

## Site Plan

FOR REFERENCE

## Abbreviations

@	AT	COL	Column	F H	Fire Hydrant	MR	Moisture Resistant	S	South
X	By	CONC	Concrete	FIN	Finish	MTD	Mounted	SCH	Schedule
C	Center Line	CONST	Construction	F O C	Face Of Concrete	MTL	Metal	SEC	Section
D	Degrees	CONT	Continuous	F O F	Face Of Finish	MUL	Mullion	SHT	Sheet
Ø	Diameter	CORR	Corridor	F O M	Face Of Masonry	N	North	S O V	Shut Off Valve
(E)	Existing	CTR	Center	F O S	Face Of Stud	N A	Not Applicable	SPEC	Specification
-	Foot/feet	CTSK	Countersink	FRMG	Framing	N I C	Not In Contract	SS	Sanitary Sewer
in	inches	CUST	Custodial	F S	Finished Surface	NOM	Nominal	STD	Standard
(N)	New	C O T G	Clean Out To Grade	FTG	Footing	N R	Not Required	STO	Storage
±	Plus/Minus	C W	Cold Water	FUT	Future	N T S	Not To Scale	STRUC	Structural
#	Pound/Number	D B L	Double	GALV	Galvanized	O C P	On Center	SUSP	Suspended
(R)	Remove	DEMO	Demolition	G B	Grade Break	O F S	Off Face of Stud	T B	Tack Board
A B	Anchor Bolt	DET	Detail	GL	Glass	O H	Overhang	T G	Top of Grate
ABV	Above	D F	Drinking Fountain	GR	Grade	OPG	Opening	T O C	Top Of Concrete
A C	Asphaltic Concrete	DIA	Diameter	GSM	Galvanized Sheet Metal	OPP	Opposite	T O D	Top Of Drain
ADJ	Adjustable	DIM	Dimension	GYP	Gypsum	O J	Over	T O P	Top Of Plate
A F F	Above Finished Floor	DN	Down	H B	Hose Bib	P A	Planting Area	T O S	Top Of Slab
ALUM	Aluminum	D S	Downspout	HDW	Hardware	P C	Portland Cement	T W	Top Of Wall
ANCH	Anchor	DWG	Drawing	HR	Hour	PDF	Powder Driven Fastener	U O N	Unless Otherwise Noted
A P	Access Panel	E	East	HT	Height	P H	Panic Hardware	V C T	Vinyl Composite Tile
ARCH	Architectural	E A	Each	I D	Inside Diameter	PL	Plate	V C T B	Vinyl Covered Tackboard
ASPH	Asphalt	E F	Exhaust Fan	I E	Invert Elevation	PLM	Plaster Laminates	V I F	Verify in Field
BD	Board	E J	Expansion Joint	INSUL	Insulation	PLW	Plywood	W	Waste
BLDG	Building	ELEC	Electrical	INT	Interior	PR	Pair	W	West (elevation dwg's)
BLK	Block	ELEV	Elevation	INV	Invert	P T D F	Pressure Treated Douglas Fir	W B	White Board
BLKG	Blocking	EMER	Emergency	IT	Information Technology	R C P	Reflected Ceiling Plan	W C	Water Closet
BM	Beam	E P	Electrical Panel	J H	Joist Hanger	R D	Roof Drain	W I	With
BOT	Bottom	E Q	Equal	JT	Joint	REF	Refer To:	W I	Woodwork Institute
B/T	Between	EQUIP	Equipment	LAM	Laminate	REINF	Reinforced	W/O	Without
BW	Bottom of Wall	E/S	Each Side	LAV	Lavatory	REQD	Required	WD	Wood
C	Conduit	F A	Fire Alarm	LT	Light	RM	Room	WT	Weight
C A B	Cabinet	F D	Floor Drain	MAX	Maximum	R O	Rough Opening		
C B	Catch Basin	F D C	Fire Department Connection	M B	Marker Board	RR	Roof Rafter		
C I	Cast Iron	F DN	Foundation	MFR	Manufacturer	R W L	Rain Water Leader		
C J	Construction joint	F E	Fire Extinguisher	M H	Manhole	CLR	Clear		
CLG	Ceiling	F G	Finished Grade	MIN	Minimum				

## General Notes

DSA IS NOT SUBJECT TO ARBITRATION  
All work performed under the conditions of these drawings shall comply in every respect with the following:  
2019 Cal. Administrative Code, Part 1, Title 24 CCR  
2019 Cal. Building Code (CBC), Part 2, Title 24 CCR  
(2018 IBC, Volumes 1-2 & 2019 CA Amendments)  
2019 Cal. Electrical Code (CEC), Part 3, T-24 CCR (2017 NEC & 2019 CA AMDT)  
2019 Cal. Mechanical Code (CMC), Part 4, T-24 CCR  
(2018 UMC & 2019 CA AMDT)  
2019 Cal. Plumbing Code (CPC), Part 5, T-24 CCR (2018 UPC & 2019 CA AMDT)  
2019 Cal. Fire Building Standards Code, Part 11, Title 24 CCR  
2019 Cal. Referenced Standards Code, Part 12, Title 24 CCR  
Title 19 CCR Public Safety State, Fire Marshal Regulations

Manual of Steel Construction, 15th Edition  
18th Revised National Design Specification for Wood Construction  
ACI-318-14 Code & Commentary  
2010 ADA Standards for Accessible Design (Appendix A of 28 CFR Part 36)

NFPA 13 Standard for Installation of Sprinkler Systems, 2016 Ed.  
NFPA 14 Standpipe Systems and Hose Systems (CA AMDT), 2016 Ed.  
NFPA 17 Dry Chemical Extinguishing Systems, 2017 Ed.  
NFPA 17A Wet Chemical Extinguishing Systems, 2017 Ed.  
NFPA 20 Stationary Pumps for Fire Protection, 2016 Ed.  
NFPA 22 Water Tanks for Private Fire Protection, 2016 Ed.  
NFPA 24 Private Fire Service Mains & their Appurtenances (CA AMDT), 2016 Ed.  
NFPA 72 National Fire Alarm Code (CA AMDT), 2016 Ed.  
NFPA 80 Fire Doors and Other Opening Protectives, 2016 Ed.  
NFPA 110 Emergency & Standby Power Systems, 2016 Ed.  
NFPA 253 Test for Critical Radiant Flux of Floor Covering Systems using a Radiant Heat Energy Source, 2015 Ed.  
NFPA 2001 Clean Agent Fire Extinguishing Systems, 2015 Ed.

UL300 Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment, 2005 Ed. (R2020)  
UL464 Audible Signaling Devices for Fire Alarm & Signaling Systems, 2003 Ed.  
UL521 Heat Detectors for Fire Protective Signaling Sysms 1999 Ed.  
UL1971 Signaling Devices for the Hearing Impaired, 2022 Ed. (R2010)

Grading plans, drainage improvements, road and access requirements and environmental health considerations shall comply with all local ordinances.

**California Title 24**  
The intent of these drawings and specifications is that the work of the alteration 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 documents, 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.

**Start of Construction**  
DSA shall be notified at Start of Construction per Section 4-331.

**Changes**  
Work shall be executed strictly in accordance with approved plans, addenda, and change orders. Such addenda and construction change documents shall be prepared in accordance with Section 4-338, Part 1, Title 24 CCR.

**Inspections**  
Inspector must be approved by Division of the State Architect (DSA) and employed by District. Inspector and continuous inspection of work shall be per Section 4-333(b) and 4-342.

**Testing**  
Tests & Testing Laboratory, required by T&I list, shall be accomplished in accordance with Section 4-335, Special Inspections per Section 4-333(c). Lab shall be hired by the District. Laboratory shall be accepted by DSA and perform all required tests and inspections for this project.

**DRAWINGS SHALL NOT BE SCALED**  
**Dimension Control**  
All dimensions and conditions shall be checked and verified, both in the Documents and on the job, by Contractor and each Sub-contractor before proceeding with the work. Any errors, omissions, discrepancies or deficiencies shall be brought to the attention of the General Contractor prior to proceeding with the Work. All dimensions take precedent over scale. Where dimensions are not entirely clear the Contractor shall notify the Architect and request clarification.

**Reports**  
Contractor, Inspector, Architect, Engineers shall submit verified reports per Section 4-336 & 4-343(c).

**Site Examination**  
The Contractor shall thoroughly examine the site and satisfy himself as to the conditions under which the Work is to be performed. The Contractor shall verify at the site all measurements and conditions affecting his work and shall be responsible for same unless brought to the attention of the Owner or his agent prior to proceeding with the Work. Commencement of work by Contractor or any Subcontractor shall indicate a knowledge and acceptance of all conditions described in the Documents or existing onsite which could affect their work.

**Administrative Requirements**  
Administration of construction contract shall be per 2019 Part I, Title 24 California Code of Regulations (CCR): Duties of Architect, Structural Engineer or Professional Engineer per Section 4-333(a) & 4-341. Duties of Contractor per Section 4-343. Supervision by DSA per Section 4-334.

The Contractor shall keep a copy of Title 24, all applicable parts referred to by the plans and specifications, available in field during construction.

**Use of Site**  
Work shall occur while portions of the site are occupied by the Tenant. Contractor is fully responsible for site safety and control of public access near work zones. Roadways shall be maintained clear of construction equipment or materials at all times. Existing landscaping shall be protected as required to prevent any damage to plants and trees unless specified for removal in plans or by Owner.

