP)
- Valve: Diaphragm
- Valve Body Material: Semi-red Brass
- Fixture Type: Water Closet
- Fixture Connection: Top Spud
- Rough-In Dimension: 11 ½" (292mm)
- Spud Coupling: 1 ½" (38mm)
- Supply Pipe: 1" (25mm)

FEATURES

- PERMEX® Synthetic Rubber Diaphragm with Dual Filtered Fixed Bypass
- Sweat Solder Adapter with Cover Tube & Cast Wall Flange with Set Screw
- Non-Hold-Open Handle, Fixed Metering Bypass and No External Volume Adjustment to Ensure Water Conservation
- Diaphragm, Handle Packing and Vacuum Breaker to be molded from PERMEX® Rubber Compound for Chloramine Resistance
- ADA Compliant Metal Oscillating Non-Hold-Open Handle
- 1" I.P.S. Screwdriver Bak-Chek® Angle Stop with Free Spinning Vandal Resistant Stop Cap

VIDEOS

- ▶ PVD Special Finishes

**COMPLIANCES & CERTIFICATIONS**

ADA Compliant, BAA Compliant, BREEAM Materials Credit, BREEAM Water Credit, Carbon Neutral, cUPC Certified, cUPC Green Certified, EPD, Green Globes Materials & Resources Credit, Green Globes Water Credit, HPD, LBC Credit, LEED Materials & Resources EPD Credit, LEED Materials & Resources HPD Credit, LEED V4 Water Efficiency Credit, Satisfies LEED Credits, WaterSense Listed, WELL Building Standard

RECOMMENDED SPECIFICATION

Valve Body, Cover, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi- Red Brass. Valve shall be in compliance with the applicable sections of ASSE 1037 and ANSI/ASME 112.19.2.

VALVE OPERATING PRESSURE (FLOWING)

15-80 PSI (103-552 kPa). Specific fixtures may require greater minimum flowing pressure - consult manufacturer requirements.

DOWNLOADS

- [Royal Exposed Installation Instructions](#)
- [Control Stop Repair and Maintenance Guide](#)
- [Flush Connections Flanges Repair and Maintenance Guide](#)
- [Tail Piece Repair and Maintenance Guide](#)
- [Royal Manual Diaphragm Flushometer Repair and Maintenance Guide](#)
- [Tools/Accessories](#)
- [Flushometer Pressure gauges](#)
- [Additional Downloads](#)

NOTES

All information contained within this document subject to change without notice.

Looking for other variations of the ROYAL 111 product? [View the general spec sheet with all options.](#)

[Find a compatible urinal](#) for this flushometer.

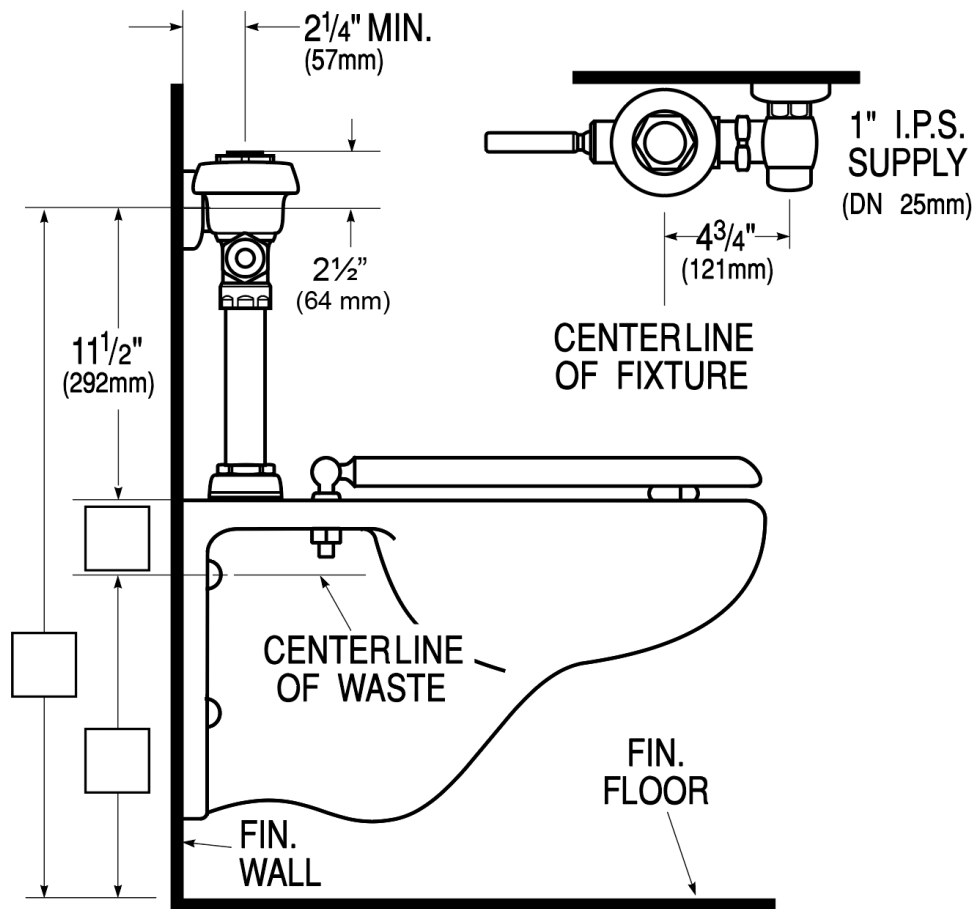
[Find a compatible water closet](#) for this flushometer.

WaterSense compliant when used with a WaterSense compliant fixture

Sloan 10500 Seymour Ave, Franklin Park, IL 60131

Phone: 800.982.5839 • Fax: 800.447.8329 • sloan.com

ROUGH-IN



Sloan 10500 Seymour Ave, Franklin Park, IL 60131
Phone: 800.982.5839 • Fax: 800.447.8329 • sloan.com

SU-1009-A Universal High-Efficiency Urinal

Top Spud Vitreous China Wash Down Urinal

DESCRIPTION

Complete vitreous china top spud urinal.

Flush Cycle

Model SU-1009-A*

(0.125 to 0.5 gpf/0.5 to 1.9 Lpf)

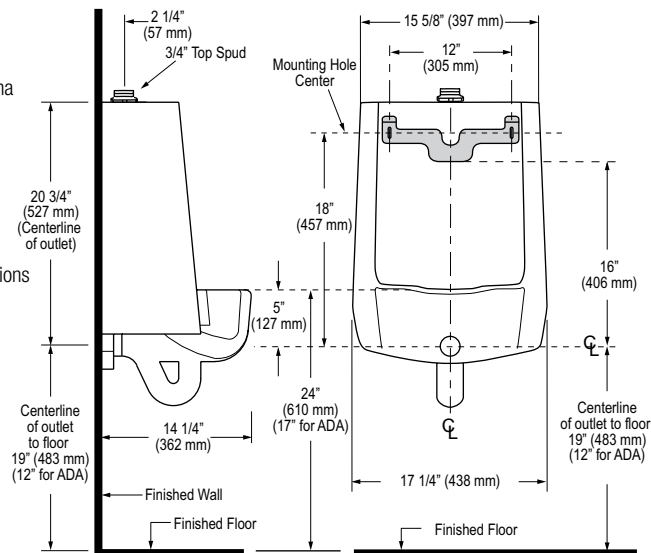
Flush volume is determined by the flushometer used with urinal.



SPECIFICATIONS

Urinal

- Wall hung top spud vitreous china
- Washdown flushing action
- 3/4" IPS top spud inlet
- 2" NPT outlet flange
- All mounting hardware included
- Integral flushing rim
- 100% factory flush tested
- Compliant to the applicable sections of ASME A112.19.2/CSA B45.1
- Carrier not included



NOTE: All vitreous china dimensions shown in these drawings are nominal. Dimensions can vary within the tolerances established in the governing ASME A112.19.2/CSA B45.1 standard. Please take this into consideration when planning rough-in and plumbing layouts.

Product Specification

Washdown urinal shall be made of vitreous china with a 3/4" top spud. Urinal shall have a 2" NPT outlet flange. Urinal shall include a removable strainer, inlet spud and hanger. Urinal shall be Sloan Model SU-1009-A.

*Please note that this model is fully interchangeable with Models SU-1000-A, SU-1002-A & SU-1005-A and matches all dimensional and performance parameters.



Meets the American Disabilities Guidelines and ANSI A117.1 requirements when installed at the proper height requirements for accessibility.

NOTE: Plumbing System Requirements

✓ Minimum **Flowing** Pressure: 25 PSI

✓ Maximum Static Pressure: 80 PSI

This space for Architect/Engineer approval	
Job Name	Date
Model Specified	Quantity
Variations Specified	
Customer/Wholesaler	
Contractor	
Architect	

The information contained in this document is subject to change without notice.



SLOAN®

Sloan Headquarters
10500 Seymour Avenue
Franklin Park, IL 60131
Phone: 1-800-982-5839
Fax: 1-800-447-8329
www.sloanvalve.com

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SLNSS-VF/SU1009A – Rev. 1a (01/13)

CODE NUMBER

3912633

DESCRIPTION

0.125 gpf, Dual-Filtered Bypass, Polished Chrome Finish, Fixture Connection Top Spud, Single Flush, Royal® Exposed Manual Urinal Flushometer.

