Business Services
Contracts Office
5735 47th Avenue ● Sacramento, CA 95824
(916) 643-2464
Rose Ramos, Chief Business Officer
Jessica Sulli, Contract Specialist

ADDENDUM NO. 0

Date: May 11, 2022

Issued by: Sacramento City Unified School District

Project: **SCUSD Project No. 454-1**
Shade Structures Group 1A

This Addendum shall supersede the original Information, attachments, and specifications regarding RFQ/P where it adds to, deletes from, clarifies or otherwise modifies them. All other conditions and any previous addenda shall remain unchanged.

AD0.01 - Hazmat Reports

A. Reference Hazmat Reports, Sample Maps and SMAQMD forms attached

AD0.02 - Project Manual

A. Table of Contents

1. DELETE Table of Contents in its entirety and REPLACE with Table of Contents included with this addendum.

B. Division 00, Section 00 52 13

1. DELETE Section 00 52 13 and replace with revised Section 00 52 13 attached

C. Division 01, Section 01 32 13, Paragraph 1.03

1. DELETE Section 01 32 13, Paragraph 1.03 and replace with revised Section 01 32 13, Paragraph 1.03 attached

D. Section 07 9200, Joint Sealants

1. ADD Section 07 9200, Joint Sealants included with this addendum.

E. Section 09 9100, Painting

1. ADD Section 09 9100, Painting included with this addendum.

AD0.03 - For - 02-119973 Shade Structure at Tahoe Elementary School

Drawings

A. Sheet 2, Statement of General Conformance

1. ADD Statement of General Conformance sheet per sheet AD0.01 included with this addendum

B. Sheet LS1.0, General Info

1. DELETE in its entirety and REPLACE with sheet AD0.02 included with this addendum

C. Sheet LS1.1, DSA 103

1. DELETE in its entirety and REPLACE with sheet AD0.03 included with this addendum

D. Sheet LS3.0, 30’ Wide Rectangular Hip Foundation Plan

1. DELETE in its entirety and REPLACE with sheet AD0.04 included with this addendum

E. Sheet LS3.1, 30’ Wide Rectangular Hip Framing & Connection Details

1. DELETE in its entirety and REPLACE with sheet AD0.05 included with this addendum

F. Sheet LS3.4, 30’ Rectangular Hip Standing Seam Roofing Plan

1. DELETE in its entirety and REPLACE with sheet AD0.06 included with this addendum

G. Sheet LS5.0, Electrical Access

1. DELETE in its entirety and REPLACE with sheet AD0.07 included with this addendum

AD0.04 – For 02-119974 Shade Structure at Sequoia Elementary School

Drawings

A. Sheet C0.1, Civil General Notes and Abbreviations

1. ADD Landscape / Irrigation Note per sheet AD0.01 included with this addendum.

B. Sheet C1.1, Demolition Plan

Sacramento City
UNIFIED SCHOOL DISTRICT

1. REVISE existing water and irrigation line demolition scope and all applicable callouts to now include demolition of the existing water line per sheet AD0.02 included with this addendum.
2. REVISE Demolition Note 10 per sheet AD0.02 included with this application

C. Sheet C2.1, Grading, Drainage and Paving Plan

1. REVISE water and irrigation line scope and all applicable callouts to now show the rerouting of the utilities around the shade structure concrete pad per sheet AD0.03 included with this application.
2. REVISE Construction Notes 15 and 16 per sheet AD0.03 included with this application.

D. Sheet A1.1.1, Partial Site Plan and Details

1. Detail 2, Site Plan – Shade Structure: REVISE site plan to now show a section callout at the shade structure column per sheet AD0.04 included with this addendum.
2. Sheet Note 4: ADD note. Text to read “For footing / concrete pad / column Interaction, see PC shade structure / deferred approval”

E. Sheet E1.1, Site Plan - Electrical

1. REVISE conduit and ground rod callouts per sheet AD0.05 included with this addendum.
2. REVISE Keyed Notes 1 and 4 per sheet AD0.05 included with this addendum.
3. ADD Keyed Notes 8 and 9 per sheet AD0.05 included with this addendum.

F. Sheet E3.1, Details

1. Detail 2, Typical H/20 Traffic Rated Pull Box: REVISE per sheet AD0.06 included with this addendum.
2. Detail 3, Typical Trench Detail: REVISE per sheet AD0.06 included with this addendum.
3. Detail 4, Conduit Stub in Post Detail: REVISE per sheet AD0.06 included with this addendum.
4. Detail 5, Typical Steel Column & Rebar Grounding Detail: REVISE per sheet AD0.06 included with this addendum.

G. Sheet 2, Statement of General Conformance

1. ADD Statement of General Conformance sheet per sheet AD0.07 included with this addendum

H. Sheet LS1.0, General Info

1. DELETE in its entirety and REPLACE with sheet AD0.08 included with this addendum

I. Sheet LS1.1, DSA 103

1. DELETE in its entirety and REPLACE with sheet AD0.09 included with this addendum

J. Sheet LS3.0, 30’ Wide Rectangular Hip Foundation Plan

1. DELETE in its entirety and REPLACE with sheet AD0.10 included with this addendum

K. Sheet LS3.1, 30’ Wide Rectangular Hip Framing & Connection Details

1. DELETE in its entirety and REPLACE with sheet AD0.11 included with this addendum

L. Sheet LS3.4, 30’ Rectangular Hip Standing Seam Roofing Plan

1. DELETE in its entirety and REPLACE with sheet AD0.12 included with this addendum

M. Sheet LS5.0, Electrical Access

1. DELETE in its entirety and REPLACE with sheet AD0.13 included with this addendum

AD0.05 – For 02-119976 Shade Structure at New Joseph Bonnheim Elementary School

Drawings

A. Sheet A0.2, Typical Mounting Heights and Details

1. Detail 10, Hydration Station Guardrail: REVISE per sheet AD0.01 included with this addendum

B. Sheet C0.1, Civil General Notes and Abbreviations

2. ADD Landscape / Irrigation Note per sheet AD0.02 included with this addendum.

C. Sheet A1.1.2, Partial Site Plans and Details

1. Detail 1, Enlarged Site Plan - SS: REVISE site plan to now show a section callout at the shade structure column per sheet AD0.03 included with this addendum.
2. Sheet Note 7: ADD note. Text to read “For footing / concrete pad / column interaction, see PC shade structure / deferred approval”

D. Sheet E1.1, Site Plan - Electrical

1. REVISE conduit and ground rod callouts per sheet AD0.04 included with this addendum.
2. REVISE Keyed Notes 1 and 4 per sheet AD0.04 included with this addendum.
3. ADD Keyed Note 8 per sheet AD0.04 included with this addendum.

E. Sheet E3.1, Details

Sacramento City
UNIFIED SCHOOL DISTRICT

1. Detail 2, Typical H/20 Traffic Rated Pull Box: REVISE per sheet AD0.05 included with this addendum.
2. Detail 4, Conduit Stub in Post Detail: REVISE per sheet AD0.05 included with this addendum.
3. Detail 5, Typical Steel Column & Rebar Grounding Detail: REVISE per sheet AD0.05 included with this addendum.

F. Sheet 2, Statement of General Conformance

1. ADD Statement of General Conformance sheet per sheet AD0.06 included with this addendum

G. Sheet LS1.0, General Info

1. DELETE in its entirety and REPLACE with sheet AD0.07 included with this addendum

H. Sheet LS1.1, DSA 103

1. DELETE in its entirety and REPLACE with sheet AD0.08 included with this addendum

I. Sheet LS3.0, 30’ Wide Rectangular Hip Foundation Plan

1. DELETE in its entirety and REPLACE with sheet AD0.09 included with this addendum

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1. DELETE in its entirety and REPLACE with sheet AD0.11 included with this addendum

L. Sheet LS5.0, Electrical Access

1. DELETE in its entirety and REPLACE with sheet AD0.12 included with this addendum

END OF ADDENDUM NO. 0

Vendor to sign as acknowledgment of receipt and return with Bid:

Signature: _____ Date: _____

Company Name (please print) _____

Asbestos and Lead Building Inspection/Survey

Sequoia Elementary School
Buildings A and D1

3333 Rosemont Drive
Sacramento, CA 95826

Presented to:

Mike Taxara
Facilities Project Technician

Sacramento City Unified School District
425 1st Avenue
Sacramento, CA 95818

Inspection Date:

April 19, 2022

Reviewed and Submitted by:

Michael J. Lee
Certified Asbestos Consultant
Certified Lead Inspector/Assessor
Registered Environmental Property Assessor

Conducted by:

Joseph Wilkins
Certified Site Surveillance Technician
Certified Lead Sampling Technician

National Analytical Laboratories, Inc.
2201 Francisco Dr., Ste.140-261
El Dorado Hills, CA 95742
Office: (916) 361-0555 | Fax: (916) 361-0540
E-Mail: NAL1@NAL1.com | Web Page: www.NAL1.com

April 19, 2022

Mike Taxara
Facilities Project Technician
Sacramento City Unified School District
425 1st Street
Sacramento, CA 95818

RE: **Asbestos and Lead Building Inspection/Survey**
Sequoia Elementary School
Buildings A and D1
3333 Rosemont Drive
Sacramento, California 95826

Dear Mr. Taxara,

The following report is regarding the building inspection conducted at the above site. **Of the eight (08) suspected asbestos-containing samples collected, none (0) were found to contain asbestos. Eighteen (18) XRF shots were obtained to make a total of the six (06) suspected lead-containing areas tested, none (0) were found to contain lead-based material or lead-based paint.** Joseph Wilkins, Certified Site Surveillance Technician, and Lead Sampling Technician, working with National Analytical Laboratories, Inc. (N.A.L.), conducted the inspection on April 19, 2022.

SUMMARY OF FINDINGS -

The building inspection and analytical results indicate that no asbestos is present in the areas that are being renovated.

Based on the lead sample results, the specific areas where testing was conducted were found to be below Cal-OSHA's Lead Limit of Detection.

SECTION I: ASBESTOS INSPECTION -

The inspection was completed according to the EPA's Asbestos Containing Building Materials (ACBM) In-Schools Rule; 40 CFR 763.85 (Inspection and Re-Inspection). Currently, the EPA regulations classify ACBM as materials containing more than 1-percent (1%) of asbestos. Cal-OSHA currently regulates asbestos to 1/10th of 1% (0.1%) and requires a certified asbestos worker to conduct this work.

Upon completing the visual inspection, the suspect asbestos bulk sample materials were collected under the EPA and Cal-OSHA protocol. They were placed into new plastic bags, sealed, and identified with unique identification numbers. The bulk samples were transported to the laboratory under a chain of custody protocol for analysis. MircoTest Laboratory, located in Rancho Cordova, CA, analyzed the bulk suspect asbestos-containing samples, utilizing the Polarized Light Microscopy (PLM) Method. National Voluntary Laboratory Accreditation Program (NVLAP), certification #200999-0, California Environmental Laboratory Accreditation Program (CAELAP), certification #2974, certifies MicroTest.

Minor destructive renovation sampling was conducted during the site visit. If renovation or demolition work reveals any unforeseen suspect materials or if any future renovation work is to be conducted in other areas at the site, the Contractor shall cease all work and contact the building owner for further testing.

Not all the rooms or materials throughout the site were sampled. According to the results, the like materials that were not tested will be treated as homogeneous to the tested materials and will be considered asbestos or non-asbestos.

The following samples were **non-asbestos-containing materials:**

Sample ID#	Material	Location	Results
3333-1A	Stucco	Bldg. A- Exterior, Electrical Room, S. Wall, Base	None Detected
3333-1B	Stucco	Bldg. A- Exterior, Electrical Room, E. Wall, Base	None Detected
3333-1C	Stucco	Bldg. A- Exterior, Electrical Room, SE Wall, Base	None Detected
3333-2A	Plaster	Bldg. A- Electrical Room, Light Switch	None Detected
3333-2B	Plaster	Bldg. A - Electrical Room, E. Wall, Damage	None Detected
3333-2C	Plaster	Bldg. A- Electrical Room, Ceiling, Damage	None Detected
3333-3	Sheetrock-Joint Compound	Bldg. D1- Boy's Restroom, N. Wall, Damage	None Detected
3333-4	Sheetrock-Joint Compound	Bldg. D1- Girl's Restroom, S. Wall, Damage	None Detected

ASBESTOS CONCLUSION -

No asbestos was detected in the above-listed samples/materials. Therefore, the contractor, their employees, or the sub-contractors, can complete their work, in the specific areas tested, without any health or safety concerns regarding the exposure to airborne asbestos fibers.

SECTION II: LEAD INSPECTION –

The lead suspect samples were collected according to the Housing Urban Development (HUD) Guidelines, the Environmental Protection Agency (EPA), and the California Public Health Department (formally DHS), which regulate and require the abatement or in-place management of LBP hazards equal to or greater than 1.0 milligram per square centimeter (1.0 mg/cm^2) of lead by XRF analysis or more than 0.5% lead by weight by laboratory flame atomic absorption. The following regulation shall be adhered to because Cal-OSHA considers all surfaces to contain Lead: Cal-OSHA's 29 CFR 1926.62, California Occupational Safety and Health Standard, Title 8 (Cal-OSHA 8 CCR 1532.1).

Upon completing the visual inspection, suspect painted finishes or materials were sampled for potential lead content, following the EPA and Cal-OSHA protocol. They were labeled with unique identification numbers and analyzed using the Heuresis Pb200i Portable X-ray Fluorescent (XRF) analyzer. When the material is measured using XRF, each element present in the sample emits its own unique fluorescent x-ray energy spectrum. We can rapidly determine the material's lead content by simultaneously measuring the fluorescent x-rays emitted by the sample's different components.

The following samples were **found to be less than (<) the Cal-OSHA's Limit of Detection**

Sample ID#	Description	Location	Concentration % By Weight
3333-1L	Wood	Bldg. D1- Boy's/Girl's/Staff Restroom, Ceiling, White Paint	<LOD
3333-2L	Sheetrock	Bldg. D1- Boy's/Girl's/Staff Restroom, Walls, White Paint	<LOD
3333-3L	Ceramic	Bldg. D1- Boy's/Girl's/Staff Restroom, Walls, Beige Tiles	<LOD
3333-4L	Ceramic	Bldg. D- Boy's/Girl's/Staff Restroom, Walls, Blue Tiles	<LOD
3333-5L	Ceramic	Bldg. D1- Boy's/Girl's/Staff Restroom, Floor, Tan Tiles	<LOD
3333-6L	Stucco	Bldg. A- Exterior, Electrical Room, Walls, White Paint	<LOD

LEAD CONCLUSION -

The above-listed samples were found to be below Cal-OSHA’s limit of detection, therefore, renovation/demolition of the listed materials can proceed without regard to lead dust or lead contamination.

ASSUMPTIONS AND LIMITATIONS -

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were noted during N.A.L.'s inspection of the specific areas listed herein.

The selection of sample locations and sampling frequency was based on observations and the assumption that like materials in the same area are homogeneous in content. This report is not to be utilized as a bidding document or project specification document since it does not have all the components required to serve as an asbestos and lead abatement project design document or asbestos and lead abatement work plan.

Our professional services have been performed, our findings obtained, and our conclusions and recommendations prepared following established principles and practices in the fields of environmental testing and consulting. This report does not warrant undiscovered hazards and locations not investigated.

This report includes the laboratory analytical results, chain custody forms, and sample location map. If you have any questions regarding this report or can further assist, please contact our office.

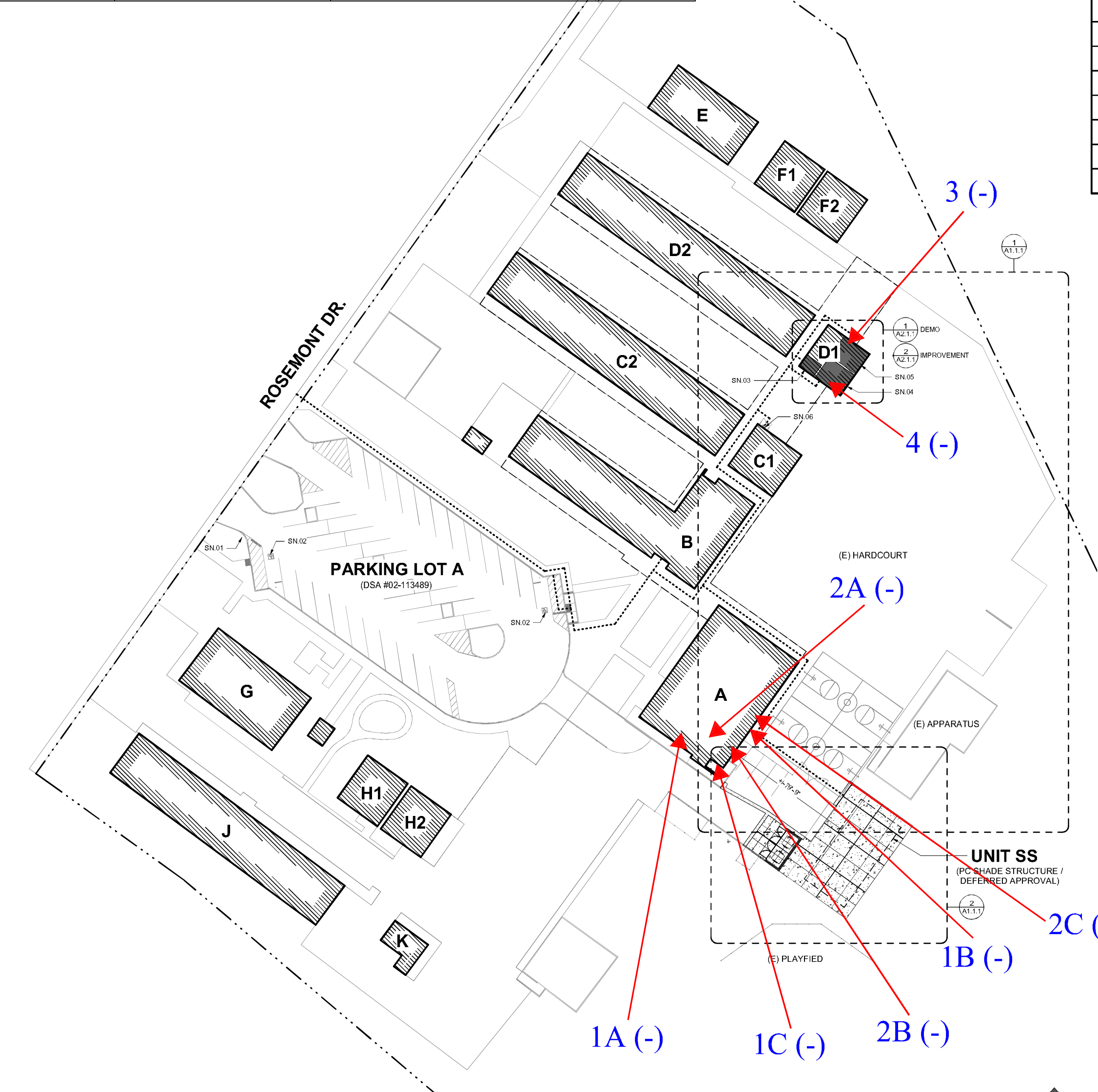
Reviewed and submitted by:

Michael J. Lee
Certified Asbestos Consultant
DOSH# 06-4047
Certified Lead Inspector/Assessor
LRC-00007541
Registered Environmental Property Assessor
REPA# 716352750

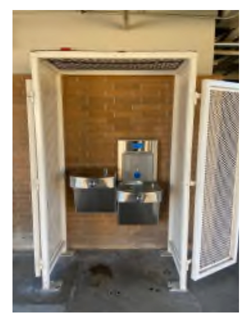
Conducted by:

Joseph Wilkins
Certified Site Surveillance Technician
DOSH# 17-5890
Certified Lead Sampling Technician
CDPH# 28630

ASBESTOS SAMPLE LOCATION MAP	Site Name: Sequoi Elementary School	Project#:
Survey Date: 04/19/22	Site Address:	Scale: Not to Scale
Area: Buildings A and D1	3333 Rosemont Dr. Sacramento, CA	Layout and Sample Locations Are Approximated. Legend: - Non-Asbestos + Contains Asbestos



1 SITE PLAN
1" = 30'-0"



2 (E) DRINKING FOUNTAIN
1/2" = 1'-0"

PROPOSED SHADE STRUCTURE

UNIT	DESCRIPTION	CONSTRUCTION TYPE	OCCUPANCY	ALLOWABLE AREA
SS	SHADE STRUCTURE	II-B OR	A-3	9,500 SF MAX
		V-B	A-3	6,000 SF MAX

EXISTING BUILDING DESIGNATIONS

UNIT	DESCRIPTION	DSA APPLICATION #	AREA (SF)	NOTES
A	MULTIPURPOSE	14113	5,027	
B	ADMINISTRATION	14113	5,450	
C1-C2	CLASSROOMS / TOILET ROOMS	14113, 02-102135	6,324	
D1-D2	CLASSROOMS / TOILET ROOMS	14113, THIS APPLICATION	6,262	
E	RELOCATABLE CLASSROOMS	-	960 EACH	
F1-F2	RELOCATABLE CLASSROOMS	-	960 EACH	
G	RELOCATABLE CLASSROOMS	02-104649	960 EACH	
H1-H2	RELOCATABLE CLASSROOMS	51735	960 EACH	
J	RELOCATABLE CLASSROOMS	28948, 15050	960 EACH	
K	TOILET ROOMS	02-102135	447	

EXISTING PATH OF TRAVEL (POT): ARCHITECT STATEMENT

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE IN CHARGE STATEMENT: THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR **PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS.** AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NON-COMPLIANT
1) HAVE BEEN IDENTIFIED AND
2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS, AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS.
ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NON-CONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT TO COMPLIANCE WITH THE CBC AS PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

ACCESSIBLE PARKING STALL CALCULATION

TOTAL PARKING STALL COUNT:	44 STALLS
ACCESSIBLE PARKING STALLS	(TABLE 11B-208.2)
REQUIRED ACCESSIBLE STALLS:	2 (26-50 TOTAL STALLS)
REQUIRED VAN ACCESSIBLE STALLS:	1 (1-6 ACCESSIBLE STALLS)
ACCESSIBLE STALLS PROVIDED:	2 VAN

LEGEND

PROPERTY LINE
UNIT DESIGNATION — PC SHADE STRUCTURE / DEFERRED APPROVAL
UNIT DESIGNATION — EXISTING BUILDINGS
EXPANSION JOINT — CONCRETE WALK / PAVING — CONTROL JOINT
ASPHALT CONCRETE PAVING
ACCESSIBLE PATH OF TRAVEL

1. SITE WALKWAYS SHALL PROVIDE A BARRIER-FREE P.O.T. ABRUPT CHANGES IN LEVEL ALONG ANY P.O.T. ARE ALLOWED UP TO 1/2". ONLY ABRUPT CHANGES IN ELEVATION UP TO 1/4" ARE ALLOWED TO HAVE A VERTICAL TRANSITION. ABRUPT CHANGES IN ELEVATION BETWEEN 1/4" AND 1/2" SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1-UNIT VERTICAL TO 2-UNITS HORIZONTAL.
2. WALKWAYS SHALL BE FREE OF GRATINGS WHEREVER POSSIBLE. GRATING WHICH OCCUR WITHIN THE P.O.T. SHALL HAVE OPENINGS WHICH DO NOT EXCEED 1/2" IN THE DIRECTION OF TRAVEL PER CBC SECTION 11B-302.3.
3. AN ABRUPT DROP-OFF CHANGE IN ELEVATION AT THE EDGE OF ANY WALK INTO AN ADJACENT PLANTER SHALL NOT EXCEED 4".
4. SLOPES IN THE DIRECTION OF THE P.O.T. GREATER THAN 1-UNIT VERTICAL TO 20-UNITS HORIZONTAL SHALL BE CONSIDERED A RAMP AND WILL REQUIRE HANDRAILS ON BOTH SIDES PER CBC SECTION 11B-505 SLOPES IN THE DIRECTION OF THE P.O.T. ALONG WALKWAYS SHALL NOT EXCEED 5%. CROSS SLOPES IN THE P.O.T. ALONG WALKWAYS SHALL NOT EXCEED 2%.
5. ALL WALKWAYS WITHIN THE P.O.T. SHALL BE A MINIMUM OF 48" IN WIDTH. SURFACES WITH A SLOPE OF 5% OR LESS SHALL BE AT LEAST AS SLIP-RESISTANT AS THAT PROVIDED BY A LIGHT BROOM FINISH. SURFACES WITH A SLOPE OF MORE THAN 5% SHALL BE AT LEAST AS SLIP-RESISTANT AS THAT PROVIDED BY A MEDIUM BROOM FINISH.
6. OBJECTS PROTRUDING INTO THE P.O.T. SHALL NOT REDUCE THE CLEAR WIDTH OR MANEUVERING SPACE WITHIN THE P.O.T. PER CBC SECTION 11B-307.
7. PASSING SPACES (11B-403.5.3) OF 60" X 60" MIN. ARE LOCATED NOT MORE THAN 200' APART. WALKS WITH CONTINUOUS GRADIENTS SHALL HAVE 60" IN LENGTH LEVEL RESTING AREAS (11B-403.7) NOT MORE THAN 400' APART. P.O.T. SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MIN (11B-307.4) AND FREE OF PROTRUDING OBJECTS (11B-307) GREATER THAN 4" PROJECTION FROM WALL ABOVE 27" AND LESS THAN 80". OBJECTS PROTRUDING INTO THE P.O.T SHALL NOT REDUCE THE CLEAR WIDTH OR MANEUVERING SPACE REQUIRED FOR ACCESSIBLE ROUTES (11B-307.5).

SHEET NOTES

SN.01 (E) PARKING LOT ENTRANCE SIGN PER DSA #02-113489
SN.02 (E) ACCESSIBLE PARKING STAL PER DSA #02-113489
SN.03 (E) ACCESSIBLE STAFF TOILET ROOM UPGRADED PER THIS APPLICATION
SN.04 (E) ACCESSIBLE GIRL'S TOILET ROOM UPGRADED PER THIS APPLICATION
SN.05 (E) ACCESSIBLE BOY'S TOILET ROOM UPGRADED PER THIS APPLICATION
SN.06 (E) ACCESSIBLE DRINKING FOUNTAIN REVIEWED AND VERIFIED PER THIS APPLICATION. SEE 2/A1.1.0

rga+ A studio of HMC Architects

SHADE STRUCTURE AT SEQUOIA ELEMENTARY SCHOOL
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

Revision

SITE PLAN AND CODE INFORMATION

PROJECT NO. 21-1504.05
DATE: 3/3/22
SHEET A1.1.0

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Asbestos Survey Form
(See Instructions)

777 12th Street, Suite 300
Sacramento, CA 95814
Office (279) 207-1122
Fax (279) 207-1144
Email: asbestos@airquality.org

1. Purpose of Survey	Renovation		Demolition

2. Facility Information

Project Area(s) Description: Sequoia Elementary School - Buildings A and D1

Address	City	# of Structures
3333 Rosemont Drive	Sacramento	

3. Owner Information

Name			
Address	City/State		Zip
Contact	Phone	Fax	Email

4. Consultant Information — **Survey Date(s):** 04/19/22

Company Name: National Analytical Laboratories, Inc.

Name	DOSH #
Michael J. Lee	06-4047

Address	City/State	Zip
2201 Francisco Dr. Ste. 140-261	El Dorado Hills, CA	95762

Phone	Fax	Email	Signature
916-361-0555	916-361-0540	Paula@nal1.com	

5. Client Information (If different than owner) ☐General Contractor ☐Insurance Company ☐Architect ☐Property Manager ☐Other

Name			
Address	City/State		Zip
Contact	Phone	Fax	Email

6. Have all of the suspect materials that will be disturbed been sampled? ☑Yes ☐No

If no, explain why:

7. Summary of Total Asbestos Containing Material (ACM) Findings

Regulated Asbestos Containing Material (RACM) (Includes materials subject to known mechanical removal and fire damaged materials)			Category II		Category I	
Square Ft.	Linear Ft.	Cubic Ft.	Square Ft.	Linear Ft.	Square Ft.	Linear Ft.
0	0	0	0	0	0	0

To receive future SMAQMD Rule updates and changes affecting your industry (check one box):

☐Please send e-mail notices to ☐I will sign up myself at www.airquality.org/listserve/ to receive e-mailed notices.

☐I am already subscribed. ☐I want the District to mail notices to the address on this application: ☐Owner ☐Consultant

SMAQMD Survey Form Instructions

#1. Check the appropriate box as to whether the survey is for a Renovation or Demolition as defined by SMAQMD Rule 902, at the time the survey was conducted. Demolitions require sampling of all suspect materials unless assumed to contain asbestos or only a small area is being impacted by the demolition, ie, the entire building will not be razed. An example of this would be where only a load bearing wall(s) is removed but the building will remain intact. In those cases, explain why all suspect materials in the structure were not sampled in item #6. Renovations (TI's, soft demo's, remodels) require sampling of only the suspect materials that are going to be disturbed.

#2. Provide the description and function of the building(s) or area(s), ie, "School-Boiler Room", within the building(s) being surveyed. Include the total number of floors surveyed. Provide the address of building(s) surveyed. If multiple buildings are on site, provide the total number of structures surveyed, include portables, outbuildings, garages, sheds, etc.

#3. Provide owner information.

#4. Provide consultant information and the date on which each building/area was surveyed in item #2.

#5. The client refers to whoever requested the survey to be conducted and provided demolition/renovation information to the consultant. If the client is the owner in #3, leave this section blank.

#6. Unless assumed to contain asbestos, **all** suspect materials must be sampled prior to a demolition. Prior to a renovation, unless assumed to contain asbestos, suspect materials >160 square feet, 260 linear feet, or 35 cubic feet that will be abated, stripped, or removed must be sampled. You cannot assume suspect materials are negative. Samples taken must be based on the Asbestos Hazard Emergency Response Act (AHERA) guidelines for homogeneous areas but must include both the interior and exterior suspect materials, floor to roof. The list below provides common suspect materials. Surfacing materials requiring 3,5,7 protocol are noted (3,5,7). The SMAQMD considers stucco a surfacing material. All other sampling may be done "sufficient to determine".

EPA Category of Common Suspect Asbestos Containing Materials

Note: This list does not include every product that may contain asbestos. It is intended as a general guide to show the proper NESHAP categories of materials typically containing asbestos.

Regulated Asbestos Containing Material

- Fireproofing (3,5,7)
- Acoustical Ceiling Texture (3,5,7)
- Plaster (3,5,7)
- Wall Texture (3,5,7)
- Ceiling Tiles
- HVAC Duct Insulation
- Thermal System Insulation
- Mudded Pipe Elbow Insulation
- Linoleum Backing
- Furnace Insulation
- Fire Doors
- Nicolite Roofing paper

Category II

- Stucco (3,5,7)
- Window Glazing
- Cement Board/Transite
- Mastics
- Textured Paints/Coatings
- Chalkboards
- Lab Hoods/Table Tops
- Cement Pipes
- Cement Roofing Shingles
- Caulking

Category I

- Asphalt Flooring
- Roofing Shingles
- Built-up Roofing
- Base Flashing
- Rolled Roofing
- Boiler/Tank Insulation
- Vinyl Floor Tile

#7. This is an estimate total of all RACM, Category I & Category II materials found in <u>all</u> structures listed in item #2. If Category I & II materials were subjected to fire or will be subjected to mechanical forces during removal, they must be designated as RACM. An asbestos containing material must only be designated to one category. Category I or II material cannot be listed as RACM.

Attachments (Include with Survey)

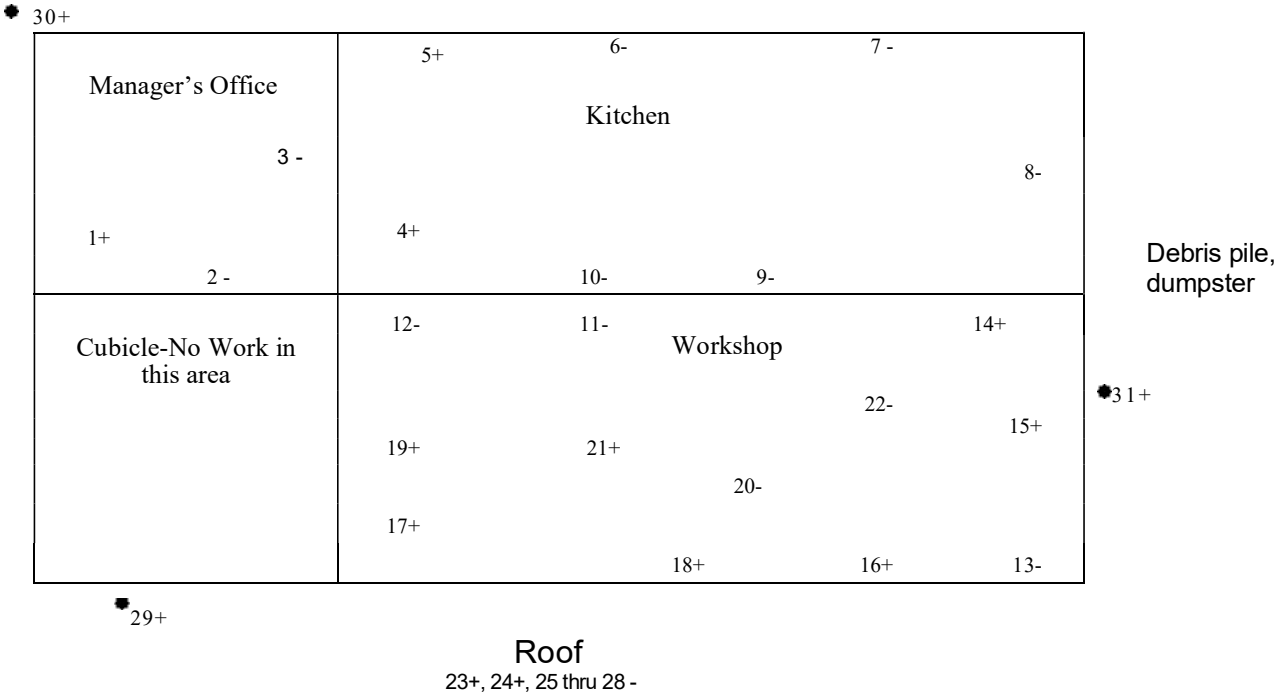
I. Findings & Recommendations

Explain the significance of the data in item #7. State that Category I material may be left in place during demolition and that RACM and Cementitious Category II material must be removed prior to the renovation or demolition. Explain that the amounts listed are to be used by the owner to obtain accurate bids from abatement contractors. State whether this is a jurisdictional project under the requirements of the federal NESHAP and SMAQMD Rule 902. For unimpacted areas in a renovation, state that untested suspect materials must be tested prior to additional future projects where the materials will be disturbed.

II. Floor Plan Map(s)

Create a separate Floor Plan Map (see example below) for each floor or area of every structure surveyed in item #2. If the roof or exterior is impacted by the project, create a separate map for the roof and exterior or include them on one of the floor maps as seen below. Name each room sampled by the commonly used name and state whether the area is undergoing Renovation or Demolition. A demolition is the wrecking, taking out or burning of any load supporting structural member. A renovation is everything else. If the survey is conducted after the demo/reno has occurred, inspect all dumpsters outside of building. Record the location of each sample taken and identify each sample with a unique identifier that will be the same as reported to the laboratory and in the following appendices. **Use "+" to describe >1% or "—" to describe = to or <1% asbestos.**

Example: Building 1 - Floor Plan Map



III. Sample Results

Create a table (see example below of minimal information needed to comply with SMAQMD Rule 902) for all samples >1% from all structures surveyed in item #2. Category I or Category II materials subject to known mechanical removal or fire damage must be considered RACM. Add more rows and columns as needed.

Example: Building 1 - Sample Results

Sample(s) ID#	Suspect Material	Asbestos Content (%) (PLM/PC)	EPA Category	Total Quantity Sq./Ln/Cu. Ft.
1	Ceiling tile	2.6-PC	RACM	250 sqft
4	Linoleum	40-PLM	RACM	800 sqft
5	Floor mastic	1.4-PC	RACM (mechanical removal)	250 sqft
14,16, 18	TSI	80-PLM	RACM	1,200 li.ft.
15,17, 19	Wall texture	3-PC	RACM	2,500 sqft
21	Floor tile	8-PLM	CAT II	2,500 sqft
20	Transite panels	45-PLM	CAT II	1,100 sqft
23	Nicolite felt	Assumed	RACM	12,000 sqft
24	Roof mastic	2-PLM	CAT I	12,000 sqft
29, 30, 31	Stucco	1.7 PC	RACM	5,400 sqft

IV. Lab Results

Point count (PC) all samples <10% unless assumed > 1%

V. Current proof of certification of person listed in item #4

Special Note: The following are common causes for survey rejection and potential citation by SMAQMD:

(1)-Survey form or Appendices incomplete, incorrect or missing attachments.
(2)-All suspect materials are not sampled or assumed to be asbestos containing in the survey (for any reason).
(3)-Affected suspect materials are not sampled utilizing the 3,5,7 protocol.
(4)-Point counts were not conducted, sheetrock was not composite sampled, non-sheetrock materials were composite sampled.

(5)-**"Limited Surveys** or Inaccessible Areas**"**- The SMAQMD is aware that renovations impact specific areas within a structure and therefore will not require sampling throughout the entire structure as a demolition survey would require. Stating that a **survey is "limited"** because all areas of the project will not be impacted or areas are inaccessible will result in rejection of the survey unless good cause is provided. There is no requirement to sample inaccessible materials, ie, materials behind a wall or encased in concrete; however, state in the **"Findings & Recommendations"** that upon discovery of previously untested, inaccessible suspect materials, work must cease until further sampling is conducted. Locked rooms or spaces above drop ceiling tiles are not considered inaccessible and are required to be sampled. The owner/operator must provide access to all impacted areas. Failure to sample suspect materials for **"cosmetic" reasons will be rejected.**

It is important to state that you cannot be prevented and/or instructed by the owner/operator as to what materials are to be sampled. This is determined by whoever conducts the survey and will give cause for survey rejection and potential citation to the owner/operator for failure to adequately survey all suspect materials.

Survey Instructions (4_13)

MicroTest Laboratories Inc. NVLAP Code: 200999-0
3110 Gold Canal Dr. Ste. A. Rancho Cordova, CA 95670
PH 916.567.9808 | FX 916.404.0302
www.microtestlabsinc.com | service@microtestlabsinc.com

Project ID

MT012219067

CLIENT INFORMATION

Company National Analytical Laboratories, Inc.
Name Paula Lee
Address 2201 Francisco Drive, Ste. 140-261
El Dorado Hills CA, 95762
Phone (916) 361 - 0555
Email N.A.L. Distribution List

SAMPLE

Date Tuesday, April 19, 2022
Time 8:00 AM

MicroTest Laboratories
Analytical Data

JOB SITE INFORMATION

Sampler Joseph Wilkins
Project Sequoia Elementary Property
Address 3333 Rosemont Drive
Sacramento, CA 95826

POLARIZED LIGHT MICROSCOPY (PLM)
EPA METHOD 600 / R-93 / 116 & EPA – 40 CFR Appendix E to Subpart E of Part 763

Sample ID	Accession Number	Client Description	Laboratory Description	Non Fibrous / Fibrous Materials	Asbestiform Minerals %
3333-1A	19067-1	Bldg. A, Exterior, Electrical Room, S. Wall, Base	Gray Stucco Non-Fibrous Homogenous	100% Binder	None Detected
3333-1B	19067-2	Bldg. A, Exterior, Electrical Room, E. Wall, Base	Gray Stucco Non-Fibrous Homogenous	100% Binder	None Detected
3333-1C	19067-3	Bldg. A, Exterior, Electrical Room, SE Wall, Base	Gray Stucco Non-Fibrous Homogenous	100% Binder	None Detected
3333-2A	19067-4	Bldg. A, Electrical Room, Light Switch	White Plaster Non-Fibrous Homogenous	100% Binder	None Detected
3333-2B	19067-5	Bldg. A, Electrical Room, E. Wall, Damage	White Plaster Non-Fibrous Homogenous	100% Binder	None Detected
3333-2C	19067-6	Bldg. A, Electrical Room, Ceiling, Damage	White Plaster Non-Fibrous Homogenous	100% Binder	None Detected
3333-3	19067-7	Bldg. D1, Boys Restroom, N. Wall, Damage	White Sheetrock-Joint Compound Non-Fibrous	100% Binder	None Detected

Report

Date Tuesday, April 19, 2022

Samples Received: 8
Samples Analyzed: 8

Analyst: Rosey Nagra

Authorized Signatory:

Kelly Favero - Lab Manager

This analytical data sheet constitutes a final report. Due to the limitation of Polarized Light Microscopy (PLM), some samples classified as containing no asbestos in materials, NoneDetected (ND), such as floor tiles or like materials, warrant a recommendation for further analysis by Transmission Electron Microscopy (TEM). Results apply to the sample as received. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. All Samples will be held for not less than 30 days, upon which they will then be disposed of. This report shall not be reproduced in full without written authorization from MicroTest Laboratories, Inc. Soil and rock matrices are considered problematic matrices and MicroTest recommends sample homogenization prior to PLM analysis. Thermal decomposition of asbestos fibers can yield non-asbestiform mineral properties. The reporting limit for calibrated visual area estimation quantitation procedures is 1%. The reporting limit for 400/1000 point count quantitation procedures is 0.25% or 0.1% respectively. The sample is considered acceptable unless otherwise noted. Sub-samples are analyzed separately accept when manufactured with multiple layers (i.e. Linoluem, Drywall, etc.) or requested contrarily by the client

MicroTest Laboratories Inc. NVLAP Code: 200999-0
3110 Gold Canal Dr. Ste. A. Rancho Cordova, CA 95670
PH 916.567.9808 | FX 916.404.0302
www.microtestlabsinc.com | service@microtestlabsinc.com

Project ID

MT012219067

			Heterogenous		
3333-4	19067-8	Bldg. D1, Girls Restroom, S. Wall, Damage	White Sheetrock-Joint Compound Non-Fibrous Heterogenous	100% Binder	None Detected

Report

Date Tuesday, April 19, 2022

Samples Received: 8
Samples Analyzed: 8

Analyst: Rosey Nagra

Authorized Signatory:

Kelly Favero - Lab Manager

This analytical data sheet constitutes a final report. Due to the limitation of Polarized Light Microscopy (PLM), some samples classified as containing no asbestos in materials, NoneDetected (ND), such as floor tiles or like materials, warrant a recommendation for further analysis by Transmission Electron Microscopy (TEM). Results apply to the sample as received. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. All Samples will be held for not less than 30 days, upon which they will then be disposed of. This report shall not be reproduced in full without written authorization from MicroTest Laboratories, Inc. Soil and rock matrices are considered problematic matrices and MicroTest recommends sample homogenization prior to PLM analysis. Thermal decomposition of asbestos fibers can yield non-asbestiform mineral properties. The reporting limit for calibrated visual area estimation quantitation procedures is 1%. The reporting limit for 400/1000 point count quantitation procedures is 0.25% or 0.1% respectively. The sample is considered acceptable unless otherwise noted. Sub-samples are analyzed separately accept when manufactured with multiple layers (i.e. Linoluem, Drywall, etc.) or requested contrarily by the client

N·A·L ENVIRONMENTAL TESTING & CONSULTING
PH 916.361.0555 | FX 916.361.0540
service@nal1.com

Project ID
MT012219067

CLIENT INFORMATION

Company Sac City Unified School District
Name Mike Taxara
Address 425 First Avenue
Sacramento CA, 95818
Phone (916) 395 - 3980
Email Tina-Alvarez-Bevens@scusd.edu

Sample

Date Tuesday, April 19, 2022
Time 08:00 AM

Chain-Of-Custody

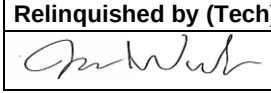
JOB SITE INFORMATION

Site Sequoia Elementary Property
Address 3333 Rosemont Drive
Sacramento, CA 95826
Unit
Claim#
Job # 41021
Chain # 1

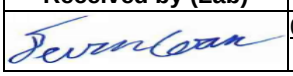
Analysis: PLM | TTFP - 400 PT.CT.
Turn Around Time: Same Day

Sample Number:	Location	Description
3333-1A	Bldg. A, Exterior, Electrical Room, S. Wall, Base	Stucco
3333-1B	Bldg. A, Exterior, Electrical Room, E. Wall, Base	Stucco
3333-1C	Bldg. A, Exterior, Electrical Room, SE Wall, Base	Stucco
3333-2A	Bldg. A, Electrical Room, Light Switch	Plaster
3333-2B	Bldg. A, Electrical Room, E. Wall, Damage	Plaster
3333-2C	Bldg. A, Electrical Room, Ceiling, Damage	Plaster
3333-3	Bldg. D1, Boys Restroom, N. Wall, Damage	Sheetrock-Joint Compound
3333-4	Bldg. D1, Girls Restroom, S. Wall, Damage	Sheetrock-Joint Compound

Relinquished by (Client)	Date/Time

Relinquished by (Tech)	Date/Time
	04/19/2022 08:00 AM

Received by (Tech)	Date/Time

Received by (Lab)	Date/Time
	04/19/2022 12:39 PM

Sampler: Joseph Wilkins

Total Number of Samples 8

PH 916.361.0555 | FX 916.361.0540
service@nal1.com

for office use only
KS#
Client PO
Project ID

CLIENT INFORMATION

Company Sac City Unified School District
Name Mike Taxara
Address 425 First Avenue
Sacramento CA, 95818
Phone (916) 395 - 3980
Email Tina-Alvarez-Bevens@scusd.edu

SAMPLE

Date Tuesday, April 19, 2022
Time 08:00 AM

Chain-Of-Custody | Analytical Data
Heuresis Pb200i

JOB SITE INFORMATION

Site Sequoia Elementary Property
Address 3333 Rosemont Drive
Sacramento, CA 95826
Unit
Claim#
Job # 26212
Chain # 1

TURN AROUND	LEAD PAINT	MEASUREMENT MODE	SAMPLING METHOD	ANALYTICAL DATA
Same Day	Inspection	Standard	Heuresis Pb200i	Action Level - 1 Abatement Level - 1 Total Readings - 6

Sample ID:	Sample Location | Description	Structure Material	Color	Condition	Lead (mg/cm²)
3333-1L	Bldg. D1, Boy's/Girl's/Staff Restroom, Ceiling, Paint	Wood	White	N/A	<LOD
3333-2L	Bldg. D1, Boy's/Girl's/Staff Restroom, Walls, Paint	Sheetrock	White	N/A	<LOD
3333-3L	Bldg. D1, Boy's/Girl's/Staff Restroom, Walls, Tiles	Ceramic	Beige	N/A	<LOD
3333-4L	Bldg. D1, Boy's/Girl's/Staff Restroom, Walls, Tiles	Ceramic	Blue	N/A	<LOD
3333-5L	Bldg. D1, Boy's/Girl's/Staff Restroom, Floor, Tiles	Ceramic	Tan	N/A	<LOD
3333-6L	Bldg. A, Exterior, Electrical Room, Walls, Paint	Stucco	White	N/A	<LOD

<LOD Below Limit of Detection | Reading < 0.0
LCM Lead Containing Material | Readings Ranging from 0 to < 1.0 mg/cm²
LBP Lead Based Paint | Readings Greater than 1.0 mg/cm²

ANALYSIS
Date April 19, 2022
Time 08:00 AM

California Dept. of Public Health
www.2.epa.gov/lead

Relinquished by (Client)	Date/Time

Relinquished by (Tech)	Date/Time
	04/19/2022 08:00 AM

Received by (Tech)	Date/Time

Received by (Lab)	Date/Time
	04/19/2022 08:00 AM

Sampler: Joseph Wilkins
Analyst: Joseph Wilkins

Total Number of Samples 6

Asbestos and Lead Building Inspection/Survey

Alice Birney K-8
John Bidwell Elementary School
John Sloat Elementary School
New Joseph Bonnheim Elementary School
Tahoe Elementary School
Restrooms

Presented to:

Mike Taxara
Facilities Project Technician

Sacramento City Unified School District
425 1st Avenue
Sacramento, CA 95818

Inspection Date:

May 06, 2022

Reviewed and submitted by:

Michael J. Lee
Certified Asbestos Consultant
Certified Lead Inspector/Assessor
Registered Environmental Property Assessor

Conducted by:

Robert Mullen
Certified Site Surveillance Technician
Certified Lead Sampling Technician

National Analytical Laboratories, Inc.
2201 Francisco Dr., Ste.140-261
El Dorado Hills, CA 95742
Office: (916) 361-0555 | Fax: (916) 361-0540
E-Mail: NAL1@NAL1.com | Web Page: www.NAL1.com

May 10, 2022

Mike Taxara
Facilities Project Technician
Sacramento City Unified School District
425 1st Avenue
Sacramento, CA 95818

RE: **Asbestos and Lead Building Inspection/Survey**
Group 1 – 5 School Restrooms
Alice Birney K-8
John Bidwell Elementary School
John Sloat Elementary School
New Joseph Bonnheim Elementary School
Tahoe Elementary School
Sacramento, California

Dear Mr. Taxara,

The following report is regarding the building inspection conducted at the various sites listed above. **Of the twenty-two (22) suspect asbestos-containing samples collected, none (0) were found to contain asbestos. Eighty-four (84) XRF shots were obtained to make a total of the twenty-eight (28) suspected lead-containing areas tested, four (04) were found to contain lead-based material (LBM).** Robert Mullen, Certified Site Surveillance Technician, and Lead Sampling Technician working with National Analytical Laboratories, Inc. (N.A.L.), conducted the inspection on May 06, 2022.

SUMMARY OF FINDINGS -

The building inspection and analytical results indicate that no asbestos is present in the areas that are being renovated.

Based on the lead sample results, the Girl's and Boy's Restroom Tiles were found to contain LBM levels at John Sloat and Tahoe Elementary school above Cal-OSHA's Lead Action Levels.

SECTION I: ASBESTOS INSPECTION -

The inspection was completed according to the EPA's Asbestos Containing Building Materials (ACBM) In-Schools Rule; 40 CFR 763.85 (Inspection and Re-Inspection). Currently, the EPA regulations classify ACBM as materials containing more than 1-percent (1%) of asbestos. Cal-OSHA currently regulates asbestos to 1/10th of 1% (0.1%) and requires a certified asbestos worker to conduct this work.

Upon completing the visual inspection, the suspect asbestos bulk sample materials were collected under the EPA and Cal-OSHA protocol. They were placed into new plastic bags, sealed, and identified with unique identification numbers. The bulk samples were transported to the laboratory under a chain of custody protocol for analysis. MircoTest Laboratory, located in Rancho Cordova, CA, analyzed the bulk suspect asbestos-containing samples, utilizing the Polarized Light Microscopy (PLM) Method. National Voluntary Laboratory Accreditation Program (NVLAP), certification #200999-0, California Environmental Laboratory Accreditation Program (CAELAP), certification #2974, certifies MicroTest.

Minor destructive sampling was conducted during the site visit. In the event that demolition work reveals any unforeseen suspect materials or if any future renovation work is to be conducted in other areas at the site; the contractor shall cease all work and contact the building owner for further testing.

Not all the rooms or materials throughout the site were sampled. According to the results, the like materials that were not tested will be treated as homogeneous to the tested materials and will be considered asbestos or non-asbestos.

The following samples were non-asbestos-containing materials:

Alice Birney K-8

Sample ID#	Material	Location	Results
6251-1	Acoustic Ceiling Tile	Girl's Restroom Ceiling	None Detected
6251-2A	Linoleum	Girl's Restroom, Damage, Multicolor	None Detected
6251-2B	Mastic	Girl's Restroom, Damage	None Detected
6251-3A	Texture	Girl's Restroom, Damage	None Detected
6251-3B	Texture	Boy's Restroom, Light Switch	None Detected
6251-3C	Texture	Staff Restroom, Light Switch	None Detected
6251-4	Sheetrock-Joint Compound	Girl's Restroom, Damage	None Detected

John Bidwell ES

Sample ID#	Material	Location	Results
1730-1	Texture	Girl's Restroom, Damage	None Detected
1730-1	Texture	Boy's Restroom, Damage	None Detected
1730-1	Texture	Staff Restroom, Damage	None Detected
1730-2	Sheetrock-Joint Compound	Girl's Restroom, Damage	None Detected

John Sloat ES

Sample ID#	Material	Location	Results
7525-1A	Plaster	Girl's Restroom, Damage	None Detected
7525-1B	Plaster	Boy's Restroom, Damage	None Detected
7525-1C	Plaster	Staff Restroom, Damage	None Detected

Joseph Bonnheim ES

Sample ID#	Material	Location	Results
7300-1	Acoustic Ceiling Tile	Boy's Restroom Ceiling	None Detected

Tahoe ES

Sample ID#	Material	Location	Results
3110-1A	Texture	Staff Restroom, Damage	None Detected
3110-1B	Texture	Boy's Restroom, Damage	None Detected
3110-1C	Texture	Girl's Restroom, Damage	None Detected
3110-2	Sheetrock-Joint Compound	Staff Restroom, Damage	None Detected
3110-3A	Floor Tile	Staff Restroom, Damage, Multicolor	None Detected
3110-3B	Mastic	Staff Restroom, Damage	None Detected
3110-4	Cove Base Mastic	Staff Restroom, Damage	None Detected

ASBESTOS CONCLUSION -

No asbestos was detected in the above-listed samples/materials. Therefore, the contractor, their employees, or the sub-contractors, can complete their work, in the specific areas tested, without any health or safety concerns regarding the exposure to airborne asbestos fibers.

SECTION II: LEAD INSPECTION –

The lead suspect samples were collected according to the Housing Urban Development (HUD) Guidelines, the Environmental Protection Agency (EPA), and the California Public Health Department (formally DHS), which regulate and require the abatement or in-place management of LBP hazards equal to or greater than 1.0 milligram per square centimeter (1.0 mg/cm²) of lead by XRF analysis or more than 0.5% lead by weight by laboratory flame atomic absorption. The following regulation shall be adhered to because Cal-OSHA considers all surfaces to contain Lead: Cal-OSHA's 29 CFR 1926.62, California Occupational Safety and Health Standard, Title 8 (Cal-OSHA 8 CCR 1532.1).

Upon completing the visual inspection, suspect painted finishes or materials were sampled for potential lead content, following the EPA and Cal-OSHA protocol. They were labeled with unique identification numbers and analyzed using the Heuresis Pb200i Portable X-ray Fluorescent (XRF) analyzer. When the material is measured using XRF, each element present in the sample emits its own unique fluorescent x-ray energy spectrum. We can rapidly determine the material's lead content by simultaneously measuring the fluorescent x-rays emitted by the sample's different components.

Once the determination is made on where the LBM is located, the In-place Management or the Abatement of the LBM can commence. If the Abatement method of all surfaces is to be completed, then the debris must be bagged, or burrito wrapped before removing the debris from the work area(s) and subsequently the site. Because the samples listed below were found to contain LBM all areas where the LBM will be disturbed will require abatement, encapsulation, or prep work by a certified lead worker.

Therefore, the employer must ensure that the worker is adequately trained under Title 8 (Cal-OSHA 8 CCR 1532 (1) (2) and shall produce evidence that the worker is not being exposed above the Action Level (AL) or the Permissible Exposure Limit (PEL). Suppose no current data is readily available for the worker(s). In that case, the employer shall conclude that the worker is being exposed above the PEL; this SHALL trigger the employer to provide advanced training and certifications for the employees working with LBM.

Although not all the rooms or materials (non-suspect) were sampled, the like materials that were not tested and their results will be treated as homogeneous. The materials will be treated as containing LBM throughout the site.

The locations and results of the suspect samples found to be LBM are as follows:

John Sloat ES

Sample ID:	Sample Location | Description	Structure	Color	Lead (mg/cm²)
7525-1L	Girl's Restroom Walls, Tiles	Ceramic	Yellow	9.3
7525-2L	Boy's Restroom Walls, Tiles	Ceramic	Blue	12.7

Tahoe ES

Sample ID:	Sample Location | Description	Structure	Color	Lead (mg/cm²)
3110-1L	Girl's Restroom Walls, Tiles	Ceramic	Tan	12.3
3110-2L	Boy's Restroom Walls, Tiles	Ceramic	Multi	12.3

Before the renovation/demolition work is completed or the transporting of the debris from the site, Health, and Safety Code 25157.8 (AB 2784 National Resources) requires that all lead debris be sampled for Waste Characterization. This will help the Contractor decide whether the material is to be considered Hazardous or Non-Hazardous Lead waste or general construction debris. The sequence of testing to be completed by the Contractor is as follows:

- Total Threshold Limit Concentration (TTLC) resulting from 50 mg/kg or more, but less than 1,000 mg/kg of lead must be retested using the Soluble Threshold Limit concentration (STLC) method.
- An STLC result of 5.0 mg/L or greater is considered California Hazardous Waste.
- Total Characteristic Leaching Procedure (TCLP) testing shall only be accomplished when approved by the Owners Representative; This procedure shall be generally reserved for out-of-state shipments, and A TCLP result of 5.0 mg/L or more deems the waste Federal RCRA materials; and
- The California hazardous waste threshold for total lead using STLC is 5 mg/L.

The following were found to be less than (<) Cal-OSHA's Limit of Detection:

Alice Birney K-8

Sample ID:	Sample Location | Description	Structure	Lead (mg/cm²)
6251-1L	Interior Walls, White Paint	Sheetrock	<LOD
6251-2L	Interior Doors, Frames, & Trim, Orange Paint	Metal	<LOD

John Bidwell ES

Sample ID:	Sample Location | Description	Structure	Lead (mg/cm²)
1730-1L	Interior Walls, Multi-Colored Tiles	Ceramic	<LOD
1730-2L	Interior Walls, White Paint	Sheetrock	<LOD
1730-3L	Interior Ceiling, White Paint	Wood	<LOD

Sample ID:	Sample Location | Description	Structure	Lead (mg/cm²)
1730-4L	Interior Floors, Tan Tiles	Ceramic	<LOD
1730-5L	Interior Doors, Frames, & Trim, Blue Paint	Metal	<LOD

John Sloat ES

Sample ID:	Sample Location | Description	Structure	Lead (mg/cm²)
7525-3L	Girl's Restroom Floor, Yellow Tiles	Ceramic	<LOD
7525-4L	Boy's Restroom Floor, Blue Tiles	Ceramic	<LOD
7525-5L	Staff Restroom Walls, Multi-Colored Tiles	Ceramic	<LOD
7525-6L	Staff Restroom Floor, Tan Tiles	Ceramic	<LOD
7525-7L	Interior Walls, White Paint	Sheetrock	<LOD
7525-8L	Interior Ceiling, White Paint	Wood	<LOD
7525-9L	Interior Doors, Blue Paint	Metal	<LOD
7525-10L	Interior Frames/Trim, Blue Paint	Wood	<LOD

Joseph Bonnheim ES

Sample ID:	Sample Location | Description	Structure	Lead (mg/cm²)
7300-1L	Interior Doors, Frames, & Trim, Blue Paint	Metal	<LOD

Tahoe ES

Sample ID:	Sample Location | Description	Structure	Lead (mg/cm²)
3110-3L	Staff Restroom Walls/Ceiling, Tan Paint	Sheetrock	<LOD
3110-4L	Staff Restroom, Doors, Frames, & Trim, Tan Paint	Metal	<LOD
3110-5L	Boy's Restroom Walls/Ceiling, Tan Paint	Sheetrock	<LOD
3110-6L	Girl's Restroom Walls/Ceiling, Tan Paint	Sheetrock	<LOD
3110-7L	Boy's Restroom, Doors, Frames, & Trim, Blue Paint	Metal	<LOD
3110-8L	Boy's Restroom Floor, Blue Tiles	Ceramic	<LOD
3110-9L	Girl's Restroom, Doors, Frames, & Trim, Blue Paint	Metal	<LOD
3110-10L	Girl's Restroom Floor, Green Tiles	Ceramic	<LOD

LEAD RECOMMENDATION -

To stabilize the current lead conditions, N.A.L recommends Lead Certified CDPH Workers conduct in-place management work of the LBM surfaces/sample scheduled for renovation/demolition. Once the abatement, in-place management, or prep work is completed and the areas are stabilized, the existing surfaces/samples will be in good condition and not create a health or safety concern to the workers conducting the general

construction work at the site. A Scope of Work or specifications should be utilized to conduct the lead work at the site.

ASSUMPTIONS AND LIMITATIONS -

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions noted during N.A.L.'s inspection of the specific areas listed herein.

The selection of sample locations and sampling frequency was based on observations and the assumption that like materials in the same area are homogeneous in content. This report is not to be utilized as a bidding document or a project specification document since it does not have all the components required to serve as an Asbestos & Lead Abatement Project Design document or an Asbestos and Lead Abatement Work plan.

Our professional services have been performed, our findings obtained, and our conclusions and recommendations prepared following established principles and practices in environmental testing and consulting. This report does not warrant undiscovered hazards and locations not investigated.

This report includes the laboratory analytical results, chain custody forms, and sample location map. If you have any questions regarding this report or can be of further assistance, please get in touch with our office.

Reviewed and submitted by:

Michael J. Lee
Certified Asbestos Consultant
DOSH# 06-4047
Certified Lead Inspector/Assessor
LRC-00007541
Registered Environmental Property Assessor
REPA# 716352750

Conducted by:

Robert Mullen
Certified Site Surveillance Technician
DOSH# 17-5889
Certified Lead Sampling Technician
CDPH# 28631

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Project ID

MT012219533

CLIENT INFORMATION

Company National Analytical Laboratories, Inc.
Name Paula Lee
Address 2201 Francisco Drive, Ste. 140-261
El Dorado Hills CA, 95762
Phone (916) 361 - 0555
Email N.A.L. Distribution List

SAMPLE

Date Friday, May 06, 2022
Time 8:00 AM

MicroTest Laboratories
Analytical Data

JOB SITE INFORMATION

Sampler Robert Mullen
Project Alice Birney Public School
Address 6251 13th Street
Sacramento, CA 95831

POLARIZED LIGHT MICROSCOPY (PLM)
EPA METHOD 600 / R-93 / 116 & EPA – 40 CFR Appendix E to Subpart E of Part 763

Sample ID	Accession Number	Client Description	Laboratory Description	Non Fibrous / Fibrous Materials	Asbestiform Minerals %
6251-1	19533-1	Girls Restroom Ceiling	White/Yellow Ceiling Tile Fibrous Homogenous	90% Fiberglass 10% Binder	None Detected
6251-2A	19533-2	Girls Restroom, Damage, Multicolor	Tan Linoleum Non-Fibrous Homogenous	100% Binder	None Detected
6251-2B	19533-3	Girls Restroom, Damage	Yellow Mastic Non-Fibrous Homogenous	100% Binder	None Detected
6251-3A	19533-4	Girls Restroom, Damage	White Texture Non-Fibrous Homogenous	100% Binder	None Detected
6251-3B	19533-5	Boys Restroom, Light Switch	White Texture Non-Fibrous Homogenous	100% Binder	None Detected
6251-3C	19533-6	Staff Restroom, Light Switch	White Texture Non-Fibrous Homogenous	100% Binder	None Detected

Report

Date Friday, May 06, 2022

Samples Received: 7
Samples Analyzed: 7

Analyst: Nolan Starbuck

Authorized Signatory:

Kelly Favero - Lab Manager

This analytical data sheet constitutes a final report. Due to the limitation of Polarized Light Microscopy (PLM), some samples classified as containing no asbestos in materials, NoneDetected (ND), such as floor tiles or like materials, warrant a recommendation for further analysis by Transmission Electron Microscopy (TEM). Results apply to the sample as received. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. All Samples will be held for not less than 30 days, upon which they will then be disposed of. This report shall not be reproduced in full without written authorization from MicroTest Laboratories, Inc. Soil and rock matrices are considered problematic matrices and MicroTest recommends sample homogenization prior to PLM analysis. Thermal decomposition of asbestos fibers can yield non-asbestiform mineral properties. The reporting limit for calibrated visual area estimation quantitation procedures is 1%. The reporting limit for 400/1000 point count quantitation procedures is 0.25% or 0.1% respectively. The sample is considered acceptable unless otherwise noted. Sub-samples are analyzed separately accept when manufactured with multiple layers (i.e. Linoluem, Drywall, etc.) or requested contrarily by the client

MicroTest Laboratories Inc. NVLAP Code: 200999-0
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Project ID

MT012219533

6251-4	19533-7	Girls Restroom, Damage	White Sheetrock-Joint Compound Fibrous Heterogenous	5% Cellulose 95% Binder	None Detected

Report

Date Friday, May 06, 2022

Samples Received: 7
Samples Analyzed: 7

Analyst: Nolan Starbuck

Authorized Signatory:

Kelly Favero - Lab Manager

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PH 916.361.0555 | FX 916.361.0540
service@nal1.com

Project ID
MT012219533

CLIENT INFORMATION

Company	Sac City Unified School District
Name	Mike Taxara
Address	425 First Avenue Sacramento CA, 95818
Phone	(916) 395 - 3980
Email	Tina-Alvarez-Bevens@scusd.edu

Sample

Date	Friday, May 06, 2022
Time	08:00 AM

Chain-Of-Custody

JOB SITE INFORMATION

Site	Alice Birney Public School
Address	6251 13th Street Sacramento, CA 95831
Unit	
Claim#	
Job #	41702
Chain #	1

Analysis: PLM | TTFP - 400 PT.CT.
Turn Around Time: Same Day

Sample Number:	Location	Description
6251-1	Girls Restroom Ceiling	Acoustic Ceiling Tile
6251-2A	Girls Restroom, Damage, Multicolor	Linoleum
6251-2B	Girls Restroom, Damage	Mastic
6251-3A	Girls Restroom, Damage	Texture
6251-3B	Boys Restroom, Light Switch	Texture
6251-3C	Staff Restroom, Light Switch	Texture
6251-4	Girls Restroom, Damage	Sheetrock-Joint Compound

Relinquished by (Client)	Date/Time

Relinquished by (Tech)	Date/Time
	05/06/2022 08:00 AM

Received by (Tech)	Date/Time

Received by (Lab)	Date/Time
	05/06/2022 2:20 PM

Sampler: Robert Mullen

Total Number of Samples 7

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KS#
Client PO
Project ID

CLIENT INFORMATION

Company Sac City Unified School District
Name Mike Taxara
Address 425 First Avenue
Sacramento CA, 95818
Phone (916) 395 - 3980
Email

SAMPLE

Date Friday, May 06, 2022
Time 08:00 AM

Chain-Of-Custody | Analytical Data
Heuresis Pb200i

JOB SITE INFORMATION

Site Alice Birney Public School
Address 6251 13th Street
Sacramento, CA 95831
Unit
Claim#
Job # 26269
Chain # 1

TURN AROUND	LEAD PAINT	MEASUREMENT MODE	SAMPLING METHOD	ANALYTICAL DATA
Same Day	Inspection	Standard	Heuresis Pb200i	Action Level - 1 Abatement Level - 1 Total Readings - 2

Sample ID:	Sample Location | Description	Structure Material	Color	Condition	Lead (mg/cm²)
6251-1L	Interior Walls, Paint	Sheetrock	White	N/A	<LOD
6251-2L	Interior Doors, Frames, & Trim, Paint	Metal	Orange	N/A	<LOD

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Project ID

MT012219534

CLIENT INFORMATION

Company National Analytical Laboratories, Inc.
Name Paula Lee
Address 2201 Francisco Drive, Ste. 140-261
El Dorado Hills CA, 95762
Phone (916) 361 - 0555
Email N.A.L. Distribution List

SAMPLE

Date Friday, May 06, 2022
Time 9:00 AM

MicroTest Laboratories
Analytical Data

JOB SITE INFORMATION

Sampler Robert Mullen
Project Address John Bidwell Elementary School Property
1730 65th Avenue
Sacramento, CA 95822

POLARIZED LIGHT MICROSCOPY (PLM)
EPA METHOD 600 / R-93 / 116 & EPA – 40 CFR Appendix E to Subpart E of Part 763

Sample ID	Accession Number	Client Description	Laboratory Description	Non Fibrous / Fibrous Materials	Asbestiform Minerals %
1730-1A	19534-1	Girls Restroom, Damage	White Texture Non-Fibrous Homogenous	100% Binder	None Detected
1730-1B	19534-2	Boys Restroom, Damage	White Texture Non-Fibrous Homogenous	100% Binder	None Detected
1730-1C	19534-3	Staff Restroom, Damage	White Texture Non-Fibrous Homogenous	100% Binder	None Detected
1730-2	19534-4	Girls Restroom, Damage	White Sheetrock-Joint Compound Non-Fibrous Homogenous	100% Binder	None Detected

Report

Date Friday, May 06, 2022

Samples Received: 4
Samples Analyzed: 4

Analyst: Nolan Starbuck

Authorized Signatory:

Kelly Favero - Lab Manager

This analytical data sheet constitutes a final report. Due to the limitation of Polarized Light Microscopy (PLM), some samples classified as containing no asbestos in materials, NoneDetected (ND), such as floor tiles or like materials, warrant a recommendation for further analysis by Transmission Electron Microscopy (TEM). Results apply to the sample as received. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. All Samples will be held for not less than 30 days, upon which they will then be disposed of. This report shall not be reproduced in full without written authorization from MicroTest Laboratories, Inc. Soil and rock matrices are considered problematic matrices and MicroTest recommends sample homogenization prior to PLM analysis. Thermal decomposition of asbestos fibers can yield non-asbestiform mineral properties. The reporting limit for calibrated visual area estimation quantitation procedures is 1%. The reporting limit for 400/1000 point count quantitation procedures is 0.25% or 0.1% respectively. The sample is considered acceptable unless otherwise noted. Sub-samples are analyzed separately accept when manufactured with multiple layers (i.e. Linoluem, Drywall, etc.) or requested contrarily by the client

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Project ID
MT012219534

CLIENT INFORMATION

Company	Sac City Unified School District
Name	Mike Taxara
Address	425 First Avenue Sacramento CA, 95818
Phone	(916) 395 - 3980
Email	Tina-Alvarez-Bevens@scusd.edu

Sample

Date	Friday, May 06, 2022
Time	09:00 AM

Chain-Of-Custody

JOB SITE INFORMATION

Site	John Bidwell Elementary School Property
Address	1730 65th Avenue Sacramento, CA 95822
Unit	
Claim#	
Job #	41703
Chain #	1

Analysis: PLM | TTFP - 400 PT.CT.
Turn Around Time: Same Day

Sample Number:	Location	Description
1730-1A	Girls Restroom, Damage	Texture
1730-1B	Boys Restroom, Damage	Texture
1730-1C	Staff Restroom, Damage	Texture
1730-2	Girls Restroom, Damage	Sheetrock-Joint Compound

Relinquished by (Client)	Date/Time

Relinquished by (Tech)	Date/Time
	05/06/2022 09:00 AM

Received by (Tech)	Date/Time

Received by (Lab)	Date/Time
	05/06/2022 2:19 PM

Sampler: Robert Mullen

Total Number of Samples 4

COC Page # 1 from 1

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Project ID

CLIENT INFORMATION

Company Sac City Unified School District
Name Mike Taxara
Address 425 First Avenue
Sacramento CA, 95818
Phone (916) 395 - 3980
Email

SAMPLE

Date Friday, May 06, 2022
Time 08:00 AM

Chain-Of-Custody | Analytical Data
Heuresis Pb200i

JOB SITE INFORMATION

Site Alice Birney Public School
Address 6251 13th Street
Sacramento, CA 95831
Unit
Claim#
Job # 26269
Chain # 1

TURN AROUND	LEAD PAINT	MEASUREMENT MODE	SAMPLING METHOD	ANALYTICAL DATA
Same Day	Inspection	Standard	Heuresis Pb200i	Action Level - 1 Abatement Level - 1 Total Readings - 2

Sample ID:	Sample Location | Description	Structure Material	Color	Condition	Lead (mg/cm²)
6251-1L	Interior Walls, Paint	Sheetrock	White	N/A	<LOD
6251-2L	Interior Doors, Frames, & Trim, Paint	Metal	Orange	N/A	<LOD

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Project ID

MT012219535

CLIENT INFORMATION

Company National Analytical Laboratories, Inc.
Name Paula Lee
Address 2201 Francisco Drive, Ste. 140-261
El Dorado Hills CA, 95762
Phone (916) 361 - 0555
Email N.A.L. Distribution List

SAMPLE

Date Friday, May 06, 2022
Time 10:00 AM

MicroTest Laboratories
Analytical Data

JOB SITE INFORMATION

Sampler Robert Mullen
Project John Sloat Elementary School
Address 7525 Candlewood Way
Sacramento, CA 95822

POLARIZED LIGHT MICROSCOPY (PLM)
EPA METHOD 600 / R-93 / 116 & EPA – 40 CFR Appendix E to Subpart E of Part 763

Sample ID	Accession Number	Client Description	Laboratory Description	Non Fibrous / Fibrous Materials	Asbestiform Minerals %
7525-1A	19535-1	Girls Restroom, Damage	White Plaster Fibrous Homogenous	5% Cellulose 95% Binder	None Detected
7525-1B	19535-2	Boys Restroom, Damage	White Plaster Fibrous Homogenous	5% Cellulose 95% Binder	None Detected
7525-1C	19535-3	Staff Restroom, Damage	White Plaster Fibrous Homogenous	5% Cellulose 95% Binder	None Detected

Report

Date Friday, May 06, 2022

Samples Received: 3
Samples Analyzed: 3

Analyst: Nolan Starbuck

Authorized Signatory:

Kelly Favero - Lab Manager

This analytical data sheet constitutes a final report. Due to the limitation of Polarized Light Microscopy (PLM), some samples classified as containing no asbestos in materials, NoneDetected (ND), such as floor tiles or like materials, warrant a recommendation for further analysis by Transmission Electron Microscopy (TEM). Results apply to the sample as received. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. All Samples will be held for not less than 30 days, upon which they will then be disposed of. This report shall not be reproduced in full without written authorization from MicroTest Laboratories, Inc. Soil and rock matrices are considered problematic matrices and MicroTest recommends sample homogenization prior to PLM analysis. Thermal decomposition of asbestos fibers can yield non-asbestiform mineral properties. The reporting limit for calibrated visual area estimation quantitation procedures is 1%. The reporting limit for 400/1000 point count quantitation procedures is 0.25% or 0.1% respectively. The sample is considered acceptable unless otherwise noted. Sub-samples are analyzed separately accept when manufactured with multiple layers (i.e. Linoluem, Drywall, etc.) or requested contrarily by the client

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Project ID
MT012219535

CLIENT INFORMATION

Company	Sac City Unified School District
Name	Mike Taxara
Address	425 First Avenue Sacramento CA, 95818
Phone	(916) 395 - 3980
Email	Tina-Alvarez-Bevens@scusd.edu

Sample

Date	Friday, May 06, 2022
Time	10:00 AM

Chain-Of-Custody

JOB SITE INFORMATION

Site	John Sloat Elementary School
Address	7525 Candlewood Way Sacramento, CA 95822
Unit	
Claim#	
Job #	41704
Chain #	1

Analysis: PLM | TTFP - 400 PT.CT.
Turn Around Time: Same Day

Sample Number:	Location	Description
7525-1A	Girls Restroom, Damage	Plaster
7525-1B	Boys Restroom, Damage	Plaster
7525-1C	Staff Restroom, Damage	Plaster

Relinquished by (Client)	Date/Time

Relinquished by (Tech)	Date/Time
	05/06/2022 10:00 AM

Received by (Tech)	Date/Time

Received by (Lab)	Date/Time
	05/06/2022 2:19 PM

Sampler: Robert Mullen

Total Number of Samples 3

COC Page # 1 from 1

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CLIENT INFORMATION

Company Sac City Unified School District
Name Mike Taxara
Address 425 First Avenue
Sacramento CA, 95818
Phone (916) 395 - 3980
Email

SAMPLE

Date Friday, May 06, 2022
Time 10:00 AM

Chain-Of-Custody | Analytical Data
Heuresis Pb200i

JOB SITE INFORMATION

Site John Sloat Elementary School
Address 7525 Candlewood Way
Sacramento, CA 95822
Unit
Claim#
Job # 26271
Chain # 1

TURN AROUND	LEAD PAINT	MEASUREMENT MODE	SAMPLING METHOD	ANALYTICAL DATA
Same Day	Inspection	Standard	Heuresis Pb200i	Action Level - 1 Abatement Level - 1 Total Readings - 10

Sample ID:	Sample Location | Description	Structure Material	Color	Condition	Lead (mg/cm²)
7525-1L	Girl's Restroom Walls, Tiles	Ceramic	Yellow	Intact	9.3
7525-2L	Boy's Restroom Walls, Tiles	Ceramic	Blue	Intact	12.7
7525-3L	Girl's Restroom Floor, Tiles	Ceramic	Yellow	N/A	<LOD
7525-4L	Boy's Restroom Floor, Tiles	Ceramic	Blue	N/A	<LOD
7525-5L	Staff Restroom Walls, Tiles	Ceramic	Multi	N/A	<LOD
7525-6L	Staff Restroom Floor, Tiles	Ceramic	Tan	N/A	<LOD
7525-7L	Interior Walls, Paint	Sheetrock	White	N/A	<LOD
7525-8L	Interior Ceiling, Paint	Wood	White	N/A	<LOD
7525-9L	Interior Doors, Paint	Metal	Blue	N/A	<LOD

<LOD Below Limit of Detection | Reading < 0.0
LCM Lead Containing Material | Readings Ranging from 0 to < 1.0 mg/cm²
LBP Lead Based Paint | Readings Greater than 1.0 mg/cm²

ANALYSIS

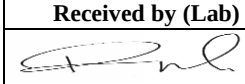
Date May 06, 2022
Time 10:00 AM

California Dept. of Public Health
www.2.epa.gov/lead

Relinquished by (Client)	Date/Time

Relinquished by (Tech)	Date/Time
	05/06/2022 10:00 AM

Received by (Tech)	Date/Time

Received by (Lab)	Date/Time
	05/06/2022 10:00 AM

Sampler: Robert Mullen
Analyst: Robert Mullen

Total Number of Samples 10

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Project ID

MT012219536

CLIENT INFORMATION

Company National Analytical Laboratories, Inc.
Name Paula Lee
Address 2201 Francisco Drive, Ste. 140-261
El Dorado Hills CA, 95762
Phone (916) 361 - 0555
Email N.A.L. Distribution List

SAMPLE

Date Friday, May 06, 2022
Time 11:00 AM

MicroTest Laboratories
Analytical Data

JOB SITE INFORMATION

Sampler Robert Mullen
Project New Joseph Bonnheim Elementary School Property
Address 7300 Marin Avenue
Sacramento, CA 95820

POLARIZED LIGHT MICROSCOPY (PLM)
EPA METHOD 600 / R-93 / 116 & EPA – 40 CFR Appendix E to Subpart E of Part 763

Sample ID	Accession Number	Client Description	Laboratory Description	Non Fibrous / Fibrous Materials	Asbestiform Minerals %
7300-1	19536-1	Boys Restroom Ceiling	White/Yellow Ceiling Tile Fibrous Homogenous	90% Fiberglass 10% Binder	None Detected

Report

Date Friday, May 06, 2022

Samples Received: 1
Samples Analyzed: 1

Analyst: Nolan Starbuck

Authorized Signatory:

Kelly Favero - Lab Manager

This analytical data sheet constitutes a final report. Due to the limitation of Polarized Light Microscopy (PLM), some samples classified as containing no asbestos in materials, NoneDetected (ND), such as floor tiles or like materials, warrant a recommendation for further analysis by Transmission Electron Microscopy (TEM). Results apply to the sample as received. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. All Samples will be held for not less than 30 days, upon which they will then be disposed of. This report shall not be reproduced in full without written authorization from MicroTest Laboratories, Inc. Soil and rock matrices are considered problematic matrices and MicroTest recommends sample homogenization prior to PLM analysis. Thermal decomposition of asbestos fibers can yield non-asbestiform mineral properties. The reporting limit for calibrated visual area estimation quantitation procedures is 1%. The reporting limit for 400/1000 point count quantitation procedures is 0.25% or 0.1% respectively. The sample is considered acceptable unless otherwise noted. Sub-samples are analyzed separately accept when manufactured with multiple layers (i.e. Linoluem, Drywall, etc.) or requested contrarily by the client

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PH 916.361.0555 | FX 916.361.0540
service@nal1.com

Project ID
MT012219536

CLIENT INFORMATION

Company	Sac City Unified School District
Name	Mike Taxara
Address	425 First Avenue Sacramento CA, 95818
Phone	(916) 395 - 3980
Email	Tina-Alvarez-Bevens@scusd.edu

Sample

Date	Friday, May 06, 2022
Time	11:00 AM

Chain-Of-Custody

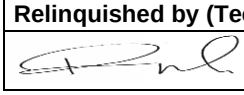
JOB SITE INFORMATION

Site	New Joseph Bonnheim Elementary School Property
Address	7300 Marin Avenue Sacramento, CA 95820
Unit	
Claim#	
Job #	41705
Chain #	1

Analysis: PLM | TTFP - 400 PT.CT.
Turn Around Time: Same Day

Sample Number:	Location	Description
7300-1	Boys Restroom Ceiling	Acoustic Ceiling Tile

Relinquished by (Client)	Date/Time

Relinquished by (Tech)	Date/Time
	05/06/2022 11:00 AM

Received by (Tech)	Date/Time

Received by (Lab)	Date/Time
	05/06/2022 2:19 PM

Sampler: Robert Mullen

Total Number of Samples 1

COC Page # 1 from 1

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Client PO
Project ID

CLIENT INFORMATION

Company Sac City Unified School District
Name Mike Taxara
Address 425 First Avenue
Sacramento CA, 95818
Phone (916) 395 - 3980
Email

SAMPLE

Date Friday, May 06, 2022
Time 11:00 AM

Chain-Of-Custody | Analytical Data
Heuresis Pb200i

JOB SITE INFORMATION

Site New Joseph Bonnheim Elementary School Property
Address 7300 Marin Avenue
Sacramento, CA 95820
Unit
Claim#
Job # 26272
Chain # 1

TURN AROUND	LEAD PAINT	MEASUREMENT MODE	SAMPLING METHOD	ANALYTICAL DATA
Same Day	Inspection	Standard	Heuresis Pb200i	Action Level - 1 Abatement Level - 1 Total Readings - 1

Sample ID:	Sample Location | Description	Structure Material	Color	Condition	Lead (mg/cm²)
7300-1L	Interior Doors, Frames, & Trim, Paint	Metal	Blue	N/A	<LOD

<LOD Below Limit of Detection | Reading < 0.0
LCM Lead Containing Material | Readings Ranging from 0 to < 1.0 mg/cm²
LBP Lead Based Paint | Readings Greater than 1.0 mg/cm²

ANALYSIS

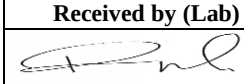
Date May 06, 2022
Time 11:00 AM

California Dept. of Public Health
www.2.epa.gov/lead

Relinquished by (Client)	Date/Time

Relinquished by (Tech)	Date/Time
	05/06/2022 11:00 AM

Received by (Tech)	Date/Time

Received by (Lab)	Date/Time
	05/06/2022 11:00 AM

Sampler: Robert Mullen
Analyst: Robert Mullen

Total Number of Samples 1

MicroTest Laboratories Inc. NVLAP Code: 200999-0
3110 Gold Canal Dr. Ste. A. Rancho Cordova, CA 95670
PH 916.567.9808 | FX 916.404.0302
www.microtestlabsinc.com | service@microtestlabsinc.com

Project ID

MT012219537

CLIENT INFORMATION

Company National Analytical Laboratories, Inc.
Name Paula Lee
Address 2201 Francisco Drive, Ste. 140-261
El Dorado Hills CA, 95762
Phone (916) 361 - 0555
Email N.A.L. Distribution List

SAMPLE

Date Friday, May 06, 2022
Time 11:30 AM

MicroTest Laboratories
Analytical Data

JOB SITE INFORMATION

Sampler Robert Mullen
Project Tahoe Elementary School
Address 3110 60th Street
Sacramento, CA 95820

POLARIZED LIGHT MICROSCOPY (PLM)
EPA METHOD 600 / R-93 / 116 & EPA – 40 CFR Appendix E to Subpart E of Part 763

Sample ID	Accession Number	Client Description	Laboratory Description	Non Fibrous / Fibrous Materials	Asbestiform Minerals %
3110-1A	19537-1	Staff Restroom, Damage	White Texture Non-Fibrous Homogenous	100% Binder	None Detected
3110-1B	19537-2	Boys Restroom, Damage	White Texture Non-Fibrous Homogenous	100% Binder	None Detected
3110-1C	19537-3	Girls Restroom, Damage	White Texture Non-Fibrous Homogenous	100% Binder	None Detected
3110-2	19537-4	Staff Restroom, Damage	White Sheetrock-Joint Compound Fibrous Heterogenous	10% Cellulose 90% Binder	None Detected
3110-3A	19537-5	Staff Restroom, Damage, Multicolor	Gray Tile Non-Fibrous Homogenous	100% Binder	None Detected
3110-3B	19537-6	Staff Restroom, Damage	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected

Report

Date Friday, May 06, 2022

Samples Received: 7
Samples Analyzed: 7

Analyst: Nolan Starbuck

Authorized Signatory:

Kelly Favero - Lab Manager

This analytical data sheet constitutes a final report. Due to the limitation of Polarized Light Microscopy (PLM), some samples classified as containing no asbestos in materials, NoneDetected (ND), such as floor tiles or like materials, warrant a recommendation for further analysis by Transmission Electron Microscopy (TEM). Results apply to the sample as received. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. All Samples will be held for not less than 30 days, upon which they will then be disposed of. This report shall not be reproduced in full without written authorization from MicroTest Laboratories, Inc. Soil and rock matrices are considered problematic matrices and MicroTest recommends sample homogenization prior to PLM analysis. Thermal decomposition of asbestos fibers can yield non-asbestiform mineral properties. The reporting limit for calibrated visual area estimation quantitation procedures is 1%. The reporting limit for 400/1000 point count quantitation procedures is 0.25% or 0.1% respectively. The sample is considered acceptable unless otherwise noted. Sub-samples are analyzed separately accept when manufactured with multiple layers (i.e. Linoluem, Drywall, etc.) or requested contrarily by the client

MicroTest Laboratories Inc. NVLAP Code: 200999-0
3110 Gold Canal Dr. Ste. A. Rancho Cordova, CA 95670
PH 916.567.9808 | FX 916.404.0302
www.microtestlabsinc.com | service@microtestlabsinc.com

Project ID

MT012219537

3110-4	19537-7	Staff Restroom, Damage	Cream Mastic Non-Fibrous Homogenous	100% Binder	None Detected

Report

Date Friday, May 06, 2022

Samples Received: 7
Samples Analyzed: 7

Analyst: Nolan Starbuck

Authorized Signatory:

Kelly Favero - Lab Manager

This analytical data sheet constitutes a final report. Due to the limitation of Polarized Light Microscopy (PLM), some samples classified as containing no asbestos in materials, NoneDetected (ND), such as floor tiles or like materials, warrant a recommendation for further analysis by Transmission Electron Microscopy (TEM). Results apply to the sample as received. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. All Samples will be held for not less than 30 days, upon which they will then be disposed of. This report shall not be reproduced in full without written authorization from MicroTest Laboratories, Inc. Soil and rock matrices are considered problematic matrices and MicroTest recommends sample homogenization prior to PLM analysis. Thermal decomposition of asbestos fibers can yield non-asbestiform mineral properties. The reporting limit for calibrated visual area estimation quantitation procedures is 1%. The reporting limit for 400/1000 point count quantitation procedures is 0.25% or 0.1% respectively. The sample is considered acceptable unless otherwise noted. Sub-samples are analyzed separately accept when manufactured with multiple layers (i.e. Linoluem, Drywall, etc.) or requested contrarily by the client

N·A·L ENVIRONMENTAL TESTING & CONSULTING
PH 916.361.0555 | FX 916.361.0540
service@nal1.com

Project ID
MT012219537

CLIENT INFORMATION

Company	Sac City Unified School District
Name	Mike Taxara
Address	425 First Avenue Sacramento CA, 95818
Phone	(916) 395 - 3980
Email	Tina-Alvarez-Bevens@scusd.edu

Sample

Date	Friday, May 06, 2022
Time	11:30 AM

Chain-Of-Custody

JOB SITE INFORMATION

Site	Tahoe Elementary School
Address	3110 60th Street Sacramento, CA 95820
Unit	
Claim#	
Job #	41706
Chain #	1

Analysis: PLM | TTFP - 400 PT.CT.
Turn Around Time: Same Day

Sample Number:	Location	Description
3110-1A	Staff Restroom, Damage	Texture
3110-1B	Boys Restroom, Damage	Texture
3110-1C	Girls Restroom, Damage	Texture
3110-2	Staff Restroom, Damage	Sheetrock-Joint Compound
3110-3A	Staff Restroom, Damage, Multicolor	Floor Tile
3110-3B	Staff Restroom, Damage	Mastic
3110-4	Staff Restroom, Damage	Cove Base Mastic

Relinquished by (Client)	Date/Time

Relinquished by (Tech)	Date/Time
	05/06/2022 11:30 AM

Received by (Tech)	Date/Time

Received by (Lab)	Date/Time
	05/06/2022 2:19 PM

Sampler: Robert Mullen

Total Number of Samples 7

N·A·L ENVIRONMENTAL TESTING & CONSULTING
PH 916.361.0555 | FX 916.361.0540
service@nal1.com

for office use only
KS#
Client PO
Project ID

CLIENT INFORMATION

Company Sac City Unified School District
Name Mike Taxara
Address 425 First Avenue
Sacramento CA, 95818
Phone (916) 395 - 3980
Email

SAMPLE

Date Friday, May 06, 2022
Time 11:30 AM

Chain-Of-Custody | Analytical Data
Heuresis Pb200i

JOB SITE INFORMATION

Site Tahoe Elementary School
Address 3110 60th Street
Sacramento, CA 95820
Unit
Claim#
Job # 26273
Chain # 1

TURN AROUND	LEAD PAINT	MEASUREMENT MODE	SAMPLING METHOD	ANALYTICAL DATA
Same Day	Inspection	Standard	Heuresis Pb200i	Action Level - 1 Abatement Level - 1 Total Readings - 10

Sample ID:	Sample Location | Description	Structure Material	Color	Condition	Lead (mg/cm²)
3110-1L	Girl's Restroom Walls, Tiles	Ceramic	Tan	Intact	12.3
3110-2L	Boy's Restroom Walls, Tiles	Ceramic	Multi	Intact	12.3
3110-3L	Staff Restroom Walls/Ceiling, Paint	Sheetrock	Tan	N/A	<LOD
3110-4L	Staff Restroom, Doors, Frames, & Trim, Paint	Metal	Tan	N/A	<LOD
3110-5L	Boy's Restroom Walls/Ceiling, Paint	Sheetrock	Tan	N/A	<LOD
3110-6L	Girl's Restroom Walls/Ceiling, Paint	Sheetrock	Tan	N/A	<LOD
3110-7L	Boy's Restroom, Doors, Frames, & Trim, Paint	Metal	Blue	N/A	<LOD
3110-8L	Boy's Restroom Floor, Tiles	Ceramic	Blue	N/A	<LOD

<LOD Below Limit of Detection | Reading < 0.0
LCM Lead Containing Material | Readings Ranging from 0 to < 1.0 mg/cm²
LBP Lead Based Paint | Readings Greater than 1.0 mg/cm²

ANALYSIS

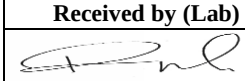
Date May 06, 2022
Time 11:30 AM

California Dept. of Public Health
www.2.epa.gov/lead

Relinquished by (Client)	Date/Time

Relinquished by (Tech)	Date/Time
	05/06/2022 11:30 AM

Received by (Tech)	Date/Time

Received by (Lab)	Date/Time
	05/06/2022 11:30 AM

Sampler: Robert Mullen
Analyst: Robert Mullen

Total Number of Samples 10

Sample ID:	Sample Location | Description	Structure Material	Color	Condition	Lead (mg/cm²)
3110-9L	Girl's Restroom, Doors, Frames, & Trim, Paint	Metal	Blue	N/A	<LOD
3110-10L	Girl's Restroom Floor, Tiles	Ceramic	Green	N/A	<LOD

<LOD Below Limit of Detection | Reading < 0.0

LCM Lead Containing Material | Readings Ranging from 0 to < 1.0 mg/cm²

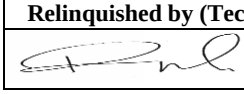
LBP Lead Based Paint | Readings Greater than 1.0 mg/cm²

ANALYSIS

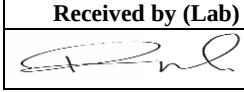
Date	May 06, 2022
Time	11:30 AM

California Dept. of Public Health
www.2.epa.gov/lead

Relinquished by (Client)	Date/Time

Relinquished by (Tech)	Date/Time
	05/06/2022 11:30 AM

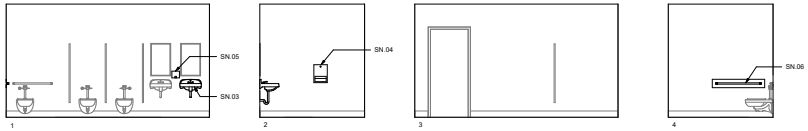
Received by (Tech)	Date/Time

Received by (Lab)	Date/Time
	05/06/2022 11:30 AM

Sampler: Robert Mullen

Analyst: Robert Mullen

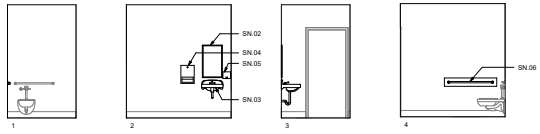
Total Number of Samples 10



RR101 - GIRLS

1/4" = 1'-0"

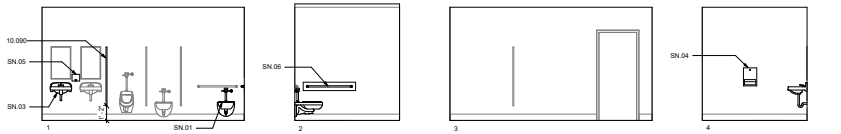
ADULT HEIGHT



RR102 - STAFF

1/4" = 1'-0"

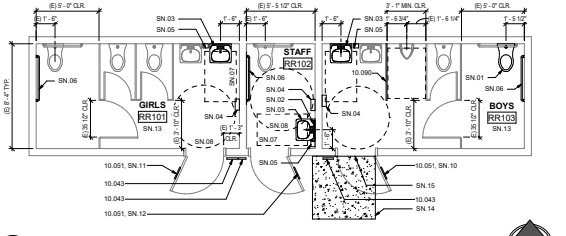
ADULT HEIGHT



RR103 - BOYS

1/4" = 1'-0"

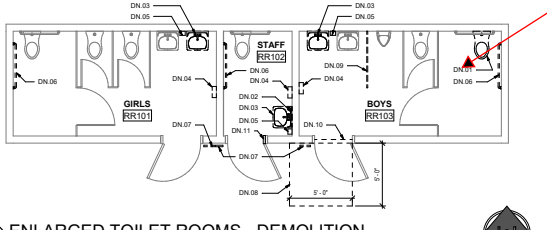
ADULT HEIGHT



2 ENLARGED TOILET ROOMS - IMPROVEMENTS

1/4" = 1'-0"

ADULT HEIGHT



1 ENLARGED TOILET ROOMS - DEMOLITION

1/4" = 1'-0"

LEGEND

CONSECUTIVE NUMBERING CONVENTION FOR INTERIOR ELEVATIONS AND ROOM FINISHES.