**Moisture Proof Interior Spaces**  
It is the intent of these Documents to provide for the construction of a moisture proof enclosure of interior space, if the Owner, Contractor or any Sub-contractors become aware of any assembly or condition, either shown in the Drawings or constructed on-site, which does not, in their opinion, satisfy this intent, it is their responsibility to notify the Architect within a reasonable amount of time so that the condition or assembly can be reviewed, and, if necessary, modifications can be made to the Documents or to the Work without impacting the progress.

**Moisture Protection During Construction**  
Should any special situation or climatic conditions occur during construction the Owner, Contractor and Sub-contractors shall so notice and implement any measures required to assure the protection of materials and assemblies. The Contractor shall take all necessary measures to protect new or existing construction and materials from damage due to weather or any other adverse conditions.

**Use of Documents**  
No guarantee for quality of construction is implied or intended by these Documents. The Contractor shall assume full responsibility for any construction deficiencies.

All Contract Documents described in the Construction Contract shall be considered one document and are intended to be used as one document. Contractor and all sub-contractors shall review all documents prior to bidding. Sub-contractors are responsible for any information pertaining to their work no matter where it may occur in these Documents.

## General DSA Notes

No changes or revisions shall be made following written approval which affects access compliance items unless such changes or revisions are submitted to the DSA for approval.

Substitutions affecting DSA regulated items shall be submitted as a construction change document or addenda, and shall be approved by DSA prior to fabrication and installation.

Construction change documents must be signed by the following:  
• Architect or Engineer of Record  
• Structural Engineer (When applicable)  
• Delegated professional engineer  
• DSA

Materials and their installation shall comply with applicable codes, standards and manufacturer's recommendations

Per CBC 118-104.1 "All dimensions are subject to conventional industry tolerances except where the requirement is stated as a range with specific minimum and maximum end points.

**Deterioration or Existing Non-Compliant Construction:** If any condition is discovered which, if left uncorrected, would make the building non-compliant with the requirements of the edition of the CBC in force at the time of original construction, the condition must be corrected in accordance with current code requirements. A construction change document (CCD Type A), or a separate set of plans and specifications detailing and specifying the required repair work shall be submitted to and approved by DSA before proceeding with the repair work.

**Access Exemption**  
Maintenance of roofing systems is not subject to Path of Travel requirements, in accordance with 28 CFR Part 35, section 35.151(b)(4)(i)(B)

DSA-AC finds that the stated scope of work of this project generally qualifies for Exemption 7 to CBC B-202.4, so that the project is NOT subject to Path Of Travel requirements:

"Projects which consist only of heating, ventilation, air conditioning, reroofing, electrical work not involving placement of switches and receptacles, cosmetic work that does not affect items regulated by this code, such as painting equipment not considered to be a part of the architecture of the building or area such as computer terminals, office equipment, etc., are not considered alteration projects for the purposes of accessibility for persons with disabilities and shall not be subject to this code unless they affect the usability of the building or facility.

**Fire Safety:** Fire safety during construction and demolition will be enforced IAW with 2016 CBC and CFC Chapter 33.

## Project Directory

**District**  
Santa Cruz City Schools  
133 Mission St. #100  
Santa Cruz, CA 95060  
(831) 429-3410

**Structural**  
Rinne & Peterson SE  
1121 San Antonio Road  
Palo Alto, California 94303  
(650) 428-2860

**Petra Seismic Design**  
14525 Farm to Market Road 529  
Houston, TX 77095  
(281)-656-1439

**Mechanical**  
Laws & Associates  
1801 Murchison Dr. #160  
Burlingame, California 94010  
(650) 697-5691

**Architectural**

A0.0 Title Sheet and Drawing Index  
A0.1 Main Building Exterior Elevations  
A0.2 Main Building Exterior Elevations  
A0.3 Opening Types and Details  
A0.4 Building A Exterior Elevation & Section  
A0.5 Roof Plan Building A  
A0.6 Details  
A0.7 Details  
A0.8 Details

G-1.0 Title Sheet and Drawing Index  
D-1.0 Roof Walkway Layout  
D-2.0 Isometric and Elevation View Details  
D-3.0 Section Details  
D-4.0 Section Details  
D-5.0 Typical Attachment Details  
D-6.0 Typical Attachment Details

A2.0 Gymnasium Roof Plan  
A5.0 Gymnasium Exterior Elevations  
A6.0 Gymnasium Sections

M0.0 Mechanical Legend & Abbreviations, & General Notes  
M1.0 Mechanical Schedules and Details  
M2.0 Mechanical Roof Demolition Plan  
M2.1 Mechanical Roof Plan

## Statement of General Conformance

The drawings, specifications, and calculations for the items listed below have been prepared by other design professionals or consultants who are licensed and/or authorized to prepare such drawings in this state. These documents have been examined by me for design intent and have been found to meet the appropriate requirements of Title 24, California Code of Regulations and the project specifications prepared by me.

The items listed in the project scope have been coordinated with my plans and specifications and are acceptable for incorporation into the construction of this project for which I am the individual designated to be in general responsible charge.

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))

Items reviewed and accepted: All Structural, Mechanical, Plumbing, Electrical, Fire Alarm, and Fire Suppression drawings, specifications, and calculations.

Mark Bartos, Architect, Bartos Architecture  
CA Lic. 24138 Exp. 31-Mar-19

# Santa Cruz City Schools Envelope Improvements

## Gymnasium & Building A Mission Hill Middle School Santa Cruz, California

## General Sheet Notes

- All dimensions given take precedence over scale. Contractor shall not scale drawings to determine dimensions without consulting the Architect. Contractor shall review all dimensions for accuracy prior to construction.
- Dimensions given as "CLR" are to face of finish. Otherwise, all dimensions are to face of stud/structure unless other wise noted.
- Repeating items or assemblies may not be noted or dimensioned at all occurrences where repetition is obvious or noted as typical.
- Refer to Roof Plan for items to remain, items to be salvaged and/or relocated. Unless indicated elsewhere.
- All items not identified as "E)" or "Existing" are to be new.
- Refer to Specifications for additional requirements.

## Project Scope

**Summary:**  
The following items are included in the scope of work. Not all scope items are listed here. Refer to all contract documents for scope definition.

**Main Building**  
Re-roofing at main building  
**Rooftop Catwalk Improvements**  
Demolish existing catwalk and all components completely  
Install new aluminum rooftop catwalk

Window replacement per approved DSA Addendum 01

Exterior painting Entire building, completely  
All components including but not limited to gutters, rainwater leaders, fascia, decorative elements, exterior painted doors (all sides), trim (all sides), etc. See specifications for painting schedule.  
Color 1- Field  
Benjamin Moore- Ocean Beach  
Color 2- Accent  
TBD  
Color 3- Doors and Trim  
Benjamin Moore- French Press

Repair and refinish exterior stucco finish coat at Trellis on King Street.  
Paint all stucco at trellis.

**Alternate 1**  
Additional Window replacement  
Per approved DSA Addendum 01  
See sheets A05.0, A05.1 for alternate windows

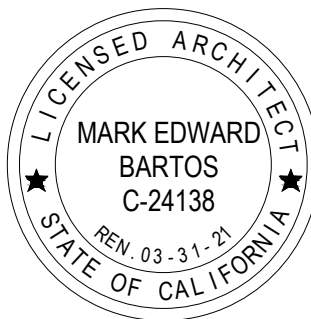
**Alternate 2**  
Re-roofing at Gymnasium related to mechanical equipment replacement  
Paint entire Gymnasium, completely  
Remove existing and install new Mechanical system at Gymnasium

If contractor does not intend to provide any of these items, contractor should not submit a bid on this project. If any questions arise during bid period as to these requirements, contractor shall contact architect for clarification.

Contractor shall ensure that construction operations in this project do not inhibit the continuous operation in other areas of the campus of all low voltage systems including but not limited to: Fire Alarm, Energy Management, Security, Access, and Data. Contractor is responsible for all means and methods to ensure this requirement is met. Change orders for logistical operations related to continuous operation of these components will not be entertained.

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**Santa Cruz City Schools**



Mission Hill Middle School  
425 King Street  
Santa Cruz, California, 95060



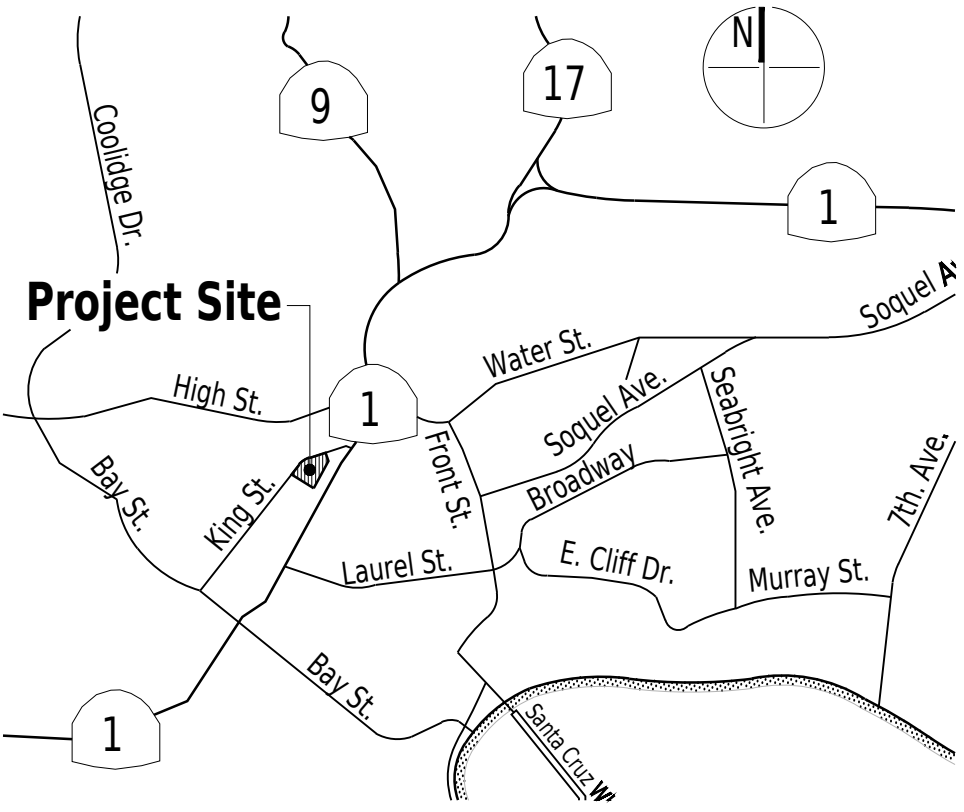
## Mission Hill Middle School

Envelope Improvements

REVISION	DATE
DSA Submittal	3/1/2019
DSA Approval	9/5/2019
DSA Addendum 01 Approval	2/4/2020
DSA Revision 01 Approval	5/27/2020