DETAILS

- Flush Volume: 0.125 gpf (0.5 Lpf)
- Finish: Polished Chrome (CP)
- Valve: Diaphragm
- Bypass: Dual-Filtered Bypass (DBP)
- Valve Body Material: Semi-red Brass
- Fixture Type: Urinal
- Fixture Connection: Top Spud
- Rough-In Dimension: 11 ½" (292mm)
- Spud Coupling: ¾" (19mm)
- Supply Pipe: ¾" (19mm)

FEATURES

- PERMEX® Synthetic Rubber Diaphragm with Dual Filtered Fixed Bypass
- Sweat Solder Adapter with Cover Tube & Cast Wall Flange with Set Screw
- Non-Hold-Open Handle, Fixed Metering Bypass and No External Volume Adjustment to Ensure Water Conservation
- Diaphragm, Handle Packing and Vacuum Breaker to be molded from PERMEX® Rubber Compound for Chloramine Resistance
- ADA Compliant Metal Oscillating Non-Hold-Open Handle
- ¾" I.P.S. Screwdriver Bak-Chek® Angle Stop w/ Free Spinning Vandal Resistant Stop Cap

VIDEOS

- ▶ PVD Special Finishes

**COMPLIANCES & CERTIFICATIONS**

ADA Compliant, BAA Compliant, BREEAM Materials Credit, BREEAM Water Credit, Carbon Neutral, cUPC Certified, cUPC Green Certified, EPD, Green Globes Materials & Resources Credit, Green Globes Water Credit, HPD, LBC Credit, LEED Materials & Resources EPD Credit, LEED Materials & Resources HPD Credit, LEED V4 Water Efficiency Credit, Satisfies LEED Credits, WaterSense Listed, WELL Building Standard

RECOMMENDED SPECIFICATION

Valve Body, Cover, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi- Red Brass. Valve shall be in compliance with the applicable sections of ASSE 1037 and ANSI/ASME 112.19.2.

VALVE OPERATING PRESSURE (FLOWING)

15-80 PSI (103-552 kPa). Specific fixtures may require greater minimum flowing pressure - consult manufacturer requirements.

DOWNLOADS

- [Royal Exposed Installation Instructions](#)
- [Control Stop Repair and Maintenance Guide](#)
- [Flush Connections Flanges Repair and Maintenance Guide](#)
- [Tail Piece Repair and Maintenance Guide](#)
- [Royal Manual Diaphragm Flushometer Repair and Maintenance Guide](#)
- [Flushometer Pressure gauges](#)
- [Additional Downloads](#)

NOTES

All information contained within this document subject to change without notice.

Looking for other variations of the ROYAL 186 product? [View the general spec sheet with all options.](#)

[Find a compatible urinal](#) for this flushometer.

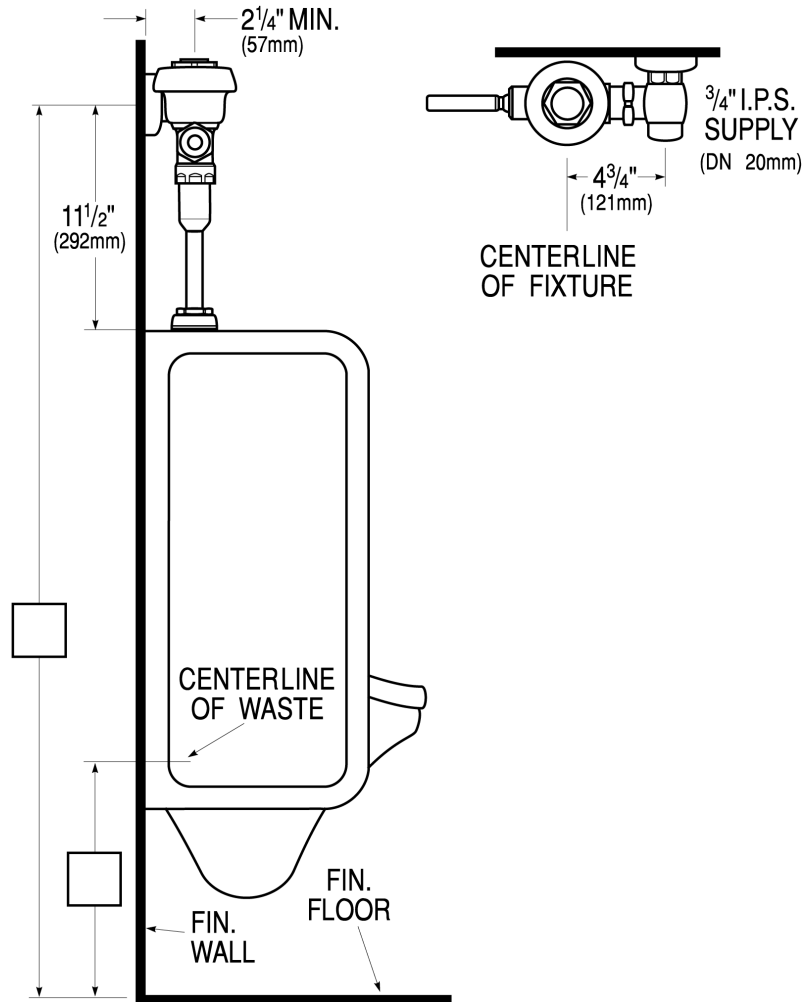
[Find a compatible water closet](#) for this flushometer.

WaterSense compliant when used with a WaterSense compliant fixture

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ROUGH-IN



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Phone: 800.982.5839 • Fax: 800.447.8329 • sloan.com

DESCRIPTION

Complete vitreous china water closet.

Flush Cycle

Model ST-2459-A Universal Closet
(1.1 to 1.6 gpf/4.2 to 6.0 Lpf)
Code: 2102459

Flush volume is determined by the flushometer used with closet.



SPECIFICATIONS

Water Closet

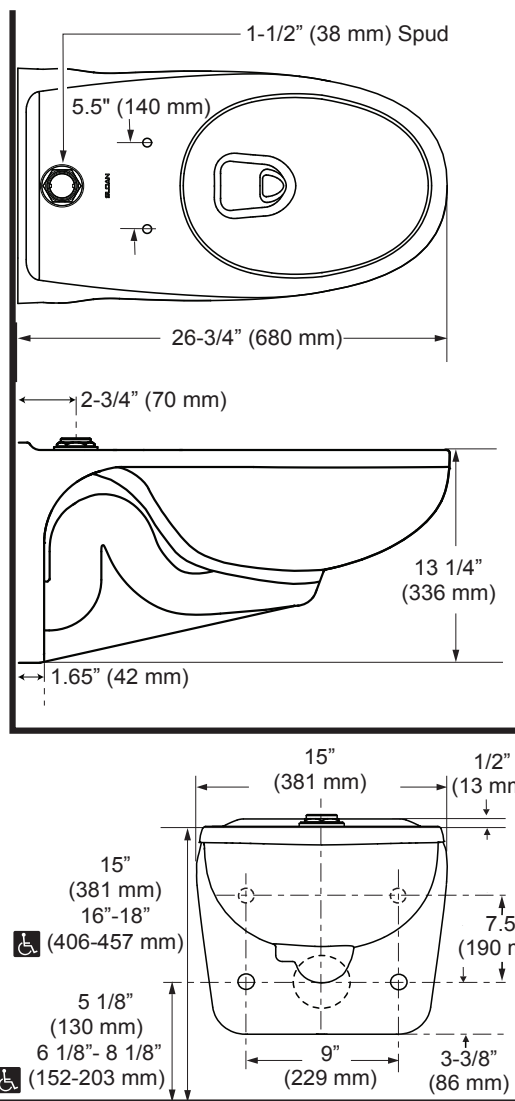
- Wall hung vitreous china elongated bowl
- Siphon jet flushing action
- 1-1/2" I.P.S. top spud inlet
- 2-1/8" fully glazed trapway diameter
- Mounting hardware, carrier and toilet seat not included
- Integral flushing rim
- Water spot area 11-1/4" x 8-1/2"
- ASME A112.19.2/CSA B45.1

Colors/Finishes

- White

Recommended Accessories

- Bemis:
1955CT/1955SSCT
2155CT/2155SSCT
- Church:
295CT/295SSCT
2155CT/2155SSCT



** This model meets the requirements for a High Efficiency Toilet when used with a high efficiency flushometer (1.28 gpf/4.8 Lpf or 1.1/1.6 gpf-4.2/6.0 Lpf dual-flush).



Meets the American Disabilities Guidelines and ANSI A117.1 requirements when installed according to these requirements.

NOTE:

Plumbing System Requirements

- ✓ Minimum **Flowing** Pressure: 25 PSI
- ✓ Maximum Static Pressure: 80 PSI
- ✓ Minimum Flow Rate: 18 gpm



NOTE: All vitreous china dimensions shown in these drawings are nominal. Dimensions can vary within the tolerances established in the governing ASME A112.19.2/CSA B45.1 standard. Please take this into consideration when planning rough-in and plumbing layouts.

Product Specification

Elongated water closet shall be made of vitreous china with a 1-1/2" top spud inlet. Bowl shall be ADA compliant when installed at required height of 17"-19" from floor to top of fixture (including seat). Water Closet shall be Sloan Model ST-2459-A.