GENERAL NOTES

1. FOR MOUNTING HEIGHTS, LOCATIONS, AND DETAILS, INCLUDING THOSE FOR DISABLED ACCESSIBITY, REFER TO SHEET A0.2
2. PROTECT ALL ADJACENT SURFACES, ITEMS AND FINISHES NOT NOTED TO BE DEMOLISHED.
3. EQUIPMENT/FIXTURES NOTED AS "SALVAGED FOR REINSTALLATION" WILL BE REMOVED AND STORED BY THE CONTRACTOR PRIOR TO START OF DEMOLITION. THESE EQUIPMENT/FIXTURES SHALL BE REINSTALLED BY THE CONTRACTOR UNDER THIS CONTRACT.
4. REMOVE ALL ITEMS SCHEDULED TO BE REMOVED, INCLUDING MOUNTING HARDWARE.
5. DEMO AND REPAIR WALL FINISH AS NECESSARY TO PERFORM FIXTURE AND EQUIPMENT WORK AS NOTED. ADJACENT FINISHES TO BE VERIFIED BY CONTRACTOR.

DEMOLITION NOTES

DN.01 REMOVE (E) WALL-MOUNTED WATER CLOSET AND SALVAGE FOR REINSTALLATION
DN.02 REMOVE (E) MIRROR AND SALVAGE FOR REINSTALLATION
DN.03 REMOVE (E) LAVATORY AND SALVAGE FOR REINSTALLATION
DN.04 REMOVE (E) PAPER TOWEL DISPENSER AND SALVAGE FOR REINSTALLATION
DN.05 REMOVE (E) SOAP DISPENSER AND SALVAGE FOR REINSTALLATION
DN.06 REMOVE (E) SIDE WALL GRAB BAR AND SALVAGE FOR REINSTALLATION
DN.07 REMOVE (E) TOILET ROOM I.D. SIGN
DN.08 REMOVE (E) SECTION OF CONCRETE SLAB
DN.09 REMOVE (E) TOILET PARTITION
DN.10 REMOVE (E) THRESHOLD
DN.11 REMOVE (E) CLOSER AT DOOR

SHEET NOTES

SN.01 REINSTALL (E) SALVAGED WALL-MOUNTED WATER CLOSET TO COMPLY WITH A0.2. ADJUST (E) WATER CARRIER AS REQUIRED FOR RECONNECTION TO WATER CLOSET. RECONNECT TO (E) WATER LINE, WASTE LINE AND VENT.
SN.02 REINSTALL (E) SALVAGED MIRROR TO COMPLY WITH A0.2
SN.03 REINSTALL (E) SALVAGED LAVATORY TO COMPLY WITH A0.2. ADJUST (E) WATER CARRIER AS REQUIRED FOR RECONNECTION TO LAVATORY. RECONNECT TO (E) WATER LINE, WASTE LINE AND VENT.
SN.04 REINSTALL (E) SALVAGED PAPER TOWEL DISPENSER TO COMPLY WITH A0.2
SN.05 REINSTALL (E) SALVAGED SOAP DISPENSER TO COMPLY WITH A0.2
SN.06 REINSTALL (E) SALVAGED GRAB BAR TO COMPLY WITH A0.2
SN.07 30" X 48" CLEAR SPACE
SN.08 60" DIA. TURNING CIRCLE
SN.09 36" X 48" CLEAR SPACE
SN.10 SIGN TO READ "BOYS"
SN.11 SIGN TO READ "GIRLS"
SN.12 SIGN TO READ "STAFF"
SN.13 WRAP ALL EXPOSED PIPES WITH INSULATION
SN.14 INSTALL NEW CONCRETE WITH 2% MAX. SLOPE IN ALL DIRECTIONS. EDGES TO HAVE HAVE A FLUSH TRANSITION TO (E) SLAB. SEE

SN.15 INSTALL DOOR THRESHOLD PER

KEYNOTES

10.043 SIGNAGE: TOILET ROOM IDENTIFICATION
10.051 SIGNAGE: TOILET ROOM DOOR SYMBOL
10.090 COMPOSITE TOILET COMPARTMENT

1(-)

rga A studio of HMC Architects

C-14648

SHADE STRUCTURE AT NEW JOSEPH BONNHEIM ELEMENTARY SCHOOL

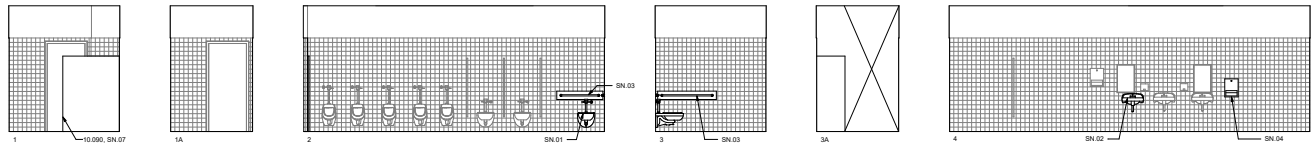
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

△ Revision

TOILET ROOM DEMOLITION AND IMPROVEMENT PLANS AND INTERIOR ELEVATIONS

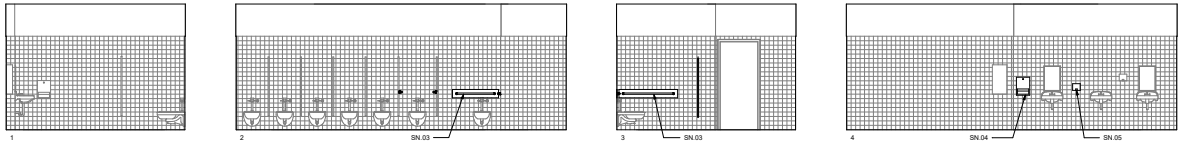
UNIT RR

PROJECT NO. 21-1504.04
DATE: 3/3/22
SHEET **A2.1.1**



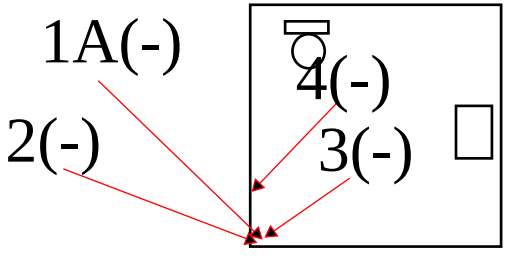
A101 - BOYS
1/4" = 1'-0"

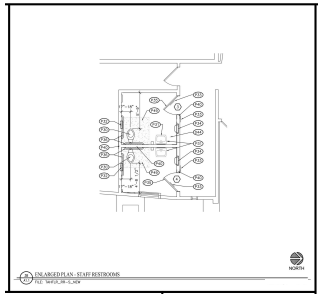
ADULT HEIGHT

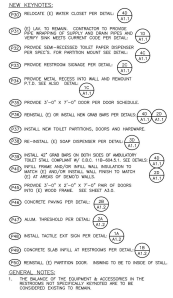


A102 - GIRLS
1/4" = 1'-0"

ADULT HEIGHT

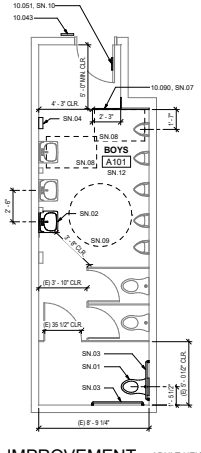






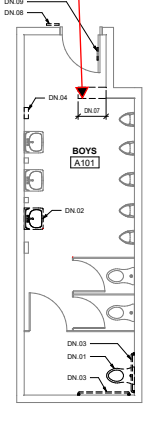
1B(-)

5 (E) ACCESSIBLE STAFF TOILET ROOM PER DSA #02-115154 (FOR REFERENCE ONLY)
1/8" = 1'-0"

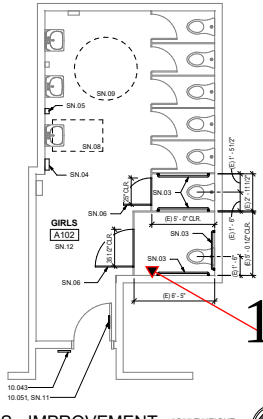


4 BOYS - IMPROVEMENT
1/4" = 1'-0"

ADULT HEIGHT



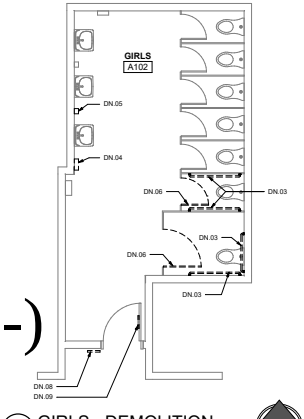
3 BOYS - DEMOLITION
1/4" = 1'-0"



2 GIRLS - IMPROVEMENT
1/4" = 1'-0"

ADULT HEIGHT

1C(-)



1 GIRLS - DEMOLITION
1/4" = 1'-0"

LEGEND

CONSECUTIVE NUMBERING CONVENTION FOR INTERIOR ELEVATIONS AND ROOM FINISHES.

GENERAL NOTES

1. FOR MOUNTING HEIGHTS, LOCATIONS, AND DETAILS, INCLUDING THOSE FOR DISABLED ACCESSIBITY, REFER TO SHEET A0.2
2. PROTECT ALL ADJACENT SURFACES, ITEMS AND FINISHES NOT NOTED TO BE DEMOLISHED.
3. EQUIPMENT/FIXTURES NOTED AS "SALVAGED FOR REINSTALLATION" WILL BE REMOVED AND STORED BY THE CONTRACTOR PRIOR TO START OF DEMOLITION. THESE EQUIPMENT/FIXTURES SHALL BE REINSTALLED BY THE CONTRACTOR UNDER THIS CONTRACT.
4. REMOVE ALL ITEMS SCHEDULED TO BE REMOVED, INCLUDING MOUNTING HARDWARE.
5. DEMO AND REPAIR WALL FINISH AS NECESSARY TO PERFORM FIXTURE AND EQUIPMENT WORK AS NOTED. ADJACENT FINISHES TO BE VERIFIED BY CONTRACTOR.

DEMOLITION NOTES

DN.01 REMOVE (E) WALL-MOUNTED WATER CLOSET AND SALVAGE FOR REINSTALLATION
DN.02 REMOVE (E) LAVATORY AND SALVAGE FOR REINSTALLATION
DN.03 REMOVE (E) GRAB BARS AND SALVAGE FOR REINSTALLATION
DN.04 REMOVE (E) PAPER TOWEL DISPENSER AND SALVAGE FOR REINSTALLATION
DN.05 REMOVE (E) SOAP DISPENSER AND SALVAGE FOR REINSTALLATION
DN.06 REMOVE (E) TOILET PARTITION DOORS AND SALVAGE FOR REINSTALLATION
DN.07 REMOVE (E) PORTION OF WALL. PATCH WALL AND FLOOR AND AS REQUIRED.
DN.08 REMOVE (E) TOILET ROOM I.D. SIGN
DN.09 REMOVE (E) TOILET ROOM DOOR SYMBOL

SHEET NOTES

SN.01 REINSTALL (E) SALVAGED WALL-MOUNTED WATER CLOSET TO COMPLY WITH A0.2. ADJUST (E) WATER CARRIER AS REQUIRED FOR RECONNECTION TO WATER CLOSET. RECONNECT TO (E) WATER LINE, WASTE LINE AND VENT.
SN.02 REINSTALL (E) SALVAGED LAVATORY TO COMPLY WITH A0.2. ADJUST (E) WATER CARRIER AS REQUIRED FOR RECONNECTION TO LAVATORY. RECONNECT TO (E) WATER LINE, WASTE LINE AND VENT.
SN.03 REINSTALL (E) SALVAGED GRAB BARS TO COMPLY WITH A0.2
SN.04 REINSTALL (E) SALVAGED PAPER TOWEL DISPENSER TO COMPLY WITH A0.2
SN.05 REINSTALL (E) SALVAGED SOAP DISPENSER TO COMPLY WITH A0.2
SN.06 REINSTALL (E) SALVAGED TOILET PARITION DOOR. CHANGE THE SWING DIRECTION PER THE IMPROVEMENT PLAN
SN.07 6'- 0" HIGH TOILET PARTITION
SN.08 30" X 48" CLEAR SPACE
SN.09 60" DIA. TURNING CIRCLE
SN.10 SIGN TO READ "BOYS"
SN.11 SIGN TO READ "GIRLS"
SN.12 WRAP ALL EXPOSED PIPES WITH INSULATION

KEYNOTES

10.043 SIGNAGE: TOILET ROOM IDENTIFICATION
10.051 SIGNAGE: TOILET ROOM DOOR SYMBOL
10.090 COMPOSITE TOILET COMPARTMENT

rga+ A studio of HMC Architects

CERTIFIED ACCESS SPECIALIST PROGRAM C-14648 03/22/23 EXPIRATION DATE STATE OF CALIFORNIA

SHADE STRUCTURE AT TAHOE ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

△ Revision

TOILET ROOM DEMOLITION AND IMPROVEMENT PLANS AND INTERIOR ELEVATIONS

UNIT A

PROJECT NO. 21-1504.07
DATE: 3/3/22
SHEET A2.1.1

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Asbestos Survey Form
(See Instructions)

777 12th Street, Suite 300
Sacramento, CA 95814
Office (279) 207-1122
Fax (279) 207-1144
Email: asbestos@airquality.org

1. Purpose of Survey	x	Renovation		Demolition

2. Facility Information

Project Area(s) Description: New Joseph Bonnheim Elementary School - Restrooms

Address	City	# of Structures
7300 Marin Avenue	Sacramento	

3. Owner Information

Name			
Address	City/State		Zip
Contact	Phone	Fax	Email

4. Consultant Information — **Survey Date(s):** 05/06/22

Company Name: National Analytical Laboratoires, Inc.

Name	DOSH #
Michael J. Lee	06-4047

Address	City/State	Zip
2201 Francisco Dr. Ste. 140-261	El Dorado Hills, CA	95762

Phone	Fax	Email	Signature
916-361-0555	916-361-0540	Paula@nal1.com	

5. Client Information (If different than owner) ☐General Contractor ☐Insurance Company ☐Architect ☐Property Manager ☐Other

Name			
Address	City/State		Zip
Contact	Phone	Fax	Email

6. Have all of the suspect materials that will be disturbed been sampled? ☑Yes ☐No

If no, explain why:

7. Summary of Total Asbestos Containing Material (ACM) Findings

Regulated Asbestos Containing Material (RACM) (Includes materials subject to known mechanical removal and fire damaged materials)			Category II		Category I	
-			-		-	
Square Ft.	Linear Ft.	Cubic Ft.	Square Ft.	Linear Ft.	Square Ft.	Linear Ft.

To receive future SMAQMD Rule updates and changes affecting your industry (check one box):

☐Please send e-mail notices to ☐I will sign up myself at www.airquality.org/listserve/ to receive e-mailed notices.

☐I am already subscribed. ☐I want the District to mail notices to the address on this application: ☐Owner ☐Consultant

SMAQMD Survey Form Instructions

#1. Check the appropriate box as to whether the survey is for a Renovation or Demolition as defined by SMAQMD Rule 902, at the time the survey was conducted. Demolitions require sampling of all suspect materials unless assumed to contain asbestos or only a small area is being impacted by the demolition, ie, the entire building will not be razed. An example of this would be where only a load bearing wall(s) is removed but the building will remain intact. In those cases, explain why all suspect materials in the structure were not sampled in item #6. Renovations (TI's, soft demo's, remodels) require sampling of only the suspect materials that are going to be disturbed.

#2. Provide the description and function of the building(s) or area(s), ie, "School-Boiler Room", within the building(s) being surveyed. Include the total number of floors surveyed. Provide the address of building(s) surveyed. If multiple buildings are on site, provide the total number of structures surveyed, include portables, outbuildings, garages, sheds, etc.

#3. Provide owner information.

#4. Provide consultant information and the date on which each building/area was surveyed in item #2.

#5. The client refers to whoever requested the survey to be conducted and provided demolition/renovation information to the consultant. If the client is the owner in #3, leave this section blank.

#6. Unless assumed to contain asbestos, **all** suspect materials must be sampled prior to a demolition. Prior to a renovation, unless assumed to contain asbestos, suspect materials >160 square feet, 260 linear feet, or 35 cubic feet that will be abated, stripped, or removed must be sampled. You cannot assume suspect materials are negative. Samples taken must be based on the Asbestos Hazard Emergency Response Act (AHERA) guidelines for homogeneous areas but must include both the interior and exterior suspect materials, floor to roof. The list below provides common suspect materials. Surfacing materials requiring 3,5,7 protocol are noted (3,5,7). The SMAQMD considers stucco a surfacing material. All other sampling may be done "sufficient to determine".

EPA Category of Common Suspect Asbestos Containing Materials

Note: This list does not include every product that may contain asbestos. It is intended as a general guide to show the proper NESHAP categories of materials typically containing asbestos.

Regulated Asbestos Containing Material

- Fireproofing (3,5,7)
- Acoustical Ceiling Texture (3,5,7)
- Plaster (3,5,7)
- Wall Texture (3,5,7)
- Ceiling Tiles
- HVAC Duct Insulation
- Thermal System Insulation
- Mudded Pipe Elbow Insulation
- Linoleum Backing
- Furnace Insulation
- Fire Doors
- Nicolite Roofing paper

Category II

- Stucco (3,5,7)
- Window Glazing
- Cement Board/Transite
- Mastics
- Textured Paints/Coatings
- Chalkboards
- Lab Hoods/Table Tops
- Cement Pipes
- Cement Roofing Shingles
- Caulking

Category I

- Asphalt Flooring
- Roofing Shingles
- Built-up Roofing
- Base Flashing
- Rolled Roofing
- Boiler/Tank Insulation
- Vinyl Floor Tile

#7. This is an estimate total of all RACM, Category I & Category II materials found in <u>all</u> structures listed in item #2. If Category I & II materials were subjected to fire or will be subjected to mechanical forces during removal, they must be designated as RACM. An asbestos containing material must only be designated to one category. Category I or II material cannot be listed as RACM.

Attachments (Include with Survey)

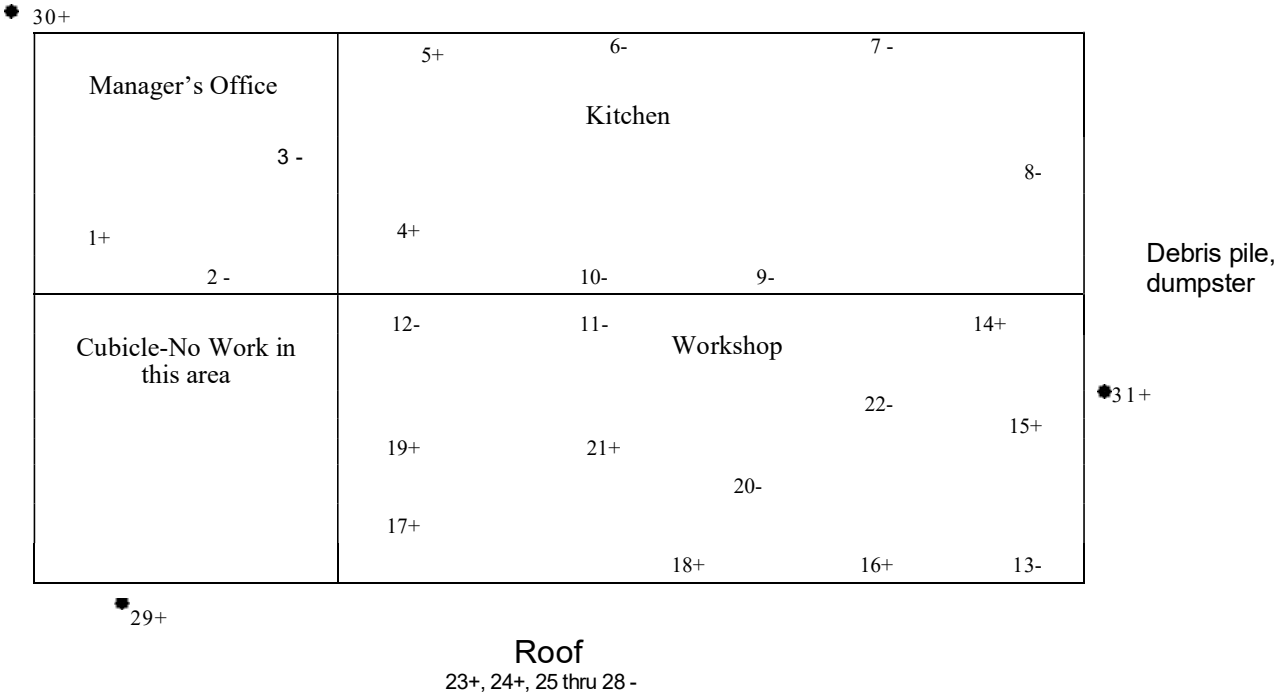
I. Findings & Recommendations

Explain the significance of the data in item #7. State that Category I material may be left in place during demolition and that RACM and Cementitious Category II material must be removed prior to the renovation or demolition. Explain that the amounts listed are to be used by the owner to obtain accurate bids from abatement contractors. State whether this is a jurisdictional project under the requirements of the federal NESHAP and SMAQMD Rule 902. For unimpacted areas in a renovation, state that untested suspect materials must be tested prior to additional future projects where the materials will be disturbed.

II. Floor Plan Map(s)

Create a separate Floor Plan Map (see example below) for each floor or area of every structure surveyed in item #2. If the roof or exterior is impacted by the project, create a separate map for the roof and exterior or include them on one of the floor maps as seen below. Name each room sampled by the commonly used name and state whether the area is undergoing Renovation or Demolition. A demolition is the wrecking, taking out or burning of any load supporting structural member. A renovation is everything else. If the survey is conducted after the demo/reno has occurred, inspect all dumpsters outside of building. Record the location of each sample taken and identify each sample with a unique identifier that will be the same as reported to the laboratory and in the following appendices. **Use "+" to describe >1% or "—" to describe = to or <1% asbestos.**

Example: Building 1 - Floor Plan Map



III. Sample Results

Create a table (see example below of minimal information needed to comply with SMAQMD Rule 902) for all samples >1% from all structures surveyed in item #2. Category I or Category II materials subject to known mechanical removal or fire damage must be considered RACM. Add more rows and columns as needed.

Example: Building 1 - Sample Results

Sample(s) ID#	Suspect Material	Asbestos Content (%) (PLM/PC)	EPA Category	Total Quantity Sq./Ln/Cu. Ft.
1	Ceiling tile	2.6-PC	RACM	250 sqft
4	Linoleum	40-PLM	RACM	800 sqft
5	Floor mastic	1.4-PC	RACM (mechanical removal)	250 sqft
14,16, 18	TSI	80-PLM	RACM	1,200 li.ft.
15,17, 19	Wall texture	3-PC	RACM	2,500 sqft
21	Floor tile	8-PLM	CAT II	2,500 sqft
20	Transite panels	45-PLM	CAT II	1,100 sqft
23	Nicolite felt	Assumed	RACM	12,000 sqft
24	Roof mastic	2-PLM	CAT I	12,000 sqft
29, 30, 31	Stucco	1.7 PC	RACM	5,400 sqft

IV. Lab Results

Point count (PC) all samples <10% unless assumed > 1%

V. Current proof of certification of person listed in item #4

Special Note: The following are common causes for survey rejection and potential citation by SMAQMD:

(1)-Survey form or Appendices incomplete, incorrect or missing attachments.
(2)-All suspect materials are not sampled or assumed to be asbestos containing in the survey (for any reason).
(3)-Affected suspect materials are not sampled utilizing the 3,5,7 protocol.
(4)-Point counts were not conducted, sheetrock was not composite sampled, non-sheetrock materials were composite sampled.

(5)-**"Limited Surveys** or Inaccessible Areas**"**- The SMAQMD is aware that renovations impact specific areas within a structure and therefore will not require sampling throughout the entire structure as a demolition survey would require. Stating that a **survey is "limited"** because all areas of the project will not be impacted or areas are inaccessible will result in rejection of the survey unless good cause is provided. There is no requirement to sample inaccessible materials, ie, materials behind a wall or encased in concrete; however, state in the **"Findings & Recommendations"** that upon discovery of previously untested, inaccessible suspect materials, work must cease until further sampling is conducted. Locked rooms or spaces above drop ceiling tiles are not considered inaccessible and are required to be sampled. The owner/operator must provide access to all impacted areas. Failure to sample suspect materials for **"cosmetic" reasons will be rejected.**

It is important to state that you cannot be prevented and/or instructed by the owner/operator as to what materials are to be sampled. This is determined by whoever conducts the survey and will give cause for survey rejection and potential citation to the owner/operator for failure to adequately survey all suspect materials.

Survey Instructions (4_13)

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Asbestos Survey Form
(See Instructions)

777 12th Street, Suite 300
Sacramento, CA 95814
Office (279) 207-1122
Fax (279) 207-1144
Email: asbestos@airquality.org

1. Purpose of Survey	x	Renovation		Demolition

2. Facility Information

Project Area(s) Description: Tahoe Elementary School - Restrooms

Address	City	# of Structures
3110 60th Street	Sacramento	

3. Owner Information

Name			
Address	City/State		Zip
Contact	Phone	Fax	Email

4. Consultant Information — **Survey Date(s):** 05/06/22

Company Name: National Analytical Laboratoires, Inc.

Name	DOSH #
Michael J. Lee	06-4047

Address	City/State	Zip
2201 Francisco Dr. Ste. 140-261	El Dorado Hills, CA	95762

Phone	Fax	Email	Signature
916-361-0555	916-361-0540	Paula@nal1.com	

5. Client Information (If different than owner) ☐General Contractor ☐Insurance Company ☐Architect ☐Property Manager ☐Other

Name			
Address	City/State		Zip
Contact	Phone	Fax	Email

6. Have all of the suspect materials that will be disturbed been sampled? ☑Yes ☐No

If no, explain why:

7. Summary of Total Asbestos Containing Material (ACM) Findings

Regulated Asbestos Containing Material (RACM) (Includes materials subject to known mechanical removal and fire damaged materials)			Category II		Category I	
-			-		-	
Square Ft.	Linear Ft.	Cubic Ft.	Square Ft.	Linear Ft.	Square Ft.	Linear Ft.

To receive future SMAQMD Rule updates and changes affecting your industry (check one box):

☐Please send e-mail notices to ☐I will sign up myself at www.airquality.org/listserve/ to receive e-mailed notices.

☐I am already subscribed. ☐I want the District to mail notices to the address on this application: ☐Owner ☐Consultant

SMAQMD Survey Form Instructions

#1. Check the appropriate box as to whether the survey is for a Renovation or Demolition as defined by SMAQMD Rule 902, at the time the survey was conducted. Demolitions require sampling of all suspect materials unless assumed to contain asbestos or only a small area is being impacted by the demolition, ie, the entire building will not be razed. An example of this would be where only a load bearing wall(s) is removed but the building will remain intact. In those cases, explain why all suspect materials in the structure were not sampled in item #6. Renovations (TI's, soft demo's, remodels) require sampling of only the suspect materials that are going to be disturbed.

#2. Provide the description and function of the building(s) or area(s), ie, "School-Boiler Room", within the building(s) being surveyed. Include the total number of floors surveyed. Provide the address of building(s) surveyed. If multiple buildings are on site, provide the total number of structures surveyed, include portables, outbuildings, garages, sheds, etc.

#3. Provide owner information.

#4. Provide consultant information and the date on which each building/area was surveyed in item #2.

#5. The client refers to whoever requested the survey to be conducted and provided demolition/renovation information to the consultant. If the client is the owner in #3, leave this section blank.

#6. Unless assumed to contain asbestos, **all** suspect materials must be sampled prior to a demolition. Prior to a renovation, unless assumed to contain asbestos, suspect materials >160 square feet, 260 linear feet, or 35 cubic feet that will be abated, stripped, or removed must be sampled. You cannot assume suspect materials are negative. Samples taken must be based on the Asbestos Hazard Emergency Response Act (AHERA) guidelines for homogeneous areas but must include both the interior and exterior suspect materials, floor to roof. The list below provides common suspect materials. Surfacing materials requiring 3,5,7 protocol are noted (3,5,7). The SMAQMD considers stucco a surfacing material. All other sampling may be done "sufficient to determine".

EPA Category of Common Suspect Asbestos Containing Materials

Note: This list does not include every product that may contain asbestos. It is intended as a general guide to show the proper NESHAP categories of materials typically containing asbestos.

Regulated Asbestos Containing Material

- Fireproofing (3,5,7)
- Acoustical Ceiling Texture (3,5,7)
- Plaster (3,5,7)
- Wall Texture (3,5,7)
- Ceiling Tiles
- HVAC Duct Insulation
- Thermal System Insulation
- Mudded Pipe Elbow Insulation
- Linoleum Backing
- Furnace Insulation
- Fire Doors
- Nicolite Roofing paper

Category II

- Stucco (3,5,7)
- Window Glazing
- Cement Board/Transite
- Mastics
- Textured Paints/Coatings
- Chalkboards
- Lab Hoods/Table Tops
- Cement Pipes
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Category I

- Asphalt Flooring
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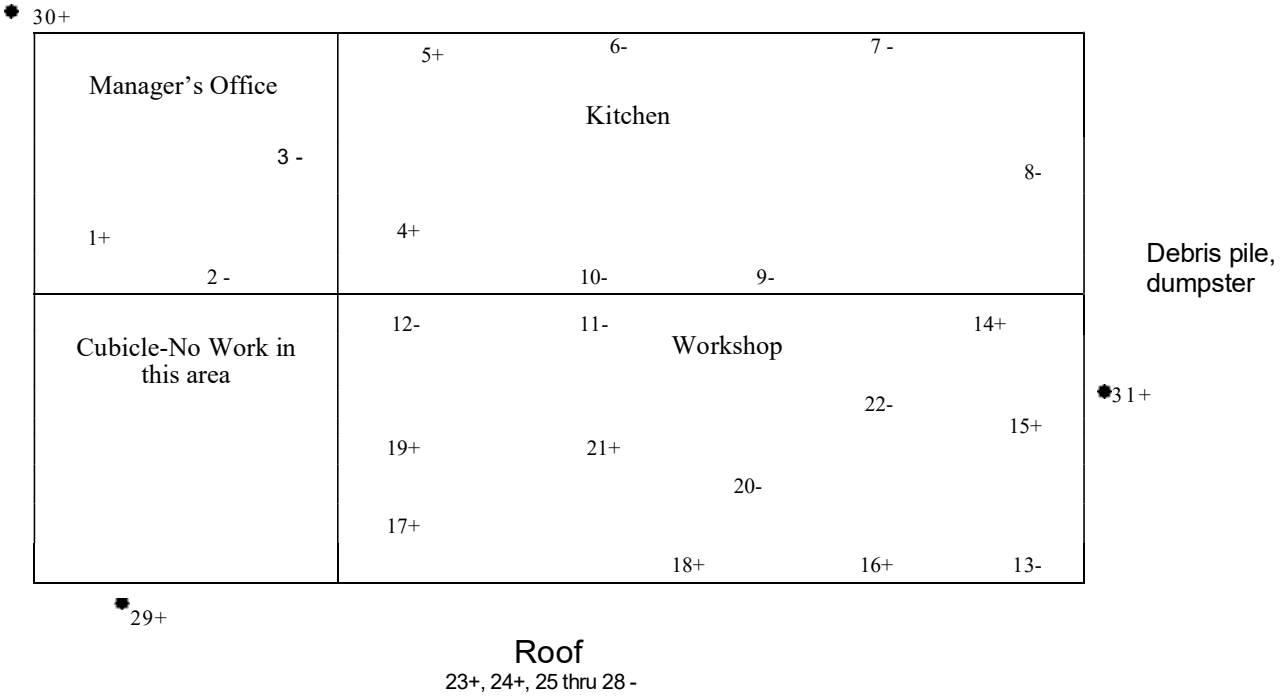

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Survey Instructions (4_13)

DOCUMENT 00 01 10

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Technical Specifications

DOCUMENT 00 52 13

AGREEMENT

THIS AGREEMENT IS MADE AND ENTERED INTO THIS _____ DAY OF _____ _____, 20___, by and between the Sacramento City Unified School District ("District") and _____ ("Contractor") ("Agreement").

WITNESSETH: That the parties hereto have mutually covenanted and agreed, and by these presents do covenant and agree with each other, as follows:

1. **The Work**: Contractor agrees to furnish all tools, equipment, apparatus, facilities, labor, and material necessary to perform and complete in a good and workmanlike manner, the work of the following project:

   Shade Structures Group 1A

   ("Project" or "Contract" or "Work")

   It is understood and agreed that the Work shall be performed and completed as required in the Contract Documents including, without limitation, the Drawings and Specifications and submission of all documents required to secure funding or by the Division of the State Architect for close-out of the Project, under the direction and supervision of, and subject to the approval of, the District or its authorized representative.

2. **The Contract Documents**: The complete Contract consists of all Contract Documents as defined in the General Conditions and incorporated herein by this reference. Any and all obligations of the District and Contractor are fully set forth and described in the Contract Documents. All Contract Documents are intended to cooperate so that any Work called for in one and not mentioned in the other or vice versa is to be executed the same as if mentioned in all Contract Documents.

3. **Interpretation of Contract Documents**: Should any question arise concerning the intent or meaning of Contract Documents, including the Drawings or Specifications, the question shall be submitted to the District for interpretation. If a conflict exists in the Contract Documents, valid, written modifications, beginning with the most recent, shall control over this Agreement (if any), which shall control over the Special Conditions, which shall control over any Supplemental Conditions, which shall control over the General Conditions, which shall control over the remaining Division 0 documents, which shall control over Division 1 Documents which shall control over Division 2 through Division 49 documents, which shall control over figured dimensions, which shall control over large-scale drawings, which shall control over small-scale drawings. In the case of a discrepancy or ambiguity solely between and among the Drawings and Specifications, the discrepancy or ambiguity shall be resolved in favor of the interpretation that will provide District with the functionally complete and operable Project described in the Drawings and Specifications. In no case shall a document calling for lower quality and/or quantity material or workmanship control. The decision of the District in the matter shall be final.

4. **Time for Completion**: It is hereby understood and agreed that the Work under this Contract shall be completed by December 31, 2022.

5. **Completion - Extension of Time**: Should the Contractor fail to complete this Contract, and the Work provided herein, within the time fixed for completion, due allowance being made for the contingencies provided for herein, the Contractor shall become liable to the District for all loss and damage that the District may suffer on account thereof. The Contractor shall coordinate its Work with the Work of all other contractors. The District shall not be liable for delays resulting from Contractor's failure to coordinate its Work with other contractors in a manner that will allow timely completion of Contractor's Work. Contractor shall be liable for delays to other contractors caused by Contractor's failure to coordinate its Work with the Work of other contractors.

6. **Liquidated Damages**: Time is of the essence for all work under this Agreement. It is hereby understood and agreed that it is and will be difficult and/or impossible to ascertain and determine the actual damage that the District will sustain in the event of and by reason of Contractor's delay; therefore, Contractor agrees that it shall pay to the District the sum of five-hundred dollars ($500.00) per day as liquidated damages for each and every day's delay beyond the time herein prescribed in completion of the Work.

   It is hereby understood and agreed that this amount is not a penalty.

   In the event that any portion of the liquidated damages is not paid to the District, the District may deduct that amount from any money due or that may become due the Contractor under this Agreement, and such deduction does not constitute a withholding or penalty. The District's right to assess liquidated damages is as indicated herein and in the General Conditions.

   The time during which the Contract is delayed for cause, as hereinafter specified, may extend the time of completion for a reasonable time as the District may grant, provided that Contractor has complied with the claims procedure of the Contract Documents. This provision does not exclude the recovery of damages by either party under other provisions in the Contract Documents.

7. **Loss Or Damage**: The District and its agents and authorized representatives shall not in any way or manner be answerable or suffer loss, damage, expense, or liability for any loss or damage that may happen to the Work, or any part thereof, or in or about the same during its construction and before acceptance, and the Contractor shall assume all liabilities of every kind or nature arising from the Work, either by accident, negligence, theft, vandalism, or any cause whatsoever; and shall hold the District and its agents and authorized representatives harmless from all liability of every kind and nature arising from accident, negligence, or any cause whatsoever.

8. **Limitation Of District Liability:** District's financial obligations under this Contract shall be limited to the payment of the compensation provided in this Contract. Notwithstanding any other provision of this Contract, in no event shall District be liable, regardless of whether any claim is based on contract or tort, for any special, consequential, indirect or incidental damages, including, but not limited to, lost profits or revenue, lost bonding capacity, arising out of or in connection with this Contract for the services performed in connection with this Contract.

9. **Insurance and Bonds**: Prior to issuance of the Notice to Proceed by the District, Contractor shall provide all required certificates of insurance, insurance endorsements, and payment and performance bonds as evidence thereof.

10. **Prosecution of Work**: If the Contractor should neglect to prosecute the Work properly or fail to perform any provisions of this Contract, the District, may, pursuant to the General Conditions and without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.

11. **Authority of Architect, Project Inspector, and DSA**: Contractor hereby acknowledges that the Architect(s), the Project Inspector(s), and the Division of the State Architect ("DSA") have authority to approve and/or suspend Work if the Contractor's Work does not comply with the requirements of the Contract Documents, Title 24 of the California Code of Regulations, and all applicable laws and regulations. The Contractor shall be liable for any delay caused by its non-compliant Work.

12. **Assignment of Contract**: Neither the Contract, nor any part thereof, nor any moneys due or to become due thereunder, may be assigned by the Contractor without the prior written approval of the District, nor without the written consent of the Surety on the Contractor's Performance Bond (the "Surety"), unless the Surety has waived in writing its right to notice of assignment.

13. **Classification of Contractor's License**: Contractor hereby acknowledges that it currently holds valid Class A or B Contractor's license(s) issued by the State of California, Contractors' State License Board, in accordance with division 3, chapter 9, of the Business and Professions Code and in the classification called for in the Contract Documents.

14. **Registration as Public Works Contractor**: The Contractor and all Subcontractors currently are registered as public works contractors with the Department of Industrial Relations, State of California, in accordance with Labor Code section 1771.1.

15. **Payment of Prevailing Wages**: The Contractor and all Subcontractors shall pay all workers on all Work performed pursuant to this Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to sections 1770 et seq. of the California Labor Code. The Contractor and all Subcontractors shall comply with the Davis Bacon Act, applicable reporting requirements, and any other applicable requirements for federal funding. If a conflict exists, the more stringent provision shall control over this Agreement.

16. **Labor Compliance Monitoring and Enforcement**: This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and Title 8 of the California Code of Regulations. Contractor specifically acknowledges and understands that it shall perform the Work of this Agreement while complying with all the applicable provisions of Division 2, Part 7, Chapter 1, of the Labor Code, including, without limitation, the requirement that the Contractor and all of its Subcontractors shall

timely submit complete and accurate electronic certified payroll records as required by the Contract Documents, or the District may not issue payment.

17. **Contract Price**: In consideration of the foregoing covenants, promises, and agreements on the part of the Contractor, and the strict and literal fulfillment of each and every covenant, promise, and agreement, and as compensation agreed upon for the Work and construction, erection, and completion as aforesaid, the District covenants, promises, and agrees that it will well and truly pay and cause to be paid to the Contractor in full, and as the full Contract Price and compensation for construction, erection, and completion of the Work hereinabove agreed to be performed by the Contractor, the following price:

_____ Dollars

($_____),

in lawful money of the United States, which sum is to be paid according to the schedule provided by the Contractor and accepted by the District and subject to additions and deductions as provided in the Contract. This amount supersedes any previously stated and/or agreed to amount(s).

18. **No Representations:** No representations have been made other than as set forth in writing in the Contract Documents, including this Agreement. Each of the Parties to this Agreement warrants that it has carefully read and understood the terms and conditions of this Agreement and all Contract Documents, and that it has not relied upon the representations or advice of any other Party or any attorney not its own.

19. **Entire Agreement:** The Contract Documents, including this Agreement, set forth the entire agreement between the parties hereto and fully supersede any and all prior agreements, understandings, written or oral, between the parties hereto pertaining to the subject matter thereof.

20. **Severability**: If any term, covenant, condition, or provision in any of the Contract Documents is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the provisions in the Contract Documents shall remain in full force and effect and shall in no way be affected, impaired, or invalidated thereby.

21. **Authority of Signatories**: Each party has the full power and authority to enter into and perform this Contract, and the person signing this Contract on behalf of each party has been properly authorized and empowered to enter into this Contract. This Contract may be executed in one or more counterparts, each of which shall be deemed an original. For this Agreement, and for all Contract Documents requiring a signature, a facsimile or electronic signature shall be deemed to be the equivalent of the actual original signature. All counterparts so executed shall constitute one Contract binding all the Parties hereto.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, accepted and agreed on the date indicated above:

[CONTRACTOR NAME]	**SACRAMENTO CITY UNIFIED SCHOOL DISTRICT**
_____	_____
By: _____	By: _____
Title: _____	Title: _____

NOTE: If the party executing this Contract is a corporation, a certified copy of the by-laws, or of the resolution of the Board of Directors, authorizing the officers of said corporation to execute the Contract and the bonds required thereby must be attached hereto.

END OF DOCUMENT

1.03 CONSTRUCTION SCHEDULE

A. Within ten (10) days of issuance of the Notice to Proceed and before request for first progress payment, the Contractor shall prepare and submit to the Project Manager a construction progress schedule conforming to the Milestone Schedule below.

B. The Construction Schedule shall be continuously updated, and an updated schedule shall be submitted with each application for progress payment. Each revised schedule shall indicate the work actually accomplished during the previous period and the schedule for completion of the remaining work.

C. Milestone Schedule:

Preliminary Construction Schedule

Anticipated Notice of Intent to Award (NOITA)	05/20/22
Anticipated Board Approval of Construction Contract	06/02/22
Anticipated Notice to Proceed (NTP)	06/03/22
Shop Drawings, Submittals, Materials Procurement	06/03/22 - 06/16/22

Site Construction Schedule

Last Day of 2021-2022 School	06/16/22
First Day of 2022-23 School	8/25/22
Mobilization and Start of Construction	06/17/22

Site-Adaption Construction Phase – Completion 8/20/22
Work prior to install of Shade Structures to include, but not limited to HAZMAT, Utilities, Electrical Rough-in, ADA improvements, concrete footings & pads. Contractor to include the pick-up of anchor bolts from District storage – location TBD

Site Adaptation Phase Punch & Corrective work	8/20/22 – 8/24/22
Milestone Completion Date of All Site Adaptation work	8/24/2022
Anticipated Shipments of OFCI Shade Structures	8/19/22 – 9/9/22

Start of OFCI Shade Structure Install Phase

Delivery Dates - TBD

Install timeframe of Each Structure: No more than 5 days unless given authorization by District. Complete work on swing shift, after school hours. Provide temporary fencing around work area at all times through completion.

Punch List, Corrective Work & Final Cleaning	10/15/22 – 10/30/22

FINAL PROJECT COMPLETION **December 31, 2022**

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Sealants and backing for interior and exterior joints.

1.2 RELATED REQUIREMENTS

A. Section 01 6116, Volatile Organic Compound (VOC) Restrictions, for VOC limits pertaining to adhesives, sealants, fillers, primers, and coatings.

B. Pertinent Sections specifying sealants or referencing this Section for sealant products and installation requirements.

1.3 REFERENCES AND STANDARDS

A. California Building Code (CBC), edition as noted on Drawings.

B. California Green Building Standards Code (CAL Green), edition as noted on Drawings.

C. American Concrete Institute (ACI) Publications and Standards:

1. ACI 302.1R: Guide to Concrete Floor and Slab Construction.
2. ACI 360R-10: Guide to Design of Slabs-on-Ground.

D. ASTM International (ASTM):

1. C834: Standard Specification for Latex Sealants.
2. C919: Standard Practice for Use of Sealants in Acoustical Applications.
3. C920: Standard Specification for Elastomeric Joint Sealants.
4. C1193: Standard Guide for Use of Joint Sealants.
5. C1247: Standard Test Method for Durability of Sealants Exposed to Continuous Immersion in Liquids.
6. C1248: Standard Test Method for Staining of Porous Substrate by Joint Sealants.
7. C1311: Standard Specification for Solvent Release Sealants.
8. C1330: Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants.
9. C1521: Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints.
10. D1667: Standard Specification for Flexible Cellular Materials - Poly (Vinyl Chloride) Foam (Closed-Cell).
11. E90: Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.

E. Federal Specifications (FS):

1. FS TT-S-001657: Sealing Compound--Single Component, Butyl Rubber Based, Solvent Release Type.

F. South Coast Air Quality Management District (SCAQMD):

1. Rule 1168: Adhesive and Sealant Applications.

G. U.S. Food & Drug Administration (FDA):

1. Code of Federal Regulations: Title 21, 21 CFR 177.2600, Rubber Articles Intended for Repeated Use.

1.4 DEFINITIONS

A. Sealant Terminology in accordance with ASTM C834 and ASTM C920:

1. Type C: Clear / translucent sealant.
2. Type OP: Opaque pigmented sealant.
3. Type S: Single component sealant.
4. Type M: Sealant with two or more components.
5. Grade NS: Nonsag sealant.
6. Grade P: Pourable sealant.
7. Grade -18ºC: Sealant with low temperature flexibility tested to -18ºC (0ºF).
8. Grade 0ºC: Sealant with low temperature flexibility tested to 0ºC (32ºF).
9. Grade NF: Sealant does not meet low temperature flexibility requirements.
10. Class12-1/2: Sealant capable of handling movement, either contraction or expansion, of 12.5 percent of the original joint width.
11. Class 25: Sealant capable of handling movement, either contraction or expansion, of 25 percent of the original joint width.
12. Class 35: Sealant capable of handling movement, either contraction or expansion, of 35 percent of the original joint width.
13. Class 50: Sealant capable of handling movement, either contraction or expansion, of 50 percent of the original joint width.
14. Class 100 / 50: Sealant capable of handling movement of 50 percent contraction and 100 percent expansion.
15. Use Related to Exposure:
    a. Use NT: Nontraffic.
    b. Use T: Traffic.
    c. Use I: Immersible.
16. Use Related to Material:
    a. Use A: Sealant used in contact with aluminum.
    b. Use G: Sealant used in contact with glass.
    c. Use M: Sealant used in contact with mortar.
    d. Use O: Sealants used in contact with all other materials other than those previously listed.

1.5 ADMINISTRATIVE REQUIREMENTS

A. Submittal Procedures:

1. Action Submittals and Informational Submittals shall be submitted in accordance with Section 01 3300, Submittal Procedures.
2. Closeout Submittals shall be submitted in accordance with Section 01 7700, Closeout Procedures.

B. Pre-Installation Meeting: Conduct at Project site. Review joint application procedures, compatibility tests, adhesion tests, and warranty requirements in a meeting involving Architect, Project Inspector, installer, manufacturer or manufacturer's representative.

C. Coordination:

1. Use of different manufacturer's sealant types for application at exterior wall and glazing systems is not permitted. It is required that a single source for silicone sealants be used on this Project. The Contractor is responsible for coordinating compliance with this requirement where installation of sealants is delegated to various Subcontractors installing the exterior envelope systems for the Project.
2. Contractor shall coordinate and be responsible for compatibility and performance between sealants and other materials, and related Sections using sealants which may be in direct contact with work of this Section or adjacent to the other. Isolate and prevent of incompatibility between sealants in accordance with manufacturer's specifications, recommendations and instructions.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product indicated, demonstrate compliance with specified attributes.

1. Include color chart from manufacturers for each joint sealant product required.
2. Provide certification by joint sealant manufacturer that materials provided for this Section are 100 percent asbestos-free.

B. Samples for initial Selection: In form of manufacturer's standard bead samples, consisting of strips of actual products showing full range of colors available, for each product exposed to view.

C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2 inch wide joints formed between two 6 inch long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.

C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.

1. Preconstruction Compatibility and Adhesion Test Reports from sealant manufacturer, indicating the following:
    a. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
    b. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

D. Sustainable Design:

1. General:
    a. Submit information necessary to establish and document compliance with the California Green Building Standards Code.
2. The following information shall be provided:
    a. Adhesives and Sealants: Evidence of compliance that products meet maximum VOC content limits specified in Section 01 6116.

E. Sample of manufacturer’s warranty.

1.8 CLOSEOUT SUBMITTALS

A. Warranty and Guarantee: Submit executed warranty and extended Contractor guarantee.

1.9 QUALITY ASSURANCE

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

B. Use only new materials and products, unless existing materials or products are specifically shown otherwise on the Drawings to be salvaged and re-used.

C. Single Source Responsibility: Obtain each kind of joint sealant from single source from single manufacturer.

D. Materials, components, assemblies, workmanship and installation are to be observed by the Project Inspector. Work not so inspected is subject to uncovering and replacement.

E. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

1.10 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to project site in original factory wrappings and containers, labeled with identification of manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multicomponent materials.

B. Store and handle materials in compliance with manufacturer's recommendations to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.11 FIELD CONDITIONS

A. Environmental Conditions: Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealant manufacturer.
2. When joint substrates are wet.

B. Joint Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than allowed by joint sealant manufacturer for application indicated.

C. Joint Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with their adhesion are removed from joint substrates.

1.12 WARRANTY AND GUARANTEE

A. Manufacturer: In addition to the Contractor's and Subcontractor's Standard Guarantee, furnish Owner with manufacturer's fully executed written warranty for sealant against defects in materials and workmanship for a period of 5 years:

B. Contractor: in addition to its standard Guarantee under the Contract, furnish Owner a special extended written five-year guarantee, cosigned by installer, for sealant, agreeing to replace any and all joints that leaks or otherwise fails to perform as required within guarantee period as a result of failure of materials or installation workmanship at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 DESIGN AND PERFORMANCE CRITERIA

A. Sustainable Design:

1. VOC emissions for field-applied adhesives, sealants, and sealant primers must comply with limits specified in Section 01 6116.

B. Building Envelope: Make watertight and weatherproof.

1. Exterior work that does not remain watertight and all work which does not retain all properties inherent in the product as stipulated by the manufacturer will be considered faulty.

C. Provide elastomeric joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without causing staining or deterioration of joint substrates.

D. Provide joint sealants for interior applications that have been produced and installed to establish and maintain airtight continuous seals that are water resistant and cause no staining or deterioration of joint substrates.

E. Design Requirements:

1. Seal building joints with non-sag type sealant.
2. Seal floor joints with self-leveling or slope grade self-leveling type sealant.

2.2 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

B. Liquid-Applied Joint Sealants: Comply with ASTM C920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C920 classifications for type, grade, class, and uses related to exposure and joint substrates.

1. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.

C. Colors:

1. General:
   a. Match adjacent surfaces.
   b. Not all locations will have the same color.

2. Provide color of exposed joint sealants to comply with the following:
   a. Provide colors matching selections made by Architects from manufacturer's full range of colors for products of type indicated.
   b. Request color selection for exposed products listed without a preselected color.

2.3 SILICONE JOINT SEALANTS

A. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C920, Type S, Grade NS, Class 100 / 50, for Use NT.

1. Products: The following, or equal:
   a. The Dow Chemical Company; "DOWSIL" 790.
   b. Sika Corporation, Construction Products Division; "Sikasil" WS-290.

B. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C920, Type S, Grade NS, Class 50, for Use NT.

1. Products: The following, or equal:
   a. Dow Corning Corporation; "DOWSIL 795 Building Sealant".
   b. Sika Corporation, Construction Products Division; "Sikasil WS-295."

C. Single-Component, Nonsag, Non-Bleed, Neutral-Curing Silicone Joint Sealant: ASTM C920, Type S, Grade NS, Class 50, for Use G, M, A and O.

1. Products: The following, or equal:
    a. The Dow Chemical Company; “DOWSIL 756 SMS."
    b. Momentive Performance Materials; "SCS9000 SilPruf NB."

D. Single-Component, Nonsag, One Part RTV Neutral-Curing Silicone Joint Sealant: ASTM C920, Type S, Grade NS, Class 25, designed for adhering to low energy surfaces common in sheet or peel and stick weather resistant barriers.

1. Products: The following, or equal:
    a. The Dow Chemical Company; “DOWSIL” 758.
    b. Sika Corporation, Construction Products Division; “Sikasil-N Plus.”

E. Mildew-Resistant, Single-Component, Acid-Curing Silicone Joint Sealant: ASTM C920, Type S, Grade NS, Class 25, for Use NT, A and O.

1. Products: The following, or equal:
    a. The Dow Chemical Company; “DOWSIL 786 Mildew Resistant.”
    b. Momentive Performance Materials; GE Silicones “Sanitary SCS1700.”

2.4 URETHANE JOINT SEALANTS

A. Single-Component, Nonsag, Urethane Joint Sealant: ASTM C920, Type S, Grade NS, Class 35, for Use NT.

1. Products: The following, or equal:
    a. BASF Master Builders Solutions; “MasterSeal NP 1.”
    b. Sika Corporation, Construction Products Division; “Sikaflex-1a.”

B. Multicomponent, Nonsag, Urethane Joint Sealant: ASTM C920, Type M, Grade NS, Class 25, for Use NT, M, A and O.

1. Products: The following, or equal:
    a. BASF Master Builders Solutions; “MasterSeal NP 2.”
    b. Sika Corporation, Construction Products Division; “Sikaflex-2c NS.”

C. Multicomponent Urethane Joint Sealant: ASTM C920; self-leveling, Type M, Grade P, Class 25, Uses T, M, A, O, and approved by manufacturer for wide joints up to 1-1/2 inches.

1. Products: The following or equal:
    a. BASF Master Builders Solutions; “MasterSeal SL 2.”
    b. Sika Corporation, Construction Products Division; “Sikaflex 2c SL.”

2.5 ACRYLIC LATEX JOINT SEALANTS

A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, nonsag, paintable, nonstaining. ASTM C 834, Type OP, Grade NF.

1. Products: The following, or equal:
    a. Pecora Corporation; “AC-20.”
    b. Sherwin Williams; 950A.

2.6 JOINT SEALANT BACKING

A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backer Rods: Compressible, non-gassing rod-stock complying with ASTM C1330; polyethylene-jacketed polyurethane foam; butyl-rubber foam; neoprene foam; or other flexible, permanent, durable, non-absorptive closed-cell (Type C), open cell (Type O), or bi-cellular material (Type B) and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

1. Open cell rods shall not be used at sealant joints for horizontal surfaces.
2. Closed cell rods shall not be used at double sealant joints.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.7 SEALANT ACCESSORIES AND ADDITIONAL MATERIALS

A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming in any way joint substrates and adjacent nonporous surfaces, and formulated to promote optimum adhesion of sealants with joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

D. Spall Repair Mortar: Two-component structural epoxy binder and sand aggregate, producing a mortar that is easily worked and troweled. Early-set system designed specifically for the repair of industrial concrete floors subject to hard wheeled traffic. Compatible with joint filler and recommended by the joint filler manufacturer in writing.

1. Products: The following, or equal:
    a. Metzger/McGuire: “Armor-Hard.”

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint sealant performance. Do not proceed with installation of joint sealants until unsatisfactory conditions have been corrected.

B. Commencement of work indicates acceptance of substrates.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with recommendations of joint sealant manufacturer and the following requirements:

1. Remove foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean concrete, masonry, unglazed surfaces of ceramic tile, and similar porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
3. Remove laitance and form release agents from concrete.
4. Clean metal, glass, porcelain enamel, glazed surfaces of ceramic tile, and other nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.

B. Spall Repair: Repair spalled joints in concrete slabs to produce joints of profiles recommended by joint sealer manufacturers.

C. Joint Priming:

1. Prime joint substrates where indicated or where recommended by joint sealant manufacturer based on preconstruction joint sealant-substrate tests or prior experience.
2. Apply primer to comply with joint sealant manufacturer's recommendations. Confine primers to areas of joint sealant bond; do not allow spillage or migration onto adjoining surfaces.

D. Masking Tape:

1. Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears.

2. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General:

1. Comply with joint sealant manufacturer's printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.
2. Seal around penetrations, holes, gaps, surface mounted fixtures and pipes entering building including light fixtures, mounting brackets and other similar items.

B. Sealant Installation Standard: Comply with recommendations of ASTM C1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Joint Sealants at Building Exterior and Interior:

1. Seal the following joints with joint sealant:
   a. Joints between dissimilar materials.
   b. Joints between metal panels.
   c. Control joints in interior partitions, including portion above ceilings.
   d. Where shown and noted on the documents.
2. Apply joint sealant at joints not specifically mentioned above which require sealant to meet the performance criteria cited in this Section.

D. Installation of Sealant Backer Rods: Install sealant backer rods to comply with the following requirements:

1. Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
   a. Do not leave gaps between ends of joint fillers.
   b. Do not stretch, twist, puncture, or tear joint fillers.
   c. Remove absorbent joint fillers that have become wet prior to sealant application and replace with dry material.
2. Install bond breaker tape between sealants where backer rods are not used between sealants and joint fillers or back of joints.

E. Sealant Installation:

1. Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
2. Install sealants at the same time sealant backings are installed.

F. Tooling of Nonsag Sealants:

1. Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint.
2. Do not use tooling agents that discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.
3. Profiles:
    a. Provide concave joint configuration in accordance with Figure 8A in ASTM C1193, unless otherwise indicated.
    b. Provide flush joint configuration in accordance with Figure 8B in ASTM C1193, where indicated.
    c. Provide recessed joint configuration in accordance with Figure 8C in ASTM C1193, of recess depth and at locations indicated.
        1) Use masking tape to protect adjacent surfaces of recessed tooled joints.

3.4 DEFECTIVE WORK

A. Repair damaged and defective work and eliminate functional and visual defects. Where repair is not possible replace work. Adjust joints for uniform appearance.

B. Cut out and remove damaged or deteriorated joint sealants immediately so that and installations with repaired areas are indistinguishable from original work.

3.5 CLEANING AND PROTECTION

A. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealants and of products in which joints occur.

B. Clean excess adhesive from exposed surfaces of neoprene compression seal with solvent cleaner as recommended by manufacturer.

C. Protect joint sealants during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion.

3.6 SEALANT SCHEDULE

A. General:

1. Joints in construction between interior and exterior spaces and other designated or required locations to provide effective barrier against passage of elements:
    a. Multicomponent, Nonsag, Urethane Joint Sealant: ASTM C920, Type M, Grade NS, Class 25, for Use NT, M, A and O.
    b. Single-Component, Nonsag, Urethane Joint Sealant: ASTM C920, Type S, Grade NS, Class 25, for Use NT.
2. Specialty perimeters where required for appearance or weather tightness:

a. Multicomponent, Nonsag, Urethane Joint Sealant: ASTM C920, Type M, Grade NS, Class 25, for Use NT, M, A and O; capable of 50 percent extension and compression movement.

b. Single-Component, Nonsag, Urethane Joint Sealant: ASTM C920, Type S, Grade NS, Class 35, for Use NT.

c. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C920, Type S, Grade NS, Class 50, for Use NT.

d. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C920, Type S, Grade NS, Class 100 / 50, for Use NT.

B. Exterior Locations:

1. All Exterior Joints:

a. Single-component, nonsag, neutral-curing silicone joint sealant, ASTM C920, Type S, Grade NS, Class 100 / 50, for Use NT.

b. Single-component, nonsag, neutral-curing silicone joint sealant, ASTM C920, Type S, Grade NS, Class 50, for Use NT.

c. Around perimeters of frames where door, window and louver frames abut concrete, masonry or other building materials.

d. Expansion and control joints in masonry.

e. Masonry at dissimilar material or at dissimilar masonry.

f. Miscellaneous locations where sealant is shown on Drawings.

C. Interior Locations:

1. Interior Wet Areas, Around Plumbing Fixtures, Mildew-resistant, single-component, acid-curing silicone joint sealant, ASTM C920, Type S, Grade NS, Class 25, for Use NT, A and O.

2. Interior Static Dry Joints as Required to Dress Appearance: Acrylic latex or siliconized acrylic latex joint sealant, ASTM C 834, Type OP, Grade NF

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Painting and painter's finish on all exposed exterior and interior surfaces, except prefinished items and unless otherwise noted, as required to complete finishing of the Work. The Work includes, but is not necessarily limited to, the following specific items:

1. Paint, stain or otherwise finish all new surfaces.
2. Back priming of concealed surfaces, except as otherwise specified.
3. Paint, repaint or finish of existing painted surfaces altered, defaced or damaged as a result of work of this Contract.
4. Paint site items which are not prefinished, including posts, screens, panels, bollards, supports, rails and other similar improvements.
5. Unpainted or unfinished exposed building components, pipes and conduit, which run exposed across finished or painted surfaces.

B. Surface treatment, priming and coats of paint specified in this Section are in addition to shop priming and surface treatment specified under other Sections unless otherwise noted.

C. Items Not Included in This Section:

1. Factory and shop-prefinished items as specified in various Sections.
2. Painting specified elsewhere and included in respective Sections, including but not necessarily limited to shop priming.

1.2 WORK NOT TO BE PAINTED UNLESS OTHERWISE INDICATED

A. Exposed exterior concrete and concrete slab surfaces, except as noted.

B. Unfinished masonry, except where noted.

C. Suspended acoustical ceilings and acoustical tile, except as noted.

D. Pre-finished casework and other factory and shop-prefinished items as specified in various Sections.

E. Finish hardware except prime coated items.

F. Items typically not to be painted including, but not limited to, the following:

1. Glass.
2. Ceramic tile.
3. Membrane roofing.
4. Safety nosings.

5. Resilient floor covering and base.
6. Carpet.
7. Pre-finished paneling.
8. Plastic laminate.
9. Porcelain enamel.
10. Vinyl wallcovering, except where noted.

G. Aluminum doors, windows, frames and railings.

H. Metal or plastic toilet partitions.

I. Items of chromium, copper, nickel, brass, bronze or stainless steel.

J. Surfaces in concealed areas such as furred spaces.

K. Tops of gravel stop flanges (including priming) where roofing material will be adhered to.

L. Wall areas concealed by cases, counters, cabinets, chalkboards, tackboards (prime coat only required).

M. Piping or conduit including brackets and similar items therewith running on or across unpainted or otherwise unfinished walls or ceilings**.**

N. Galvanized gratings, recessed foot grilles, and thresholds.

O. Structural steel scheduled to receive fireproofing.

P. Existing rooms or areas not affected by work of this project, unless specifically noted otherwise.

1.3 RELATED REQUIREMENTS

A. Section 01 6116, Volatile Organic Compound (VOC) Restrictions; for VOC limits pertaining to adhesives, sealants, fillers, primers, and coatings.

B. Section 05 5000, Metal Fabrications.

C. Section 07 9200, Joint Sealants.

D. Section 26 0150, Electrical Basic Materials and Methods

1.4 REFERENCES AND STANDARDS

A. California Building Code (CBC), edition as noted on the Drawings.

B. California Green Building Standards Code (CAL Green), edition as noted on the Drawings.

C. ASTM International (ASTM):

1. D523: Standard Test Method for Specular Gloss.

2. D4263: Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.

D. Master Painters Institute (MPI):

1. Architectural Painting Manual Guide Specification.

1.5 ADMINISTRATIVE REQUIREMENTS

A. Submittal Procedures:

1. Action Submittals and Informational Submittals shall be submitted in accordance with Section 01 3300, Submittal Procedures.
2. Closeout Submittals shall be submitted in accordance with Section 01 7700, Closeout Procedures.

1.6 ACTION SUBMITTALS

A. Product Data: Submit list and complete descriptive data of products proposed for use. Include manufacturer's specifications, published warranty or guarantee, and application instructions. Cross-reference to paint system and locations of application areas.

1.7 INFORMATIONAL SUBMITTALS

A. Statement of applicator qualifications.

1.8 CLOSEOUT SUBMITTALS

A. Guarantee: Submit Subcontractor’s guarantee.

1.9 MAINTENANCE MATERIAL SUBMITTALS

A. At completion of the Work, deliver to Owner extra stock of paint of each color used in each coating material used.

B. Containers shall be full, tightly sealed, and clearly marked.

1.10 QUALITY ASSURANCE

A. Use only new materials and products.

B. Single-Source Responsibility:

1. To the maximum extent practicable, select a single manufacturer to provide all materials required by this Section, using additional manufacturers to provide systems not offered by the selected principal manufacturer.
2. For each individual system:
    a. Provide primer and other undercoat paint produced by same manufacturer as finish coat.
    b. Use thinner within manufacturer's recommended limits.

C. Source Quality Control: Material shall be best grade products of type specified and listed below as regularly manufactured by these manufacturers. Materials not bearing manufacturer's identification as standard "best grade product" of their regular line will not be considered for use.

D. Materials, components, assemblies, workmanship and installation are to be observed by the Owner's Project Inspector. Work not so inspected is subject to uncovering and replacement.

E. Materials and application procedures shall comply with local, state and federal air pollution control regulations.

F. Manufacturer's representative from coating supplier shall visit the site prior to application to review and approve the specified systems. Discrepancies or recommended changes shall be submitted to the Architect for consideration prior to finalization of submittal.

1.11 DELIVERY, STORAGE AND HANDLING

A. Deliver undamaged products to job in manufacturer's sealed containers and/or original bundles with tags and labels intact.

B. Store materials in protected, clean, dry conditions off of ground and in areas which will not interfere with the progress of the Work.

C. Transport, store and handle in strict accordance with the manufacturer's written recommendations and as specified below.

D. Remove paint-soiled rags and waste from premises at end of each day's work or store in metal containers with metal covers.

E. Paint stored at site, shall be in separate structure not less than 60 feet from any other building or structure. Remove empty containers and soiled rags as they accumulate. At completion, remove structure, cleanup area, and leave in original condition.

1.12 FIELD CONDITIONS

A. Do not apply paints and coatings under conditions which jeopardize quality or appearance of painting or finishing.

B. Cover or otherwise protect finished work of other trades and surfaces not being painted concurrently or not to be painted.

C. Exterior:

1. Comply with manufacturer's recommendations as to environmental conditions under which coatings and coating systems can be stored and applied.
2. Do not apply exterior paint when air or surface temperature is under 50 degrees F or when air or surface temperature will be below 50 degrees F for 48 hours after painting.
3. Do not apply immediately following snow, rain, dew or during foggy weather.

4. Do not apply when temperature is over 85 degrees F except in protected or shaded areas.

D. Interior:

1. Do not apply interior paint when air or surface temperature is below 50 degrees F unless temperature is maintained constantly.
2. Do not apply when ventilation is inadequate to maintain humidity lower than dew point of coldest wall.

E. Use moisture meter for determining proper moisture levels of surfaces for painting.

F. Report to Architect in writing upon discovery of any prime coat painting specified in other Sections of Specifications that would prevent proper application of specified finish.

G. Furnish, erect and remove scaffolding and planks required for work under this Section. Conform to state and local codes, rules and regulations.

1.13 EXISTING CONDITIONS

A. Existing Surfaces:

1. Paint, stain or otherwise finish all existing surfaces as indicated or scheduled on the Drawings.
2. Work includes primer, paint, repaint or finish of existing painted surfaces altered, defaced or damaged as a result of work under this Contract.

B. Existing surfaces with paint, stain, varnish or similar type coating shall be assumed to contain various concentrations of lead. Cal/OSHA regulations are therefore applicable during disturbance, preparation or repainting of these surfaces.

C. Existing surfaces to be painted include:

1. Exterior wall surfaces, including fascia, trim.
2. Soffits and exterior ceilings including exposed roof framing.
3. Concrete foundation where exposed below painted wall surfaces.
4. Other work as shown on the Drawings, specified, or as required for a complete Project.

1.14 GUARANTEE

A. Contractor: In addition to his standard Guarantee under the Contract, Contractor shall guarantee that paint colors shall be substantially unchanged and finishes shall maintain their original adherence without showing blisters, flaking, peeling, scaling, staining or unusual deterioration or other defects.

PART 2 - PRODUCTS

2.1 DESIGN AND PERFORMANCE CRITERIA

A. Sustainable Design:

1. VOC emissions for field-applied paints and coatings must comply with limits specified in Section 01 6116.

2.2 MANUFACTURERS AND COATING PRODUCTS

A. Products are specified under "Paint Systems" in Part 3 below and are manufactured by Kelly-Moore, except as otherwise indicated. Equivalent products to those scheduled manufactured by PPG Architectural Finishes, Glidden Professional, Benjamin Moore & Co., Sherwin-Williams, Dunn-Edwards, Vista, or equal are acceptable.

B. Materials selected for coating systems for each type surface shall be the product of a single manufacturer or shall be acceptable to manufacturer of finish coating for system.

C. If more than one quality level of product type is marketed, use material of highest quality.

2.3 MIXING AND TINTING

A. Deliver paints and stains ready mixed to jobsite. On-site color mixing or tinting will not be allowed.

B. Each kind of coating for paint finishes shall be factory-mixed to match approved samples, colors, and ready for immediate application.

C. Mix proprietary products in strict accordance with manufacturer's printed directions.

D. Thinning, if permitted by manufacturer for a specific coating, shall be in accordance with manufacturer’s instructions. Thinning of other products shall be in accordance with standard practice.

2.4 COLORS

A. Colors to match existing adjacent surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Prior to the work of this Section, carefully inspect and verify that the installed work of all other trades is complete to the point where this work may properly commence.

B. Verify that painting may be performed in accordance with the approved design.

C. In the event of discrepancy, immediately notify Architect. Do not proceed in discrepant areas until discrepancies have been fully resolved.

3.2 PREPARATION

A. General:

1. Surface preparation and product application shall be in accordance with manufacturer's printed instructions.
2. In addition to prime coats indicated (primer, sealer, filler, undercoat), use two (2) finish coats minimum, and additional coats as required for complete coverage and good appearance of scheduled finish coat.
3. Surfaces to receive new finish shall be properly prepared prior to application of finish coatings.
4. Do not apply paint, enamel, stains or varnishes to wet, damp, dusty, finger-marked, rough, unfinished, or defective surfaces until such defects have been corrected.

B. Wood - Interior:

1. Thoroughly sandpaper and dust off woodwork; putty nail holes, cracks, and other defects after first coat to match color of paint. Putty where finish will be clear.
2. First coat on wood surfaces shall be sanded smooth. Other coats, except finish coat, shall be lightly sanded and dusted before and between each coat.
3. Smoothing, rubbing and sand-papering shall be sufficient to insure good results. Sand down all raised grain or rough surfaces and re-coat. Knots, pitch pockets and sappy portion of wood, all nail holes, cuts, cracks and other defects in wood shall have any necessary extra treatment to provide proper paint base.

C. Wood – Exterior:

1. Surfaces shall be dry and free of grease and splatters.
2. Rough surfaces shall be sanded smooth. **[Do not sandpaper resawn surfaces.]**
3. At opaque finish, fill nail holes, cracks, open joints, and other defects with filler after priming coat has dried. Exposed nail heads shall be spot primed.
4. Avoid painting surfaces while exposed directly to hot sun.
5. Smooth surfaces shall be sanded thoroughly to allow proper penetration and adhesion. Areas exhibiting tannic acid staining shall receive two coats of primer waiting 24 hours between coats. Sand and prime as soon as possible after installation to avoid UV degradation of unpainted wood surface.
6. Mildew, if present, shall be removed by scrubbing with a commercial mildew wash in accordance with manufacturer's directions.

D. Metals:

1. On metal work, only such sanding will be required as is necessary to provide for complete bonding of coats.
2. Steel and ironwork shall be scraped clean of scale, and rust and any grease shall be entirely removed.
3. Touch-up scratched and damaged places on metal priming coats.

4. Galvanized or zinc-coated metal shall be given an approved acid treatment 48 hours before paint is applied.
5. Prep and prime coat factory or shop primed metal products, including metal doors and frames, exposed framing, and other exposed metal if material was not shop primed.
6. Metal surfaces receiving epoxy coatings shall have stripe coat applied at all welds, edges, joints, etc., with epoxy primer prior to application of primer.

E. Gypsum Board:

1. General:
   a. Fill narrow, shallow cracks and small holes with spackling compound.
      1) Rake deep, wide cracks and deep holes.
      2) Dampen with clear water.
   b. Fill with thin layers of drywall joint cement.
   c. Allow to dry.
   d. Sand smooth after drying. Do not raise nap of paper on gypsum board.]
2. Gypsum Board to Receive Wall Covering and Carpeting:
   a. Prep and prime surfaces scheduled to receive wall covering with scheduled primer. Refer to Section 09 7200, Wall Covering, for clear acrylic primer to be used at vinyl wall covering.
   b. Sprayed applications of primer shall be back rolled to assure that the primer has thoroughly sealed the surface.

F. Concrete:

1. Cracks, gaps, hollow areas, bug holes, honey combs, voids, fins, form marks and other protrusions or rough edges are to be ground or stoned to provide a smooth continuous surface.
2. Imperfections may require filling.
   a. Patch concrete areas with cracks, gaps, hollow areas or other imperfections with compatible material to provide smooth continuous surface.
   b. Material shall be compatible with and as recommended by the coating manufacturer.
3. Moisture Content:
   a. Prepared surfaces shall not be painted until they have completely cured and have stabilized moisture content within limits required by the coating manufacturer.
   b. Testing for Moisture Vapor Emission Rate (MVER) shall be performed to verify suitability using a moisture meter, Delmhorst or equal, or method described in ASTM D4263.
4. Surface shall be reviewed by Architect after surface preparation is complete and prior to application of primer. Additional patching and/or grinding necessary to provide a visually acceptable surface after application of paint coatings shall be accomplished at no additional cost.

G. Surfaces that cannot be prepared or painted as specified, or to level required by the coating manufacturer, shall be immediately brought to the attention of the Architect, in writing.

1. Starting of work without such notification will be considered acceptance by the Contractor of surfaces involved.
2. Replace unsatisfactory work caused by improper or defective surfaces, as directed by Architect.

3.3 REPAINTING EXISTING INTERIOR SURFACES

A. Interior surfaces required to be repainted, except acoustic tile, shall be prepared as follows.

1. Wash clean with solution of trisodium phosphate in water and thoroughly rinse or wash with approved self-neutralizing detergent.
2. Spackle, patch, sandpaper, repair, spot or partially prime to provide "hold out" for finish coats of paint and otherwise properly prepare as necessary to provide suitable surfaces, reasonably equal to new, over which to apply specified paints.

3.4 REPAINTING EXISTING EXTERIOR SURFACES

A. General:

1. Exterior surfaces required to be re-painted, shall be power washed with surfactant, followed by rinsing to remove all loose coatings, chalk, dirt, efflorescence, oils, and other contaminants that would inhibit bond of new coating.
2. Mold or mildew shall be treated with bleach solution followed by thorough rinsing.
3. Protect openings into interior spaces during power washing including louvers, vents, vent screeds, grilles, to prevent water from entering interior areas including, attics and soffits.

B. Plaster and Concrete Masonry:

1. Remove loose coatings using hand or power tools.
2. Patch plaster areas where original material has cracked, spalled or otherwise been removed with compatible material. Fill areas completely to provide smooth, even surface for refinishing. Spot prime patches prior to proceeding.
3. Patch masonry joints with cracks or missing material with compatible materials.

C. Wood Siding and Trim:

1. Remove loose, flaking or peeling coatings by scraping, chipping or sanding. Feather rough edges by sanding.
2. Surfaces that exhibit moderate to heavy chalk deposits shall be thoroughly cleaned to sound substrate by wire brushing, sanding, or power washing.

3. Spot prime bare wood, exposed nail and fastener heads prior to application of specified prime coat.
4. Glossy surfaces shall be dulled by sanding. Crystalline deposits shall be removed by flushing with water from a hose.
5. Mildew, if present, shall be removed by scrubbing with a commercial mildew wash in accordance with manufacturer's directions.

D. Concrete:

1. Existing exposed concrete scheduled to receive new finish shall be pressure washed or scrubbed to completely remove all bond breakers and oils.
2. Remove loose coatings not removed by pressure washing using hand or power tools.
3. Efflorescence to be removed following procedures recommended by the paint manufacturer.
4. Cracks, gaps, hollow areas, bug holes, honey combs, voids, fins, form marks and other protrusions or rough edges are to be ground or stoned to provide a smooth continuous surface.
5. Imperfections may require filling.
   a. Patch concrete areas with cracks, gaps, hollow areas or other imperfections with compatible material to provide smooth continuous surface.
   b. Material shall be compatible with and as recommended by paint manufacturer.
6. Test for moisture as specified for new concrete.
7. Surface shall be reviewed by Architect after patching is complete and primer is applied. Additional patching and/or grinding necessary to provide a visually acceptable surface shall be accomplished at no additional cost.

E. Stained Wood Surfaces:

1. Thoroughly sand all surfaces.
2. Fill holes, cracks and defects after first coat with color matched putty.
3. Sand between coats to ensure proper adhesion.

F. Casework to be Refinished: For painted casework, refer to Article 3.2. For lacquer or varnish systems, sand all exposed surfaces and both sides of all doors thoroughly.

G. Exterior Ceramic Tile: Abrade surface to receive paint. Thoroughly power-sand all surfaces to remove smooth and/or glossy finish.

3.5 CAULKING

A. Caulk all cracks in finished surfaces.

B. Seal around any wall openings where original sealant is not fully sealing.

C. Provide sealant at material transitions and intersections as required.

3.6 PROTECTION

A. Hardware, fixture canopies, outlet covers, switch plates and other such items shall be removed or loosened and replaced after completing work as required for painting and finishing. Protect items until reinstalled.

B. Protect work and work of others during progress against damage. Leave such work clean and whole. Correct damage by cleaning, repairing, replacing or repainting as directed.

C. Provide necessary drop cloths for protection of work. Cover finished surfaces adjacent to work.

3.7 APPLICATION

A. General:

1. Do not apply initial coating until moisture content of surface is within limitations recommended by paint manufacturer.
2. Apply coatings in accordance with manufacturer's recommendations and the additional requirements, as applicable, of the Architectural Painting Manual Guide Specifications for application methods and paint systems.
3. Flow coat on evenly and well brushed in. Should dead spots occur, touch-up before next coat is applied. Should spots or cracks burn through after final coat is applied, apply additional coats to entire surface as necessary to remedy defects.
4. Rate of application shall be within limits recommended by paint manufacturer for surface involved.

B. Thicknesses: Rate of application shall be within limits recommended by paint manufacturer for surface involved and comply with the following.

1. Paint materials shall be applied in manner to average 1.5 to 3 Dry Mils in thickness for the total number of coats scheduled.
2. Provide Tooke Dry Mill Coating Inspection Gauge manufactured by Micro Metrics Company to the Project Inspector for inspection of finished coating systems if requested.

C. Refinish whole area where portion of finish is not acceptable.

D. Adjust natural finishes as necessary to obtain identical appearance on veneers and solid stock.

E. Equipment adjacent to walls shall be disconnected, using workers skilled in appropriate trades, and moved to permit wall surfaces to be painted. Following completion of painting, they shall be expertly replaced and reconnected.

F. Top and bottom edges of all doors shall receive same paint system finish required for door faces.

G. Do not paint over fire-rating labels, fusible links, or sprinkler heads.

3.8 DEFECTIVE WORK

A. Painter shall be responsible for damage or unsuitable work, including that caused by improperly prepared surfaces. Refinishing shall be at no cost to the Owner. Repair work damaged during construction; touch-up or refinish as necessary any abraded, stained or otherwise damaged surfaces.

3.9 CLEANING AND PROTECTION

A. Thoroughly clean any drips, splatters, spills, splashes, etc., from walls, floor or other surfaces, with no damage to those surfaces.

B. Protect work and materials of this Section prior to and during installation, and protect the installed work and materials of other trades.

C. In the event of damage, make all repairs and replacements necessary to the approval of the Architect at no additional cost to the Owner.

3.10 PAINT SYSTEMS

A. General:

1. Only major areas are scheduled, but miscellaneous and similar items and areas within room or space shall be treated with suitable system.
2. This Specification shall serve as guide and is meant to establish procedure and quality. Confer with the Architect to determine exact finish desired.
3. Number of coats scheduled is minimum. Additional coats shall be applied at no additional cost as required to hide base material completely, produce uniform color, and provide required and satisfactory finish.

B. Gloss and Sheen Ratings: Paint gloss shall be defined as the sheen rating of applied paint, in accordance with the following limits in conformance with Master Painters Institute, Inc. (MPI) Standards according to ASTM D523. Not all of the Gloss Levels are necessarily scheduled or used on this Project.

Gloss Level	Description	Units @ 60 degrees	Units @ 85 degrees
G1	Matte or Flat finish	0 to 5	10 max.
G2	Velvet finish	0 to 10	10 to 35
G3	Eggshell finish	10 to 25	10 to 35
G4	Satin finish	20 to 35	35 min.
G5	Semi-Gloss finish	35 to 70	
G6	Gloss finish	70 to 85	
G7	High-Gloss finish	> 85	

C. Clarification of System Terminology:

1. Interior paint Systems are specified and identified herein by initial letters “INT.”
2. Exterior paint Systems are specified and identified herein by initial letters “EXT.”