Bid Set

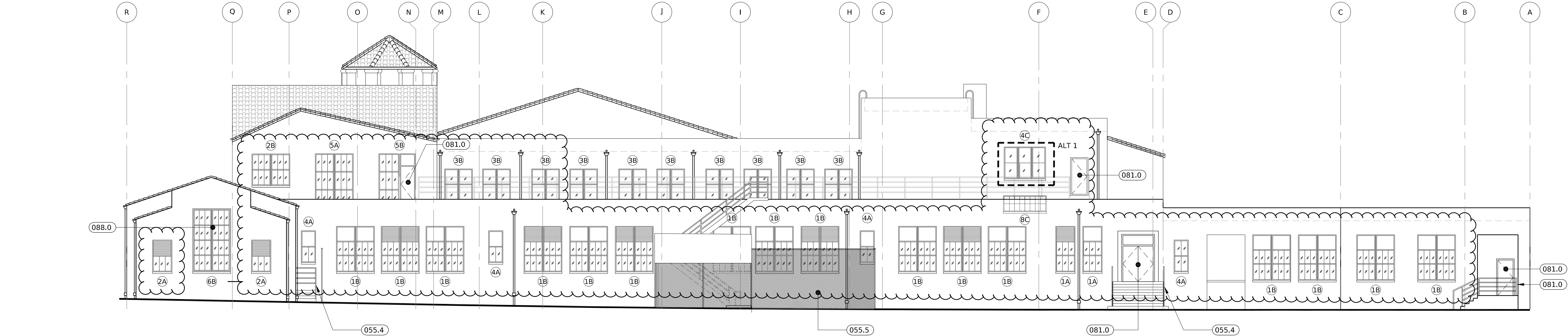
## Vicinity Map



Title Sheet and Drawing Index

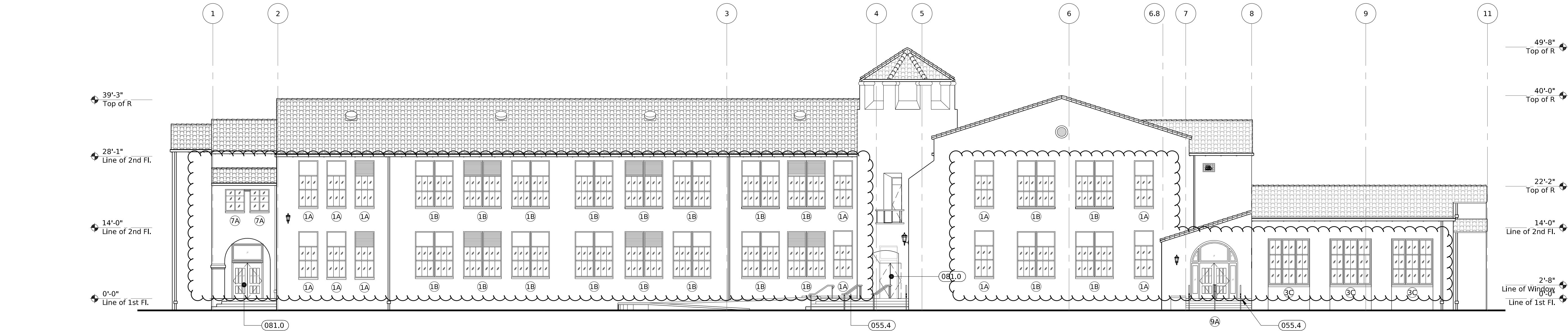
**A0.0**





South Elevation

3/32" = 1'-0" 2



West Elevation

3/32" = 1'-0" 1

Keynotes

(123.1) Keynotes are arranged by CSI section. Refer Specifications for additional information.

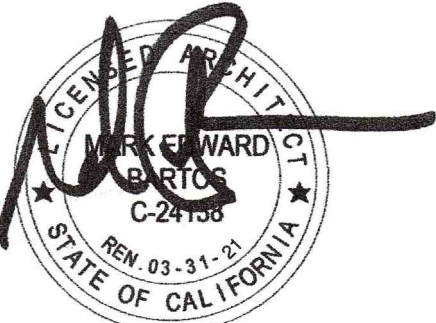
05 Metals  
055.4 (E) Metal railings  
055.5 (E) Metal fence

08 Openings (Doors/Windows)  
081.0 (E) Door frame and hardware to remain.  
088.0 (E) Window to remain

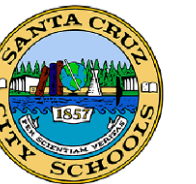
APPROVED  
DIV. OF THE STATE ARCHITECT  
APP. 01-118048 INC:  
REVIEWED FOR  
SS ☒ FLS ☐ ACS ☐  
DATE: 02/04/2020

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1730 S. AMPHLETT BLVD, SUITE 225  
SAN MATEO, CALIFORNIA 94402  
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Santa Cruz City  
Schools



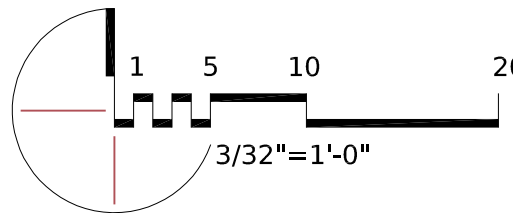
Mission Hill  
Middle School  
425 King Street  
Santa Cruz,  
California, 95060



Mission Hill  
Middle School

Roof Replacement

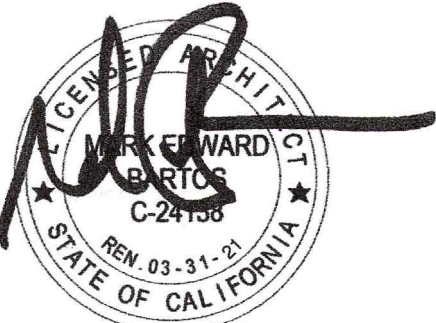
REVISION	DATE
DSA Submittal	3/1/2019
Bid Set	4/9/2019
DSA Backcheck	9/5/2019



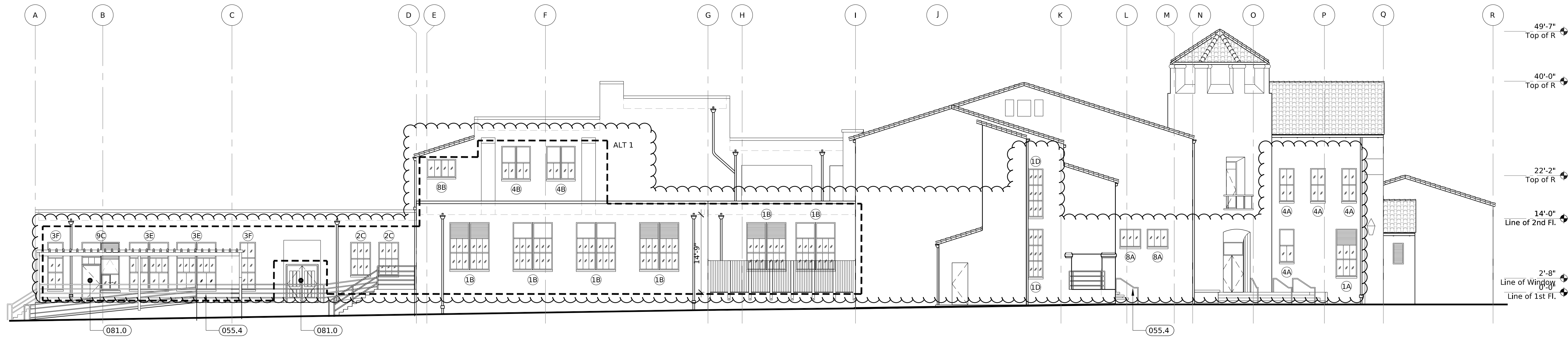
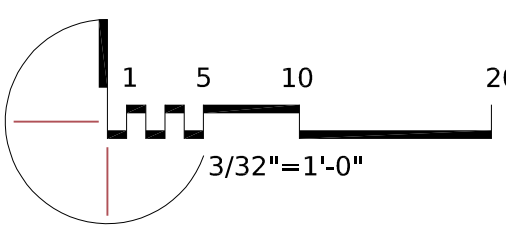
Main Building  
Exterior Elevations