This space for Architect/Engineer approval	
Job Name	Date
Model Specified	Quantity
Variations Specified	
Customer/Wholesaler	
Contractor	
Architect	

SLOAN®

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ST-2459-A 09-15



STANDARD HI-POWER® WATER HEATER Submittal Sheet
HPS-Sub-01b

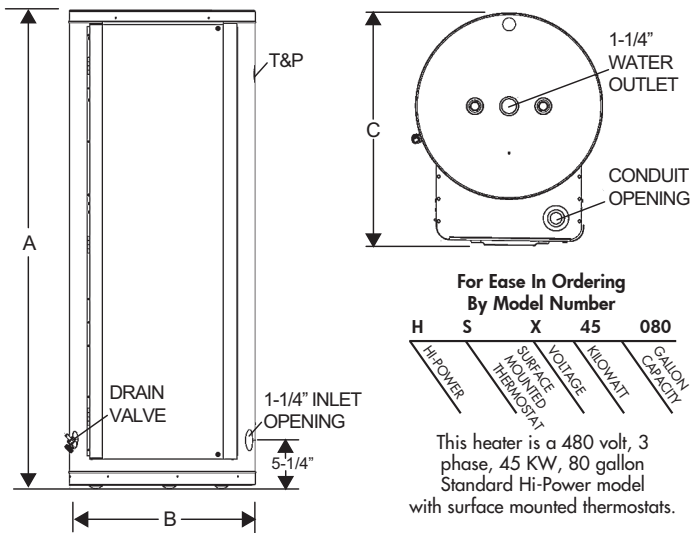
SURFACE THERMOSTAT - STANDARD HI-POWER® COMMERCIAL ELECTRIC WATER HEATERS

JOB NAME _____
LOCATION _____
ENGINEER _____
WHOLESALE _____
MECH. CONTRACTOR _____
MODEL NO. _____
RECOVERY RATE IN GPH _____ **@** _____ **°F RISE**
GALLON CAPACITY _____
VOLTAGE/PHASE _____
KW _____
NOTES

Standard Features

- Meets ASHRAE Energy Efficiency Standards
- 300 psi test pressure, 150 psi working pressure
- Tank Saver Anode
- Plated Incoloy, Low Watt Density Element
- Energy Cut-Off
- Internal Fusing when Current Exceeds 48 Amps
- 180°F Operation Approved
- ASME Temperature and Pressure Relief Valve
- Non-CFC Foam Insulation
- Hinged Door Access
- 3 Year Limited Tank Warranty, 1 Year Limited Parts Warranty
(see warranty for details)

Dimensions & Specifications



AMPERAGE TABLE								
KW	Single Phase				Three Phase			
	208V	240V	277V	480V	208V	240V	480V	
6	28.8	25.0	21.7	12.5	16.7	14.4	7.2	
9	43.3	37.5	32.5	18.8	25.0	21.7	10.8	
12	57.7	50.0	43.3	25.0	33.3	28.9	14.4	
13.5	64.9	56.3	48.7	28.1	37.5	32.5	16.2	
15	72.1	62.5	54.2	31.3	41.6	36.1	18.0	
18	86.5	75.0	65.0	37.5	50.0	43.3	21.7	
24	115.4	100.0	86.6	50.0	66.6	57.7	28.9	
27	129.8	112.5	97.5	56.3	74.9	65.0	32.5	
30	144.2	125.0	108.3	62.5	83.3	72.2	36.1	
36	173.1	150.0	130.0	75.0	99.9	86.6	43.3	
40.5	194.7	168.8	146.2	84.4	112.4	97.4	48.7	
45	216.9	187.5	162.5	93.8	124.9	108.3	54.1	
54	N/A	225.0	194.9	112.5	149.9	129.9	65.0	

VOLTAGE SCHEDULE		
T - 208V / 1 or 3 PH	W - 277V / 1 PH	Z - 415V / 3PH
P - 240V / 1 or 3 PH	X - 480V / 1 or 3 PH	

Model Number	KW	Gallon Capacity	GPH @ 100°F Rise	Number of Elements	A	B	C	Shipping Weight
HS(X)06 050	6	50	25	3	55-3/4"	21-3/4"	27"	265
HS(X)09 050	9	50	37	3	55-3/4"	21-3/4"	27"	265
HS(X)12 050	12	50	49	3	55-3/4"	21-3/4"	27"	265
HS(X)13 050	13.5	50	55	3	55-3/4"	21-3/4"	27"	265
HS(X)15 050	15	50	61	3	55-3/4"	21-3/4"	27"	265
HS(X)18 050	18	50	74	3**	55-3/4"	21-3/4"	27"	265
HS(X)24 050	24	50	98	6	55-3/4"	21-3/4"	27"	265
HS(X)27 050	27	50	111	6	55-3/4"	21-3/4"	27"	265
HS(X)30 050	30	50	123	6	55-3/4"	21-3/4"	27"	265
HS(X)36 050	36	50	148	6***	55-3/4"	21-3/4"	27"	265
HS(X)06 080	6	80	25	3	60-1/4"	25-1/2"	31"	280
HS(X)09 080	9	80	37	3	60-1/4"	25-1/2"	31"	280
HS(X)12 080	12	80	49	3	60-1/4"	25-1/2"	31"	280
HS(X)13 080	13.5	80	55	3	60-1/4"	25-1/2"	31"	280
HS(X)15 080	15	80	61	3	60-1/4"	25-1/2"	31"	280
HS(X)18 080	18	80	74	3**	60-1/4"	25-1/2"	31"	280
HS(X)24 080	24	80	98	6	60-1/4"	25-1/2"	31"	280
HS(X)27 080	27	80	111	6	60-1/4"	25-1/2"	31"	280
HS(X)30 080	30	80	123	6	60-1/4"	25-1/2"	31"	280
HS(X)36 080	36	80	148	6***	60-1/4"	25-1/2"	31"	280
HS(X)40 080	40.5	80	166	9	60-1/4"	25-1/2"	31"	280
HS(X)45 080	45	80	194	9	60-1/4"	25-1/2"	31"	280
HS(X)54 080	54	80	221	9	60-1/4"	25-1/2"	31"	280
HS(X)06 119	6	119	25	3	62-1/4"	29-1/2"	35"	390
HS(X)09 119	9	119	37	3	62-1/4"	29-1/2"	35"	390
HS(X)12 119	12	119	49	3	62-1/4"	29-1/2"	35"	390
HS(X)13 119	13.5	119	55	3	62-1/4"	29-1/2"	35"	390
HS(X)15 119	15	119	61	3	62-1/4"	29-1/2"	35"	390
HS(X)18 119	18	119	74	3**	62-1/4"	29-1/2"	35"	390
HS(X)24 119	24	119	98	6	62-1/4"	29-1/2"	35"	390
HS(X)27 119	27	119	111	6	62-1/4"	29-1/2"	35"	390
HS(X)30 119	30	119	123	6	62-1/4"	29-1/2"	35"	390
HS(X)36 119	36	119	148	6***	62-1/4"	29-1/2"	35"	390
HS(X)40 119	40.5	119	166	9	62-1/4"	29-1/2"	35"	390
HS(X)45 119	45	119	194	9	62-1/4"	29-1/2"	35"	390
HS(X)54 119	54	119	221	9	62-1/4"	29-1/2"	35"	390

208V models are configured with 6 elements, *208V models are configured with 9 elements, Note: 208V - 54KW models are factory assembled only. They are not field convertible.



Lochinvar, LLC
300 Maddox Simpson Parkway
Lebanon, Tennessee 37090
P: 615.889.8900 / F: 615.547.1000
www.lochinvar.com



AGENDA ITEM SUMMARY

Meeting Date: 10/5/2021
Meeting Type: Regular Meeting
Staff Contact/Dept.: Jeff Paschall, DPW
Staff Phone No: 541-726-1674
Estimated Time: 10 Minutes
Council Goals: Maintain and Improve Infrastructure and Facilities

**SPRINGFIELD
PLANNING COMMISSION**

ITEM TITLE:	2023-2027 CAPITAL IMPROVEMENT PROGRAM, A COMMUNITY REINVESTMENT PLAN
ACTION REQUESTED:	CONDUCT A PUBLIC HEARING ON THE CAPITAL IMPROVEMENT PROGRAM (CIP). AFTER PUBLIC INPUT, FORWARD RECOMMENDATION OF THE 2023-2027 CAPITAL IMPROVEMENT PROGRAM, A COMMUNITY REINVESTMENT PLAN TO THE CITY COUNCIL.
ISSUE STATEMENT:	Draft project lists have been prepared for the City of Springfield's 2023-2027 CIP – A Community Reinvestment Plan. The lists were presented to the Planning Commission during the September 21 st work session for discussion and comment. It is now being brought to the Planning Commission to hold a public hearing, provide final comments and a recommendation to forward the CIP to the City Council. The City Council will review the CIP at their November 1 st work session with consideration for final adoption December 6, 2021.
ATTACHMENTS:	<ol style="list-style-type: none">1. Communication Memorandum2. Draft 2023-2027 Capital Improvement Program – A Community Reinvestment Plan Project Lists3. Citizen Requests Summary4. CIP Final Order
DISCUSSION:	<p>Draft project lists have been compiled for the City of Springfield 2023-2027 CIP. Since the Planning Commission reviewed the draft list at the September 21st work session, the Aspen Street Improvements project has been added. This reflects negotiations with Lane County for funding to complete the improvements as well as jurisdictional transfer to the City. The proposal is ready for City Council review and approval which warrants inclusion in the CIP.</p> <p>The City of Springfield's Capital Improvement Program (CIP) is a five-year Community Reinvestment Plan that describes the near-term program for funding, evaluation, and construction of City owned and operated public facilities. A fundamental purpose of the CIP is to facilitate the efficient use of capital resources to maintain, improve, and expand City assets. The underlying concept is to strategically prioritize and program these resources to extend the useful life of existing assets, replace assets before failure, and to support growth with timely expansion.</p> <p>As a reference, the Planning Commission Memorandum from the September 21, 2021 work session is included as Attachment 1.</p> <p>After hearing public comments, Staff recommends that the Planning Commission support the draft 2023-2027 CIP and recommend it for Council review and adoption.</p>

COMMUNICATION MEMORANDUM**SPRINGFIELD
PLANNING COMMISSION**

Meeting Date: 9/21/2021
Meeting Type: Regular Meeting
Staff Contact/Dept.: Jeff Paschall/DPW
Staff Phone No: 541-726-1674
Estimated Time: 30 Minutes
Council Goals: Maintain and Improve
Infrastructure and
Facilities