3. The numbers following “INT” and “EXT” for each System identifies the substrate to be coated.
4. Initial numbers for each System identify the substrate to be coated summarized as follows with further clarification included with the System description:

CODE	DESCRIPTION
3.1	Concrete
3.2	Cement Plaster
4	Masonry
5	Metal
6	Wood
9.2	Gypsum Board
9.3	Acoustical Panels and Tile

5. The letter following substrate number identifies the general finish coat chemistry summarized as follows:

CODE	DESCRIPTION
A	Standard acrylic
B	Non-bridging vinyl acrylic
C	Epoxy-like acrylic
D	Semi-transparent stain
E	Elastomeric
F	High performance epoxy-like acrylic
G	Lacquer
H	Aliphatic urethane
I	Fire Retardant Intumescent
J	Acrylic Urethane
K	PVA primer
L	Acrylic primer
M	Premium performance acrylic polymer

6. Hyphenated suffix identifies the topcoat gloss level.

3.11 INTERIOR PAINTING SYSTEMS

INT 3.1A-3
Acrylic on Concrete - Gloss Level 3

1	coat	971 AcryPlex	Vinyl Acrylic Primer (if not previously painted)
2	coats	1010 Premium Professional	Latex Eggshell

INT 3.2A-3
Acrylic on Interior Cement Plaster- Gloss Level 3

1	coat	971 AcryPlex	Vinyl Acrylic Primer (if not previously painted)
2	coats	1010 Premium Professional	Latex Eggshell

INT 4.1A-1
Acrylic on Concrete Unit Masonry - Gloss Level 1; at theater stage

1 coat		521 Color Shield	Acrylic Block Filler (if not previously painted)
2 coats		Speedhide 6-753 by PPG Architectural Finishes	Acrylic Latex Flat Black

INT 4.1A-3
Acrylic on Concrete Unit Masonry - Gloss Level 3; unless otherwise indicated.

1 coat		521 Color Shield	Acrylic Block Filler (if not previously painted)
2 coats		1010 Premium Professional	Latex Eggshell

INT 4.1A-5
Acrylic on Concrete Unit Masonry - Gloss Level 5; in toilet rooms / food service areas

1 coat		521 Color Shield	Acrylic Block Filler (if not previously painted)
2 coats		1050 Premium Professional	Latex Semi-Gloss

INT 5.1A-5
Acrylic on Exposed Steel, Not Shop Primed - Gloss Level 5

1 coat		5725 DTM	Acrylic Primer
2 coats		5585 DTM	100% Acrylic Semi-Gloss

Note: Modify scheduled finish coat if lower gloss level is selected by Architect.

INT 6.4A-5
Acrylic on Plywood - Gloss Level 5

1 coat		973 AcryPlex	Acrylic Primer
2 coats		1050 Premium Professional	Latex Semi-Gloss

INT 9.2A-1
Acrylic on Gypsum Board - Gloss Level 1; at theater stage

1 coat		970 AcryPlex	PVA Primer/Sealer
2 coats		Speedhide 6-753 by PPG Architectural Finishes	Acrylic Latex Flat Black

INT 9.2A-3
Acrylic on Gypsum Board, textured finish - Gloss Level 3

1 coat		971 AcryPlex	PVA Primer/Sealer
2 coats		1010 Premium Professional	Latex Eggshell

INT 9.2A-5
Acrylic on Gypsum Board, smooth finish - Gloss Level 5

1 coat		971 AcryPlex	PVA Primer/Sealer
2 coats		1050 Premium Professional	Latex Semi-Gloss

Note: Provide additional topcoat at toilet rooms and food service areas.

3.12 EXTERIOR PAINTING SYSTEMS

EXT 3.1A-2
Acrylic on Concrete - Gloss Level 2

1 coat	247 AcryShield	Acrylic Masonry Primer
2 coats	1210 Premium Professional	100% Acrylic Low Sheen

EXT 3.2A-2
Acrylic on Cement Plaster - Gloss Level 2

1 coat	6001-XXXX	Acrylic Bonding Primer
2 coats	1210 Premium Professional	100% Acrylic Low Sheen

EXT 4.1A-2
Acrylic on Concrete Unit Masonry - Gloss Level 2

1 coat	247 AcryShield	Acrylic Masonry Primer
2 coats	1210 Premium Professional	100% Acrylic Low Sheen

EXT 5.1A-5
Acrylic over Unprimed Steel - Gloss Level 5

1 coat	5725 DTM	Metal Primer
2 coats	1215 Premium Professional	100% Acrylic Semi-Gloss

EXT 5.2A-6
Acrylic Urethane over Epoxy on Shop Primed Steel – Gloss Level 6

1 coat	Rust-Oleum “ROC Prime”	Single component waterborne epoxy primer
1 coat	Rust-Oleum “Metalmax Plus DTM”	Single Component Acrylic Urethane Gloss

Note: Provide additional topcoat if required to achieve manufacturer’s recommended total DFT (primer plus finish coats), or to achieve complete hiding for selected color.

EXT 5.3A-5
Premium Acrylic over Waterborne Primer on Galvanized Metal – Gloss Level 5

Pretreatment	SSPC SP-1	Heavy-duty cleaner
1 coat	5725 DTM	Acrylic Primer
2 coats	1250 AcryShield”	100% Acrylic Semi-Gloss

Note: Provide pretreatment and primer if preparation and primer not applied in shop

EXT 5.4A-5
Acrylic over Waterborne Primer on Aluminum – Gloss Level 5

Pretreatment	Devoe Devprep 88	Heavy-duty cleaner
1 coat	“5725 DTM	Acrylic Primer
2 coats	1215 Premium Professional	100% Acrylic Semi-Gloss

Note: Provide pretreatment and primer if preparation and primer not applied in shop

3.13 MISCELLANEOUS PAINTING

A. Mechanical and Electrical Equipment, Conduits and Piping: Paint exposed items as scheduled using appropriate system for material and whether or not item has been factory-primed.

B. Exposed Insulation-Covered Piping: Size with Arabol, or equal latex type adhesive, and apply 2 coats of semi-gloss enamel.

C. Material Visible through Grilles, Screens, Louvers, Vents and Screens and Exposed Hardware Cloth Screening: Painted flat black to make them as unnoticeable as possible.

D. Mechanical Equipment: Paint mechanical equipment housings where indicated on the Drawings.

END OF SECTION

Statement of General Conformance

THE FOLLOWING DRAWINGS OR SHEETS LISTED ON THE COVER OR INDEX SHEET HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. IT HAS BEEN EXAMINED BY ME FOR:

1) DESIGN INTENT AND APPEARS TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME, AND
2) COORDINATION WITH MY PLANS AND SPECIFICATIONS AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT.

THE STATEMENT OF GENERAL CONFORMANCE "SHALL NOT BE CONSTRUED AS RELIEVING ME OF MY RIGHTS, DUTIES, AND RESPONSIBILITIES UNDER SECTIONS 17302 AND 81138 OF THE EDUCATION CODE AND SECTIONS 4-336, 4-341, AND 4-344" OF TITLE 24, PART 1. (TITLE 24, PART 1, SECTION 4-317 (b))

SIGNATURE

4/21/22
DATE

ARCHITECT OR ENGINEER DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE

Jeffrey Grau
PRINT NAME

C-14648
LICENSE NUMBER

05/31/23
EXPIRATION DATE

LIST COMPLETELY, ITEMS REVIEWED AND ACCEPTED:

PC SHADE STRUCTURE

DESIGN CRITERIA	
DESCRIPTION	DESIGN VALUES
DEAD AND LIVE LOADS	
ROOF LIVE LOAD	20 PSF
ROOF DEAD LOAD (SUPERIMPOSED ON FRAME)	5 PSF MAX
ROOF PANEL DEAD LOAD	M=1.1 PSF, G = 1.2 PSF, S = 1.3 PSF
COLLATERAL DEAD LOAD	M = 3.9 PSF, G = 3.8 PSF, S =3.7 PSF
ROOF SNOW LOAD	
GROUND SNOW LOAD, P_g	20 PSF
RISK CATEGORY	II
ROOF SNOW LOAD: SLOPED, P_s	20 PSF
SITE APPLICATION DSA REVIEWER SHALL VERIFY THE STRUCTURE BE LOCATED AT LEAST 20 FEET FROM ADJACENT STRUCTURE	
SNOW LOAD SLOPE FACTOR, C_s	1.0
SNOW EXPOSURE FACTOR, C_e	1.0
SNOW LOAD IMPORTANCE FACTOR, I_s	1.0
THERMAL FACTOR, C_t	1.2
WIND DESIGN	
BASIC WIND SPEED (3 SECOND GUST), V_{ult}	100 MPH
RISK CATEGORY	II
EXPOSURE CATEGORY	C
FACTORS: K_z, K_{zt}, K_d	0.85, 1, 0.85
$q_h = 0.00256\, K_z\, K_{zt}\, K_d\, V^2$ FOR ALL EAVE HEIGHTS (8', 10' & 12')	18.50 PSF
C_{NW} PER ASCE FIGURE 27.4-5 ROOF ANGLE 18.43 - CLEAR / OBSTRUCTED	CASE A (1.1 / -1.2) CASE B (0.01 / -0.69)
C_{NL} PER ASCE FIGURE 27.4-5 ROOF ANGLE 18.43 - CLEAR / OBSTRUCTED	CASE A (-0.17 / -1.09) CASE B (-0.96 / -1.65)
C_N PER ASCE FIGURE 27.4-7 PARALLEL TO RIDGE - CLEAR / OBSTRUCTED	CASE A (-0.6 / -0.9) CASE B (-0.5 / -0.5)
COMPONENTS & CLADDING - C_N (PRESSURE/SUCTION) CLEAR / OBSTRUCTED	ZONE 3 - (2.29 / -2.11) / (1.0 / -3.0)
	ZONE 2 - (1.77 / -1.63) / (0.8 / -2.3)
	ZONE 1 - (1.15 / -1.05) / (0.5 / -1.5)
SEISMIC DESIGN	
LATERAL FORCE RESISTING SYSTEM	STEEL - ORDINARY CANTILEVER COLUMN
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
SESIMIC IMORTANCE FACTOR, Ie	1.0
SEISMIC SITE CLASS	D
MCE_R SPECTRAL RESPONSE ACCELERATION @ 0.2 s, S_S	2.60
MCE_R SPECTRAL RESPONSE ACCELERATION @ 0.2 s, S_1	0.90
SHORT PERIOD SITE COEFFICIENT, F_a	1.20
LONG PERIOD COEFFICIENT, F_v	1.70
FUNDAMENTAL PERIOD OF THE STRUCTURE, T	0.152 s
DESIGN SPECTRAL RESPONSE ACCELERATION AT SHORT PERIOD, S_{DS}	2.08
DESIGN SPECTRAL RESPONSE ACCELERATION AT SHORT PERIOD, S_{DS} - USED TO DETERMINE Cs (WITH CAP PER ASCE-7 12.8.1.3)	2.08 * 0.70 = 1.456
DESIGN SPECTRAL RESPONSE ACCELERATION AT 1-s PERIODS, S_{D1}	1.02
SEISMIC DESIGN CATEGORY	E
RESPONSE MODIFICATION FACTOR, R	1.25
OVERSTRENGTH FACTOR, Ω	1.25
REDUNDANCY FACTOR, ρ	1.0
HORIZONTAL OR VERTICAL IRREGULARITIES	NONE
SEISMIC RESPONSE COEFFICIENT, Cs (20' WIDE, 30' WIDE, 40' WIDE)	1.16,
DESIGN BASE SHEAR, V (20' WIDE, 30' WIDE, 40' WIDE)	12.73 PSF, 13.41 PSF, 14.65 PSF
ALLOWABLE SOIL BEARING FOR FOUNDATIONS	VARIES - SEE FOUNDATION CHARTS
FLOOD DESIGN - DESIGN IS ASSUMED TO NOT BE IN FLOOD HAZARD AREA	
IF PROJECT IS LOCATED IN A FLOOD ZONE OTHERTHAN ZONE X, A LETTER STAMPED & SIGNED FROM A SOILS ENGINEER IS REQUIRED TO VALIDATE THE ALLOWABLE SOIL VALUES SPECIFIED.	

STRUCTURAL SEPARATION
ALL DEFLECTIONS SHOWN ALSO INCLUDE THE P-DELTA ROTATION PER IR PC-7

DEFLECTIONS ARE FOR (1) STRUCTURE
SOIL CLASSES PER CBC TABLE 1806A.2

MAXIMUM DRIFT δ_{max} SIDE COLUMNS	Soil Class 5	Soil Class 4	Soil Class 3
~~20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)~~	~~2.40~~	2.55	2.65
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.25	2.35	2.45
~~40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)~~	~~2.20~~	2.25	2.20
MINIMUM SEPARATION ($\delta_m = C_d\, \delta_{max}$) $C_d = 1.25$			
~~20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)~~	~~3.00~~	3.19	3.31
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.81	2.94	3.06
~~40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)~~	~~2.75~~	2.81	2.75

MAXIMUM DRIFT δ_{max} CORNER COLUMNS	Soil Class 5	Soil Class 4	Soil Class 3
~~20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)~~	~~2.20~~	2.30	2.40
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.30	2.45	2.50
~~40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)~~	~~2.40~~	2.55	2.65
MINIMUM SEPARATION ($\delta_m = C_d\, \delta_{max}$) $C_d = 1.25$			
~~20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)~~	~~2.75~~	2.88	3.00
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.88	3.06	3.13
~~40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)~~	~~3.00~~	3.19	3.31

MAXIMUM DRIFT δ_{max} END COLUMNS	Soil Class 5	Soil Class 4	Soil Class 3
~~20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)~~	~~1.80~~	1.70	1.75
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.00	2.45	2.25
~~40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)~~	~~2.50~~	2.30	2.80
MINIMUM SEPARATION ($\delta_m = C_d\, \delta_{max}$) $C_d = 1.25$			
~~20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)~~	~~2.00~~	2.13	2.19
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.50	3.06	2.81
~~40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)~~	~~3.10~~	2.88	3.50

(Soil Class 4 and Soil Class 3 columns are crossed out.)

ARCHITECTURAL REQUIREMENTS	
DESCRIPTION	DESIGN VAULES
TYPE OF CONSTRUCTION	II-B
OCCUPANCY CLASSIFICATION	A-3
NUMBER OF STORIES	1
FIRE SPRINKLER SYSTEM	NOT BY ICON/WEIGHT NOT INCLUDED IN DESIGN

RELATED BUILDING CODES AND STANDARDS

TITLE 24 CODES:

2019 CALIFORNIA ADMINISTRATIVE CODE (CAC)..................(PART 1, TITLE 24, CCR)
2019 CALIFORNIA BUILDING CODE (CBC), VOLUMES 1, AND 2.(PART 2, TITLE 24, CCR)
2019 CALIFORNIA ELECTRICAL CODE....................................(PART 3, TITLE 24, CCR)
2019 CALIFORNIA MECHANICAL CODE (CMC).......................(PART 4, TITLE 24, CCR)
2019 CALIFORNIA PLUMBING CODE (CPC)............................(PART 5, TITLE 24, CCR)
2019 CALIFORNIA ENERGY CODE..(PART 6, TITLE 24, CCR)
2019 CALIFORNIA FIRE CODE (CFC) ....(PART 9, TITLE 24, CCR)
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE......(PART 11, TITLE 24, CCR)
2019 CALIFORNIA REFERENCE STANDARDS CODE.............(PART 12, TITLE 24, CCR)

REFERENCE CODE SECTIONS FOR APPLICABLE STANDARDS:
2019 CBC, CHAPTER 35
2019 CFC, CHAPTER 80

SCOPE OF WORK NARRATIVE

THESE DRAWINGS ILLUSTRATE THE FABRICATION AND INSTALLATION REQUIREMENTS FOR A FREE-STANDING PREFABRICATED STEEL SHADE STRUCTURE. THE ENTIRE STRUCTURAL SYSTEM IS COMPRISED OF HOLLOW STRUCTURAL STEEL MEMBERS SUPPORTED BY CONCRETE FOUNDATIONS. THE FLEXIBILITY INCLUDED HEREIN ALLOWS THE STRUCTURE TO COMPLY WITH A WIDE VARIETY OF PROJECT SITES AND LOADING REQUIREMENTS.

GENERAL:

1. GENERAL NOTES AND TYPICAL DETAILS SHALL APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE THEY MAY CONFLICT WITH DETAILS AND NOTES ON OTHER SHEETS. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED SUBJECT TO REVIEW BY THE STRUCTURAL ENGINEER FOR THIS PROJECT.
2. WORK SHALL CONFORM TO THE REQUIREMENTS, AS AMENDED TO DATE, OF THE LATEST ADOPTED EDITION OF THE CBC, C.A.C. TITLE 24, AND ALL OTHER LOCAL, STATE AND FEDERAL REGULATIONS.
3. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER FOR THIS PROJECT PRIOR TO PROCEEDING WITH ANY WORK INVOLVED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE STRUCTURAL ENGINEER FOR THIS PROJECT AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
5. THESE CONSTRUCTION DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, INCLUDING, BUT NOT LIMITED TO, BRACING, TEMPORARY SUPPORTS, AND SHORING. OBSERVATION VISIT TO THE SITE BY FIELD REPRESENTATIVES OF THE ARCHITECT/ENGINEER SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES. ANY SUPPORT SERVICES PERFORMED BY THE ARCHITECT/ENGINEER DURING THE CONSTRUCTION SHALL BE DISTINGUISHED FROM CONSTRUCTION AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ARCHITECT/ENGINEER, WHETHER OF MATERIAL OR WORK, ARE FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DOCUMENTS, BUT DO NOT GUARANTEE CONSTRUCTION.
6. ASTM DESIGNATIONS AND ALL STANDARDS REFER TO THE LATEST AMENDMENTS.
7. CONFORM TO APPLICABLE CAL/OSHA CONSTRUCTION SAFETY REGULATIONS FOR ALL WORK PERFORMED DURING CONSTRUCTION. JOB SITE SAFETY IS STRICTLY THE RESPONSIBILITY OF THE CONTRACTOR AND NOT THE ARCHITECT/ENGINEER OR OWNER.
8. THE ENGINEER AND THEIR CONSULTANTS SHALL HAVE NO RESPONSIBILITY FOR THE DISCOVERY, HANDLING, REMOVAL OR DISPOSAL OF HAZARDOUS MATERIALS AT THE PROJECT SITE, INCLUDING BUT NOT LIMITED TO ASBESTOS, ASBESTOS PRODUCTS, POLYCHLORINATED BIPHENYL (PCB) OR OTHER TOXIC SUBSTANCES.
9. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS, OR IF A CHANGE IN THE SCOPE OF WORK IS PROPOSED, A CONSTRUCTION CHANGE DOCUMENT DETAILING AND SPECIFYING THE REQUIRED CHANGE(S) SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK.
10. THE SCHOOL DISTRICT INSPECTOR ON RECORD SHALL INSPECT AND APPROVE THE ERECTED FRAME PRIOR TO ROOF INSTALLATION.
11. SEE REQUIREMENTS FOR LOCATION IN ANY FIRE HAZARD SEVERITY ZONE FOR WILDLAND URBAN INTERFACE AREAS (WUI) AS SPECIFIED IN THE APPLICABLE VERSION OF THE CALIFORNIA BUILDING CODE. PROVIDE PROTECTION AND DETAILS OF ALL AREAS COMPLYING WITH THE WUI REQUIREMENTS.
12. LOCATING THIS STRUCTURE CLOSER THAN 20 FEET TO OTHER STRUCTURES MAY AFFECT THE ALLOWABLE AREA FOR THE EXISTING CONSTRUCTION PER THE APPLICABLE VERSION OF THE CALIFORNIA BUILDING CODE.
13. VIEWS AND DETAILS ARE NOT DRAWN TO SCALE (UNLESS NOTED OTHERWISE). DO NOT SCALE THESE DRAWINGS.

STRUCTURAL AND MISCELLANEOUS STEEL:

1. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AMERICAN INSTITUE OF STEEL CONSTRUCTION (AISC) SPECIFICATION MANUAL REFERENCED BY THE LATEST EDITION OF THE CALIFORNIA BUILDING CODE.
2. PIPE SECTIONS SHALL CONFORM TO ASTM A53, Fy = 35 KSI, GRADE B OR A501 UNLESS NOTED OTHERWISE.
3. STRUCTURAL TUBING (HSS SHAPES) SHALL CONFORM TO ASTM A-500, GRADE B (OR C), Fy = 46 KSI (MIN).
4. IF MATERIAL AVAILABILITY IS LIMITED, MEMBER THICKNESS CAN BE INCREASED BEYOND WHAT IS SHOWN IN THESE DRAWINGS (MAXIMUM INCREASE OF 1/8").
5. ALL CHANNELS, ANGLES, AND MISC. STEEL SHALL CONFORM TO ASTM A-36, Fy = 36 KSI.
6. ALL PLATE STEEL SHALL CONFORM TO ASTM A-572, Fy= 50 KSI.
7. ALL COLD FORM STEEL SHALL CONFORM TO ASTM A-653, CS = TYPE B, Fy = 50 KSI.
8. STRUCTURAL STEEL AND DECK SHALL BE IDENTIFIED FOR CONFORMITY PER CBC 2202A.1.
9. ALL ROOF DECKS SHALL HAVE KYNAR 500 METAL COATING.
10. ALL ROOF DECKS SHALL CONFORM TO ASTM A-792, Fy = 50 KSI.

INSTRUCTIONS FOR ARCHITECTS SUBMITTING THESE PRE-CHECKED DRAWING TO DSA:

BEFORE SUBMITTING THESE PRE-CHECKED DRAWINGS FOR YOUR PROJECT, FOLLOW THE STEPS BELOW TO PROPERLY DEFINE THE APPROVED OPTIONS:

STEP 1: SELECT FRAME DIMENSIONS FOR YOUR PROJECT
-GABLE STRUCTURES UP TO 20' WIDE USE THE "RG 20" BASE FRAME
-GABLE STRUCTURES UP TO 30' WIDE USE THE "RG 30" BASE FRAME
-GABLE STRUCTURES UP TO 40' WIDE USE THE "RG 40" BASE FRAME
-MAXIMUM WIDTH IS 40' (SEE "ARCHITECTURAL VIEWS" SHEET FOR REFERENCE)
-THE 24', 44', 64', 84' AND 104' LENGTHS ARE SUGGESTED BECAUSE THEY ARE THE MOST COMMON (20' BAYS ARE THE MOST ECONOMICAL)
-FRAME LENGTHS ASSUME 2' OVERHANGS (UNO BY ARCHITECT - 2' MAX DIMENSION)

STEP 2: SELECT ROOF DECK FOR YOUR PROJECT
-"M" REPRESENTS McELROY METAL "MULTI-RIB" ROOF PANEL
-"G" REPRESENTS McELROY METAL "MEGA-RIB" ROOF PANEL
-"S" REPRESENTS McELROY METAL "MEDALLION-LOK" 16" STANDING SEAM ROOF PANEL

STEP 3: IDENTIFY THE Ss ACCELERATION (g) FOR YOUR PROJECT
-Ss VALUE DETERMINES THE REQUIRED SEISMIC DESIGN FORCES
-Ss VALUE DEPENDS ON THE PROJECTS GEOGRAPHICAL LOCATION (VALUES RANGE FROM 0.00 TO 3.73)

STEP 4: IDENTIFY THE Ss REGION FOR YOUR PROJECT
-THE REGIONS ARE DEPENDANT ON THE Ss VALUE DETERMINED IN STEP 3
-THE Ss REGION DICTATES THE MAXIMUM DEAD LOAD PERMITTED ON THE FRAME (SEE TABLE TO RIGHT)

STEP 5: IDENTIFY THE ROOF DEAD LOAD FOR YOUR PROJECT
-THE ROOF DECK DEAD LOAD WILL ALWAYS BE INCLUDED
-THE COLLATERAL LOAD REPRESENTS ADDITIONAL LOAD THAT CAN BE SUPPORTED BY THE FRAME
-BE SURE THE TOTAL ROOF DEAD LOAD FOR YOUR PROJECT IS LESS THAN OR EQUAL TO THE MAX DEAD LOAD SHOWN IN STEP 4 FOR YOUR Ss VALUE
-Sds VALUE USED IN CALCULATION IS THE CAPPED Sds (SEE DESIGN CRITERIA)

STEP 6: IDENTIFY THE FOUNDATION REQUIREMENTS FOR YOUR PROJECT
-IDENTIFY SOIL CLASS FOR PROJECT SITE PER SITE SPECIFIC SOIL CONDITIONS
-USE THIS TO SELECT CORRECT FOUNDATION SIZE ON FOUNDATION SHEET

STEP 7: SELECT MISCELLANEOUS OPTIONS FOR YOUR PROJECT
-MAXIMUM CLEAR HEIGHT IS 12'-0"; (SEE "ARCHITECTURAL VIEWS" SHEET FOR REFERENCE)
-MARK UP PC DRAWINGS WITH SIZE AND LOCATION OF CUTOUTS BEFORE SUBMITTING TO DSA

STEP 8: SELECT APPLICABLE SHEET INDEX FOR YOUR PROJECT
-REFERENCE THE BASE FRAME (STEP 1) AND THE ROOF PANEL TYPE (STEP 2)
-IDENTIFY THE APPLICABLE SHEET INDEX

STEP 9: INCLUDE APPLICABLE SHEETS WITH YOUR DSA SUBMITTAL
-INCLUDE 'MISC DESIGN OPTIONS' SHEET FOR PROJECTS WITHOUT ELECTRICAL CUTOUTS OR GUTTERS

NOTICE OF DISCLAIMER FOR STRUCTURAL ENGINEERING RESPONSIBILITY

1. PER TITLE 24, PART 1, SECTION 4-316(e) OF THE CALIFORNIA CODE OF REGULATIONS, THIS NOTICE SHALL BE GIVEN TO DSA PRIOR TO THE APPROVAL OF PLANS AND SPECIFICATIONS.
2. FOR THE SITE SPECIFIC PROJECT, J. R. MILLER & ASSOCIATES IS NOT THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE.
3. FOR THE SITE SPECIFIC PROJECT, J.R. MILLER & ASSOCIATES' RESPONSIBILITY IS LIMITED TO THE PREPARATION OF THE PLANS AND SPECIFICATIONS FOR THE SHELTERS OF THIS PC ONLY.
4. STRUCTURAL OBSERVATION OF CONSTRUCTION IS SPECIFICALLY EXCLUDED FROM J.R. MILLER & ASSOCIATES' RESPONSIBILITY FOR THE SITE SPECIFIC PROJECT.
5. ALL CONSTRUCTION ACTIVITIES RELATED TO STRUCTURAL ENGINEERING SHALL BE DELEGATED TO A QUALIFIED ENGINEER BY THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE. THESE ACTIVITIES INCLUDE, BUT ARE NOT LIMITED TO, APPROVAL OF INSPECTOR QUALIFICATIONS, STRUCTURAL OBSERVATION OF CONSTRUCTION, REVIEW OF INSPECTION REPORTS, AND SIGNING OFF OF THE VERIFIED REPORT FOR COMPLETED WORK.
6. J.R. MILLER & ASSOCIATES WILL BE RESPONSIBLE FOR RESPONDING TO QUESTIONS PERTAINING TO THE PLANS AND SPECIFICATIONS FOR THE SHELTERS OF THIS PC WHICH ARISE DURING PLAN REVIEW AND CONSTRUCTION.

WELDING:

1. ALL WELDING SHALL COMPLY WITH AWS D1.1 SPECIFICATIONS AND SHALL BE DONE BY AWS QUALIFIED WELDERS CERTIFIED FOR THE TYPE OF WELDING TO BE PERFORMED AS REQUIRED BY DSA.
2. ALL WELDING SHALL BE DONE BY GAS METAL ARC PROCESS WITH E70XX ELECTRODES. FLUX CORE ARC WELD SHALL CONFORM TO CHARPY NOTCH TOUGHNESS RATING OF 20 ft-lb @ (0° F).
3. ALL WELDING SHALL BE DONE IN THE SHOP WITH REQUIRED INSPECTION, PRE-APPROVED BY DSA, TO ENSURE PROPER MATERIAL ID AND WELDING.
4. WELD FILLER METAL MANUFACTURER SHALL PROVIDE WRITTEN CERTIFICATION OF COMPLIANCE WITH CODE AND SPECIFICATIONS.

BOLTING:

1. ALL BOLTS SHOWN ON THESE DRAWINGS ARE ASTM F3125 GRADE A325 HIGH STRENGTH BOLTS (UNO), WITH THE NUTS CONFORMING TO ASTM A-563.
2. HIGH STRENGTH BOLTS SHALL BE VERIFIED AND INSPECTED PER CBC 1705A2.1.
3. BEFORE ERECTING THE FRAME, VERIFY ALL BOLTS AND NUTS ARE CLEAN OF DEBRIS AND BURRS - INCLUDING THE HARDWARE ALREADY FASTENED INSIDE THE MEMBERS. CHASING SOME OF THE BOLTS AND NUTS MAY BE REQUIRED.
4. HARDENED STEEL WASHERS SHALL CONFORM TO ASTM F-436.
5. THE BOLTING INSTALLATION REQUIREMENTS OUTLINED BELOW ARE CRITICAL TO THE STRUCTURE'S DESIGN AND PERFORMANCE. THE INSTALLER IS REQUIRED TO COORDINATE THIS PHASE OF CONSTRUCTION WITH THE SPECIAL BOLTING INSPECTOR AND THE INSPECTOR OF RECORD PRIOR TO THE ERECTION OF THE FRAME. ALL BOLTS SHALL BE INSTALLED AND INSPECTED PER THE APPLICABLE VERSION OF AISC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS", CBC 1705A.2.1; AISC 341-16 J7; AISC 360-16 N5.6.
   A)PRETENSIONED JOINTS MUST BE INSTALLED AND INSPECTED TO MEET ONE OF THE FOLLOWING REQUIREMENTS:
      1. TURN-OF-NUT PRETENSIONING
      2. CALIBRATED WRENCH PRETENSIONING
      3. DIRECT-TENSION-INDICATOR PRETENSIONING (CONTRACTOR RESPONSIBLE FOR PURCHASE OF REQUIRED WASHERS)

FOUNDATIONS:

1. ALLOWABLE SOIL PRESSURES ASSUME CLASS 5 SOIL CLASSIFICATION PER CBC TABLE 1806A, UNLESS NOTED OTHERWISE.
2. PER CBC SECTION 1803A.2, GEOTECHNICAL REPORTS ARE NOT REQUIRED FOR ONE-STORY LIGHT-STEEL FRAME BUILDINGS OF TYPE II CONSTRUCTION AND 4,000 SQUARE FOOT OR LESS IN FLOOR AREA AND NOT LOCATED WITHIN EARTHQUAKE FAULT ZONESOR SIESMIC HAZARD ZONES AS SHOWN ON THE MOST RECENT MAPS PUBLISHED BY THE CGS. ALLOWABLE FOUNDATION AND LATERAL SOIL PRESSURE VALUES MAY BE DETERMINED FROM TABLE 1806A.2.
3. FILL AND BACKFILL SHALL BE COMPACTED TO 95% OF MAX. DENSITY IN ACCORDANCE WITH ASTM TEST METHOD D-1557 OR AS RECOMMENDED BY THE GEO-TECH ENGINEER. FLOODING NOT PERMITTED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING, ETC. NECESSARY TO SUPPORT CUT AND/OR FILL BANKS DURING EXCAVATION, AND FORMING AND PLACEMENT OF CONCRETE.
5. MINIMUM SETBACK FROM TOE OF SLOPE ON AN ASCENDING SLOPE SHALL BE 15 FEET AND MINIMUM SETBACK FROM TOE OF SLOPE ON A DESCENDING SLOPE SHALL BE 40 FEET
6. PER CBC SECTION 1803A.6, GEOHAZARD REPORTS ARE NOT REQUIRED FOR ONE-STORY LIGHT-STEEL FRAME BUILDINGS OF TYPE II CONSTRUCTION AND 4,000 SQUARE FOOT OR LESS IN FLOOR AREA AND NOT LOCATED WITHIN EARTHQUAKE FAULT ZONESOR SIESMIC HAZARD ZONES AS SHOWN ON THE MOST RECENT MAPS PUBLISHED BY THE CGS.
7. GEOHAZRD REPORTS ARE TO COMPLY WITH DSA IR A-4 PER IR-7 SECTION 1.8
8. SITE SPECIFIC GEOTECHNICAL REPORT IS REQUIRED AT THE TIME OF SITE APPLICATION IS USING OTHER THAN CLASS 5 SOIL, PER DSA IR PC-7
9. LATERAL BEARING HAS BEEN INCREASED PER CBC 1806A.3.4 & HAS BEEN DESIGNED FOR P-DELTA EFFECTS

CONCRETE:

1. MIX DESIGN REQUIREMENTS: (NORMAL WEIGHT CONCRETE)

STRENGTH Pc (28 DAYS)	W/C RATIO (NON-AIR ENTRAINED)	W/C RATIO (AIR ENTRAINED)	SLUMP (±1")	UNIT WEIGHT (NORMAL WEIGHT)
4500 PSI	0.44	0.35	3"	150 PCF

2. CONCRETE MIX DESIGN PARAMETERS ARE GOOD FOR EXPOSURE CATEGORIES F0, F1 & F2. THE AIR ENTRAINMENT FOR THESE CATEGORIES SHALL BE AS FOLLOWS: F0-0, F1-4.5, F2-6
3. AGGREGATES SHALL CONFORM TO THE ASTM C-33 WITH PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN 0.005. MAX AGGREGATE SIZE = 1".
4. CEMENT SHALL CONFORM TO ASTM C-150 (TYPE V) UNLESS NOTED OTHERWISE ON THE DRAWINGS.
5. CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR A MINIMUM OF FIVE DAYS AFTER PLACEMENT. ALTERNATE METHODS WILL BE APPROVED IF SATISFACTORY PERFORMANCE CAN BE ASSURED.
6. CONCRETE SHALL NOT FREE FALL MORE THAN FIVE FEET.
7. CONCRETE DURABILITY SHALL BE PER CBC 1904A.1 & ACI 318-14 CHAPTER 19.
8. CONCRETE SHALL BE TESTED PER CBC 1903A, TABLE 1705A.3. AND ACI 318-14 SECTION 26.12.

STEP 10: IDENTIFY PROJECT NAME AND SCHOOL DISTRICT

PROJECT NAME:	SCHOOL DISTRICT:
SHADE STRUCTURE AT TAHOE ELEMENTARY SCHOOL	SACRAMENTO CITY UNIFIED SCHOOL DISTRCIT

STEP 1

FRAME DIMENSIONS					
	SUGGESTED				OTHER
FRAME WIDTH	[ ] 20'	[X] 30'	[ ] 40'		[ ] (40' MAX)
FRAME LENGTH	[ ] 44'	[X] 64'	[ ] 84'	[ ] 104'	[ ] (NO MAX)

STEP 2

ROOF PANEL	
ROOF PANEL TYPE	[ ] M [ ] G [X] S

STEP 3

PROJECT SITE - Ss ACCELERATION (g)
0.539

STEP 4

Ss REGION			
		Ss REGIONS	MAX DEAD LOAD
DESCRIPTION	X	0 < Ss <= 2.14	5 PSF
		2.14 < Ss <= 2.50	5 PSF
		2.50 < Ss <= 2.75	5 PSF
		2.75 < Ss <= 3.00	4 PSF
		Ss > 3.73 MAX	3 PSF

STEP 5

TOTAL ROOF DEAD LOAD		
	DEAD LOAD	EXAMPLES
ROOF DECK	1.3 PSF	M=1.1PSF; G=1.2PSF ;S=1.3PSF (SEE STEP 2)
COLLATERAL	0 PSF	LIGHTING, ETC
TOTAL	1.3 PSF	ADD ROOF DECK AND COLLATERAL LOADS (MAX 5 PSF)

CONSTRUCTION NOTES

1. A DSA-CERTIFIED CLASS 3 PROJECT INSPECTOR IS REQUIRED FOR THIS PROJECT.
2. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY DSA, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
3. A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF WORK, THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.
4. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
5. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS ARE THAT ALL THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK, (SECTION 4-317(c), PART 1, TITLE 24, CCR)
6. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES

REINFORCING STEEL:

1. REINFORCING STEEL SHALL BE DEFORMED STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-615, AS FOLLOWS:
   GR 60: (#4 BARS AND LARGER)
   GR 40: (#3 BARS)
2. DETAILING, FABRICATION, AND ERECTION OF REINFORCING BARS SHALL CONFORM TO THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCING CONCRETE STRUCTURES."
3. MIN. COVER FOR CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS:
   A. CAST AGAINST EARTH ....3"
   B. CAST AGAINST FORM BELOW GRADE ....2"
   C. FORMED SLABS (#11 BAR & SMALLER)........................3/4"
   D. SLABS ON GRADE (FROM TOP OF SLAB)....................1"
4. BARS SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIAL LIKELY TO IMPAIR BOND. BENDS SHALL BE MADE COLD.
5. REINFORCING SHALL BE LAP SPLICED PER ACI 318-14 SECTION 25.5.
6. PRIOR TO PLACING OF CONCRETE, REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE WELL SECURED IN POSITION.
7. WELDING OF REINFORCING IS NOT ALLOWED.
8. REINFORCING STEEL SHALL BE INSPECTED PER CBC 1705A.3.

POWDER-COAT FINISH SYSTEM:

ALL BUILDINGS THAT HAVE A POWDER-COATED FINISH SHALL MEET THE FOLLOWING SPECIFICATIONS:
1. THE STEEL FRAME SHALL BE SHOT-BLASTED TO A NEAR WHITE CONDITION PER SSPC-10 SPECIFICATIONS.
2. THE STEEL SHALL BE WASHED IN A ZINC PHOSPHATE IN AN MINIMUM EIGHT STAGE ELECTRO DEPOSITION PRE-TREATEMENT PROCESS.
3. IMMEDIATELY FOLLOWING PRE-TREATMENT THE STEEL SHALL BE TOTALLY IMMERSED IN A LIQUID EPOXY PRIMER(E-COAT) AND COATED TO A UNIFORM THICKNESS OF A MINIMUM OF 0.7 TO 0.9 MILS. THE E-COATING SHALL PROVIDE A MINIMUM OF 1000 HOURS OF SALT SPRAY CORROSION PROTECTION TO THE STEEL.
4. THE STEEL SHALL THEN HAVE A TGIC POLYESTER COLOR COAT APPLIED OVER THE E-COATED SURFACE.
5. THE COLOR COAT SHALL THEN HAVE A CLEAR TGIC COATING APPLIED TO SEAL IN THE COLOR COAT AND RESIST ULTRAVIOLET LIGHT, TO HELP PREVENT FADING.
6. THE FINISH THICKNESS OF THESE THREE APPLICATIONS SHALL BE A MINIMUM OF 8 TO 12 MILS.
7. ALL CARBON STEEL MEMBERS (COLUMNS, BEAMS, PLATES, ETC.) NOT POWDER-COATED SHALL BE PAINTED WITH PRIME COAT PER THE "AISC CODE OF STANDARD PRACTICE" AND THE "AISC SPECIFICATION SECTION M3"(UNLESS NOTED OTHERWISE).

ABBREVIATIONS:			
ACI	AMERICAN CONCRETE INSTITUTE	MPH	MILES PER HOUR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	M	MULTI-RIB ROOF PANEL (MCELROY)
ASM	ASSEMBLY (INTERNAL REFERENCE)	NTS	NOT TO SCALE
ASTM	AMERICAN SOCIETY FOR TESTING AND MAT'LS	NO	NUMBER
AWS	AMERICAN WELDING SOCIETY	OC	ON CENTER
CBC	CALIFORNIA BUILDING CODE	OSHA	OCCUPATIONAL HEALTH AND SAFETY ADMIN
CJP	COMPLETE JOINT PENETRATION	PCF	POUNDS PER CUBIC FOOT
CLR	CLEAR	PJ	PRETENSIONED JOINT
DEG	DEGREE	PLCS	PLACES
DIA	DIAMETER	PLT	PLATE
DIM	DIMENSION	PSF	POUNDS PER SQUARE FOOT
DSA	DIVISION OF THE STATE ARCHITECT	PSI	POUNDS PER SQUARE INCH
EQ	EQUAL	QTY	QUANTITY
FT	FEET	REF	REFERENCE
GA	GAGE	SQ	SQUARE
IN	INCHES	SS	STANDING SEAM ROOF PANEL (MCELROY)
KSI	KIPS PER SQUARE INCH	TYP	TYPICAL
MAX	MAXIMUM	UNO	UNLESS NOTED OTHERWISE
MIN	MINIMUM	USGS	U.S. GEOLOGICAL SURVEY
MISC	MISCELLANEOUS	W/	WITH

STEP 6

FOUNDATION REQUIREMENTS		
SOIL CLASS 5 (BEARING)-1500 PSF [X]	SOIL CLASS 4 (BEARING)-2000 PSF [ ]	SOIL CLASS 3 (BEARING)-3000 PSF [ ]
SOIL CLASS 5 (LATERAL BEARING)-100 PSF	SOIL CLASS 4 (LATERAL BEARING)-150 PSF	SOIL CLASS 3 (LATERAL BEARING)-200 PSF

STEP 7

MISCELLANEOUS		
	DESIGN OPTIONS	
CLEAR HEIGHT	[ ] 8' [X] 10' [ ] 12'	[ ] ' (12' MAX)
ELECTRICAL CUTOUTS	[X] YES	[ ] NO
GUTTERS	[X] YES	[ ] NO

STEP 8

SHEET INDEX												
BASE FRAME		RG 20				RG 30				RG 40		
ROOF PANEL TYPE		M	G	S		M	G	S		M	G	S
SELECT ONE		[ ]	[ ]	[ ]		[ ]	[ ]	[X]		[ ]	[ ]	[ ]
GENERAL NOTES		LS1.0	LS1.0	LS1.0		LS1.0	LS1.0	LS1.0		LS1.0	LS1.0	LS1.0
DSA 103 EXAMPLE		LS1.1	LS1.1	LS1.1		LS1.1	LS1.1	LS1.1		LS1.1	LS1.1	LS1.1
FOUNDATION PLAN		LS2.0	LS2.0	LS2.0		LS3.0	LS3.0	LS3.0		LS4.0	LS4.0	LS4.0
FRAMING PLAN		LS2.1	LS2.1	LS2.1		LS3.1	LS3.1	LS3.1		LS4.1	LS4.1	LS4.1
FRAME CONNECTION DETAILS		LS2.1	LS2.1	LS2.1		LS3.1	LS3.1	LS3.1		LS4.2	LS4.2	LS4.2
ROOFING LAYOUT & DETAILS		LS2.2	LS2.3	LS2.4		LS3.2	LS3.3	LS3.4		LS4.3	LS4.4	LS4.5
MISC DESIGN OPTIONS		LS5.0	LS5.0	LS5.0		LS5.0	LS5.0	LS5.0		LS5.0	LS5.0	LS5.0

DESIGN CRITERIA FOR 3110 60TH STREET, SACRAMENTO, CA 95820	
DESCRIPTION	DESIGN VALUES
WIND DESIGN	
BASIC WIND SPEED (3 SECOND GUST), V_{ult}	94 MPH
RISK CATEGORY	II
EXPOSURE CATEGORY	C
SEISMIC DESIGN	
SEISMIC SITE CLASS	D
Ss	0.539

*All information provided by https://asce7hazardtool.online/ and https://seismicmaps.org/

PRE-CHECK (PC) DOCUMENT
Code: 2019 CBC
A separate project application for construction is required.

ICON STD	RH/DSA-PC
DRAWN BY	ANGEL
DATE	4/2/2021
REV	
REV DATE	

JRMA
ARCHITECTS ENGINEERS
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REGISTERED PROFESSIONAL ENGINEER MICHAEL D. LOCK S4092 STRUCTURAL STATE OF CALIFORNIA
07/29/2021

GENERAL INFO

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LS1.0

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SHADE STRUCTURE AT TAHOE ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

△ Revision

GENERAL INFO

PROJECT NO.	21-1504.07
DATE:	4/7/22
SHEET	LS1.0

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2019 CBC

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DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

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DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

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DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

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DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

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DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC

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DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC

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DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC

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DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Steel and Aluminum), 2019 CBC

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DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS(SIGNATURE), 2019 CBC

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DSA 103-19: LIST OF REQUIRED VERIFIED REPORTS, CBC 2019

Page 11 of 11

FOR ALL TESTING AND INSPECTION ITEMS SEE THE DSA APPROVED 103 FOR THIS PROJECT.

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-120013 PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑ CG ☐
DATE: 08/06/2021

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 02-119973 INC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 04/25/2022

ICON STD	RH/DSA-PC
DRAWN BY	ANGEL
DATE	4/2/2021
REV	
REV DATE	

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DSA 103

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SHADE STRUCTURE AT TAHOE ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

△ Revision

DSA 103

PROJECT NO.	21-1504.07
DATE:	4/7/22
SHEET	**LS1.1**

AD0.03

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 02-119973 INC:
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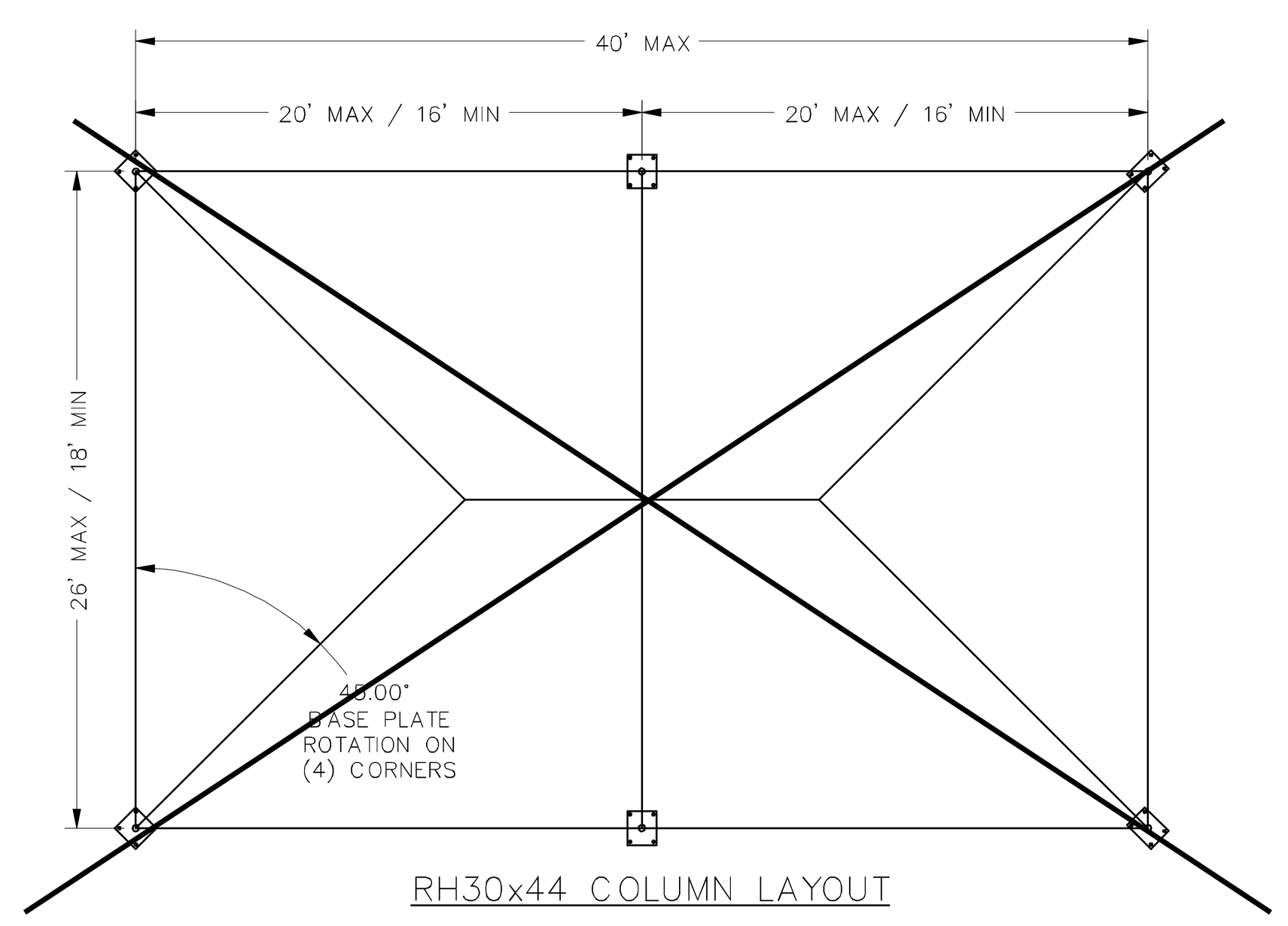
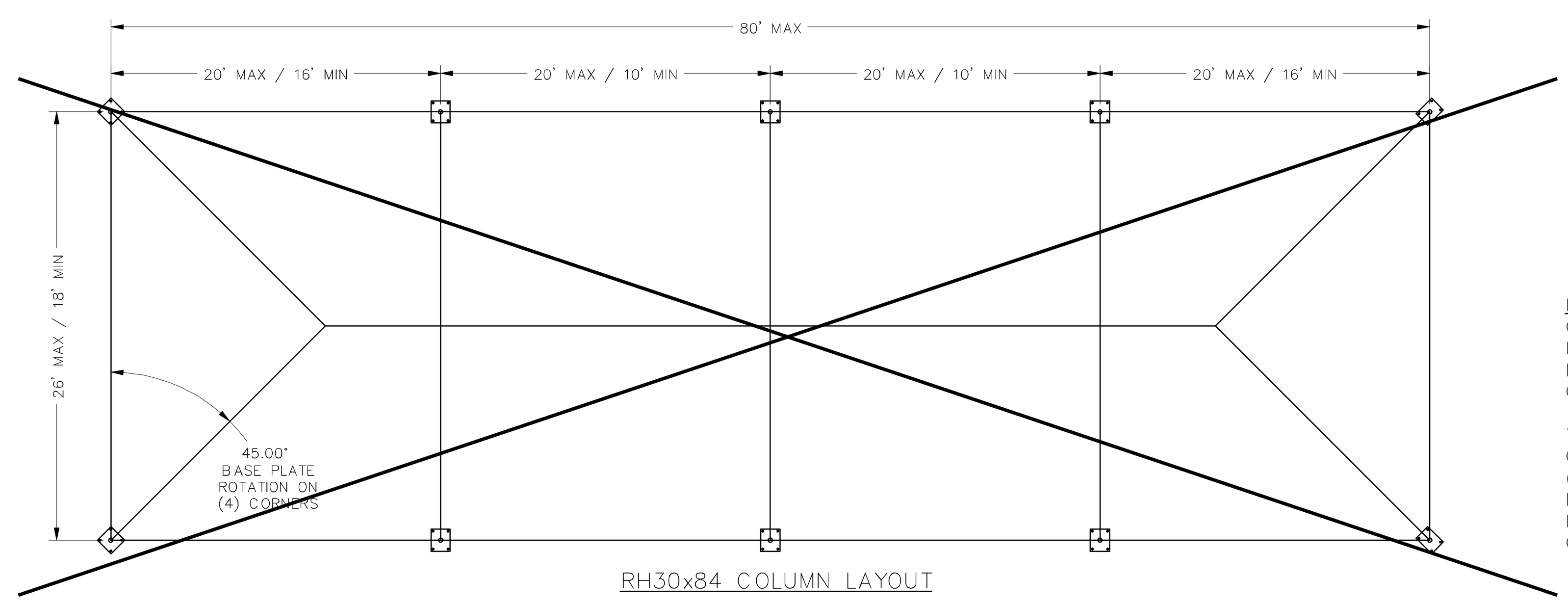
DATE: 04/25/2022



RH30x44 COLUMN LAYOUT
(2 BAYS)

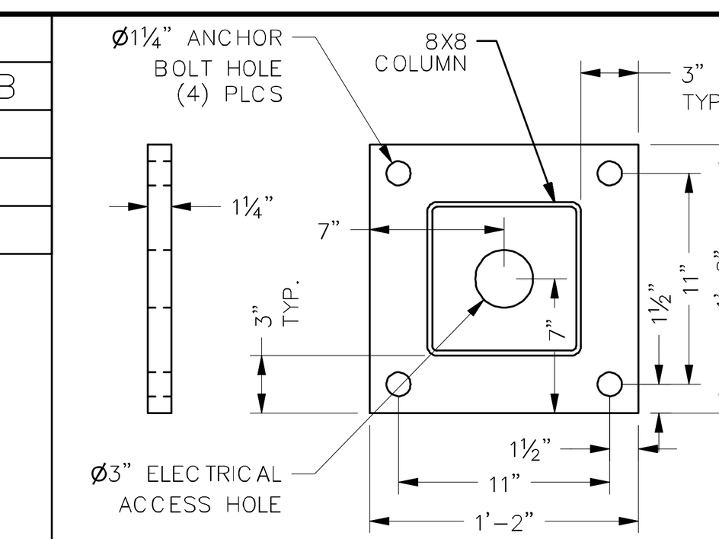


RH30x84 COLUMN LAYOUT
(4 BAYS)

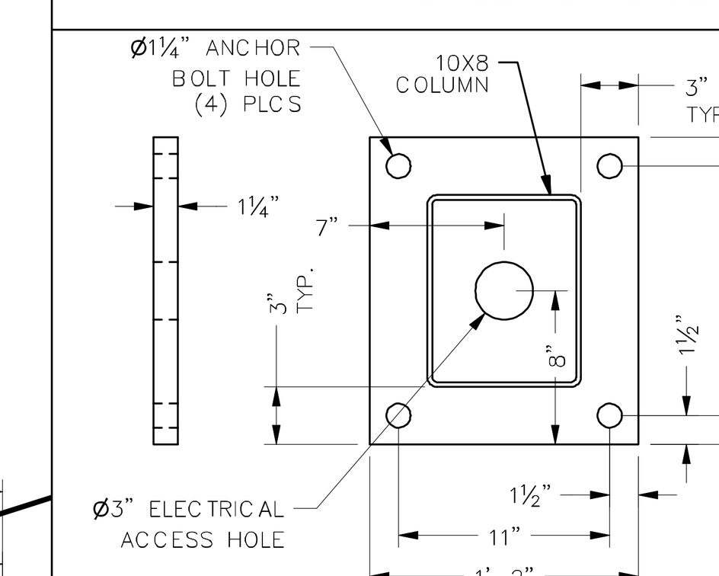
BASE PLATE LOCATION		
	DETAIL A	DETAIL B
8'	BP1	BP2
10'	BP1	BP2
12'	BP2	BP3

NOTES:
COLUMN SIZE AND LOCATION WILL VARY DEPENDING ON MODEL TYPE ORDERED. PLEASE REFER TO JOB SPECIFIC BILL OF MATERIALS AND INSTALLATION MANUAL FOR CORRECT PLACEMENT AND SIZE.

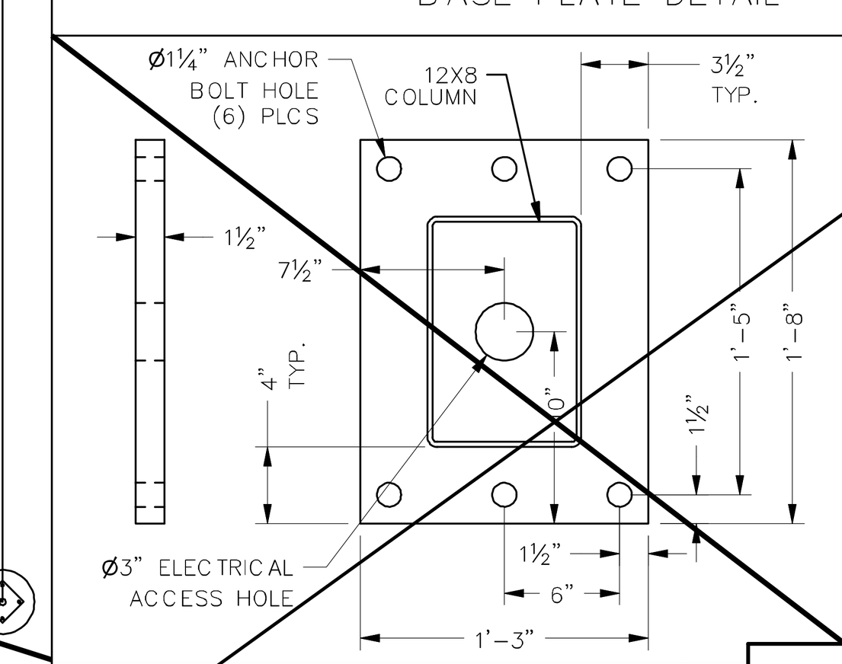
WHERE CONCRETE SLAB SPECIFIED PORTLAND CEMENT CONCRETE PAVING SHALL HAVE A MEDIUM SALTED (MEDIUM BROOM) FINISH ON ALL SURFACES SLOPED LESS THAN 6% AND SLIP RESISTANT (HEAVY BROOM FINISH) ON ALL SURFACES SLOPED GREATER THAN 6% CBC SECTION 1133B.7.1



8X8 COLUMN
BASE PLATE DETAIL
BP1



10X8 COLUMN
BASE PLATE DETAIL
BP2



12X8 COLUMN
BASE PLATE DETAIL
BP3

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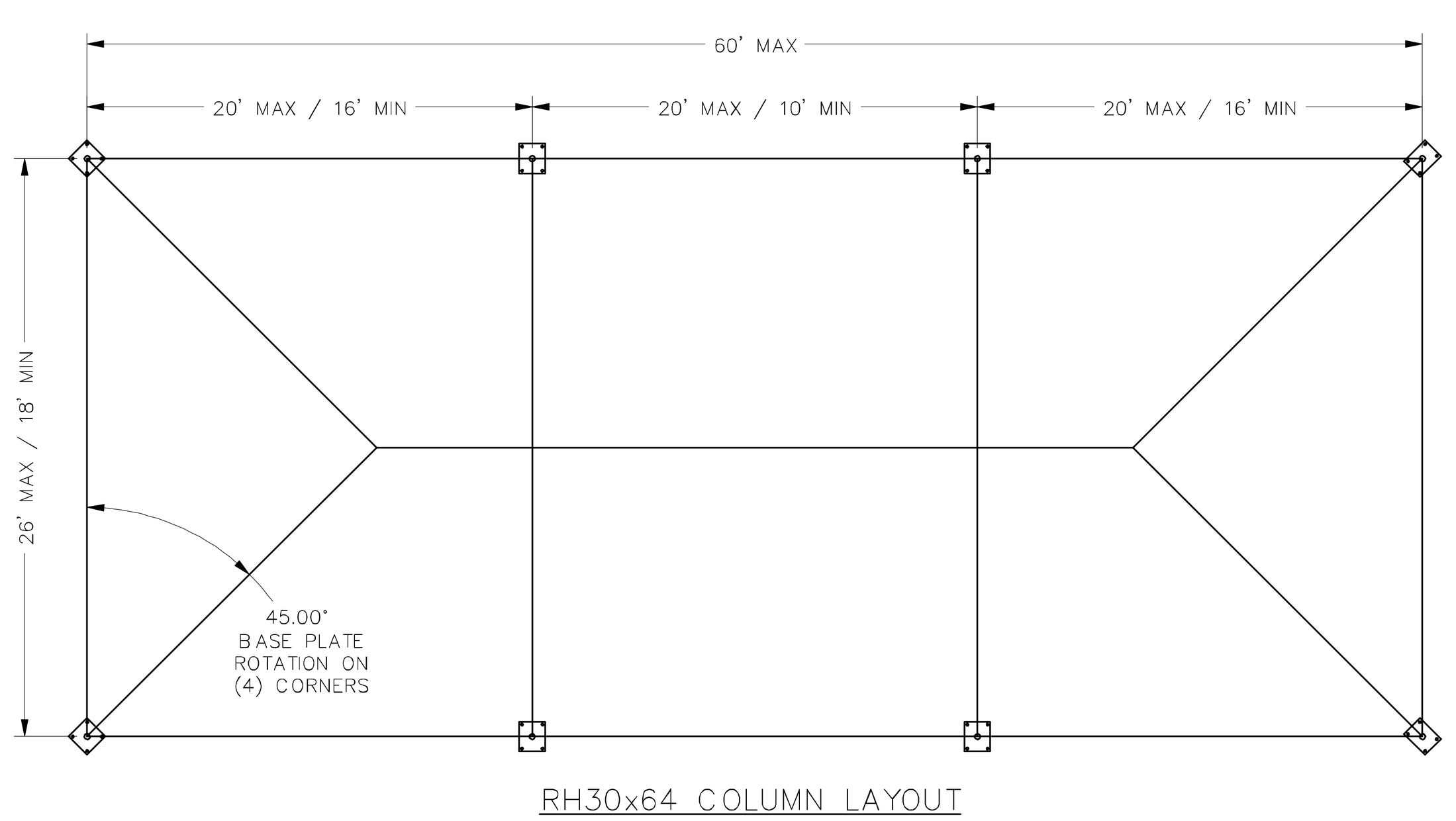
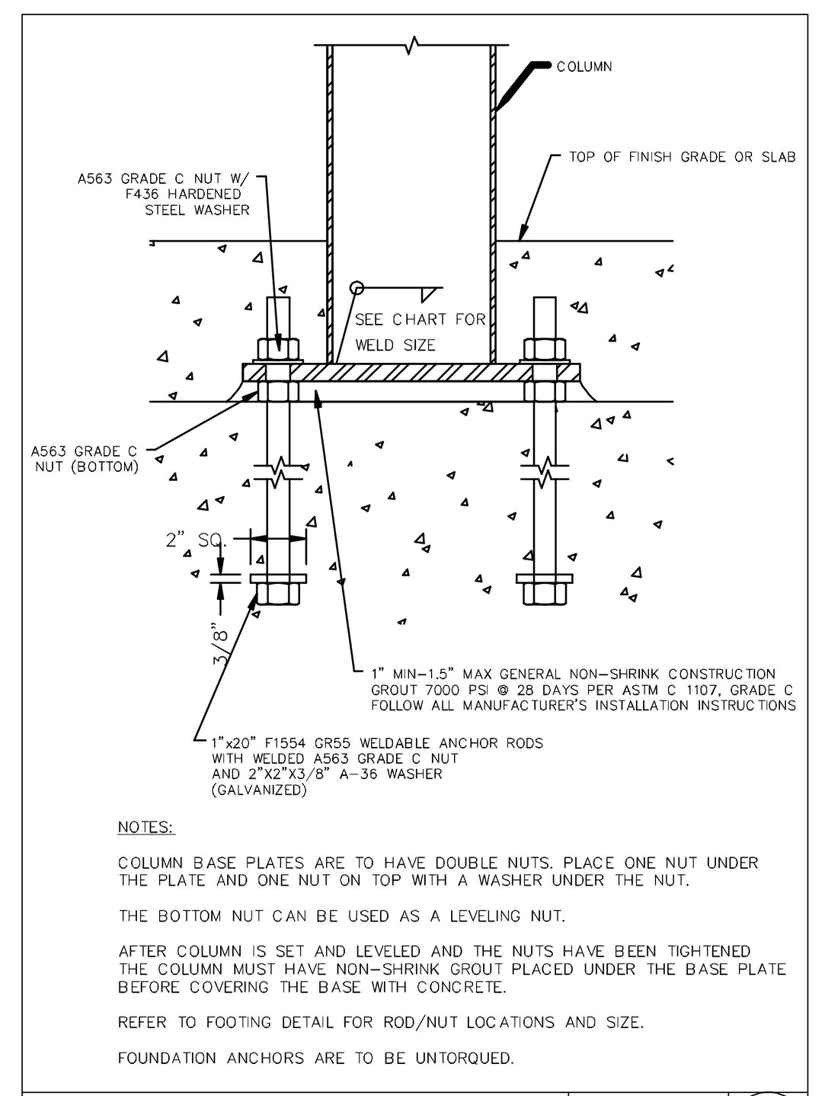
DATE	4/2/2021
REV	
REV DATE	

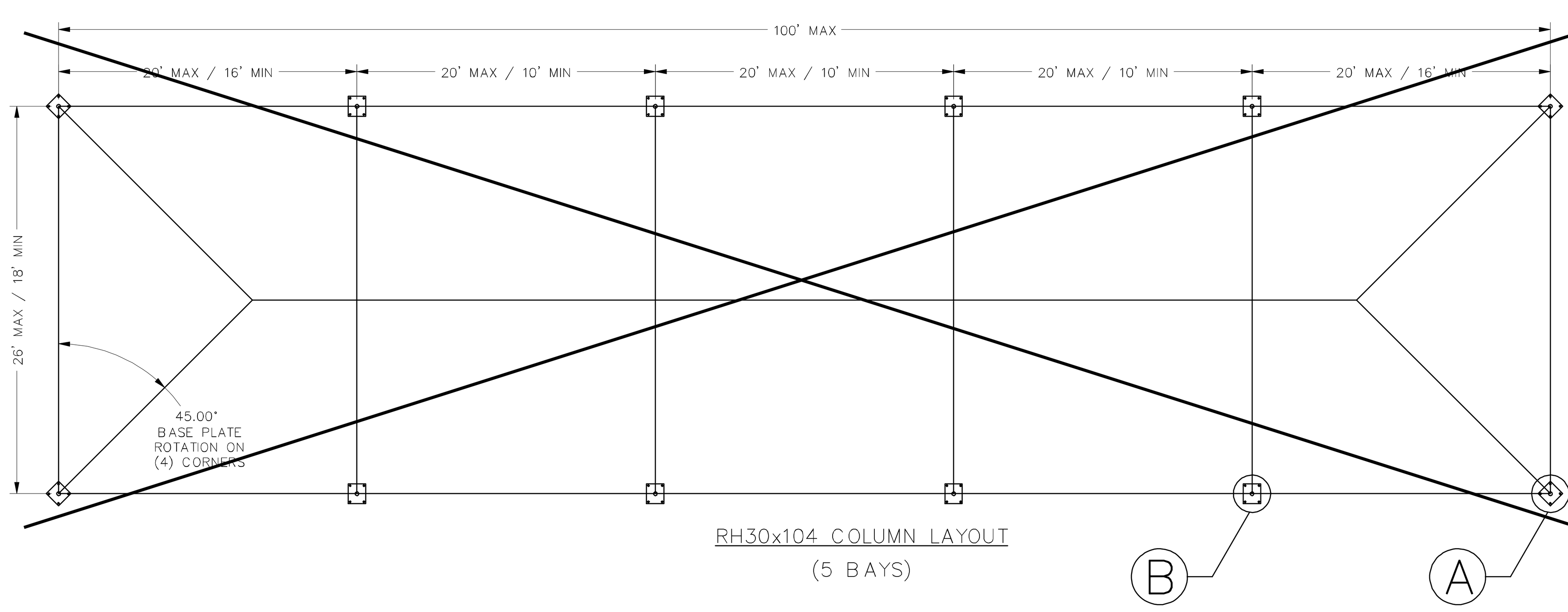


RH30x64 COLUMN LAYOUT
(3 BAYS)



COLUMN
TOP OF FINISH GRADE OR SLAB
SEE CHART FOR WELD SIZE
NOTES:
COLUMN BASE PLATES ARE TO HAVE DOUBLE NUTS. PLACE ONE NUT UNDER THE PLATE AND ONE NUT ON TOP WITH A WASHER UNDER THE NUT.
THE BOTTOM NUT CAN BE USED AS A LEVELING NUT.
AFTER COLUMN IS SET AND LEVELED AND THE NUTS HAVE BEEN TIGHTENED THE COLUMN MUST HAVE NON-SHRINK GROUT PLACED UNDER THE BASE PLATE BEFORE COVERING THE BASE WITH CONCRETE.
REFER TO FOOTING DETAIL FOR ROD/NUT LOCATIONS AND SIZE.
FOUNDATION ANCHORS ARE TO BE UNTORQUED.

COLUMN BASE CONNECTION DETAIL — SCALE: N.T.S. — C1



RH30x104 COLUMN LAYOUT
(5 BAYS)

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30' WIDE RECTANGULAR HIP

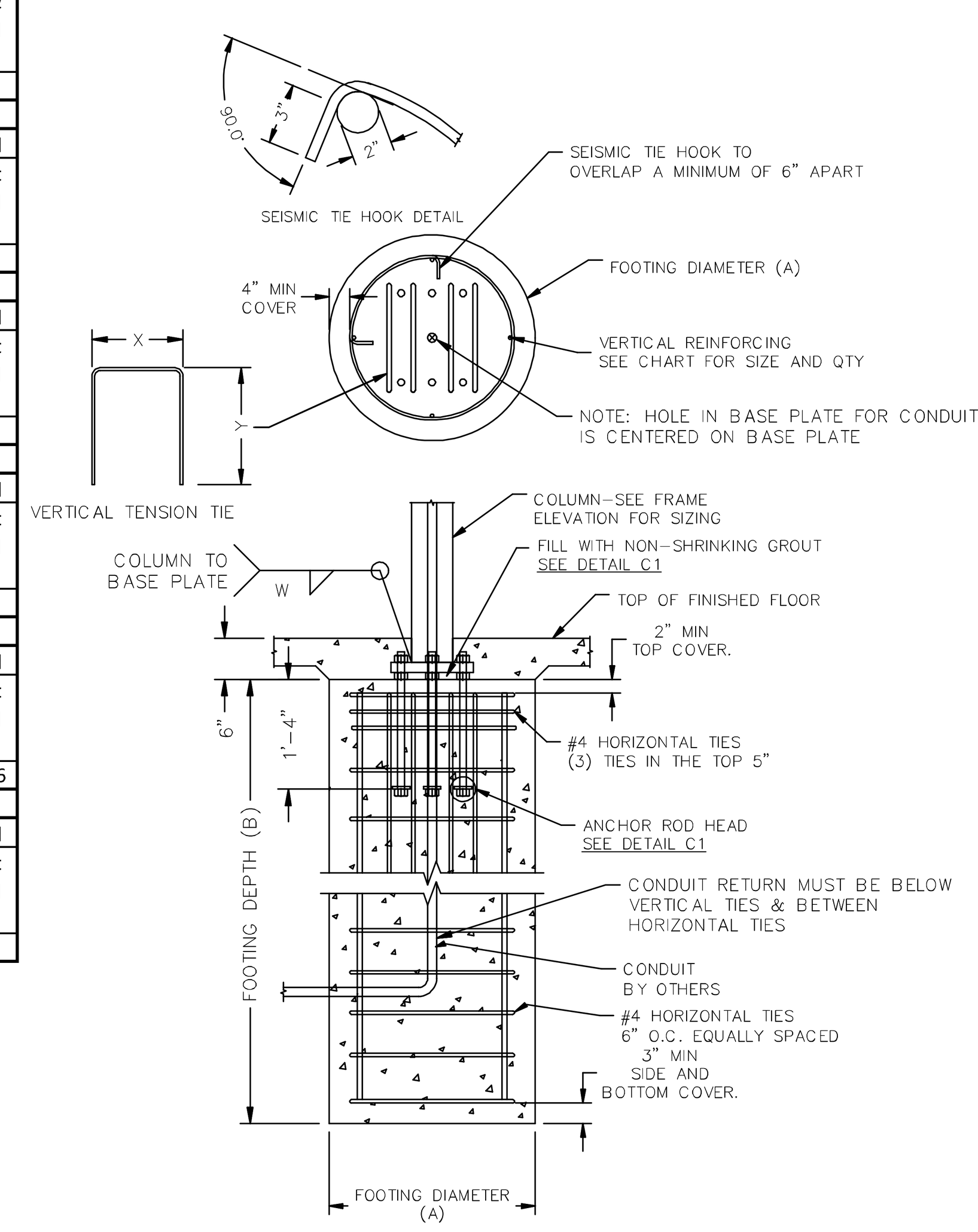
RH30 - PIER

Condition	Soil Class 5 - 1500 psf Bearing: Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
8' height - Corner Columns	24	114	6	6
8' height - Side Columns	36	144	12	6
10' height - Corner Columns	24	120	6	6
10' height - Side Columns	36	136	12	6
12' height - Corner Columns	30	132	8	6
12' height - Side Columns	36	140	12	6

Condition	Soil Class 4 - 2000 psf Bearing: Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
8' height - Corner Columns	24	98	6	6
8' height - SIde Columns	30	132	8	6
10' height - Corner Columns	24	102	6	6
10' height - SIde Columns	30	124	8	6
12' height - Corner Columns	30	112	8	6
12' height - SIde Columns	36	120	12	6

Condition	Soil Class 3 - 3000 psf Bearing: Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
8' height - Corner Columns	24	88	6	6
8' height - Side Columns	30	118	8	6
10' height - Corner Columns	24	92	6	6
10' height - Side Columns	30	112	8	6
12' height - Corner Columns	30	102	8	6
12' height - Side Columns	36	108	12	6

Condition	Rebar Dimensions: X (in)	Y (in)	Rebar Size	Weld: Fillet Weld " W"
8' height - Corner Columns	14	40	5	1/4
8' height - Side Columns	16	40	5	1/4
10' height - Corner Columns	14	40	5	1/4
10' height - Side Columns	16	40	5	1/4
12' height - Corner Columns	16	40	5	5/16
12' height - Side Columns	20	40	5	1/4



SEISMIC TIE HOOK DETAIL
SEISMIC TIE HOOK TO OVERLAP A MINIMUM OF 6" APART
4" MIN COVER
FOOTING DIAMETER (A)
VERTICAL REINFORCING SEE CHART FOR SIZE AND QTY
NOTE: HOLE IN BASE PLATE FOR CONDUIT IS CENTERED ON BASE PLATE
VERTICAL TENSION TIE
COLUMN TO BASE PLATE
COLUMN-SEE FRAME ELEVATION FOR SIZING
FILL WITH NON-SHRINKING GROUT SEE DETAIL C1
TOP OF FINISHED FLOOR
2" MIN TOP COVER.
#4 HORIZONTAL TIES (3) TIES IN THE TOP 5"
ANCHOR ROD HEAD SEE DETAIL C1
CONDUIT RETURN MUST BE BELOW VERTICAL TIES & BETWEEN HORIZONTAL TIES
CONDUIT BY OTHERS
#4 HORIZONTAL TIES 6" O.C. EQUALLY SPACED
3" MIN SIDE AND BOTTOM COVER.
FOOTING DEPTH (B)
FOOTING DIAMETER (A)

SEE DETAILS BP1, BP2 OR BP3 FOR ANCHOR BOLT PATTERNS
BP1 & BP2 ARE (4) BOLT PATTERN WHILE B3 IS A (6) BOLT

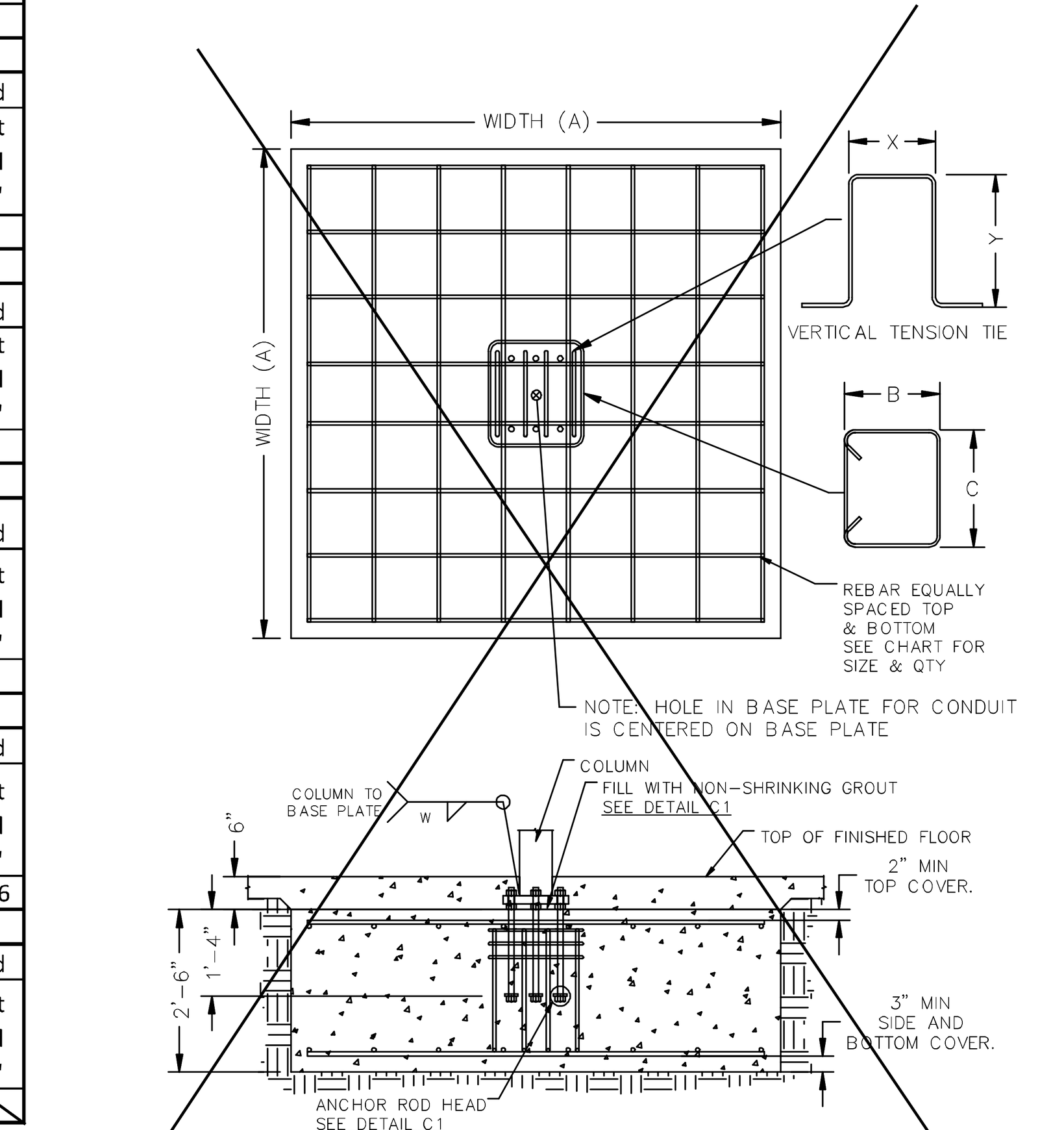
RH30 - SPREAD

Condition	Soil Class 5 - 1500 psf Bearing: Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
8' height - Corner Columns	60	30	4	6
8' height - Side Columns	80	30	5	6
10' height - Corner Columns	66	30	5	6
10' height - Side Columns	81	30	5	6
12' height - Corner Columns	78	30	5	6
12' height - Side Columns	84	30	6	6

Condition	Soil Class 4 - 2000 psf Bearing: Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
8' height - Corner Columns	56	30	4	6
8' height - Side Columns	72	30	5	6
10' height - Corner Columns	60	30	4	6
10' height - Side Columns	72	30	5	6
12' height - Corner Columns	72	30	5	6
12' height - Side Columns	75	30	5	6

Condition	Soil Class 3 - 3000 psf Bearing: Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
8' height - Corner Columns	54	30	4	6
8' height - Side Columns	68	30	5	6
10' height - Corner Columns	57	30	4	6
10' height - Side Columns	69	30	5	6
12' height - Corner Columns	72	30	5	6
12' height - Side Columns	75	30	5	6

Condition	Rebar Dimensions: X (in)	Y (in)	B (in)	C (in)	Rebar Size	Weld: Fillet Weld " W"
8' Corner Columns	14	20	15.9	17.3	5	1/4
8' Side Columns	16	20	15.6	19.3	5	1/4
10' Corner Columns	14	20	15.9	17.3	5	1/4
10' Side Columns	16	20	15.6	19.3	5	1/4
12' Corner Columns	16	20	15.6	19.3	5	5/16
12' Side Columns	20	20	16.6	21.3	5	1/4



WIDTH (A)
VERTICAL TENSION TIE
REBAR EQUALLY SPACED TOP & BOTTOM SEE CHART FOR SIZE & QTY
NOTE: HOLE IN BASE PLATE FOR CONDUIT IS CENTERED ON BASE PLATE
COLUMN TO BASE PLATE
COLUMN
FILL WITH NON-SHRINKING GROUT SEE DETAIL C1
TOP OF FINISHED FLOOR
2" MIN TOP COVER.
3" MIN SIDE AND BOTTOM COVER.
ANCHOR ROD HEAD SEE DETAIL C1

SEE DETAILS BP1, BP2 OR BP3 FOR ANCHOR BOLT PATTERNS
BP1 & BP2 ARE (4) BOLT PATTERN WHILE B3 IS A (6) BOLT

30' WIDE
RECTANGULAR HIP
FOUNDATION PLAN

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SHADE STRUCTURE AT TAHOE ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
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30' WIDE RECTANGULAR HIP FOUNDATION PLAN

PROJECT NO.	21-1504.07
DATE:	4/7/22
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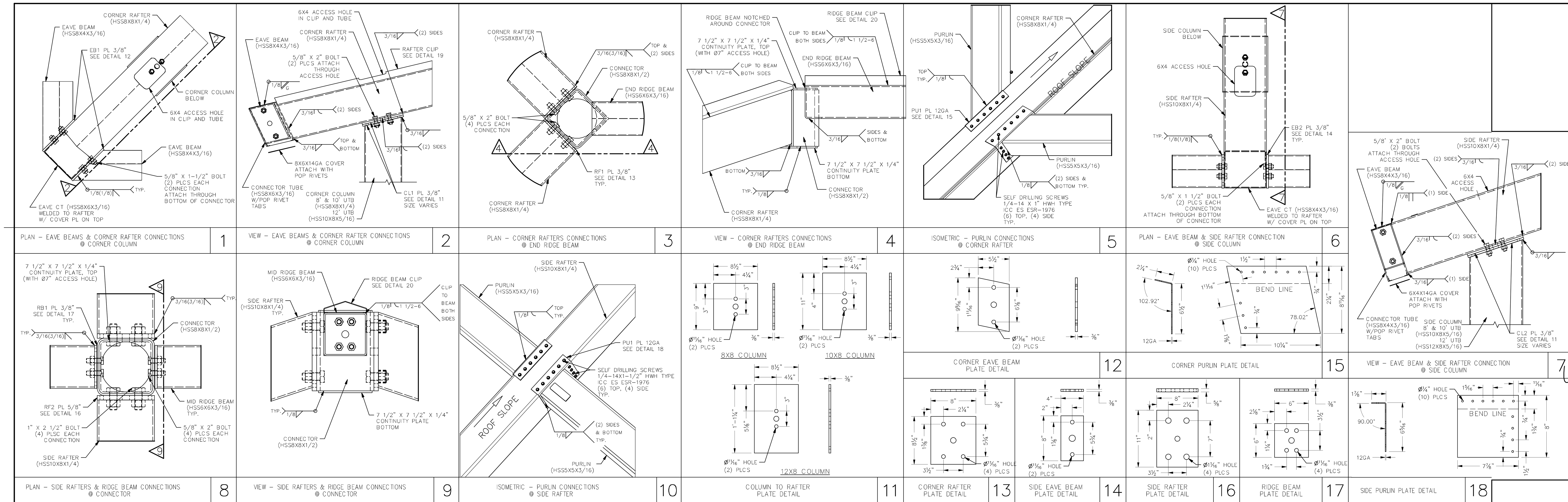
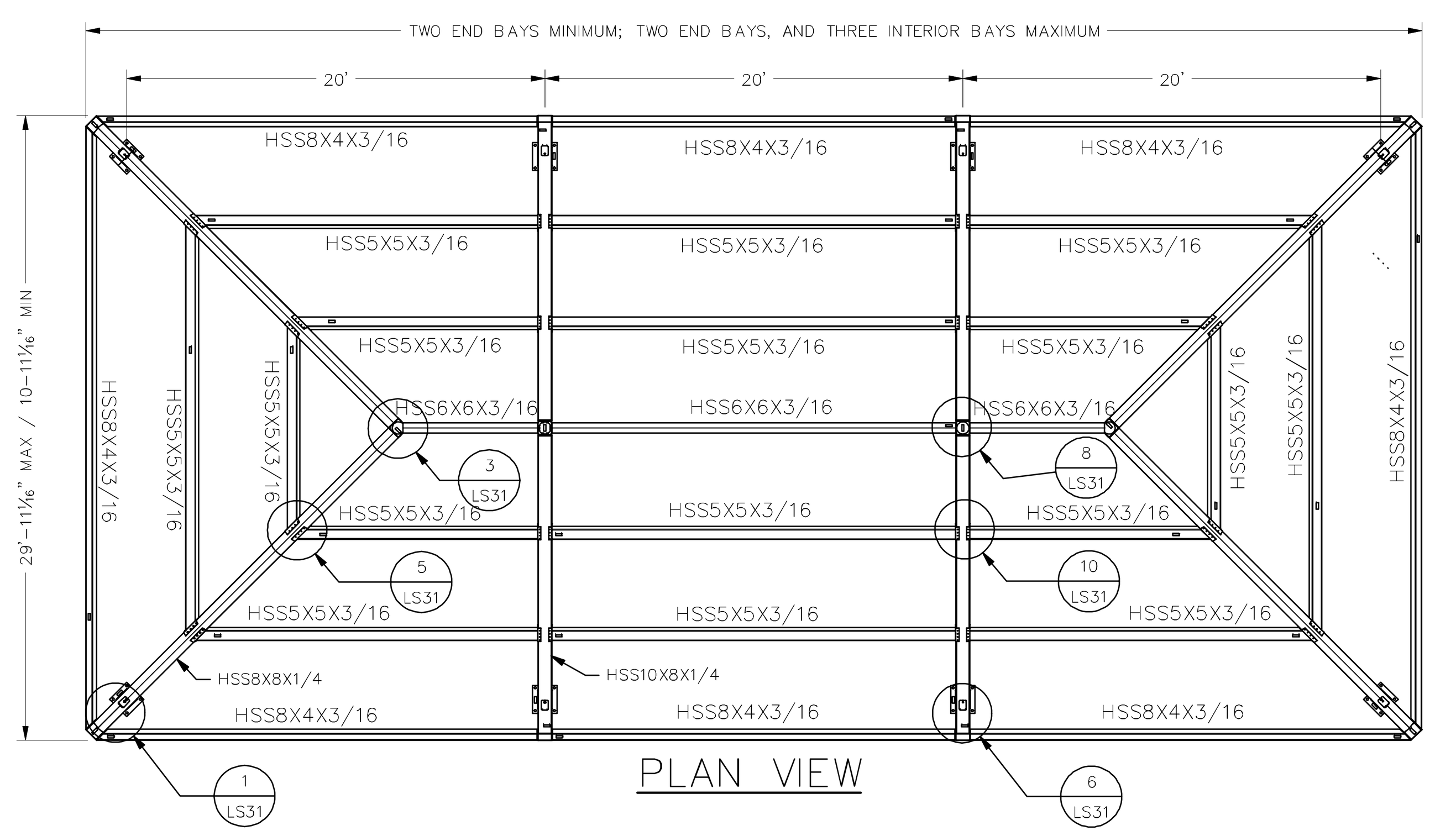
AD0.04


PLAN – EAVE BEAMS & CORNER RAFTER CONNECTIONS @ CORNER COLUMN 1
VIEW – EAVE BEAMS & CORNER RAFTER CONNECTIONS @ CORNER COLUMN 2
PLAN – CORNER RAFTERS CONNECTIONS @ END RIDGE BEAM 3
VIEW – CORNER RAFTERS CONNECTIONS @ END RIDGE BEAM 4
ISOMETRIC – PURLIN CONNECTIONS @ CORNER RAFTER 5
PLAN – EAVE BEAM & SIDE RAFTER CONNECTION @ SIDE COLUMN 6
VIEW – EAVE BEAM & SIDE RAFTER CONNECTION @ SIDE COLUMN 7
PLAN – SIDE RAFTERS & RIDGE BEAM CONNECTIONS @ CONNECTOR 8
VIEW – SIDE RAFTERS & RIDGE BEAM CONNECTIONS @ CONNECTOR 9
ISOMETRIC – PURLIN CONNECTIONS @ SIDE RAFTER 10
COLUMN TO RAFTER PLATE DETAIL 11
CORNER EAVE BEAM PLATE DETAIL 12
CORNER RAFTER PLATE DETAIL 13
SIDE EAVE BEAM PLATE DETAIL 14
CORNER PURLIN PLATE DETAIL 15
SIDE RAFTER PLATE DETAIL 16
RIDGE BEAM PLATE DETAIL 17
SIDE PURLIN PLATE DETAIL 18



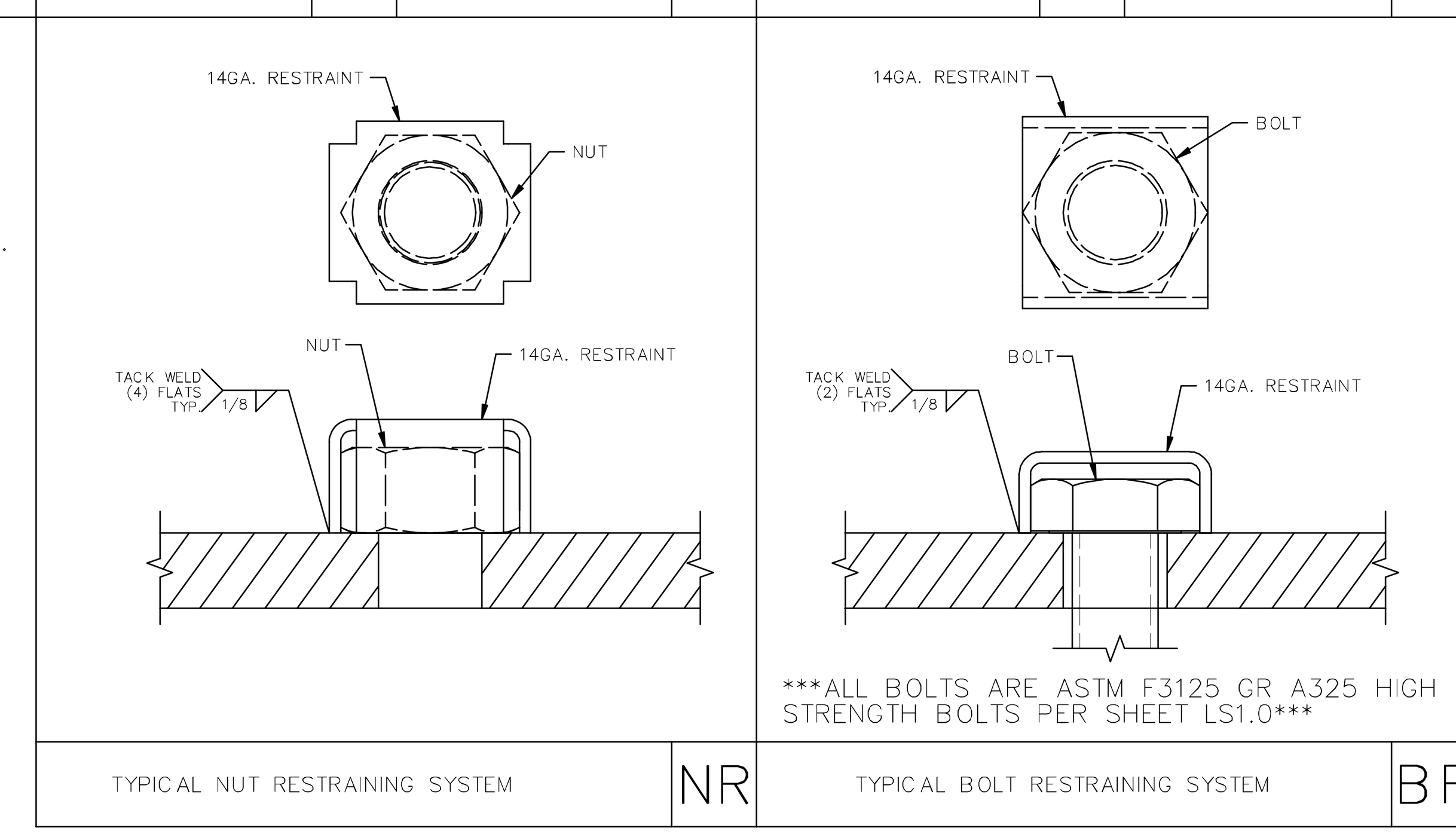
*NOTE:
QUANTITIES WILL VARY DEPENDING ON SHELTER SIZE ORDERED, PLEASE REFER TO JOB SPECIFIC BILL OF MATERIALS AND INSTALLATION MANUAL.