AD5.1



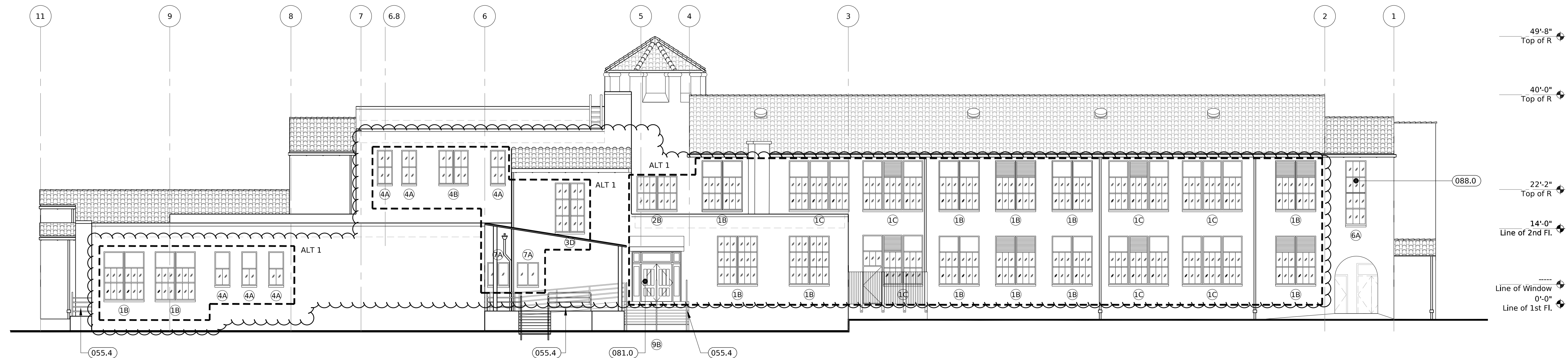


REVISION	DATE
DSA Submittal	3/1/2019
Bid Set	4/9/2019
DSA Backcheck	9/5/2019
Addendum 1	1/31/2019



North Elevation

2



East Elevation

1

## Keynotes

123.1 Keynotes are arranged by CSI section. Refer Specifications for additional information.

**05**  
055.4 (E) Metal railings  
055.5 (E) Metal fence

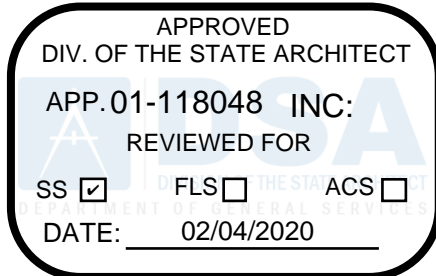
**08**  
081.0 (E) Door frame and hardware to remain.  
088.0 (E) Window to remain

**Openings (Doors/Windows)**



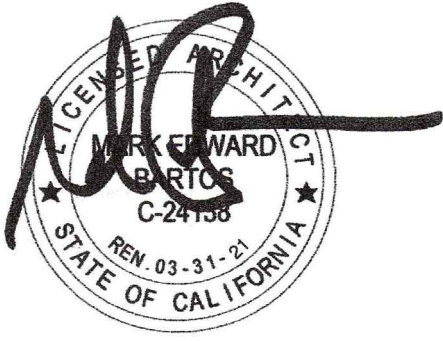
Window Notes

1. All existing doors shall meet the requirements of 2016 CBC sections 1008 and 118-404. Existing hardware indicated as to remain shall also meet these requirements. Contractor shall notify Architect of any conditions which arise which are not in compliance with applicable codes.
2. Manufacturer/Supplier shall coordinate all backing, cut-outs, jigs, and fittings for selected window hardware.
3. Contractor shall have the option to replace existing door frame at Contractor's discretion provided the new frame matches existing conditions and maintains the existing relationship to existing finishes.
4. All glazing shall be Impact Safety Rated shall pass the test requirements of CPSC 16 CFR 1201, Category I, and all other provisions of 2016 CBC Section 2406.
5. Refer to glazing and window specifications
- Natural ventilation calculation per CBC 1203.4.1  
Minimum 4% of floor area being ventilated
6. All glazing to be replaceable from the interior side where accessible. Outside glazing only at windows that are not accessible from the interior side.
7. Glazing tape shall be on the out facing side of the sash opening. Butyl tape shall be kept at 3/16" to 1/8" below sight line. A bed of clear silicone shall be applied to this outer face to ensure a watertight seal
8. Neoprene setting blocks shall be used on all glazing
9. Intergral type weather stripping shall be used (no push in type)
10. All aluminum windows shall be factory glazed to ensure adequate quality control. Field glazing option acceptable with district approval.
11. No putty glazing shall be installed.
12. Where partitions meet window mullions, the mullions shall align with the center of the existing partition. Contractor shall modify partitions as needed to install windows. See details 13 & 14 sheet A7.1 for existing conditions.
13. Fire protected glazing is not required for the scope of work in this project.
14. Install new manual roller shades at all new windows. See detail 2/AD1.0.



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Schools



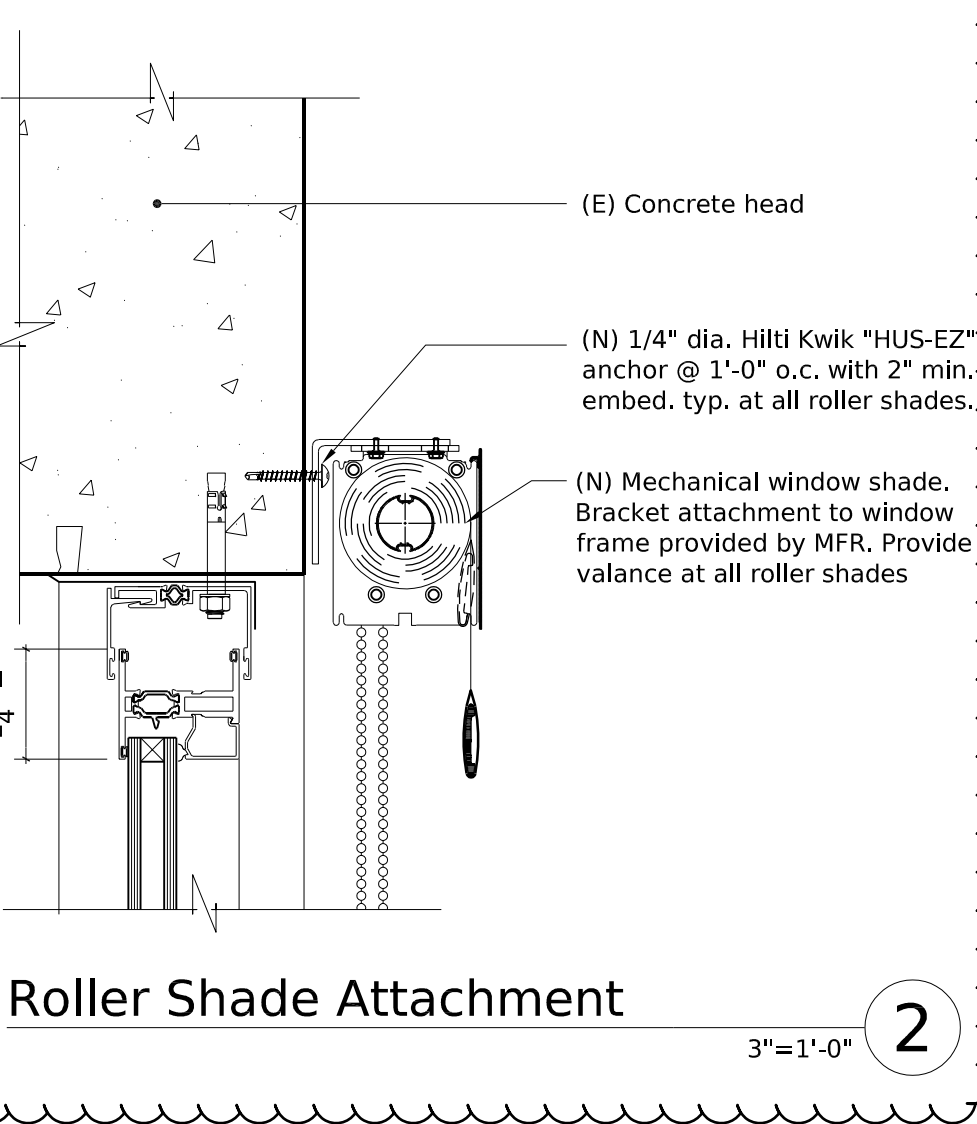
Mission Hill  
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425 King Street  
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Mission Hill  
Middle School

Roof Replacement

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Roller Shade Attachment

3"=1'-0"

2

Details typical all new windows.

10 A7.0

10 A7.0

9 A7.0

Details typical all new windows.