ITEM TITLE:	2023-2027 CAPITAL IMPROVEMENT PROGRAM, A COMMUNITY REINVESTMENT PLAN
ACTION REQUESTED:	Review and provide direction for the recommended five-year Capital Improvement Program (CIP).
ISSUE STATEMENT:	Draft Project lists have been prepared for the City of Springfield's 2023-2027 CIP – A Community Reinvestment Plan. The lists are being brought to the Planning Commission for review and discussion with the Planning Commission. Staff will bring the CIP back to the Planning Commission October 5 th during the regular session for a recommendation to forward to the City Council.
ATTACHMENTS:	1. Draft 2023-2027 Capital Improvement Program – A Community Reinvestment Plan Project Lists
DISCUSSION:	<p>The City of Springfield's Capital Improvement Program (CIP) is a five-year Community Reinvestment Plan that describes the near-term program for funding, evaluation, and construction of City owned and operated public facilities. A fundamental purpose of the CIP is to facilitate the efficient use of capital resources to maintain, improve, and expand City assets. The underlying concept is to strategically prioritize and program these resources to extend the useful life of existing assets, replace assets before failure, and to support growth with timely expansion.</p> <p>The CIP is typically updated on a biennial schedule, however due to the many unforeseen events over the last year, the update did not follow the traditional schedule and process. In addition, the traditional CIP update schedule was not well aligned with the City's budget calendar, with the draft Capital Budget completed before adoption of the CIP. Council agreed to update the schedule so that the CIP can be adopted in the fall prior to preparation of the Capital Budget during the winter/spring.</p> <p>The CIP is an intermediate step in a process that originates with long term planning activities that anticipate the need for public facilities at least 20 years into the future and concludes with the adoption of the annual Capital Budget to appropriate funds to construction projects. Operation and maintenance cost is separately included in the City's budget.</p> <p>As the interim step in the process, the CIP identifies the facilities concepts that may reasonably be expected to be required in the next five years, refines those concepts, and provides a priority list of projects. Priority projects are selected from the long list of needed capital improvements identified in the various master plans and refinement plans. The draft project lists are then presented to both the Planning Commission and the City Council for public review and comment prior to adoption by the City Council.</p> <p>Over the last decade, the City has seen the wastewater and stormwater funds stabilize, which has supported completion of several projects and funding to be programmed for the next suite of projects identified within the City's adopted master plans. As an example, nearly all of the preservation, repair, and replacement projects identified in the 2008 Wastewater Master Plan have been completed. Street and Transportation funds</p>

have not seen growth to keep pace with operating costs and provide for robust capital spending. The City relies on federal and state funding sources to support a majority of street and transportation projects and relies on street fund revenues and systems development charges to provide required match to outside funding sources.

The project section of the 2023-2027 CIP is organized by asset system with three sections for each system. The first section is a table that has details for the projects that are either in the current capital budget or have been completed since the last CIP update. The next section is the project detail sheets for those projects proposed to be programmed over the next five-year cycle. The last section is another table detailing the list of currently unfunded or partially funded projects. As appropriate resources become available or potential grant opportunities are identified these lists will be used to match projects with those priorities.

Stormwater – In review of the current capital budget and the previous CIP, a majority of the projects have been placed into a hold status. This is due to focusing limited capital delivery staffing resources to delivery of the 2018 GO Bond street preservation projects, as well as federal aid funded projects such as Mill Street Reconstruction. However, water quality initiatives are being advanced as many of the street projects incorporate improvements to treat runoff from street surfaces.

Street and Transportation – Currently all but one of the street segments scheduled for preservation through the citizen approved five-year general obligation bond is completed or in active construction. The final segment (Centennial Boulevard from Aspen St. to Prescott St.) is anticipated to be under construction in the spring of 2022. Several safety and pedestrian projects were also completed over the past three years, and many others are in the design phase with construction anticipated in 2022 or 2023.

Wastewater – Several unplanned sewer projects have been completed over the last couple of years as issues have been identified through routine inspection by operations staff, or through other project work. The most recent example is the repair of a broken pipe as part of the Mohawk Boulevard preservation project. Several other projects are currently in the design phase with anticipated construction in either 2022 or 2023. There are two pipeline rehabilitation projects proposed in the 2023-2027 CIP, that have been identified through the Flow Monitoring Analysis project. Additionally, with the completion of the hydraulic model update, staff is planning to have a consultant under contract in early 2022 to complete an updated Wastewater Master Plan.

Buildings and Facilities – Available funding for building and facilities projects is very limited so there is a long list of identified unfunded projects or programs. However, upgrades to the fuel facility storm system and a building assessment at the Booth Kelly site were completed.

FINANCIAL IMPACT:

The CIP does not carry budget authority. It is, however, a valuable planning tool used to guide staff, the Budget Committee, and the City Council in creating the annual budget to fund priority projects.

FY20-FY22 Capital Project Status Update - Stormwater

Project Title	Project Number	In Previous CIP	Project Category	Project Status	FY22 Budget (\$ in Thousands)	Total Cost to Complete	Notes
5th St./EWEB Path Pipe Upgrade	P21124	X	Upgrades	On-Hold	\$112		
Booth Kelly Stormwater Drainage Plan Implementation	P50234	X	Upgrades	Not Started	\$150		
Irving Slough Improvements	P21138	X	Water Quality	Not Started	\$785		
2021 Maintenance Hole Rehab	P21168		Repair and Preservation	Design	\$75		Construction planned for FY22
Channel 6 Master Plan Implementation	P41020	X	Upgrades	On-Hold	\$799		
Stormwater Master Plan Update	P41021	X	Studies	Not Started	\$0		
Glenwood Stormwater Master Plan	P41042	X	Studies	Planning	\$100		
42nd Street Levee Study	P41044	X	Flood Control	Planning	\$534		
Glenwood Park Blocks	P41045	X	Studies	Not Started	\$50		
Stormwater Repair	P61002	X	Repair and Preservation	Ongoing Program	\$500		
Channel Improvement	P61004	X	Water Quality	Ongoing Program	\$1,092		
MS4 Permit Implementation	P61005	X	Water Quality	Ongoing Program	\$40		
Riparian Land Management	P61006	X	Water Quality	Ongoing Program	\$500		
HOA Water Quality Facilities	P61013	X	Water Quality	Ongoing Program	\$85		
2016 Manhole Surface Repair	P21131		Repair and Preservation	Completed		\$38,824	Constructed in FY20
Fuel Facility Stormwater Upgrade	P21121	X	Upgrades	Completed		\$37,480	Constructed in FY20
Over-Under Emergency Repair	P21163		Repair and Preservation	Completed		\$121,243	Constructed in FY20

Stormwater

Repair and Preservation

Drainage Repair

Department Development and Public Works

Project Description:

This program involves the rehabilitation of Springfield drainage systems; to repair or replace older pipe in the system and solve flooding problems and reduce street surface failures due to poor drainage. This program also includes rehabilitation of catch basins and culverts to prevent flooding, and the contractual cleaning of large storm sewer pipe. Potential projects include:

Project Status:

Ongoing Program

Specific Plans/Policies Related to this Project:

- Springfield Stormwater Management Plan
- Stormwater Master Plan
- DEQ Stormwater Discharge Permit
- Asset Management Program
- Natural Hazard Mitigation Plan

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Stormwater Capital	\$150	\$150	\$150	\$150	\$150	\$750
Stormwater Reimbursement SDC	\$50	\$50	\$50	\$50	\$50	\$250
Total	\$200	\$200	\$200	\$200	\$200	\$1,000

Stormwater

Water Quality

Channel Improvement

Department Development and Public Works

Project Description:

This project is intended to provide improvements to key drainage ways to address barriers to fish passage, and to correct previous channel modifications that have caused deterioration of flow capacity, water quality, and fish habitat functions. These improvements include culvert replacements or retrofits, road crossing and outfall modifications, and channel restoration. The adoption of the Springfield Total Maximum Daily Load Implementation Plan identifies an additional temperature benefit from channel restoration and shading.

Project Status:

Ongoing Program

Specific Plans/Policies Related to this Project:

Springfield Stormwater Management Plan
 Stormwater Master Plan
 DEQ Stormwater Discharge Permit
 Asset Management Program
 Natural Hazard Mitigation Plan
 Total Maximum Daily Load (TMDL) Implementation Plan

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Stormwater Capital	\$80	\$80	\$80	\$80	\$80	\$400
Stormwater Reimbursement SDC	\$20	\$20	\$20	\$20	\$20	\$100
Total	\$100	\$100	\$100	\$100	\$100	\$500

MS4 Permit Requirements

Department Development and Public Works

Project Description:

Develop and implement programs and projects to comply with the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Discharge requirements. In 2003, the City applied for an MS4 permit from the Oregon Department of Environmental Quality (DEQ), which authorizes the City to lawfully discharge stormwater to the McKenzie and Willamette Rivers and their tributaries. The Permit was renewed in 2021 and requires the City to implement programs and capital projects that improve stormwater quality. Data show that stormwater in Springfield waterways routinely violates water quality standards established to protect human health and aquatic life. This project provides for minor capital improvements and/or capital equipment purchases necessary and appropriate to address high priority water quality problem areas.