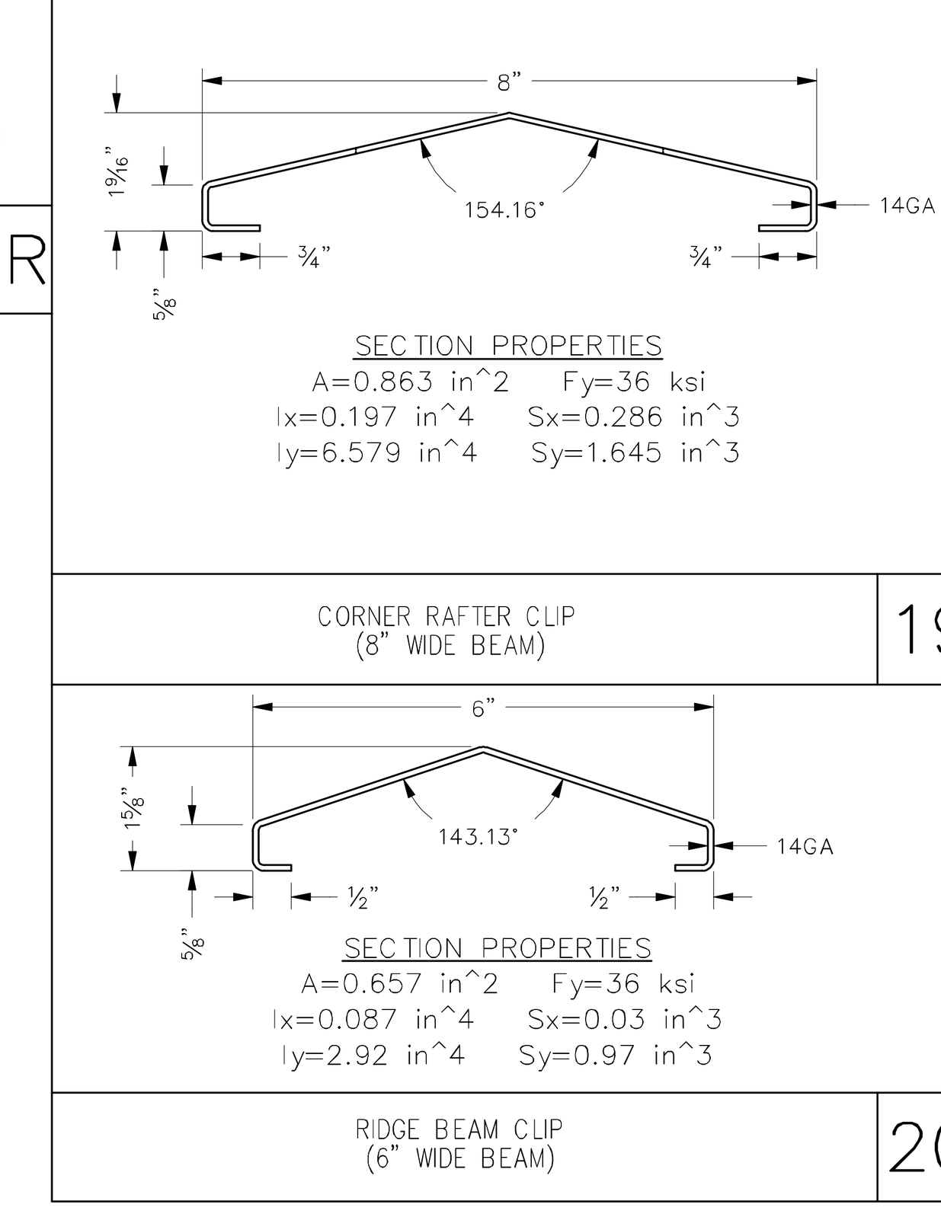
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	LENGTH	UNIT WEIGHT
1	4		CORNER COLUMN	**SEE NOTE BELOW		353 lbmass
2	*		SIDE COLUMN	**SEE NOTE BELOW		399 lbmass
3	2		LH SIDE EAVE BEAM	HSS8X4X3/16		311 lbmass
4	2		RH SIDE EAVE BEAM	HSS8X4X3/16		311 lbmass
5	2		END EAVE BEAM	HSS8X4X3/16		422 lbmass
6	*		SIDE EAVE BEAM	HSS8X4X3/16		287 lbmass
7	4		CORNER RAFTER	HSS8X8X1/4		607 lbmass
8	*		SIDE RAFTER	HSS10X8X1/4		474 lbmass
9	2		END RIDGE BEAM	HSS6X6X3/16		149 lbmass
10	*		MID RIDGE BEAM	HSS6X6X3/16		329 lbmass
11	*		CONNECTOR	HSS8X8X1/2		48 lbmass
12	2		LH SIDE PURLIN 1	HSS5X5X3/16		238 lbmass
13	2		RH SIDE PURLIN 1	HSS5X5X3/16		238 lbmass
14	2		END PURLIN 1	HSS5X5X3/16		278 lbmass
15	2		LH SIDE PURLIN 2	HSS5X5X3/16		167 lbmass
16	2		RH SIDE PURLIN 2	HSS5X5X3/16		167 lbmass
17	2		END PURLIN 2	HSS5X5X3/16		137 lbmass
18	*		MID PURLIN	HSS5X5X3/16		284 lbmass

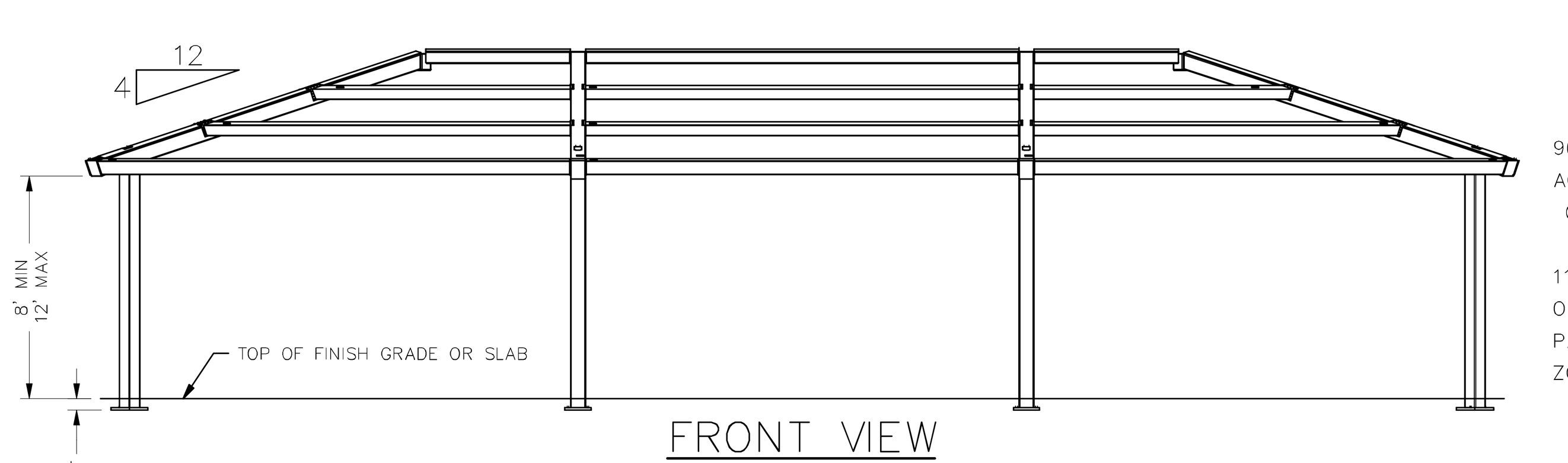
**NOTE:
MATERIAL WILL VARY DEPENDING ON SHELTER SIZE ORDERED.

- [ ] CORNER COLUMN 8' UTB – (HSS8X8X1/4)
- [ ] SIDE COLUMN 8' UTB – (HSS10X8X5/16)
- [x] CORNER COLUMN 10' UTB – (HSS8X8X1/4)
- [x] SIDE COLUMN 10' UTB – (HSS10X8X5/16)
- [ ] CORNER COLUMN 12' UTB – (HSS10X8X5/16)
- [ ] SIDE COLUMN 12' UTB – (HSS12X8X5/16)

MODEL DESIGNATION	
~~RH30X44~~	~~2 BAY~~
RH30X64	3 BAY
~~RH30X84~~	~~4 BAY~~
~~RH30X104~~	~~5 BAY~~

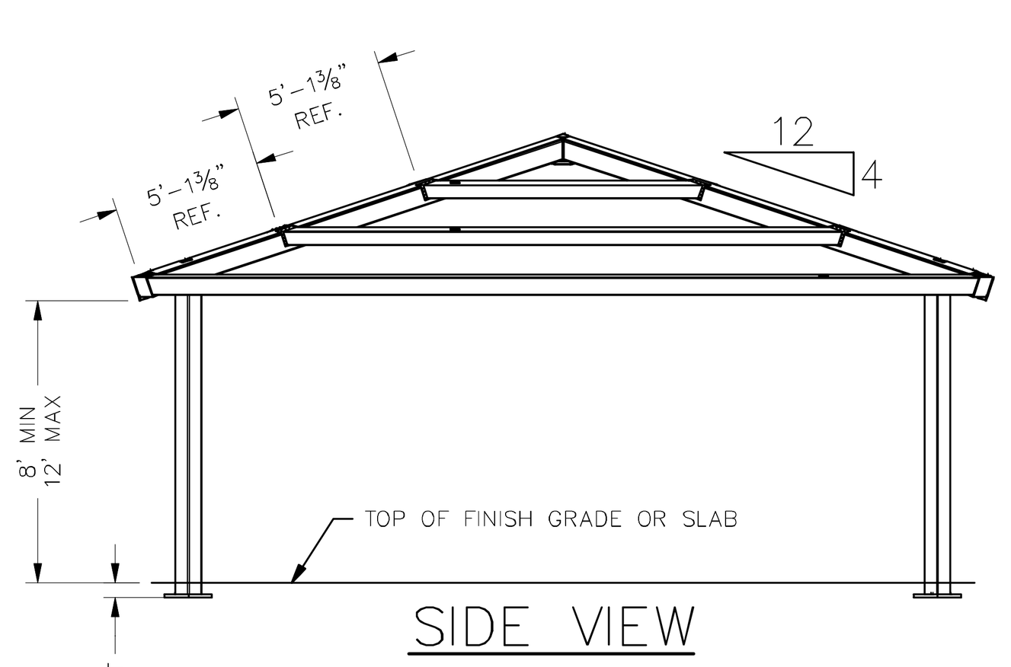


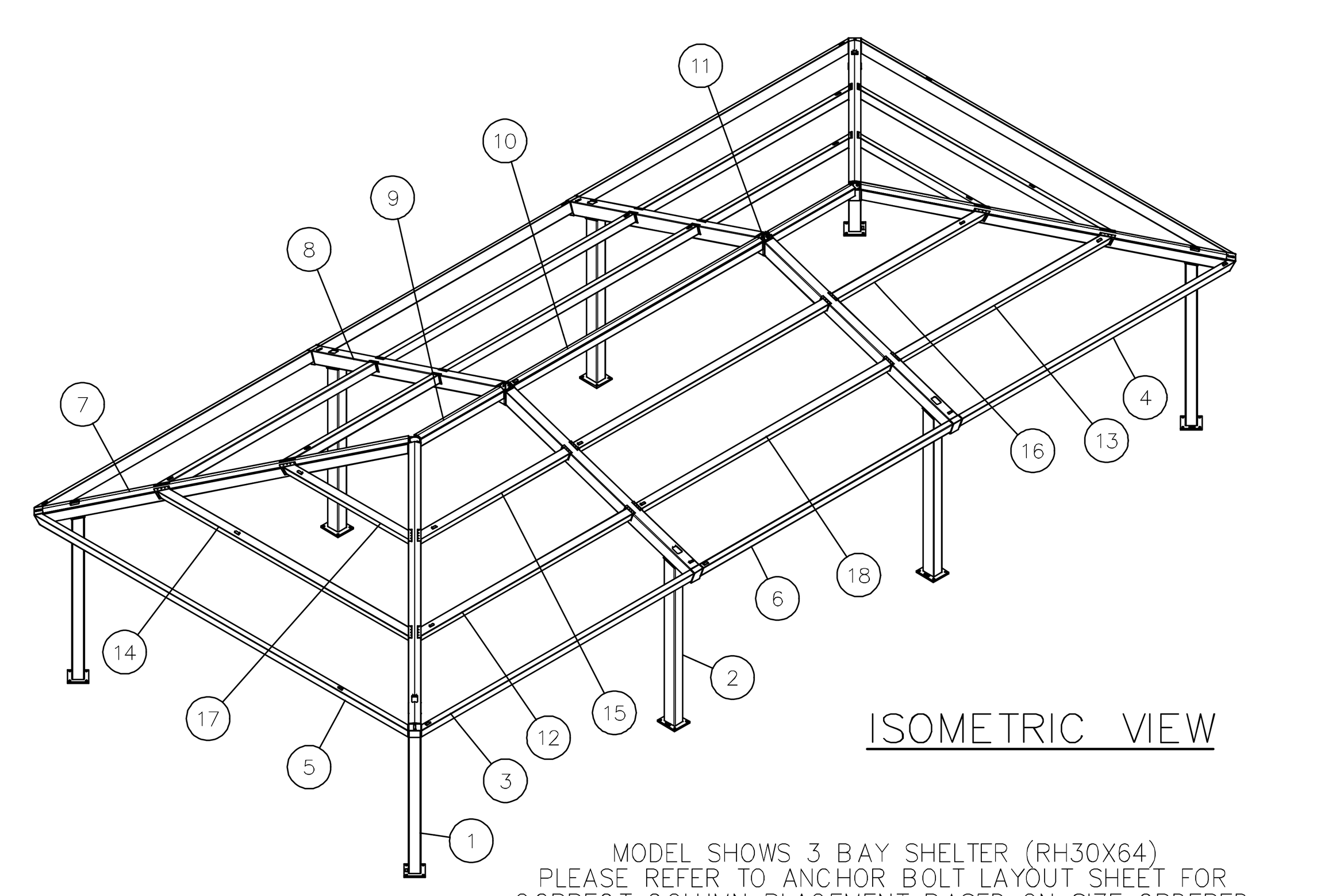




96" MIN IF USED OVER ACCESSIBLE PARKING OR ACCESS AISLES

114" MIN IF LOCATED OVER ACCESSIBLE PASSENGER LOADING ZONES





MODEL SHOWS 3 BAY SHELTER (RH30X64)
PLEASE REFER TO ANCHOR BOLT LAYOUT SHEET FOR CORRECT COLUMN PLACEMENT BASED ON SIZE ORDERED

30' WIDE RECTANGULAR HIP

ICON STD	RH/DSA-PC
DRAWN BY	ANGEL
DATE	4/2/2021
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30' WIDE RECTANGULAR HIP FRAMING & CONNECTION DETAILS

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30' WIDE RECTANGULAR HIP FRAMING & CONNECTION DETAILS

PROJECT NO.	21-1504.07
DATE:	4/7/22
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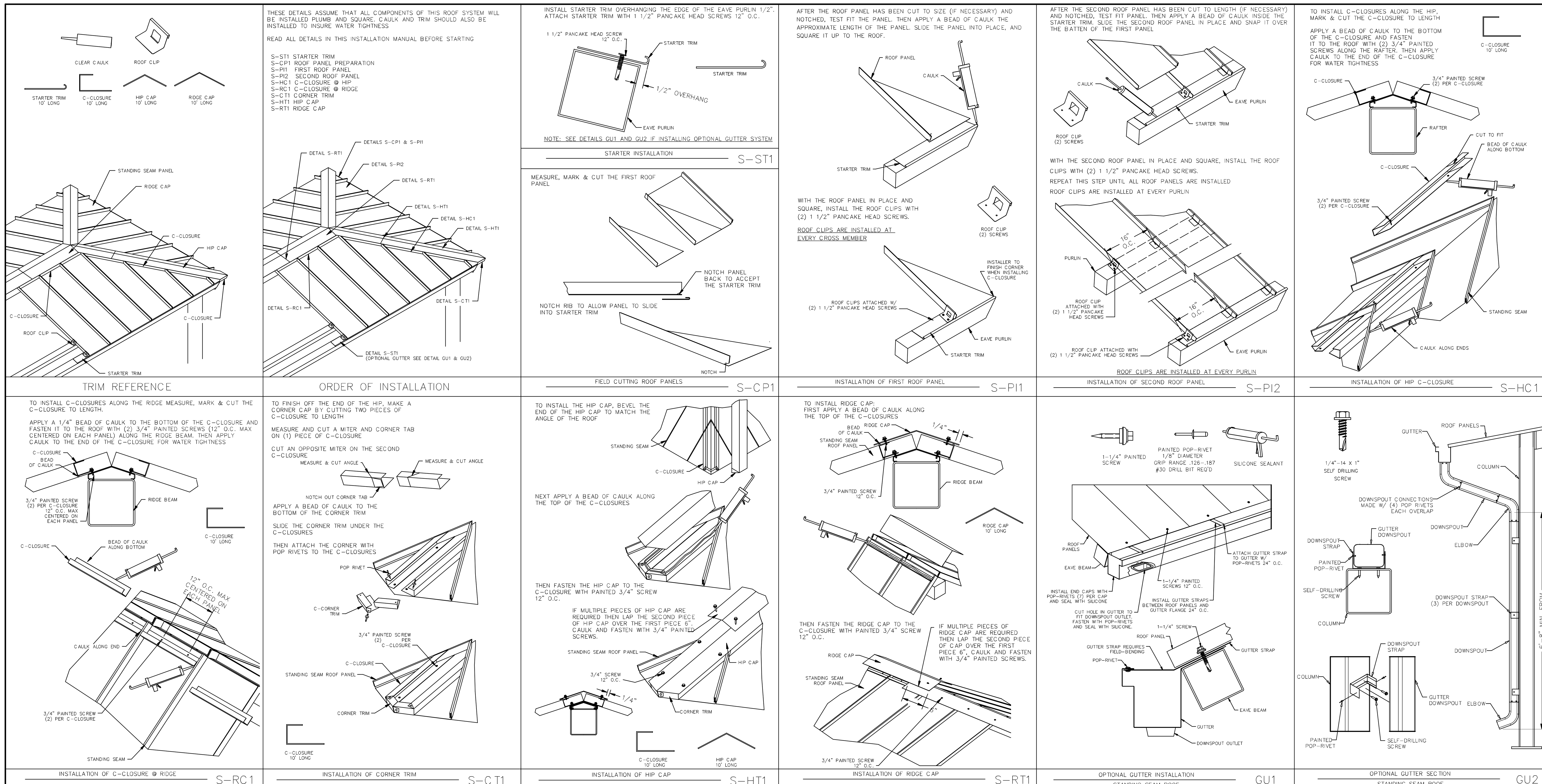


ROOF NOTES

ATTENTION INSTALLERS:
METAL SHAVINGS LEFT ON ROOF WILL QUICKLY RUST AND STAIN THE ROOF FINISH!

DRILLING OR INSTALLING ROOF FASTENERS WILL CAUSE METAL SHAVINGS. THESE SHAVINGS MUST BE CAREFULLY REMOVED AT THE END OF EACH DAY BY EITHER SWEEPING OR BRUSHING THE INSTALLED ROOF.

INSTALLED CORRECTLY	INSTALLED TOO TIGHT	INSTALLED TOO LOOSE
THE SEALING MATERIAL SLIGHTLY VISIBLE AROUND THE METAL WASHER	THE SEALING MATERIAL IS DEFORMED BEYOND THE EDGE OF THE METAL WASHER	THE SEALING MATERIAL IS NOT VISIBLE AROUND THE EDGE OF THE METAL WASHER

THE DETAILS SHOWN ARE SUGGESTIONS OR GUIDELINES ON HOW TO ERECT THE METAL ROOFING SYSTEM. THE INFORMATION SHOWN IS ACCURATE, BUT IT IS NOT INTENDED TO COVER ALL INSTANCES, BUILDING REQUIREMENTS, DESIGNS OR CODES. CHANGES TO THE DETAILS MAY BE REQUIRED DUE TO FIELD CONDITIONS.

THE ERECTOR SHOULD THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL INSTALLATION INSTRUCTION MATERIAL BEFORE STARTING WORK.

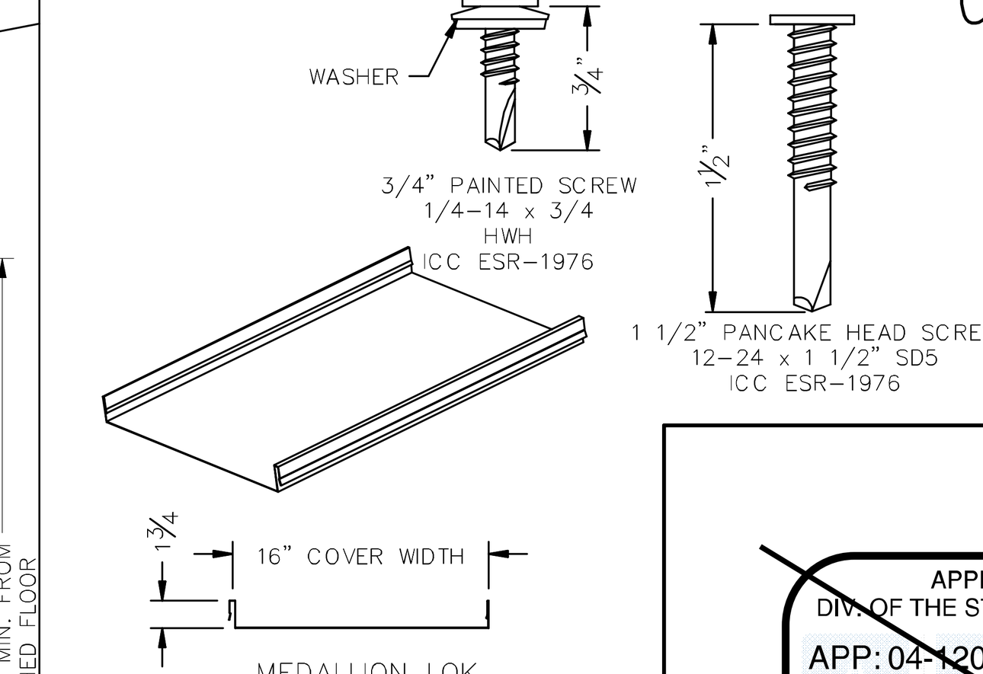
THE PANELS SHOULD BE INSTALLED PLUMB, STRAIGHT, AND ACCURATELY TO THE ADJACENT WORK.

ERECTORS SHALL BE RESPONSIBLE TO ENSURE THAT THE DETAILS MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATER TIGHTNESS.

FOR THE BEST APPEARANCE ALL TRIM AND FLASHING SHALL BE INSTALLED TRUE, AND IN PROPER ALIGNMENT, WITH ALL EXPOSED FASTENERS EQUALLY SPACED.

SOME FIELD CUTTING AND/OR FITTING OF PANELS, TRIM AND FLASHING IS TO BE EXPECTED BY THE ERECTOR. MINOR FIELD CORRECTIONS ARE PART OF NORMAL ERECTION WORK.

THE INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL CRAFTSPERSON AND WORKMANSHIP SHALL MEET THE BEST INDUSTRY STANDARDS.



MEDALLION LOK
STANDING SEAM PANEL SECTION
24 ga. Fy = 50 ksi Fu = 65 ksi
ICC ESL-1082

SECTION PROPERTIES
(PER FT. OF WIDTH)

TOP IN COMPRESSION
Ix=0.086 in^4
Se=0.0561 in^3
Ma=1.68 in-kips

BOTTOM IN COMPRESSION
Ix=0.040 in^4
Se=0.0479 in^3
Ma=1.248 in-kips

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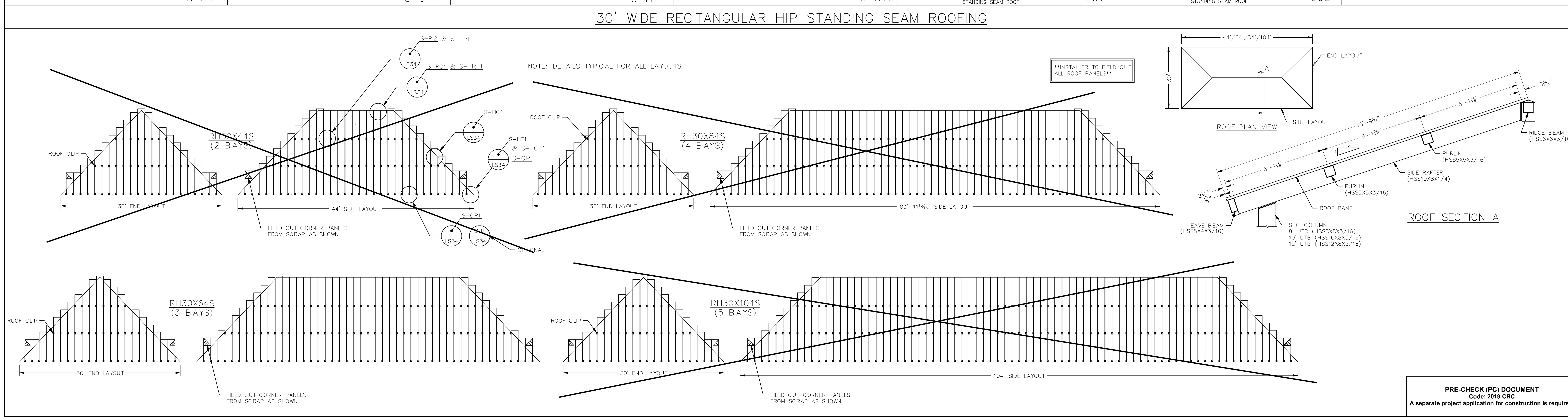
07/29/2021

30' WIDE RECTANGULAR HIP STANDING SEAM ROOFING



30' WIDE RECTANGULAR HIP STANDING SEAM ROOFING PLAN

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SHADE STRUCTURE AT TAHOE ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

△ Revision

30' WIDE RECTANGULAR HIP STANDING SEAM ROOFING PLAN

PROJECT NO.	21-1504.07
DATE:	4/7/22
SHEET	LS3.4

AD0.06

ELECTRICAL INFORMATION - RECTANGULAR HIP

ICON'S STANDARD ELECTRICAL IS DESIGNED TO ACCOMMODATE Ø1/2" CONDUIT WITH A Ø3" INLET HOLE ON THE BOTTOM OF EACH COLUMN. THE CONDUIT PATHWAY RUNS THROUGH THE COLUMN, RAFTER, AND RIDGE BEAM THROUGH ALL BOLTED CONNECTIONS AS SHOWN. IF YOU HAVE SPECIAL ELECTRICAL REQUIREMENTS, PLEASE OUTLINE ANY CHANGES BELOW AS DESCRIBED.

PLEASE NOTE: DESIGN LIMITATIONS ON HOLE/CUTOUT SIZES MAY APPLY. ICON WILL REACH OUT TO DISCUSS ANY SUCH LIMITATIONS AS NEEDED.

NOTE: ICON SHELTER FRAME IS NOT UL LISTED TO ACT AS A CONDUIT FOR ELECTRICAL WIRING. CONSULT LOCAL BUILDING CODES WHEN PLANNING YOUR ELECTRICAL SYSTEM.

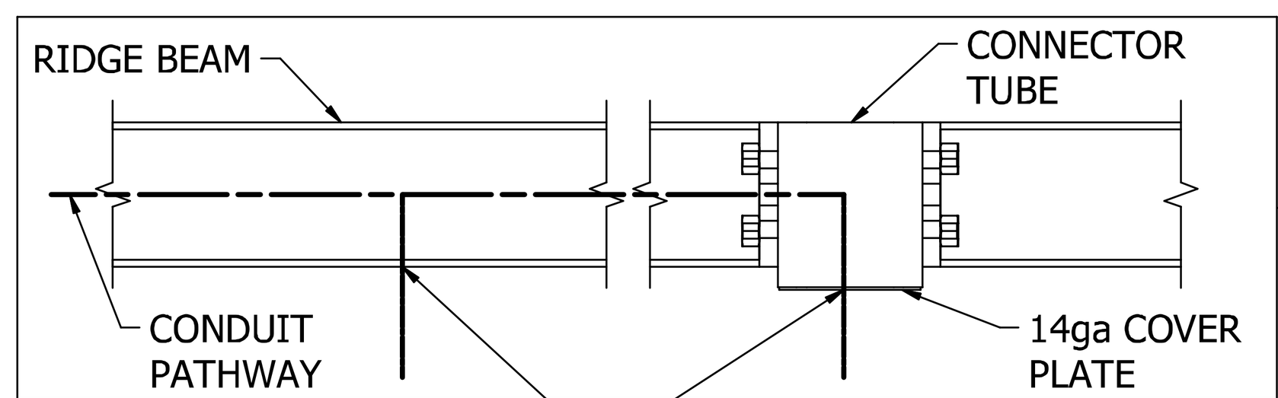
PRELIMINARY: NOT FOR CONSTRUCTION

STEPS:

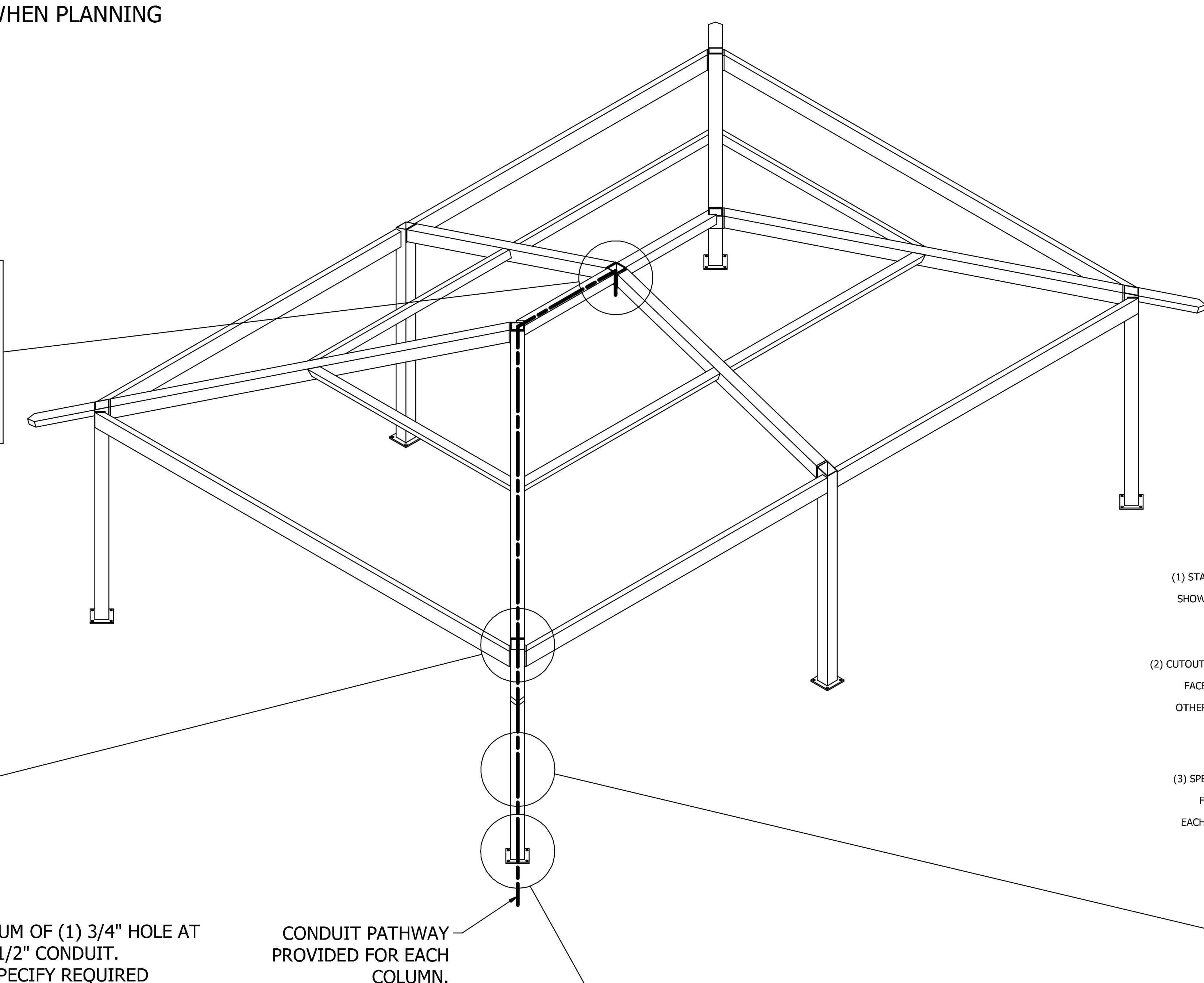
1. CONDUIT HOLE SIZE (DETAIL A)
2. ELECTRICAL EXIT HOLES (DETAIL B)
3. ELECTRICAL ACCESS & COVER PLATES (DETAIL C)
4. ELECTRICAL CONDUIT PATHWAY (DETAIL D)

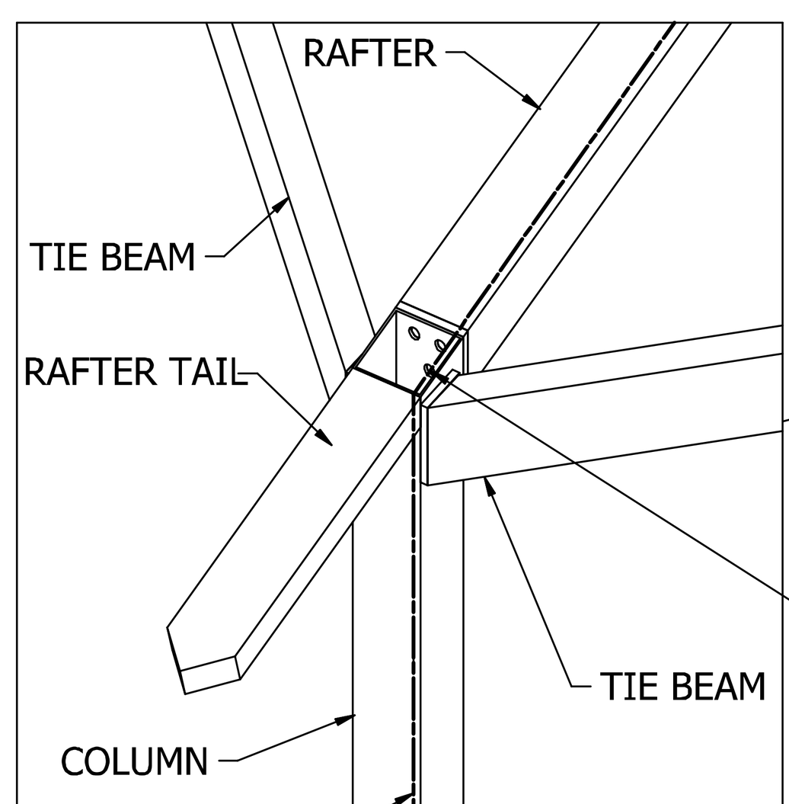
OPTIONAL EXIT HOLES

IF REQUIRED, EXIT HOLES FOR LIGHTING, ETC. CAN BE PLACED IN THE RIDGE BEAM AND/OR CONNECTOR TUBE WITH 14ga COVER PLATE AS SHOWN (CHARGES APPLY) USE FRAME SHEET OF THIS PRELIMINARY TO SPECIFY REQUIRED EXIT HOLE LOCATIONS AND SIZE.



DETAIL B



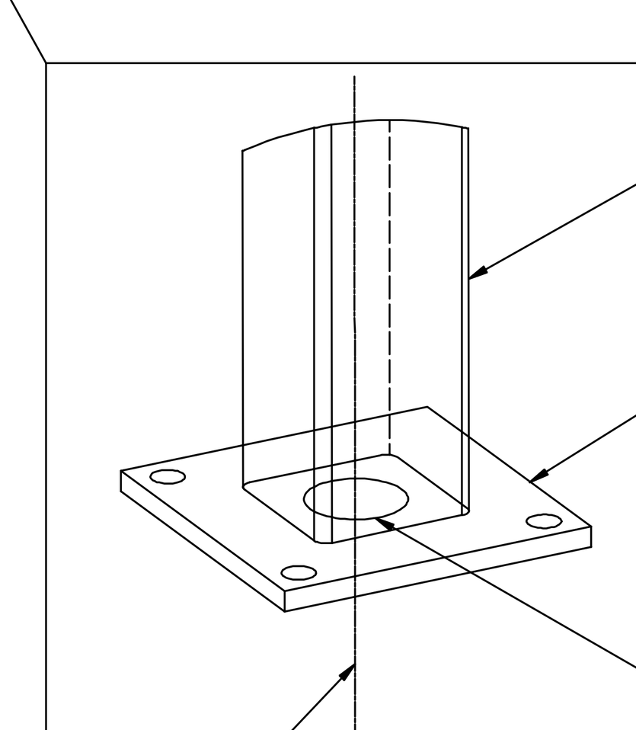


DETAIL A

ICON PROVIDES A MINIMUM OF (1) 3/4" HOLE AT EACH CONNECTION FOR 1/2" CONDUIT. IF APPLICABLE, PLEASE SPECIFY REQUIRED CONDUIT SIZE: (CHARGES APPLY)

- ☐ 3/4" CONDUIT (1" HOLES)
- ☒ 1" CONDUIT (1 1/4" HOLES)
- ☐ OTHER (PLEASE SPECIFY

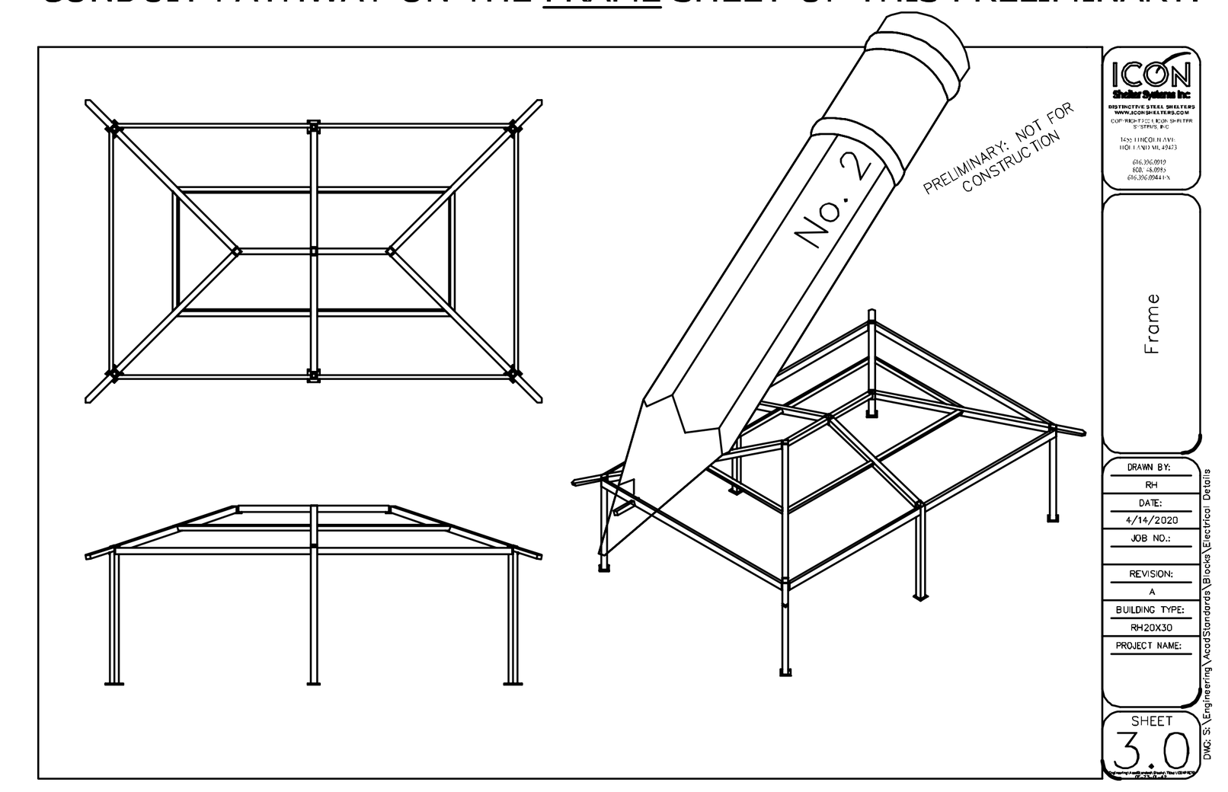
CONDUIT PATHWAY PROVIDED FOR EACH COLUMN.



BASE DETAIL

NOTE: BUILDING DEPICTED ON THIS SHEET FOR ILLUSTRATION PURPOSES ONLY. ACTUAL LAYOUT AND FRAME MEMBER QUANTITIES VARY BY DESIGN. PLEASE REFER TO ELEVATION AND FRAME SHEETS IN THIS PRELIMINARY FOR ORDER-SPECIFIC CONFIGURATION.

IF REQUIRED, PLEASE DRAW THE NECESSARY ELECTRICAL CONDUIT PATHWAY ON THE FRAME SHEET OF THIS PRELIMINARY.



DETAIL D

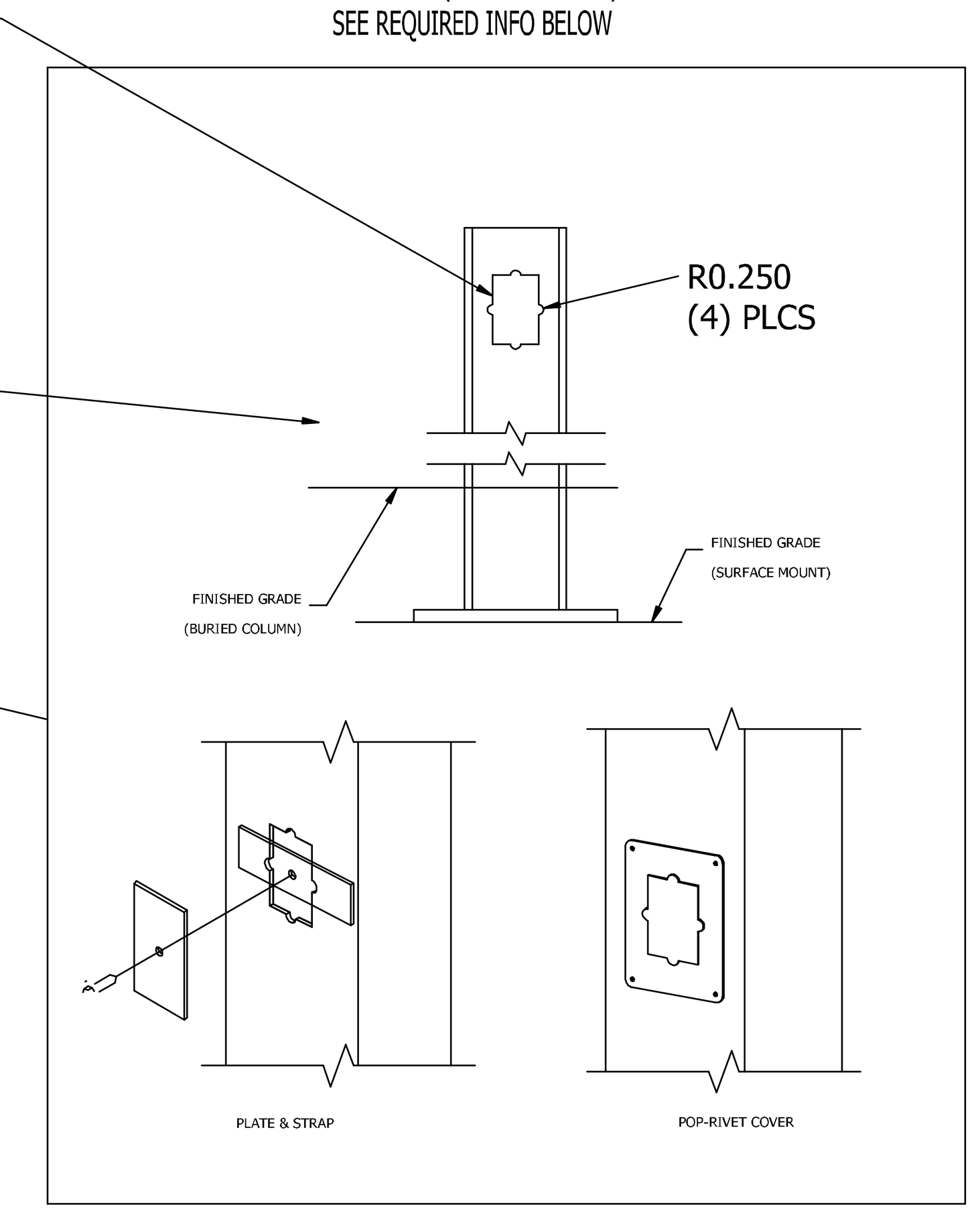
OPTIONAL CUTOUTS

USE FRAME SHEET OF THIS PRELIMINARY TO SPECIFY REQUIRED CUTOUT LOCATIONS (CHARGES APPLY) SEE REQUIRED INFO BELOW

(1) STANDARD CUTOUT SIZE SHOWN. SPECIFY IF OTHER SIZE REQUIRED.

(2) CUTOUTS WILL BE ON INSIDE FACE OF COLUMN UNLESS OTHERWISE INDICATED ON FRAME SHEET.

(3) SPECIFY HEIGHT ABOVE FINISHED GRADE FOR EACH CUTOUT AS SHOWN



DETAIL C

(4) COVER PLATES PROVIDED UPON REQUEST (CHARGES APPLY)
PLEASE SPECIFY TYPE AND QUANTITY REQUIRED:

- ☐ PLATE & STRAP
- ☐ POP-RIVET COVER PLATE

HOW MANY REQUIRED?______

ICON STD	RH/DSA-PC
DRAWN BY	ANGEL
DATE	4/2/2021
REV	
REV DATE	

JRMA ARCHITECTS ENGINEERS

07/29/2021

APPROVED DIV. OF THE STATE ARCHITECT APP: 04-120013 PC REVIEWED FOR SS ☑ FLS ☑ ACS ☑ CG ☐ DATE: 08/06/2021

ELECTRICAL ACCESS

ICON Shelter Systems Inc

DISTINCTIVE STEEL SHELTERS WWW.ICONSHELTERS.COM

1455 LINCOLN AVE
HOLLAND MI, 49423

616.396.0919
800.748.0985
616.396.0944 FX

LS5.0

PRE-CHECK (PC) DOCUMENT
Code: 2019 CBC
A separate project application for construction is required.

PRINTED ON :

APPROVED DIV. OF THE STATE ARCHITECT APP: 02-119973 INC. REVIEWED FOR SS ☑ FLS ☑ ACS ☑ DATE: 04/25/2022

rga+ A studio of HMC Architects

SHADE STRUCTURE AT TAHOE ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT SACRAMENTO, CA

△ Revision

ELECTRICAL ACCESS

PROJECT NO.	21-1504.07
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EXISTING TOPOGRAPHY

= PROPERTY LINE
= CENTERLINE
= EASEMENT
= PROPERTY CORNER FOUND AS NOTED
= PROPERTY CORNER NOTHING FOUND OR SET
= TEMPORARY BENCHMARK (SEE TBM LIST FOR INFO)
= SWALE OR DRAINAGE FLOW
= DRAINAGE FLOW
= FENCE (TYPE NOTED)
= TREE (SIZE/TYPE INDICATED)
= SLOPE
= CONTOUR
= CONCRETE SURFACE
= EDGE OF ASPHALT
= EDGE OF BUILDING
= SIGN
= POST OR BOLLARD
= GROUND ELEVATION
= HARD SURFACE ELEVATION

EXISTING UTILITIES

= STORM DRAIN LINE (SIZE & DIRECTION OF FLOW)
= STORM DRAIN LINE (RECORD INFORMATION)
= STORM DRAIN LINE (UNDERGROUND LOCATING)
= STORM DRAIN MANHOLE
= STORM DRAIN CLEANOUT
= DROP INLET
= AREA DRAIN
= RAIN WATER LEADER
= DOWNSPOUT
= SANITARY SEWER LINE (SIZE & DIRECTION OF FLOW)
= SANITARY SEWER LINE (RECORD INFORMATION)
= SANITARY SEWER LINE (UNDERGROUND LOCATING)
= SANITARY SEWER MANHOLE
= SANITARY SEWER CLEANOUT
= WATER LINE (SIZE INDICATED)
= WATER LINE (RECORD INFORMATION)
= WATER LINE (UNDERGROUND LOCATING)
= WATER MANHOLE
= WATER VALVE
= WATER METER
= WATER BOX
= IRRIGATION CONTROL VALVE
= FIRE HYDRANT
= BACKFLOW PREVENTER
= SPRINKLER
= HOSE BIBB
= OVERHEAD ELECTRIC LINE
= UNDERGROUND ELECTRIC LINE
= UNDERGROUND ELECTRIC LINE (RECORD INFORMATION)
= UNDERGROUND ELECTRIC LINE (UNDERGROUND LOCATING)
= ELECTRIC MANHOLE
= UTILITY POLE (WITH GUY WIRE)
= ELECTRIC METER
= ELECTRIC BOX
= STREET LIGHTING BOX
= LIGHT STANDARD
= SIGNAL LIGHT
= FLOOD LIGHT
= ELECTRICAL OUTLET
= GAS LINE (SIZE INDICATED)
= GAS LINE (RECORD INFORMATION)
= GAS LINE (UNDERGROUND LOCATING)
= GAS MANHOLE
= GAS VALVE
= GAS METER
= TELEPHONE LINE
= TELEPHONE LINE (RECORD INFORMATION)
= TELEPHONE LINE (UNDERGROUND LOCATING)
= STORM DRAIN BOX
= TRAFFIC SIGNAL BOX

A.P.N.	060-0240-012
BENCHMARK NO.	CO. B.M. 21-53 ELEV. 52.03

FOUND ¾" METAL DISC STAMPED "CO. B.M. 21-53" LOCATED IN TOP OF VERTICAL CURB IN CHISELED SQUARE ABOVE D.I. SOUTH SIDE OF KIEFER BLVD. APPROX. 40' WEST OF CONCRETE WALK TO ENTRANCE TO ROSEMONT FIRST BAPTIST CHURCH AND 0.10 MILE EAST OF MANLOVE RD.

TBM LIST

NUMBER	DESCRIPTION	NORTHING	EASTING	ELEV
1	CPS CHISELED "+"	4785.90	5392.83	48.79
2	CPS PK+WASHER	5013.76	5552.23	48.70
3	CPS CHISELED "+"	4894.67	5443.45	49.44
4	CPS CHISELED "+"	4719.71	5218.18	49.14
5	CPS CHISELED "+"	4882.88	5294.81	48.61
6	CPS CHISELED "+"	5045.53	5138.24	47.98

CIVIL ABBREVIATIONS AND LEGEND

ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS MAY BE USED ON THESE PLANS.

AB	AGGREGATE BASE
AC	ASPHALTIC CONCRETE
AD	AREA DRAIN
APN	ASSESSOR'S PARCEL NUMBER
ARV	AIR RELEASE VALVE
ASB	AGGREGATE SUB-BASE
BO	BLOW-OFF VALVE
BV	BUTTERFLY VALVE
BW	BACK OF WALK
C/L	CENTERLINE
CB	CATCH BASIN
CL	CLASS
CMP	CORRUGATED METAL PIPE
CATV	CABLE TELEVISION
CO	CLEANOUT
COMM	COMMUNICATION
CONC.	CONCRETE
CONST.	CONSTRUCT
CR	CURB RETURN
CS	CONCRETE SURFACE
DC	DOUBLE CHECK VALVE
DDC	DOUBLE DETECTOR CHECK VALVE
DG	DECOMPOSED GRANITE
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DWG	DRAWING
DS	DOWNSPOUT
E	ELECTRIC
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
EX	EXISTING
FS	FIRE SERVICE LINE
FDC	FIRE DEPARTMENT CONNECTION
FL	FLOWLINE
FM	SANITARY SEWER FORCE MAIN
FF	FINISHED FLOOR ELEVATION
FH	FIRE HYDRANT
G	GAS
GR	GRATE ELEVATION
GRD	GRADE ELEVATION
GV	GATE VALVE
HB	HOSE BIBB
HBD	HEADER BOARD
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
INV	PIPE INVERT ELEVATION
JP	JOINT UTILITY POLE
LF	LINEAL FEET
LIP	LIP OF GUTTER
LT	LEFT
MS	MOWSTRIP
NTS	NOT TO SCALE
OH	OVERHEAD
PCC	PORTLAND CEMENT CONCRETE
PD	PLANTER DRAIN
PIV	POST INDICATOR VALVE
P/L	PROPERTY LINE
PP	POWER POLE
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
R	RADIUS
RIM	MANHOLE RIM ELEVATION (SOLID COVER)
RP	REDUCED PRESSURE BACKFLOW PREVENTER
RW	RIGHT OF WAY
SCH	SCHEDULE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SG	SUBGRADE ELEVATION
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
STD	STANDARD
S/W	SIDEWALK
T	TELEPHONE
TC	TOP OF CURB
TD	TRENCH DRAIN
TDCB	TRENCH DRAIN CATCH BASIN
TP	TELEPHONE POLE
TR	TOP OF RAMP ELEVATION
TRW	TOP OF RETAINING WALL
TSW	TOP OF SEAT WALL
TW	TOP OF WALK ELEVATION
U	UTILITY
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
VCP	VITRIFIED CLAY PIPE
W	WATER
W/	WITH
W/O	WITHOUT
WV	WATER VALVE

LEGEND

NOTE: NOT ALL SYMBOLS MAY BE USED ON THESE PLANS.

PROPOSED GRADING & DRAINAGE SYMBOLS:

8" SD — STORM DRAIN LINE (SIZE AND FLOW SHOWN)
STORM DRAIN MANHOLE (SDMH)
CATCH BASIN (CB)
DROP INLET (DI)
AREA DRAIN (AD)
PLANTER DRAIN (PD) OR FLOOR DRAIN (FD)
CO — STORM DRAIN CLEANOUT
99.99 — ELEVATION
FF=100.00 — FINISHED FLOOR ELEVATION
PAD=99.33 — BUILDING PAD ELEVATION
CONCRETE SIDEWALK
GRADED DIRECTION FOR DRAINAGE FLOW
SWALE
SLOPE
TREE TO BE REMOVED
RETAINING WALL

PROPOSED SANITARY SEWER SYMBOLS:

6" SS — SANITARY SEWER LINE (SIZE AND FLOW SHOWN)
SANITARY SEWER MANHOLE (SSMH)
CO — SEWER CLEANOUT FLUSHER BRANCH

PROPOSED WATER SYMBOLS:

8" W — WATER LINE & SIZE
8" FS — FIRE LINE & SIZE
8" DW — DOMESTIC WATER LINE & SIZE
8" RW — RECLAIMED WATER LINE & SIZE
8" IRR — IRRIGATION SERVICE LINE & SIZE
8" NP — NON POTABLE WATER LINE & SIZE
8" SP — FIRE SPRINKLER SERVICE LINE & SIZE
GATE VALVE
M — WATER METER
FH — FIRE HYDRANT ASSEMBLY
FDC — FIRE DEPARTMENT CONNECTION
DC — DETECTOR CHECK VALVE
DDC — DOUBLE DETECTOR CHECK VALVE
RP — REDUCED PRESSURE BACKFLOW PREVENTER
BUTTERFLY VALVE
1" — AIR RELEASE VALVE + SIZE
1" — BLOW-OFF VALVE + SIZE
PIV — POST INDICATOR VALVE

DEMOLITION GENERAL NOTES

1. IN THE EVENT THAT ANY UNUSUAL CONDITIONS NOT COVERED BY THE GEOTECHNICAL INVESTIGATION REPORT OR ARE ENCOUNTERED DURING GRADING OPERATIONS THE GEOTECHNICAL ENGINEER AND THE ARCHITECT SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTIONS.
2. NO BURNING OR BLASTING SHALL BE PERMITTED.
3. ADDITIONAL DEMOLITION INFORMATION MAY BE SHOWN ON THE GRADING, DRAINAGE, AND UTILITY PLANS, AND THOSE PLANS PREPARED BY OTHER DISCIPLINES FOR THIS PROJECT.
4. ALL DEMOLISHED ITEMS SHALL BE DISPOSED OF OFFSITE AT A SUITABLE, LEGAL, DUMP SITE OR OTHER FACILITY.
5. ALL DISPOSED OF MATERIALS SHALL BE RECYCLED IF POSSIBLE.
6. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN IN THESE PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS, AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES. HOWEVER, WARREN CONSULTING ENGINEERS CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES, NOR FOR THE EXISTENCE OF OTHER BURIED OBJECTS OR UTILITIES WHICH MAY BE ENCOUNTERED BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR OR ANY SUBCONTRACTOR FOR THIS CONTRACT SHALL NOTIFY THE DISTRICT TWO (2) WORKING DAYS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK IN ORDER TO VERIFY TO THE GREATEST EXTENT POSSIBLE THE EXISTING UTILITY LINES, CONFLICTS AND PROPOSED UTILITY CONNECTION POINTS.
7. THE SCHOOL DISTRICT SHALL HAVE SALVAGE RIGHTS TO ANY DEMOLISHED ITEMS SHOWN HEREON. THE CONTRACTOR SHALL GIVE THE DISTRICT NOTICE 7 DAYS PRIOR TO THE START OF DEMOLITION. THE DISTRICT SHALL MOVE ANY RETAINED ITEMS OUT OF THE CONTRACTORS WORK AREA, UNLESS ANOTHER ARRANGEMENT IS MADE WITH THE CONTRACTOR. ANY REMAINING ITEMS BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE. ANY ITEMS NOT SHOWN FOR REMOVAL SHALL REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION TO A REASONABLE EXTEND.
8. EXISTING UTILITY STRUCTURES IN AREAS OF NEW PAVING SHALL BE REMOVED AND REPLACED WITH NEW BOX/COVER AT NEW GRADE UNLESS SPECIFICALLY NOTED OTHERWISE.
9. ITEMS OUTSIDE THE LIMITS OF DEMOLITION SHALL REMAIN AND BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
10. EXISTING UTILITY STRUCTURES AND PIPING NOT SHOWN ON DEMOLITION PLAN TO BE REMOVED SHALL REMAIN AND BE PROTECTED.

UTILITY VERIFICATION NOTE

PRIOR TO THE START OF CONSTRUCTION, VERIFY AND POTHOLE ALL UTILITY POINTS OF CONNECTION FOR LOCATION, DEPTH, AND SIZE. IF CONFLICT IS FOUND, CONTACT THE ENGINEER IMMEDIATELY FOR DIRECTION.

IRRIGATION DEMOLITION NOTE

WITHIN LANDSCAPE AREAS TO BE DEMOLISHED THERE MAY BE EXISTING IRRIGATION LINES NOT SHOWN ON THIS PLAN. CONTRACTOR SHALL REMOVE LATERAL LINES AND HEADS ENCOUNTERED. MAIN LINES AND CONTROL WIRES MAY ONLY BE REMOVED PROVIDED THAT ROUTING IS KNOWN AND REMOVAL WILL NOT DEACTIVATE AN IRRIGATION SYSTEMS INTENDED TO REMAIN. IF CONFLICT IS FOUND, CONTACT THE ENGINEER FOR DIRECTION.

GENERAL NOTES:

811 Know what's below. Call before you dig.

1. THE TYPES, LOCATIONS, SIZES, AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES. HOWEVER, WARREN CONSULTING ENGINEERS CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES, NOR FOR THE EXISTENCE OF OTHER BURIED OBJECTS OR UTILITIES WHICH MAY BE ENCOUNTERED BUT WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR OR ANY SUBCONTRACTOR FOR THIS CONTRACT SHALL NOTIFY MEMBERS OF UNDERGROUND SERVICE ALERT (USA) TWO (2) WORKING DAYS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK BY CALLING TOLL FREE 1-800-227-2600, OR 811.
2. WARREN CONSULTING ENGINEERS, INC. (WCE) ASSUMES NO RESPONSIBILITY FOR ERRORS IN PHYSICAL LOCATION OF IMPROVEMENTS, HORIZONTAL OR VERTICAL, IF STAKED BY OTHERS. IN ADDITION, ANY SUCH ERRORS IN PHYSICAL LOCATION MAY AFFECT THE INTENDED DESIGN OF SUCH IMPROVEMENTS AND WCE CANNOT BE HELD RESPONSIBLE FOR SUCH CONDITIONS WHICH ARE A RESULT OF ERRORS IN SURVEYING, OR IMPROPER CONSTRUCTION.
3. IF SUBSURFACE CULTURAL RESOURCES, REMAINS, AND/OR ARTIFACTS ARE UNCOVERED DURING PROJECT CONSTRUCTION, ALL WORK IN THE VICINITY SHALL BE STOPPED UNTIL SUCH ITEMS CAN BE ASSESSED BY AN APPROPRIATE MEMBER OF THE COUNTY ENVIRONMENTAL IMPACT SECTION STAFF.
4. CONTRACTOR AGREES THAT HE/SHE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY: THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS: AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
5. THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL SAFETY FOR ALL EXCAVATIONS OF 5 FEET OR MORE IN DEPTH.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE ALL NECESSARY PRE-BID AND PRE-CONSTRUCTION SITE INSPECTION, AND/OR OBSERVATIONS ON THE SITE TO PRE-DETERMINE ALL HIS/HER MEANS AND METHODS NECESSARY TO COMPLETE THE IMPROVEMENTS SHOWN ON THESE PLANS AND PER THE PROJECT SPECIFICATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE, AND INCLUDE IN HIS/HER CONTRACT, ALL MEANS AND METHODS NECESSARY TO PERFORM A COMPLETE AND ACCEPTABLE JOB.
7. WHERE IMPROVEMENTS LIE WITHIN AN EXISTING DEVELOPED AREA, CONTRACTOR SHALL USE CAUTION WHEN ACCESSING THE SITE THROUGH THESE EXISTING IMPROVEMENTS. IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT ANY SUCH EXISTING IMPROVEMENTS OUTSIDE THE PROJECT BOUNDARY, OR EXISTING IMPROVEMENTS WITHIN THE BOUNDARY WHICH ARE TO REMAIN. PROPER PRECAUTIONS SHALL BE PROVIDED AND MAINTAINED THROUGHOUT CONSTRUCTION. ANY DAMAGE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER.
8. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO KEEP DETAILED RECORDS OF MINOR CHANGES OR ADJUSTMENTS MADE DURING CONSTRUCTION (WHICH WERE NOT FORMALLY ISSUED). UPON PROJECT COMPLETION, THESE RECORDS AND/OR INFORMATION SHALL BE PROVIDED TO THE OWNER AND, WARREN CONSULTING ENGINEERS, INC. UNLESS AN OFFICIAL "AS-BUILT" SET OF PLANS IS A REQUIREMENT OF THE CONTRACT. IF AS-BUILT PLANS ARE A REQUIREMENT OF THE CONTRACT, REFER TO SPECIFICATIONS FOR AS-BUILT DELIVERABLE REQUIREMENTS.
9. IN VEHICULAR PATHWAYS, EXISTING ASPHALTIC AND/OR CONCRETE SURFACES SHALL BE CUT TO A NEAT AND STRAIGHT LINE, PARALLEL OR PERPENDICULAR TO THE VEHICULAR TRAVELED PATH. THIS IS TYPICALLY THE ROADWAY CENTERLINE, BUT MAY VARY. THAT SAWCUT EDGE SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION SO A CLEAN EDGE REMAINS FOR PATCH BACK. IF EDGE IS DAMAGED, A NEW SAW CUT WILL BE REQUIRED. THE EXPOSED EDGE SHALL BE "TACKED" WITH EMULSION PRIOR TO PAVING.
10. NO BURNING OR BLASTING SHALL BE ALLOWED ONSITE UNLESS SPECIFICALLY ADDRESSED ON PLANS, OR SPECIFICALLY APPROVED AND COORDINATED WITH THE ARCHITECT, ENGINEER, AND LOCAL AGENCY OR OTHER ADMINISTRATIVE AUTHORITY.
11. SUBGRADE AND RESULTING FINISHED GRADE SHALL BE CONSTRUCTED SMOOTH AND UNIFORM BETWEEN SPOT ELEVATIONS, CONTOURS OR OTHER STRUCTURE ELEVATIONS SHOWN ON GRADING OR OTHER PLANS. NO MOUNDS, RUTS, DEPRESSIONS OR OTHER GRADING DEFICIENCIES WILL BE ALLOWED UNLESS SPECIFICALLY SHOWN ON PLANS.
12. ON NEW WATER SYSTEMS, SERVICE LATERALS SHALL BE MADE USING APPROPRIATE "TEE" AND "WYE" FITTINGS. SADDLE TAPS WILL ONLY BE ALLOWED WHEN MAKING CONNECTIONS TO EXISTING WATER MAINS.
13. CURING COMPOUND SHALL BE APPLIED IN A CONTINUOUS SOLID WET FLOWING COAT. ANY "SPOTTY" APPLICATIONS SHALL BE RECOATED IMMEDIATELY. APPLICATION SHALL BE INSPECTED BY PROJECT INSPECTOR DURING APPLICATION.
14. EMBEDMENT OF FEATURES IN CONCRETE PAVING, CURBS, OR WALLS, SUCH AS SQUARE OR ROUND TUBING, POSTS, OR COLUMNS, STEEL BOLTED PLATES, OR OTHER STRUCTURES, SHALL REQUIRE ADDITIONAL SCORE OR EXPANSION JOINTS TO PREVENT UNCONTROLLED CRACKING. THOSE ADDITIONAL JOINTS MAY OR MAY NOT BE SPECIFICALLY SHOWN ON PLANS BUT SHALL BE PROVIDED BY THE CONTRACTOR.
15. EMBEDMENT OF FEATURES IN CONCRETE PAVING, CURBS, OR WALLS, SUCH AS SQUARE OR ROUND TUBING, POSTS, OR COLUMNS, STEEL BOLTED PLATES, OR OTHER STRUCTURES, SHALL REQUIRE A MINOR ADJUSTMENT OF REBAR WITHIN CONCRETE TO ALLOW FOR SUCH STRUCTURE. THAT REBAR ADJUSTMENT MAY NOT BE SPECIFICALLY SHOWN ON PLANS.
16. NO MORE THAN 1 GALLON OF WATER PER YARD OF CONCRETE CAN BE ADDED TO THE TRUCK AFTER ARRIVAL TO PROJECT SITE. THE ADDITION OF WATER CAN ONLY BE ADDED UNDER THE SUPERVISION OF THE CONCRETE INSPECTOR OR LABORATORY TECHNICIAN.
17. WHEN PUMPING CONCRETE FOR PLACEMENT, ABSOLUTELY NO WATER IS TO BE ADDED TO PUMP HOPPER. ANY WATER ADDED TO HOPPER WILL BE REASON FOR CONCRETE REJECTION AT THE CONTRACTORS EXPENSE.
18. ALL CONTRACTION/CONSTRUCTION JOINTS "CJ" SHALL BE 1/4 THE SLAB THICKNESS DEEP, BUT NO LESS THAN 1" FOR CONTROLLING OF CRACKING. CONTRACTOR SHALL EXERCISE CAUTION WHEN FINAL TROWELING OF CONCRETE SO AS NOT TO FILL IN THESE JOINTS WITH CONCRETE CREAM. ANY CRACKS OUTSIDE OF JOINTS WHICH WERE CONSTRUCTED LESS THAN 1" DEEP, SHALL BE CAUSE FOR CONCRETE SLAB(S) TO BE REMOVED AND REPLACE AT CONTRACTORS EXPENSE.
19. ANY SCREED BOARDS SET WITHIN CONCRETE SLABS SHALL BE AN "OVERHEAD SCREED" SO THERE IS NO INTERFERENCE WITH THE PLACEMENT AND ALIGNMENT OF SLAB REINFORCING.
20. 3-1/2" FELT JOINTS WILL NOT BE ACCEPTED. PROVIDE A FULL 4" FELT JOINT FOR 4" SLAB CONSTRUCTION, AND A 6" FELT JOINT FOR A 6" SLAB SLAB CONSTRUCTION.
21. SHOULD ANY SHRINKAGE CRACKS OCCUR OUTSIDE OF EITHER THE EXPANSION JOINTS OR CRACK CONTROL JOINTS, THEN THE CONCRETE SLAB SHALL BE SAWCUT AT THE NEAREST JOINTS ON EACH SIDE OF THE CRACK AND THE CONCRETE SECTION SHALL BE, REMOVED AND REPLACED. NEW CONCRETE SHALL BE DOWELED INTO EXISTING CONCRETE PER DRAWING DETAIL.
22. ALL AREAS DISTURBED BY GRADING OPERATIONS WHETHER SHOWN ON THE DRAWINGS OR NOT SHALL BE HYDRO SEEDED UNLESS OTHERWISE NOTED. HYDRO SEEDING SHALL CONFORM TO LOCAL CITY/COUNTY STANDARDS.
23. REPAIR OR PATCHING OF GALVANIZED METALS, SUCH AS AFTER WELDING GALVANIZED COMPONENTS, SHALL BE MADE USING A ZINC COMPOSITION "HOT STICK" APPLICATION PER ASTM A 780-01. GALVANIZING PAINTS WILL NOT BE ALLOWED.

GENERAL PAVING SURFACE NOTES:

1. PROVIDE EQUIVALENT OF MEDIUM BROOM FINISH AT SLOPES UP TO 5.99%, TYPICAL. PROVIDE EQUIVALENT OF HEAVY BROOM FINISH AT SLOPES 6% AND GREATER. REFER TO SPECIFICATIONS.
2. ALL NEW PEDESTRIAN WALKWAYS (NON-RAMP) SHALL BE SLOPED NO GREATER THAN 2.0%, AND NO LESS THAN 0.75% IN ANY DIRECTION, UNLESS SPECIFICALLY LABELED OTHERWISE. ALL CONCRETE SHALL MEET THE FOLLOWING SLOPE REQUIREMENTS:
   - NO GREATER THAN 5% SLOPE IN THE DIRECTION OF TRAVEL.
   - NO GREATER THAN 2% SLOPE CROSSING THE DIRECTION OF TRAVEL.
   - NO GREATER THAN 2% SLOPE IN ANY DIRECTION IN COURTYARD OR PLAZA AREAS.

CIVIL SHEET INDEX

△0 LANDSCAPE/IRRIGATION NOTE:

GENERAL CONTRACTOR IS REQUIRED TO HIRE A LANDSCAPE SUBCONTRACTOR TO PERFORM ALL LANDSCAPE AND IRRIGATION REPAIRS.

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REGISTERED PROFESSIONAL ENGINEER — ANTHONY J TASSANO — No. 074686 — STATE OF CALIFORNIA

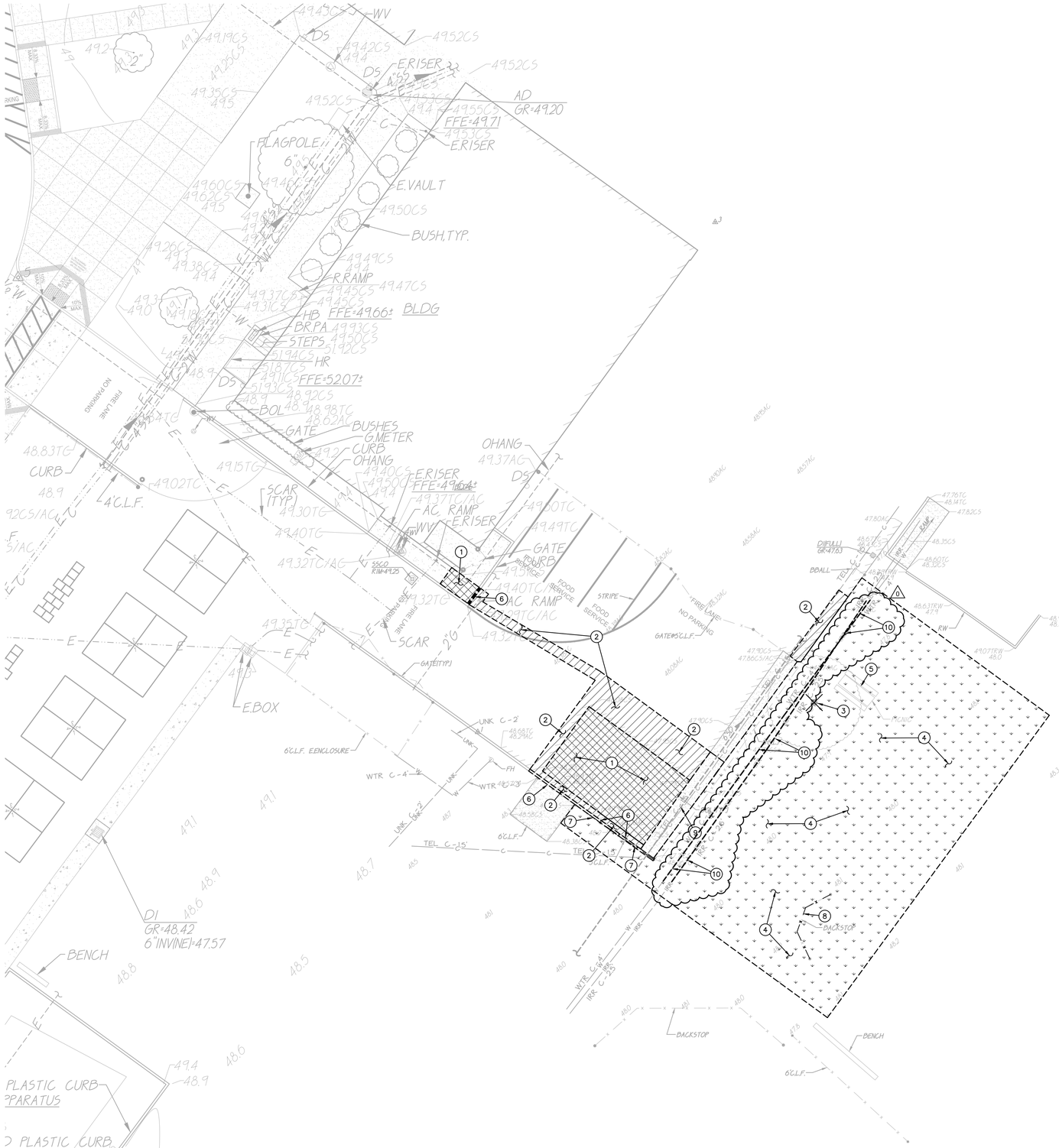
WCE
WARREN CONSULTING ENGINEERS, INC.
1117 WINDFIELD WAY, SUITE 110
EL DORADO HILLS, CA 95762 | (916) 985-1870

SHADE STRUCTURE AT SEQUOIA ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

CIVIL GENERAL NOTES AND ABBREVIATIONS

PROJECT NO. 21-1504.05
DATE: 04/29/22
SHEET C0.1



DEMOLITION NOTES

1. SAWCUT, REMOVE AND DISPOSE OF EXISTING CONCRETE PAVING AND ASSOCIATED AGGREGATE BASE. SAWCUT SHALL BE A NEAT STRAIGHT LINE, MAINTAIN CLEAN, STRAIGHT CUT EDGE UNTIL NEW PAVING IS PLACED.
2. SAWCUT, REMOVE AND DISPOSE OF EXISTING ASPHALT PAVING AND ASSOCIATED AGGREGATE BASE. SAWCUT SHALL BE A NEAT STRAIGHT LINE, MAINTAIN CLEAN, STRAIGHT CUT EDGE UNTIL NEW PAVING IS PLACED.
3. REMOVE AND DISPOSE OF EXISTING TREE, TRUNK AND ASSOCIATED ROOTS.
4. REMOVE AND DISPOSE OF EXISTING LANDSCAPING,TURF AND ASSOCIATED IRRIGATION PIPING/SPRINKLERS WITHIN AREAS OF WORK. CUT AND CAP ANY MAINLINES NEAR WHERE THEY ENTER THE BOUNDARY OF THE PROJECT. MARK ALL CAPPED LINES WITH AN IRRIGATION VALVE BOX. ALL EXISTING IRRIGATION AREAS OUTSIDE THE PROJECT WORK AREA SHALL BE PRESERVED AND OPERATIONAL. INTEGRITY SHALL BE MAINTAINED WITH PROPER SPRINKLER COVERAGE TO TURF AREAS TO REMAIN.
5. REMOVE AND DISPOSE OF EXISTING CONCRETE PAD AND BENCH.
6. REMOVE AND DISPOSE OF EXISTING CONCRETE CURB TO EXTENT SHOWN.
7. REMOVE AND DISPOSE OF EXISTING CHAIN LINK FENCE TO EXTENT SHOWN.
8. REMOVE AND DISPOSE OF EXISTING BACKSTOP.
9. REMOVE AND DISPOSE OF EXISTING CONCRETE VALLEY GUTTER TO EXTENT SHOWN.
10. REMOVE AND DISPOSE OF EXISTING WATER PIPE TO EXTENT SHOWN.

GRAPHIC SCALE

10' 0 5' 10' 20'

(IN FEET) 1 inch = 10 feet

NORTH

THIS DRAWING MAY HAVE BEEN ENLARGED OR REDUCED.

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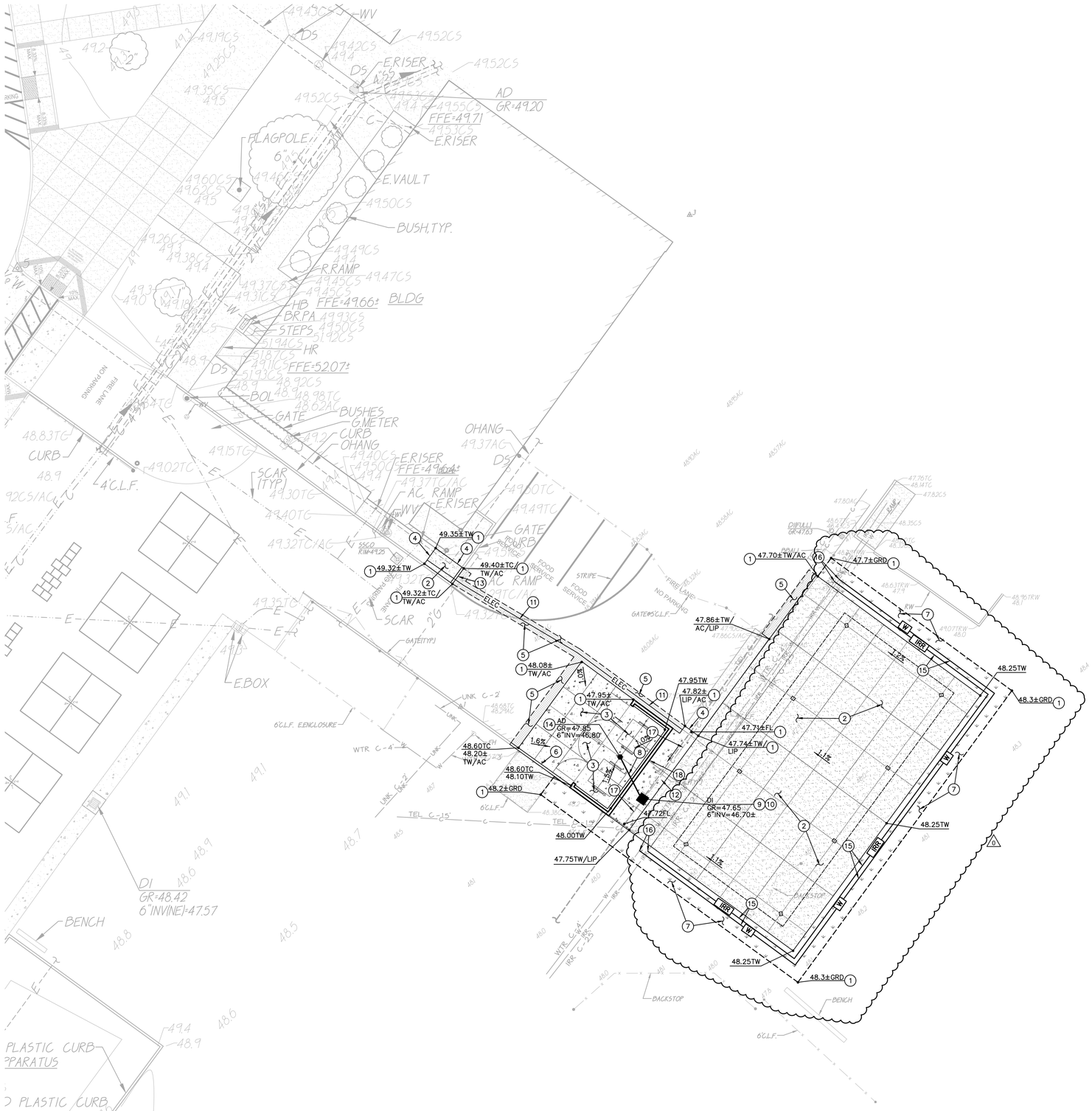
SHADE STRUCTURE AT SEQUOIA ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

DEMOLITION PLAN

PROJECT NO.	21-1504.05
DATE:	04/29/22
SHEET	C1.1



SUBGRADE PREPARATION

1. FOLLOWING SITE DEMOLITION ACTIVITIES:

   EXCAVATE DOWN TO ROUGH SUBGRADE ELEVATION, SCARIFY THE EXISTING SOILS TO A MINIMUM DEPTH OF 12 INCHES, MOISTURE CONDITION TO AT LEAST 2 PERCENT ABOVE THE OPTIMUM MOISTURE AND COMPACT TO AT LEAST 90 PERCENT OF THE MAXIMUM DRY DENSITY DETERMINED BY THE ASTM D1557 TEST METHOD. UPPER 12 INCHES OF SUBGRADE SUPPORTING ASPHALT PAVEMENT SHALL BE COMPACTED TO 95 PERCENT.

CONSTRUCTION NOTES

1. MATCH EXISTING GRADE/ELEVATION.
2. CONSTRUCT CONCRETE SIDEWALK PER 1/C3.1 PLACE 5"PCC WITH #4 REBAR AT 24" O.C.E.W. OVER 12" CL2 AGGREGATE BASE ON COMPACTED SUBGRADE.
3. CONSTRUCT CONCRETE SIDEWALK PER 1/C3.1 PLACE 6"PCC WITH #4 REBAR AT 24" O.C.E.W. OVER 16" CL2 AGGREGATE BASE ON COMPACTED SUBGRADE.
4. DOWEL INTO EXISTING CONCRETE PER 1/C3.1
5. PLACE 3"AC OVER 16"AB ON COMPACTED SUBGRADE.
6. CONSTRUCT CONCRETE CURB PER 2/C3.1
7. PLACE SOD IN ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES THAT ARE NOT TO RECEIVE PAVEMENT. PROVIDE NEW SPRINKLER HEADS AND PIPING AS REQUIRED TO ACHIEVE PROPER COVERAGE.
8. PLACE 6" STORM DRAIN PER 3/C3.1
9. CONSTRUCT DROP INLET PER 4/C3.1
10. CONNECT TO EXISTING STORM DRAIN. PROVIDE ALL FITTINGS NECESSARY TO MAKE CONNECTION.
11. REFER TO ELECTRICAL PLANS FOR CONDUIT PLACEMENT AND DETAILING. PATCH BACK PAVING PER DETAIL 5/C3.1
12. CONSTRUCT CONCRETE VALLEY GUTTER PER 6/C3.1
13. CONSTRUCT FLUSH CONCRETE CURB PER 9/C3.1
14. CONSTRUCT AREA DRAIN PER 8/C3.1
15. PLACE IRRIGATION/WATER PIPE. SIZE TO MATCH EXISTING LINE SIZE 7/C3.1 (0)
16. CONNECT TO EXISTING WATER PIPE. PROVIDE ALL FITTINGS NECESSARY TO MAKE CONNECTION.
17. PLACE 2-SACK CONCRETE SLURRY FROM TOP OF EXISTING ELECTRICAL CONDUIT TO 6" MIN. ABOVE PIPE, EXTENDING 6" ON EITHER SIDE OF PIPE.
18. CONSTRUCT TRASH ENCLOSURE WALL PER 10/A1.1.1

GRAPHIC SCALE

10' 0 5' 10' 20'

(IN FEET) 1 inch = 10 feet

NORTH

THIS DRAWING MAY HAVE BEEN ENLARGED OR REDUCED.