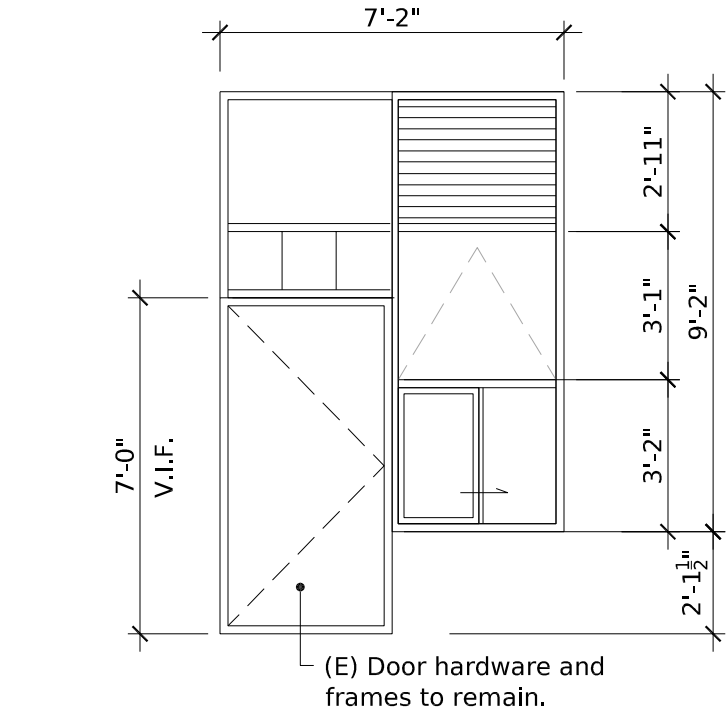
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1/4"=1'-0"

Opening Types  
and Details

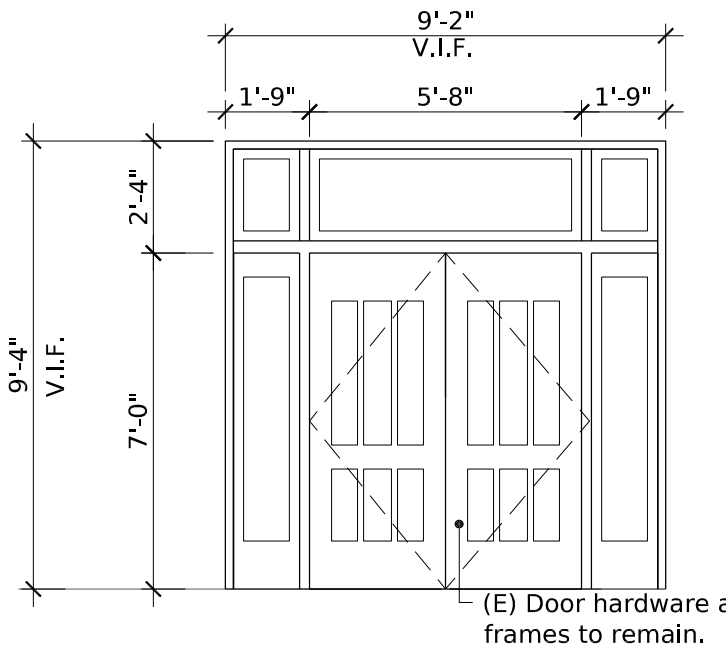
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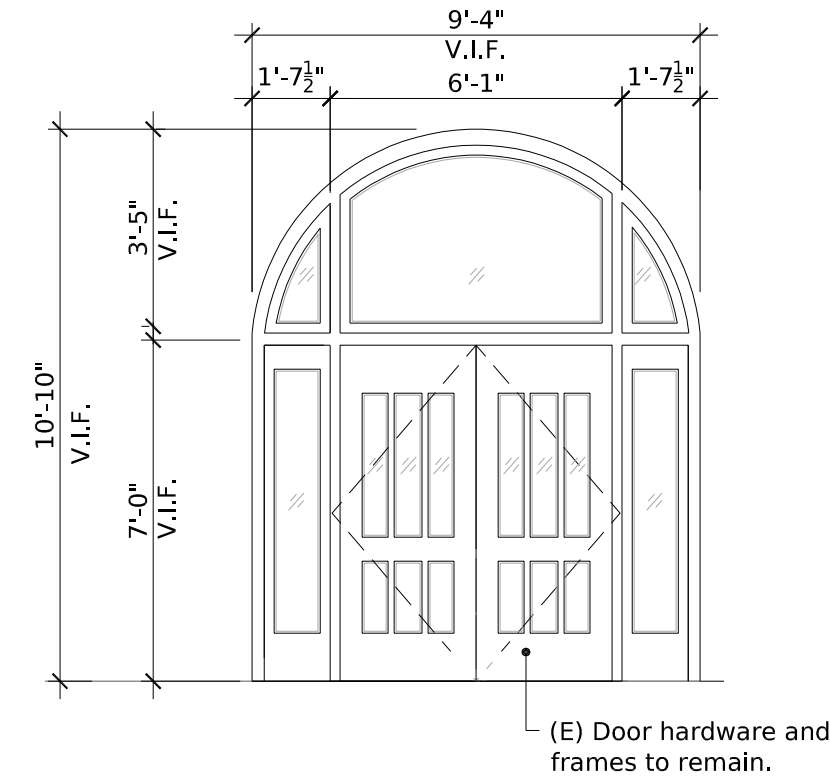
Door Type