Project Status:

Ongoing Program

Specific Plans/Policies Related to this Project:

Springfield Stormwater Management Plan
 Stormwater Master Plan
 DEQ Stormwater Discharge Permit
 Total Maximum Daily Load (TMDL) Implementation Plan

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Stormwater Capital	\$20	\$20	\$20	\$20	\$20	\$100
Stormwater Reimbursement SDC	\$20	\$20	\$20	\$20	\$20	\$100
Total	\$40	\$40	\$40	\$40	\$40	\$200

Riparian Land Management

Department Development and Public Works

Project Description:

This project provides funding to purchase riparian area lands from private property owners where needed to meet City and regulatory objectives for water quality, stormwater management, flood control and habitat protection. It also provides funding for consultant services to evaluate riparian buffer areas, City and other activities affecting them. Property acquisitions will typically result in increased operational spending to maintain city owned property. Projects developed on property acquired may, however, produce savings through reduced spending for flood control, water quality improvement, and wetland mitigation activities. Project funding levels have been reduced to conform to eligibility levels for improvement SDCs. Council adoption and implementation of a reimbursement SDC may permit restoration of prior funding levels.

Project Status:

Ongoing Program

Specific Plans/Policies Related to this Project:

Springfield Stormwater Management Plan
 Stormwater Master Plan
 DEQ Stormwater Discharge Permit
 Total Maximum Daily Load (TMDL) Implementation Plan

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Stormwater Capital	\$15	\$15	\$15	\$15	\$15	\$75
Stormwater Reimbursement SDC	\$13	\$13	\$13	\$13	\$13	\$65
Total	\$28	\$28	\$28	\$28	\$28	\$140

HOA Water Quality Facilities (WQF)

Department Development and Public Works

Project Description:

There are approximately 40 WQFs in subdivisions that were built between 1993 and 2010 that are privately owned by HOAs or another private entity (individual residents, the original developer, etc.). The City has taken a progressively more active role in maintaining these facilities over the past five years. With the approval of Council in 2013, the City's Operations Division hires a temporary work crew each summer to manage vegetation in the facilities and ensure they are functioning properly. This capital program will begin setting aside funds to take over and bring into compliance selected privately owned water quality facilities.

Project Status:

Ongoing Program

Specific Plans/Policies Related to this Project:

Springfield Stormwater Management Plan
 Stormwater Master Plan
 DEQ Stormwater Discharge Permit
 Total Maximum Daily Load (TMDL) Implementation Plan

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Stormwater Capital	\$85	\$85	\$85	\$85	\$85	\$425
Stormwater Reimbursement SDC						
Total	\$85	\$85	\$85	\$85	\$85	\$425

Glenwood Stormwater Planning/Implementation

Department Development and Public Works

Project Description:

To improve the stormwater system including pipe and open channel improvements, for flood control and water quality improvements at various locations within Glenwood as identified in the Stormwater Facilities Master Plan (SWFMP), and to support implementation of the existing refinement plan for Glenwood. This project has involved evaluation of the Glenwood area and identification of new stormwater outfall locations and construction/enhancement of existing outfall structures to the Willamette River. Specific projects will be implemented as development occurs, consistent with the Public Facilities and Services Plan (PFSP). This project is moving into the next phase which involves preliminary design and initiating permitting activities to advance development.

Project Status:

Planning

Specific Plans/Policies Related to this Project:

Springfield Stormwater Management Plan
 Stormwater Master Plan
 DEQ Stormwater Discharge Permit
 Total Maximum Daily Load (TMDL) Implementation Plan
 Glenwood Refinement Plan

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Stormwater Capital	\$220					\$220
Stormwater Improvement SDC	\$30					\$30
Total	\$250	\$0	\$0	\$0	\$0	\$250

Stormwater

Repair and Preservation

Irving Slough Headgate to Outfalls

Department Development and Public Works

Project Description:

The project consists of open channel improvements in multiple locations for flood control and the construction of a stormwater storage facility. Water quality improvements will be incorporated into the project where applicable to meet regulatory requirements. The Stormceptor at Olympic Street will also be replaced. This project will be constructed as part of the N. 42nd Street Improvements Project

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

Springfield Stormwater Management Plan
 Stormwater Master Plan
 DEQ Stormwater Discharge Permit
 Total Maximum Daily Load (TMDL) Implementation Plan

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Stormwater Capital		\$440	\$750			\$1,190
Stormwater Improvement SDC						\$0
Total	\$0	\$440	\$750	\$0	\$0	\$1,190

Stormwater

Flood Control

S. 67th Street Stormwater Improvements

Department Development and Public Works

Project Description:

Pipe improvements for flood control. Currently, during heavy rainfall the storm system surcharges at 67th and Main Street flooding private property.

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

Stormwater Master Plan
DEQ Stormwater Discharge Permit
Natural Hazard Mitigation Plan

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Stormwater Capital				\$408		\$408
Sormwater Improvement SDC				\$42		\$42
Total	\$0	\$0	\$0	\$450	\$0	\$450

Stormwater

Expansion

Jasper-Natron

Department Development and Public Works

Project Description:

The Jasper-Natron area requires comprehensive evaluation for future stormwater infrastructure needs to support future growth and meet the City's DEQ Stormwater Discharge Permit requirements. The first phase of the project will completing the analysis to develop a master plan for the basin, followed by implementation either by private developments, or City sponsored initiatives. The funding identified is the study and plan development.

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

- Stormwater Master Plan
- DEQ Stormwater Discharge Permit
- Natural Hazard Mitigation Plan
- Total Maximum Daily Load (TMDL) Implementation Plan

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Stormwater Capital					\$350	\$350
Stormwater Improvement SDC					\$350	\$350
Total	\$0	\$0	\$0	\$0	\$700	\$700

Stormwater

Water Quality

Lower Mill Race

Department Development and Public Works

Project Description:

Design and construct a daylight or diversion pretreatment structure, an offline water quality treatment facility, and a green pipe open channel improvement. Additional detail for this multi-faceted project are in WQ-12 project of the Stormwater Facilities Master Plan.

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

Stormwater Master Plan	Booth Kelly Stormwater Plan
DEQ Stormwater Discharge Permit	Stormwater Management Plan
Natural Hazard Mitigation Plan	Mill Race Ecosystem Plan
Total Maximum Daily Load (TMDL) Implementation Plan	

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Stormwater Capital					\$500	\$500
Stormwater Improvement SDC					\$73	\$73
Total	\$0	\$0	\$0	\$0	\$573	\$573

Mill Race Firm Update

Department Development and Public Works

Project Description:

Using consulting services, prepare a scope document for a new flood plain study to update the Flood Insurance Rate Map (FIRM) for the Springfield Mill Race from the inlet at Clearwater Park to the outlet at Island Park to incorporate construction changes.

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

Natural Hazard Mitigation Plan

Continued Participation in the National Flood Insurance Program

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Stormwater Capital					\$200	\$200
Total	\$0	\$0	\$0	\$0	\$200	\$200

Over-Under Channel Phase 2

Department Development and Public Works

Project Description:

The Over-Under Channel system has approximately 2,200 linear feet of woodstave pipe, and 1,000 linear feet of corrugated metal pipe (CMP) remaining under the existing channel. Phase 2 is intended to replace the existing woodstave and remaining CMP with a new pipe, as well as provide a parallel pipe for additional capacity as recommended in the 2008 Stormwater Facility Master Plan and the Over-Under Channel investigative report. The remaining pipe to be replaced runs from 10th Street east to 14th Street across Springfield School District property and Willamalane Park property.

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

Stormwater Master Plan

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Stormwater Capital					\$500	\$500
Stormwater Improvement SDC					\$10	
Total	\$0	\$0	\$0	\$0	\$510	\$500

Unfunded Projects List - Stormwater

Project Title	Project Category	Project Status	Estimated Funding Need	Notes
Gray Creek/72nd Street	Expansion	Not Programmed-Pending Funding	\$6,000,000	Construction of new channels and other improvements to accommodate runoff from future development
Corporate Way Pond	Studies	Not Programmed-Pending Funding	\$250,000	Develop a vegataion management plan SWMP Project 43-WQ
Cedar Creek Intake Reconstruction	Water Quality	Not Programmed-Pending Funding	\$1,000,000	Restoration work to improve and manage year round flow volumes
North Willamette Heights	Studies	Not Programmed-Pending Funding	\$100,000	Develop a basin specific master plan to guied development and redevelopment
Jasper Slough	Restoration	Not Programmed-Pending Funding	\$100,000	Culvert and open channel improvements along with riparian vegetation restoration
Woodstave Removal	Upgrades	Not Programmed-Pending Funding	\$750,000	This pipeline is located south of S. A Street and is complicated by the fact portions of the line are under existing buildings and lack public access easements
S and T Streets Drainage	Upgrades	Not Programmed-Pending Funding	\$750,000	Upgrade project to improve inadequate storm system and alleviate localized flooding. Reference Channel 6 Study and Master Plan
I-5 N. Gateway/Sports Way Channel	Water Quality	Not Programmed-Pending Funding	\$750,000	Construct a combination flood control/water quality facility adjacent to the Gateway Natural Resource area.
Q Street Channel	Water Quality	Not Programmed-Pending Funding	\$750,000	Channel Repair, riparian enhancement and shading to address temperature issues in the TMDL.
Maple Island Slough	Studies	Not Programmed-Pending Funding	\$650,000	Evaluate capacity needs to support developments and develop a vegetation management plan.