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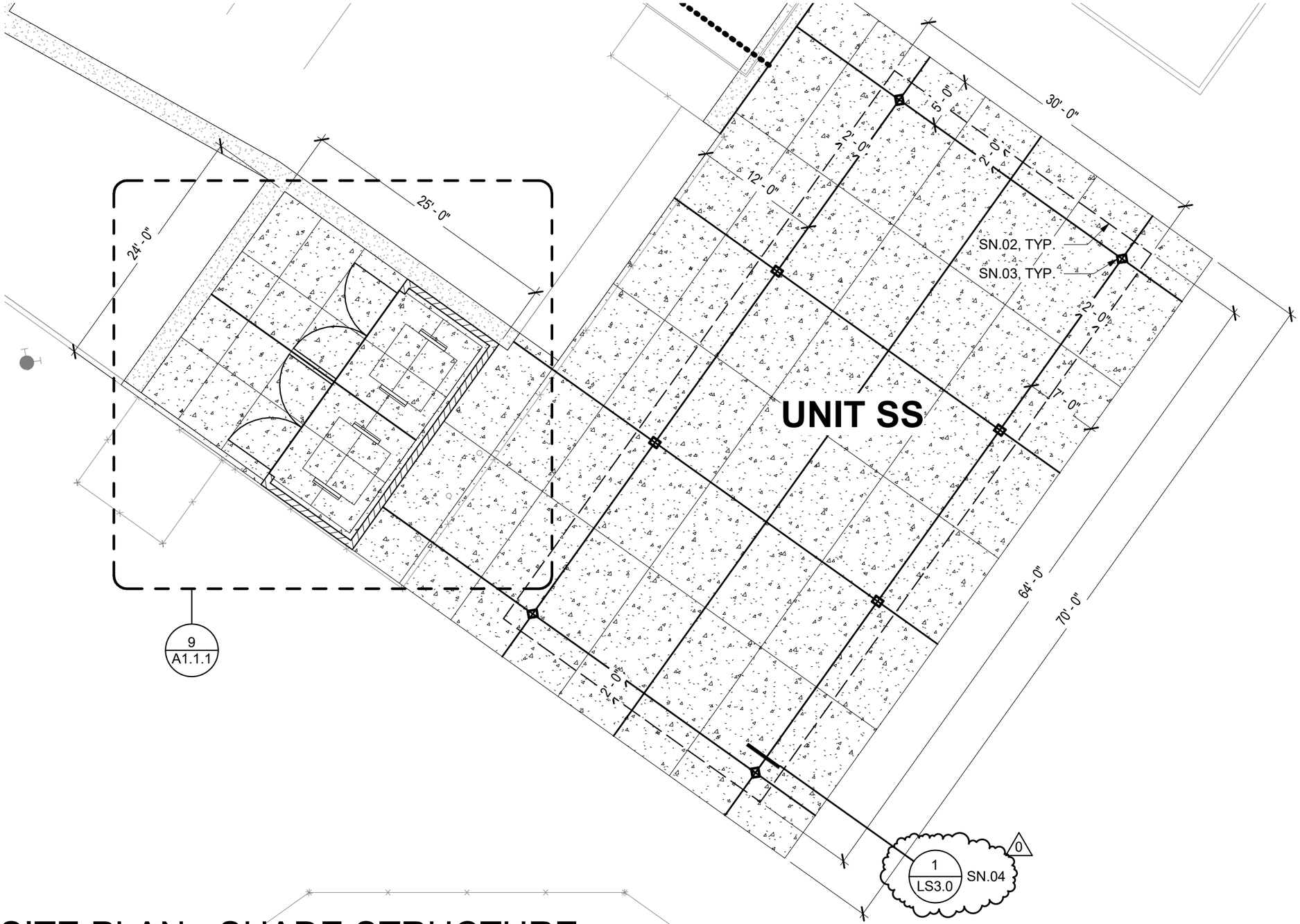
SHADE STRUCTURE AT SEQUOIA ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

GRADING, DRAINAGE AND PAVING PLAN

PROJECT NO. 21-1504.05
DATE: 04/29/22
SHEET C2.1



2 SITE PLAN - SHADE STRUCTURE

1" = 10'-0"

ALL FEATURES, NOTES AND DIMENSIONS NOT SPECIFICALLY SHOWN OR NOTED AS CHANGED SHALL REMAIN AS SHOWN ON PREVIOUSLY ISSUED DOCUMENTS.

LICENSED ARCHITECT
JEFFREY ALAN GRAU
C-14648
5/31/23
RENEWAL DATE
STATE OF CALIFORNIA

ADDENDUM 0

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ENLARGED PLAN **A1.1.1**

SHADE STRUCTURE AT SEQUOIA ELEMENTARY SCHOOL
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA
DSA APP.02-119975

DATE: 04/29/22
PROJECT NO.: 21-1504.05
SHEET: **AD0.04**

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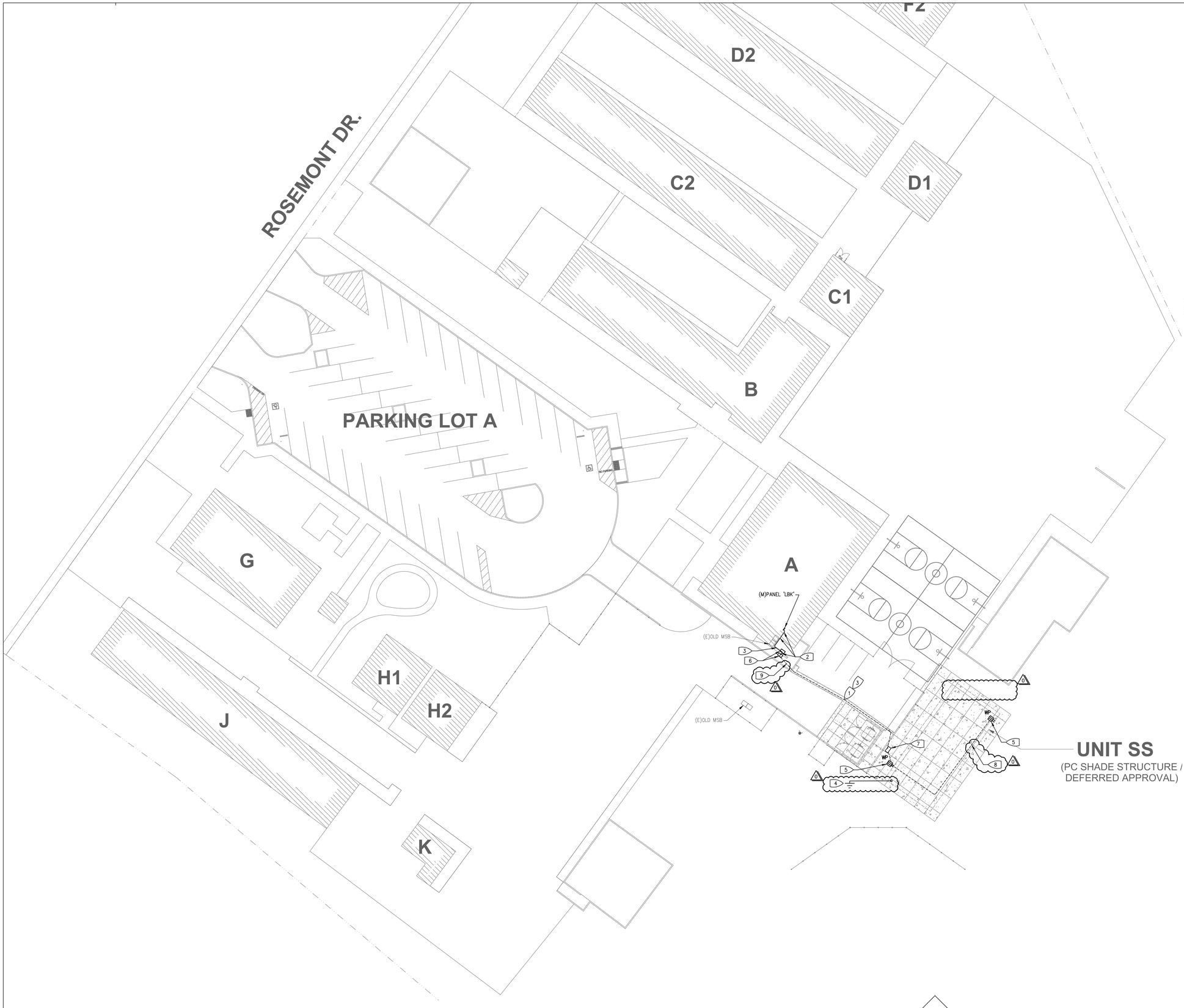
4/29/2022 11:16:15 AM



SHEET NOTES:

1. ALL EXISTING EQUIPMENT, DEVICES, CONDUIT AND WIRING, ETC., SHOWN ON PLANS ARE BASED ON AVAILABLE EXISTING DRAWINGS AND LIMITED SITE SURVEYS, AND SHOWN FOR CLARITY ONLY.
2. SEE ONE LINE DIAGRAM AND PANEL SCHEDULE ON SHEET E2.1 FOR REFERENCE.

KEYED NOTES:

1. PROVIDE TRENCH FOR 24 INCH MINIMUM COVER. LOCATE AND PROTECT (E) UTILITIES, I.E. IRRIGATION, SEWER, DRAINAGE PIPES, ETC. SAW CUT AND PATCH BACK (E) ASPHALT. PROVIDE SAND TO COVER CONDUIT TO SIX(6) INCHES, THEN ADD TRACER TAPE. COMPLETE BACKFILL TO GRADE, COMPACTING IN SIX(6)-INCH LIFTS. FINISH TO MATCH EXISTING. SEE DETAIL 3/E3.1. (0)
2. CONDUIT TO PENETRATE WALL. PATCH BACK TO MATCH (E) BUILDING CONSTRUCTION.
3. PENETRATE WALL AND RUN HIGH ON WALL TO WRAP AROUND SOUTHEAST ALCOVE. PENETRATE WALL AND DROP CONDUIT TO BELOW CONCRETE/ASPHALT. TRENCH TO SHADE LOCATION, INTERCEPTING THE CHRISTY BOX ALONG THE WAY. PAINT EXPOSED CONDUIT TO MATCH (E) FINISH.
4. PROVIDE AT MINIMUM TWO(2) GROUND RODS, ONE AT THE PULL BOX AND ONE NEAR THE CORNER POST OF THE SHADE STRUCTURE, EACH 5/8" BY TEN(10) FEET LONG, OU, AT LEAST TEN(10) FEET APART. BOND TO METAL OF SHADE STRUCTURE. SEE DETAILS 5/E3.1 AND 2/E3.1. (0)
5. LOCKABLE, WEATHERPROOF RECEPTACLE TO HAVE A TWO-GANG BACK BOX WITH 1" THREADED PORT(S). MOUNT RECEPTACLES 36" ABOVE GRADE UNLESS SPECIFIED OTHERWISE. SEE DETAIL 4/E3.1.
6. PROVIDE 8" BY 6" BY 4" NEMA 3R PULL BOX.
7. PROVIDE CHRISTY B1324 PULL BOX WITHIN FIVE(5) FT OF SHADE STRUCTURE. CHRISTY BOX TO HAVE HOLD DOWN BOLTS AND BE LABELED FOR POWER. SEE DETAIL 2/E3.1.
8. RUN CONDUIT BELOW SHADE STRUCTURE CONCRETE PAD. (1)
9. SAW CUT AND PATCH BACK (E) CONCRETE AS REQUIRED FOR TRENCHING.

1 SITE PLAN - ELECTRICAL
SCALE: 1"=20'

N

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Exp. 6/30/22
ELECTRICAL
STATE OF CALIFORNIA

PLOT DATE: 4/26/2022

SHADE STRUCTURE AT SEQUOIA ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

Revision	
(0) ADDENDUM	04/29/22

SITE PLAN - ELECTRICAL

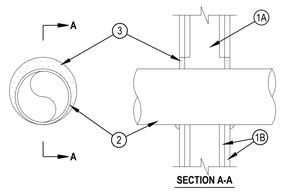
PROJECT NO. 21-1504.05
DATE: 04/29/22
SHEET
E1.1

AD0.05

System No. W-L-1054

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/sq ft L Rating at 400 F — Less Than 1 CFM/sq ft

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.

   The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.
2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

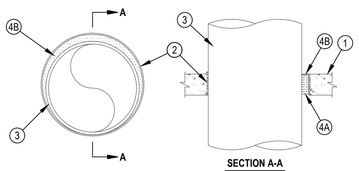
Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 23, 2015

7 WALL PENETRATION FIRESTOP
SCALE: NONE

System No. C-AJ-1226

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Rating — 3 Hr
L Rating At 400 F — 4 CFM/sq ft	FTH Rating — 0 Hr
	L Rating At Ambient — Less Than 1 CFM/sq ft
	L Rating At 400 F — 4 CFM/sq ft

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 32 in. (813 mm).
2. Metallic Sleeve — (Optional) Nom 32 in. (813 mm) diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces or extending a max of 3 in. (76 mm) above floor or beyond both surfaces of wall.

2A. Sheet Metal Sleeve — (Optional) Max 6 in. (152 mm) diam, min 26 ga. galv steel provided with a 26 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. (51 mm) larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. (102 mm) below the bottom of the deck and a max of 1 in. (25 mm) above the top surface of the concrete floor.

2B. Sheet Metal Sleeve — (Optional) - Max 12 in. (305 mm) diam, min 24 ga galv steel provided with a 24 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. (51 mm) larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. (102 mm) below the bottom of the deck and a max of 1 in. (25 mm) above the top surface of the concrete floor.

3. Through-Penetrant — One metallic pipe, tube or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of opening shall be min 0 in. (point contact) to max 1-7/8 in. (48 mm). Penetrant may be installed with continuous point contact. Penetrant to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic penetrants may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Conduit — Nom 6 in. (152 mm) diam (or smaller) steel conduit.
   F. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT).
4. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or sleeve or from both surfaces of wall or sleeve as required to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* — Sealant — Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with top surface of floor or sleeve or with both surfaces of wall or sleeve. At the point or continuous contact locations between penetrant and concrete or sleeve, a min 1/4 in. (6 mm) diam bead of fill material shall be applied at the concrete or sleeve/ pipe penetrant interface on the top surface of floor and on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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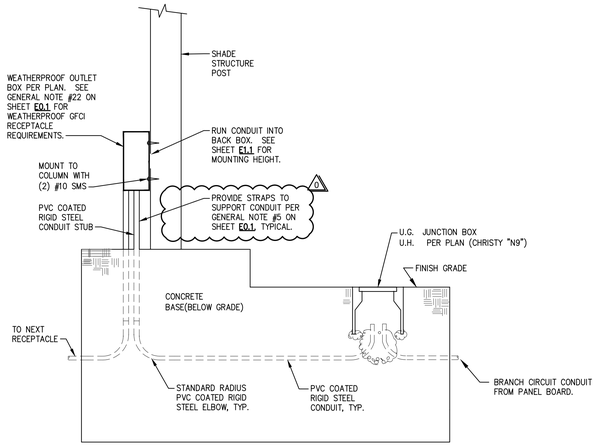
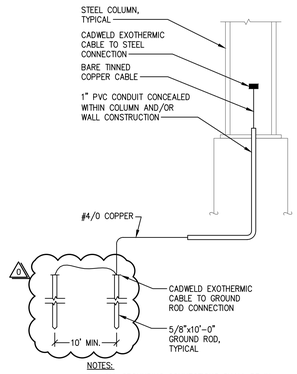
8 WALL PENETRATION FIRESTOP
SCALE: NONE

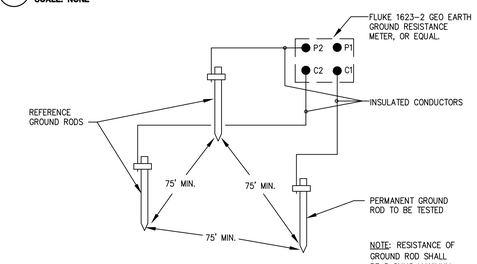


4 CONDUIT STUB IN POST DETAIL
SCALE: NONE



NOTES:
1. ALL GROUNDING CONNECTIONS SHALL BE IN CONFORMANCE WITH N.E.C. ARTICLE 250.
2. FOR ALL ADDITIONAL REQUIREMENTS REFER TO SPEC SECTIONS 26 05 10.

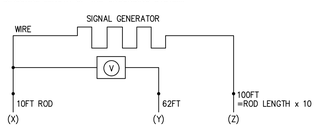
TYPICAL STEEL COLUMN & REBAR GROUNDING DETAIL
SCALE: NONE



NOTE: RESISTANCE OF GROUND ROD SHALL BE 5 OHMS MAXIMUM.

FALL OF POTENTIAL TEST METHOD
NOTES:
1. POWER EQUIPMENT OR SYSTEMS WITH CAPACITY OF 500KVA OR LESS: 10 OHMS.
2. POWER EQUIPMENT OR SYSTEMS WITH CAPACITY OF 500 TO 1000KVA: 5 OHMS.
3. POWER EQUIPMENT OR SYSTEMS WITH CAPACITY GREATER THAN 1000KVA: 3 OHMS.
4. POWER DISTRIBUTION UNITS OR PANELBOARDS SERVING ELECTRONIC I.T. EQUIPMENT: 3 OHMS.
5. MAN-HOLE GROUNDS: 10 OHMS.

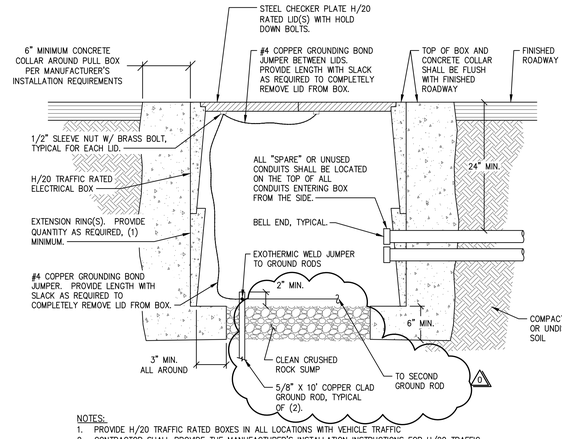
FALL OF POTENTIAL 3-POINT TEST:
GROUND RING, I.E. 10 BY 10 RING, 14' DIAGONAL LENGTH ISOLATION FROM UTILITY NEUTRAL PROBE Z IS DRIVEN A DISTANCE OF 10 TIMES DIAGONAL LENGTH OF THE GROUNDING ROD SYSTEM (ROD X). A SECOND PROBE (Y) IS PLACED IN LINE AT A DISTANCE FROM ROD X EQUAL TO THE DIAGONAL LENGTH OF THE GROUNDING SYSTEM.



AT THIS POINT, A KNOWN CURRENT IS APPLIED ACCROSS X & Z, WHILE THE RESULTING VOLTAGE IS MEASURED ACROSS X & Y. OHMS LAW APPLIED R=V/I. THEN (Y) MOVED TO 2 TIMES THE DIAGONAL LENGTH, THEN MOVE OUT TO 3 TIMES(3X), 4X, .. 9X THE DIAGONAL LENGTH TO COMPLETE THE 3 POINT TEST WITH A TOTAL OF NINE RESISTANCE MEASUREMENTS.

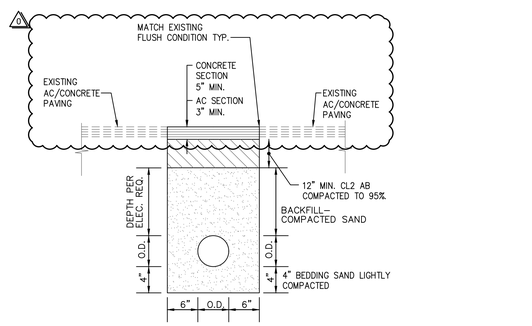
6 METHOD OF TESTING GROUND RODS DETAIL
SCALE: NONE

1 DETAIL REMOVED
SCALE: NONE



NOTES:
1. PROVIDE H/20 TRAFFIC RATED BOXES IN ALL LOCATIONS WITH VEHICLE TRAFFIC
2. CONTRACTOR SHALL PROVIDE THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR H/20 TRAFFIC RATING REQUIREMENTS AS PART OF THE SUBMITTALS.

2 TYPICAL H/20 TRAFFIC RATED PULL BOX
SCALE: NONE



3 TYPICAL TRENCH DETAIL
SCALE: NONE

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Job no. 22.010
consulting mechanical and electrical engineers

REGISTERED PROFESSIONAL ENGINEER — ROBERT A. PETERS — 17247 Exp. 6/30/22 — ELECTRICAL — STATE OF CALIFORNIA

PLOT DATE: 4/26/2022

SHADE STRUCTURE AT SEQUOIA ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

Revision	
0 ADDENDUM	04/29/22

DETAILS

PROJECT NO. 21-1504.05
DATE: 04/29/22
SHEET **E3.1**

AD0.06

Statement of General Conformance

THE FOLLOWING DRAWINGS OR SHEETS LISTED ON THE COVER OR INDEX SHEET HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. IT HAS BEEN EXAMINED BY ME FOR:

1) DESIGN INTENT AND APPEARS TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME, AND
2) COORDINATION WITH MY PLANS AND SPECIFICATIONS AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT.

THE STATEMENT OF GENERAL CONFORMANCE "SHALL NOT BE CONSTRUED AS RELIEVING ME OF MY RIGHTS, DUTIES, AND RESPONSIBILITIES UNDER SECTIONS 17302 AND 81138 OF THE EDUCATION CODE AND SECTIONS 4-336, 4-341, AND 4-344" OF TITLE 24, PART 1. (TITLE 24, PART 1, SECTION 4-317 (b))

SIGNATURE

4/21/22
DATE

ARCHITECT OR ENGINEER DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE

Jeffrey Grau
PRINT NAME

C-14648
LICENSE NUMBER

05/31/23
EXPIRATION DATE

LIST COMPLETELY, ITEMS REVIEWED AND ACCEPTED:

PC SHADE STRUCTURE

DESIGN CRITERIA

DESCRIPTION	DESIGN VALUES
DEAD AND LIVE LOADS	
ROOF LIVE LOAD	20 PSF
ROOF DEAD LOAD (SUPERIMPOSED ON FRAME)	5 PSF MAX
ROOF PANEL DEAD LOAD	M=1.1 PSF, G = 1.2 PSF, S = 1.3 PSF
COLLATERAL DEAD LOAD	M = 3.9 PSF, G = 3.8 PSF, S =3.7 PSF
ROOF SNOW LOAD	
GROUND SNOW LOAD, P_g	20 PSF
RISK CATEGORY	II
ROOF SNOW LOAD: SLOPED, P_s	20 PSF
SITE APPLICATION DSA REVIEWER SHALL VERIFY THE STRUCTURE BE LOCATED AT LEAST 20 FEET FROM ADJACENT STRUCTURE	
SNOW LOAD SLOPE FACTOR, C_s	1.0
SNOW EXPOSURE FACTOR, C_e	1.0
SNOW LOAD IMPORTANCE FACTOR, I_s	1.0
THERMAL FACTOR, C_t	1.2
WIND DESIGN	
BASIC WIND SPEED (3 SECOND GUST), V_{ult}	100 MPH
RISK CATEGORY	II
EXPOSURE CATEGORY	C
FACTORS: K_z, K_{zt}, K_d	0.85, 1, 0.85
$q_h = 0.00256\ K_z\ K_{zt}\ K_d\ V^2$ FOR ALL EAVE HEIGHTS (8', 10' & 12')	18.50 PSF
C_{NW} PER ASCE FIGURE 27.4-5 ROOF ANGLE 18.43 - CLEAR / OBSTRUCTED	CASE A (1.1 / -1.2) CASE B (0.01 / -0.69)
C_{NL} PER ASCE FIGURE 27.4-5 ROOF ANGLE 18.43 - CLEAR / OBSTRUCTED	CASE A (-0.17 / -1.09) CASE B (-0.96 / -1.65)
C_N PER ASCE FIGURE 27.4-7 PARALLEL TO RIDGE - CLEAR / OBSTRUCTED	CASE A (-0.6 / -0.9) CASE B (-0.5 / -0.5)
COMPONENTS & CLADDING - C_N (PRESSURE/SUCTION) CLEAR / OBSTRUCTED	ZONE 3 - (2.29 / -2.11) / (1.0 / -3.0)
	ZONE 2 - (1.77 / -1.63) / (0.8 / -2.3)
	ZONE 1 - (1.15 / -1.05) / (0.5 / -1.5)
SEISMIC DESIGN	
LATERAL FORCE RESISTING SYSTEM	STEEL - ORDINARY CANTILEVER COLUMN
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
SESIMIC IMORTANCE FACTOR, Ie	1.0
SESIMIC SITE CLASS	D
MCE_R SPECTRAL RESPONSE ACCELERATION @ 0.2 s, S_S	2.60
MCE_R SPECTRAL RESPONSE ACCELERATION @ 0.2 s, S_1	0.90
SHORT PERIOD SITE COEFFICIENT, F_a	1.20
LONG PERIOD COEFFICIENT, F_v	1.70
FUNDAMENTAL PERIOD OF THE STRUCTURE, T	0.152 s
DESIGN SPECTRAL RESPONSE ACCELERATION AT SHORT PERIOD, S_{DS}	2.08
DESIGN SPECTRAL RESPONSE ACCELERATION AT SHORT PERIOD, S_{DS} - USED TO DETERMINE Cs (WITH CAP PER ASCE-7 12.8.1.3)	2.08 * 0.70 = 1.456
DESIGN SPECTRAL RESPONSE ACCELERATION AT 1-s PERIODS, S_{D1}	1.02
SEISMIC DESIGN CATEGORY	E
RESPONSE MODIFICATION FACTOR, R	1.25
OVERSTRENGTH FACTOR, Ω	1.25
REDUNDANCY FACTOR, ρ	1.0
HORIZONTAL OR VERTICAL IRREGULARITIES	NONE
SEISMIC RESPONSE COEFFICIENT, Cs (20' WIDE, 30' WIDE, 40' WIDE)	1.16,
DESIGN BASE SHEAR, V (20' WIDE, 30' WIDE, 40' WIDE)	12.73 PSF, 13.41 PSF, 14.65 PSF
ALLOWABLE SOIL BEARING FOR FOUNDATIONS	VARIES - SEE FOUNDATION CHARTS
FLOOD DESIGN - DESIGN IS ASSUMED TO NOT BE IN FLOOD HAZARD AREA	
IF PROJECT IS LOCATED IN A FLOOD ZONE OTHERTHAN ZONE X, A LETTER STAMPED & SIGNED FROM A SOILS ENGINEER IS REQUIRED TO VALIDATE THE ALLOWABLE SOIL VALUES SPECIFIED.	

STRUCTURAL SEPARATION
ALL DEFLECTIONS SHOWN ALSO INCLUDE THE P-DELTA ROTATION PER IR PC-7

DEFLECTIONS ARE FOR (1) STRUCTURE
SOIL CLASSES PER CBC TABLE 1806A.2

MAXIMUM DRIFT δ_{max} SIDE COLUMNS	Soil Class 5	Soil Class 4	Soil Class 3
20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.40	2.55	2.65
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.25	2.35	2.45
40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.20	2.25	2.20
MINIMUM SEPARATION ($\delta_m = C_d\ \delta_{max}$) C_d = 1.25			
20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	3.00	3.19	3.31
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.81	2.94	3.06
40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.73	2.81	2.75
MAXIMUM DRIFT δ_{max} CORNER COLUMNS	Soil Class 5	Soil Class 4	Soil Class 3
20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.20	2.30	2.40
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.30	2.45	2.50
40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.40	2.55	2.65
MINIMUM SEPARATION ($\delta_m = C_d\ \delta_{max}$) C_d = 1.25			
20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.75	2.88	3.00
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.88	3.05	3.13
40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	3.00	3.19	3.31
MAXIMUM DRIFT δ_{max} END COLUMNS	Soil Class 5	Soil Class 4	Soil Class 3
20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	1.60	1.70	1.75
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.00	2.45	2.25
40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.60	2.30	2.80
MINIMUM SEPARATION ($\delta_m = C_d\ \delta_{max}$) C_d = 1.25			
20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.00	2.13	2.19
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	2.50	3.06	2.81
40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT) (INCHES)	3.43	2.88	3.50

ARCHITECTURAL REQUIREMENTS

DESCRIPTION	DESIGN VAULES
TYPE OF CONSTRUCTION	II-B
OCCUPANCY CLASSIFICATION	A-3
NUMBER OF STORIES	1
FIRE SPRINKLER SYSTEM	NOT BY ICON/WEIGHT NOT INCLUDED IN DESIGN

RELATED BUILDING CODES AND STANDARDS

TITLE 24 CODES:

2019 CALIFORNIA ADMINISTRATIVE CODE (CAC)..................(PART 1, TITLE 24, CCR)
2019 CALIFORNIA BUILDING CODE (CBC), VOLUMES 1, AND 2.(PART 2, TITLE 24, CCR)
2019 CALIFORNIA ELECTRICAL CODE....................................(PART 3, TITLE 24, CCR)
2019 CALIFORNIA MECHANICAL CODE (CMC).......................(PART 4, TITLE 24, CCR)
2019 CALIFORNIA PLUMBING CODE (CPC)............................(PART 5, TITLE 24, CCR)
2019 CALIFORNIA ENERGY CODE..(PART 6, TITLE 24, CCR)
2019 CALIFORNIA FIRE CODE (CFC) ....(PART 9, TITLE 24, CCR)
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE......(PART 11, TITLE 24, CCR)
2019 CALIFORNIA REFERENCE STANDARDS CODE..............(PART 12, TITLE 24, CCR)

REFERENCE CODE SECTIONS FOR APPLICABLE STANDARDS:
2019 CBC, CHAPTER 35
2019 CFC, CHAPTER 80

SCOPE OF WORK NARRATIVE

THESE DRAWINGS ILLUSTRATE THE FABRICATION AND INSTALLATION REQUIREMENTS FOR A FREE-STANDING PREFABRICATED STEEL SHADE STRUCTURE. THE ENTIRE STRUCTURAL SYSTEM IS COMPRISED OF HOLLOW STRUCTURAL STEEL MEMBERS SUPPORTED BY CONCRETE FOUNDATIONS. THE FLEXIBILITY INCLUDED HEREIN ALLOWS THE STRUCTURE TO COMPLY WITH A WIDE VARIETY OF PROJECT SITES AND LOADING REQUIREMENTS.

GENERAL:

1. GENERAL NOTES AND TYPICAL DETAILS SHALL APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE THEY MAY CONFLICT WITH DETAILS AND NOTES ON OTHER SHEETS. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED SUBJECT TO REVIEW BY THE STRUCTURAL ENGINEER FOR THIS PROJECT.
2. WORK SHALL CONFORM TO THE REQUIREMENTS, AS AMENDED TO DATE, OF THE LATEST ADOPTED EDITION OF THE CBC, C.A.C. TITLE 24, AND ALL OTHER LOCAL, STATE AND FEDERAL REGULATIONS.
3. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER FOR THIS PROJECT PRIOR TO PROCEEDING WITH ANY WORK INVOLVED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE STRUCTURAL ENGINEER FOR THIS PROJECT AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
5. THESE CONSTRUCTION DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, INCLUDING, BUT NOT LIMITED TO, BRACING, TEMPORARY SUPPORTS, AND SHORING. OBSERVATION VISIT TO THE SITE BY FIELD REPRESENTATIVES OF THE ARCHITECT/ENGINEER SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES. ANY SUPPORT SERVICES PERFORMED BY THE ARCHITECT/ENGINEER DURING THE CONSTRUCTION SHALL BE DISTINGUISHED FROM CONSTRUCTION AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ARCHITECT/ENGINEER, WHETHER OF MATERIAL OR WORK, ARE FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DOCUMENTS, BUT DO NOT GUARANTEE CONSTRUCTION.
6. ASTM DESIGNATIONS AND ALL STANDARDS REFER TO THE LATEST AMENDMENTS.
7. CONFORM TO APPLICABLE CAL/OSHA CONSTRUCTION SAFETY REGULATIONS FOR ALL WORK PERFORMED DURING CONSTRUCTION. JOB SITE SAFETY IS STRICTLY THE RESPONSIBILITY OF THE CONTRACTOR AND NOT THE ARCHITECT/ENGINEER OR OWNER.
8. THE ENGINEER AND THEIR CONSULTANTS SHALL HAVE NO RESPONSIBILITY FOR THE DISCOVERY, HANDLING, REMOVAL OR DISPOSAL OF HAZARDOUS MATERIALS AT THE PROJECT SITE, INCLUDING BUT NOT LIMITED TO ASBESTOS, ASBESTOS PRODUCTS, POLYCHLORINATED BIPHENYL (PCB) OR OTHER TOXIC SUBSTANCES.
9. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS, OR IF A CHANGE IN THE SCOPE OF WORK IS PROPOSED, A CONSTRUCTION CHANGE DOCUMENT DETAILING AND SPECIFYING THE REQUIRED CHANGE(S) SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK.
10. THE SCHOOL DISTRICT INSPECTOR ON RECORD SHALL INSPECT AND APPROVE THE ERECTED FRAME PRIOR TO ROOF INSTALLATION.
11. SEE REQUIREMENTS FOR LOCATION IN ANY FIRE HAZARD SEVERITY ZONE FOR WIDLAND URBAN INTERFACE AREAS (WUI) AS SPECIFIED IN THE APPLICABLE VERSION OF THE CALIFORNIA BUILDING CODE. PROVIDE PROTECTION AND DETAILS OF ALL AREAS COMPLYING WITH THE WUI REQUIREMENTS.
12. LOCATING THIS STRUCTURE CLOSER THAN 20 FEET TO OTHER STRUCTURES MAY AFFECT THE ALLOWABLE AREA FOR THE EXISTING CONSTRUCTION PER THE APPLICABLE VERSION OF THE CALIFORNIA BUILDING CODE.
13. VIEWS AND DETAILS ARE NOT DRAWN TO SCALE (UNLESS NOTED OTHERWISE). DO NOT SCALE THESE DRAWINGS.

STRUCTURAL AND MISCELLANEOUS STEEL:

1. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AMERICAN INSTITUE OF STEEL CONSTRUCTION (AISC) SPECIFICATION MANUAL REFERENCED BY THE LATEST EDITION OF THE CALIFORNIA BUILDING CODE.
2. PIPE SECTIONS SHALL CONFORM TO ASTM A53, Fy = 35 KSI, GRADE B OR A501 UNLESS NOTED OTHERWISE.
3. STRUCTURAL TUBING (HSS SHAPES) SHALL CONFORM TO ASTM A-500, GRADE B (OR C), Fy = 46 KSI (MIN).
4. IF MATERIAL AVAILABILITY IS LIMITED, MEMBER THICKNESS CAN BE INCREASED BEYOND WHAT IS SHOWN IN THESE DRAWINGS (MAXIMUM INCREASE OF 1/8").
5. ALL CHANNELS, ANGLES, AND MISC. STEEL SHALL CONFORM TO ASTM A-36, Fy = 36 KSI.
6. ALL PLATE STEEL SHALL CONFORM TO ASTM A-572, Fy= 50 KSI.
7. ALL COLD FORM STEEL SHALL CONFORM TO ASTM A-653, CS = TYPE B, Fy = 50 KSI.
8. STRUCTURAL STEEL AND DECK SHALL BE IDENTIFIED FOR CONFORMITY PER CBC 2202A.1.
9. ALL ROOF DECKS SHALL HAVE KYNAR 500 METAL COATING.
10. ALL ROOF DECKS SHALL CONFORM TO ASTM A-792, Fy = 50 KSI.

INSTRUCTIONS FOR ARCHITECTS SUBMITTING THESE PRE-CHECKED DRAWING TO DSA:

BEFORE SUBMITTING THESE PRE-CHECKED DRAWINGS FOR YOUR PROJECT, FOLLOW THE STEPS BELOW TO PROPERLY DEFINE THE APPROVED OPTIONS:

STEP 1: SELECT FRAME DIMENSIONS FOR YOUR PROJECT
-GABLE STRUCTURES UP TO 20' WIDE USE THE "RG 20" BASE FRAME
-GABLE STRUCTURES UP TO 30' WIDE USE THE "RG 30" BASE FRAME
-GABLE STRUCTURES UP TO 40' WIDE USE THE "RG 40" BASE FRAME
-MAXIMUM WIDTH IS 40' (SEE "ARCHITECTURAL VIEWS" SHEET FOR REFERENCE)
-THE 24', 44', 64', 84' AND 104' LENGTHS ARE SUGGESTED BECAUSE THEY ARE THE MOST COMMON (20' BAYS ARE THE MOST ECONOMICAL)
-FRAME LENGTHS ASSUME 2' OVERHANGS (UNO BY ARCHITECT - 2' MAX DIMENSION)

STEP 2: SELECT ROOF DECK FOR YOUR PROJECT
-"M" REPRESENTS McELROY METAL "MULTI-RIB" ROOF PANEL
-"G" REPRESENTS McELROY METAL "MEGA-RIB" ROOF PANEL
-"S" REPRESENTS McELROY METAL "MEDALLION-LOK" 16" STANDING SEAM ROOF PANEL

STEP 3: IDENTIFY THE Ss ACCELERATION (g) FOR YOUR PROJECT
-Ss VALUE DETERMINES THE REQUIRED SEISMIC DESIGN FORCES
-Ss VALUE DEPENDS ON THE PROJECTS GEOGRAPHICAL LOCATION (VALUES RANGE FROM 0.00 TO 3.73)

STEP 4: IDENTIFY THE Ss REGION FOR YOUR PROJECT
-THE REGIONS ARE DEPENDANT ON THE Ss VALUE DETERMINED IN STEP 3
-THE Ss REGION DICTATES THE MAXIMUM DEAD LOAD PERMITTED ON THE FRAME (SEE TABLE TO RIGHT)

STEP 5: IDENTIFY THE ROOF DEAD LOAD FOR YOUR PROJECT
-THE ROOF DECK DEAD LOAD WILL ALWAYS BE INCLUDED
-THE COLLATERAL LOAD REPRESENTS ADDITIONAL LOAD THAT CAN BE SUPPORTED BY THE FRAME
-BE SURE THE TOTAL ROOF DEAD LOAD FOR YOUR PROJECT IS LESS THAN OR EQUAL TO THE MAX DEAD LOAD SHOWN IN STEP 4 FOR YOUR Ss VALUE
-Sds VALUE USED IN CALCULATION IS THE CAPPED Sds (SEE DESIGN CRITERIA)

STEP 6: IDENTIFY THE FOUNDATION REQUIREMENTS FOR YOUR PROJECT
-IDENTIFY SOIL CLASS FOR PROJECT SITE PER SITE SPECIFIC SOIL CONDITIONS
-USE THIS TO SELECT CORRECT FOUNDATION SIZE ON FOUNDATION SHEET

STEP 7: SELECT MISCELLANEOUS OPTIONS FOR YOUR PROJECT
-MAXIMUM CLEAR HEIGHT IS 12'-0"; (SEE "ARCHITECTURAL VIEWS" SHEET FOR REFERENCE)
-MARK UP PC DRAWINGS WITH SIZE AND LOCATION OF CUTOUTS BEFORE SUBMITTING TO DSA

STEP 8: SELECT APPLICABLE SHEET INDEX FOR YOUR PROJECT
-REFERENCE THE BASE FRAME (STEP 1) AND THE ROOF PANEL TYPE (STEP 2)
-IDENTIFY THE APPLICABLE SHEET INDEX

STEP 9: INCLUDE APPLICABLE SHEETS WITH YOUR DSA SUBMITTAL
-INCLUDE 'MISC DESIGN OPTIONS' SHEET FOR PROJECTS WITHOUT ELECTRICAL CUTOUTS OR GUTTERS

NOTICE OF DISCLAIMER FOR STRUCTURAL ENGINEERING RESPONSIBILITY

1. PER TITLE 24, PART 1, SECTION 4-316(e) OF THE CALIFORNIA CODE OF REGULATIONS, THIS NOTICE SHALL BE GIVEN TO DSA PRIOR TO THE APPROVAL OF PLANS AND SPECIFICATIONS.
2. FOR THE SITE SPECIFIC PROJECT, J. R. MILLER & ASSOCIATES IS NOT THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE.
3. FOR THE SITE SPECIFIC PROJECT, J.R. MILLER & ASSOCIATES' RESPONSIBILITY IS LIMITED TO THE PREPARATION OF THE PLANS AND SPECIFICATIONS FOR THE SHELTERS OF THIS PC ONLY.
4. STRUCTURAL OBSERVATION OF CONSTRUCTION IS SPECIFICALLY EXCLUDED FROM J.R. MILLER & ASSOCIATES' RESPONSIBILITY FOR THE SITE SPECIFIC PROJECT.
5. ALL CONSTRUCTION ACTIVITIES RELATED TO STRUCTURAL ENGINEERING SHALL BE DELEGATED TO A QUALIFIED ENGINEER BY THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE. THESE ACTIVITIES INCLUDE, BUT ARE NOT LIMITED TO, APPROVAL OF INSPECTOR QUALIFICATIONS, STRUCTURAL OBSERVATION OF CONSTRUCTION, REVIEW OF INSPECTION REPORTS, AND SIGNING OFF OF THE VERIFIED REPORT FOR COMPLETED WORK.
6. J.R. MILLER & ASSOCIATES WILL BE RESPONSIBLE FOR RESPONDING TO QUESTIONS PERTAINING TO THE PLANS AND SPECIFICATIONS FOR THE SHELTERS OF THIS PC WHICH ARISE DURING PLAN REVIEW AND CONSTRUCTION.

WELDING:

1. ALL WELDING SHALL COMPLY WITH AWS D1.1 SPECIFICATIONS AND SHALL BE DONE BY AWS QUALIFIED WELDERS CERTIFIED FOR THE TYPE OF WELDING TO BE PERFORMED AS REQUIRED BY DSA.
2. ALL WELDING SHALL BE DONE BY GAS METAL ARC PROCESS WITH E70XX ELECTRODES. FLUX CORE ARC WELD SHALL CONFORM TO CHARPY NOTCH TOUGHNESS RATING OF 20 ft-lb @ (0° F).
3. ALL WELDING SHALL BE DONE IN THE SHOP WITH REQUIRED INSPECTION, PRE-APPROVED BY DSA, TO ENSURE PROPER MATERIAL ID AND WELDING.
4. WELD FILLER METAL MANUFACTURER SHALL PROVIDE WRITTEN CERTIFICATION OF COMPLIANCE WITH CODE AND SPECIFICATIONS.

BOLTING:

1. ALL BOLTS SHOWN ON THESE DRAWINGS ARE ASTM F3125 GRADE A325 HIGH STRENGTH BOLTS (UNO), WITH THE NUTS CONFORMING TO ASTM A-563.
2. HIGH STRENGTH BOLTS SHALL BE VERIFIED AND INSPECTED PER CBC 1705A2.1.
3. BEFORE ERECTING THE FRAME, VERIFY ALL BOLTS AND NUTS ARE CLEAN OF DEBRIS AND BURRS - INCLUDING THE HARDWARE ALREADY FASTENED INSIDE THE MEMBERS. CHASING SOME OF THE BOLTS AND NUTS MAY BE REQUIRED.
4. HARDENED STEEL WASHERS SHALL CONFORM TO ASTM F-436.
5. THE BOLTING INSTALLATION REQUIREMENTS OUTLINED BELOW ARE CRITICAL TO THE STRUCTURE'S DESIGN AND PERFORMANCE. THE INSTALLER IS REQUIRED TO COORDINATE THIS PHASE OF CONSTRUCTION WITH THE SPECIAL BOLTING INSPECTOR AND THE INSPECTOR OF RECORD PRIOR TO THE ERECTION OF THE FRAME. ALL BOLTS SHALL BE INSTALLED AND INSPECTED PER THE APPLICABLE VERSION OF AISC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS", CBC 1705A.2.1; AISC 341-16 J7; AISC 360-16 N5.6.
   A)PRETENSIONED JOINTS MUST BE INSTALLED AND INSPECTED TO MEET ONE OF THE FOLLOWING REQUIREMENTS:
   1. TURN-OF-NUT PRETENSIONING
   2. CALIBRATED WRENCH PRETENSIONING
   3. DIRECT-TENSION-INDICATOR PRETENSIONING (CONTRACTOR RESPONSIBLE FOR PURCHASE OF REQUIRED WASHERS)

FOUNDATIONS:

1. ALLOWABLE SOIL PRESSURES ASSUME CLASS 5 SOIL CLASSIFICATION PER CBC TABLE 1806A, UNLESS NOTED OTHERWISE.
2. PER CBC SECTION 1803A.2, GEOTECHNICAL REPORTS ARE NOT REQUIRED FOR ONE-STORY LIGHT-STEEL FRAME BUILDINGS OF TYPE II CONSTRUCTION AND 4,000 SQUARE FOOT OR LESS IN FLOOR AREA AND NOT LOCATED WITHIN EARTHQUAKE FAULT ZONESOR SIESMIC HAZARD ZONES AS SHOWN ON THE MOST RECENT MAPS PUBLISHED BY THE CGS. ALLOWABLE FOUNDATION AND LATERAL SOIL PRESSURE VALUES MAY BE DETERMINED FROM TABLE 1806A.2.
3. FILL AND BACKFILL SHALL BE COMPACTED TO 95% OF MAX. DENSITY IN ACCORDANCE WITH ASTM TEST METHOD D-1557 OR AS RECOMMENDED BY THE GEO-TECH ENGINEER. FLOODING NOT PERMITTED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING, ETC. NECESSARY TO SUPPORT CUT AND/OR FILL BANKS DURING EXCAVATION, AND FORMING AND PLACEMENT OF CONCRETE.
5. MINIMUM SETBACK FROM TOE OF SLOPE ON AN ASCENDING SLOPE SHALL BE 15 FEET AND MINIMUM SETBACK FROM TOE OF SLOPE ON A DESCENDING SLOPE SHALL BE 40 FEET
6. PER CBC SECTION 1803A.6, GEOHAZARD REPORTS ARE NOT REQUIRED FOR ONE-STORY LIGHT-STEEL FRAME BUILDINGS OF TYPE II CONSTRUCTION AND 4,000 SQUARE FOOT OR LESS IN FLOOR AREA AND NOT LOCATED WITHIN EARTHQUAKE FAULT ZONESOR SIESMIC HAZARD ZONES AS SHOWN ON THE MOST RECENT MAPS PUBLISHED BY THE CGS.
7. GEOHAZRD REPORTS ARE TO COMPLY WITH DSA IR A-4 PER IR-7 SECTION 1.8
8. SITE SPECIFIC GEOTECHNICAL REPORT IS REQUIRED AT THE TIME OF SITE APPLICATION IS USING OTHER THAN CLASS 5 SOIL, PER DSA IR PC-7
9. LATERAL BEARING HAS BEEN INCREASED PER CBC 1806A.3.4 & HAS BEEN DESIGNED FOR P-DELTA EFFECTS

CONCRETE:

1. MIX DESIGN REQUIREMENTS: (NORMAL WEIGHT CONCRETE)

STRENGTH Pc (28 DAYS)	W/C RATIO (NON-AIR ENTRAINED)	W/C RATIO (AIR ENTRAINED)	SLUMP (±1")	UNIT WEIGHT (NORMAL WEIGHT)
4500 PSI	0.44	0.35	3"	150 PCF

2. CONCRETE MIX DESIGN PARAMETERS ARE GOOD FOR EXPOSURE CATEGORIES F0, F1 & F2. THE AIR ENTRAINMENT FOR THESE CATEGORIES SHALL BE AS FOLLOWS: F0-0, F1-4.5, F2-6
3. AGGREGATES SHALL CONFORM TO THE ASTM C-33 WITH PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN 0.005. MAX AGGREGATE SIZE = 1".
4. CEMENT SHALL CONFORM TO ASTM C-150 (TYPE V) UNLESS NOTED OTHERWISE ON THE DRAWINGS.
5. CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR A MINIMUM OF FIVE DAYS AFTER PLACEMENT. ALTERNATE METHODS WILL BE APPROVED IF SATISFACTORY PERFORMANCE CAN BE ASSURED.
6. CONCRETE SHALL NOT FREE FALL MORE THAN FIVE FEET.
7. CONCRETE DURABILITY SHALL BE PER CBC 1904A.1 & ACI 318-14 CHAPTER 19.
8. CONCRETE SHALL BE TESTED PER CBC 1903A, TABLE 1705A.3. AND ACI 318-14 SECTION 26.12.

STEP 10: IDENTIFY PROJECT NAME AND SCHOOL DISTRICT

PROJECT NAME:	SCHOOL DISTRICT:
SHADE STRUCTURE AT SEQUOIA ELEMENTARY SCHOOL	SACRAMENTO CITY UNIFIED SCHOOL DISTRCIT

STEP 1 – FRAME DIMENSIONS

	SUGGESTED				OTHER
FRAME WIDTH	[ ] 20'	[X] 30'	[ ] 40'		[ ] (40' MAX)
FRAME LENGTH	[ ] 44'	[X] 64'	[ ] 84'	[ ] 104'	[ ] (NO MAX)

STEP 2 – ROOF PANEL

ROOF PANEL TYPE	[ ] M [ ] G [X] S

STEP 3 – PROJECT SITE – Ss ACCELERATION (g): 0.496

STEP 4 – Ss REGION

		Ss REGIONS	MAX DEAD LOAD
DESCRIPTION	X	0 < Ss <= 2.14	5 PSF
		2.14 < Ss <= 2.50	5 PSF
		2.50 < Ss <= 2.75	5 PSF
		2.75 < Ss <= 3.00	4 PSF
		Ss > 3.73 MAX	3 PSF

STEP 5 – TOTAL ROOF DEAD LOAD

	DEAD LOAD	EXAMPLES
ROOF DECK	1.3 PSF	M=1.1PSF; G=1.2PSF ;S=1.3PSF (SEE STEP 2)
COLLATERAL	0 PSF	LIGHTING, ETC
TOTAL	1.3 PSF	ADD ROOF DECK AND COLLATERAL LOADS (MAX 5 PSF)

CONSTRUCTION NOTES

1. A DSA-CERTIFIED CLASS 3 PROJECT INSPECTOR IS REQUIRED FOR THIS PROJECT.
2. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY DSA, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
3. A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF WORK, THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.
4. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
5. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS ARE THAT ALL THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK, (SECTION 4-317(c), PART 1, TITLE 24, CCR)
6. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES

REINFORCING STEEL:

1. REINFORCING STEEL SHALL BE DEFORMED STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-615, AS FOLLOWS:
   GR 60: (#4 BARS AND LARGER)
   GR 40: (#3 BARS)
2. DETAILING, FABRICATION, AND ERECTION OF REINFORCING BARS SHALL CONFORM TO THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCING CONCRETE STRUCTURES."
3. MIN. COVER FOR CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS:
   A. CAST AGAINST EARTH ....3"
   B. CAST AGAINST FORM BELOW GRADE ....2"
   C. FORMED SLABS (#11 BAR & SMALLER)..........3/4"
   D. SLABS ON GRADE (FROM TOP OF SLAB)..........1"
4. BARS SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIAL LIKELY TO IMPAIR BOND. BENDS SHALL BE MADE COLD.
5. REINFORCING SHALL BE LAP SPLICED PER ACI 318-14 SECTION 25.5.
6. PRIOR TO PLACING OF CONCRETE, REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE WELL SECURED IN POSITION.
7. WELDING OF REINFORCING IS NOT ALLOWED.
8. REINFORCING STEEL SHALL BE INSPECTED PER CBC 1705A.3.

POWDER-COAT FINISH SYSTEM:

ALL BUILDINGS THAT HAVE A POWDER-COATED FINISH SHALL MEET THE FOLLOWING SPECIFICATIONS:
1. THE STEEL FRAME SHALL BE SHOT-BLASTED TO A NEAR WHITE CONDITION PER SSPC-10 SPECIFICATIONS.
2. THE STEEL SHALL BE WASHED IN A ZINC PHOSPHATE IN AN MINIMUM EIGHT STAGE ELECTRO DEPOSITION PRE-TREATEMENT PROCESS.
3. IMMEDIATELY FOLLOWING PRE-TREATMENT THE STEEL SHALL BE TOTALLY IMMERSED IN A LIQUID EPOXY PRIMER(E-COAT) AND COATED TO A UNIFORM THICKNESS OF A MINIMUM OF 0.7 TO 0.9 MILS. THE E-COATING SHALL PROVIDE A MINIMUM OF 1000 HOURS OF SALT SPRAY CORROSION PROTECTION TO THE STEEL.
4. THE STEEL SHALL THEN HAVE A TGIC POLYESTER COLOR COAT APPLIED OVER THE E-COATED SURFACE.
5. THE COLOR COAT SHALL THEN HAVE A CLEAR TGIC COATING APPLIED TO SEAL IN THE COLOR COAT AND RESIST ULTRAVIOLET LIGHT, TO HELP PREVENT FADING.
6. THE FINISH THICKNESS OF THESE THREE APPLICATIONS SHALL BE A MINIMUM OF 8 TO 12 MILS.
7. ALL CARBON STEEL MEMBERS (COLUMNS, BEAMS, PLATES, ETC.) NOT POWDER-COATED SHALL BE PAINTED WITH PRIME COAT PER THE "AISC CODE OF STANDARD PRACTICE" AND THE "AISC SPECIFICATION SECTION M3"(UNLESS NOTED OTHERWISE).

ABBREVIATIONS:

ACI	AMERICAN CONCRETE INSTITUTE	MPH	MILES PER HOUR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	M	MULTI-RIB ROOF PANEL (MCELROY)
ASM	ASSEMBLY (INTERNAL REFERENCE)	NTS	NOT TO SCALE
ASTM	AMERICAN SOCIETY FOR TESTING AND MAT'LS	NO	NUMBER
AWS	AMERICAN WELDING SOCIETY	OC	ON CENTER
CBC	CALIFORNIA BUILDING CODE	OSHA	OCCUPATIONAL HEALTH AND SAFETY ADMIN
CJP	COMPLETE JOINT PENETRATION	PCF	POUNDS PER CUBIC FOOT
CLR	CLEAR	PJ	PRETENSIONED JOINT
DEG	DEGREE	PLCS	PLACES
DIA	DIAMETER	PLT	PLATE
DIM	DIMENSION	PSF	POUNDS PER SQUARE FOOT
DSA	DIVISION OF THE STATE ARCHITECT	PSI	POUNDS PER SQUARE INCH
EQ	EQUAL	QTY	QUANTITY
FT	FEET	REF	REFERENCE
GA	GAGE	SQ	SQUARE
IN	INCHES	SS	STANDING SEAM ROOF PANEL (MCELROY)
KSI	KIPS PER SQUARE INCH	TYP	TYPICAL
MAX	MAXIMUM	UNO	UNLESS NOTED OTHERWISE
MIN	MINIMUM	USGS	U.S. GEOLOGICAL SURVEY
MISC	MISCELLANEOUS	W/	WITH

STEP 6 – FOUNDATION REQUIREMENTS

SOIL CLASS 5 (BEARING)-1500 PSF [X]	SOIL CLASS 4 (BEARING)-2000 PSF [ ]	SOIL CLASS 3 (BEARING)-3000 PSF [ ]
SOIL CLASS 5 (LATERAL BEARING)-100 PSF	SOIL CLASS 4 (LATERAL BEARING)-150 PSF	SOIL CLASS 3 (LATERAL BEARING)-200 PSF

STEP 7 – MISCELLANEOUS

	DESIGN OPTIONS	
CLEAR HEIGHT	[ ] 8' [X] 10' [ ] 12'	[ ] ' (12' MAX)
ELECTRICAL CUTOUTS	[X] YES	[ ] NO
GUTTERS	[X] YES	[ ] NO

STEP 8 – SHEET INDEX

BASE FRAME	RG 20			RG 30			RG 40		
ROOF PANEL TYPE	M	G	S	M	G	S	M	G	S
SELECT ONE	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[ ]	[ ]	[ ]
GENERAL NOTES	LS1.0	LS1.0	LS1.0	LS1.0	LS1.0	LS1.0	LS1.0	LS1.0	LS1.0
DSA 103 EXAMPLE	LS1.1	LS1.1	LS1.1	LS1.1	LS1.1	LS1.1	LS1.1	LS1.1	LS1.1
FOUNDATION PLAN	LS2.0	LS2.0	LS2.0	LS3.0	LS3.0	LS3.0	LS4.0	LS4.0	LS4.0
FRAMING PLAN	LS2.1	LS2.1	LS2.1	LS3.1	LS3.1	LS3.1	LS4.1	LS4.1	LS4.1
FRAME CONNECTION DETAILS	LS2.1	LS2.1	LS2.1	LS3.1	LS3.1	LS3.1	LS4.2	LS4.2	LS4.2
ROOFING LAYOUT & DETAILS	LS2.2	LS2.3	LS2.4	LS3.2	LS3.3	LS3.4	LS4.3	LS4.4	LS4.5
MISC DESIGN OPTIONS	LS5.0	LS5.0	LS5.0	LS5.0	LS5.0	LS5.0	LS5.0	LS5.0	LS5.0

DESIGN CRITERIA FOR 3333 ROSEMONT DRIVE, SACRAMENTO, CA 95826

DESCRIPTION	DESIGN VALUES
WIND DESIGN	
BASIC WIND SPEED (3 SECOND GUST), V_{ult}	94 MPH
RISK CATEGORY	II
EXPOSURE CATEGORY	C
SEISMIC DESIGN	
SEISMIC SITE CLASS	D
Ss	0.496

*All information provided by https://asce7hazardtool.online/and https://seismicmaps.org/

PRE-CHECK (PC) DOCUMENT
Code: 2019 CBC
A separate project application for construction is required.

ICON STD	RH/DSA-PC
DRAWN BY	ANGEL
DATE	4/2/2021
REV	
REV DATE	

JRMA ARCHITECTS ENGINEERS
2700 SATURN ST I BREA, CA 92821
T. 714.524.1870 I F. 714.524.1875
WWW.JRMA.COM
REGISTERED PROFESSIONAL ENGINEER MICHAEL D. LOCK S4092 STRUCTURAL STATE OF CALIFORNIA
07/29/2021

GENERAL INFO

ICON Shelter Systems Inc
DISTINCTIVE STEEL SHELTERS
WWW.ICONSHELTERS.COM

1455 LINCOLN AVE
HOLLAND MI, 49423
616.396.0919
800.748.0985
616.396.0944 FX

LS1.0

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SHADE STRUCTURE AT SEQUOIA ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

△ Revision

GENERAL INFO

PROJECT NO.	21-1504.05
DATE:	4/7/22
SHEET	LS1.0

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2019 CBC

Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

2019 CBC

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as: structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2019 CBC).

NOTE: Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE	2. PERFORMED BY
Continuous – Indicates that a continuous special inspection is required	**GE** – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative.
Periodic – Indicates that a periodic special inspection is required	**LOR** – Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335.
Test – Indicates that a test is required	**FI** – Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA.
	SI – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

Geotechnical Reports: Project has a geotechnical report, or CDs indicate soils special inspection is required by GE

	1. GENERAL:	Table 1705A.6		
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Verify that: • Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations. • Foundation excavations are extended to proper depth and have reached proper material. • Materials below footings are adequate to achieve the design bearing capacity.	Periodic	GE*	* By geotechnical engineer or his or her qualified representative. (See Appendix for exemptions.)

	2. SOIL COMPACTION AND FILL:	Table 1705A.6		
	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a. Perform classification and testing of fill materials.	Test	LOR*	* Under the supervision of the geotechnical engineer.
☐	b. Verify use of proper materials, densities and inspect lift thickness, placement and compaction during placement of fill.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. (Refer to specific items identified in the Appendix for exemptions where soils SI and testing may be conducted under the supervision of a geotechnical engineer or LOR's engineering manager. In such cases, the LOR's form DSA 291 shall satisfy the soil SI and test reporting requirements for the exempt items.)

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
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School District: PC Submittal
Date Created: 2021-07-14 05:50:33

☐	c. Compaction testing.	Test	LOR*	* Under the supervision of the geotechnical engineer. (Refer to specific items identified in the Appendix for exemptions where soils testing may be conducted under the supervision of a geotechnical engineer or LOR's engineering manager. In such cases, the LOR's form DSA 291 shall satisfy the soil test reporting requirements for the exempt items.)

	4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):	Table 1705A.8		
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Inspect drilling operations and maintain complete and accurate records for each pier.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. (See Appendix for exemptions.)
☐	b. Verify pier locations, diameters, plumbness, bell diameters (if applicable), lengths and embedment into bedrock (if applicable); record concrete or grout volumes.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. (See Appendix for exemptions.)
☐	c. Confirm adequate end strata bearing capacity.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. (See Appendix for exemptions.)
☑	d. Concrete piers.	Provide tests and inspections per CONCRETE section below.		

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

	5. RETAINING WALLS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a. Placement, compaction and inspection of backfill.	Continuous	GE*	**1705A.6.1,** * By geotechnical engineer or his or her qualified representative. (See Section 2 above).
☐	b. Placement of soil reinforcement and/or drainage devices.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative
☐	c. Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative (See DSA IR 16-3
☐	d. Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
☐	e. Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

	6. OTHER SOIL			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a. Soil Improvements	Test	GE*	Submit a comprehensive report documenting final soil improvements constructed, construction observation and the results of the confirmation testing and analysis to DSA for final acceptance. * By geotechnical engineer or his or her qualified representative
☐	b. Inspection of Soil Improvements	Continuous	GE*	* By geotechnical engineer or his or her qualified representative
☐	c.			

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC

Table 1705A.3; ACI 318-14 Sections 26.12 & 26.13
Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

	7. CAST-IN-PLACE CONCRETE			
	Test or Special Inspection	Type	Performed By	Code References and Notes
	Material Verification and Testing:			
☑	a. Verify use of required design mix.	Periodic	SI	**Table 1705A.3 Item 5, 1904A.1.**
☑	b. Identify, sample, and test reinforcing steel.	Test	LOR	**1910A.2;** ACI 318-14 Section 26.6.1.2; DSA IR 17-10. (See Appendix for exemptions.)
☑	c. During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Test	LOR	**Table 1705A.3 Item 6;** ACI 318-14 Sections 26.5 & 26.12.
☑	d. Test concrete (F.).	Test	LOR	**1905A.1.15;** ACI 318-14 Section 26.12.
	Inspection:			
☐	e. Batch plant inspection:	Specified	SI	Default of **'Continuous' per 1705A.3.3.** If approved by DSA, batch plant inspection may be reduced to **'Periodic'** subject to requirements in Section **1705A.3.3.1**, or eliminated per **1705A.3.3.2.** (See Appendix for exemptions.)
☐	f. Welding of reinforcing steel.	Provide special inspection per STEEL, Category 19.1(d) & (e) and/or 19.2(g) & (h) below.		

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC

Table 1705A.3; ACI 318-14 Sections 26.12 & 26.13
Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

	17. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPO			
	Material Verification and Testing:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Verify identification of all materials and compl • Mill certificates indicate material properties that compl with requirements. • Material sizes, types and grades comply wit requirements.	Periodic	*	Table 1705A.2.1 Item 3c, 2202A.1; ASFI 5100-16 Section 4.0.1 & 4.3.2, AISI S240-15 Section A3 & A5, AISI S220-15 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.
☑	b. Test undenified materials	Test	LOR	**1924A.1.**
☑	c. Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3.
	Inspection:			
☑	d. Verify and document steel fabrication per DSA-approved construction documents.	Periodic	SI	Not applicable to cold-formed steel light-frame construction, except for trusses (**1705A.2.4**).

	18. HIGH-STRENGTH BOLTS: RCSC 2			
	Material Verification and Testing of High-Strength Bolts, Nuts and Washers:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	Periodic	SI	**Table 1705A.2.1 Items 1a & 1b, 2202A.1;** AISC 360-16 Section A3.3, J3.1, and N3.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC

Table 1705A.3; ACI 318-14 Sections 26.12 & 26.13
Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

☑	b. Test high-strength bolts, nuts and washers.	Test	LOR	**Table 1705A.2.1 Item 1c, 2213A.1;** RCSC 2014 Section 7.2; DSA IR 17-8.
	Inspection of High-Strength Bolt Installation:			
☐	c. Bearing-type ("snug tight") connections.	Periodic	SI	**Table 1705A.2.1 Item 4, 1705A.2.6, 2204A.2;** AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Section 9.2 & 9.3; DSA IR 17-9. * "Continuous" or "Periodic" depends on the tightening method used.
☑	d. Preinstalled and slip-critical connections.	*	SI	**Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2;** AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. * "Continuous" or "Periodic" depends on the tightening method used.

	19. WELDI			
	Verification of Materials, Equipment, Welders, etc.:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Verify weld filler material identification markings and AWS designation listed on the DSA-approved documents and the WPS.	Periodic	SI	**1706A.2.2, Table 1705A.2.1 Items 4 & 5;** AWS D1.1 and AWS D1.8 for structural steel; AWS D1.2 for Aluminum; AWS D1.3 for cold-formed steel; AWS D1.4 for reinforcing steel; DSA IR 17-3 (See Appendix for exemptions.)
☑	b. Verify weld filler material manufacturer's certificate of compliance.	Periodic	SI	DSA IR 17-3.
☑	c. Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC

Table 1705A.3; ACI 318-14 Sections 26.12 & 26.13
Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

	19.1 SHOP WELDING:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds ≥ 5/16", plug and slot welds.	Continuous	SI	**Table 1705A.2.1 Items 5a, 5b, 4;** AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
☐	b. Inspect single-pass fillet welds ≤ 5/16", floor and roof deck welds.	Periodic	SI	**1705A.2.2, Table 1705A.2.1 Items 5c.5 & 5a.6;** AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
☐	c. Inspect welding of stairs and railing systems.	Periodic	SI	**1705A.2.1,** AISC 360-16 (and AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3.
☐	d. Verification of reinforcing steel weldability other than ASTM A706.	Periodic	SI	**1705A.3.1;** AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
☐	e. Inspect welding of reinforcing steel.	Continuous	SI	**Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 7, 1903A.8,** AWS D1.4; DSA IR 17-3.

	23. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Anchor Bolts and Anchor Rods	Test	LOR	Sample and test anchor bolts and anchor rods not readily identifiable per procedures noted in DSA IR 17-11.
☐	b. Threaded rod not used for foundation anchorage.	Test	LOR	Sample and test threaded rods not readily identifiable per procedures noted in DSA IR 17-11.

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Steel and Aluminum), 2019 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-16
Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

	23. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Anchor Bolts and Anchor Rods	Test	LOR	Sample and test anchor bolts and anchor rods not readily identifiable per procedures noted in DSA IR 17-11.
☐	b. Threaded rod not used for foundation anchorage.	Test	LOR	Sample and test threaded rods not readily identifiable per procedures noted in DSA IR 17-11.

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS(SIGNATURE), 2019 CBC

Application Number:
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

Name of Architect or Engineer in general responsible charge:

Name of Structural Engineer (When structural design has been performed):

Signature of Architect or Structural Engineer: Date:

Note: To facilitate DSA electronic mark-ups and identification stamp application, DSA recommends against using secured electronic or digital signatures.

DSA STAMP

DSA 103-19: LIST OF REQUIRED VERIFIED REPORTS, CBC 2019

Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

1. Soils Testing and Inspection: Geotechnical Verified Report Form DSA 293
2. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291
3. Shop Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292
4. High-Strength Bolt Installation Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

FOR ALL TESTING AND INSPECTION ITEMS SEE THE DSA APPROVED 103 FOR THIS PROJECT.

PRE-CHECK (PC) DOCUMENT
Code: 2019 CBC
A separate project application for construction is required.

PRINTED ON :

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 02-119975 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 04/25/2022

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-120013 PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☒ CG ☐
DATE: 08/06/2021

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ICON STD	RH/DSA-PC
DRAWN BY	ANGEL
DATE	4/2/2021
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REGISTERED PROFESSIONAL ENGINEER
MICHAEL D. SHORT
STRUCTURAL
STATE OF CALIFORNIA
07/29/2021

SHADE STRUCTURE AT SEQUOIA ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

DSA 103

△ Revision

DSA 103

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1455 LINCOLN AVE
HOLLAND MI, 49423
616.396.0919
800.748.0985
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LS1.1

PROJECT NO.	21-1504.05
DATE:	4/7/22
SHEET	LS1.1

AD0.09

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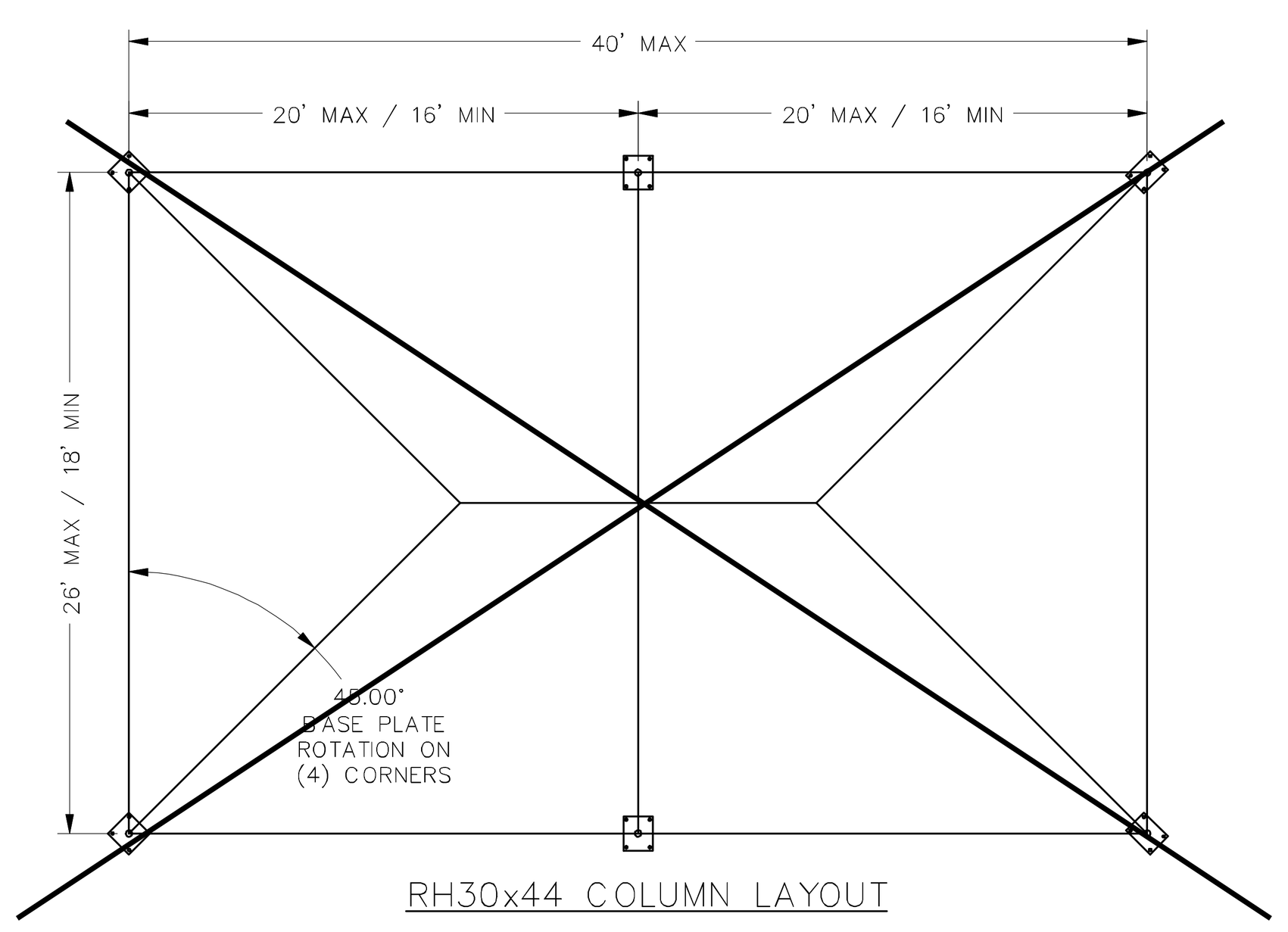
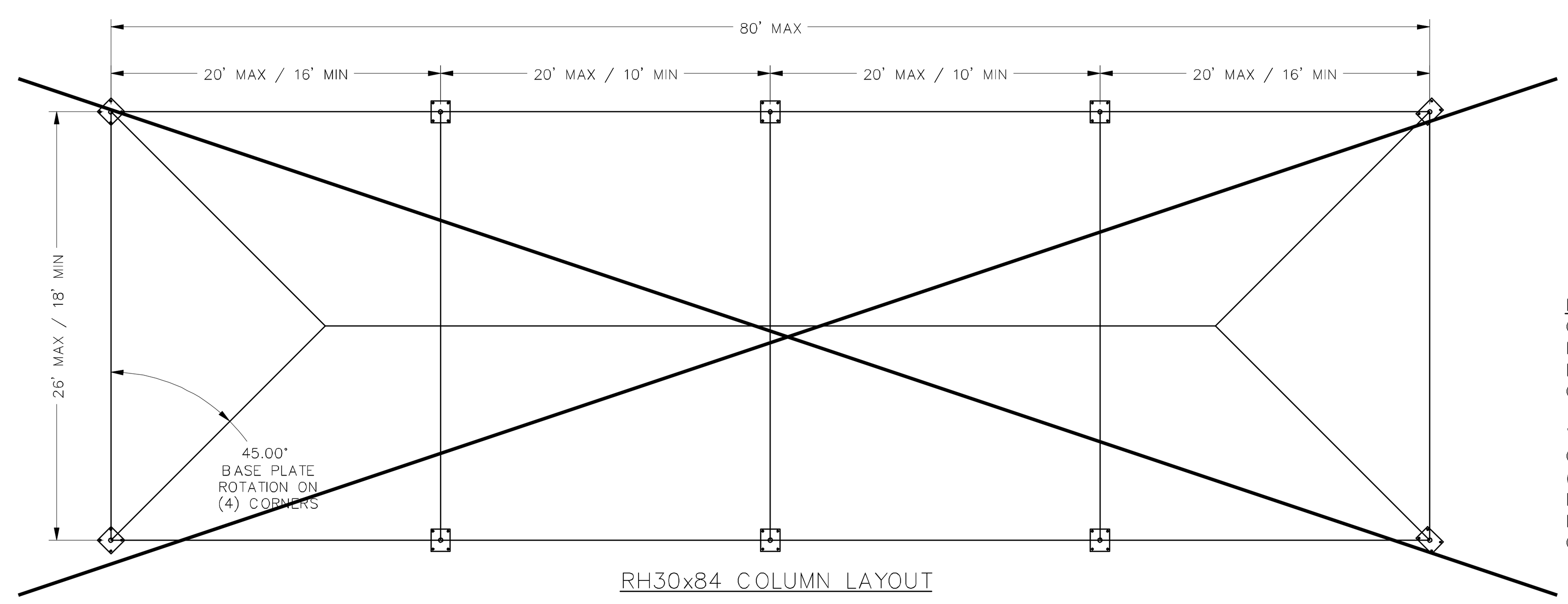


RH30x44 COLUMN LAYOUT
(2 BAYS)

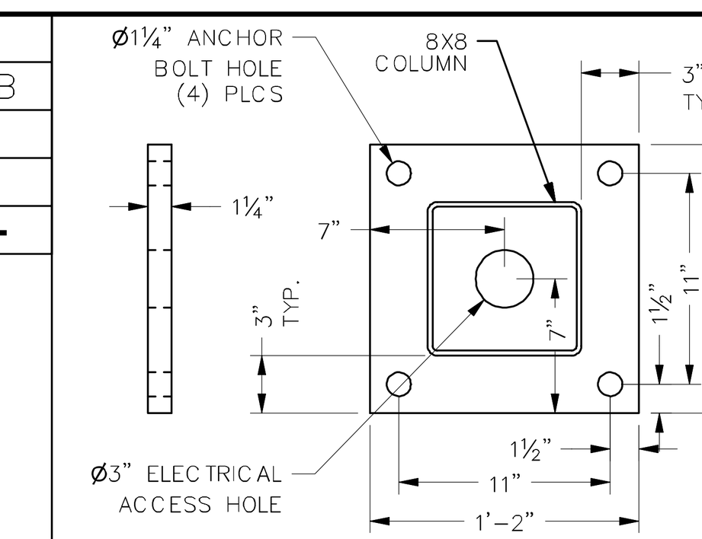


RH30x84 COLUMN LAYOUT
(4 BAYS)

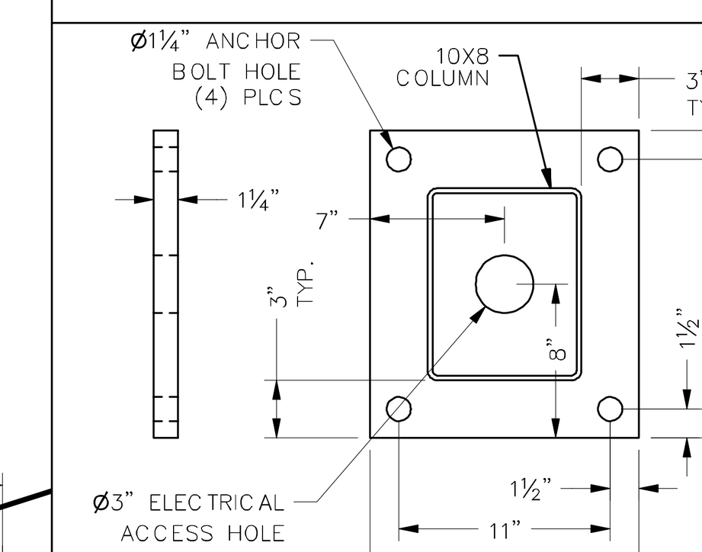
BASE PLATE LOCATION		
	DETAIL A	DETAIL B
~~8'~~	~~BP1~~	~~BP2~~
10'	BP1	BP2
~~12'~~	~~BP2~~	~~BP3~~

NOTES:
COLUMN SIZE AND LOCATION WILL VARY DEPENDING ON MODEL TYPE ORDERED, PLEASE REFER TO JOB SPECIFIC BILL OF MATERIALS AND INSTALLATION MANUAL FOR CORRECT PLACEMENT AND SIZE.

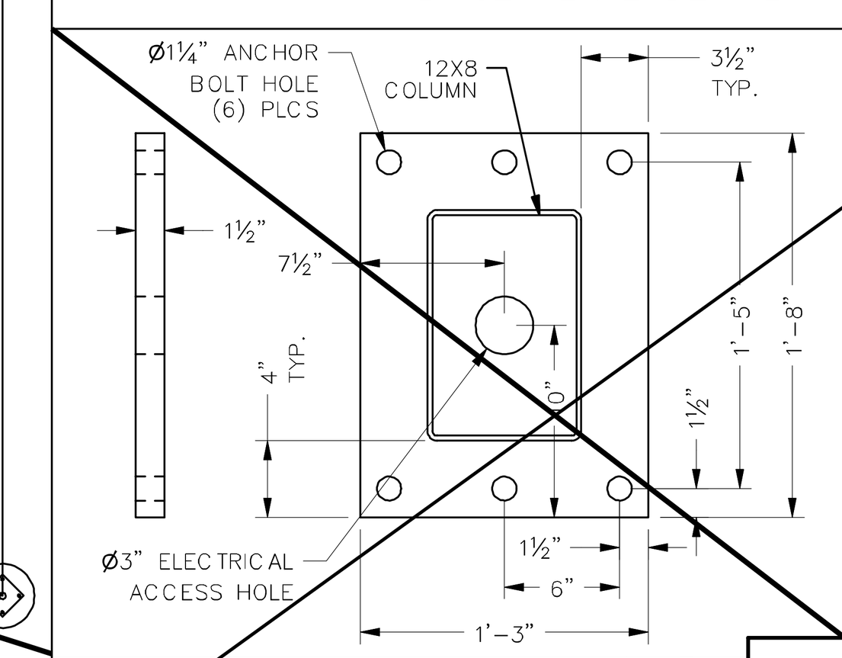
WHERE CONCRETE SLAB SPECIFIED PORTLAND CEMENT CONCRETE PAVING SHALL HAVE A MEDIUM SALTED (MEDIUM BROOM) FINISH ON ALL SURFACES SLOPED LESS THAN 6% AND SLIP RESISTANT (HEAVY BROOM FINISH) ON ALL SURFACES SLOPED GREATER THAN 6% CBC SECTION 1133B.7.1



8X8 COLUMN BASE PLATE DETAIL (BP1)



10X8 COLUMN BASE PLATE DETAIL (BP2)



12X8 COLUMN BASE PLATE DETAIL (BP3)

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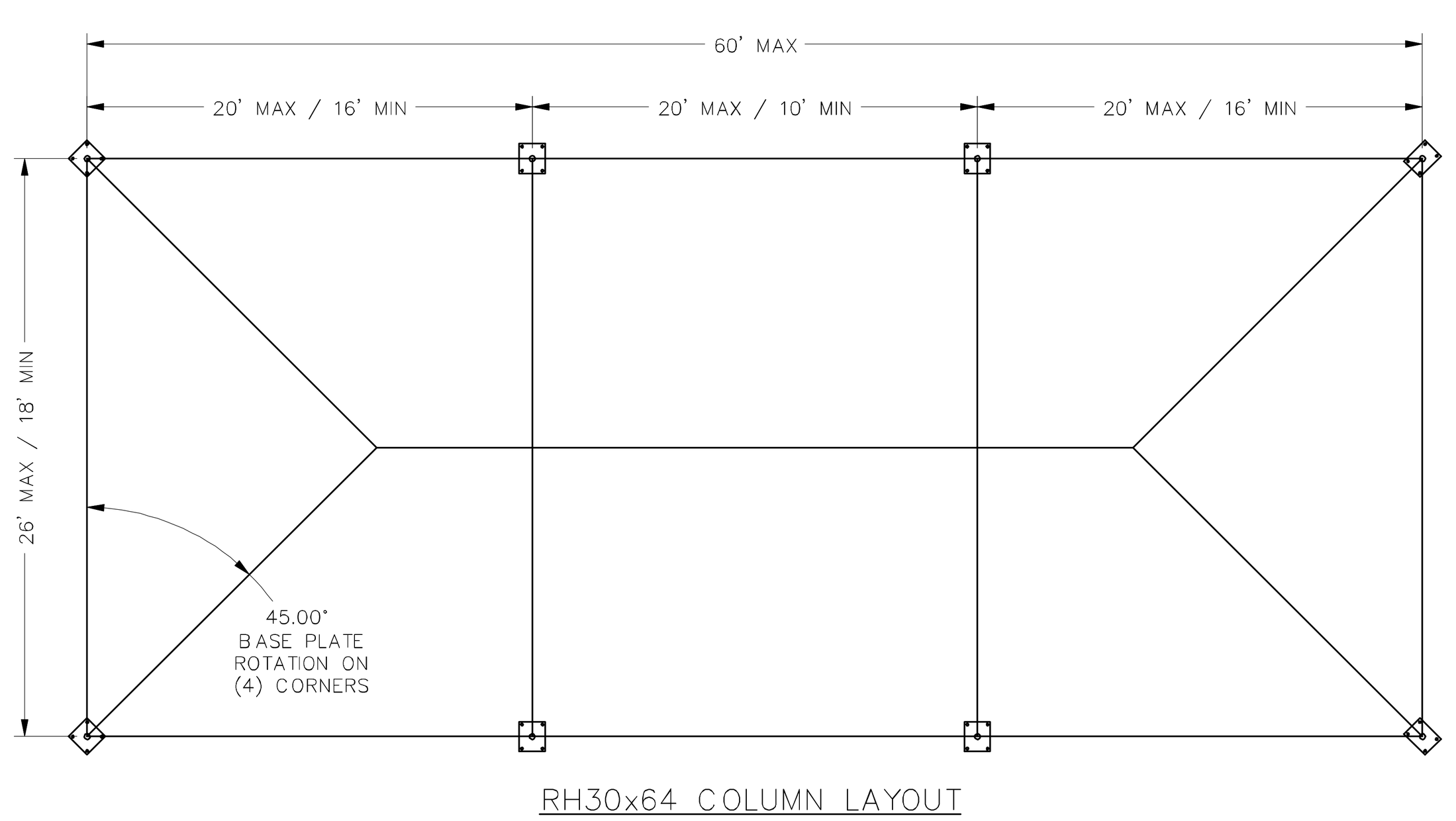
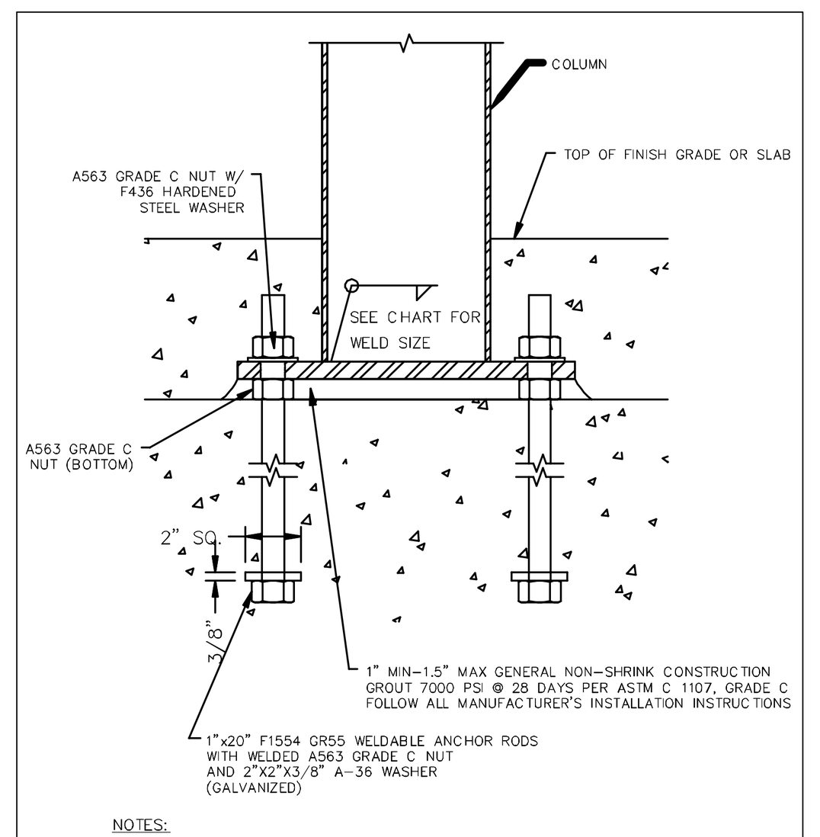


RH30x64 COLUMN LAYOUT
(3 BAYS)


COLUMN
TOP OF FINISH GRADE OR SLAB
SEE CHART FOR WELD SIZE
2" SQ.
3/8"
1" MIN-1.5" MAX GENERAL NON-SHRINK CONSTRUCTION GROUT 7000 PSI @ 28 DAYS PER ASTM C 1107, GRADE C FOLLOW ALL MANUFACTURER'S INSTALLATION INSTRUCTIONS
1"x20" F1554 GR55 WELDABLE ANCHOR RODS WITH WELDED A563 GRADE C NUT AND 2"X2"X3/8" A-36 WASHER (GALVANIZED)

NOTES:

COLUMN BASE PLATES ARE TO HAVE DOUBLE NUTS. PLACE ONE NUT UNDER THE PLATE AND ONE NUT ON TOP WITH A WASHER UNDER THE NUT.

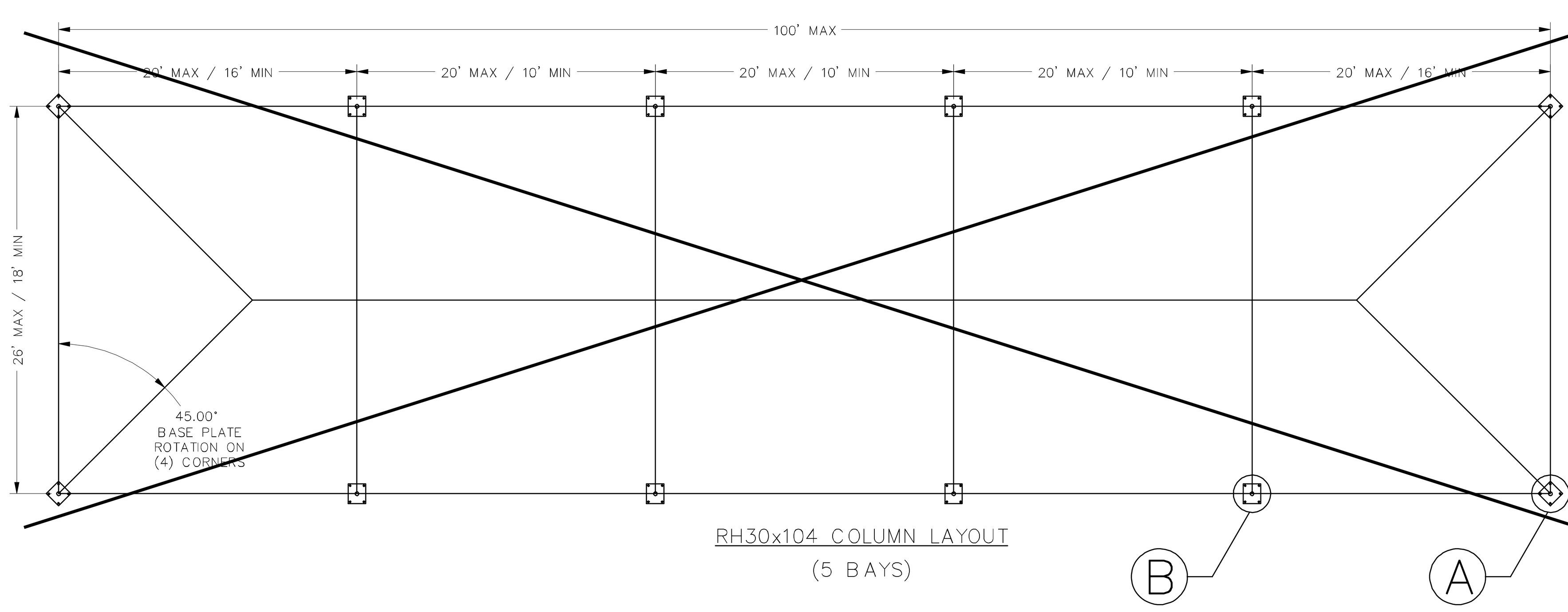
THE BOTTOM NUT CAN BE USED AS A LEVELING NUT.