9C



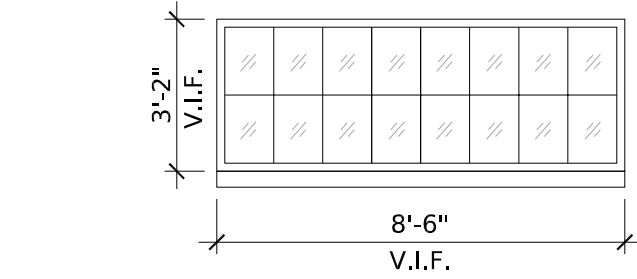
Door Type

9B



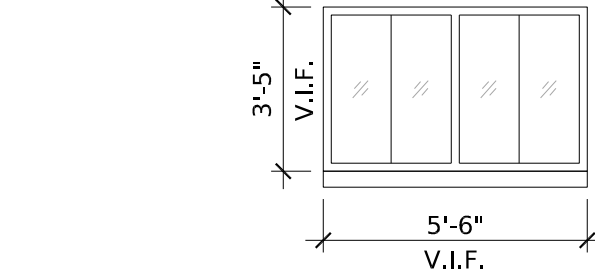
Door Type

9A



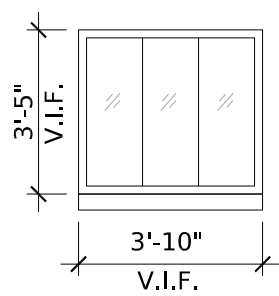
Window Type

8C



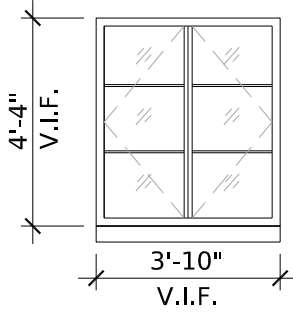
Window Type

8B



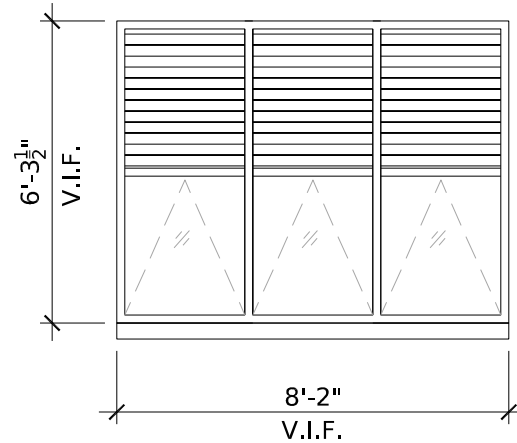
Window Type

8A



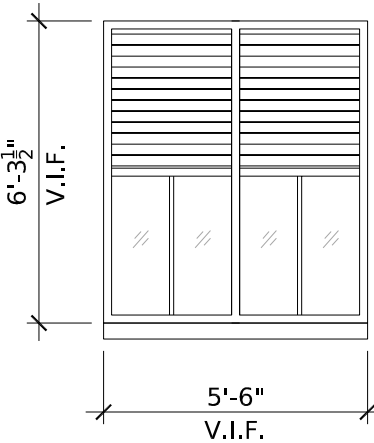
Window Type

7A



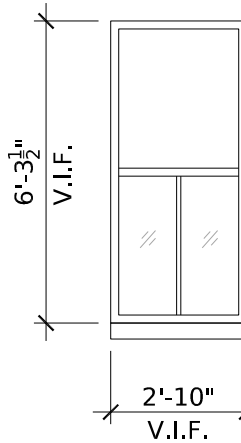
Window Type

4C



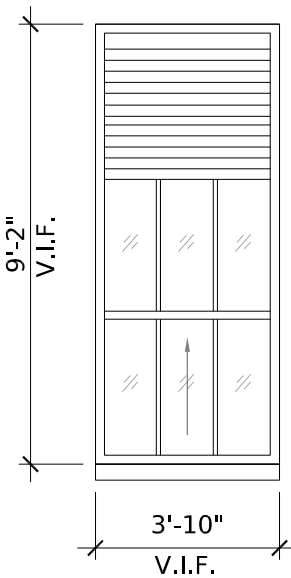
Window Type

4B



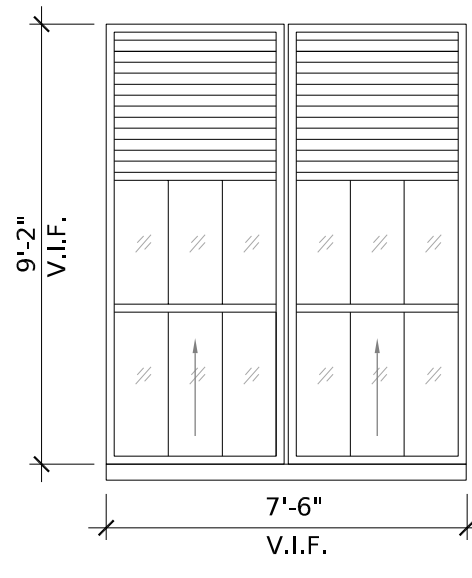
Window Type

4A



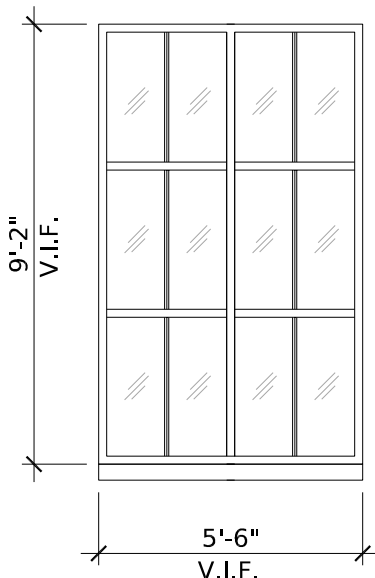
Window Type

3F



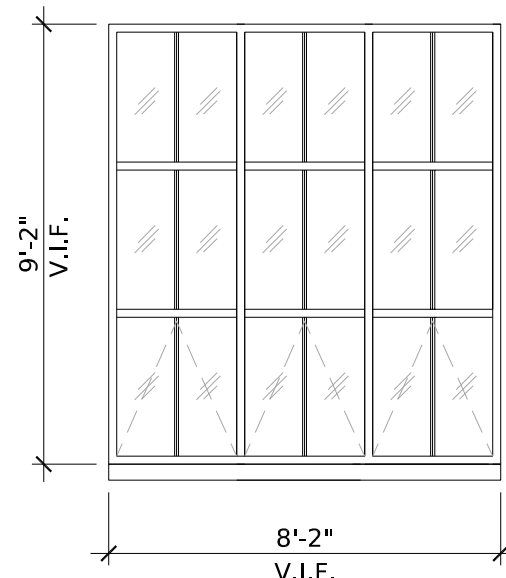
Window Type

3E



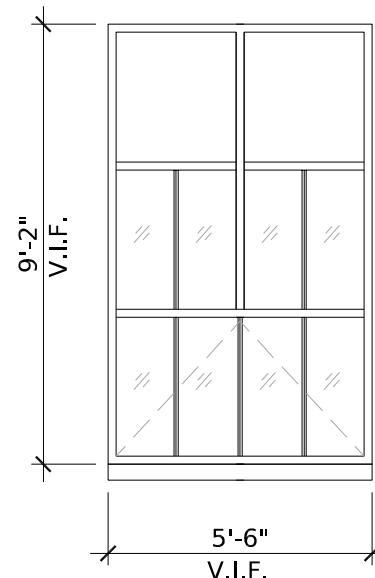
Window Type

3D



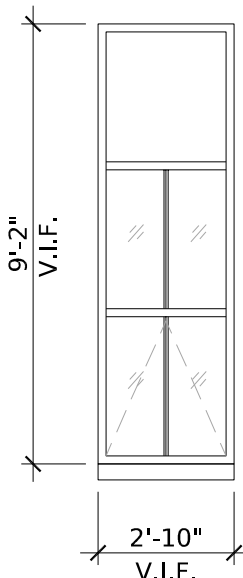
Window Type