FY20-FY22 Capital Project Status Update - Streets and Transportation

Project Title	Project Number	In Previous	Project Category	Project Status	FY22 Budget (\$ in Thousands)	Total Cost to Complete	Notes
Virginia/Daisy Bicycle Blvd. Phase 1	P21114	X	Safety	Completed		\$1,406	Construction of Phase 1 (42nd Pl. to 51st Pl.) improvements completed in FY21
Main St. Pedestrian Crossings Phase 3	P21142	X	Safety	Completed		\$316	Final crossing location constructed in FY20
Filling the Gaps - Sidewalk Infill Project	P21147	X	Safety	On-Hold	\$225		Majority of funding received through State grants
14th St. and Commercial St. Overlays	P21150	X	Repair and Preservation	Completed		\$335	Constructed in FY20
Centennial Blvd Overlay	P21151	X	Repair and Preservation	Design	\$719		Construction planned for FY22
High Banks Rd./58th St./Thurston Rd. Overlay	P21152	X	Repair and Preservation	Construction	\$999		Active Construction with completion in FY22
S. 28th Street Paving	P21155	X	Upgrades	Design	\$1,272		30% design review complete
Mill Street Reconstruction	P21156	x	Repair and Preservation	Planning	\$40		Consultant contract executed in FY22
Mohawk blvd./Olympic St. Overlay	P21157	x	Repair and Preservation	Construction	\$0		Active Construction with completion in FY22
Virginia/Daisy Bicycle Blvd. Phase 2 - 42nd St. Roundabout	P21159	X	Safety	On-Hold	\$604		Design is scheduled to begin in late FY22
G Street, 21st St., and 5th & M St. School crossing and ADA Improvements	P21161		Safety	Completed		\$335	Project as funded with federal CDBG funds and completed in FY21
42nd St. Overlay	P21162	X	Repair and Preservation	Completed		\$400	Constructed in FY22
Gateway/Kruse Improvements	P21165	x	Safety	Design	\$0		
Jasper Rd./Dondea RRFB	P21167		Safety	Design	\$0		Funded with Safe Routes To Schools (SRTS) grant funds
City of Springfield Signal Enhancements	P21173		Upgrades	Design			
Jasper/Filbert RRFB Crossing	P21174		Safety	Design	\$0		Funded with Safe Routes To Schools (SRTS) grant funds
Slurry Seal 2021	P21175	X	Repair and Preservation	Completed		\$350	Completed in FY22 in through and IGA with Lane County
Franklin OR 225	P21176		Upgrades	Planning	\$60		Recently funded through reallocation of MPO funds

FY20-FY22 Capital Project Status Update - Streets and Transportation

Project Title	Project Number	In Previous	Project Category	Project Status	FY22 Budget (\$ in Thousands)	Total Cost to Complete	Notes
Virginia/Daisy Bicycle Blvd. Phase 1	P21114	X	Safety	Completed		\$1,406	Construction of Phase 1 (42nd Pl. to 51st Pl.) improvements completed in FY21
West D Street Bike Improvements	P41049	x	Safety	Design		\$39	Project identified and funded though the Walking-Biking Safety grant application
Franklin Phase 2 Design	P41058	x	Upgrades	Design	\$0		
ADA Transition Projects	P61003	X	Upgrades	Ongoing Program	\$50		
Transportation Demand Management	P61007	X		Ongoing Program			Funds set aside to advance projects to enhance non-auto travel links throughout the City.
Traffic Control Projects	P61008	X		Ongoing Program			Funds set aside to advance intersection improvement projects. Example: S. 42nd St.\Daisy Intersestion.
Gateway Area Traffic Improvements	P61009	X		Ongoing Program			Funds set aside to advance project in the Gateway area to increase capacity.

ADA Transition Projects

Department Development and Public Works

Project Description:

The Americans with Disabilities Act of 1990 requires the City to maintain a "Transition Plan" that details how it will bring facilities that were not in compliance at the adoption of the act, up to the newly adopted standards. Currently, the City policy is to correct defects as projects occur and to make improvements as requests are received from citizens who make their need known. This project will set aside funds to be used for high priority locations that are identified, and will allow the City to respond in a timely manner to those requests.

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

Springfield TSP
Regulatory Requirements

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Street Capital	\$50	\$50	\$50	\$50	\$50	\$250
Transportation Reimbursement SDC	\$50	\$50	\$50	\$50	\$50	\$250
Total	\$100	\$100	\$100	\$100	\$100	\$500

Transportation Demand Management

Department Development and Public Works

Project Description:
The project includes match funding for other transportation options projects to enhance non-auto travel links in the community such as Street multi-use paths, bike lane striping, enhancements to pedestrian facilities, and other activities that promote non-single auto travel choices.

Project Status:
Not Started

Specific Plans/Policies Related to this Project:
Springfield TSP TDM Goals
State Legislation Regional Transportation Plan

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Transportation Improvement SDC	\$10	\$10	\$10	\$10	\$10	\$50
Total	\$10	\$10	\$10	\$10	\$10	\$50

Traffic Control Projects

Department Development and Public Works

Project Description:

This project is for installation of new traffic signals and modification of existing signals or installation of roundabouts at various City intersections. Example intersections include: Thurston Rd. & 66th St., 42nd St. & Marcola Road, South 42nd & Daisy St., South 40th & Daisy St., 19th St. and Marcola Rd., and 28th St. & Centennial Blvd. Signal modifications may include changing phase order, adding overlaps, and other enhancements to safety or efficiency like improved pedestrian crossings. Various striping and signing improvements may also be implemented under the Traffic Control Projects. Funding is set aside in this program and as projects are identified that fit into this category they are given an individual account and at that time another source of funding will be identified to match the allowable SDC funds.

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

Springfield TSP Regional Transportation Plan
Council Policy

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Transportation Improvement SDC	\$35	\$35	\$35	\$35	\$35	\$175
Total	\$35	\$35	\$35	\$35	\$35	\$175

Gateway Area Traffic Improvements

Department Development and Public Works

Project Description:
Transportation improvements at various locations in the Gateway area to increase capacity, relieve congestion, and improve safety. Funding is set aside in this program and as projects are identified that fit into this category they are given an individual account and at that time another source of funding is identified to match the allowable SDC funds.

Project Status:
Not Started

Specific Plans/Policies Related to this Project:
Springfield TSP Gateway Traffic Capacity Analysis
Council Goals I-5/Beltline Environmental Assessment

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Transportation Improvement SDC	\$225	\$225	\$225	\$225	\$225	\$1,125
Total	\$225	\$225	\$225	\$225	\$225	\$1,125

Intelligent Transportation Systems (ITS)

Department Development and Public Works

Project Description:
 ITS projects in various locations to increase communications, capacity, safety and traveler information. Funding is set aside in this program and as projects are identified that fit into this category they are given an individual account and at that time another source of funding will be identified to match the allowable SDC funds.

Project Status:
 Not Started

Specific Plans/Policies Related to this Project:
 Regional ITS Operations & Implementation Plan for Eugene-Springfield Metropolitan Area
 Springfield TSP

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Transportation Improvement SDC	\$25	\$25	\$25	\$25	\$25	\$125
Total	\$25	\$25	\$25	\$25	\$25	\$125

Local/Residential Street Preservation and Maintenance

Department Development and Public Works

Project Description:
A continuing street maintenance preservation effort by slurry and crack sealing of Local/Residential Street System performed by contract. In order to maintain the City's local street system approximately 5 to 8 miles should be crack sealed and slurry sealed annually. Funds programmed fund an annual slurry seal project.

Project Status:
Not Started

Specific Plans/Policies Related to this Project:
Infrastructure Management System

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Street Capital	\$150	\$150	\$150	\$150	\$150	\$750
Total	\$150	\$150	\$150	\$150	\$150	\$750

42nd Street Operational, Safety, and Mobility Improvements

Department Development and Public Works

Project Description:

Upgrade to address safety and operations, in particular for freight accessing the OR 126 Expressway-Freight Route and OR 126B-Main St. Upgrade the UP rail crossing serving the International Paper, Sierra Pine, and Weyerhaeuser industrial center, upgrade intersection control at the westbound OR 126 ramp terminal, add urban level lighting, add ADA-accessible connections from Olympic St. and Industrial Ave. to the McKenzie Levee Path, add left turn bay on 42nd St. at Industrial Ave and improve traffic signals at the eastbound OR 126 ramp terminal, Olympic Street and the International Paper driveways.

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

Springfield 2030 Infrastructure Management System
 Springfield TSP

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
State Funds Transfer	\$12,000					\$12,000
Total	\$12,000	\$0	\$0	\$0	\$0	\$12,000

Q Street Reconstruct - 5th to Pioneer Parkway East

Department Development and Public Works

Project Description:

According to the most recent City of Springfield pavement condition index data, Q Street between 5th and Pioneer Parkway East is in poor condition and requires reconstruction curb to curb. As part of the project all facilities such as ADA feature will be brought into compliance.

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

Infrastructure Management System
Springfield TSP

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Federal Aid Grant	\$637		\$3,589			\$4,226
Transportation Reimbursement SDC	\$73		\$60			\$133
Street Capital			\$351			\$351
Total	\$710	\$0	\$4,000	\$0	\$0	\$4,359

Virginia- Daisy Bikeway -- 32nd Street RRFB**Department** Development and Public Works**Project Description:**

Design and construct a rapid rectangular flashing beacon (RRFB) crossing at the intersection of 32nd St and Virginia. This was a key safety element identified in the Virginia-Daisy Bikeway plan. Funding for this element was recently secured through reallocation of federal funds from another Springfield project.

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

Springfield TSP

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Federal Aid Grant	\$240					\$240
Transportation Reimbursement SDC	\$27					\$27
Total	\$267	\$0	\$0	\$0	\$0	\$267

Aspen Street Improvements

Department Development and Public Works

Project Description:

The City has negotiated jurisdictional os Aspen St. and Menlo Lp. Between Centennial Blvd. and Tamarack St. As part of the transfer agreement, the County is giving the City \$415,000 to facilitate pavement improvments as well as facilities upgrades (e.g., sidewalks).