AFTER COLUMN IS SET AND LEVELED AND THE NUTS HAVE BEEN TIGHTENED THE COLUMN MUST HAVE NON-SHRINK GROUT PLACED UNDER THE BASE PLATE BEFORE COVERING THE BASE WITH CONCRETE.

REFER TO FOOTING DETAIL FOR ROD/NUT LOCATIONS AND SIZE.

FOUNDATION ANCHORS ARE TO BE UNTORQUED.

COLUMN BASE CONNECTION DETAIL — SCALE: N.T.S. — C1



RH30x104 COLUMN LAYOUT
(5 BAYS)

JRMA
ARCHITECTS ENGINEERS
2700 SATURN ST I BREA, CA 92821
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REGISTERED PROFESSIONAL ENGINEER MICHAEL D. LOCK S4092 STRUCTURAL STATE OF CALIFORNIA
07/29/2021

30' WIDE RECTANGULAR HIP

RH30 - PIER

Soil Class 5 - 1500 psf Bearing

	Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
8' height - Corner Columns	24	114	6	6
8' height - Side Columns	36	144	12	6
10' height - Corner Columns	24	120	6	6
10' height - Side Columns	36	136	12	6
12' height - Corner Columns	30	132	8	6
12' height - Side Columns	36	140	12	6

Soil Class 4 - 2000 psf Bearing

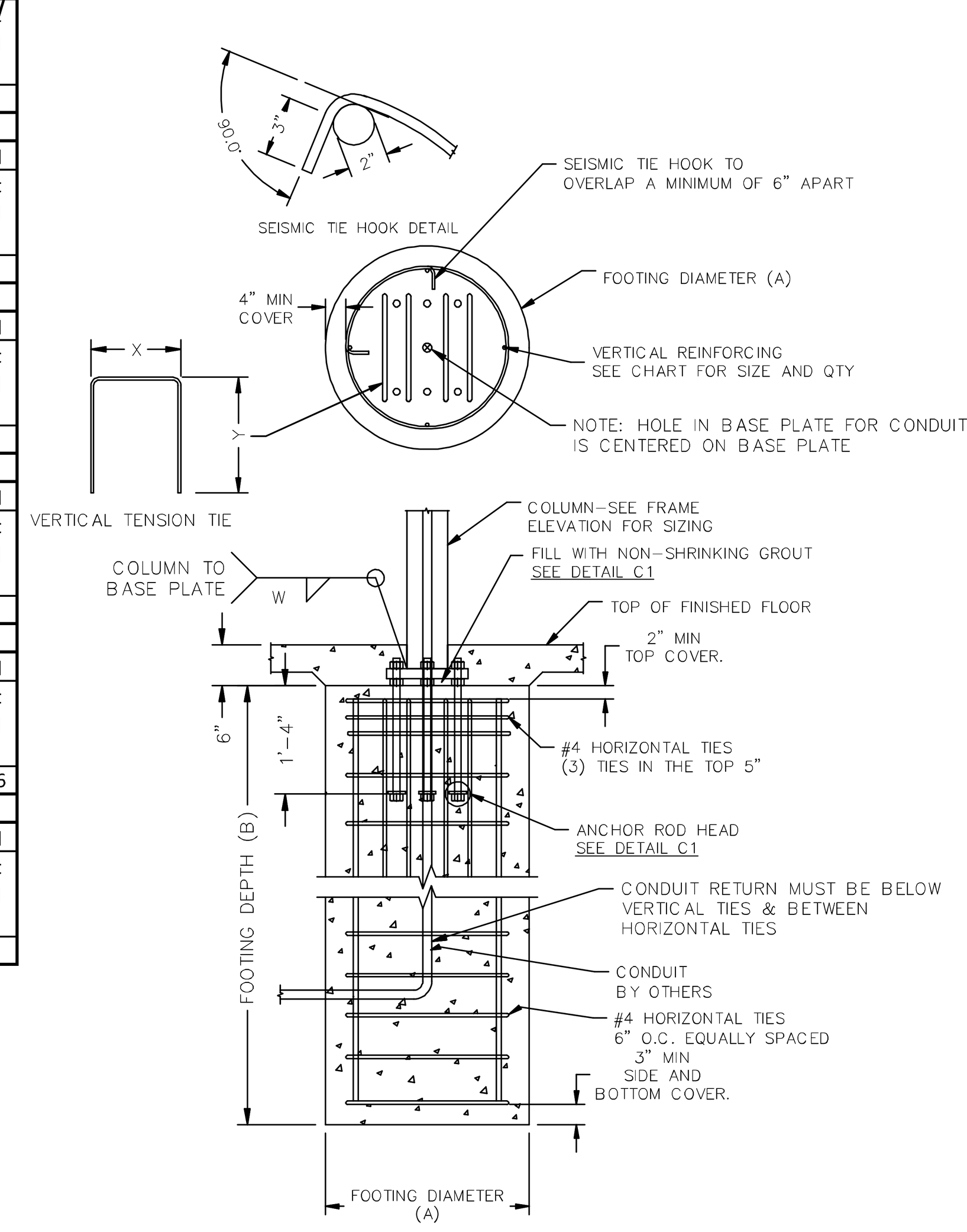
	Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
8' height - Corner Columns	24	98	6	6
8' height - SIde Columns	30	132	8	6
10' height - Corner Columns	24	102	6	6
10' height - SIde Columns	30	124	8	6
12' height - Corner Columns	30	112	8	6
12' height - SIde Columns	36	120	12	6

Soil Class 3 - 3000 psf Bearing

	Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
8' height - Corner Columns	24	88	6	6
8' height - Side Columns	30	118	8	6
10' height - Corner Columns	24	92	6	6
10' height - Side Columns	30	112	8	6
12' height - Corner Columns	30	102	8	6
12' height - Side Columns	36	108	12	6

Rebar Dimensions / Weld

	X (in)	Y (in)	Rebar Size	Fillet Weld " W"
8' height - Corner Columns	14	40	5	1/4
8' height - Side Columns	16	40	5	1/4
10' height - Corner Columns	14	40	5	1/4
10' height - Side Columns	16	40	5	1/4
12' height - Corner Columns	16	40	5	5/16
12' height - Side Columns	20	40	5	1/4


SEISMIC TIE HOOK DETAIL
SEISMIC TIE HOOK TO OVERLAP A MINIMUM OF 6" APART
FOOTING DIAMETER (A)
4" MIN COVER
VERTICAL REINFORCING SEE CHART FOR SIZE AND QTY
NOTE: HOLE IN BASE PLATE FOR CONDUIT IS CENTERED ON BASE PLATE
VERTICAL TENSION TIE
COLUMN TO BASE PLATE
COLUMN-SEE FRAME ELEVATION FOR SIZING
FILL WITH NON-SHRINKING GROUT SEE DETAIL C1
TOP OF FINISHED FLOOR
2" MIN TOP COVER.
#4 HORIZONTAL TIES (3) TIES IN THE TOP 5"
ANCHOR ROD HEAD SEE DETAIL C1
CONDUIT RETURN MUST BE BELOW VERTICAL TIES & BETWEEN HORIZONTAL TIES
CONDUIT BY OTHERS
#4 HORIZONTAL TIES 6" O.C. EQUALLY SPACED
3" MIN SIDE AND BOTTOM COVER.
FOOTING DEPTH (B)
FOOTING DIAMETER (A)

SEE DETAILS BP1, BP2 OR BP3 FOR ANCHOR BOLT PATTERNS
BP1 & BP2 ARE (4) BOLT PATTERN WHILE B3 IS A (6) BOLT

RH30 - SPREAD

Soil Class 5 - 1500 psf Bearing

	Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
8' height - Corner Columns	60	30	4	6
8' height - Side Columns	80	30	5	6
10' height - Corner Columns	66	30	5	6
10' height - Side Columns	81	30	5	6
12' height - Corner Columns	78	30	5	6
12' height - Side Columns	84	30	6	6

Soil Class 4 - 2000 psf Bearing

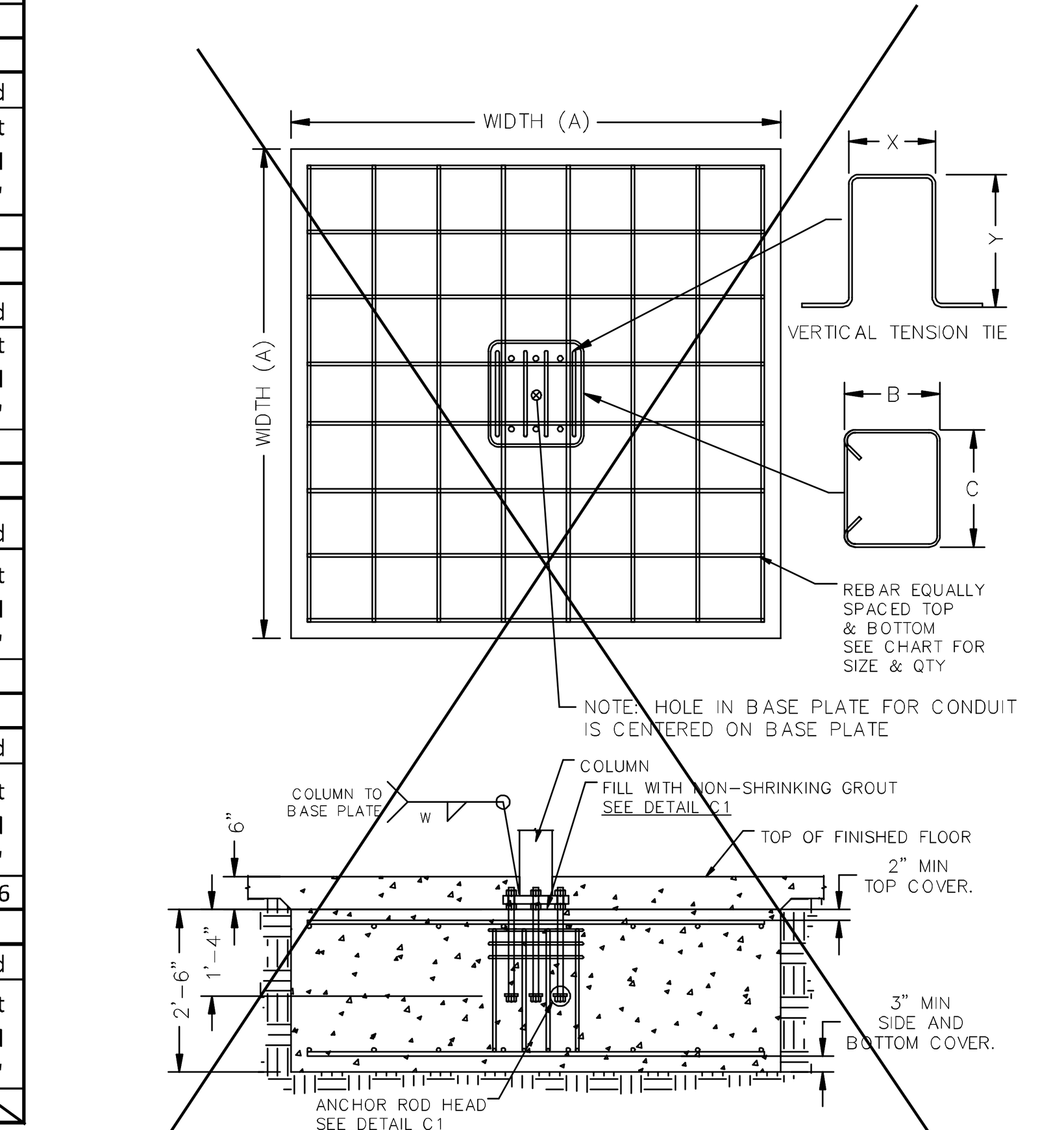
	Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
8' height - Corner Columns	56	30	4	6
8' height - Side Columns	72	30	5	6
10' height - Corner Columns	60	30	4	6
10' height - Side Columns	72	30	5	6
12' height - Corner Columns	72	30	5	6
12' height - Side Columns	75	30	5	6

Soil Class 3 - 3000 psf Bearing

	Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
8' height - Corner Columns	54	30	4	6
8' height - Side Columns	68	30	5	6
10' height - Corner Columns	57	30	4	6
10' height - Side Columns	69	30	5	6
12' height - Corner Columns	72	30	5	6
12' height - Side Columns	75	30	5	6

Rebar Dimensions / Weld

	X (in)	Y (in)	B (in)	C (in)	Rebar Size	Fillet Weld " W"
8' Corner Columns	14	20	15.9	17.3	5	1/4
8' Side Columns	16	20	15.6	19.3	5	1/4
10' Corner Columns	14	20	15.9	17.3	5	1/4
10' Side Columns	16	20	15.6	19.3	5	1/4
12' Corner Columns	16	20	15.6	19.3	5	5/16
12' Side Columns	20	20	16.6	21.3	5	1/4


WIDTH (A)
VERTICAL TENSION TIE
REBAR EQUALLY SPACED TOP & BOTTOM SEE CHART FOR SIZE & QTY
NOTE: HOLE IN BASE PLATE FOR CONDUIT IS CENTERED ON BASE PLATE
COLUMN TO BASE PLATE
FILL WITH NON-SHRINKING GROUT SEE DETAIL C1
TOP OF FINISHED FLOOR
2" MIN TOP COVER.
3" MIN SIDE AND BOTTOM COVER.
ANCHOR ROD HEAD SEE DETAIL C1

SEE DETAILS BP1, BP2 OR BP3 FOR ANCHOR BOLT PATTERNS
BP1 & BP2 ARE (4) BOLT PATTERN WHILE B3 IS A (6) BOLT

PRE-CHECK (PC) DOCUMENT
Code: 2019 CBC
A separate project application for construction is required.

30' WIDE RECTANGULAR HIP FOUNDATION PLAN

ICON Shelter Systems Inc
DISTINCTIVE STEEL SHELTERS
WWW.ICONSHELTERS.COM

1455 LINCOLN AVE
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800.748.0985
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LS3.0

S:\Engineering\Inventor\DSA 2019\PC 2019 RH DSA\RH 30 FOOT WIDE\BASE PLATE 1.ipt

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SHADE STRUCTURE AT SEQUOIA ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

△ Revision

30' WIDE RECTANGULAR HIP FOUNDATION PLAN

PROJECT NO.	21-1504.05
DATE:	4/7/22
SHEET	LS3.0

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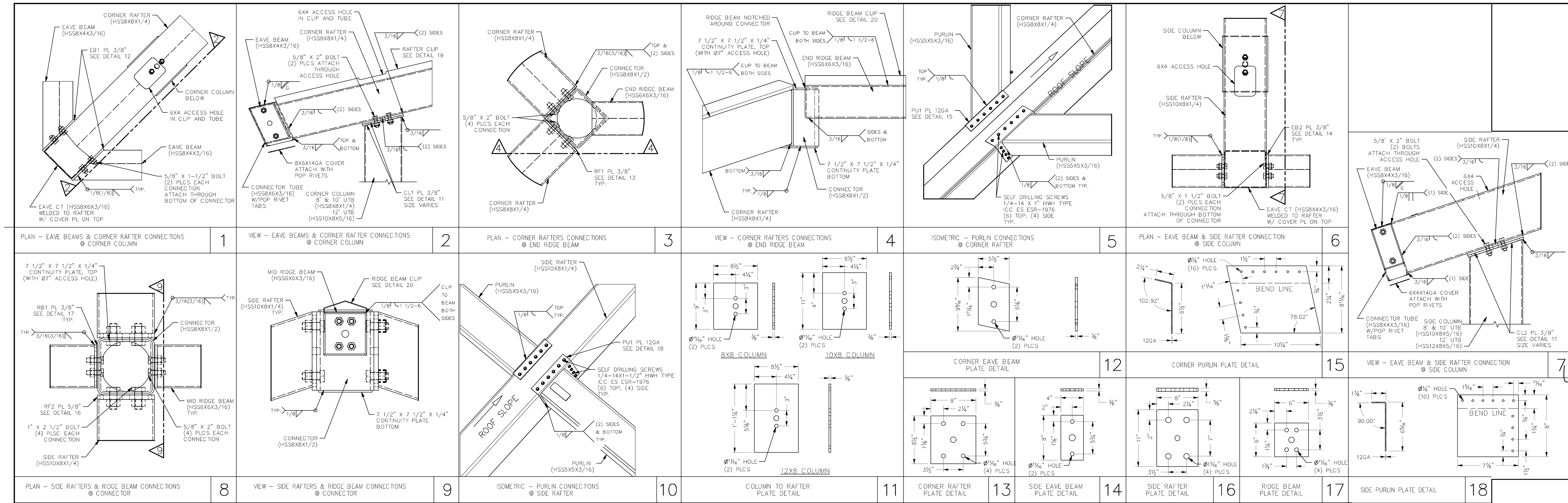

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DATE	4/2/2021
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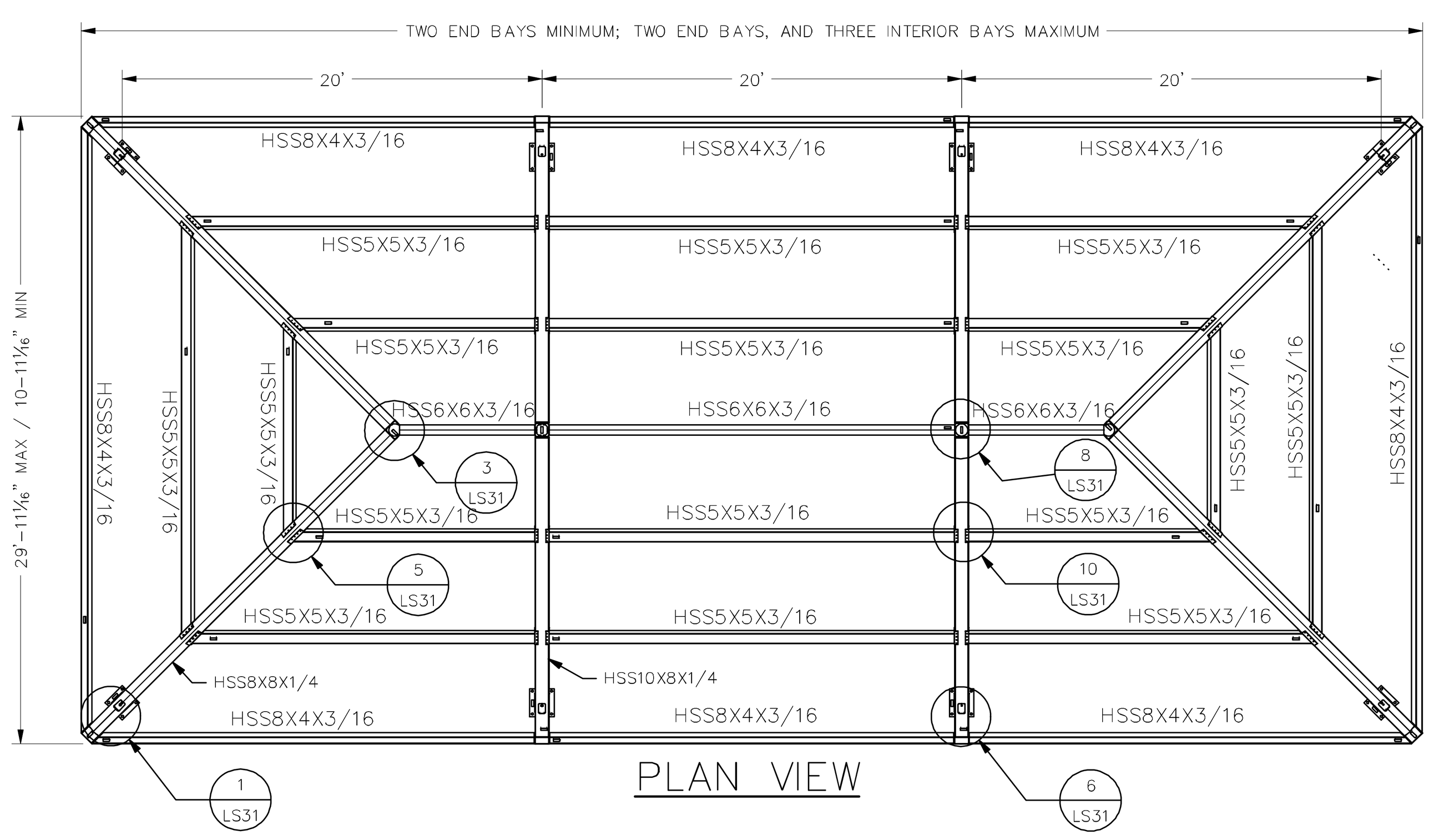


PLAN VIEW

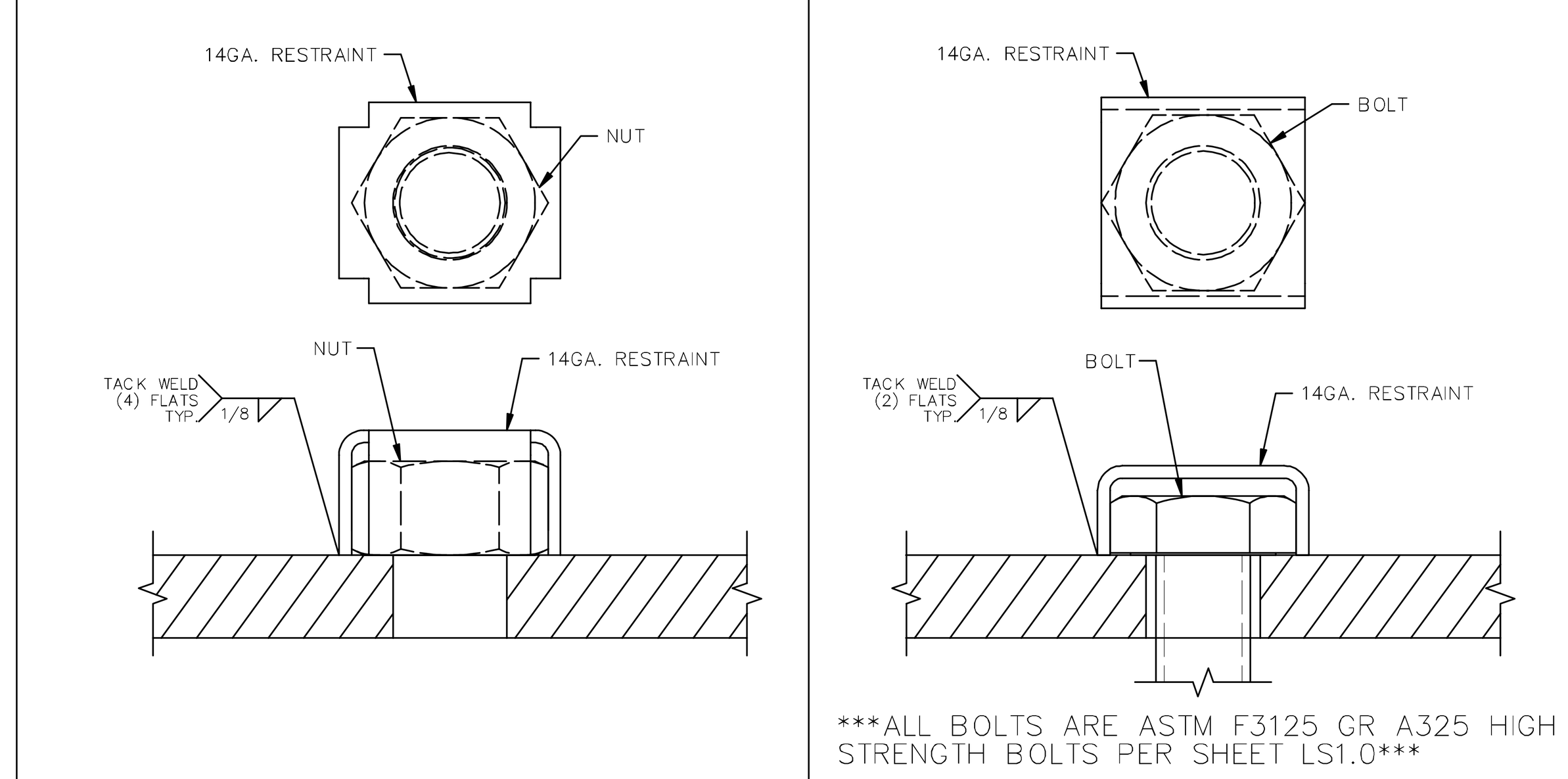
*NOTE:
QUANTITIES WILL VARY DEPENDING ON SHELTER SIZE ORDERED, PLEASE REFER TO JOB SPECIFIC BILL OF MATERIALS AND INSTALLATION MANUAL.

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	LENGTH	UNIT WEIGHT
1	4		CORNER COLUMN	**SEE NOTE BELOW		353 lbmass
2	*		SIDE COLUMN	**SEE NOTE BELOW		399 lbmass
3	2		LH SIDE EAVE BEAM	HSS8X4X3/16		311 lbmass
4	2		RH SIDE EAVE BEAM	HSS8X4X3/16		311 lbmass
5	2		END EAVE BEAM	HSS8X4X3/16		422 lbmass
6	*		SIDE EAVE BEAM	HSS8X4X3/16		287 lbmass
7	4		CORNER RAFTER	HSS8X8X1/4		607 lbmass
8	*		SIDE RAFTER	HSS10X8X1/4		474 lbmass
9	2		END RIDGE BEAM	HSS6X6X3/16		149 lbmass
10	*		MID RIDGE BEAM	HSS6X6X3/16		329 lbmass
11	*		CONNECTOR	HSS8X8X1/2		48 lbmass
12	2		LH SIDE PURLIN 1	HSS5X5X3/16		238 lbmass
13	2		RH SIDE PURLIN 1	HSS5X5X3/16		238 lbmass
14	2		END PURLIN 1	HSS5X5X3/16		278 lbmass
15	2		LH SIDE PURLIN 2	HSS5X5X3/16		167 lbmass
16	2		RH SIDE PURLIN 2	HSS5X5X3/16		167 lbmass
17	2		END PURLIN 2	HSS5X5X3/16		137 lbmass
18	*		MID PURLIN	HSS5X5X3/16		284 lbmass

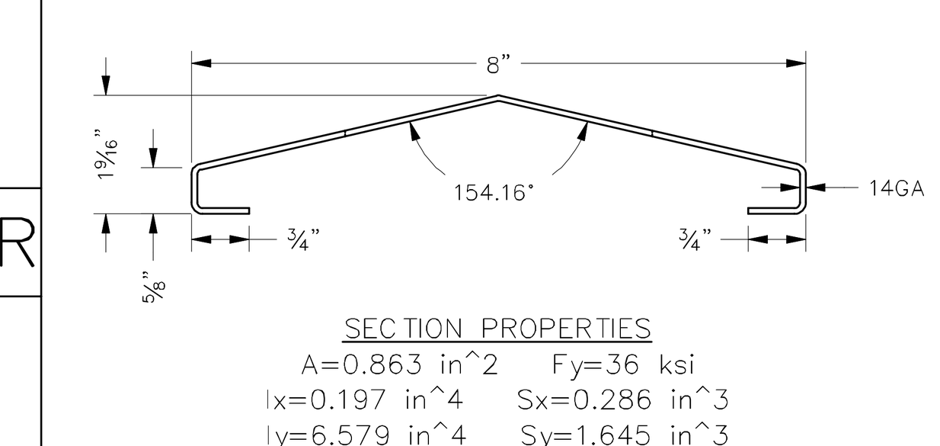
**NOTE:
MATERIAL WILL VARY DEPENDING ON SHELTER SIZE ORDERED.

- [ ] CORNER COLUMN 8' UTB – (HSS8X8X1/4)
- [ ] SIDE COLUMN 8' UTB – (HSS10X8X5/16)
- [x] CORNER COLUMN 10' UTB – (HSS8X8X1/4)
- [x] SIDE COLUMN 10' UTB – (HSS10X8X5/16)
- [ ] CORNER COLUMN 12' UTB – (HSS10X8X5/16)
- [ ] SIDE COLUMN 12' UTB – (HSS12X8X5/16)

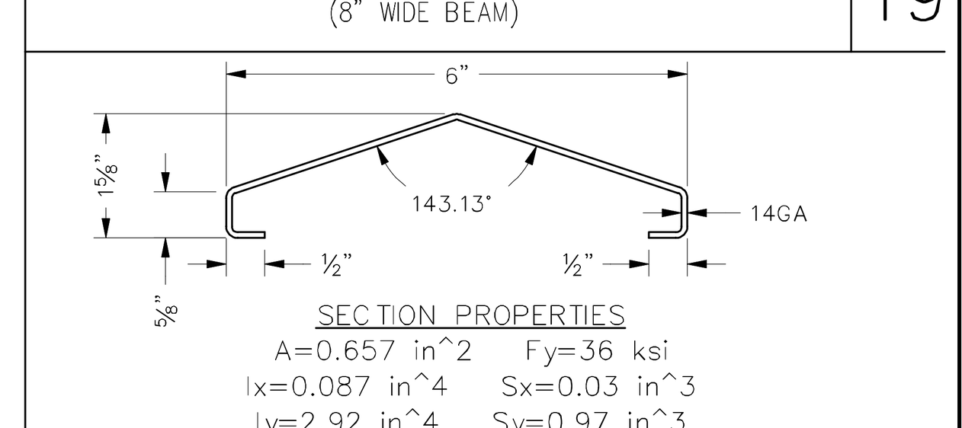
MODEL DESIGNATION	
~~RH30X44~~	~~2 BAY~~
RH30X64	3 BAY
~~RH30X84~~	~~4 BAY~~
~~RH30X104~~	~~5 BAY~~



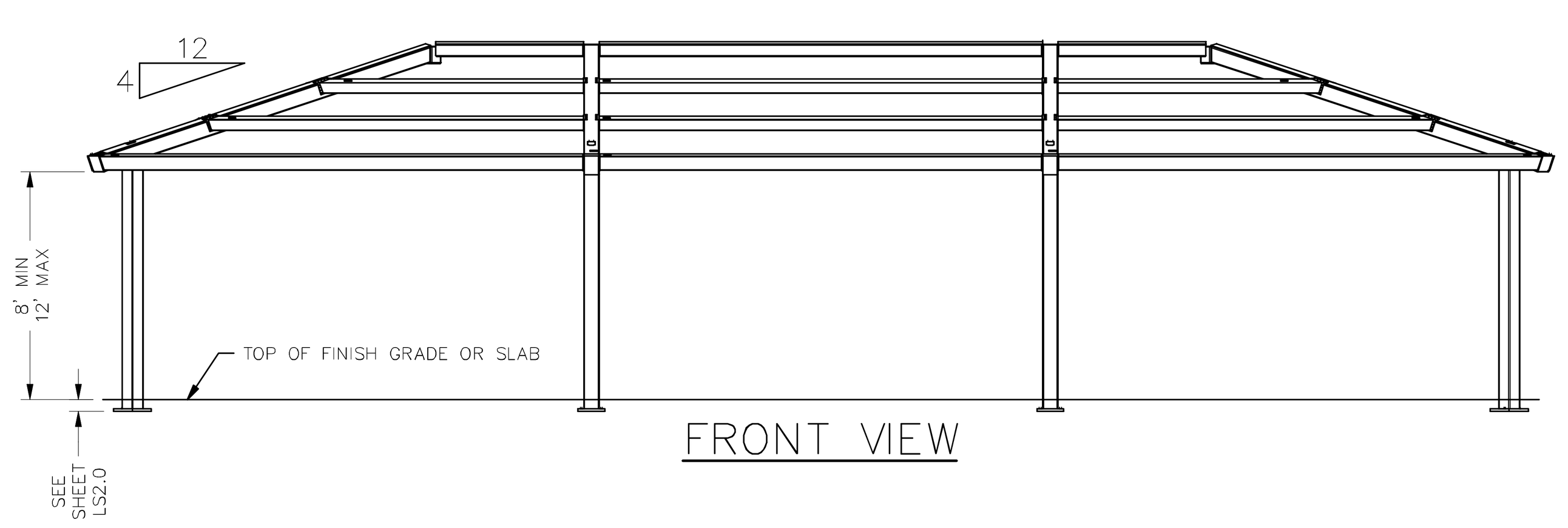
ALL BOLTS ARE ASTM F3125 GR A325 HIGH STRENGTH BOLTS PER SHEET LS1.0



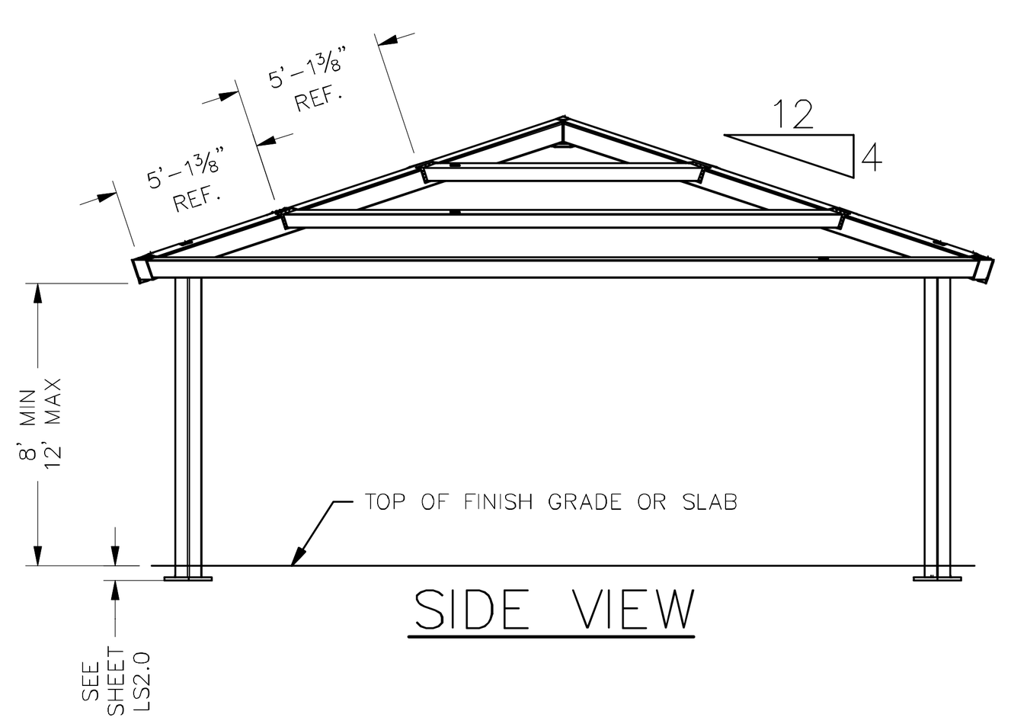
CORNER RAFTER CLIP (8" WIDE BEAM) 19



RIDGE BEAM CLIP (6" WIDE BEAM) 20



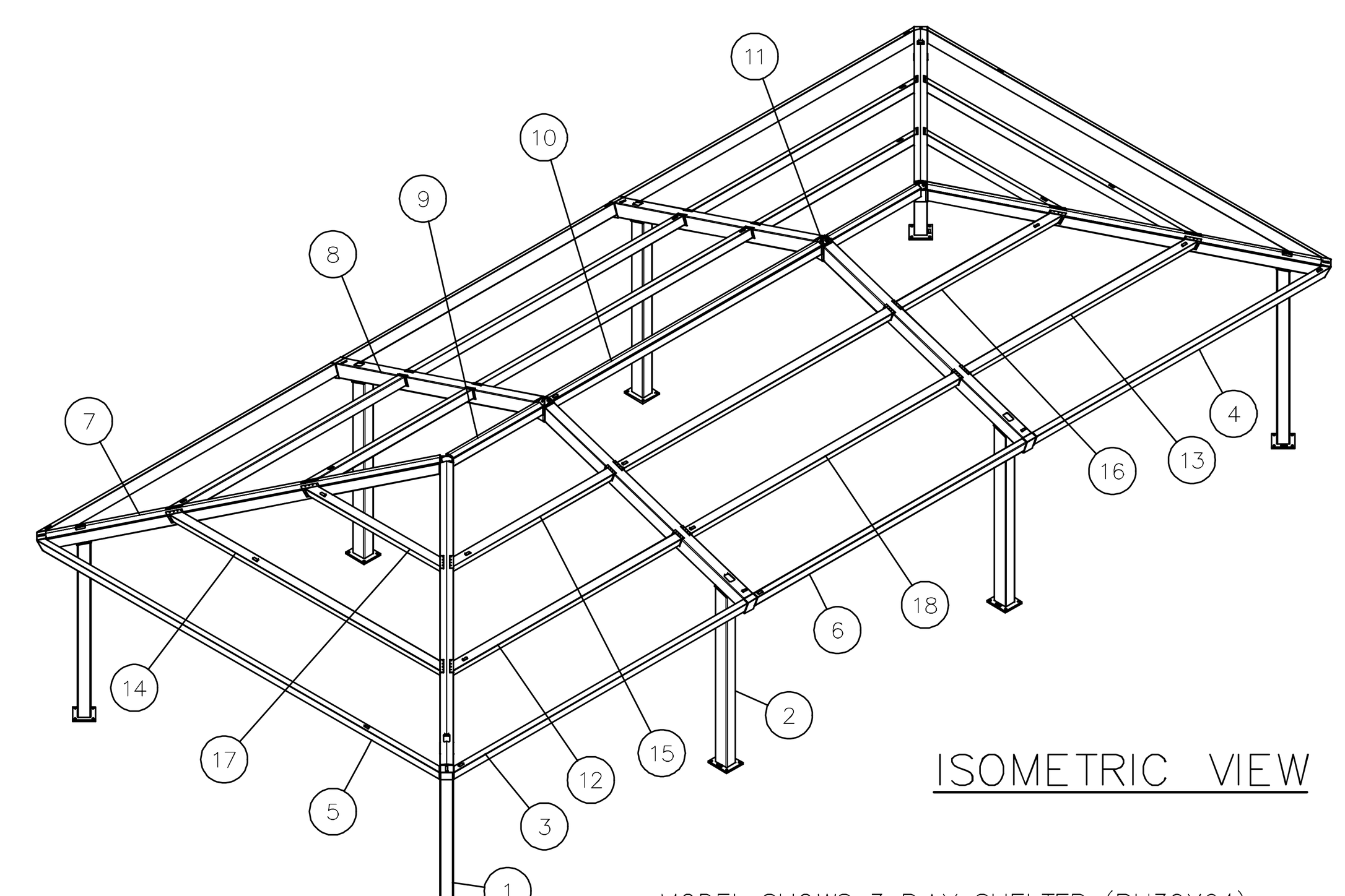
FRONT VIEW



SIDE VIEW

96" MIN IF USED OVER ACCESSIBLE PARKING OR ACCESS AISLES

114" MIN IF LOCATED OVER ACCESSIBLE PASSENGER LOADING ZONES



ISOMETRIC VIEW

MODEL SHOWS 3 BAY SHELTER (RH30X64)
PLEASE REFER TO ANCHOR BOLT LAYOUT SHEET FOR CORRECT COLUMN PLACEMENT BASED ON SIZE ORDERED

30' WIDE RECTANGULAR HIP

PRE-CHECK (PC) DOCUMENT
Code: 2019 CBC
A separate project application for construction is required.

30' WIDE RECTANGULAR HIP FRAMING & CONNECTION DETAILS

LS3.1

JRMA ARCHITECTS ENGINEERS

ICON Shelter Systems Inc
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1455 LINCOLN AVE
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616.396.0919
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APPROVED DIV. OF THE STATE ARCHITECT APP: 04-120013 PC REVIEWED FOR SS ☑ FLS ☑ ACS ☑ CG ☐ DATE: 08/06/2021

APPROVED DIV. OF THE STATE ARCHITECT APP: 02-119975 INC. REVIEWED FOR SS ☑ FLS ☑ ACS ☑ DATE: 04/25/2022

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SHADE STRUCTURE AT SEQUOIA ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

Revision

30' WIDE RECTANGULAR HIP FRAMING & CONNECTION DETAILS

PROJECT NO.	21-1504.05
DATE:	4/7/22
SHEET	LS3.1

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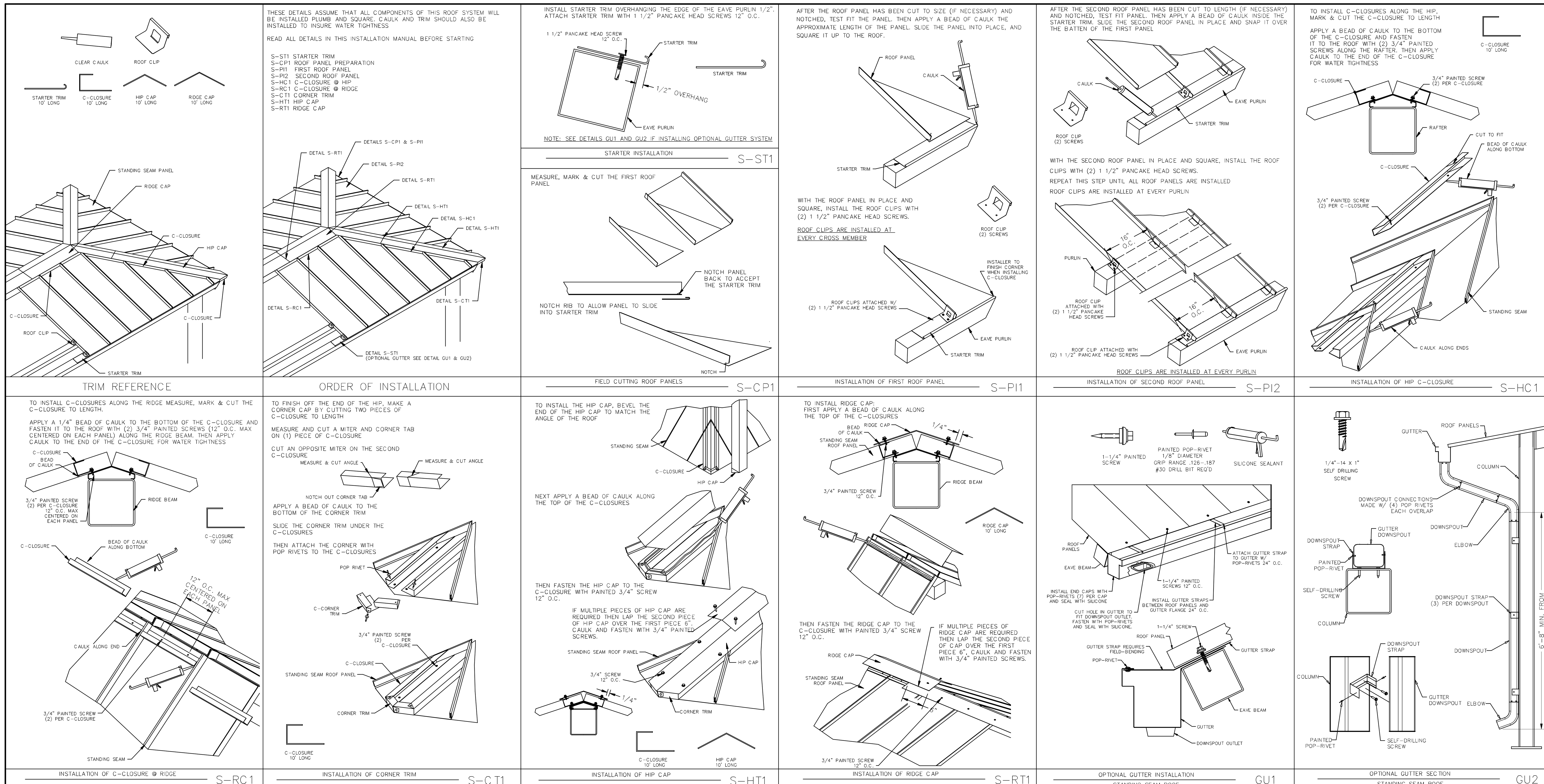


ROOF NOTES

ATTENTION INSTALLERS:
METAL SHAVINGS LEFT ON ROOF WILL QUICKLY RUST AND STAIN THE ROOF FINISH!

DRILLING OR INSTALLING ROOF FASTENERS WILL CAUSE METAL SHAVINGS. THESE SHAVINGS MUST BE CAREFULLY REMOVED AT THE END OF EACH DAY BY EITHER SWEEPING OR BRUSHING THE INSTALLED ROOF.

INSTALLED CORRECTLY	INSTALLED TOO TIGHT	INSTALLED TOO LOOSE
THE SEALING MATERIAL SLIGHTLY VISIBLE AROUND THE METAL WASHER	THE SEALING MATERIAL IS DEFORMED BEYOND THE EDGE OF THE METAL WASHER	THE SEALING MATERIAL IS NOT VISIBLE AROUND THE EDGE OF THE METAL WASHER

THE DETAILS SHOWN ARE SUGGESTIONS OR GUIDELINES ON HOW TO ERECT THE METAL ROOFING SYSTEM. THE INFORMATION SHOWN IS ACCURATE, BUT IT IS NOT INTENDED TO COVER ALL INSTANCES, BUILDING REQUIREMENTS, DESIGNS OR CODES. CHANGES TO THE DETAILS MAY BE REQUIRED DUE TO FIELD CONDITIONS.

THE ERECTOR SHOULD THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL INSTALLATION INSTRUCTION MATERIAL BEFORE STARTING WORK.

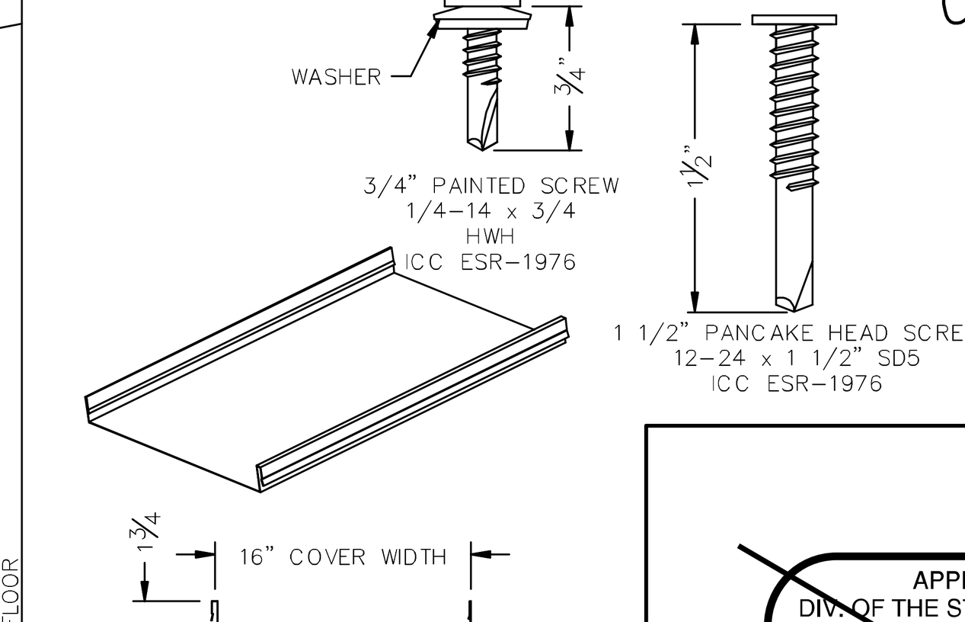
THE PANELS SHOULD BE INSTALLED PLUMB, STRAIGHT, AND ACCURATELY TO THE ADJACENT WORK.

ERECTORS SHALL BE RESPONSIBLE TO ENSURE THAT THE DETAILS MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATER TIGHTNESS.

FOR THE BEST APPEARANCE ALL TRIM AND FLASHING SHALL BE INSTALLED TRUE, AND IN PROPER ALIGNMENT, WITH ALL EXPOSED FASTENERS EQUALLY SPACED.

SOME FIELD CUTTING AND/OR FITTING OF PANELS, TRIM AND FLASHING IS TO BE EXPECTED BY THE ERECTOR. MINOR FIELD CORRECTIONS ARE PART OF NORMAL ERECTION WORK.

THE INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL CRAFTSPERSON AND WORKMANSHIP SHALL MEET THE BEST INDUSTRY STANDARDS.



MEDALLION LOK
STANDING SEAM PANEL SECTION
24 ga. Fy = 50 ksi Fu = 65 ksi
ICC ESL-1082

SECTION PROPERTIES
(PER FT. OF WIDTH)

TOP IN COMPRESSION
Ix=0.086 in^4
Se=0.0561 in^3
Ma=1.68 in-kips

BOTTOM IN COMPRESSION
Ix=0.040 in^4
Se=0.0479 in^3
Ma=1.248 in-kips

APPROVED DIV. OF THE STATE ARCHITECT
APP: 04-120013 PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑ CG ☐
DATE: 08/06/2021

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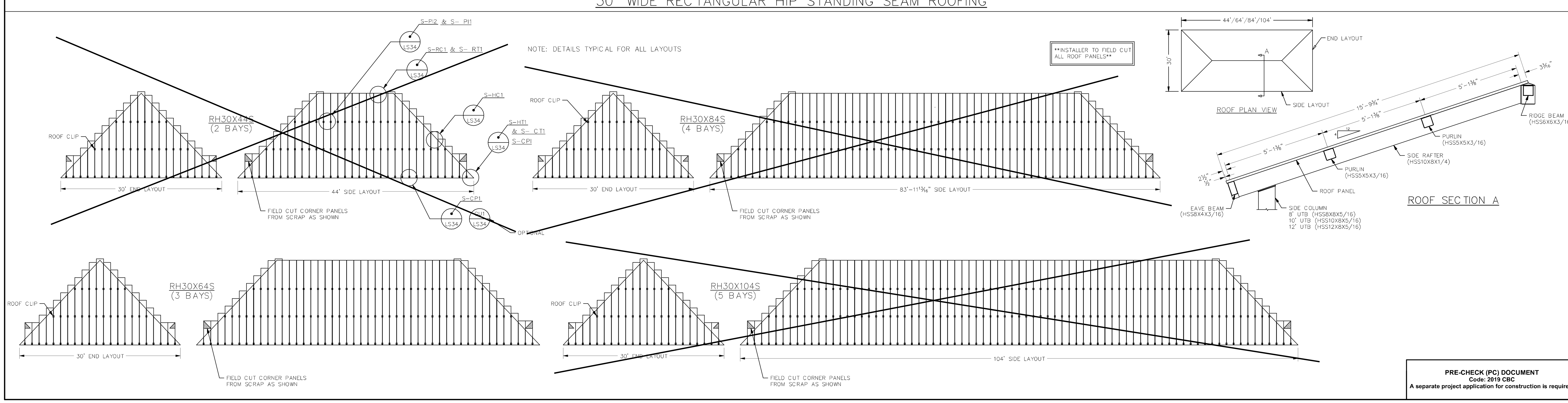
REGISTERED PROFESSIONAL ENGINEER MICHAEL D. LOCK S4092 STRUCTURAL STATE OF CALIFORNIA
07/29/2021

30' WIDE RECTANGULAR HIP STANDING SEAM ROOFING



30' WIDE RECTANGULAR HIP STANDING SEAM ROOFING PLAN

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PRE-CHECK (PC) DOCUMENT
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APP: 02-119975 INC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 04/25/2022

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SHADE STRUCTURE AT SEQUOIA ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

△ Revision

30' WIDE RECTANGULAR HIP STANDING SEAM ROOFING PLAN

PROJECT NO.	21-1504.05
DATE:	4/7/22
SHEET	

LS3.4

AD0.12

ELECTRICAL INFORMATION - RECTANGULAR HIP

ICON'S STANDARD ELECTRICAL IS DESIGNED TO ACCOMMODATE Ø1/2" CONDUIT WITH A Ø3" INLET HOLE ON THE BOTTOM OF EACH COLUMN.
THE CONDUIT PATHWAY RUNS THROUGH THE COLUMN, RAFTER, AND RIDGE BEAM THROUGH ALL BOLTED CONNECTIONS AS SHOWN.
IF YOU HAVE SPECIAL ELECTRICAL REQUIREMENTS, PLEASE OUTLINE ANY CHANGES BELOW AS DESCRIBED.

PLEASE NOTE: DESIGN LIMITATIONS ON HOLE/CUTOUT SIZES MAY APPLY.
ICON WILL REACH OUT TO DISCUSS ANY SUCH LIMITATIONS AS NEEDED.

NOTE: ICON SHELTER FRAME IS NOT UL LISTED TO ACT AS A CONDUIT FOR ELECTRICAL WIRING. CONSULT LOCAL BUILDING CODES WHEN PLANNING YOUR ELECTRICAL SYSTEM.

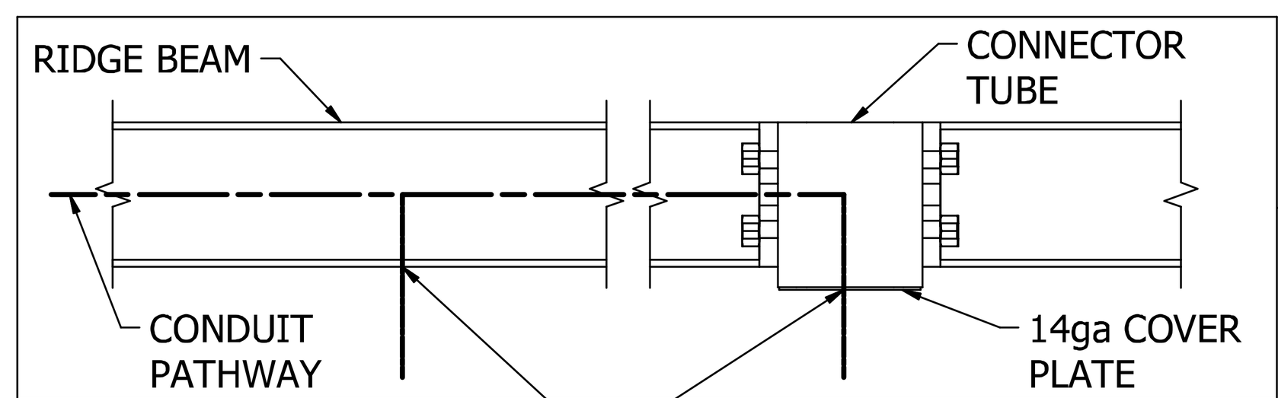
PRELIMINARY: NOT FOR CONSTRUCTION

STEPS:

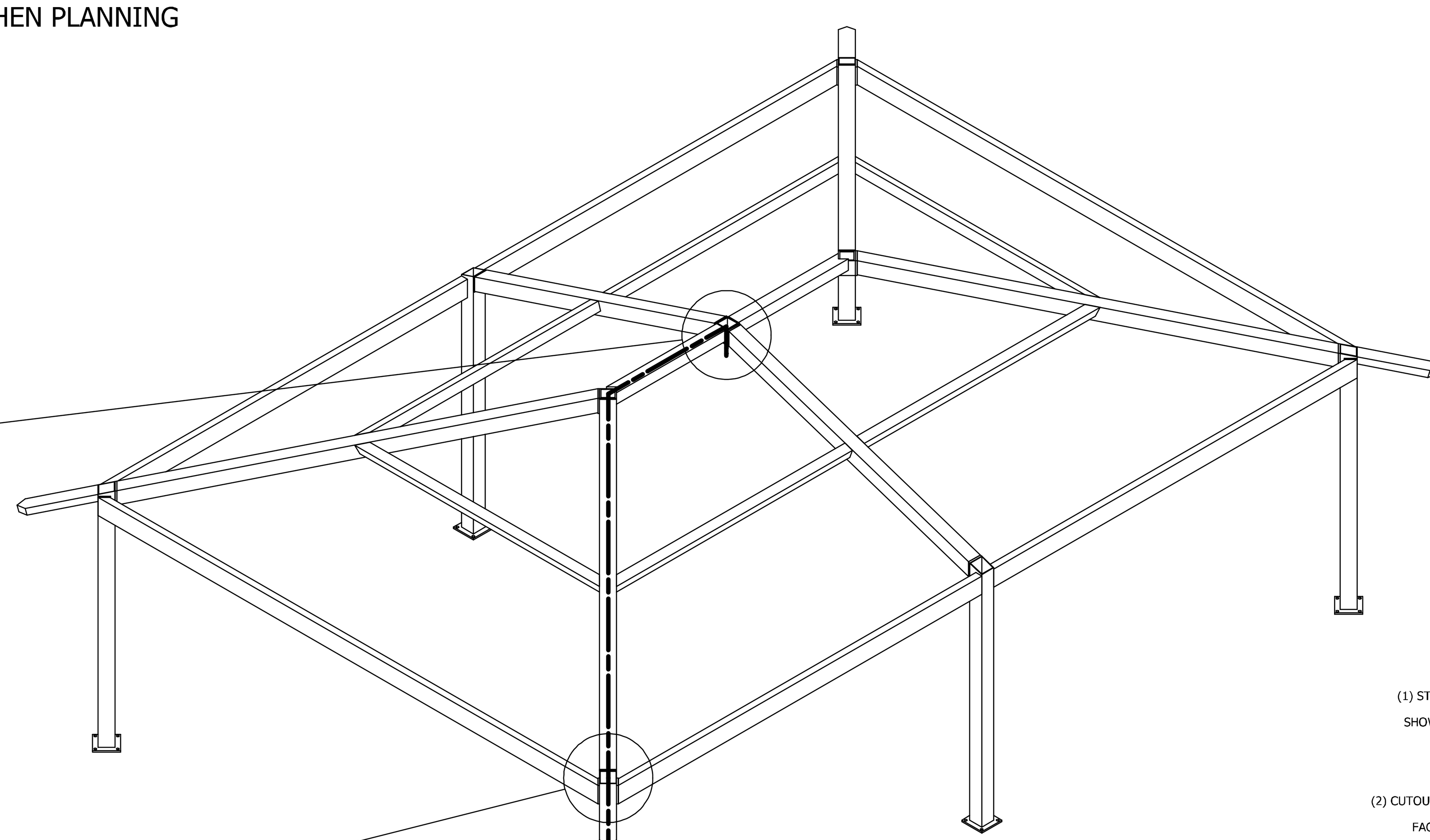
1. CONDUIT HOLE SIZE (DETAIL A)
2. ELECTRICAL EXIT HOLES (DETAIL B)
3. ELECTRICAL ACCESS & COVER PLATES (DETAIL C)
4. ELECTRICAL CONDUIT PATHWAY (DETAIL D)

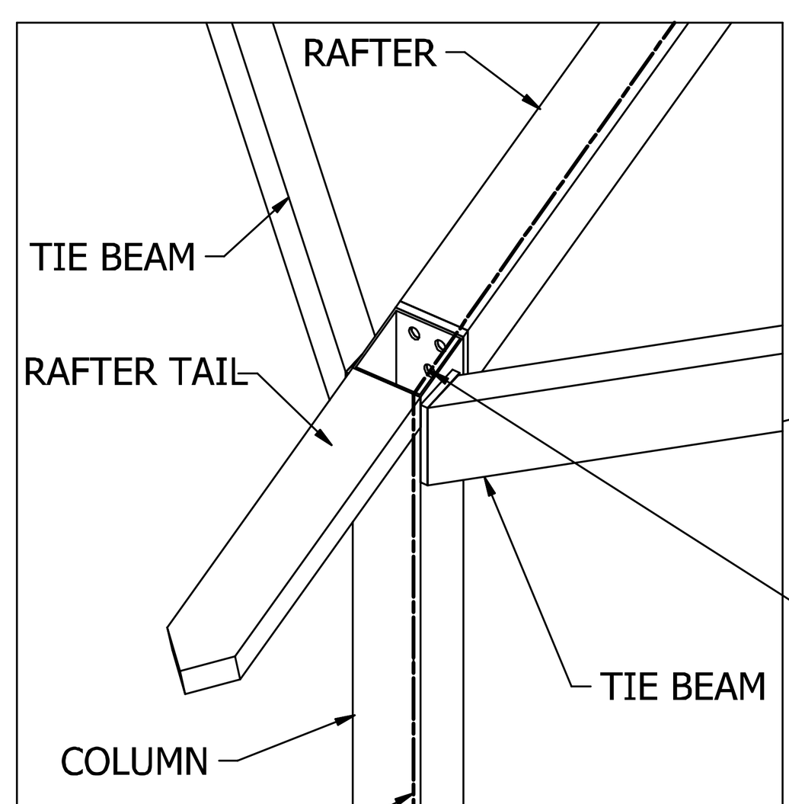
OPTIONAL EXIT HOLES

IF REQUIRED, EXIT HOLES FOR LIGHTING, ETC. CAN BE PLACED IN THE RIDGE BEAM AND/OR CONNECTOR TUBE WITH 14ga COVER PLATE AS SHOWN (CHARGES APPLY)
USE FRAME SHEET OF THIS PRELIMINARY TO SPECIFY REQUIRED EXIT HOLE LOCATIONS AND SIZE.



DETAIL B



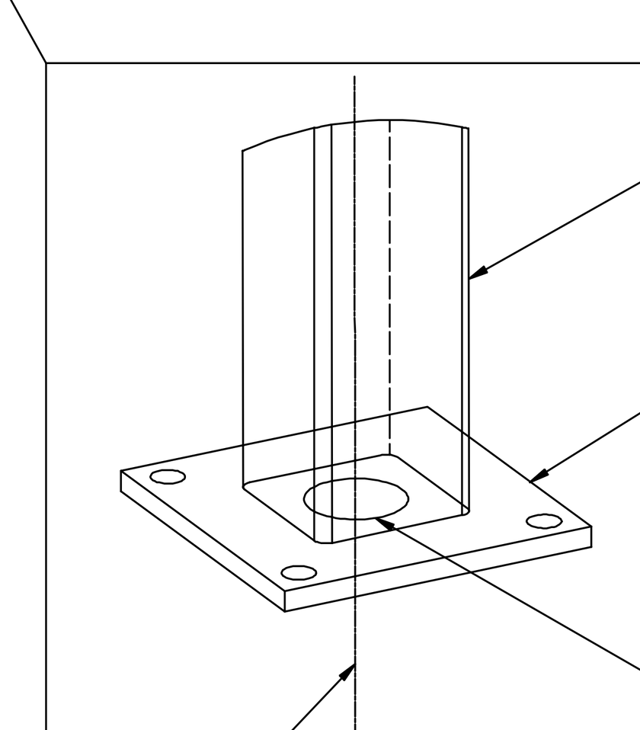


DETAIL A

ICON PROVIDES A MINIMUM OF (1) 3/4" HOLE AT EACH CONNECTION FOR 1/2" CONDUIT.
IF APPLICABLE, PLEASE SPECIFY REQUIRED CONDUIT SIZE: (CHARGES APPLY)

- ☐ 3/4" CONDUIT (1" HOLES)
- ☒ 1" CONDUIT (1 1/4" HOLES)
- ☐ OTHER (PLEASE SPECIFY
____

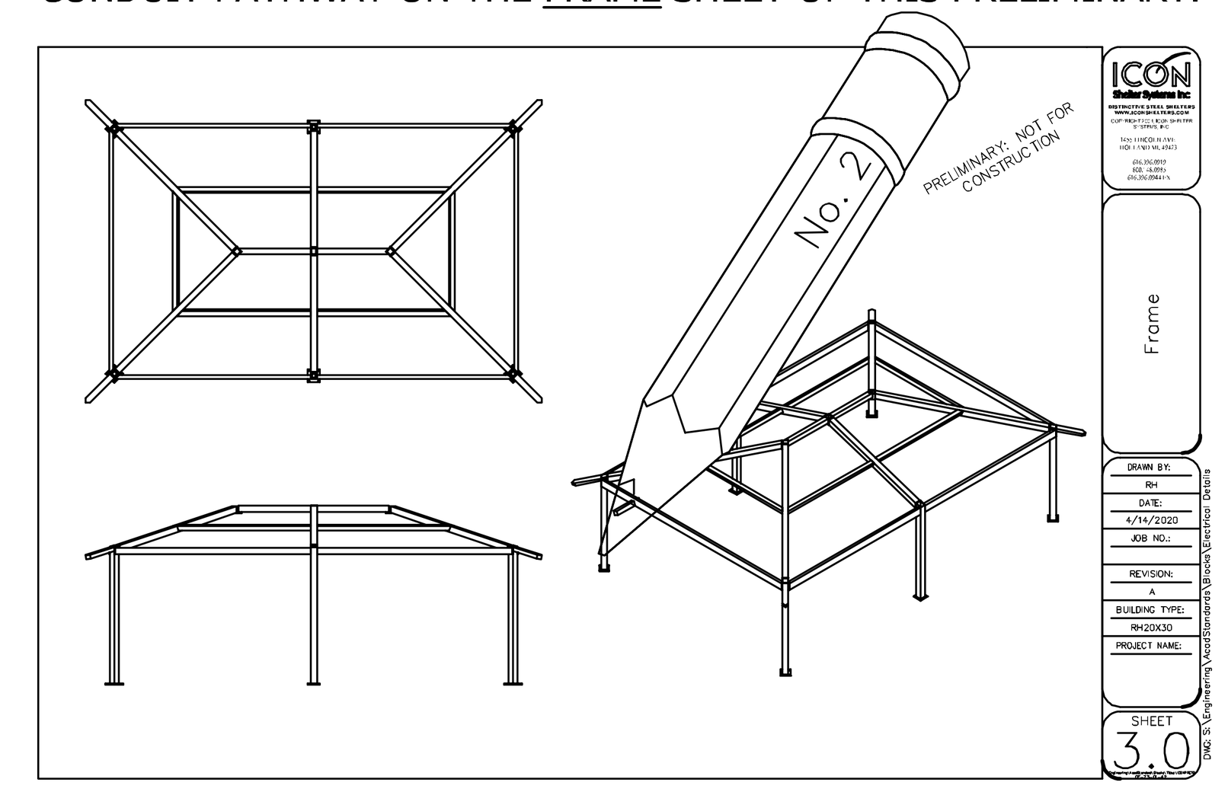
CONDUIT PATHWAY PROVIDED FOR EACH COLUMN.



BASE DETAIL

NOTE: BUILDING DEPICTED ON THIS SHEET FOR ILLUSTRATION PURPOSES ONLY. ACTUAL LAYOUT AND FRAME MEMBER QUANTITIES VARY BY DESIGN. PLEASE REFER TO ELEVATION AND FRAME SHEETS IN THIS PRELIMINARY FOR ORDER-SPECIFIC CONFIGURATION.

IF REQUIRED, PLEASE DRAW THE NECESSARY ELECTRICAL CONDUIT PATHWAY ON THE FRAME SHEET OF THIS PRELIMINARY.



DETAIL D

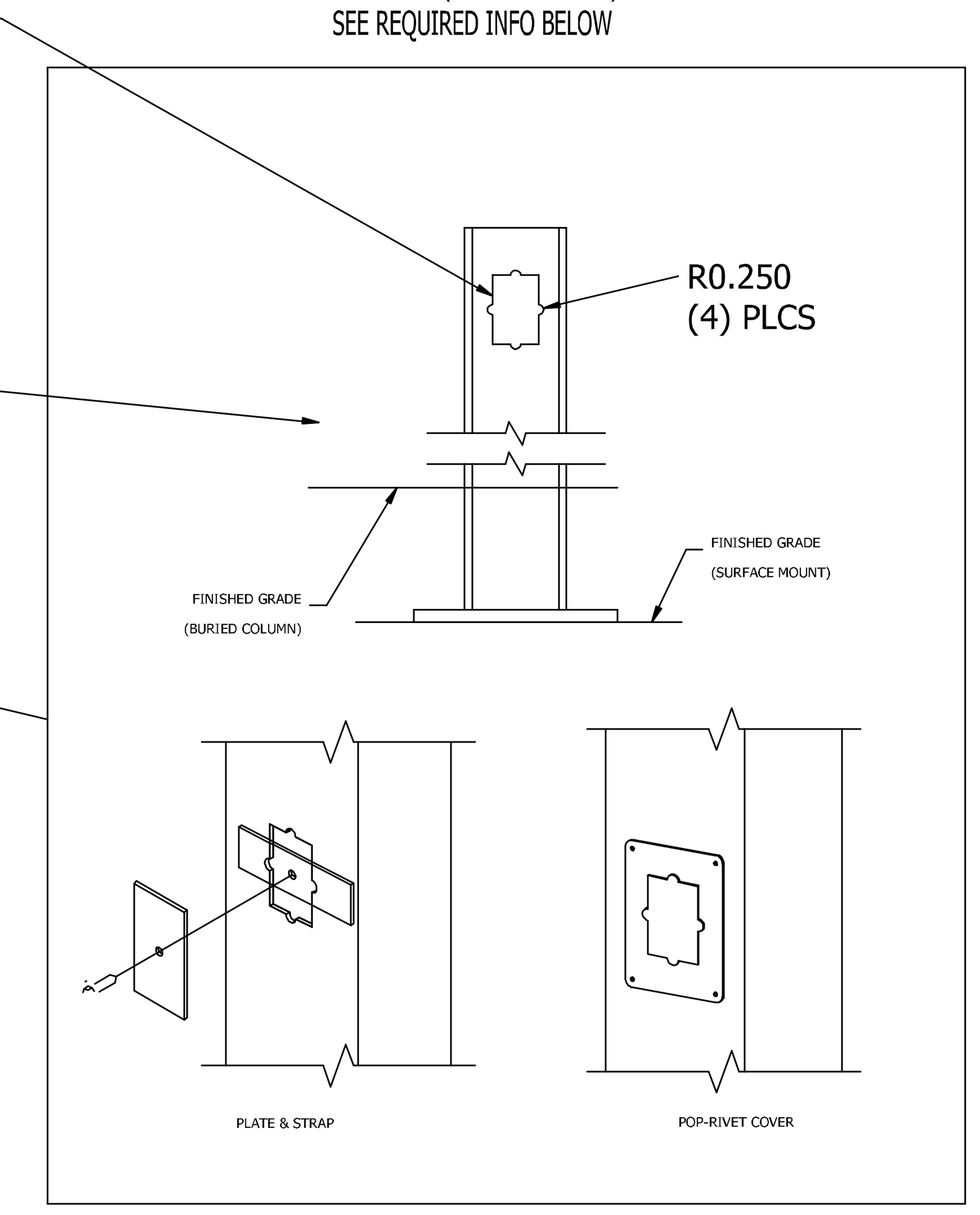
OPTIONAL CUTOUTS

USE FRAME SHEET OF THIS PRELIMINARY TO SPECIFY REQUIRED CUTOUT LOCATIONS (CHARGES APPLY)
SEE REQUIRED INFO BELOW

(1) STANDARD CUTOUT SIZE SHOWN. SPECIFY IF OTHER SIZE REQUIRED.

(2) CUTOUTS WILL BE ON INSIDE FACE OF COLUMN UNLESS OTHERWISE INDICATED ON FRAME SHEET.

(3) SPECIFY HEIGHT ABOVE FINISHED GRADE FOR EACH CUTOUT AS SHOWN



DETAIL C

(4) COVER PLATES PROVIDED UPON REQUEST (CHARGES APPLY)
PLEASE SPECIFY TYPE AND QUANTITY REQUIRED:

- ☐ PLATE & STRAP
- ☐ POP-RIVET COVER PLATE

HOW MANY REQUIRED?________

ICON STD	RH/DSA-PC
DRAWN BY	ANGEL
DATE	4/2/2021
REV	
REV DATE	

JRMA ARCHITECTS ENGINEERS

07/29/2021

APPROVED DIV. OF THE STATE ARCHITECT APP: 04-120013 PC REVIEWED FOR SS ☑ FLS ☑ ACS ☑ CG ☐ DATE: 08/06/2021

ELECTRICAL ACCESS

ICON Shelter Systems Inc
DISTINCTIVE STEEL SHELTERS
WWW.ICONSHELTERS.COM

1455 LINCOLN AVE
HOLLAND MI, 49423
616.396.0919
800.748.0985
616.396.0944 FX

LS5.0

PRE-CHECK (PC) DOCUMENT
Code: 2019 CBC
A separate project application for construction is required.

PRINTED ON :

APPROVED DIV. OF THE STATE ARCHITECT APP: 02-119975 INC. REVIEWED FOR SS ☑ FLS ☑ ACS ☑ DATE: 04/25/2022

rga+ A studio of HMC Architects

SHADE STRUCTURE AT SEQUOIA ELEMENTARY SCHOOL

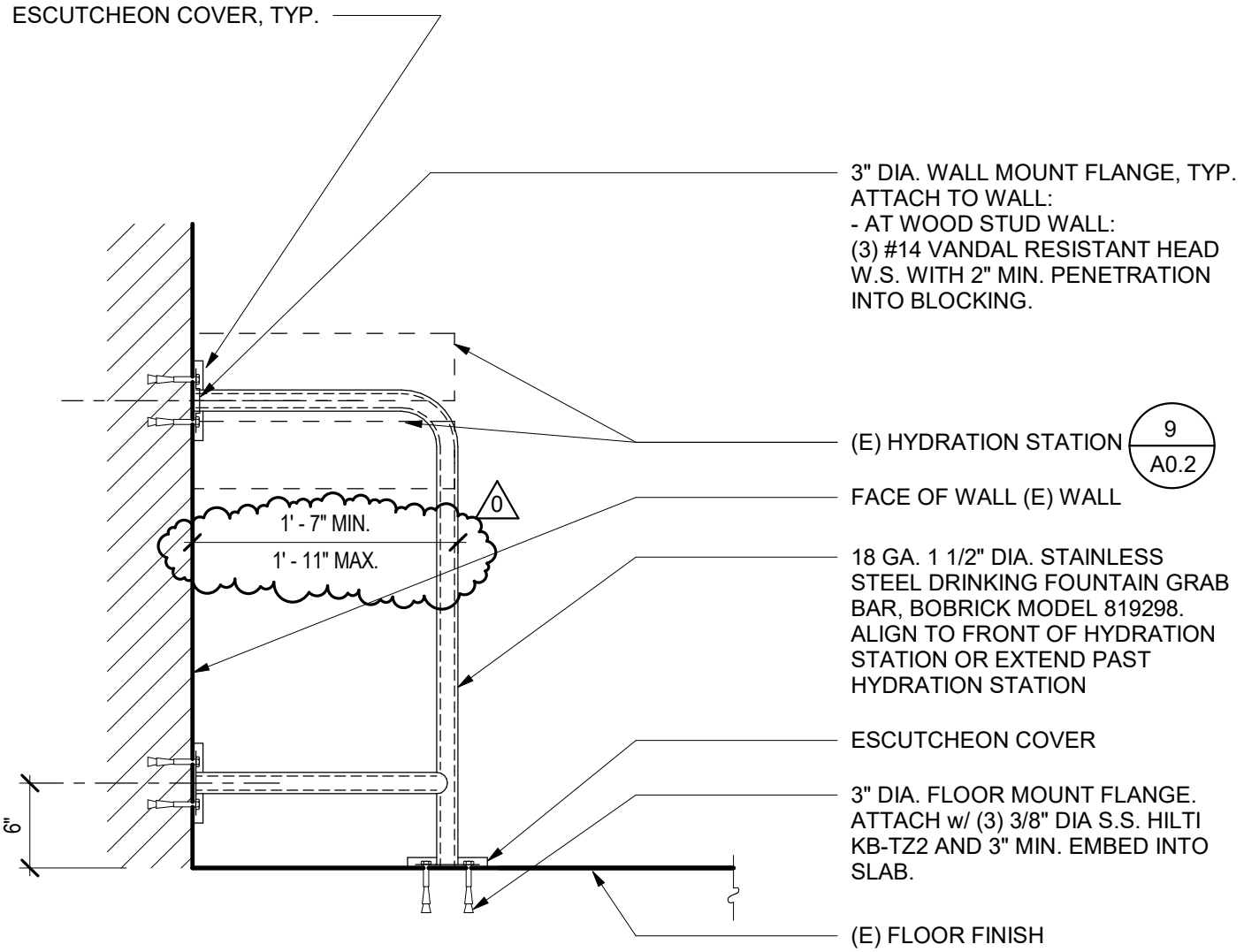
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

△ Revision

ELECTRICAL ACCESS

PROJECT NO.	21-1504.05
DATE:	4/7/22
SHEET	LS5.0

AD0.13



10 HYDRATION STATION GUARDRAIL

1" = 1'-0"

ALL FEATURES, NOTES AND DIMENSIONS NOT SPECIFICALLY SHOWN OR NOTED AS CHANGED SHALL REMAIN AS SHOWN ON PREVIOUSLY ISSUED DOCUMENTS.

ADDENDUM 0

rga+ A studio of HMC Architects

HYDRATION STATION **A0.2**

SHADE STRUCTURE AT NEW JOSEPH BONNHEIM ELEMENTARY SCHOOL
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA
DSA APP.02-119976

DATE: 04/29/22
PROJECT NO.: 21-1504.04
SHEET: **AD0.01**

EXISTING TOPOGRAPHY

= PROPERTY LINE
= CENTERLINE
= EASEMENT
= PROPERTY CORNER FOUND AS NOTED
= PROPERTY CORNER NOTHING FOUND OR SET
= TEMPORARY BENCHMARK (SEE TBM LIST FOR INFO)
= SWALE OR DRAINAGE FLOW
= DRAINAGE FLOW
= FENCE (TYPE NOTED)
= TREE (SIZE/TYPE INDICATED)
= SLOPE
= CONTOUR
= CONCRETE SURFACE
= EDGE OF ASPHALT
= EDGE OF BUILDING
= SIGN
= POST OR BOLLARD
= GROUND ELEVATION
= HARD SURFACE ELEVATION

EXISTING UTILITIES

= STORM DRAIN LINE (SIZE & DIRECTION OF FLOW)
= STORM DRAIN LINE (RECORD INFORMATION)
= STORM DRAIN LINE (UNDERGROUND LOCATING)
= STORM DRAIN MANHOLE
= STORM DRAIN CLEANOUT
= DROP INLET
= AREA DRAIN
= RAIN WATER LEADER
= DOWNSPOUT
= SANITARY SEWER LINE (SIZE & DIRECTION OF FLOW)
= SANITARY SEWER LINE (RECORD INFORMATION)
= SANITARY SEWER LINE (UNDERGROUND LOCATING)
= SANITARY SEWER MANHOLE
= SANITARY SEWER CLEANOUT
= WATER LINE (SIZE INDICATED)
= WATER LINE (RECORD INFORMATION)
= WATER LINE (UNDERGROUND LOCATING)
= WATER MANHOLE
= WATER VALVE
= WATER METER
= WATER BOX
= IRRIGATION CONTROL VALVE
= FIRE HYDRANT
= BACKFLOW PREVENTER
= SPRINKLER
= HOSE BIBB
= OVERHEAD ELECTRIC LINE
= UNDERGROUND ELECTRIC LINE
= UNDERGROUND ELECTRIC LINE (RECORD INFORMATION)
= UNDERGROUND ELECTRIC LINE (UNDERGROUND LOCATING)
= ELECTRIC MANHOLE
= UTILITY POLE (WITH GUY WIRE)
= ELECTRIC METER
= ELECTRIC BOX
= STREET LIGHTING BOX
= LIGHT STANDARD
= SIGNAL LIGHT
= FLOOD LIGHT
= ELECTRICAL OUTLET
= GAS LINE (SIZE INDICATED)
= GAS LINE (RECORD INFORMATION)
= GAS LINE (UNDERGROUND LOCATING)
= GAS MANHOLE
= GAS VALVE
= GAS METER
= TELEPHONE LINE
= TELEPHONE LINE (RECORD INFORMATION)
= TELEPHONE LINE (UNDERGROUND LOCATING)
= STORM DRAIN BOX
= TRAFFIC SIGNAL BOX

A.P.N. 021-0342-028

BENCHMARK NO. 318-C3E **ELEV.** 35.095

HILTI NAIL LIGHT BASE SE CORNER 21ST AVENUE AND QUONSET DRIVE.

TBM LIST

NUMBER	DESCRIPTION	NORTHING	EASTING	ELEV
1	CPS CHISELED "+"	10000.00	10000.00	38.99
2	CPS PK+WASHER@4 SQ.	9537.59	10000.00	36.20
3	CPS PK+WASHER	9791.13	9999.31	37.92
4	CPS CHISELED "+"	9873.48	9999.56	39.06
5	CPS CHISELED "+"	10000.37	9895.17	37.93
6	CPS CHISELED "+"	9993.27	9725.14	35.57
7	CPF BM318-C3E EL=35.095	9206.53	10359.58	35.10

CIVIL ABBREVIATIONS AND LEGEND

ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS MAY BE USED ON THESE PLANS.

AB	AGGREGATE BASE
AC	ASPHALTIC CONCRETE
AD	AREA DRAIN
APN	ASSESSOR'S PARCEL NUMBER
ARV	AIR RELEASE VALVE
ASB	AGGREGATE SUB-BASE
BO	BLOW-OFF VALVE
BV	BUTTERFLY VALVE
BW	BACK OF WALK
C/L	CENTERLINE
CB	CATCH BASIN
CL	CLASS
CMP	CORRUGATED METAL PIPE
CATV	CABLE TELEVISION
CO	CLEANOUT
COMM	COMMUNICATION
CONC.	CONCRETE
CONST.	CONSTRUCT
CR	CURB RETURN
CS	CONCRETE SURFACE
DC	DOUBLE CHECK VALVE
DDC	DOUBLE DETECTOR CHECK VALVE
DG	DECOMPOSED GRANITE
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DWG	DRAWING
DS	DOWNSPOUT
E	ELECTRIC
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
EX	EXISTING
FS	FIRE SERVICE LINE
FDC	FIRE DEPARTMENT CONNECTION
FL	FLOWLINE
FM	SANITARY SEWER FORCE MAIN
FF	FINISHED FLOOR ELEVATION
FH	FIRE HYDRANT
G	GAS
GR	GRATE ELEVATION
GRD	GRADE ELEVATION
GV	GATE VALVE
HB	HOSE BIBB
HBD	HEADER BOARD
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
INV	PIPE INVERT ELEVATION
JP	JOINT UTILITY POLE
LF	LINEAL FEET
LIP	LIP OF GUTTER
LT	LEFT
MS	MOWSTRIP
NTS	NOT TO SCALE
OH	OVERHEAD
PCC	PORTLAND CEMENT CONCRETE
PD	PLANTER DRAIN
PIV	POST INDICATOR VALVE
P/L	PROPERTY LINE
PP	POWER POLE
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
R	RADIUS
RIM	MANHOLE RIM ELEVATION (SOLID COVER)
RP	REDUCED PRESSURE BACKFLOW PREVENTER
RW	RIGHT OF WAY
SCH	SCHEDULE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SG	SUBGRADE ELEVATION
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
STD	STANDARD
S/W	SIDEWALK
T	TELEPHONE
TC	TOP OF CURB
TD	TRENCH DRAIN
TDCB	TRENCH DRAIN CATCH BASIN
TP	TELEPHONE POLE
TR	TOP OF RAMP ELEVATION
TRW	TOP OF RETAINING WALL
TSW	TOP OF SEAT WALL
TW	TOP OF WALK ELEVATION
U	UTILITY
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
VCP	VITRIFIED CLAY PIPE
W	WATER
W/	WITH
W/O	WITHOUT
WV	WATER VALVE

LEGEND

NOTE: NOT ALL SYMBOLS MAY BE USED ON THESE PLANS.

PROPOSED GRADING & DRAINAGE SYMBOLS:

8" SD — STORM DRAIN LINE (SIZE AND FLOW SHOWN)
STORM DRAIN MANHOLE (SDMH)
CATCH BASIN (CB)
DROP INLET (DI)
AREA DRAIN (AD)
PLANTER DRAIN (PD) OR FLOOR DRAIN (FD)
CO — STORM DRAIN CLEANOUT
99.99 — ELEVATION
FF=100.00 — FINISHED FLOOR ELEVATION
PAD=99.33 — BUILDING PAD ELEVATION
CONCRETE SIDEWALK
GRADED DIRECTION FOR DRAINAGE FLOW
SWALE
SLOPE
TREE TO BE REMOVED
RETAINING WALL

PROPOSED SANITARY SEWER SYMBOLS:

6" SS — SANITARY SEWER LINE (SIZE AND FLOW SHOWN)
SANITARY SEWER MANHOLE (SSMH)
CO — SEWER CLEANOUT FLUSHER BRANCH

PROPOSED WATER SYMBOLS:

8" W — WATER LINE & SIZE
8" FS — FIRE LINE & SIZE
8" DW — DOMESTIC WATER LINE & SIZE
8" RW — RECLAIMED WATER LINE & SIZE
8" IRR — IRRIGATION SERVICE LINE & SIZE
8" NP — NON POTABLE WATER LINE & SIZE
8" SP — FIRE SPRINKLER SERVICE LINE & SIZE
GATE VALVE
M — WATER METER
FH — FIRE HYDRANT ASSEMBLY
FDC — FIRE DEPARTMENT CONNECTION
DC — DETECTOR CHECK VALVE
DDC — DOUBLE DETECTOR CHECK VALVE
RP — REDUCED PRESSURE BACKFLOW PREVENTER
BUTTERFLY VALVE
1" — AIR RELEASE VALVE + SIZE
1" — BLOW-OFF VALVE + SIZE
PIV — POST INDICATOR VALVE

DEMOLITION GENERAL NOTES

1. IN THE EVENT THAT ANY UNUSUAL CONDITIONS NOT COVERED BY THE GEOTECHNICAL INVESTIGATION REPORT OR ARE ENCOUNTERED DURING GRADING OPERATIONS THE GEOTECHNICAL ENGINEER AND THE ARCHITECT SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTIONS.
2. NO BURNING OR BLASTING SHALL BE PERMITTED.
3. ADDITIONAL DEMOLITION INFORMATION MAY BE SHOWN ON THE GRADING, DRAINAGE, AND UTILITY PLANS, AND THOSE PLANS PREPARED BY OTHER DISCIPLINES FOR THIS PROJECT.
4. ALL DEMOLISHED ITEMS SHALL BE DISPOSED OF OFFSITE AT A SUITABLE, LEGAL, DUMP SITE OR OTHER FACILITY.
5. ALL DISPOSED OF MATERIALS SHALL BE RECYCLED IF POSSIBLE.
6. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN IN THESE PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS, AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES. HOWEVER, WARREN CONSULTING ENGINEERS CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES, NOR FOR THE EXISTENCE OF OTHER BURIED OBJECTS OR UTILITIES WHICH MAY BE ENCOUNTERED BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR OR ANY SUBCONTRACTOR FOR THIS CONTRACT SHALL NOTIFY THE DISTRICT TWO (2) WORKING DAYS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK IN ORDER TO VERIFY TO THE GREATEST EXTENT POSSIBLE THE EXISTING UTILITY LINES, CONFLICTS AND PROPOSED UTILITY CONNECTION POINTS.
7. THE SCHOOL DISTRICT SHALL HAVE SALVAGE RIGHTS TO ANY DEMOLISHED ITEMS SHOWN HEREON. THE CONTRACTOR SHALL GIVE THE DISTRICT NOTICE 7 DAYS PRIOR TO THE START OF DEMOLITION. THE DISTRICT SHALL MOVE ANY RETAINED ITEMS OUT OF THE CONTRACTORS WORK AREA, UNLESS ANOTHER ARRANGEMENT IS MADE WITH THE CONTRACTOR. ANY REMAINING ITEMS BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE. ANY ITEMS NOT SHOWN FOR REMOVAL SHALL REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION TO A REASONABLE EXTEND.
8. EXISTING UTILITY STRUCTURES IN AREAS OF NEW PAVING SHALL BE REMOVED AND REPLACED WITH NEW BOX/COVER AT NEW GRADE UNLESS SPECIFICALLY NOTED OTHERWISE.
9. ITEMS OUTSIDE THE LIMITS OF DEMOLITION SHALL REMAIN AND BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
10. EXISTING UTILITY STRUCTURES AND PIPING NOT SHOWN ON DEMOLITION PLAN TO BE REMOVED SHALL REMAIN AND BE PROTECTED.