3C



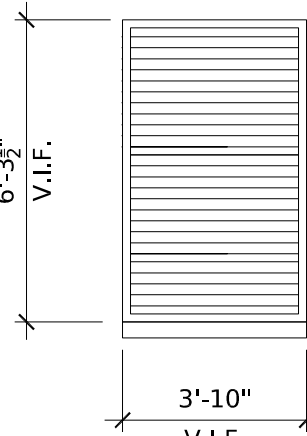
Window Type

3B



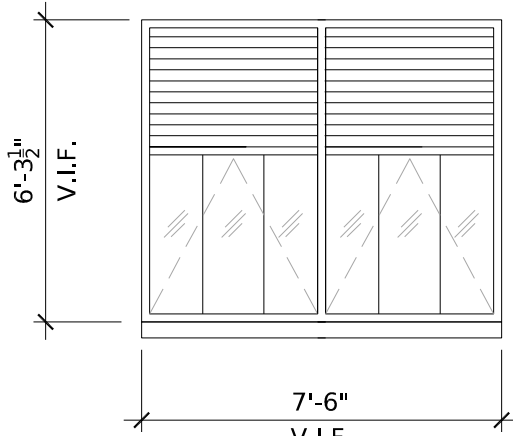
Window Type

3A



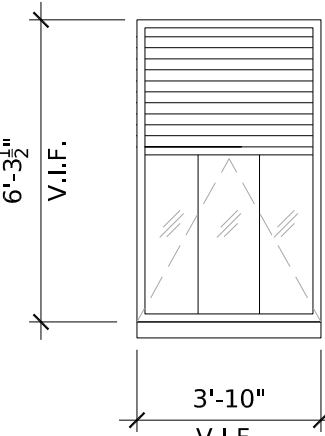
Window Type

2C



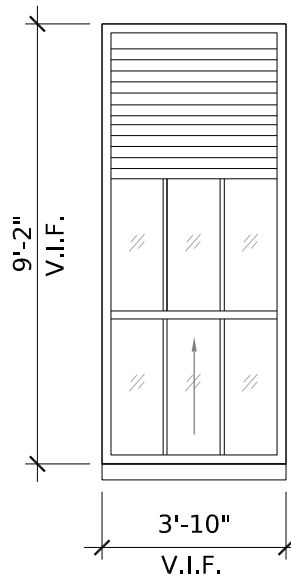
Window Type

2B



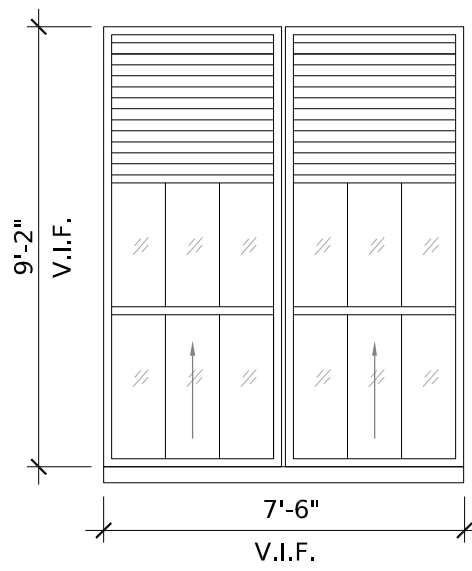
Window Type

2A



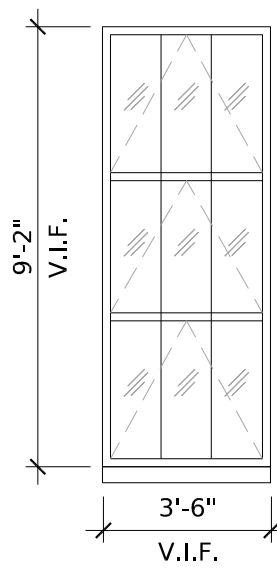
Window Type

1F



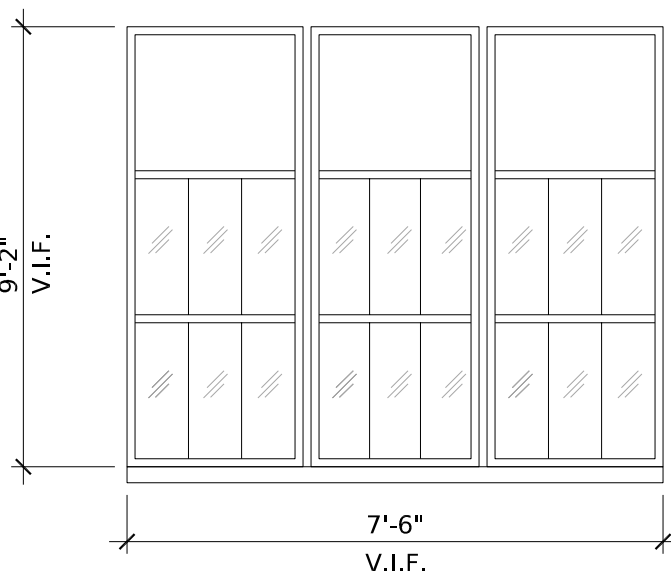
Window Type

1E



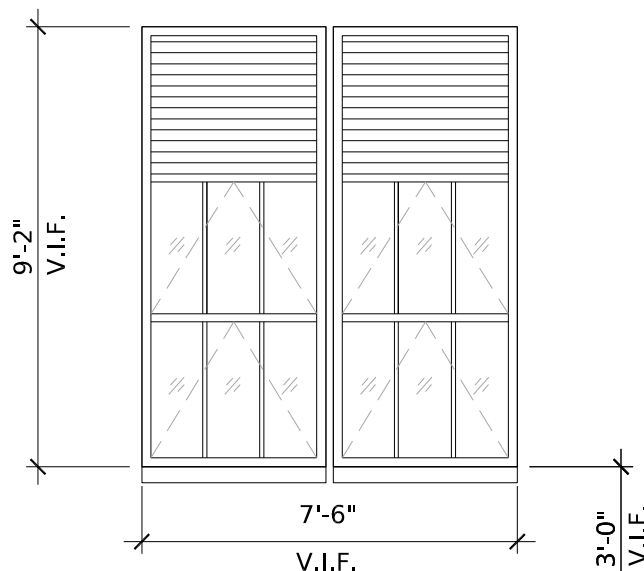
Window Type

1D



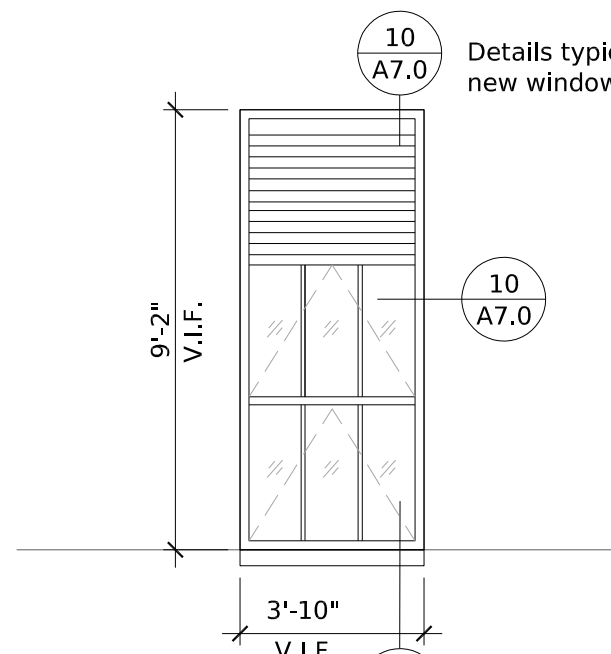
Window Type

1C



Window Type

1B

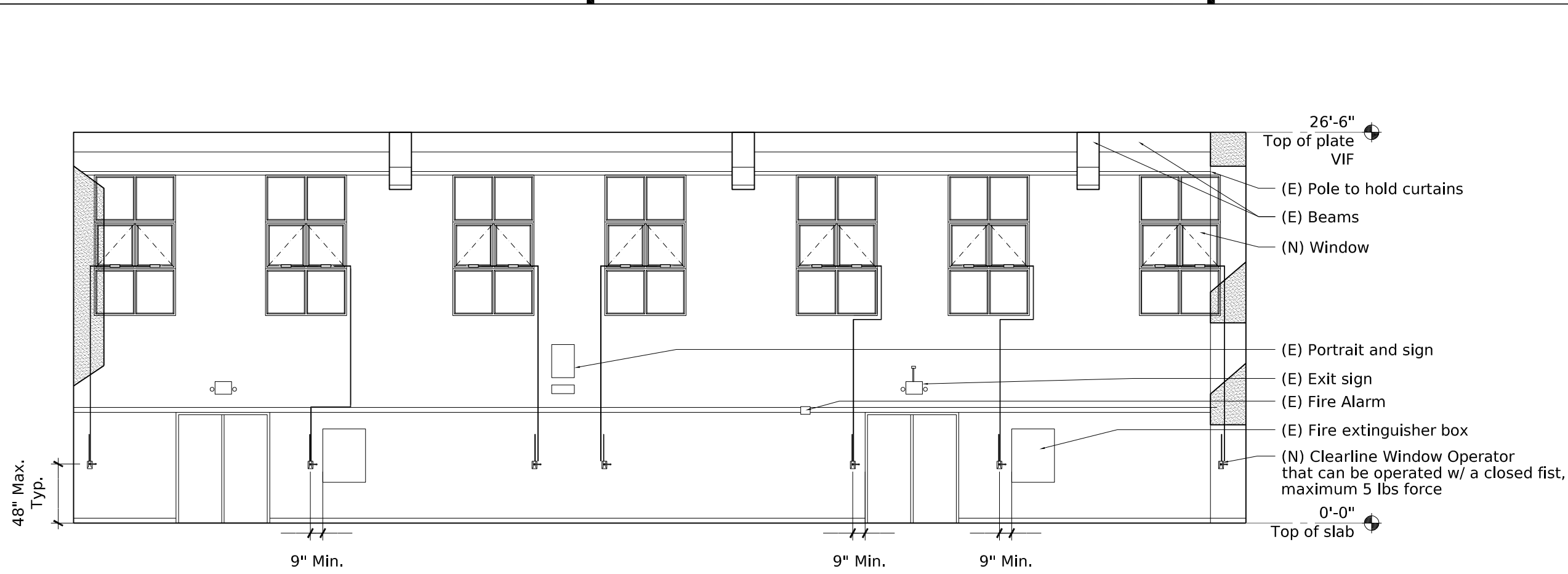


Window Type

1A

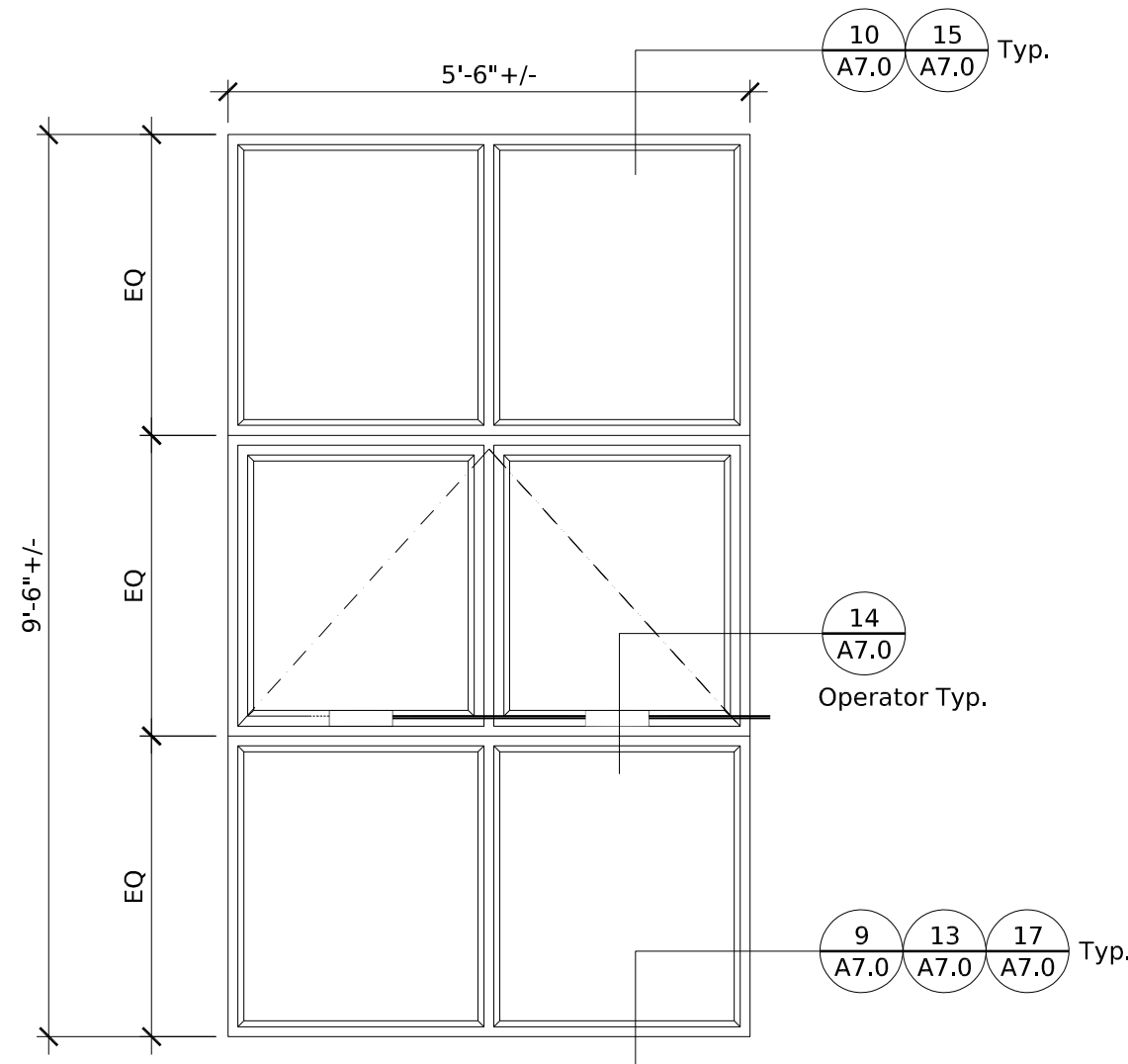
Window Types





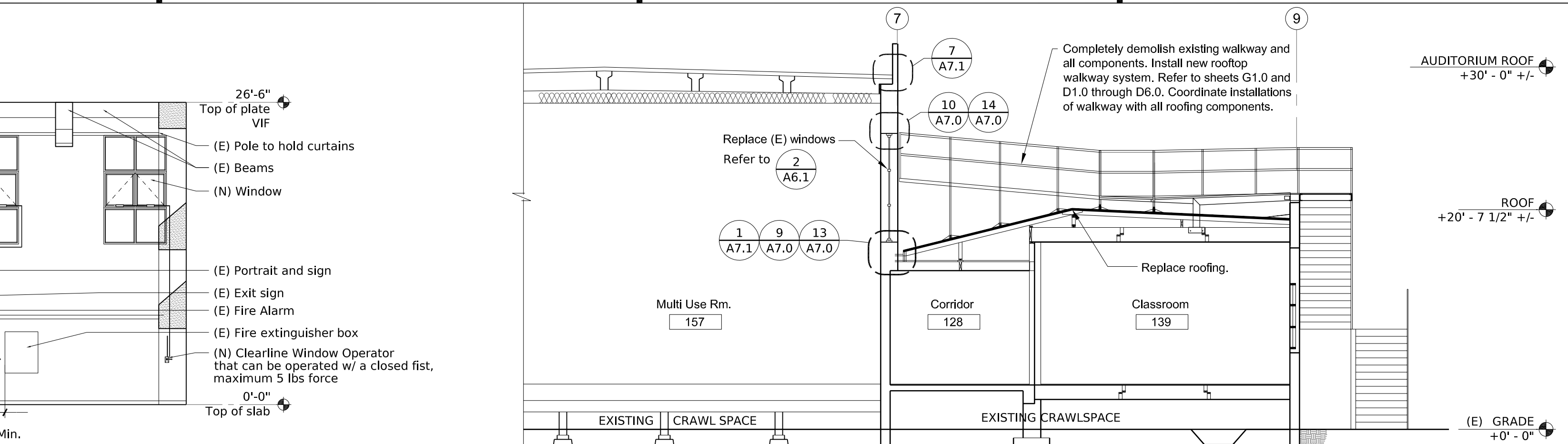
Building A - Multi-Use Room  
South Interior Elevation