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

Infrastructure Management System

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Street Capital	\$415					\$415
						\$0
Total	\$415	\$0	\$0	\$0	\$0	\$415

Unfunded/Partial Funded Projects List - Streets and Transportation

Project Title	Project Category	Project Status	Estimated Funding Need	Notes
Virginia-Daisy Bikeway Phase 3	Upgrades	Not Programmed-Pending Funding	\$1,400,000	Construction of Bicycle, pedestrian, and ADA improvements between S. 32nd Street and S. 42nd Street.
Gateway-Beltline Intersection Improvements	Upgrades	Not Programmed-Pending Funding	\$20,000,000	Phase 2 improvements currently outlined in the Revised Environmental Assessment (REA) include construction of a couplet.
Signal System Modernization	Upgrades	Not Programmed-Pending Funding	\$55,000 on an annual basis	Upgrade program to keep City traffic signals up to date on technology
S. 48th Street connection - Main to Daisy	Expansion	Not Programmed-Pending Funding	\$927,000	Construction of this new road segment is development drive.
Bridge Preservation	Repair and Preservation	Not Programmed-Pending Funding	\$50,000 on an annual basis	This City owns 14 bridges that are inspected on a biennial schedule by ODOT. This program would facilitate completion of identified repair needs
Downtown District Pedestrian Scale Lighting	Upgrades	Not Programmed-Pending Funding	\$7,600,000	Complete all downtown lighting upgrade phases.
Arterial/Collector Street Preservation Program	Repair and Preservation	Not Programmed-Pending Funding	\$1,000,000 on an annual Basis	A continuing street maintenance effort of pavement sealing and/or overlay of the Arterial/Collector Street System
Street Light Infill & LPS Light Replacement/Upgrades	Upgrades	Not Programmed-Pending Funding	\$2,000,000	Replace 2,720 existing low pressure sodium (LPS) lights with LED technology and reduce energy costs.
Arterial/Collector Street Reconstruction Program	Restoration	Not Programmed-Pending Funding	\$1,000,000 on an annual Basis	Within the City's Street inventory, the condition of approximately 24 miles of streets classified as a collector or arterial have deteriorated to the point that reconstruction of the structure is the only option
Local/Residential Street Reconstruction	Restoration	Not Programmed-Pending Funding	\$300,000 on an annual basis	Within the City's Street inventory, the condition of approximately 68 miles of local/residential streets has deteriorated to the point that reconstruction of the structure is the only option
Maple Island Improvements	Upgrades	Not Programmed-Pending Funding	\$2,000,000	This project will upgrade the roundabout at Maple Island Road and International Way. It will also extend the Maple Island Loop Road to the north along the Maple Island Slough.
Intelligent Lighting Controls	Upgrades	Not Programmed-Pending Funding	\$700,000	An Intelligent lighting system will monitor street light performance, enhancing operations and maintenance
Main Street Lighting	Upgrades	Not Programmed-Pending Funding	\$700,000	The project will add lighting to Main Street from 20th to 72nd by placing lights on existing poles where available and installing new poles where necessary
Pedestrian Crossing Enhancements	Safety	Not Programmed-Pending Funding	\$750,000	Several crossings have been identified that would receive a safety benefit from the installation of a RRFB (Rectangular Rapid Flashing Beacon) or a PHB (Pedestrian Hybrid Beacon).
Signal Communications	Upgrades	Not Programmed-Pending Funding	\$500,000	The project will evaluate central system software, fiber optic lines, wireless radio communication, and existing copper connections
Bike Wayfinding & Safety	Safety	Not Programmed-Pending Funding	\$100,000	This project will add bicycle wayfinding signage and safety improvements around the City

Unfunded/Partial Funded Projects List - Streets and Transportation

Project Title	Project Category	Project Status	Estimated Funding Need	Notes
City Hall Bike Parking	Upgrades	Not Programmed-Pending Funding	\$35,000	This project will add secure, long term bicycle parking underneath City Hall. The project will offer bicycle commuters a secure parking location that includes shelter from the elements
Glenwood Riverfront Path	Expansion	Not Programmed-Pending Funding	\$1,000,000	The project will complete required Federal National Environmental Policy Act (NEPA) documentation and approval for the new Glenwood Multi-Use Riverfront Path, including locating the path alignment along the Willamette River and completing pathway design

FY20-FY22 Capital Project Status Update - Wastewater

Project Title	Project Number	In Previous CIP	Project Category	Project Status	FY22 Budget (\$ in Thousands)	Total Cost to Complete (\$ in Thousands)	Notes
Jasper Trunk - Phase 3	P21065	X	Expansion	Design	\$2,344		Design is currently at 60%, Actively working on wetlands mitigation plan
2016 Manhole Surface Repair	P21131		Repair and Preser	Completed		\$39	Constructed in FY21
S. 28th Sewer Extension	P21166	X	Expansion	Design	\$1,200		Project has been initiated to correspond with 28th Street CMAQ Paving. Construction planned for FY23
42nd -48th Sewer Rehabilitation	P21170	x	Repair and Preservation	Design	\$1,500		Construction planned for FY23
Crest Lane Sewer Ext.	P21171		Expansion	Completed		\$44	Constructed in FY21. Example of Wastewater Repair funds (P61001) utilized.
Flow Monitoring Analysis & Plan	P41041	X	Studies	Design	\$200		Work on Phase 3 microbasin modeling continues. Rehab projects have been identified and will be programmed in the CIP
Wastewater Master Plan	P41062	X	Studies	Planning	\$500		Request for proposals to be advertised in 2nd qtr of FY22
CMOM Planning \$ Implementation	P61000	X	Repair and Preservation	Ongoing Program	\$3,200		Funds to be programmed to repair and preservation projects identified through modeling
Wastewater Repair	P61001	X	Repair and Preservation	Ongoing Program	\$500		Funds programmed each year for unforeseen emergency repair work.
Local Sewer Extension	P61013	X	Expansion	On-Hold	\$1,500		Funds set aside to extend wastewater service to annexed area within the City that are not currently served.

Wastewater

Repair and Preservation

Wastewater Repair

Department Development and Public Works

Project Description:

This project involves the contracted repair or replacement of sanitary sewers that require either emergency rehabilitation as a result of Sanitary Sewer Overflows or the prospect of impending system failures. The DPW Operations Division addresses an average of four (4) emergency repairs of this nature annually.

Project Status:

Ongoing Program

Specific Plans/Policies Related to this Project:

Wastewater Master Plan

CMOM Program

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Wastewater Capital	\$250	\$250	\$250	\$250	\$250	\$1,250
Wastewater Reimbursement SDC	\$250	\$250	\$250	\$250	\$250	\$1,250
Total	\$500	\$500	\$500	\$500	\$500	\$2,500

Wastewater

Repair and Preservation

CMOM Planning & Implementation

Department Development and Public Works

Project Description:

The City of Springfield's obligations in the 2001 Wet Weather Flow Management Plan (WWFMP) were completed by January 2010; however it is necessary for the City to continue to fund wastewater system rehabilitation and Inflow and Infiltration (I/I) reduction projects. These additional projects will be identified through the Wastewater Master Plan Update project and the Capacity, Management, Operations and Maintenance (CMOM) program that will likely be included in the next NPDES permit for the wastewater system.

Project Status:

Ongoing Program

Specific Plans/Policies Related to this Project:

Wastewater Master Plan

Regulatory Requirements

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Wastewater Capital	\$250	\$250	\$1,000	\$1,000	\$1,000	\$3,500
Total	\$250	\$250	\$1,000	\$1,000	\$1,000	\$3,500

Wastewater

Expansion

Local Sewer Extensions

Department Development and Public Works

Project Description:

Within the City of Springfield's city limits and Urban Growth Boundary (UGB) are several areas that are fully developed, but lack wastewater service. The project would fund extending wastewater pipes to these areas upon request of affected property owners or annexation, with some or all of the cost possibly reimbursable through assessments. Increased infrastructure will increase the need for more maintenance personnel which impacts the wastewater operations budget. The estimated increase in the wastewater operations cost is \$1,600 per 1,000 feet of new pipe.

Project Status:

Ongoing Program

Specific Plans/Policies Related to this Project:

Wastewater Master Plan

Council Goal to provide for development

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Wastewater Capital	\$500	\$500	\$500	\$500	\$500	\$2,500
Total	\$500	\$500	\$500	\$500	\$500	\$2,500

Wastewater

Repair and Preservation

70th St Basin Rehab

Department Development and Public Works

Project Description:

One of the key goals of the CMOM Program is to eliminate inflow and infiltration (I/I). Utilizing output from the flow monitoring and analysis work, it has been determined that wastewater pipelines serving the 70th Street Basin exhibit a high rate of I/I, and thus is prioritized for a rehabilitation project.

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

Wastewater Master Plan

Council Goal to provide for development

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Wastewater Capital	\$2,000					\$2,000
Total	\$2,000	\$0	\$0	\$0	\$0	\$2,000

Wastewater

Repair and Preservation

72nd St Basin Rehab

Department Development and Public Works

Project Description:

One of the key goals of the CMOM Program is to eliminate inflow and infiltration (I/I). Utilizing output from the flow monitoring and analysis work, it has been determined that wastewater pipelines serving the 72nd Street Basin exhibit a high rate of I/I, and thus is prioritized for a rehabilitation project.

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

Wastewater Master Plan

Council Goal to provide for development

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Wastewater Capital		\$1,500				\$1,500
Total	\$0	\$1,500	\$0	\$0	\$0	\$1,500

Wastewater

Expansion

Harbor Drive Pump Station

Department Development and Public Works

Project Description:

The S. 2nd St./Harbor Drive area is currently not have sanitary sewer service. The Council has directed staff to analyze areas within the UGB where investment in infrastructure may spur residential development, and investment in the Harbor Drive Pump Station provides a key service to 58 buildable acres. This project will construct a sanitary pump station and associated pipeline to connect to the dry lines previously constructed.