UTILITY VERIFICATION NOTE

PRIOR TO THE START OF CONSTRUCTION, VERIFY AND POTHOLE ALL UTILITY POINTS OF CONNECTION FOR LOCATION, DEPTH, AND SIZE. IF CONFLICT IS FOUND, CONTACT THE ENGINEER IMMEDIATELY FOR DIRECTION.

IRRIGATION DEMOLITION NOTE

WITHIN LANDSCAPE AREAS TO BE DEMOLISHED THERE MAY BE EXISTING IRRIGATION LINES NOT SHOWN ON THIS PLAN. CONTRACTOR SHALL REMOVE LATERAL LINES AND HEADS ENCOUNTERED. MAIN LINES AND CONTROL WIRES MAY ONLY BE REMOVED PROVIDED THAT ROUTING IS KNOWN AND REMOVAL WILL NOT DEACTIVATE AN IRRIGATION SYSTEMS INTENDED TO REMAIN. IF CONFLICT IS FOUND, CONTACT THE ENGINEER FOR DIRECTION.

GENERAL NOTES:

1. THE TYPES, LOCATIONS, SIZES, AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES. HOWEVER, WARREN CONSULTING ENGINEERS CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES, NOR FOR THE EXISTENCE OF OTHER BURIED OBJECTS OR UTILITIES WHICH MAY BE ENCOUNTERED BUT WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR OR ANY SUBCONTRACTOR FOR THIS CONTRACT SHALL NOTIFY MEMBERS OF UNDERGROUND SERVICE ALERT (USA) TWO (2) WORKING DAYS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK BY CALLING TOLL FREE 1-800-227-2600, OR 811.

811 Know what's below. Call before you dig.

2. WARREN CONSULTING ENGINEERS, INC. (WCE) ASSUMES NO RESPONSIBILITY FOR ERRORS IN PHYSICAL LOCATION OF IMPROVEMENTS, HORIZONTAL OR VERTICAL, IF STAKED BY OTHERS. IN ADDITION, ANY SUCH ERRORS IN PHYSICAL LOCATION MAY AFFECT THE INTENDED DESIGN OF SUCH IMPROVEMENTS AND WCE CANNOT BE HELD RESPONSIBLE FOR SUCH CONDITIONS WHICH ARE A RESULT OF ERRORS IN SURVEYING, OR IMPROPER CONSTRUCTION.
3. IF SUBSURFACE CULTURAL RESOURCES, REMAINS, AND/OR ARTIFACTS ARE UNCOVERED DURING PROJECT CONSTRUCTION, ALL WORK IN THE VICINITY SHALL BE STOPPED UNTIL SUCH ITEMS CAN BE ASSESSED BY AN APPROPRIATE MEMBER OF THE COUNTY ENVIRONMENTAL IMPACT SECTION STAFF.
4. CONTRACTOR AGREES THAT HE/SHE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY: THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS: AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
5. THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL SAFETY FOR ALL EXCAVATIONS OF 5 FEET OR MORE IN DEPTH.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE ALL NECESSARY PRE-BID AND PRE-CONSTRUCTION SITE INSPECTION, AND/OR OBSERVATIONS ON THE SITE TO PRE-DETERMINE ALL HIS/HER MEANS AND METHODS NECESSARY TO COMPLETE THE IMPROVEMENTS SHOWN ON THESE PLANS AND PER THE PROJECT SPECIFICATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE, AND INCLUDE IN HIS/HER CONTRACT, ALL MEANS AND METHODS NECESSARY TO PERFORM A COMPLETE AND ACCEPTABLE JOB.
7. WHERE IMPROVEMENTS LIE WITHIN AN EXISTING DEVELOPED AREA, CONTRACTOR SHALL USE CAUTION WHEN ACCESSING THE SITE THROUGH THESE EXISTING IMPROVEMENTS. IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT ANY SUCH EXISTING IMPROVEMENTS OUTSIDE THE PROJECT BOUNDARY, OR EXISTING IMPROVEMENTS WITHIN THE BOUNDARY WHICH ARE TO REMAIN. PROPER PRECAUTIONS SHALL BE PROVIDED AND MAINTAINED THROUGHOUT CONSTRUCTION. ANY DAMAGE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER.
8. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO KEEP DETAILED RECORDS OF MINOR CHANGES OR ADJUSTMENTS MADE DURING CONSTRUCTION (WHICH WERE NOT FORMALLY ISSUED). UPON PROJECT COMPLETION, THESE RECORDS AND/OR INFORMATION SHALL BE PROVIDED TO THE OWNER AND, WARREN CONSULTING ENGINEERS, INC. UNLESS AN OFFICIAL "AS-BUILT" SET OF PLANS IS A REQUIREMENT OF THE CONTRACT, IF AS-BUILT PLANS ARE A REQUIREMENT OF THE CONTRACT, REFER TO SPECIFICATIONS FOR AS-BUILT DELIVERABLE REQUIREMENTS.
9. IN VEHICULAR PATHWAYS, EXISTING ASPHALTIC AND/OR CONCRETE SURFACES SHALL BE CUT TO A NEAT AND STRAIGHT LINE, PARALLEL OR PERPENDICULAR TO THE VEHICULAR TRAVELED PATH. THIS IS TYPICALLY THE ROADWAY CENTERLINE, BUT MAY VARY. THAT SAWCUT EDGE SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION SO A CLEAN EDGE REMAINS FOR PATCH BACK.. IF EDGE IS DAMAGED, A NEW SAW CUT WILL BE REQUIRED. THE EXPOSED EDGE SHALL BE "TACKED" WITH EMULSION PRIOR TO PAVING.
10. NO BURNING OR BLASTING SHALL BE ALLOWED ONSITE UNLESS SPECIFICALLY ADDRESSED ON PLANS, OR SPECIFICALLY APPROVED AND COORDINATED WITH THE ARCHITECT, ENGINEER, AND LOCAL AGENCY OR OTHER ADMINISTRATIVE AUTHORITY.
11. SUBGRADE AND RESULTING FINISHED GRADE SHALL BE CONSTRUCTED SMOOTH AND UNIFORM BETWEEN SPOT ELEVATIONS, CONTOURS OR OTHER STRUCTURE ELEVATIONS SHOWN ON GRADING OR OTHER PLANS. NO MOUNDS, RUTS, DEPRESSIONS OR OTHER GRADING DEFICIENCIES WILL BE ALLOWED UNLESS SPECIFICALLY SHOWN ON PLANS.
12. ON NEW WATER SYSTEMS, SERVICE LATERALS SHALL BE MADE USING APPROPRIATE "TEE" AND "WYE" FITTINGS. SADDLE TAPS WILL ONLY BE ALLOWED WHEN MAKING CONNECTIONS TO EXISTING WATER MAINS.
13. CURING COMPOUND SHALL BE APPLIED IN A CONTINUOUS SOLID WET FLOWING COAT. ANY "SPOTTY" APPLICATIONS SHALL BE RECOATED IMMEDIATELY. APPLICATION SHALL BE INSPECTED BY PROJECT INSPECTOR DURING APPLICATION.
14. EMBEDMENT OF FEATURES IN CONCRETE PAVING, CURBS, OR WALLS, SUCH AS SQUARE OR ROUND TUBING, POSTS, OR COLUMNS, STEEL BOLTED PLATES, OR OTHER STRUCTURES, SHALL REQUIRE ADDITIONAL SCORE OR EXPANSION JOINTS TO PREVENT UNCONTROLLED CRACKING. THOSE ADDITIONAL JOINTS MAY OR MAY NOT BE SPECIFICALLY SHOWN ON PLANS BUT SHALL BE PROVIDED BY THE CONTRACTOR.
15. EMBEDMENT OF FEATURES IN CONCRETE PAVING, CURBS, OR WALLS, SUCH AS SQUARE OR ROUND TUBING, POSTS, OR COLUMNS, STEEL BOLTED PLATES, OR OTHER STRUCTURES, SHALL REQUIRE A MINOR ADJUSTMENT OF REBAR WITHIN CONCRETE TO ALLOW FOR SUCH STRUCTURE. THAT REBAR ADJUSTMENT MAY NOT BE SPECIFICALLY SHOWN ON PLANS.
16. NO MORE THAN 1 GALLON OF WATER PER YARD OF CONCRETE CAN BE ADDED TO THE TRUCK AFTER ARRIVAL TO PROJECT SITE. THE ADDITION OF WATER CAN ONLY BE ADDED UNDER THE SUPERVISION OF THE CONCRETE INSPECTOR OR LABORATORY TECHNICIAN.
17. WHEN PUMPING CONCRETE FOR PLACEMENT, ABSOLUTELY NO WATER IS TO BE ADDED TO PUMP HOPPER. ANY WATER ADDED TO HOPPER WILL BE REASON FOR CONCRETE REJECTION AT THE CONTRACTORS EXPENSE.
18. ALL CONTRACTION/CONSTRUCTION JOINTS "CJ" SHALL BE 1/4 THE SLAB THICKNESS DEEP, BUT NO LESS THAN 1" FOR CONTROLLING OF CRACKING. CONTRACTOR SHALL EXERCISE CAUTION WHEN FINAL TROWELING OF CONCRETE SO AS NOT TO FILL IN THESE JOINTS WITH CONCRETE CREAM. ANY CRACKS OUTSIDE OF JOINTS WHICH WERE CONSTRUCTED LESS THAN 1" DEEP, SHALL BE CAUSE FOR CONCRETE SLAB(S) TO BE REMOVED AND REPLACE AT CONTRACTORS EXPENSE.
19. ANY SCREED BOARDS SET WITHIN CONCRETE SLABS SHALL BE AN "OVERHEAD SCREED" SO THERE IS NO INTERFERENCE WITH THE PLACEMENT AND ALIGNMENT OF SLAB REINFORCING.
20. 3-1/2" FELT JOINTS WILL NOT BE ACCEPTED. PROVIDE A FULL 4" FELT JOINT FOR 4" SLAB CONSTRUCTION, AND A 6" FELT JOINT FOR A 6" SLAB SLAB CONSTRUCTION.
21. SHOULD ANY SHRINKAGE CRACKS OCCUR OUTSIDE OF EITHER THE EXPANSION JOINTS OR CRACK CONTROL JOINTS, THEN THE CONCRETE SLAB SHALL BE SAWCUT AT THE NEAREST JOINTS ON EACH SIDE OF THE CRACK AND THE CONCRETE SECTION SHALL BE, REMOVED AND REPLACED. NEW CONCRETE SHALL BE DOWELED INTO EXISTING CONCRETE PER DRAWING DETAIL.
22. ALL AREAS DISTURBED BY GRADING OPERATIONS WHETHER SHOWN ON THE DRAWINGS OR NOT SHALL BE HYDRO SEEDED UNLESS OTHERWISE NOTED. HYDRO SEEDING SHALL CONFORM TO LOCAL CITY/COUNTY STANDARDS.
23. REPAIR OR PATCHING OF GALVANIZED METALS, SUCH AS AFTER WELDING GALVANIZED COMPONENTS, SHALL BE MADE USING A ZINC COMPOSITION "HOT STICK" APPLICATION PER ASTM A 780-01. GALVANIZING PAINTS WILL NOT BE ALLOWED.

GENERAL PAVING SURFACE NOTES:

1. PROVIDE EQUIVALENT OF MEDIUM BROOM FINISH AT SLOPES UP TO 5.99%, TYPICAL. PROVIDE EQUIVALENT OF HEAVY BROOM FINISH AT SLOPES 6% AND GREATER. REFER TO SPECIFICATIONS.
2. ALL NEW PEDESTRIAN WALKWAYS (NON-RAMP) SHALL BE SLOPED NO GREATER THAN 2.0%, AND NO LESS THAN 0.75% IN ANY DIRECTION, UNLESS SPECIFICALLY LABELED OTHERWISE. ALL CONCRETE SHALL MEET THE FOLLOWING SLOPE REQUIREMENTS:
   - NO GREATER THAN 5% SLOPE IN THE DIRECTION OF TRAVEL.
   - NO GREATER THAN 2% SLOPE CROSSING THE DIRECTION OF TRAVEL.
   - NO GREATER THAN 2% SLOPE IN ANY DIRECTION IN COURTYARD OR PLAZA AREAS.

CIVIL SHEET INDEX

△0 LANDSCAPE/IRRIGATION NOTE:

GENERAL CONTRACTOR IS REQUIRED TO HIRE A LANDSCAPE SUBCONTRACTOR TO PERFORM ALL LANDSCAPE AND IRRIGATION REPAIRS.

rga + A studio of HMC Architects

REGISTERED PROFESSIONAL ENGINEER ANTHONY J. TASSANO NO. C74696 STATE OF CALIFORNIA

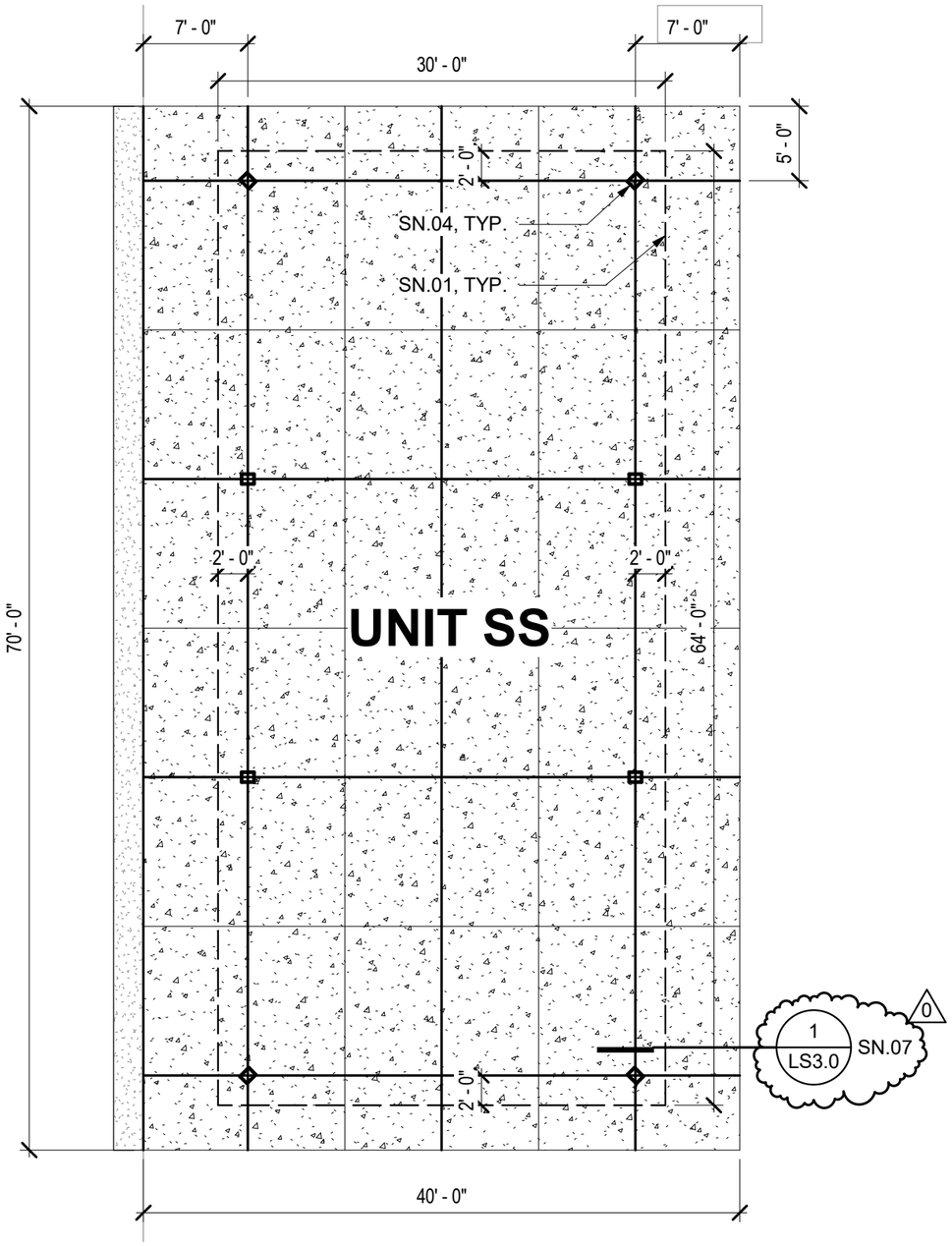
WCE
WARREN CONSULTING ENGINEERS, INC.
1117 WINDFIELD WAY, SUITE 110
EL DORADO HILLS, CA 95762 | (916) 985-1870

SHADE STRUCTURE AT NEW JOSEPH BONNHEIM ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

CIVIL GENERAL NOTES AND ABBREVIATIONS

PROJECT NO. 21-1504.04
DATE: 04/29/22
SHEET C0.1



1 ENLARGED SITE PLAN - SS

1" = 10'-0"

ALL FEATURES, NOTES AND DIMENSIONS NOT SPECIFICALLY SHOWN OR NOTED AS CHANGED SHALL REMAIN AS SHOWN ON PREVIOUSLY ISSUED DOCUMENTS.

LICENSED ARCHITECT
JEFFREY ALAN GRAU
C-14648
5/31/23
RENEWAL DATE
STATE OF CALIFORNIA

ADDENDUM 0

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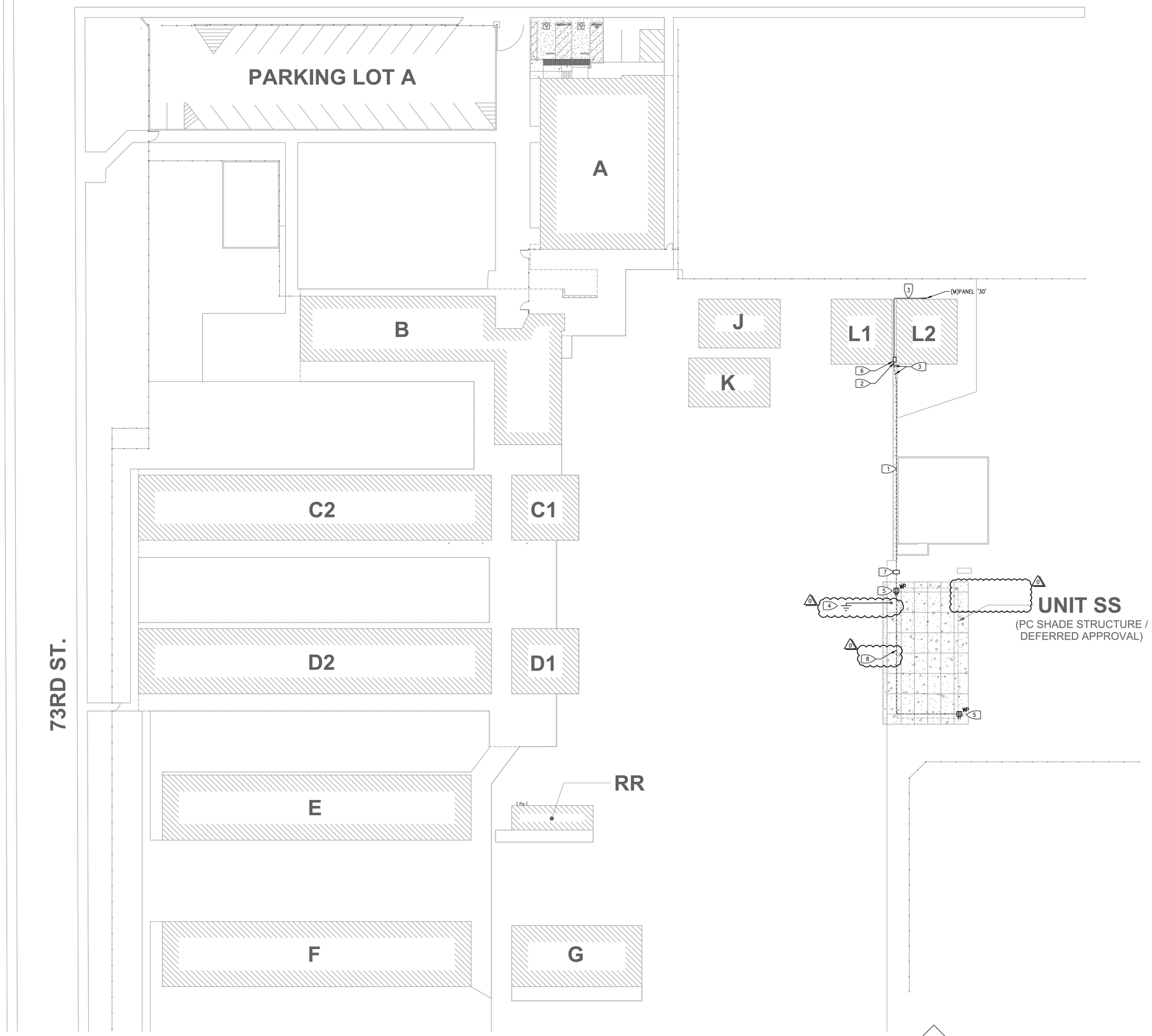
ENLARGED PLAN **A1.1.2**

SHADE STRUCTURE AT NEW JOSEPH BONNHEIM ELEMENTARY SCHOOL
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA
DSA APP.02-119976

DATE: 04/29/22
PROJECT NO.: 21-1504.04
SHEET: **AD0.03**



1 SITE PLAN - ELECTRICAL
SCALE: 1"=20'

SHEET NOTES:

1. ALL EXISTING EQUIPMENT, DEVICES, CONDUIT AND WIRING, ETC., SHOWN ON PLANS ARE BASED ON AVAILABLE EXISTING DRAWINGS AND LIMITED SITE SURVEYS, AND SHOWN FOR CLARITY ONLY.
2. SEE ONE LINE DIAGRAM AND PANEL SCHEDULE ON SHEET E2.1 FOR REFERENCE.

KEYED NOTES:

1. PROVIDE TRENCH FOR 24 INCH MINIMUM COVER. LOCATE AND PROTECT (E) UTILITIES, I.E. IRRIGATION, SEWER, DRAINAGE PIPES, ETC. SAW CUT AND PATCH BACK (E) ASPHALT. PROVIDE SAND TO COVER CONDUIT TO SIX(6) INCHES, THEN ADD TRACER TAPE. COMPLETE BACKFILL TO GRADE, COMPACTING IN SIX(6)-INCH LIFTS. FINISH TO MATCH EXISTING. SEE DETAIL 3/E3.1. (Δ1)
2. CONDUIT TO PENETRATE WALL. PATCH BACK TO MATCH (E) BUILDING CONSTRUCTION.
3. RUN CONDUIT HIGH AS CLOSE TO EAVE AS POSSIBLE AND PENETRATE WALL. DROP CONDUIT TO BELOW ASPHALT AND TRENCH TO SHADE LOCATION, INTERCEPTING THE CHRISTY BOX ALONG THE WAY. PAINT EXPOSED CONDUIT TO MATCH (E) FINISH.
4. PROVIDE AT MINIMUM TWO(2) GROUND RODS, ONE AT THE PULL BOX AND ONE NEAR THE CORNER POST OF THE SHADE STRUCTURE, EACH 5/8" BY TEN(10) FEET LONG, CU, AT LEAST TEN(10) FEET APART. BOND TO METAL OF SHADE STRUCTURE. SEE DETAILS 5/E3.1 AND 2/E3.1. (Δ0)
5. LOCKABLE, WEATHERPROOF RECEPTACLE TO HAVE A TWO-GANG BACK BOX WITH 1" THREADED PORT(S). MOUNT RECEPTACLES 36" ABOVE GRADE UNLESS SPECIFIED OTHERWISE. SEE DETAIL 4/E3.1.
6. PROVIDE 8" BY 6" BY 4" NEMA 3R PULL BOX.
7. PROVIDE CHRISTY B1324 PULL BOX WITHIN FIVE(5) FT OF SHADE STRUCTURE. CHRISTY BOX TO HAVE HOLD DOWN BOLTS AND BE LABELED FOR POWER. SEE DETAIL 2/E3.1.
8. RUN CONDUIT BELOW SHADE STRUCTURE CONCRETE PAD. (Δ0)

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7750 College Town Dr. ste.101
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www.peterseng.com
Job no. 22.010
consulting mechanical and electrical engineers

REGISTERED PROFESSIONAL ENGINEER
17247
Exp. 6/30/22
ELECTRICAL
STATE OF CALIFORNIA

PLOT DATE: 4/26/2022

SHADE STRUCTURE AT NEW JOSEPH BONNHEIM ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

Revision	
Δ0 ADDENDUM	04/29/22

SITE PLAN - ELECTRICAL

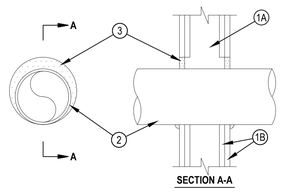
PROJECT NO. 21-1504.04
DATE: 04/29/22
SHEET **E1.1**

AD0.04

System No. W-L-1054

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/sq ft L Rating at 400 F — Less Than 1 CFM/sq ft

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.

   The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.
2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

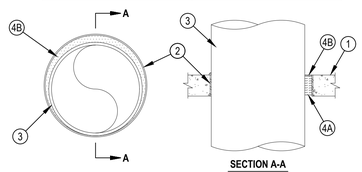
Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 23, 2015

7 WALL PENETRATION FIRESTOP
SCALE: NONE

System No. C-AJ-1226

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Rating — 3 Hr
L Rating At 400 F — 4 CFM/sq ft	FTH Rating — 0 Hr
	L Rating At Ambient — Less Than 1 CFM/sq ft
	L Rating At 400 F — 4 CFM/sq ft

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 32 in. (813 mm).
2. Metallic Sleeve — (Optional) Nom 32 in. (813 mm) diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces or extending a max of 3 in. (76 mm) above floor or beyond both surfaces of wall.

2A. Sheet Metal Sleeve — (Optional) Max 6 in. (152 mm) diam, min 26 ga. galv steel provided with a 26 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. (51 mm) larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. (102 mm) below the bottom of the deck and a max of 1 in. (25 mm) above the top surface of the concrete floor.

2B. Sheet Metal Sleeve — (Optional) - Max 12 in. (305 mm) diam, min 24 ga galv steel provided with a 24 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. (51 mm) larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. (102 mm) below the bottom of the deck and a max of 1 in. (25 mm) above the top surface of the concrete floor.

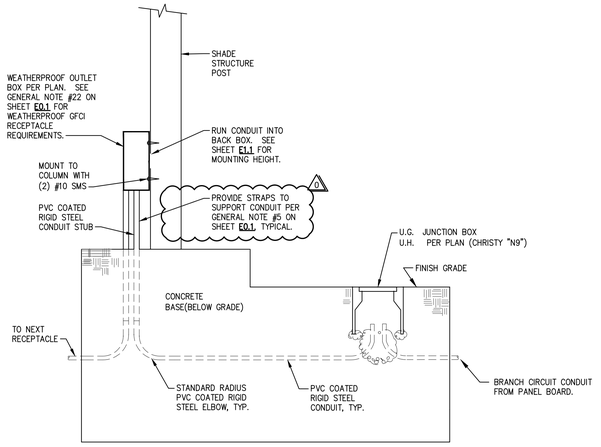
3. Through-Penetrant — One metallic pipe, tube or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of opening shall be min 0 in. (point contact) to max 1-7/8 in. (48 mm). Penetrant may be installed with continuous point contact. Penetrant to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic penetrants may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Conduit — Nom 6 in. (152 mm) diam (or smaller) steel conduit.
   F. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT).
4. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or sleeve or from both surfaces of wall or sleeve as required to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* — Sealant — Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with top surface of floor or sleeve or with both surfaces of wall or sleeve. At the point or continuous contact locations between penetrant and concrete or sleeve, a min 1/4 in. (6 mm) diam bead of fill material shall be applied at the concrete or sleeve/ pipe penetrant interface on the top surface of floor and on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

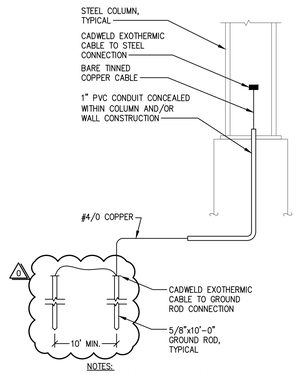
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 07, 2015

8 WALL PENETRATION FIRESTOP
SCALE: NONE

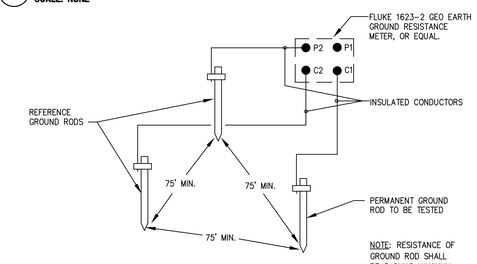


4 CONDUIT STUB IN POST DETAIL
SCALE: NONE



NOTES:
1. ALL GROUNDING CONNECTIONS SHALL BE IN CONFORMANCE WITH N.E.C. ARTICLE 250.
2. FOR ALL ADDITIONAL REQUIREMENTS REFER TO SPEC SECTIONS 26 05 10.

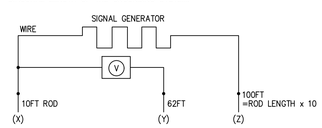
TYPICAL STEEL COLUMN & REBAR GROUNDING DETAIL
5 SCALE: NONE



NOTE: RESISTANCE OF GROUND ROD SHALL BE 5 OHMS MAXIMUM.

FALL OF POTENTIAL TEST METHOD
NOTES:
1. POWER EQUIPMENT OR SYSTEMS WITH CAPACITY OF 500KVA OR LESS: 10 OHMS.
2. POWER EQUIPMENT OR SYSTEMS WITH CAPACITY OF 500 TO 1000KVA: 5 OHMS.
3. POWER EQUIPMENT OR SYSTEMS WITH CAPACITY GREATER THAN 1000KVA: 3 OHMS.
4. POWER DISTRIBUTION UNITS OR PANELBOARDS SERVING ELECTRONIC I.T. EQUIPMENT: 3 OHMS.
5. MAN-HOLE GROUNDS: 10 OHMS.

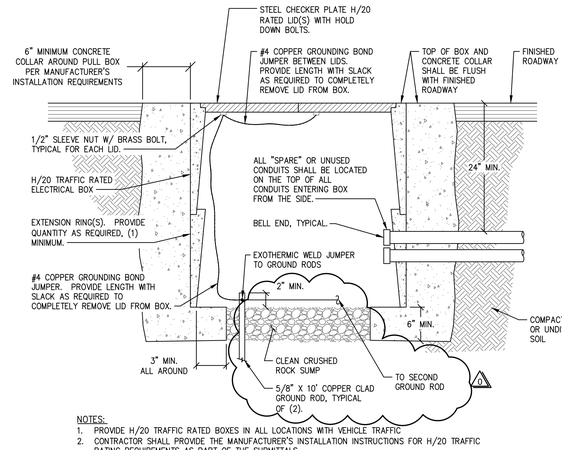
FALL OF POTENTIAL 3-POINT TEST:
GROUND RING, I.E. 10 BY 10 RING, 14' DIAGONAL LENGTH ISOLATION FROM UTILITY NEUTRAL PROBE Z IS DRIVEN A DISTANCE OF 10 TIMES DIAGONAL LENGTH OF THE GROUNDING ROD SYSTEM (ROD X). A SECOND PROBE (Y) IS PLACED IN LINE AT A DISTANCE FROM ROD X EQUAL TO THE DIAGONAL LENGTH OF THE GROUNDING SYSTEM.



AT THIS POINT, A KNOWN CURRENT IS APPLIED ACCROSS X & Z, WHILE THE RESULTING VOLTAGE IS MEASURED ACROSS X & Y. OHMS LAW APPLIED R=V/I. THEN (Y) MOVED TO 2 TIMES THE DIAGONAL LENGTH, THEN MOVE OUT TO 3 TIMES(3X), 4X, .. 9X THE DIAGONAL LENGTH TO COMPLETE THE 3 POINT TEST WITH A TOTAL OF NINE RESISTANCE MEASUREMENTS.

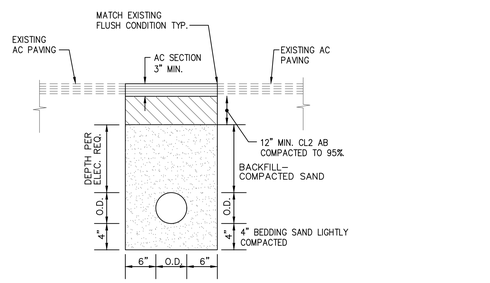
6 METHOD OF TESTING GROUND RODS DETAIL
SCALE: NONE

1 DETAIL REMOVED
SCALE: NONE



NOTES:
1. PROVIDE H/20 TRAFFIC RATED BOXES IN ALL LOCATIONS WITH VEHICLE TRAFFIC
2. CONTRACTOR SHALL PROVIDE THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR H/20 TRAFFIC RATING REQUIREMENTS AS PART OF THE SUBMITTALS.

2 TYPICAL H/20 TRAFFIC RATED PULL BOX
SCALE: NONE



3 TYPICAL TRENCH DETAIL
SCALE: NONE

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consulting mechanical and electrical engineers

REGISTERED PROFESSIONAL ENGINEER — ROBERT A. PETERS — 17247 Exp. 6/30/22 — ELECTRICAL — STATE OF CALIFORNIA

PLOT DATE: 4/26/2022

SHADE STRUCTURE AT NEW JOSEPH BONNHEIM ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

Revision	
0 ADDENDUM	04/29/22

DETAILS

PROJECT NO.	21-1504.04
DATE:	04/29/22
SHEET	E3.1

AD0.05

Statement of General Conformance

THE FOLLOWING DRAWINGS OR SHEETS LISTED ON THE COVER OR INDEX SHEET HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. IT HAS BEEN EXAMINED BY ME FOR:

1) DESIGN INTENT AND APPEARS TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME, AND
2) COORDINATION WITH MY PLANS AND SPECIFICATIONS AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT.

THE STATEMENT OF GENERAL CONFORMANCE "SHALL NOT BE CONSTRUED AS RELIEVING ME OF MY RIGHTS, DUTIES, AND RESPONSIBILITIES UNDER SECTIONS 17302 AND 81138 OF THE EDUCATION CODE AND SECTIONS 4-336, 4-341, AND 4-344" OF TITLE 24, PART 1. (TITLE 24, PART 1, SECTION 4-317 (b))

SIGNATURE

4/21/22
DATE

ARCHITECT OR ENGINEER DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE

Jeffrey Grau
PRINT NAME

C-14648
LICENSE NUMBER

05/31/23
EXPIRATION DATE

LIST COMPLETELY, ITEMS REVIEWED AND ACCEPTED:

PC SHADE STRUCTURE

DESIGN CRITERIA	
DESCRIPTION	DESIGN VALUES
DEAD AND LIVE LOADS	
ROOF LIVE LOAD	20 PSF
ROOF DEAD LOAD (SUPERIMPOSED ON FRAME)	5 PSF MAX
ROOF PANEL DEAD LOAD	M=1.1 PSF, G = 1.2 PSF, S = 1.3 PSF
COLLATERAL DEAD LOAD	M = 3.9 PSF, G = 3.8 PSF, S =3.7 PSF
ROOF SNOW LOAD	
GROUND SNOW LOAD, P_g	20 PSF
RISK CATEGORY	II
ROOF SNOW LOAD: SLOPED, P_s	20 PSF
SITE APPLICATION DSA REVIEWER SHALL VERIFY THE STRUCTURE BE LOCATED AT LEAST 20 FEET FROM ADJACENT STRUCTURE	
SNOW LOAD SLOPE FACTOR, C_s	1.0
SNOW EXPOSURE FACTOR, C_e	1.0
SNOW LOAD IMPORTANCE FACTOR, I_s	1.0
THERMAL FACTOR, C_t	1.2
WIND DESIGN	
BASIC WIND SPEED (3 SECOND GUST), V_{ult}	100 MPH
RISK CATEGORY	II
EXPOSURE CATEGORY	C
FACTORS: K_z, K_{zt}, K_d	0.85, 1, 0.85
$q_h = 0.00256\ K_z\ K_{zt}\ K_d\ V^2$ FOR ALL EAVE HEIGHTS (8', 10' & 12')	18.50 PSF
C_{NW} PER ASCE FIGURE 27.4-5 ROOF ANGLE 18.43 - CLEAR / OBSTRUCTED	CASE A (1.1 / -1.2) CASE B (0.01 / -0.69)
C_{NL} PER ASCE FIGURE 27.4-5 ROOF ANGLE 18.43 - CLEAR / OBSTRUCTED	CASE A (-0.17 / -1.09) CASE B (-0.96 / -1.65)
C_N PER ASCE FIGURE 27.4-7 PARALLEL TO RIDGE - CLEAR / OBSTRUCTED	CASE A (-0.6 / -0.9) CASE B (-0.5 / -0.5)
COMPONENTS & CLADDING - C_N (PRESSURE/SUCTION) CLEAR / OBSTRUCTED	ZONE 3 - (2.29 / -2.11) / (1.0 / -3.0)
	ZONE 2 - (1.77 / -1.63) / (0.8 / -2.3)
	ZONE 1 - (1.15 / -1.05) / (0.5 / -1.5)
SEISMIC DESIGN	
LATERAL FORCE RESISTING SYSTEM	STEEL - ORDINARY CANTILEVER COLUMN
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
SESIMIC IMORTANCE FACTOR, Ie	1.0
SEISMIC SITE CLASS	D
MCE_R SPECTRAL RESPONSE ACCELERATION @ 0.2 s, S_S	2.60
MCE_R SPECTRAL RESPONSE ACCELERATION @ 0.2 s, S_1	0.90
SHORT PERIOD SITE COEFFICIENT, F_a	1.20
LONG PERIOD COEFFICIENT, F_v	1.70
FUNDAMENTAL PERIOD OF THE STRUCTURE, T	0.152 s
DESIGN SPECTRAL RESPONSE ACCELERATION AT SHORT PERIOD, S_{DS}	2.08
DESIGN SPECTRAL RESPONSE ACCELERATION AT SHORT PERIOD, S_{DS} - USED TO DETERMINE Cs (WITH CAP PER ASCE-7 12.8.1.3)	2.08 * 0.70 = 1.456
DESIGN SPECTRAL RESPONSE ACCELERATION AT 1-s PERIODS, S_{D1}	1.02
SEISMIC DESIGN CATEGORY	E
RESPONSE MODIFICATION FACTOR, R	1.25
OVERSTRENGTH FACTOR, Ω	1.25
REDUNDANCY FACTOR, ρ	1.0
HORIZONTAL OR VERTICAL IRREGULARITIES	NONE
SEISMIC RESPONSE COEFFICIENT, Cs (20' WIDE, 30' WIDE, 40' WIDE)	1.16,
DESIGN BASE SHEAR, V (20' WIDE, 30' WIDE, 40' WIDE)	12.73 PSF, 13.41 PSF, 14.65 PSF
ALLOWABLE SOIL BEARING FOR FOUNDATIONS	VARIES - SEE FOUNDATION CHARTS
FLOOD DESIGN - DESIGN IS ASSUMED TO NOT BE IN FLOOD HAZARD AREA	
IF PROJECT IS LOCATED IN A FLOOD ZONE OTHERTHAN ZONE X, A LETTER STAMPED & SIGNED FROM A SOILS ENGINEER IS REQUIRED TO VALIDATE THE ALLOWABLE SOIL VALUES SPECIFIED.	

STRUCTURAL SEPARATION
ALL DEFLECTIONS SHOWN ALSO INCLUDE THE P-DELTA ROTATION PER IR PC-7

DEFLECTIONS ARE FOR (1) STRUCTURE
SOIL CLASSES PER CBC TABLE 1806A.2

(Soil Class 4 and Soil Class 3 columns are crossed out.)

MAXIMUM DRIFT δ_{max} SIDE COLUMNS		Soil Class 5	Soil Class 4	Soil Class 3
~~20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)~~	~~(INCHES)~~	~~2.40~~	2.55	2.65
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)	(INCHES)	2.25	2.35	2.45
~~40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)~~	~~(INCHES)~~	~~2.20~~	2.25	2.20
MINIMUM SEPARATION ($\delta_m = C_d\ \delta_{max}$) C_d = 1.25				
~~20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)~~	~~(INCHES)~~	~~3.00~~	3.19	3.31
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)	(INCHES)	2.81	2.94	3.06
~~40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)~~	~~(INCHES)~~	~~2.75~~	2.81	2.75
MAXIMUM DRIFT δ_{max} CORNER COLUMNS		Soil Class 5	Soil Class 4	Soil Class 3
~~20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)~~	~~(INCHES)~~	~~2.20~~	2.30	2.40
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)	(INCHES)	2.30	2.45	2.50
~~40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)~~	~~(INCHES)~~	~~2.40~~	2.55	2.65
MINIMUM SEPARATION ($\delta_m = C_d\ \delta_{max}$) C_d = 1.25				
~~20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)~~	~~(INCHES)~~	~~2.75~~	2.88	3.00
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)	(INCHES)	2.88	3.06	3.13
~~40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)~~	~~(INCHES)~~	~~3.00~~	3.19	3.31
MAXIMUM DRIFT δ_{max} END COLUMNS		Soil Class 5	Soil Class 4	Soil Class 3
~~20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)~~	~~(INCHES)~~	~~1.60~~	1.70	1.75
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)	(INCHES)	2.00	2.45	2.25
~~40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)~~	~~(INCHES)~~	~~2.50~~	2.30	2.80
MINIMUM SEPARATION ($\delta_m = C_d\ \delta_{max}$) C_d = 1.25				
~~20' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)~~	~~(INCHES)~~	~~2.00~~	2.13	2.19
30' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)	(INCHES)	2.50	3.06	2.81
~~40' WIDE (8' EAVE HT, 10' EAVE HEIGHT, 12' EAVE HT)~~	~~(INCHES)~~	~~3.13~~	2.88	3.50

ARCHITECTURAL REQUIREMENTS

DESCRIPTION	DESIGN VAULES
TYPE OF CONSTRUCTION	II–B
OCCUPANCY CLASSIFICATION	A–3
NUMBER OF STORIES	1
FIRE SPRINKLER SYSTEM	NOT BY ICON/WEIGHT NOT INCLUDED IN DESIGN

RELATED BUILDING CODES AND STANDARDS

TITLE 24 CODES:

2019 CALIFORNIA ADMINISTRATIVE CODE (CAC)..................(PART 1, TITLE 24, CCR)
2019 CALIFORNIA BUILDING CODE (CBC), VOLUMES 1, AND 2.(PART 2, TITLE 24, CCR)
2019 CALIFORNIA ELECTRICAL CODE....................................(PART 3, TITLE 24, CCR)
2019 CALIFORNIA MECHANICAL CODE (CMC).......................(PART 4, TITLE 24, CCR)
2019 CALIFORNIA PLUMBING CODE (CPC)............................(PART 5, TITLE 24, CCR)
2019 CALIFORNIA ENERGY CODE..(PART 6, TITLE 24, CCR)
2019 CALIFORNIA FIRE CODE (CFC) ....(PART 9, TITLE 24, CCR)
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE......(PART 11, TITLE 24, CCR)
2019 CALIFORNIA REFERENCE STANDARDS CODE..............(PART 12, TITLE 24, CCR)

REFERENCE CODE SECTIONS FOR APPLICABLE STANDARDS:
2019 CBC, CHAPTER 35
2019 CFC, CHAPTER 80

SCOPE OF WORK NARRATIVE

THESE DRAWINGS ILLUSTRATE THE FABRICATION AND INSTALLATION REQUIREMENTS FOR A FREE-STANDING PREFABRICATED STEEL SHADE STRUCTURE. THE ENTIRE STRUCTURAL SYSTEM IS COMPRISED OF HOLLOW STRUCTURAL STEEL MEMBERS SUPPORTED BY CONCRETE FOUNDATIONS. THE FLEXIBILITY INCLUDED HEREIN ALLOWS THE STRUCTURE TO COMPLY WITH A WIDE VARIETY OF PROJECT SITES AND LOADING REQUIREMENTS.

GENERAL:

1. GENERAL NOTES AND TYPICAL DETAILS SHALL APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE THEY MAY CONFLICT WITH DETAILS AND NOTES ON OTHER SHEETS. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED SUBJECT TO REVIEW BY THE STRUCTURAL ENGINEER FOR THIS PROJECT.
2. WORK SHALL CONFORM TO THE REQUIREMENTS, AS AMENDED TO DATE, OF THE LATEST ADOPTED EDITION OF THE CBC, C.A.C. TITLE 24, AND ALL OTHER LOCAL, STATE AND FEDERAL REGULATIONS.
3. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER FOR THIS PROJECT PRIOR TO PROCEEDING WITH ANY WORK INVOLVED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE STRUCTURAL ENGINEER FOR THIS PROJECT AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
5. THESE CONSTRUCTION DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, INCLUDING, BUT NOT LIMITED TO, BRACING, TEMPORARY SUPPORTS, AND SHORING. OBSERVATION VISIT TO THE SITE BY FIELD REPRESENTATIVES OF THE ARCHITECT/ENGINEER SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES. ANY SUPPORT SERVICES PERFORMED BY THE ARCHITECT/ENGINEER DURING THE CONSTRUCTION SHALL BE DISTINGUISHED FROM CONSTRUCTION AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ARCHITECT/ENGINEER, WHETHER OF MATERIAL OR WORK, ARE FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DOCUMENTS, BUT DO NOT GUARANTEE CONSTRUCTION.
6. ASTM DESIGNATIONS AND ALL STANDARDS REFER TO THE LATEST AMENDMENTS.
7. CONFORM TO APPLICABLE CAL/OSHA CONSTRUCTION SAFETY REGULATIONS FOR ALL WORK PERFORMED DURING CONSTRUCTION. JOB SITE SAFETY IS STRICTLY THE RESPONSIBILITY OF THE CONTRACTOR AND NOT THE ARCHITECT/ENGINEER OR OWNER.
8. THE ENGINEER AND THEIR CONSULTANTS SHALL HAVE NO RESPONSIBILITY FOR THE DISCOVERY, HANDLING, REMOVAL OR DISPOSAL OF HAZARDOUS MATERIALS AT THE PROJECT SITE, INCLUDING BUT NOT LIMITED TO ASBESTOS, ASBESTOS PRODUCTS, POLYCHLORINATED BIPHENYL (PCB) OR OTHER TOXIC SUBSTANCES.
9. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS, OR IF A CHANGE IN THE SCOPE OF WORK IS PROPOSED, A CONSTRUCTION CHANGE DOCUMENT DETAILING AND SPECIFYING THE REQUIRED CHANGE(S) SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK.
10. THE SCHOOL DISTRICT INSPECTOR ON RECORD SHALL INSPECT AND APPROVE THE ERECTED FRAME PRIOR TO ROOF INSTALLATION.
11. SEE REQUIREMENTS FOR LOCATION IN ANY FIRE HAZARD SEVERITY ZONE FOR WILDLAND URBAN INTERFACE AREAS (WUI) AS SPECIFIED IN THE APPLICABLE VERSION OF THE CALIFORNIA BUILDING CODE. PROVIDE PROTECTION AND DETAILS OF ALL AREAS COMPLYING WITH THE WUI REQUIREMENTS.
12. LOCATING THIS STRUCTURE CLOSER THAN 20 FEET TO OTHER STRUCTURES MAY AFFECT THE ALLOWABLE AREA FOR THE EXISTING CONSTRUCTION PER THE APPLICABLE VERSION OF THE CALIFORNIA BUILDING CODE.
13. VIEWS AND DETAILS ARE NOT DRAWN TO SCALE (UNLESS NOTED OTHERWISE). DO NOT SCALE THESE DRAWINGS.

STRUCTURAL AND MISCELLANEOUS STEEL:

1. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AMERICAN INSTITUE OF STEEL CONSTRUCTION (AISC) SPECIFICATION MANUAL REFERENCED BY THE LATEST EDITION OF THE CALIFORNIA BUILDING CODE.
2. PIPE SECTIONS SHALL CONFORM TO ASTM A53, Fy = 35 KSI, GRADE B OR A501 UNLESS NOTED OTHERWISE.
3. STRUCTURAL TUBING (HSS SHAPES) SHALL CONFORM TO ASTM A-500, GRADE B (OR C), Fy = 46 KSI (MIN).
4. IF MATERIAL AVAILABILITY IS LIMITED, MEMBER THICKNESS CAN BE INCREASED BEYOND WHAT IS SHOWN IN THESE DRAWINGS (MAXIMUM INCREASE OF 1/8").
5. ALL CHANNELS, ANGLES, AND MISC. STEEL SHALL CONFORM TO ASTM A-36, Fy = 36 KSI.
6. ALL PLATE STEEL SHALL CONFORM TO ASTM A-572, Fy= 50 KSI.
7. ALL COLD FORM STEEL SHALL CONFORM TO ASTM A-653, CS = TYPE B, Fy = 50 KSI.
8. STRUCTURAL STEEL AND DECK SHALL BE IDENTIFIED FOR CONFORMITY PER CBC 2202A.1.
9. ALL ROOF DECKS SHALL HAVE KYNAR 500 METAL COATING.
10. ALL ROOF DECKS SHALL CONFORM TO ASTM A-792, Fy = 50 KSI.

INSTRUCTIONS FOR ARCHITECTS SUBMITTING THESE PRE-CHECKED DRAWING TO DSA:

BEFORE SUBMITTING THESE PRE-CHECKED DRAWINGS FOR YOUR PROJECT, FOLLOW THE STEPS BELOW TO PROPERLY DEFINE THE APPROVED OPTIONS:

STEP 1: SELECT FRAME DIMENSIONS FOR YOUR PROJECT
-GABLE STRUCTURES UP TO 20' WIDE USE THE "RG 20" BASE FRAME
-GABLE STRUCTURES UP TO 30' WIDE USE THE "RG 30" BASE FRAME
-GABLE STRUCTURES UP TO 40' WIDE USE THE "RG 40" BASE FRAME
-MAXIMUM WIDTH IS 40' (SEE "ARCHITECTURAL VIEWS" SHEET FOR REFERENCE)
-THE 24', 44', 64', 84' AND 104' LENGTHS ARE SUGGESTED BECAUSE THEY ARE THE MOST COMMON (20' BAYS ARE THE MOST ECONOMICAL)
-FRAME LENGTHS ASSUME 2' OVERHANGS (UNO BY ARCHITECT – 2' MAX DIMENSION)

STEP 2: SELECT ROOF DECK FOR YOUR PROJECT
-"M" REPRESENTS McELROY METAL "MULTI-RIB" ROOF PANEL
-"G" REPRESENTS McELROY METAL "MEGA-RIB" ROOF PANEL
-"S" REPRESENTS McELROY METAL "MEDALLION-LOK" 16" STANDING SEAM ROOF PANEL

STEP 3: IDENTIFY THE Ss ACCELERATION (g) FOR YOUR PROJECT
-Ss VALUE DETERMINES THE REQUIRED SEISMIC DESIGN FORCES
-Ss VALUE DEPENDS ON THE PROJECTS GEOGRAPHICAL LOCATION (VALUES RANGE FROM 0.00 TO 3.73)

STEP 4: IDENTIFY THE Ss REGION FOR YOUR PROJECT
-THE REGIONS ARE DEPENDANT ON THE Ss VALUE DETERMINED IN STEP 3
-THE Ss REGION DICTATES THE MAXIMUM DEAD LOAD PERMITTED ON THE FRAME (SEE TABLE TO RIGHT)

STEP 5: IDENTIFY THE ROOF DEAD LOAD FOR YOUR PROJECT
-THE ROOF DECK DEAD LOAD WILL ALWAYS BE INCLUDED
-THE COLLATERAL LOAD REPRESENTS ADDITIONAL LOAD THAT CAN BE SUPPORTED BY THE FRAME
-BE SURE THE TOTAL ROOF DEAD LOAD FOR YOUR PROJECT IS LESS THAN OR EQUAL TO THE MAX DEAD LOAD SHOWN IN STEP 4 FOR YOUR Ss VALUE
-Sds VALUE USED IN CALCULATION IS THE CAPPED Sds (SEE DESIGN CRITERIA)

STEP 6: IDENTIFY THE FOUNDATION REQUIREMENTS FOR YOUR PROJECT
-IDENTIFY SOIL CLASS FOR PROJECT SITE PER SITE SPECIFIC SOIL CONDITIONS
-USE THIS TO SELECT CORRECT FOUNDATION SIZE ON FOUNDATION SHEET

STEP 7: SELECT MISCELLANEOUS OPTIONS FOR YOUR PROJECT
-MAXIMUM CLEAR HEIGHT IS 12'-0"; (SEE "ARCHITECTURAL VIEWS" SHEET FOR REFERENCE)
-MARK UP PC DRAWINGS WITH SIZE AND LOCATION OF CUTOUTS BEFORE SUBMITTING TO DSA

STEP 8: SELECT APPLICABLE SHEET INDEX FOR YOUR PROJECT
-REFERENCE THE BASE FRAME (STEP 1) AND THE ROOF PANEL TYPE (STEP 2)
-IDENTIFY THE APPLICABLE SHEET INDEX

STEP 9: INCLUDE APPLICABLE SHEETS WITH YOUR DSA SUBMITTAL
-INCLUDE 'MISC DESIGN OPTIONS' SHEET FOR PROJECTS WITHOUT ELECTRICAL CUTOUTS OR GUTTERS

NOTICE OF DISCLAIMER FOR STRUCTURAL ENGINEERING RESPONSIBILITY

1. PER TITLE 24, PART 1, SECTION 4-316(e) OF THE CALIFORNIA CODE OF REGULATIONS, THIS NOTICE SHALL BE GIVEN TO DSA PRIOR TO THE APPROVAL OF PLANS AND SPECIFICATIONS.
2. FOR THE SITE SPECIFIC PROJECT, J. R. MILLER & ASSOCIATES IS NOT THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE.
3. FOR THE SITE SPECIFIC PROJECT, J.R. MILLER & ASSOCIATES' RESPONSIBILITY IS LIMITED TO THE PREPARATION OF THE PLANS AND SPECIFICATIONS FOR THE SHELTERS OF THIS PC ONLY.
4. STRUCTURAL OBSERVATION OF CONSTRUCTION IS SPECIFICALLY EXCLUDED FROM J.R. MILLER & ASSOCIATES' RESPONSIBILITY FOR THE SITE SPECIFIC PROJECT.
5. ALL CONSTRUCTION ACTIVITIES RELATED TO STRUCTURAL ENGINEERING SHALL BE DELEGATED TO A QUALIFIED ENGINEER BY THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE. THESE ACTIVITIES INCLUDE, BUT ARE NOT LIMITED TO, APPROVAL OF INSPECTOR QUALIFICATIONS, STRUCTURAL OBSERVATION OF CONSTRUCTION, REVIEW OF INSPECTION REPORTS, AND SIGNING OFF OF THE VERIFIED REPORT FOR COMPLETED WORK.
6. J.R. MILLER & ASSOCIATES WILL BE RESPONSIBLE FOR RESPONDING TO QUESTIONS PERTAINING TO THE PLANS AND SPECIFICATIONS FOR THE SHELTERS OF THIS PC WHICH ARISE DURING PLAN REVIEW AND CONSTRUCTION.

WELDING:

1. ALL WELDING SHALL COMPLY WITH AWS D1.1 SPECIFICATIONS AND SHALL BE DONE BY AWS QUALIFIED WELDERS CERTIFIED FOR THE TYPE OF WELDING TO BE PERFORMED AS REQUIRED BY DSA.
2. ALL WELDING SHALL BE DONE BY GAS METAL ARC PROCESS WITH E70XX ELECTRODES. FLUX CORE ARC WELD SHALL CONFORM TO CHARPY NOTCH TOUGHNESS RATING OF 20 ft-lb @ (0° F).
3. ALL WELDING SHALL BE DONE IN THE SHOP WITH REQUIRED INSPECTION, PRE-APPROVED BY DSA, TO ENSURE PROPER MATERIAL ID AND WELDING.
4. WELD FILLER METAL MANUFACTURER SHALL PROVIDE WRITTEN CERTIFICATION OF COMPLIANCE WITH CODE AND SPECIFICATIONS.

BOLTING:

1. ALL BOLTS SHOWN ON THESE DRAWINGS ARE ASTM F3125 GRADE A325 HIGH STRENGTH BOLTS (UNO), WITH THE NUTS CONFORMING TO ASTM A-563.
2. HIGH STRENGTH BOLTS SHALL BE VERIFIED AND INSPECTED PER CBC 1705A2.1.
3. BEFORE ERECTING THE FRAME, VERIFY ALL BOLTS AND NUTS ARE CLEAN OF DEBRIS AND BURRS – INCLUDING THE HARDWARE ALREADY FASTENED INSIDE THE MEMBERS. CHASING SOME OF THE BOLTS AND NUTS MAY BE REQUIRED.
4. HARDENED STEEL WASHERS SHALL CONFORM TO ASTM F-436.
5. THE BOLTING INSTALLATION REQUIREMENTS OUTLINED BELOW ARE CRITICAL TO THE STRUCTURE'S DESIGN AND PERFORMANCE. THE INSTALLER IS REQUIRED TO COORDINATE THIS PHASE OF CONSTRUCTION WITH THE SPECIAL BOLTING INSPECTOR AND THE INSPECTOR OF RECORD PRIOR TO THE ERECTION OF THE FRAME. ALL BOLTS SHALL BE INSTALLED AND INSPECTED PER THE APPLICABLE VERSION OF AISC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS", CBC 1705A.2.1; AISC 341-16 J7; AISC 360-16 N5.6.
   A)PRETENSIONED JOINTS MUST BE INSTALLED AND INSPECTED TO MEET ONE OF THE FOLLOWING REQUIREMENTS:
   1. TURN-OF-NUT PRETENSIONING
   2. CALIBRATED WRENCH PRETENSIONING
   3. DIRECT-TENSION-INDICATOR PRETENSIONING (CONTRACTOR RESPONSIBLE FOR PURCHASE OF REQUIRED WASHERS)

FOUNDATIONS:

1. ALLOWABLE SOIL PRESSURES ASSUME CLASS 5 SOIL CLASSIFICATION PER CBC TABLE 1806A, UNLESS NOTED OTHERWISE.
2. PER CBC SECTION 1803A.2, GEOTECHNICAL REPORTS ARE NOT REQUIRED FOR ONE-STORY LIGHT-STEEL FRAME BUILDINGS OF TYPE II CONSTRUCTION AND 4,000 SQUARE FOOT OR LESS IN FLOOR AREA AND NOT LOCATED WITHIN EARTHQUAKE FAULT ZONESOR SIESMIC HAZARD ZONES AS SHOWN ON THE MOST RECENT MAPS PUBLISHED BY THE CGS. ALLOWABLE FOUNDATION AND LATERAL SOIL PRESSURE VALUES MAY BE DETERMINED FROM TABLE 1806A.2.
3. FILL AND BACKFILL SHALL BE COMPACTED TO 95% OF MAX. DENSITY IN ACCORDANCE WITH ASTM TEST METHOD D-1557 OR AS RECOMMENDED BY THE GEO-TECH ENGINEER. FLOODING NOT PERMITTED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING, ETC. NECESSARY TO SUPPORT CUT AND/OR FILL BANKS DURING EXCAVATION, AND FORMING AND PLACEMENT OF CONCRETE.
5. MINIMUM SETBACK FROM TOE OF SLOPE ON AN ASCENDING SLOPE SHALL BE 15 FEET AND MINIMUM SETBACK FROM TOE OF SLOPE ON A DESCENDING SLOPE SHALL BE 40 FEET
6. PER CBC SECTION 1803A.6, GEOHAZARD REPORTS ARE NOT REQUIRED FOR ONE-STORY LIGHT-STEEL FRAME BUILDINGS OF TYPE II CONSTRUCTION AND 4,000 SQUARE FOOT OR LESS IN FLOOR AREA AND NOT LOCATED WITHIN EARTHQUAKE FAULT ZONESOR SIESMIC HAZARD ZONES AS SHOWN ON THE MOST RECENT MAPS PUBLISHED BY THE CGS.
7. GEOHAZRD REPORTS ARE TO COMPLY WITH DSA IR A-4 PER IR-7 SECTION 1.8
8. SITE SPECIFIC GEOTECHNICAL REPORT IS REQUIRED AT THE TIME OF SITE APPLICATION IS USING OTHER THAN CLASS 5 SOIL, PER DSA IR PC-7
9. LATERAL BEARING HAS BEEN INCREASED PER CBC 1806A.3.4 & HAS BEEN DESIGNED FOR P-DELTA EFFECTS

CONCRETE:

1. MIX DESIGN REQUIREMENTS: (NORMAL WEIGHT CONCRETE)

STRENGTH Pc (28 DAYS)	W/C RATIO (NON-AIR ENTRAINED)	W/C RATIO (AIR ENTRAINED)	SLUMP (±1")	UNIT WEIGHT (NORMAL WEIGHT)
4500 PSI	0.44	0.35	3"	150 PCF

2. CONCRETE MIX DESIGN PARAMETERS ARE GOOD FOR EXPOSURE CATEGORIES F0, F1 & F2. THE AIR ENTRAINMENT FOR THESE CATEGORIES SHALL BE AS FOLLOWS: F0-0, F1-4.5, F2-6
3. AGGREGATES SHALL CONFORM TO THE ASTM C-33 WITH PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN 0.005. MAX AGGREGATE SIZE = 1".
4. CEMENT SHALL CONFORM TO ASTM C-150 (TYPE V) UNLESS NOTED OTHERWISE ON THE DRAWINGS.
5. CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR A MINIMUM OF FIVE DAYS AFTER PLACEMENT. ALTERNATE METHODS WILL BE APPROVED IF SATISFACTORY PERFORMANCE CAN BE ASSURED.
6. CONCRETE SHALL NOT FREE FALL MORE THAN FIVE FEET.
7. CONCRETE DURABILITY SHALL BE PER CBC 1904A.1 & ACI 318-14 CHAPTER 19.
8. CONCRETE SHALL BE TESTED PER CBC 1903A, TABLE 1705A.3. AND ACI 318-14 SECTION 26.12.

STEP 10: IDENTIFY PROJECT NAME AND SCHOOL DISTRICT

PROJECT NAME:	SCHOOL DISTRICT:
SHADE STRUCTURE AT NEW JOSEPH BONNHEIM ELEMENTARY SCHOOL	SACRAMENTO CITY UNIFIED SCHOOL DISTRCIT

STEP 1

FRAME DIMENSIONS					
	SUGGESTED				OTHER
FRAME WIDTH	[ ] 20'	[X] 30'	[ ] 40'		[ ] (40' MAX)
FRAME LENGTH	[ ] 44'	[X] 64'	[ ] 84'	[ ] 104'	[ ] (NO MAX)

STEP 2

ROOF PANEL		
ROOF PANEL TYPE	[ ] M [ ] G [X] S	

STEP 3

PROJECT SITE – Ss ACCELERATION (g)
0.531

STEP 4

Ss REGION			
		Ss REGIONS	MAX DEAD LOAD
DESCRIPTION	X	0 < Ss <= 2.14	5 PSF
		2.14 < Ss <= 2.50	5 PSF
		2.50 < Ss <= 2.75	5 PSF
		2.75 < Ss <= 3.00	4 PSF
		Ss > 3.73 MAX	3 PSF

STEP 5

TOTAL ROOF DEAD LOAD		
	DEAD LOAD	EXAMPLES
ROOF DECK	1.3 PSF	M=1.1PSF; G=1.2PSF ;S=1.3PSF (SEE STEP 2)
COLLATERAL	0 PSF	LIGHTING, ETC
TOTAL	1.3 PSF	ADD ROOF DECK AND COLLATERAL LOADS (MAX 5 PSF)

CONSTRUCTION NOTES

1. A DSA-CERTIFIED CLASS 3 PROJECT INSPECTOR IS REQUIRED FOR THIS PROJECT.
2. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY DSA, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
3. A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF WORK, THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.
4. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
5. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS ARE THAT ALL THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK, (SECTION 4-317(c), PART 1, TITLE 24, CCR)
6. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES

REINFORCING STEEL:

1. REINFORCING STEEL SHALL BE DEFORMED STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-615, AS FOLLOWS:
   GR 60: (#4 BARS AND LARGER)
   GR 40: (#3 BARS)
2. DETAILING, FABRICATION, AND ERECTION OF REINFORCING BARS SHALL CONFORM TO THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCING CONCRETE STRUCTURES."
3. MIN. COVER FOR CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS:
   A. CAST AGAINST EARTH ....3"
   B. CAST AGAINST FORM BELOW GRADE ....2"
   C. FORMED SLABS (#11 BAR & SMALLER)..........................3/4"
   D. SLABS ON GRADE (FROM TOP OF SLAB)..........................1"
4. BARS SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIAL LIKELY TO IMPAIR BOND. BENDS SHALL BE MADE COLD.
5. REINFORCING SHALL BE LAP SPLICED PER ACI 318-14 SECTION 25.5.
6. PRIOR TO PLACING OF CONCRETE, REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE WELL SECURED IN POSITION.
7. WELDING OF REINFORCING IS NOT ALLOWED.
8. REINFORCING STEEL SHALL BE INSPECTED PER CBC 1705A.3.

POWDER-COAT FINISH SYSTEM:

ALL BUILDINGS THAT HAVE A POWDER-COATED FINISH SHALL MEET THE FOLLOWING SPECIFICATIONS:
1. THE STEEL FRAME SHALL BE SHOT-BLASTED TO A NEAR WHITE CONDITION PER SSPC-10 SPECIFICATIONS.
2. THE STEEL SHALL BE WASHED IN A ZINC PHOSPHATE IN AN MINIMUM EIGHT STAGE ELECTRO DEPOSITION PRE-TREATEMENT PROCESS.
3. IMMEDIATELY FOLLOWING PRE-TREATMENT THE STEEL SHALL BE TOTALLY IMMERSED IN A LIQUID EPOXY PRIMER(E-COAT) AND COATED TO A UNIFORM THICKNESS OF A MINIMUM OF 0.7 TO 0.9 MILS. THE E-COATING SHALL PROVIDE A MINIMUM OF 1000 HOURS OF SALT SPRAY CORROSION PROTECTION TO THE STEEL.
4. THE STEEL SHALL THEN HAVE A TGIC POLYESTER COLOR COAT APPLIED OVER THE E-COATED SURFACE.
5. THE COLOR COAT SHALL THEN HAVE A CLEAR TGIC COATING APPLIED TO SEAL IN THE COLOR COAT AND RESIST ULTRAVIOLET LIGHT, TO HELP PREVENT FADING.
6. THE FINISH THICKNESS OF THESE THREE APPLICATIONS SHALL BE A MINIMUM OF 8 TO 12 MILS.
7. ALL CARBON STEEL MEMBERS (COLUMNS, BEAMS, PLATES, ETC.) NOT POWDER-COATED SHALL BE PAINTED WITH PRIME COAT PER THE "AISC CODE OF STANDARD PRACTICE" AND THE "AISC SPECIFICATION SECTION M3"(UNLESS NOTED OTHERWISE).

ABBREVIATIONS:

ACI	AMERICAN CONCRETE INSTITUTE	MPH	MILES PER HOUR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	M	MULTI-RIB ROOF PANEL (MCELROY)
ASM	ASSEMBLY (INTERNAL REFERENCE)	NTS	NOT TO SCALE
ASTM	AMERICAN SOCIETY FOR TESTING AND MAT'LS	NO	NUMBER
AWS	AMERICAN WELDING SOCIETY	OC	ON CENTER
CBC	CALIFORNIA BUILDING CODE	OSHA	OCCUPATIONAL HEALTH AND SAFETY ADMIN
CJP	COMPLETE JOINT PENETRATION	PCF	POUNDS PER CUBIC FOOT
CLR	CLEAR	PJ	PRETENSIONED JOINT
DEG	DEGREE	PLCS	PLACES
DIA	DIAMETER	PLT	PLATE
DIM	DIMENSION	PSF	POUNDS PER SQUARE FOOT
DSA	DIVISION OF THE STATE ARCHITECT	PSI	POUNDS PER SQUARE INCH
EQ	EQUAL	QTY	QUANTITY
FT	FEET	REF	REFERENCE
GA	GAGE	SQ	SQUARE
IN	INCHES	SS	STANDING SEAM ROOF PANEL (MCELROY)
KSI	KIPS PER SQUARE INCH	TYP	TYPICAL
MAX	MAXIMUM	UNO	UNLESS NOTED OTHERWISE
MIN	MINIMUM	USGS	U.S. GEOLOGICAL SURVEY
MISC	MISCELLANEOUS	W/	WITH

STEP 6

FOUNDATION REQUIREMENTS		
SOIL CLASS 5 (BEARING)–1500 PSF [X]	SOIL CLASS 4 (BEARING)–2000 PSF [ ]	SOIL CLASS 3 (BEARING)–3000 PSF [ ]
SOIL CLASS 5 (LATERAL BEARING)–100 PSF	SOIL CLASS 4 (LATERAL BEARING)–150 PSF	SOIL CLASS 3 (LATERAL BEARING)–200 PSF

STEP 7

MISCELLANEOUS		
	DESIGN OPTIONS	
CLEAR HEIGHT	[ ] 8' [X] 10' [ ] 12'	[ ] ' (12' MAX)
ELECTRICAL CUTOUTS	[X] YES	[ ] NO
GUTTERS	[X] YES	[ ] NO

STEP 8

SHEET INDEX												
BASE FRAME		RG 20				RG 30				RG 40		
ROOF PANEL TYPE		M	G	S		M	G	S		M	G	S
SELECT ONE		[ ]	[ ]	[ ]		[ ]	[ ]	[X]		[ ]	[ ]	[ ]
GENERAL NOTES		LS1.0	LS1.0	LS1.0		LS1.0	LS1.0	LS1.0		LS1.0	LS1.0	LS1.0
DSA 103 EXAMPLE		LS1.1	LS1.1	LS1.1		LS1.1	LS1.1	LS1.1		LS1.1	LS1.1	LS1.1
FOUNDATION PLAN		LS2.0	LS2.0	LS2.0		LS3.0	LS3.0	LS3.0		LS4.0	LS4.0	LS4.0
FRAMING PLAN		LS2.1	LS2.1	LS2.1		LS3.1	LS3.1	LS3.1		LS4.1	LS4.1	LS4.1
FRAME CONNECTION DETAILS		LS2.1	LS2.1	LS2.1		LS3.1	LS3.1	LS3.1		LS4.2	LS4.2	LS4.2
ROOFING LAYOUT & DETAILS		LS2.2	LS2.3	LS2.4		LS3.2	LS3.3	LS3.4		LS4.3	LS4.4	LS4.5
MISC DESIGN OPTIONS		LS5.0	LS5.0	LS5.0		LS5.0	LS5.0	LS5.0		LS5.0	LS5.0	LS5.0

DESIGN CRITERIA FOR 7300 MARIN AVENUE, SACRAMENTO, CA 95820	
DESCRIPTION	DESIGN VALUES
WIND DESIGN	
BASIC WIND SPEED (3 SECOND GUST), V_{ult}	94 MPH
RISK CATEGORY	II
EXPOSURE CATEGORY	C
SEISMIC DESIGN	
SEISMIC SITE CLASS	D
Ss	0.531

*All information provided by https://asce7hazardtool.online/ and https://seismicmaps.org/

PRE-CHECK (PC) DOCUMENT
Code: 2019 CBC
A separate project application for construction is required.

ICON STD	RH/DSA-PC
DRAWN BY	ANGEL
DATE	4/2/2021
REV	
REV DATE	

JRMA
ARCHITECTS ENGINEERS
2700 SATURN ST I BREA, CA 92821
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REGISTERED PROFESSIONAL ENGINEER
MICHAEL D. LOCK
S4092
STRUCTURAL
STATE OF CALIFORNIA
07/29/2021

GENERAL INFO

ICON Shelter Systems Inc
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1455 LINCOLN AVE
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800.748.0985
616.396.0944 FX

LS1.0

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rga+ A studio of HMC Architects

SHADE STRUCTURE AT NEW JOSEPH BONNHEIM ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

△ Revision

GENERAL INFO

PROJECT NO.	21-1504.04
DATE:	4/7/22
SHEET	LS1.0

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2019 CBC

Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

2019 CBC

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as: structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2019 CBC).

NOTE: Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE	2. PERFORMED BY
Continuous – Indicates that a continuous special inspection is required	**GE** – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative.
Periodic – Indicates that a periodic special inspection is required	**LOR** – Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335.
Test – Indicates that a test is required	**PI** – Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA.
	SI – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

Geotechnical Reports: Project has a geotechnical report, or CDs indicate soils special inspection is required by GE

	1. GENERAL:	Table 1705A.6		
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Verify that: • Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations. • Foundation excavations are extended to proper depth and have reached proper material. • Materials below footings are adequate to achieve the design bearing capacity.	Periodic	GE*	* By geotechnical engineer or his or her qualified representative. (See Appendix for exemptions.)

	2. SOIL COMPACTION AND FILL:	Table 1705A.6		
	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a. Perform classification and testing of fill materials	Test	LOR*	* Under the supervision of the geotechnical engineer.
☐	b. Verify use of proper materials, densities and inspect lift thickness, placement and compaction during placement of fill.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. (Refer to specific items identified in the Appendix for exemptions where soils SI and testing may be conducted under the supervision of a geotechnical engineer or LOR's engineering manager. In such cases, the LOR's form DSA 291 shall satisfy the soil SI and test reporting requirements for the exempt items.)

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

	c. Compaction testing.	Test	LOR*	* Under the supervision of the geotechnical engineer. (Refer to specific items identified in the Appendix for exemptions where soils testing may be conducted under the supervision of a geotechnical engineer or LOR's engineering manager. In such cases, the LOR's form DSA 291 shall satisfy the soil test reporting requirements for the exempt items.)

	4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):	Table 1705A.8		
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Inspect drilling operations and maintain complete and accurate records for each pier.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. (See Appendix for exemptions.)
☐	b. Verify pier locations, diameters, plumbness, bell diameters (if applicable), lengths and embedment into bedrock (if applicable); record concrete or grout volumes.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. (See Appendix for exemptions.)
☐	c. Confirm adequate end strata bearing capacity.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. (See Appendix for exemptions.)
☑	d. Concrete piers.	Provide tests and inspections per CONCRETE section below.		

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

	5. RETAINING WALLS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a. Placement, compaction and inspection of backfill.	Continuous	GE*	**1705A.6.1,** * By geotechnical engineer or his or her qualified representative. (See Section 2 above).
☐	b. Placement of soil reinforcement and/or drainage devices.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative
☐	c. Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative (See DSA IR 16-3
☐	d. Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
☐	e. Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

	6. OTHER SOIL			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a. Soil Improvements	Test	GE*	Submit a comprehensive report documenting final soil improvements constructed, construction observation and the results of the confirmation testing and analysis to DSA for final acceptance. * By geotechnical engineer or his or her qualified representative
☐	b. Inspection of Soil Improvements	Continuous	GE*	* By geotechnical engineer or his or her qualified representative
☐	c.			

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC

Table 1705A.3; ACI 318-14 Sections 26.12 & 26.13
Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

	7. CAST-IN-PLACE CONCRE			
	Test or Special Inspection	Type	Performed By	Code References and Notes
	Material Verification and Testing:			
☑	a. Verify use of required design mix.	Periodic	SI	**Table 1705A.3 Item 5, 1904A.1,**
☑	b. Identify, sample, and test reinforcing steel.	Test	LOR	**1910A.2,** ACI 318-14 Section 26.6.1.2; DSA IR 17-10. (See Appendix for exemptions.)
☑	c. During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Test	LOR	**Table 1705A.3 Item 6,** ACI 318-14 Sections 26.5 & 26.12.
☑	d. Test concrete (f'c).	Test	LOR	**1905A.1.19;** ACI 318-14 Section 26.12.
	Inspection:			
☐	e. Batch plant inspection:	Specifies	SI	Default of **'Continuous' per 1705A.3.3.** If approved by DSA, batch plant inspection may be reduced to **'Periodic'** subject to requirements in Section **1705A.3.3.1,** or eliminated per **1705A.3.3.2.** (See Appendix for exemptions.)
☐	f. Welding of reinforcing steel.	Provide special inspection per STEEL, Category 19.1(d) & (e) and/or 19.2(g) & (h) below.		

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC

Table 1705A.3; ACI 318-14 Sections 26.12 & 26.13
Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

	17. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPO			
	Material Verification and Testing:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Verify identification of all materials and compl • Mill certificates indicate material properties that compl with requirements. • Material sizes, types and grades comply wit requirements.	Periodic	*	**Table 1705A.2.1 Item 3c,** 2202A.1; ASD S100-16 Section A3.1 & A3.2, ASD S240-15 Section A3.6 AS, ASD S220-15 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.
☑	b. Test undenified materials	Test	LOR	**1705A.1,**
☑	c. Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3,
	Inspection:			
☑	d. Verify and document steel fabrication per DSA-approved construction documents.	Periodic	SI	Not applicable to cold-formed steel light-frame construction, except for trusses **(1705A.2.4).**

	18. HIGH-STRENGTH BOLTS: RCSC 2			
	Material Verification and Testing of High-Strength Bolts, Nuts and Washers:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	Periodic	SI	**Table 1705A.2.1 Items 1a & 1b, 2202A.1;** AISC 360-16 Section A3.3, J3.1, and N3.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC

Table 1705A.3; ACI 318-14 Sections 26.12 & 26.13
Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

	b. Test high-strength bolts, nuts and washers.	Test	LOR	**Table 1705A.2.1 Item 1c, 2213A.1;** RCSC 2014 Section 7.2; DSA IR 17-8.
	Inspection of High-Strength Bolt Installation:			
☐	c. Bearing-type ("snug tight") connections	**Periodic**	**SI**	**Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2;** AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Section 9.1; DSA IR 17-9.
☑	d. Pretensioned and slip-critical connections.	"	**SI**	**Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2;** AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. * "Continuous" or "Periodic" depends on the tightening method used.

	19. WELDI			
	Verification of Materials, Equipment, Welders, etc.:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Verify weld filler material identification markings and AWS designation listed on the DSA-approved documents and the WPS.	Periodic	SI	DSA IR 17-3.
☑	b. Verify weld filler material manufacturer's certificate of compliance.	Periodic	SI	DSA IR 17-3.
☑	c. Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC

Table 1705A.3; ACI 318-14 Sections 26.12 & 26.13
Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

	19.1 SHOP WELDING:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds ≥ 5/16", plug and slot welds.	Continuous	SI	**Table 1705A.2.1 Items 4a, 4b, 4c,** AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
☐	b. Inspect single-pass fillet welds ≤ 5/16", floor and roof deck welds.	Periodic	SI	**1705A.2.2, Table 1705A.2.1 Items 5a.5 & 5a.6;** AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
☐	c. Inspect welding of stairs and railing systems.	Periodic	SI	**1705A.2.1,** AISC 360-16 (and AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3.
☐	d. Verification of reinforcing steel weldability other than ASTM A706.	Periodic	SI	**1705A.3.1;** AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
☐	e. Inspect welding of reinforcing steel.	Continuous	SI	**Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 7, 1903A.8,** AWS D1.4; DSA IR 17-3.

	23. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Anchor Bolts and Anchor Rods	Test	LOR	Sample and test anchor bolts and anchor rods not readily identifiable per procedures noted in DSA IR 17-11.
☐	b. Threaded rod not used for foundation anchorage.	Test	LOR	Sample and test threaded rods not readily identifiable per procedures noted in DSA IR 17-11.

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Steel and Aluminum), 2019 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-16
Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

	23. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Anchor Bolts and Anchor Rods	Test	LOR	Sample and test anchor bolts and anchor rods not readily identifiable per procedures noted in DSA IR 17-11.
☐	b. Threaded rod not used for foundation anchorage.	Test	LOR	Sample and test threaded rods not readily identifiable per procedures noted in DSA IR 17-11.

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS(SIGNATURE), 2019 CBC

Application Number:
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

Name of Architect or Engineer in general responsible charge:

Name of Structural Engineer (When structural design has been performed):

Signature of Architect or Structural Engineer: Date:

Note: To facilitate DSA electronic mark-ups and identification stamp application, DSA recommends against using secured electronic or digital signatures.

DSA STAMP

DSA 103-19: LIST OF REQUIRED VERIFIED REPORTS, CBC 2019

Application Number: 04-000000
DSA File Number:
School Name: ICON Shelter Systems
Increment Number:
School District: PC Submittal
Date Created: 2021-07-14 05:50:33

1. Soils Testing and Inspection: Geotechnical Verified Report Form DSA 293
2. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291
3. Shop Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292
4. High-Strength Bolt Installation Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

FOR ALL TESTING AND INSPECTION ITEMS SEE THE DSA APPROVED 103 FOR THIS PROJECT.

PRE-CHECK (PC) DOCUMENT
Code: 2019 CBC
A separate project application for construction is required.

PRINTED ON :

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 02-119976 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 04/25/2022

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-120013 PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐ CG ☐
DATE: 08/06/2021

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DRAWN BY	ANGEL
DATE	4/2/2021
REV	
REV DATE	

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL D. [illegible]
STRUCTURAL
STATE OF CALIFORNIA
07/29/2021

SHADE STRUCTURE AT NEW JOSEPH BONNHEIM ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

DSA 103

△ Revision

DSA 103

ICON Shelter Systems Inc
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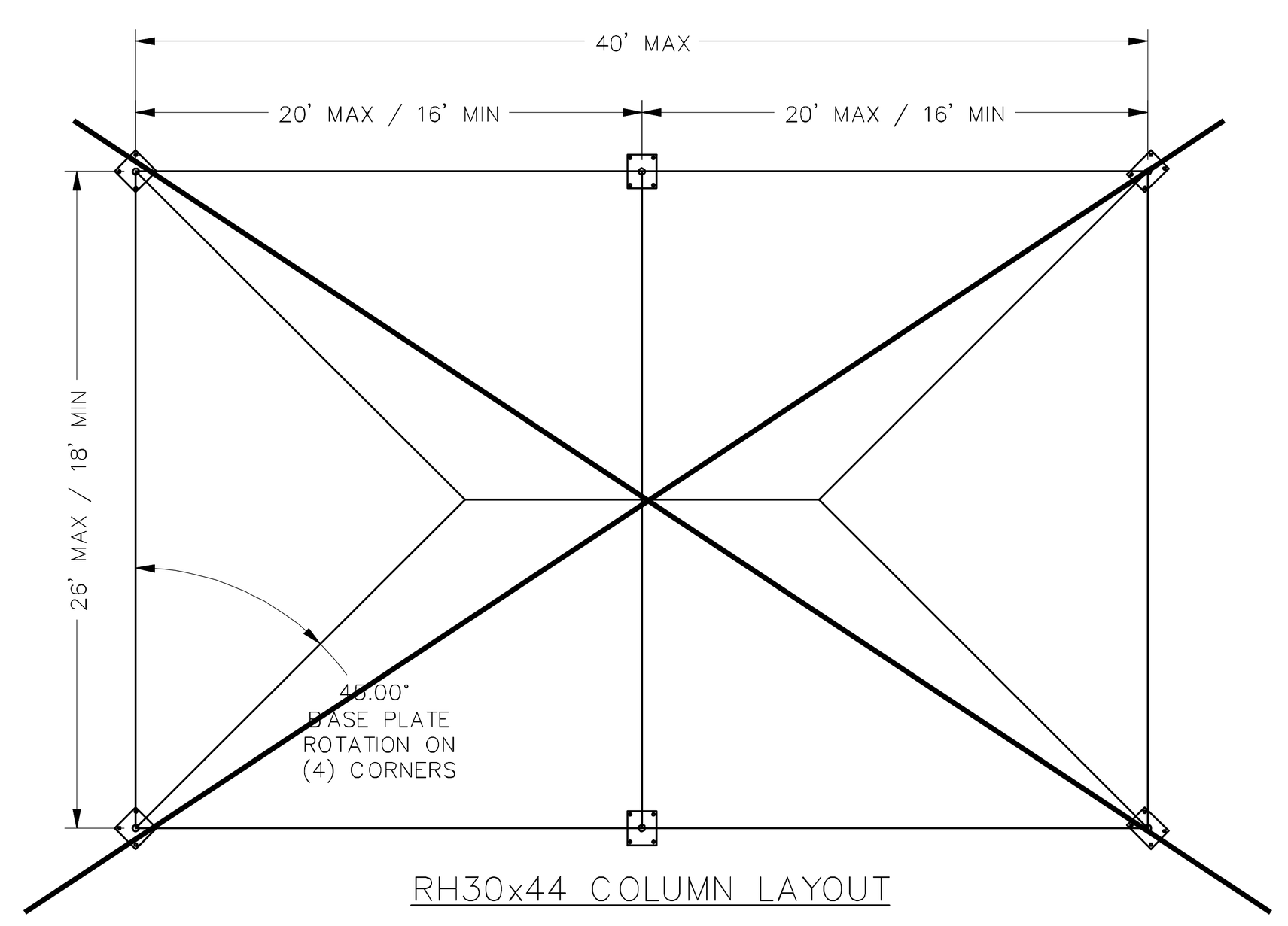
HOLLAND MI, 49423
616.396.0919
800.748.0985
616.396.0944 FX

LS1.1

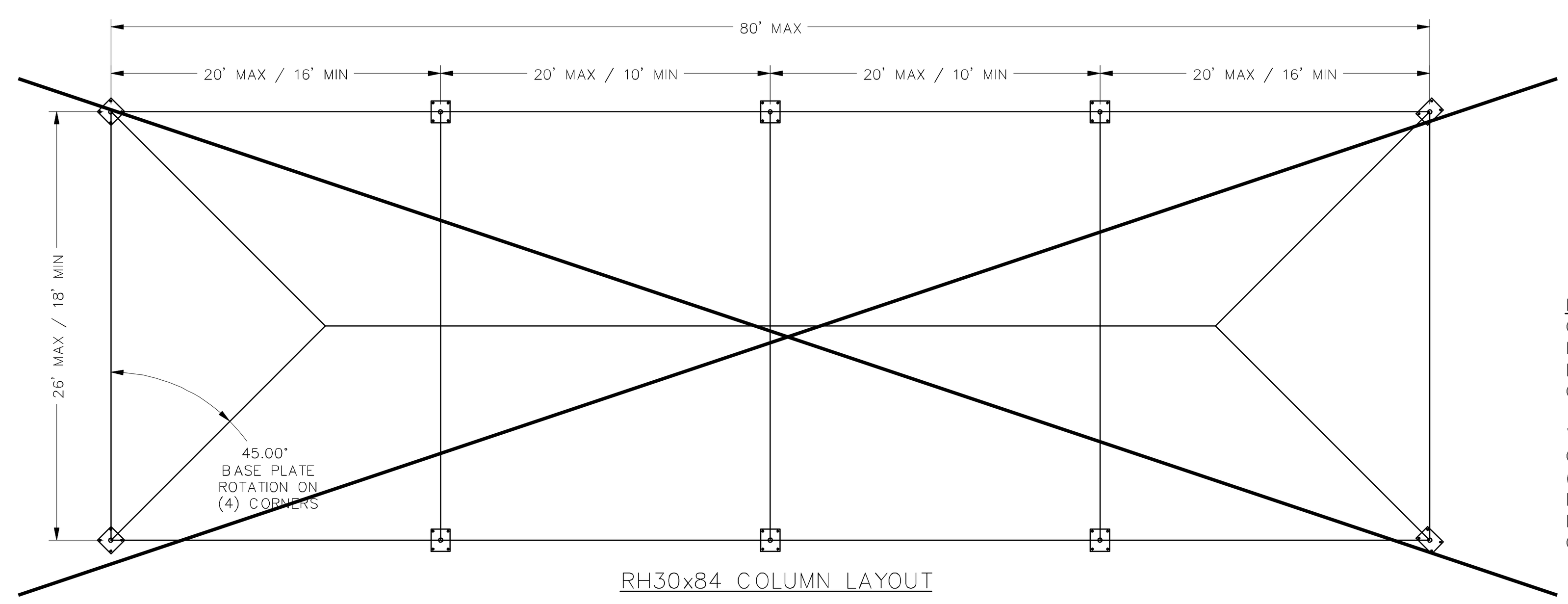
PROJECT NO.	21-1504.04
DATE:	4/7/22
SHEET	LS1.1

AD0.08

C:\Users\mark.kut\Documents\1504.04_New Joseph Bonnheim_Central_mark.kut.rvt



RH30x44 COLUMN LAYOUT
(2 BAYS)

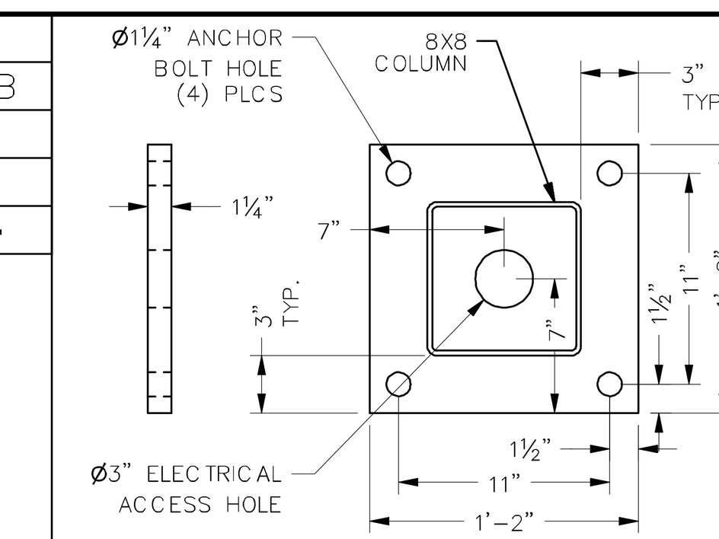


RH30x84 COLUMN LAYOUT
(4 BAYS)

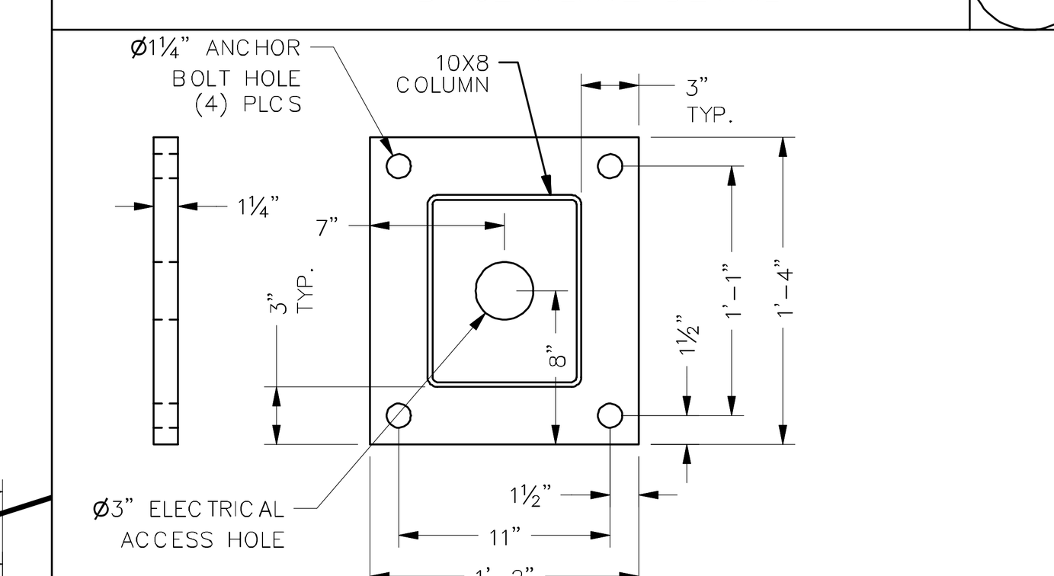
BASE PLATE LOCATION		
	DETAIL A	DETAIL B
~~8'~~	~~BP1~~	~~BP2~~
10'	BP1	BP2
~~12'~~	~~BP2~~	~~BP3~~

NOTES:
COLUMN SIZE AND LOCATION WILL VARY DEPENDING ON MODEL TYPE ORDERED, PLEASE REFER TO JOB SPECIFIC BILL OF MATERIALS AND INSTALLATION MANUAL FOR CORRECT PLACEMENT AND SIZE.