Project Status:

Not Started

Specific Plans/Policies Related to this Project:

Wastewater Master Plan

Council Goal to provide for development

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Wastewater Capital						
Wastewater Improvement SDC			\$1,000			\$1,000
Total	\$0	\$0	\$1,000	\$0	\$0	\$1,000

Unfunded Projects List - Wastewater

Project Title	Project Category	Project Status	Estimated Funding Need (\$ in thousands)	Notes
19th Street Sewer Upgrade	Upgrades	Not Programmed-Pending Funding	\$1,500	Replace a 12" pipe with a new 18" pipe. With model analysis this upgrade may not be necessary. Will be evaluated with Master Plan Update
Marcola Rd Sewer	Expansion	Not Programmed-Pending Funding	\$500	Provide sewer service to area within the UGB currently not annexed.
Main Street Improvements - Unit 1	Expansion	Not Programmed-Pending Funding	\$2,100	Upgrade pipeline capacity to support future growth in East Springfield
Peacehealth-Riverbend PS	Expansion	Not Programmed-Pending Funding	\$3,189	New pump station to support development within the Riverbend campus.
Main Street Improvements - Unit 2	Expansion	Not Programmed-Pending Funding	\$1,145	Upgrade pipeline capacity to support future growth in East Springfield
Hayden Lo PS	Upgrades	Not Programmed-Pending Funding	\$1,050	Upgrade existing pumps to maintain capacity and avoid potential SSOs. Project will be reevaluated as some work has been completed through routine maintenance.
River Glen PS	Upgrades	Not Programmed-Pending Funding	\$950	Upgrade existing pumps to maintain capacity and avoid potential SSOs. Project will be reevaluated as some work has been completed through routine maintenance.

FY20-FY22 Capital Project Status Update - Building and Facilities

Project Title	Project Number	In Previous CIP	Project Category	Project Status	FY22 Budget (\$ in Thousands)	Total Cost to Complete (\$ in Thousands)	Notes
Building Preservation	P61011	X	Repair and Preservation	Ongoing Program	\$306		Program funds preservation and repairs of City owned buildings. (e.g., City Hall Seismic upgrades)
Booth Kelly Building Assessment	P41029	X	Studies	Completed	\$39		Assessment is complete. City Staff will be reviewing and evaluating next steps.
Booth Kelly Roof Replacement	P21084	X	Repair and Preservation	Not Started	\$100		
Booth Kelly Building Repair	P21170	x	Repair and Preservation	Not Started	\$40		
Fuel Facility Stormwater Upgrade	P21121	x	Upgrades	Completed		\$37	Existing oil/water separator replumbed to connect to sanitary.
Firing Range Decommissioning	P21075	X	Water Quality	On-Hold	\$25		Initial study has been completed in coordination with DEQ

Building Preservation

Department Development and Public Works

Project Description:
Perform preservation, capital maintenance and repair projects on City-owned buildings, including but not limited to City Hall, 5 Fire Stations, Museum, Justice Center, Jail, Depot, Carter Building and Maintenance Facilities. Projects can include the repair, renovation or replacement of structural, mechanical, electrical, and plumbing systems. Other projects can include systems preservation such as, painting, roofing, lighting, alarm and elevator projects as well as repair and/or upgrades to aesthetic and architectural elements.

Project Status:
Ongoing Program

Specific Plans/Policies Related to this Project:
Council Goals

Capital Costs (\$ in thousands)

Fund	2023	2024	2025	2026	2027	Total
Building Preservation Fund	\$270	\$270	\$270	\$270	\$270	\$1,350
Total	\$270	\$270	\$270	\$270	\$270	\$1,350

Unfunded Projects List - Buildings and Facilities

Project Title	Project Category	Project Status	Estimated Funding Need	Notes
Municipal Parking Garage	Expansion	Not Programmed-Pending Funding	\$2,500,000	Initial design phase completed. Project on hold pending future Glenwood developments.
City Storage Facility	Expansion	Not Programmed-Pending Funding	\$300,000	
Library	Expansion	Not Programmed-Pending Funding	\$28,000,000	
City Hall Renovation	Upgrades	Not Programmed-Pending Funding	\$4,000,000	
Fire Station 4	Upgrades	Not Programmed-Pending Funding	\$6,100,000	
City Hall HVAC	Upgrades	Not Programmed-Pending Funding	\$1,800,000	
Energy Efficiency Projects	Upgrades	Not Programmed-Pending Funding	\$200,000	
Downtown Mill Plaza Design & Construction	Expansion	Not Programmed-Pending Funding	\$3,700,000	
City Hall Storage	Expansion	Not Programmed-Pending Funding	\$100,000	
Council Chambers Upgrades	Upgrades	Not Programmed-Pending Funding	\$175,000	ARPA (American Recovery Plan Act) funds are a proposed source for moving this project forward.

Citizen Project Request Summary

Project Title	Location	Project Category	Request Summary	Notes
Rainbow Drive	D Street to Centennial Boulevard	Repair and Preservation	Pavement surface repair and preservation. Project would also need to include ADA upgrades.	
Aster Street	Location needs to be verified	Repair and Preservation	Pavement surface repair and preservation. Project would also need to include ADA upgrades.	
Streetlight Repair	Pedestrian walkway between Obsidian Ave. and Pumice Place	Safety	Repair light outage on path	CSR will be submitted
Pedestrian Crossing improvements - Centennial Blvd.	Centennial Blvd. and Anderson Lane Intersection	Safety	Crossing improvements to enhance pedestrian safety (e.g., RRFB)	
S. B and S. 3rd Street	S. 5th Street to S. C St.	Upgrades	Pavement surface repair and preservation as well as adding bike lanes. Project would also need to include ADA upgrades.	
EWEB Path Extension	Pioneer Parkway to Don St.	Expansion	Extend Multiuse path west from Pioneer Parkway. Other requests include pedestrian crossing upgrades for Pioneer Parkway.	
Aspen St.	Centennial Boulevard to Tamarack St.	Upgrades	Street improvements on Aspen St. adjacent to Centennial Elementary.	Project is proposed in the CIP
Fairview Drive	Mill St. to W. Quinalt St.	Repair and Preservation	Pavement surface repair and preservation. Project would also need to include ADA upgrades.	
Pedestrian Crossing improvements - McKenzie Willamette	Mohawk Blvd. and I St	Safety	Addition of a crosswalk and other safety enhancements	
Railroad Crossing Improvements	Main St., 32nd St., and 42nd St.	Upgrades	ADA accommodation improvements	Railroad right of way
N. 54th St.	Main St. to F St.	Upgrades	Pavement surface repair and preservation. Project would also need include sidewalks and ADA upgrades.	
Signal Upgrade	Coryell Pass, on ramp to I-5 north from Hwy. 225	Upgrades	Add flashing yellow arrow.	ODOT jurisdiction, request will be forwarded to Traffic Operations for discussion with ODOT.
Neighborhood Path Improvements	1400 Block from Centennial Blvd. to I St.	Upgrades	Improve existing ROW dedicated for neighborhood pedestrian access with paved sidewalk and ADA compliant ramps.	
Pedestrian Crossing Improvements	1300 Modoc St.	Safety	Add no parking adjacent to crossing to enhance pedestrian visibility	CSR will be submitted
2nd Street Improvements	S St. to T St.	Upgrades	Pavement improvements as well urban standards improvements (e.g., sidewalks)	

Citizen Project Request Summary

Project Title	Location	Project Category	Request Summary	Notes
Intersection Upgrades	2nd St. and Q St.	Safety	Improvements to improve left turn movement and ease congestion	Will be reviewed as part of proposed Q St. project.
Jasper Road Improvements	42nd St. to 44th St.	Upgrades	Upgrades to enhance bike and pedestrian safety to include sidewalks, bike lanes, and pedestrian crossing enhancements.	Currently Lane County jurisdiction
Street Tree Replacement	Citywide	Upgrades	Remove street tree stumps and replace with new trees.	
2nd Street Improvements	Q St. to T St.	Upgrades	Pavement improvements as well Urban Standards improvements (e.g., sidewalks)	
Multiuse Path Expansion	Path expansion to connect 52nd/ High Banks to the EWEB Bike Path	Expansion	A path along the northside of Hwy. 126, from 52nd/High Banks connecting to the 42nd St. multiuse path. And path connection along Marcola Rd. connecting to the EWEB multiuse path.	
LED Streetlight Improvements	Citywide	Upgrades	Investigate and implement new concepts to reduce glare and light trespass. Also investigate spectrum to reduce brightness issues.	Will forward request to traffic operations for consideration.

**BEFORE THE PLANNING COMMISSION
OF THE CITY OF SPRINGFIELD**

**REQUEST FOR APPROVAL
OF THE DRAFT FY23-FY27
CAPITAL IMPROVEMENT
PROGRAM**

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+
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**DRAFT CAPITAL
IMPROVEMENT
PROGRAM FY23-FY27**

NATURE OF THE APPLICATION

The Development and Public Works Department has been going through the process of updating the Capital Improvements Program project lists and has produced a draft copy for the five year period of FY23-FY27. The Public Works Department is now bringing the prioritized project lists before the Planning Commission and seeks a recommendation to the City Council for review and adoption.

ORDER

It is ORDERED by the Planning Commission of Springfield that the draft FY23-FY27 Capital Improvement Program project lists be sent to the City Council with the Planning Commission's recommendation for review and adoption. This ORDER was presented to and approved by the Planning Commission on October 5th, 2021.

Planning Commission Chairperson

ATTEST:

AYES: _____
NOES: _____
ABSENT: _____
ABSTAIN: _____