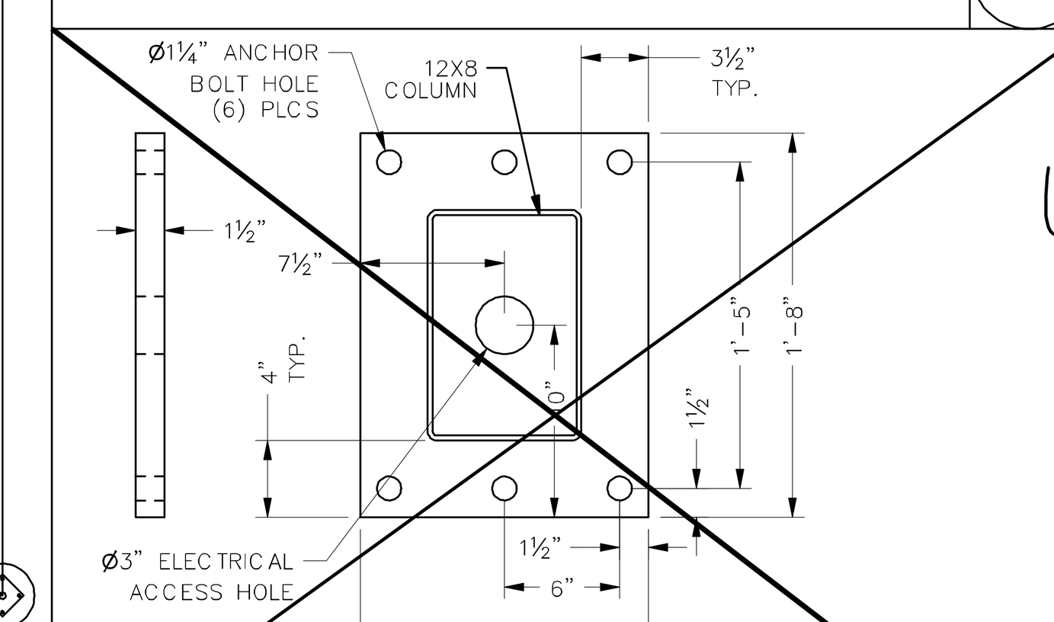
WHERE CONCRETE SLAB SPECIFIED PORTLAND CEMENT CONCRETE PAVING SHALL HAVE A MEDIUM SALTED (MEDIUM BROOM) FINISH ON ALL SURFACES SLOPED LESS THAN 6% AND SLIP RESISTANT (HEAVY BROOM FINISH) ON ALL SURFACES SLOPED GREATER THAN 6% CBC SECTION 1133B.7.1



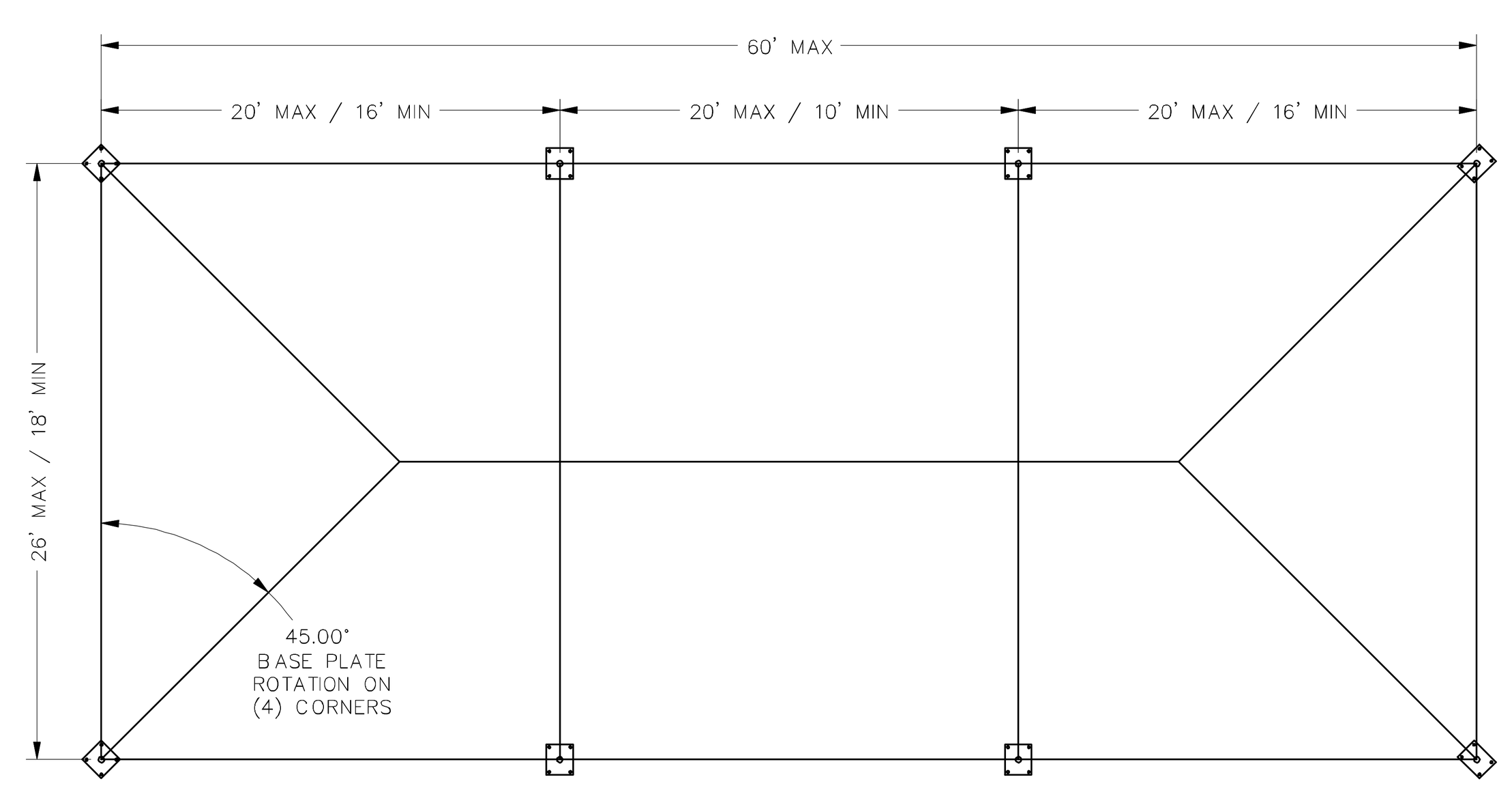
8X8 COLUMN BASE PLATE DETAIL (BP1)



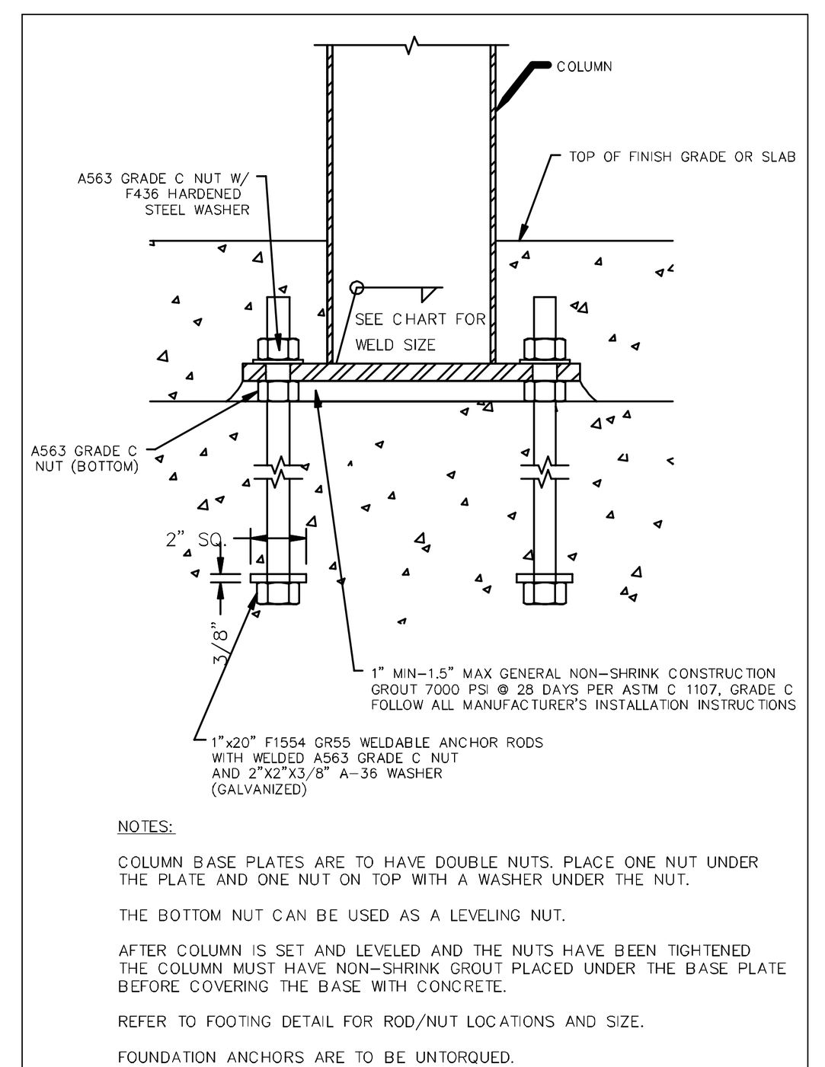
10X8 COLUMN BASE PLATE DETAIL (BP2)



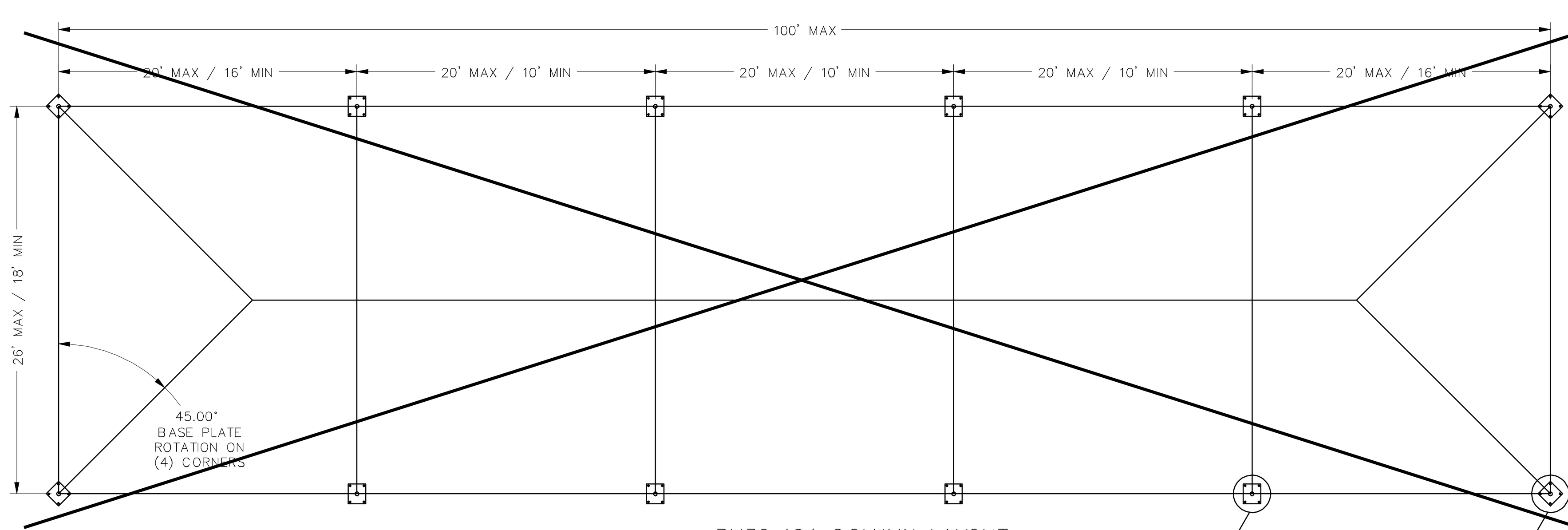
12X8 COLUMN BASE PLATE DETAIL (BP3)



RH30x64 COLUMN LAYOUT
(3 BAYS)



COLUMN BASE CONNECTION DETAIL (C1)



RH30x104 COLUMN LAYOUT
(5 BAYS)

(B) SIDE COLUMNS (A) CORNER COLUMNS

30' WIDE RECTANGULAR HIP

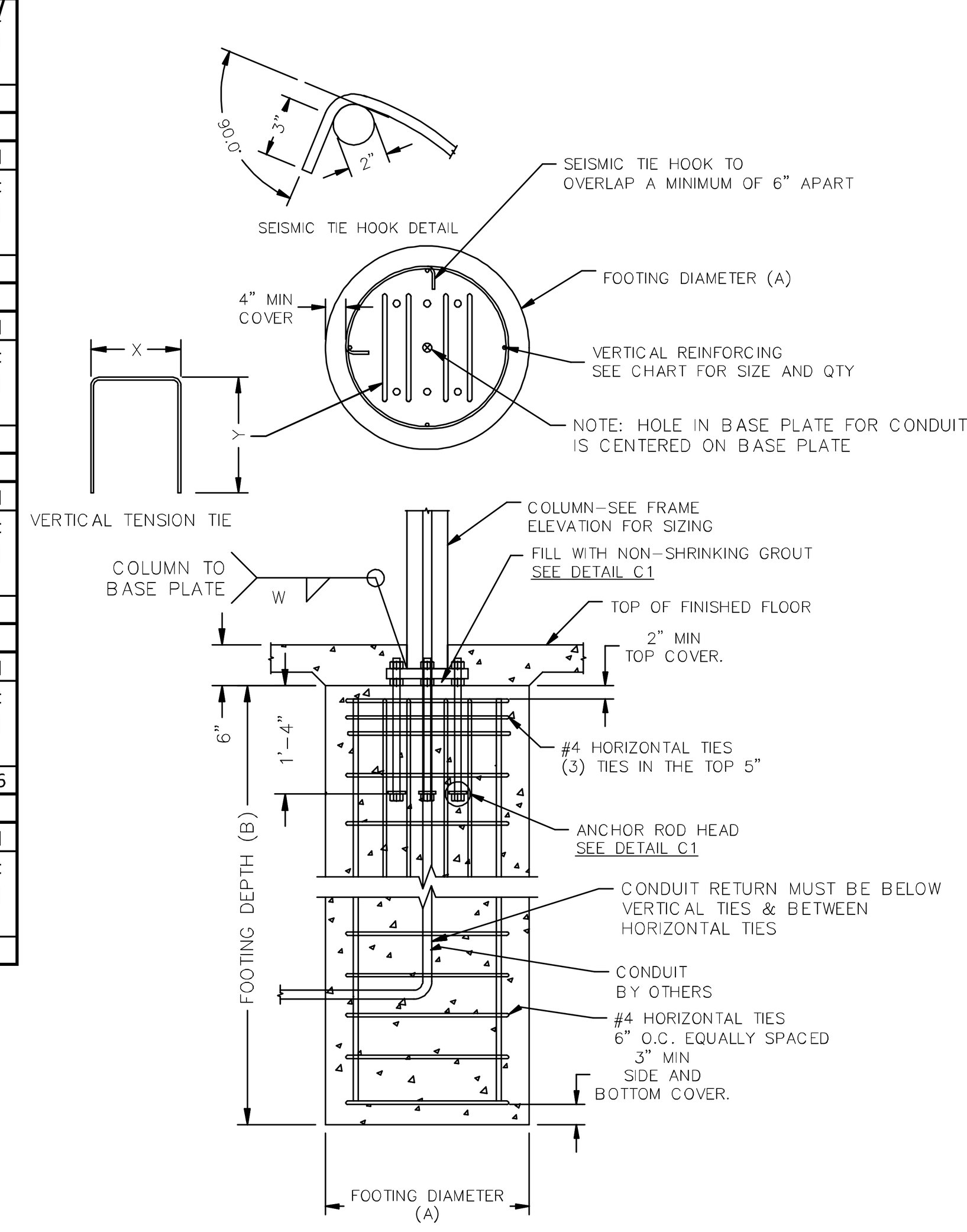
RH30 - PIER

8' height - Corner Columns			
Soil Class 5 - 1500 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
24	114	6	6
8' height - Side Columns			
Soil Class 5 - 1500 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
36	144	12	6
10' height - Corner Columns			
Soil Class 5 - 1500 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
24	120	6	6
10' height - Side Columns			
Soil Class 5 - 1500 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
36	136	12	6
12' height - Corner Columns			
Soil Class 5 - 1500 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
30	132	8	6
12' height - Side Columns			
Soil Class 5 - 1500 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
36	140	12	6

8' height - Corner Columns			
Soil Class 4 - 2000 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
24	98	6	6
8' height - SIde Columns			
Soil Class 4 - 2000 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
30	132	8	6
10' height - Corner Columns			
Soil Class 4 - 2000 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
24	102	6	6
10' height - SIde Columns			
Soil Class 4 - 2000 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
30	124	8	6
12' height - Corner Columns			
Soil Class 4 - 2000 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
30	112	8	6
12' height - SIde Columns			
Soil Class 4 - 2000 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
36	120	12	6

8' height - Corner Columns			
Soil Class 3 - 3000 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
24	88	6	6
8' height - Side Columns			
Soil Class 3 - 3000 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
30	118	8	6
10' height - Corner Columns			
Soil Class 3 - 3000 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
24	92	6	6
10' height - Side Columns			
Soil Class 3 - 3000 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
30	112	8	6
12' height - Corner Columns			
Soil Class 3 - 3000 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
30	102	8	6
12' height - Side Columns			
Soil Class 3 - 3000 psf Bearing			
Dia (A) (in)	Depth (B) (in)	Vertical Rebar Qty	Rebar Size
36	108	12	6

8' height - Corner Columns			
Rebar Dimensions			Weld
X (in)	Y (in)	Rebar Size	Fillet Weld " W"
14	40	5	1/4
8' height - Side Columns			
Rebar Dimensions			Weld
X (in)	Y (in)	Rebar Size	Fillet Weld " W"
16	40	5	1/4
10' height - Corner Columns			
Rebar Dimensions			Weld
X (in)	Y (in)	Rebar Size	Fillet Weld " W"
14	40	5	1/4
10' height - Side Columns			
Rebar Dimensions			Weld
X (in)	Y (in)	Rebar Size	Fillet Weld " W"
16	40	5	1/4
12' height - Corner Columns			
Rebar Dimensions			Weld
X (in)	Y (in)	Rebar Size	Fillet Weld " W"
16	40	5	5/16
12' height - Side Columns			
Rebar Dimensions			Weld
X (in)	Y (in)	Rebar Size	Fillet Weld " W"
20	40	5	1/4



SEE DETAILS BP1, BP2 OR BP3 FOR ANCHOR BOLT PATTERNS
BP1 & BP2 ARE (4) BOLT PATTERN WHILE B3 IS A (6) BOLT

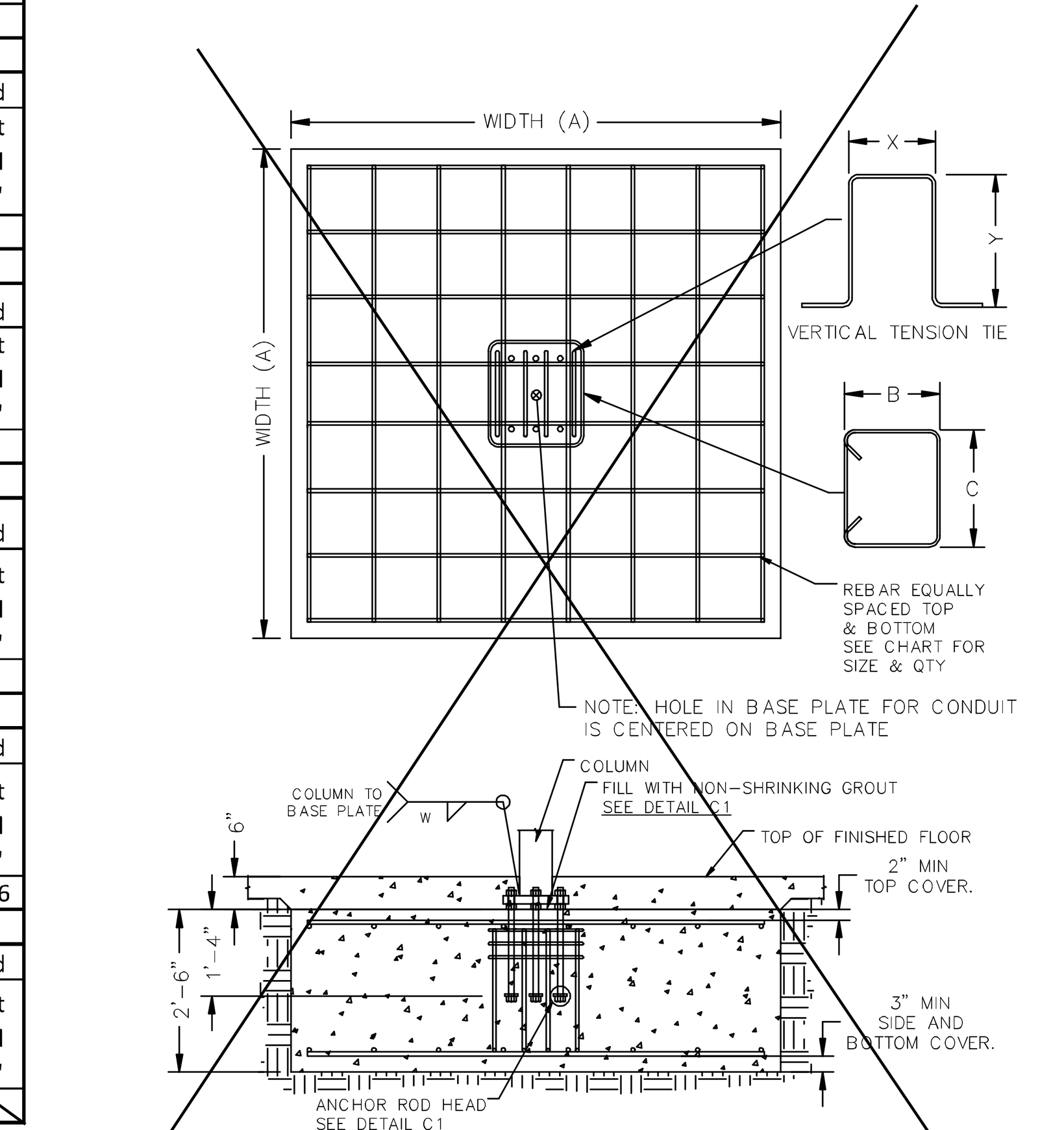
RH30 - SPREAD

8' height - Corner Columns			
Soil Class 5 - 1500 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
60	30	4	6
8' height - Side Columns			
Soil Class 5 - 1500 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
80	30	5	6
10' height - Corner Columns			
Soil Class 5 - 1500 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
66	30	5	6
10' height - Side Columns			
Soil Class 5 - 1500 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
81	30	5	6
12' height - Corner Columns			
Soil Class 5 - 1500 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
78	30	5	6
12' height - Side Columns			
Soil Class 5 - 1500 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
84	30	6	6

8' height - Corner Columns			
Soil Class 4 - 2000 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
56	30	4	6
8' height - Side Columns			
Soil Class 4 - 2000 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
72	30	5	6
10' height - Corner Columns			
Soil Class 4 - 2000 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
60	30	4	6
10' height - Side Columns			
Soil Class 4 - 2000 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
72	30	5	6
12' height - Corner Columns			
Soil Class 4 - 2000 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
72	30	5	6
12' height - Side Columns			
Soil Class 4 - 2000 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
75	30	5	6

8' height - Corner Columns			
Soil Class 3 - 3000 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
54	30	4	6
8' height - Side Columns			
Soil Class 3 - 3000 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
68	30	5	6
10' height - Corner Columns			
Soil Class 3 - 3000 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
57	30	4	6
10' height - Side Columns			
Soil Class 3 - 3000 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
69	30	5	6
12' height - Corner Columns			
Soil Class 3 - 3000 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
72	30	5	6
12' height - Side Columns			
Soil Class 3 - 3000 psf Bearing			
Size (A) (in)	Depth (in)	T&B Rebar Qty	Rebar Size
75	30	5	6

8' Corner Columns					
Rebar Dimensions					Weld
X (in)	Y (in)	B (in)	C (in)	Rebar Size	Fillet Weld " W"
14	20	15.9	17.3	5	1/4
8' Side Columns					
Rebar Dimensions					Weld
X (in)	Y (in)	B (in)	C (in)	Rebar Size	Fillet Weld " W"
16	20	15.6	19.3	5	1/4
10' Corner Columns					
Rebar Dimensions					Weld
X (in)	Y (in)	B (in)	C (in)	Rebar Size	Fillet Weld " W"
14	20	15.9	17.3	5	1/4
10' Side Columns					
Rebar Dimensions					Weld
X (in)	Y (in)	B (in)	C (in)	Rebar Size	Fillet Weld " W"
16	20	15.6	19.3	5	1/4
12' Corner Columns					
Rebar Dimensions					Weld
X (in)	Y (in)	B (in)	C (in)	Rebar Size	Fillet Weld " W"
16	20	15.6	19.3	5	5/16
12' Side Columns					
Rebar Dimensions					Weld
X (in)	Y (in)	B (in)	C (in)	Rebar Size	Fillet Weld " W"
20	20	16.6	21.3	5	1/4



SEE DETAILS BP1, BP2 OR BP3 FOR ANCHOR BOLT PATTERNS
BP1 & BP2 ARE (4) BOLT PATTERN WHILE B3 IS A (6) BOLT

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30' WIDE RECTANGULAR HIP FOUNDATION PLAN

ICON Shelter Systems Inc
DISTINCTIVE STEEL SHELTERS
WWW.ICONSHELTERS.COM
1455 LINCOLN AVE
HOLLAND MI, 49423
616.396.0919
800.748.0985
616.396.0944 FX

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S:\Engineering\Inventor\DSA 2019\PC 2019 RH DSA\RH 30 FOOT WIDE\BASE PLATE 1.ipt

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JRMA ARCHITECTS ENGINEERS
07/29/2021

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DIV. OF THE STATE ARCHITECT
APP: 04-120013 PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑ CG ☐
DATE: 08/06/2021

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 02-119976 INC.
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 04/25/2022

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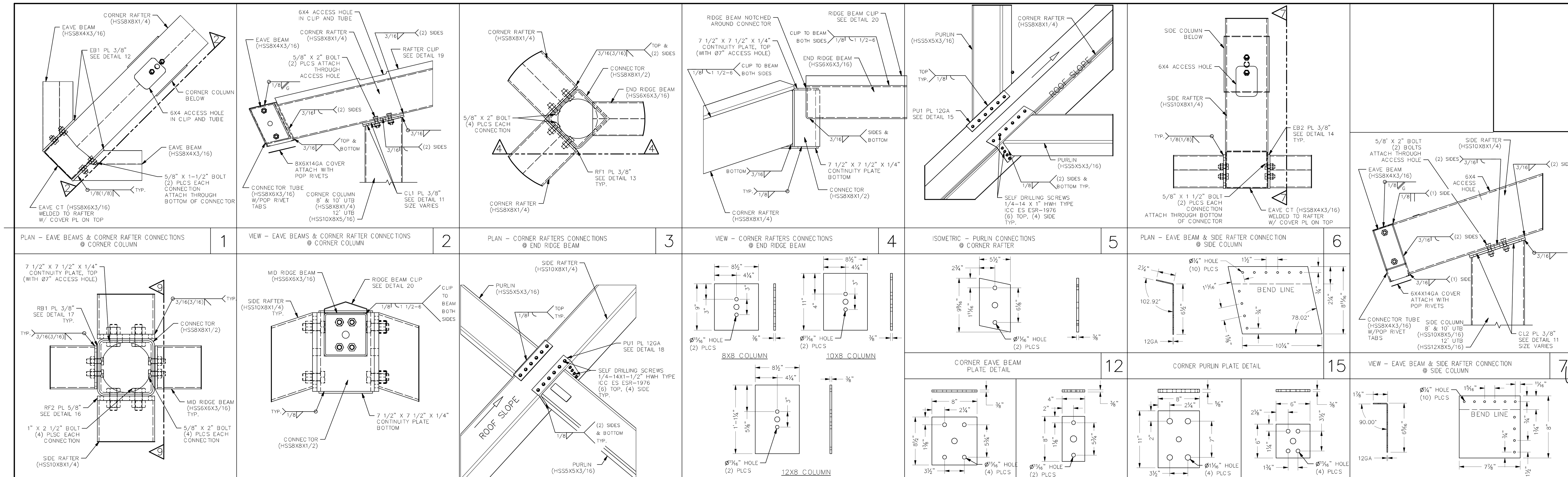


PLAN – EAVE BEAMS & CORNER RAFTER CONNECTIONS @ CORNER COLUMN 1

VIEW – EAVE BEAMS & CORNER RAFTER CONNECTIONS @ CORNER COLUMN 2

PLAN – CORNER RAFTERS CONNECTIONS @ END RIDGE BEAM 3

VIEW – CORNER RAFTERS CONNECTIONS @ END RIDGE BEAM 4

ISOMETRIC – PURLIN CONNECTIONS @ CORNER RAFTER 5

PLAN – EAVE BEAM & SIDE RAFTER CONNECTION @ SIDE COLUMN 6

VIEW – EAVE BEAM & SIDE RAFTER CONNECTION @ SIDE COLUMN 7

PLAN – SIDE RAFTERS & RIDGE BEAM CONNECTIONS @ CONNECTOR 8

VIEW – SIDE RAFTERS & RIDGE BEAM CONNECTIONS @ CONNECTOR 9

ISOMETRIC – PURLIN CONNECTIONS @ SIDE RAFTER 10

COLUMN TO RAFTER PLATE DETAIL 11

CORNER EAVE BEAM PLATE DETAIL 12

CORNER RAFTER PLATE DETAIL 13

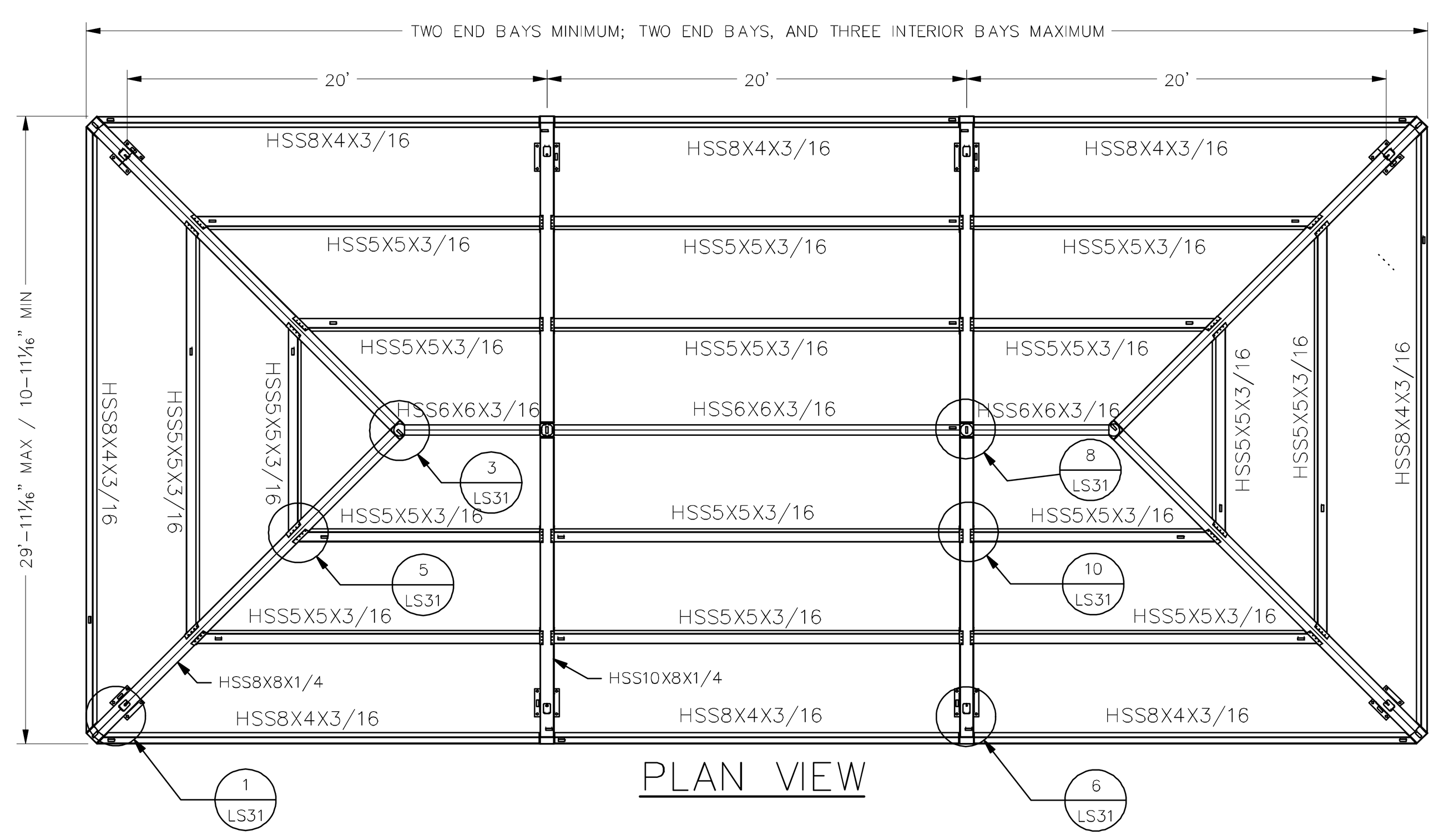
SIDE EAVE BEAM PLATE DETAIL 14

CORNER PURLIN PLATE DETAIL 15

SIDE RAFTER PLATE DETAIL 16

RIDGE BEAM PLATE DETAIL 17

SIDE PURLIN PLATE DETAIL 18



PLAN VIEW

*NOTE:
QUANTITIES WILL VARY DEPENDING ON SHELTER SIZE ORDERED, PLEASE REFER TO JOB SPECIFIC BILL OF MATERIALS AND INSTALLATION MANUAL.

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	LENGTH	UNIT WEIGHT
1	4		CORNER COLUMN	**SEE NOTE BELOW		353 lbmass
2	*		SIDE COLUMN	**SEE NOTE BELOW		399 lbmass
3	2		LH SIDE EAVE BEAM	HSS8X4X3/16		311 lbmass
4	2		RH SIDE EAVE BEAM	HSS8X4X3/16		311 lbmass
5	2		END EAVE BEAM	HSS8X4X3/16		422 lbmass
6	*		SIDE EAVE BEAM	HSS8X4X3/16		287 lbmass
7	4		CORNER RAFTER	HSS8X8X1/4		607 lbmass
8	*		SIDE RAFTER	HSS10X8X1/4		474 lbmass
9	2		END RIDGE BEAM	HSS6X6X3/16		149 lbmass
10	*		MID RIDGE BEAM	HSS6X6X3/16		329 lbmass
11	*		CONNECTOR	HSS8X8X1/2		48 lbmass
12	2		LH SIDE PURLIN 1	HSS5X5X3/16		238 lbmass
13	2		RH SIDE PURLIN 1	HSS5X5X3/16		238 lbmass
14	2		END PURLIN 1	HSS5X5X3/16		278 lbmass
15	2		LH SIDE PURLIN 2	HSS5X5X3/16		167 lbmass
16	2		RH SIDE PURLIN 2	HSS5X5X3/16		167 lbmass
17	2		END PURLIN 2	HSS5X5X3/16		137 lbmass
18	*		MID PURLIN	HSS5X5X3/16		284 lbmass

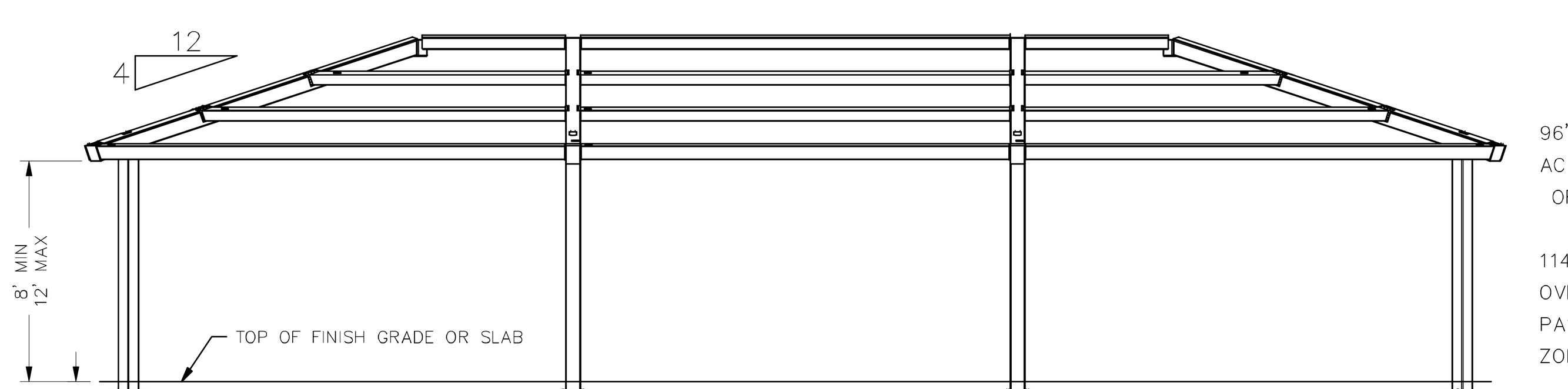
**NOTE:
MATERIAL WILL VARY DEPENDING ON SHELTER SIZE ORDERED.

☐ CORNER COLUMN 8' UTB – (HSS8X8X1/4)
☐ SIDE COLUMN 8' UTB – (HSS10X8X5/16)

☒ CORNER COLUMN 10' UTB – (HSS8X8X1/4)
☒ SIDE COLUMN 10' UTB – (HSS10X8X5/16)

☐ CORNER COLUMN 12' UTB – (HSS10X8X5/16)
☐ SIDE COLUMN 12' UTB – (HSS12X8X5/16)

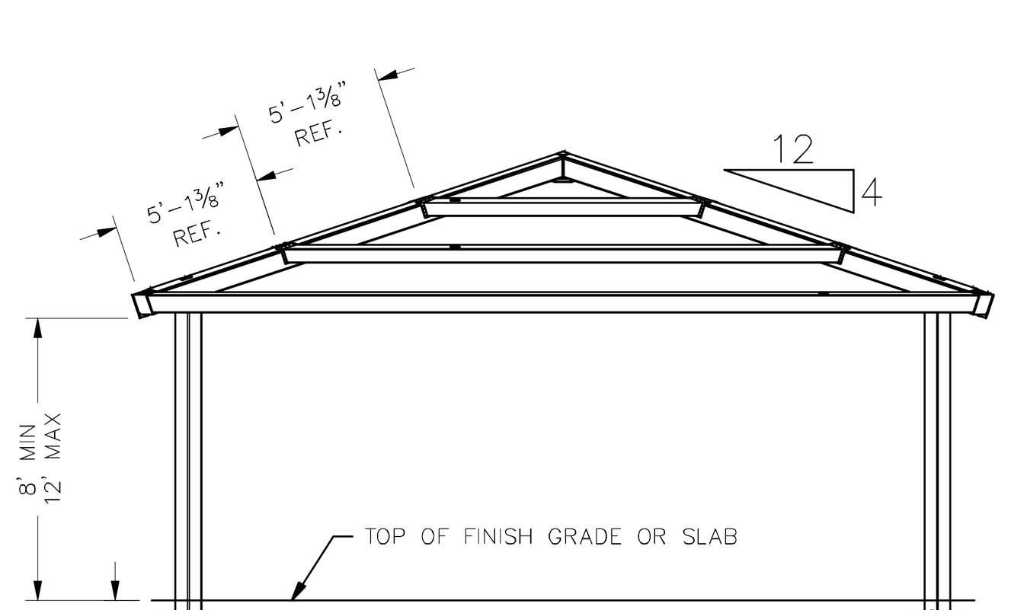
MODEL DESIGNATION	
~~RH30X44~~	~~2 BAY~~
RH30X64	3 BAY
~~RH30X84~~	~~4 BAY~~
~~RH30X104~~	~~5 BAY~~



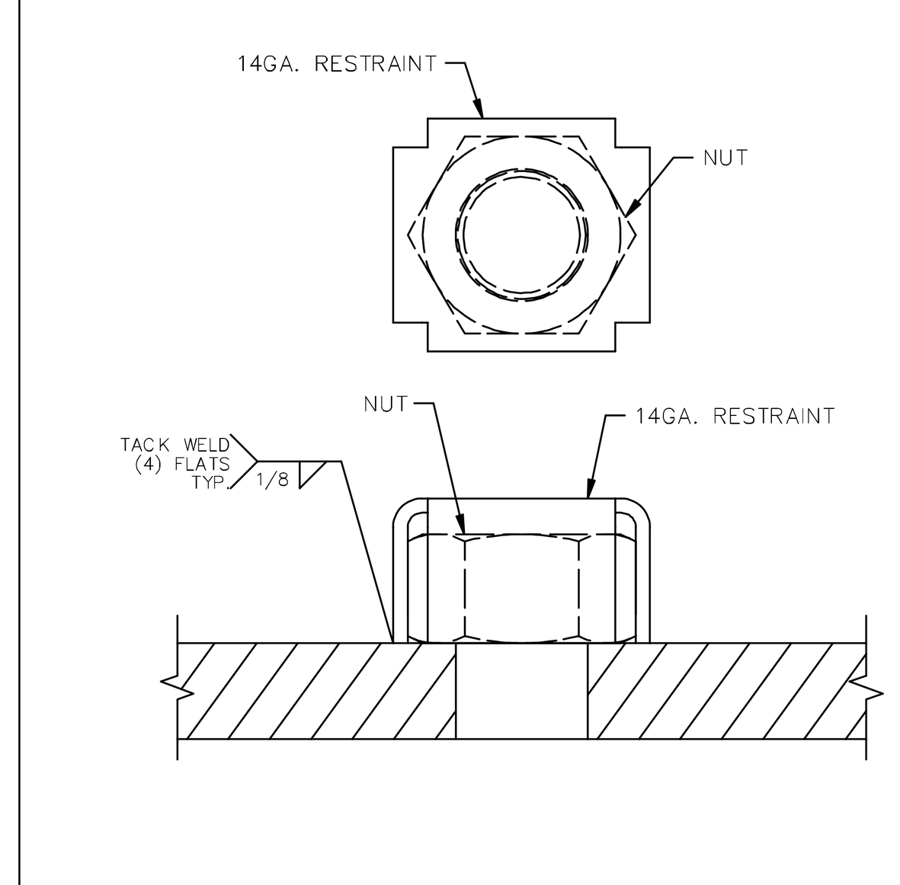
FRONT VIEW

96" MIN IF USED OVER ACCESSIBLE PARKING OR ACCESS AISLES

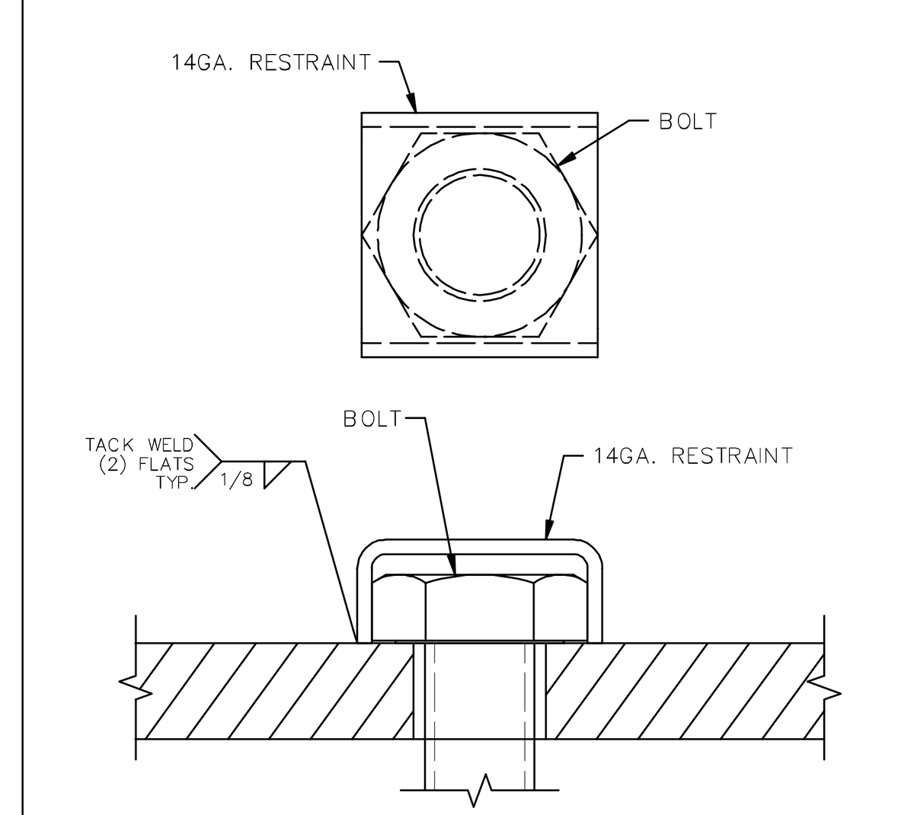
114" MIN IF LOCATED OVER ACCESSIBLE PASSENGER LOADING ZONES



SIDE VIEW

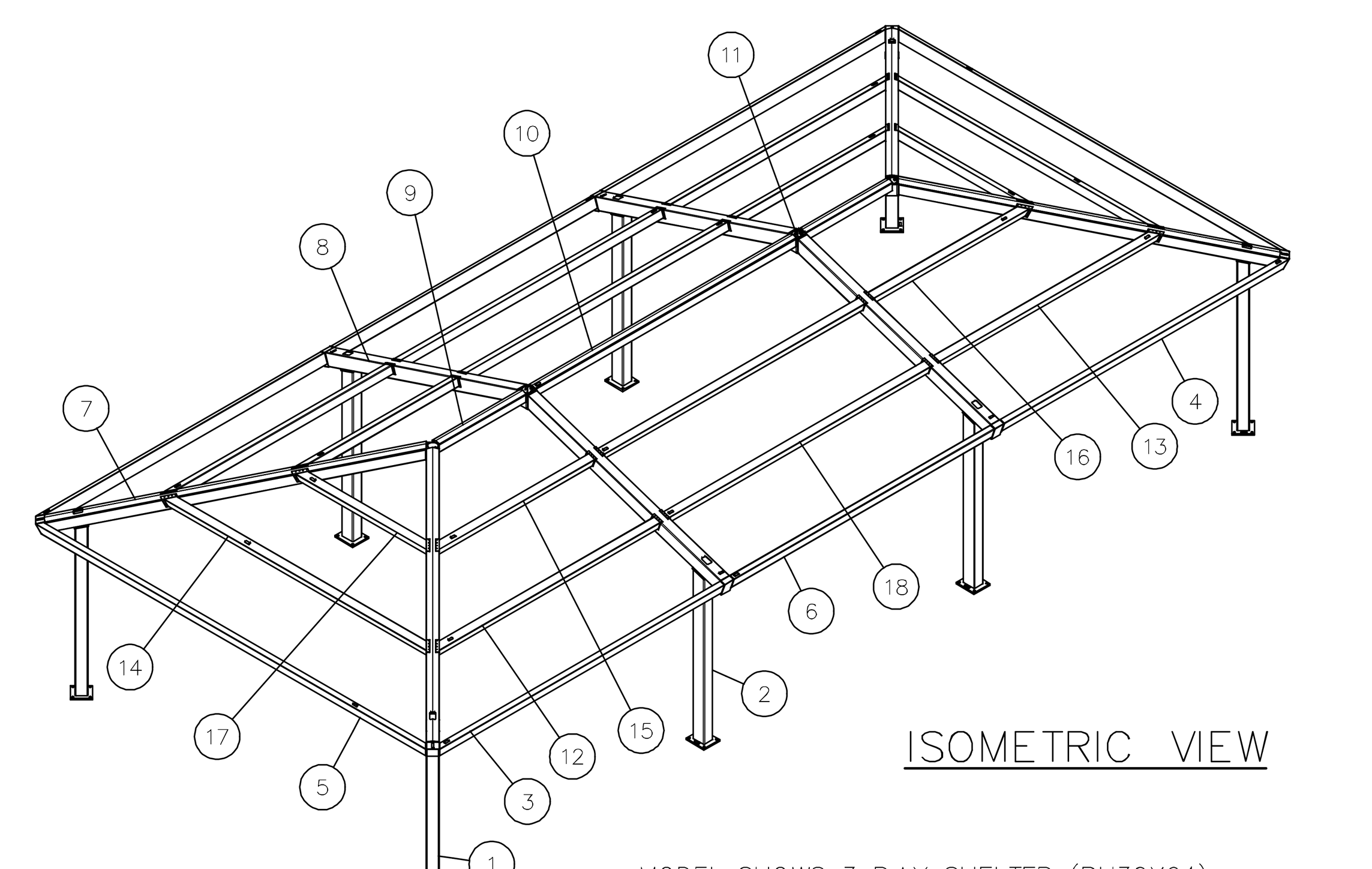


TYPICAL NUT RESTRAINING SYSTEM NR



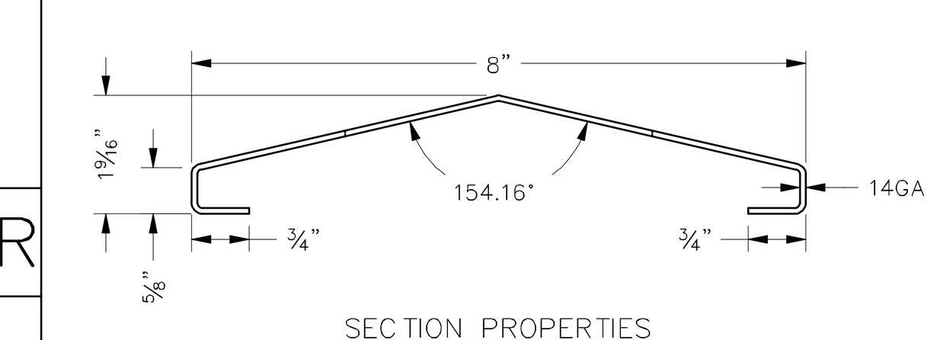
ALL BOLTS ARE ASTM F3125 GR A325 HIGH STRENGTH BOLTS PER SHEET LS1.0

TYPICAL BOLT RESTRAINING SYSTEM BR



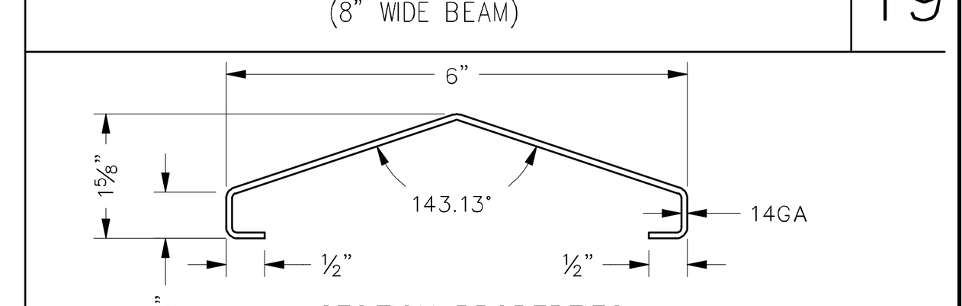
ISOMETRIC VIEW

MODEL SHOWS 3 BAY SHELTER (RH30X64)
PLEASE REFER TO ANCHOR BOLT LAYOUT SHEET FOR CORRECT COLUMN PLACEMENT BASED ON SIZE ORDERED



SECTION PROPERTIES
A=0.863 in^2 Fy=36 ksi
Ix=0.197 in^4 Sx=0.286 in^3
Iy=6.579 in^4 Sy=1.645 in^3

CORNER RAFTER CLIP (8" WIDE BEAM) 19



SECTION PROPERTIES
A=0.657 in^2 Fy=36 ksi
Ix=0.087 in^4 Sx=0.03 in^3
Iy=2.92 in^4 Sy=0.97 in^3

RIDGE BEAM CLIP (6" WIDE BEAM) 20

30' WIDE RECTANGULAR HIP

ICON STD	RH/DSA-PC
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JRMA ARCHITECTS ENGINEERS

30' WIDE RECTANGULAR HIP FRAMING & CONNECTION DETAILS

ICON Shelter Systems Inc
DISTINCTIVE STEEL SHELTERS
WWW.ICONSHELTERS.COM

1455 LINCOLN AVE
HOLLAND MI, 49423
616.396.0919
800.748.0985
616.396.0944 FX

LS3.1

PRE-CHECK (PC) DOCUMENT
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30' WIDE RECTANGULAR HIP FRAMING & CONNECTION DETAILS

PROJECT NO.	21-1504.04
DATE:	4/7/22
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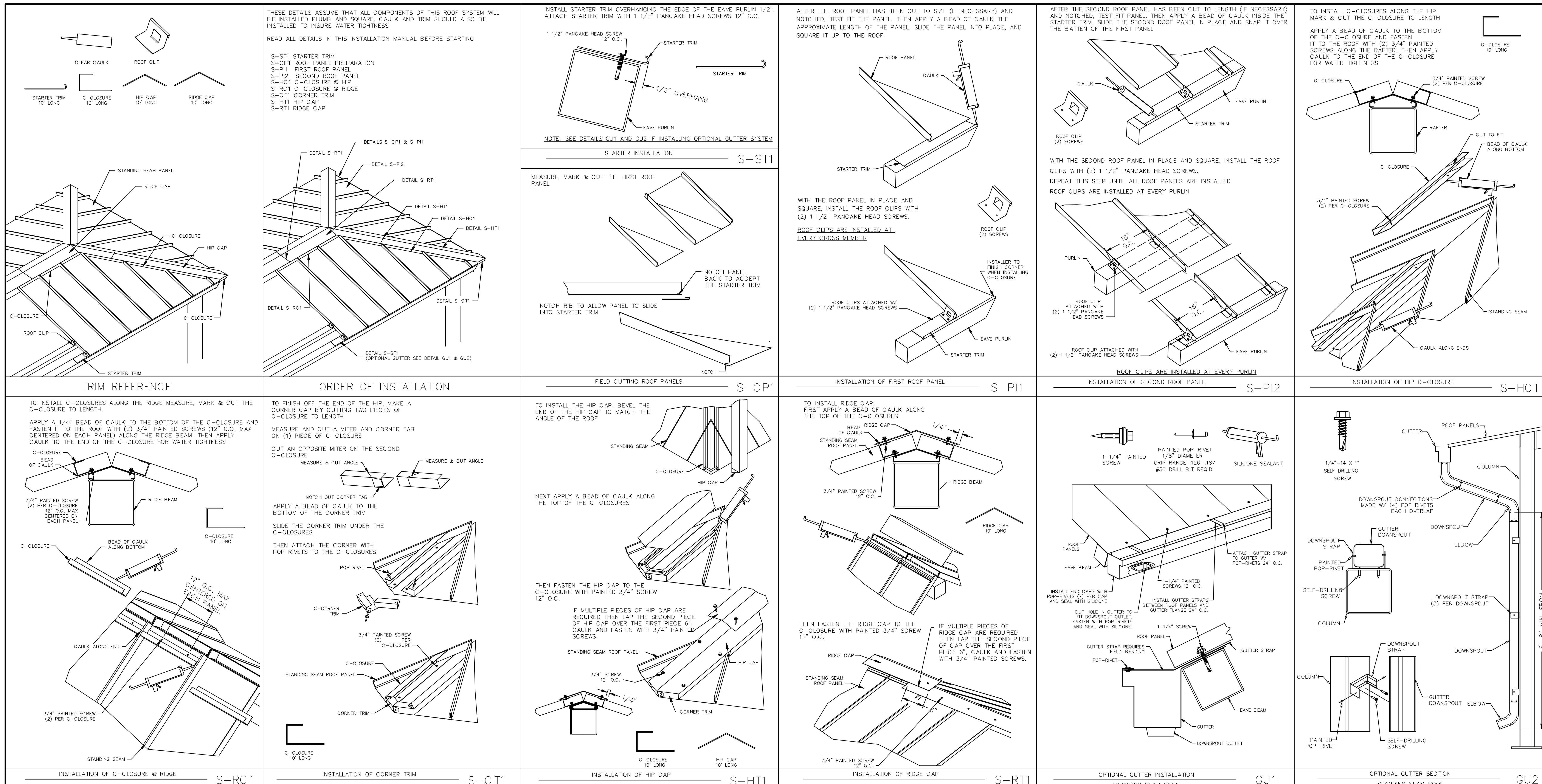


ROOF NOTES

ATTENTION INSTALLERS:
METAL SHAVINGS LEFT ON ROOF WILL QUICKLY RUST AND STAIN THE ROOF FINISH!

DRILLING OR INSTALLING ROOF FASTENERS WILL CAUSE METAL SHAVINGS. THESE SHAVINGS MUST BE CAREFULLY REMOVED AT THE END OF EACH DAY BY EITHER SWEEPING OR BRUSHING THE INSTALLED ROOF.

INSTALLED CORRECTLY	INSTALLED TOO TIGHT	INSTALLED TOO LOOSE
THE SEALING MATERIAL SLIGHTLY VISIBLE AROUND THE METAL WASHER	THE SEALING MATERIAL IS DEFORMED BEYOND THE EDGE OF THE METAL WASHER	THE SEALING MATERIAL IS NOT VISIBLE AROUND THE EDGE OF THE METAL WASHER

THE DETAILS SHOWN ARE SUGGESTIONS OR GUIDELINES ON HOW TO ERECT THE METAL ROOFING SYSTEM. THE INFORMATION SHOWN IS ACCURATE, BUT IT IS NOT INTENDED TO COVER ALL INSTANCES, BUILDING REQUIREMENTS, DESIGNS OR CODES. CHANGES TO THE DETAILS MAY BE REQUIRED DUE TO FIELD CONDITIONS.

THE ERECTOR SHOULD THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL INSTALLATION INSTRUCTION MATERIAL BEFORE STARTING WORK.

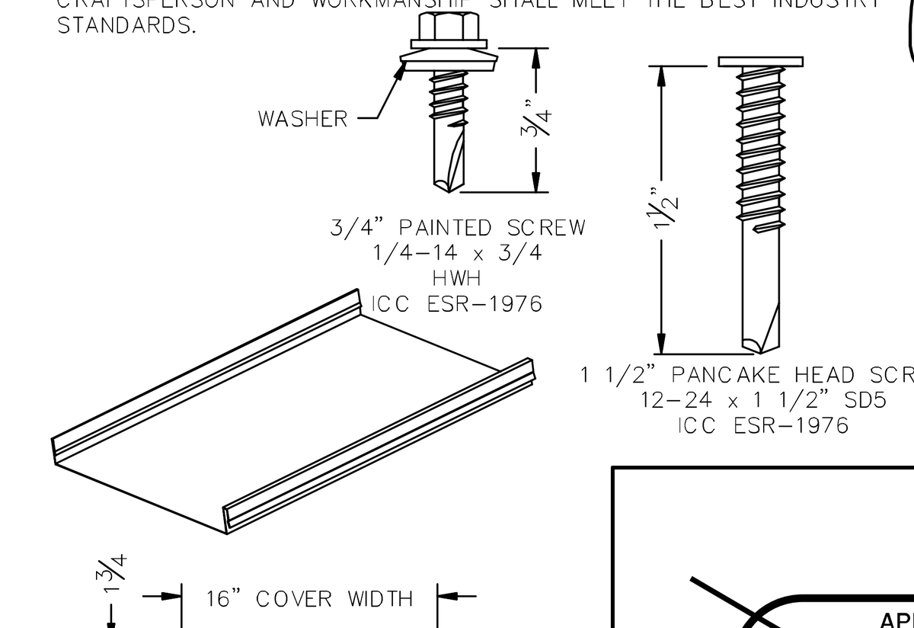
THE PANELS SHOULD BE INSTALLED PLUMB, STRAIGHT, AND ACCURATELY TO THE ADJACENT WORK.

ERECTORS SHALL BE RESPONSIBLE TO ENSURE THAT THE DETAILS MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATER TIGHTNESS.

FOR THE BEST APPEARANCE ALL TRIM AND FLASHING SHALL BE INSTALLED TRUE, AND IN PROPER ALIGNMENT, WITH ALL EXPOSED FASTENERS EQUALLY SPACED.

SOME FIELD CUTTING AND/OR FITTING OF PANELS, TRIM AND FLASHING IS TO BE EXPECTED BY THE ERECTOR. MINOR FIELD CORRECTIONS ARE PART OF NORMAL ERECTION WORK.

THE INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL CRAFTSPERSON AND WORKMANSHIP SHALL MEET THE BEST INDUSTRY STANDARDS.



MEDALLION LOK
STANDING SEAM PANEL SECTION
24 ga. Fy = 50 ksi Fu = 65 ksi
ICC ESL-1082

SECTION PROPERTIES
(PER FT. OF WIDTH)

TOP IN COMPRESSION
Ix=0.086 in^4
Se=0.0561 in^3
Ma=1.68 in-kips

BOTTOM IN COMPRESSION
Ix=0.040 in^4
Se=0.0479 in^3
Ma=1.248 in-kips

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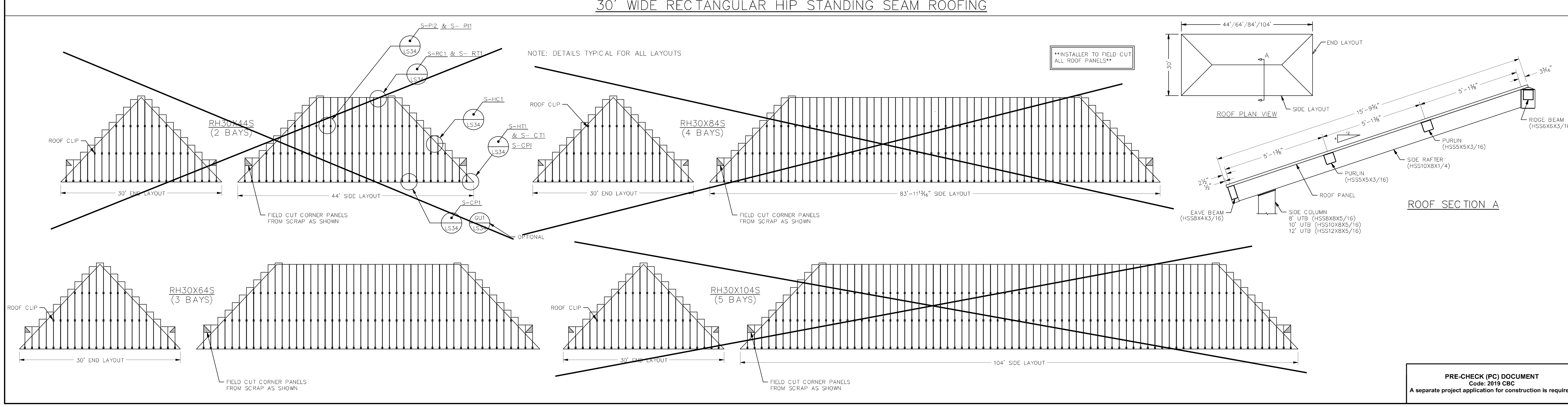
JRMA ARCHITECTS ENGINEERS
2700 SATURN ST BREA, CA 92821
T. 714.524.1870 F. 714.524.1875
WWW.JRMA.COM

REGISTERED PROFESSIONAL ENGINEER MICHAEL D. ... STRUCTURAL STATE OF CALIFORNIA
07/29/2021

30' WIDE RECTANGULAR HIP STANDING SEAM ROOFING



30' WIDE RECTANGULAR HIP STANDING SEAM ROOFING PLAN

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DISTINCTIVE STEEL SHELTERS
WWW.ICONSHELTERS.COM
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HOLLAND MI, 49423
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S:\Engineering\Inventor\DSA 2019\PC 2019 RH DSA\ROOFS\30 FOOT\30 FOOT END SS.dwg

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30' WIDE RECTANGULAR HIP STANDING SEAM ROOFING PLAN

PROJECT NO.	21-1504.04
DATE:	4/7/22
SHEET	LS3.4

AD0.11

ELECTRICAL INFORMATION - RECTANGULAR HIP

ICON'S STANDARD ELECTRICAL IS DESIGNED TO ACCOMMODATE Ø1/2" CONDUIT WITH A Ø3" INLET HOLE ON THE BOTTOM OF EACH COLUMN. THE CONDUIT PATHWAY RUNS THROUGH THE COLUMN, RAFTER, AND RIDGE BEAM THROUGH ALL BOLTED CONNECTIONS AS SHOWN. IF YOU HAVE SPECIAL ELECTRICAL REQUIREMENTS, PLEASE OUTLINE ANY CHANGES BELOW AS DESCRIBED.

PLEASE NOTE: DESIGN LIMITATIONS ON HOLE/CUTOUT SIZES MAY APPLY. ICON WILL REACH OUT TO DISCUSS ANY SUCH LIMITATIONS AS NEEDED.

NOTE: ICON SHELTER FRAME IS NOT UL LISTED TO ACT AS A CONDUIT FOR ELECTRICAL WIRING. CONSULT LOCAL BUILDING CODES WHEN PLANNING YOUR ELECTRICAL SYSTEM.

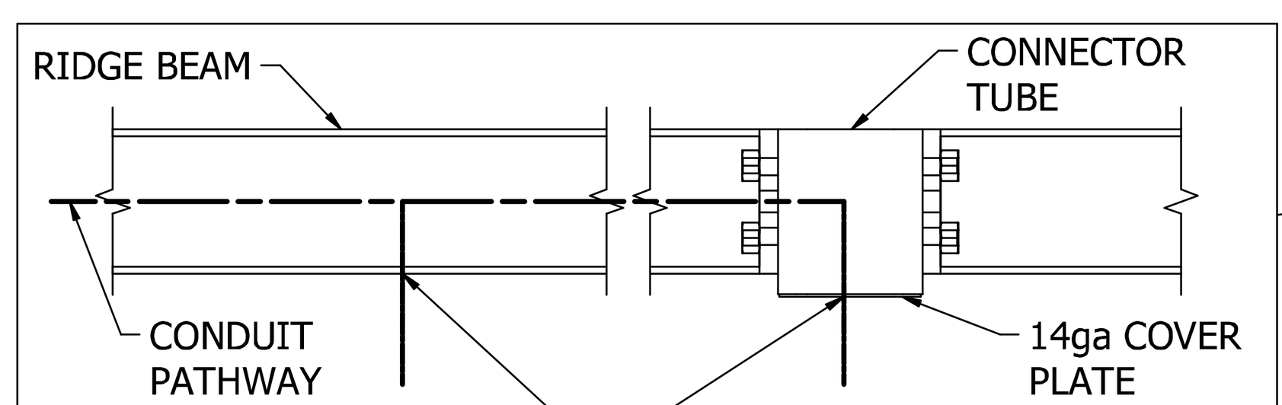
PRELIMINARY: NOT FOR CONSTRUCTION

STEPS:

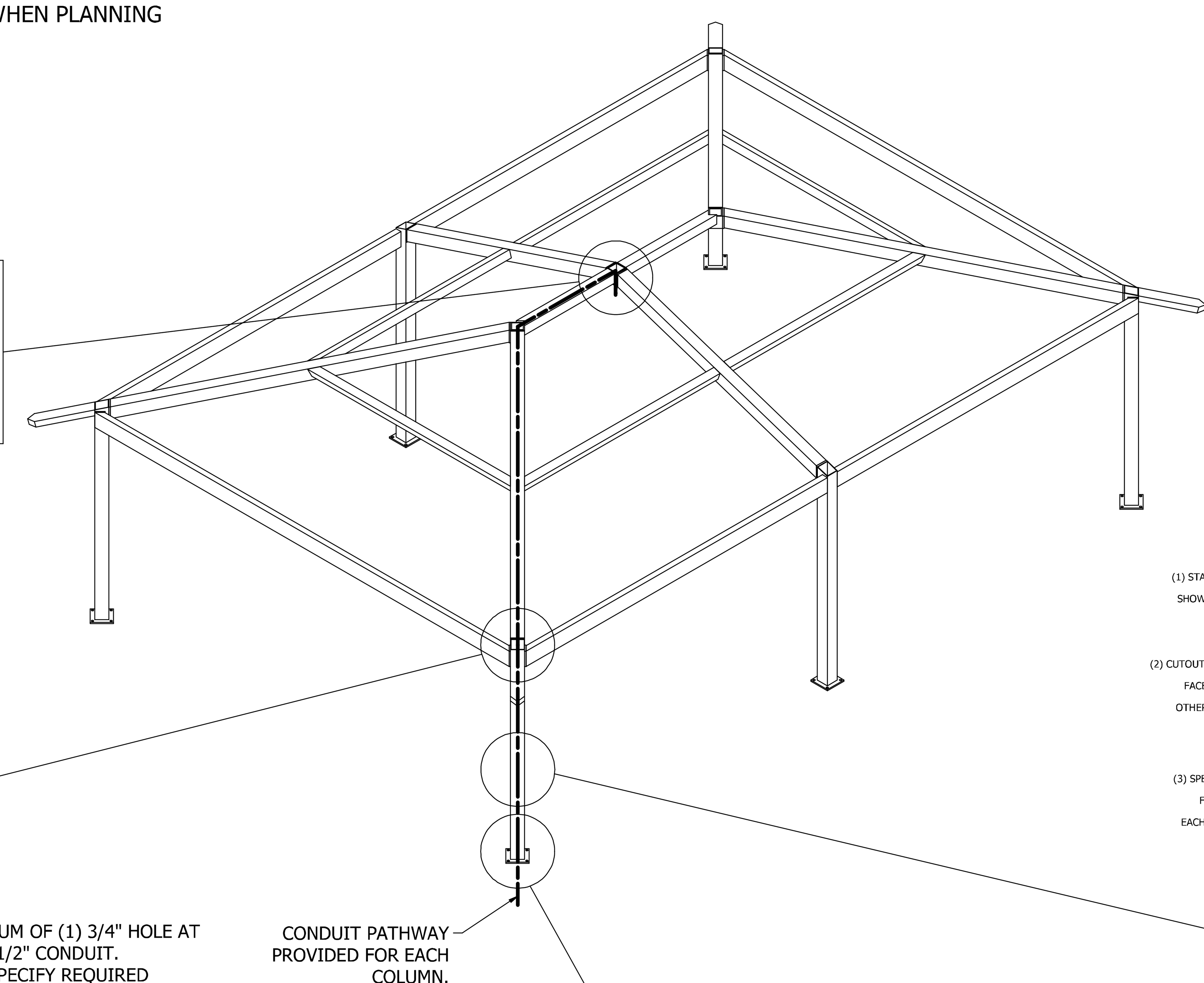
1. CONDUIT HOLE SIZE (DETAIL A)
2. ELECTRICAL EXIT HOLES (DETAIL B)
3. ELECTRICAL ACCESS & COVER PLATES (DETAIL C)
4. ELECTRICAL CONDUIT PATHWAY (DETAIL D)

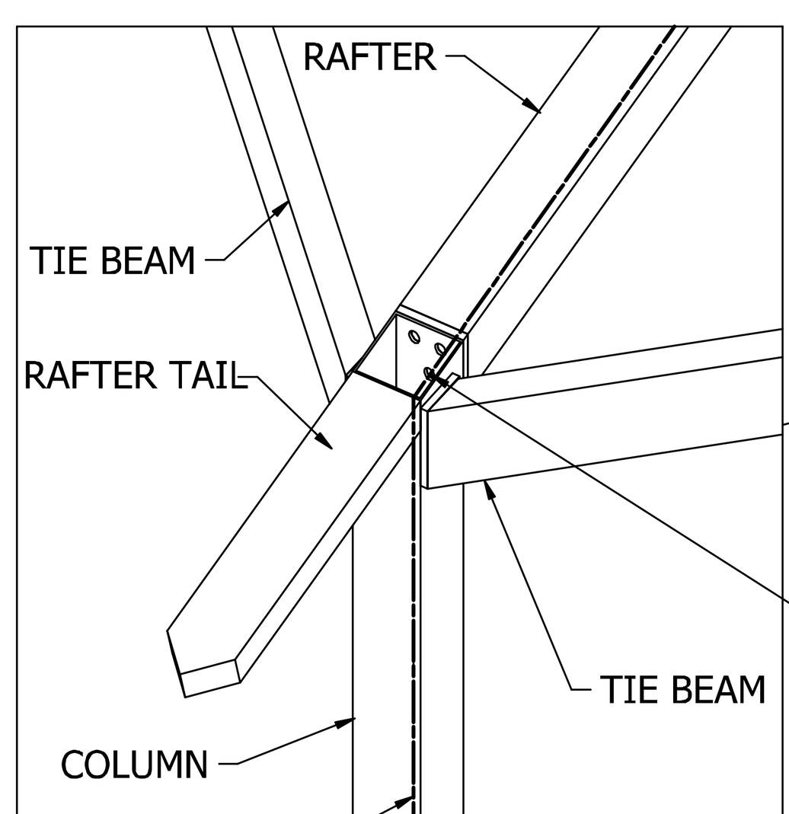
OPTIONAL EXIT HOLES

IF REQUIRED, EXIT HOLES FOR LIGHTING, ETC. CAN BE PLACED IN THE RIDGE BEAM AND/OR CONNECTOR TUBE WITH 14ga COVER PLATE AS SHOWN (CHARGES APPLY) USE FRAME SHEET OF THIS PRELIMINARY TO SPECIFY REQUIRED EXIT HOLE LOCATIONS AND SIZE.



DETAIL B



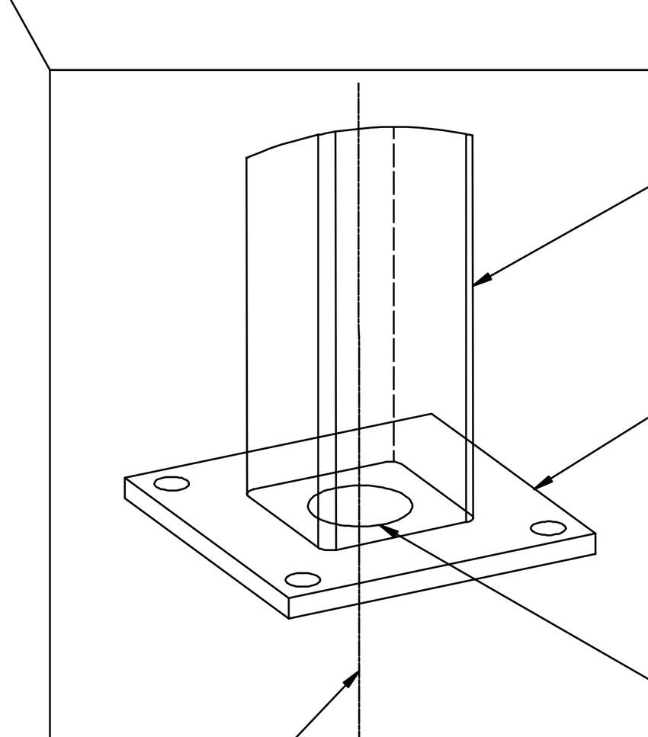


DETAIL A

ICON PROVIDES A MINIMUM OF (1) 3/4" HOLE AT EACH CONNECTION FOR 1/2" CONDUIT. IF APPLICABLE, PLEASE SPECIFY REQUIRED CONDUIT SIZE: (CHARGES APPLY)

- ☐ 3/4" CONDUIT (1" HOLES)
- ☒ 1" CONDUIT (1 1/4" HOLES)
- ☐ OTHER (PLEASE SPECIFY

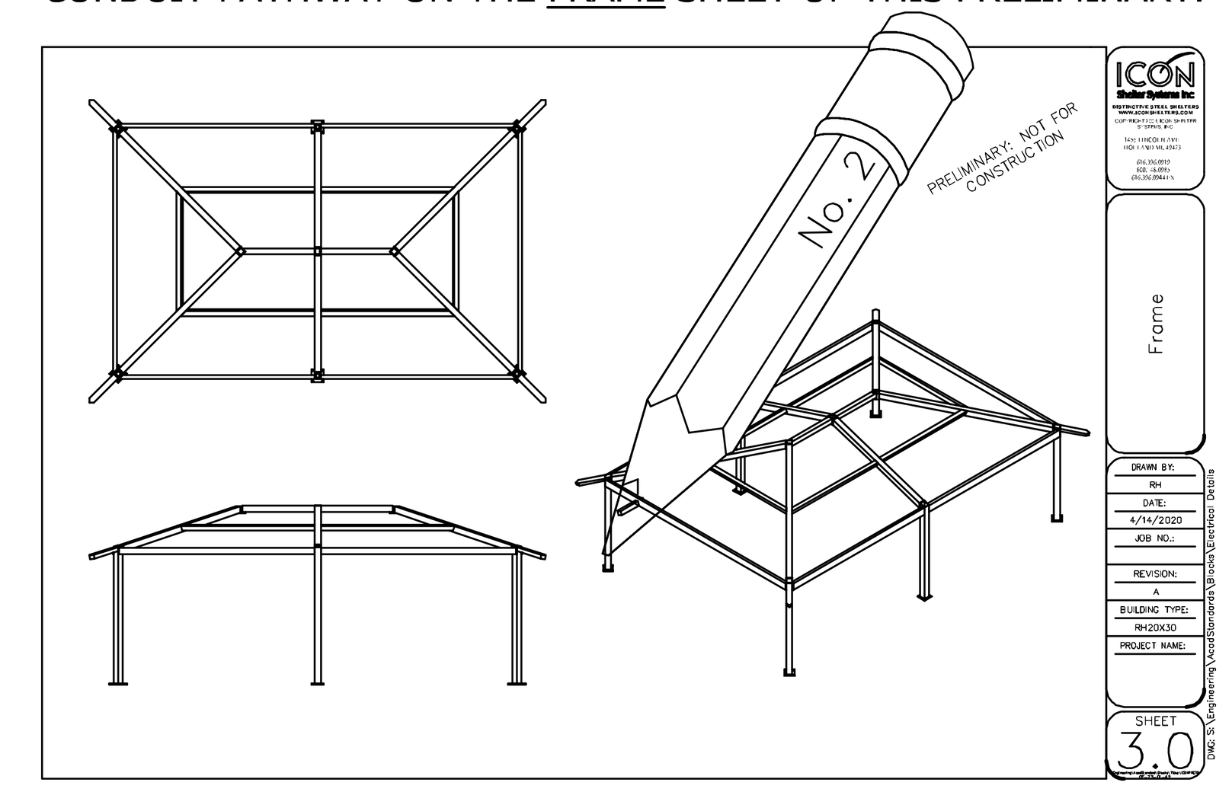
____



BASE DETAIL

NOTE: BUILDING DEPICTED ON THIS SHEET FOR ILLUSTRATION PURPOSES ONLY. ACTUAL LAYOUT AND FRAME MEMBER QUANTITIES VARY BY DESIGN. PLEASE REFER TO ELEVATION AND FRAME SHEETS IN THIS PRELIMINARY FOR ORDER-SPECIFIC CONFIGURATION.

IF REQUIRED, PLEASE DRAW THE NECESSARY ELECTRICAL CONDUIT PATHWAY ON THE FRAME SHEET OF THIS PRELIMINARY.



DETAIL D

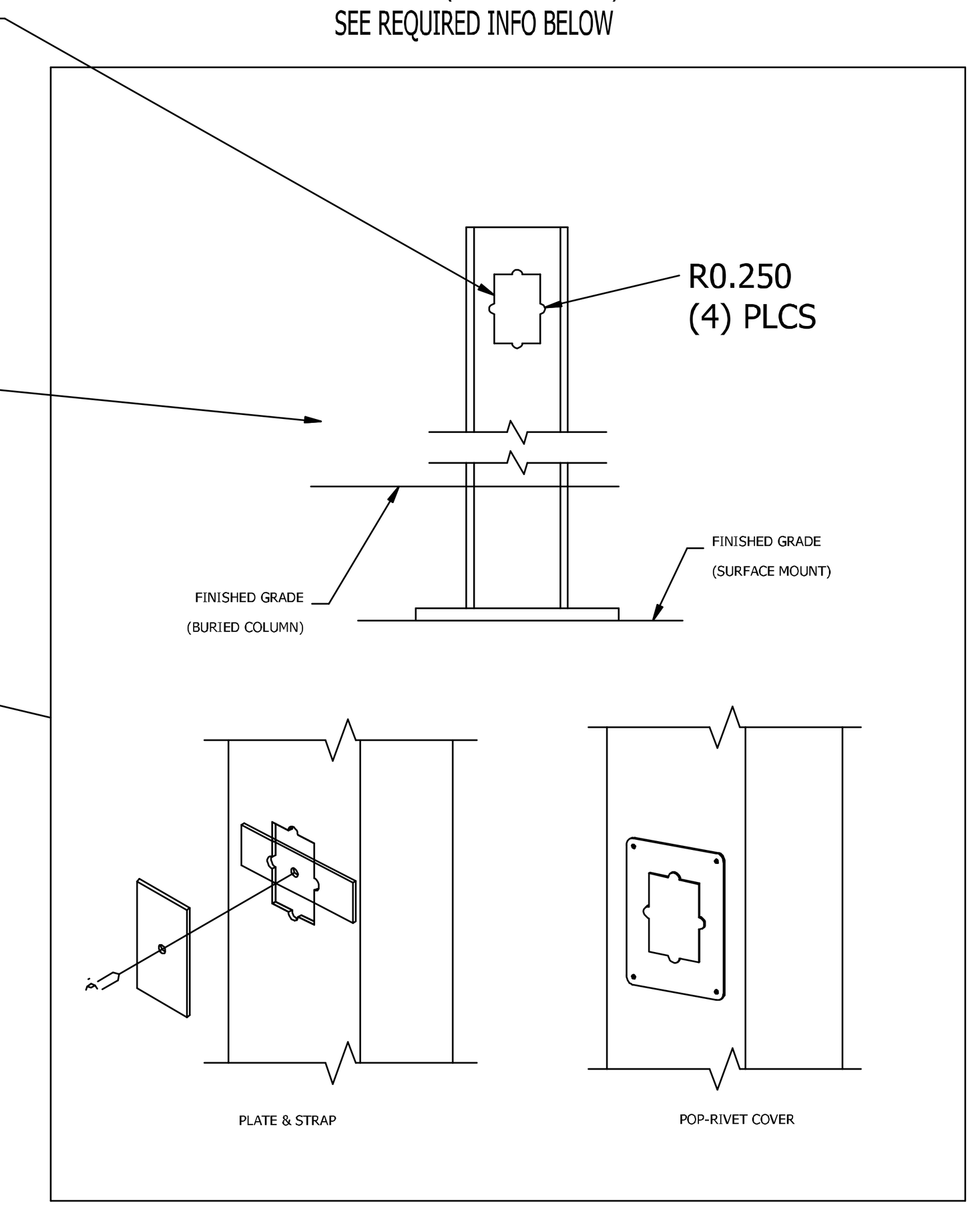
OPTIONAL CUTOUTS

USE FRAME SHEET OF THIS PRELIMINARY TO SPECIFY REQUIRED CUTOUT LOCATIONS (CHARGES APPLY) SEE REQUIRED INFO BELOW

(1) STANDARD CUTOUT SIZE SHOWN. SPECIFY IF OTHER SIZE REQUIRED.

(2) CUTOUTS WILL BE ON INSIDE FACE OF COLUMN UNLESS OTHERWISE INDICATED ON FRAME SHEET.

(3) SPECIFY HEIGHT ABOVE FINISHED GRADE FOR EACH CUTOUT AS SHOWN



DETAIL C

(4) COVER PLATES PROVIDED UPON REQUEST (CHARGES APPLY)
PLEASE SPECIFY TYPE AND QUANTITY REQUIRED:

- ☐ PLATE & STRAP
- ☐ POP-RIVET COVER PLATE

HOW MANY REQUIRED?______

ICON STD	RH/DSA-PC
DRAWN BY	ANGEL
DATE	4/2/2021
REV	
REV DATE	

JRMA ARCHITECTS ENGINEERS
WWW.JRMA.COM

REGISTERED PROFESSIONAL ENGINEER — STRUCTURAL — STATE OF CALIFORNIA
07/29/2021

ELECTRICAL ACCESS

ICON Shelter Systems Inc
DISTINCTIVE STEEL SHELTERS
WWW.ICONSHELTERS.COM

1455 LINCOLN AVE
HOLLAND MI, 49423
616.396.0919
800.748.0985
616.396.0944 FX

LS5.0

PRE-CHECK (PC) DOCUMENT
Code: 2019 CBC
A separate project application for construction is required.

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SHADE STRUCTURE AT NEW JOSEPH BONNHEIM ELEMENTARY SCHOOL

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
SACRAMENTO, CA

△ Revision

ELECTRICAL ACCESS

PROJECT NO.	21-1504.04
DATE:	4/7/22
SHEET	LS5.0

AD0.12