1/8" = 1'-0" 5



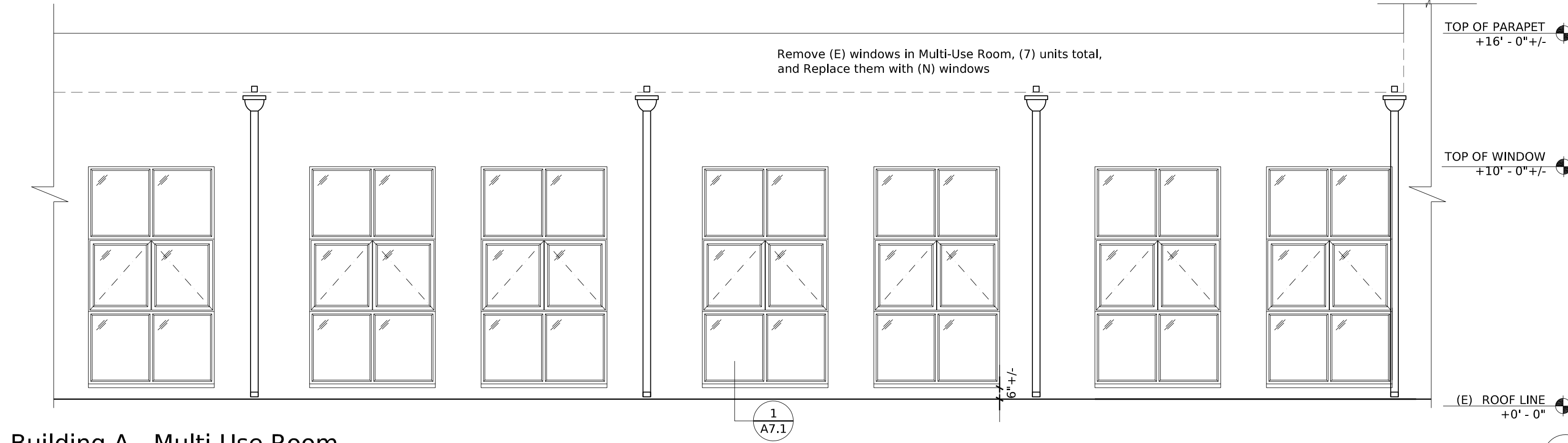
(N) Window Elevation  
South Interior Elevation

1/2" = 1'-0" 4



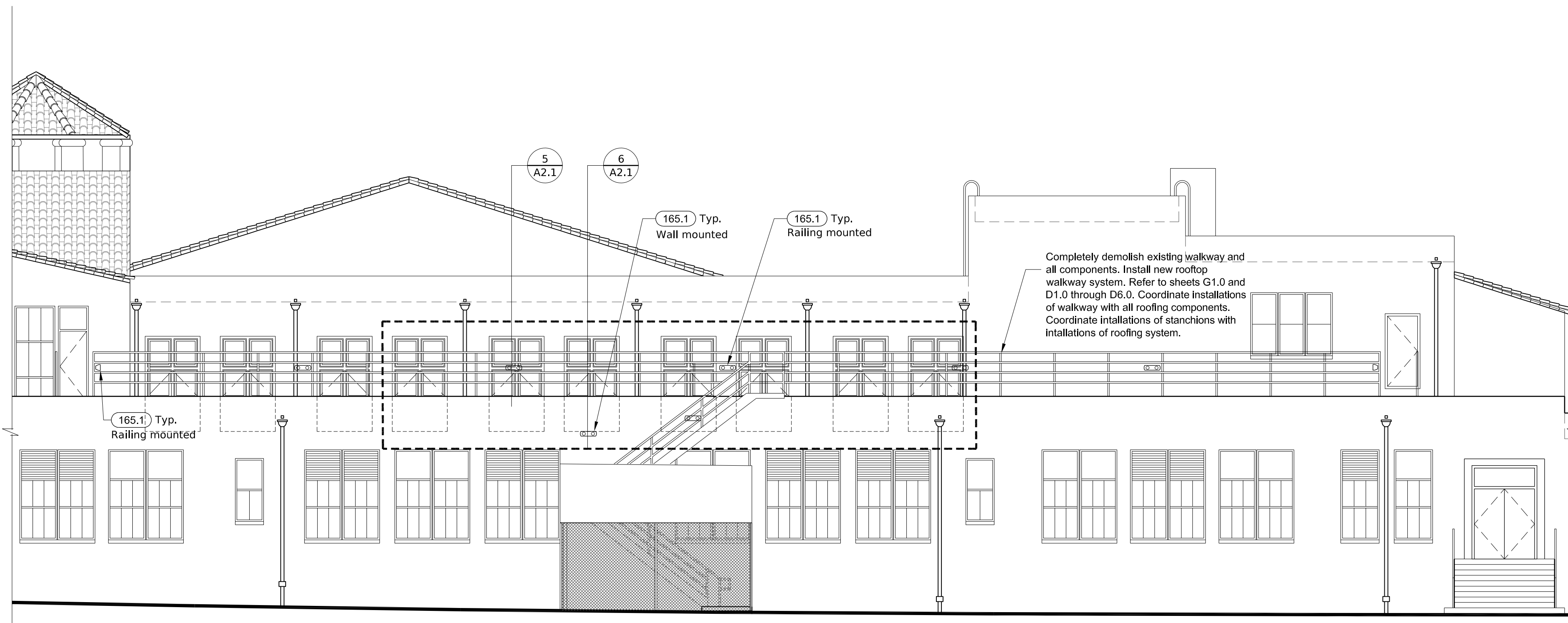
Building A - Walkway Section

1/8" = 1'-0" 3



Building A - Multi-Use Room  
South Exterior Elevation

1/4" = 1'-0" 2



Building A Partial  
South Elevation

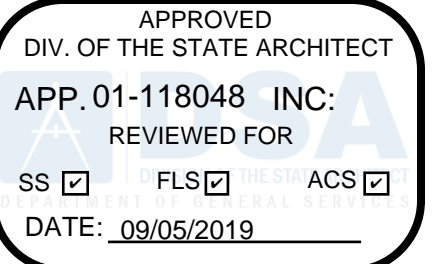
1/8" = 1'-0" 1

## Sheet Notes

- All dimensions given take precedence over scale. Contractor shall not scale drawing to determine dimensions without consulting the Architect. Contractor shall review all dimensions for accuracy prior to construction.
- Dimensions given as "CLR" are to face of finish. All other dimensions are to face of stud/structure unless otherwise noted.
- Contractor is fully responsible for coordinating all finish alignments.
- Mounting heights shown are intended to comply with all applicable codes. Mounting heights are measured from finished assemblies. Contractor fully responsible to achieve these mounting heights.
- Provide backing for all partitions, fixtures, equipment, and accessories as required.
- Refer to Demolition Plan for all items to remain, items to be salvaged and/or relocated.
- Refer to Structural, Mechanical, Electrical, and Plumbing drawings for additional information and requirements.
- Refer to Electrical drawings for location of light fixtures, switches, etc. Contractor shall coordinate framing to accommodate recessed fixtures and other items with critical locations.
- Contractor shall include all required concrete sawcutting and concrete repair for (N) underground plumbing and electrical work.
- Refer to Specifications for additional requirements.

## Keynotes

- |       |  |
|-------|--|
| 123.1 | Keynotes are arranged by CSI section. Refer Specifications for additional information. |
| (E)   | Existing, Protect in Place   |
| (D)   | Demolish and Remove  |
| (R)   | Remove and Relocate  |
| 05    | <b>Metals</b>  |
| 055.1 | Roof Ladder  |
| 06    | <b>Wood, Plastics and Composites</b>   |
| 061.0 | Roof Walkway. Protect in place   |
| 07    | <b>Thermal and Moisture Protection</b>   |
| 073.3 | Membrane Roofing System  |
| 074.0 | Metal Gutter   |
| 076.2 | Roof to Wall Flashing  |
| 076.9 | Pipe / Penetration Flashing  |
| 077.0 | Downspouts   |
| 077.1 | Roof Drain   |
| 077.3 | Roof Access Hatch and Guard-Rail   |
| 08    | <b>Openings</b>  |
| 083.0 | Chimney / Saddle   |
| 085.0 | Attic Door- Vented. Replace  |
| 086.1 | Skylight, see details 9 & 13 / A7.0  |
| 09    | <b>Finishes</b>  |
| 092.3 | Cement Plaster   |
| 099.1 | Paint  |
| 15    | <b>Mechanical / Plumbing</b>   |
| 150.0 | Mechanical Equipment. Refer to M1.0 for details.                                       |
| 151.0 | Rooftop Duct   |
| 151.1 | Rooftop Duct / Penetration. Refer to M1.0 for Mechanical detail.                       |
| 152.0 | Stack Vent   |
| 153.0 | Condensing Unit  |
| 154.0 | Exhaust Fan. Refer to 4/M1.0   |
| 154.1 | Gravity Vent   |
| 154.2 | Boiler Flue. Demolish at interior and exterior.  |
| 154.3 | Water Heater Flue. Refer to Mechanical.  |
| 155.0 | Smoke Vent   |
| 156.0 | Relief Vent, see detail 5/A7.1 & Mechanical drawings.                                  |
| 16    | <b>Electrical</b>  |
| 165.1 | Emergency Lighting Fixture   |



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**Santa Cruz City  
Schools**



Mission Hill  
Middle School  
425 King Street  
Santa Cruz,  
California, 95060



**Mission Hill  
Middle School**

Roof Replacement

REVISION	DATE
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Building A  
Exterior Elevation  
& Section

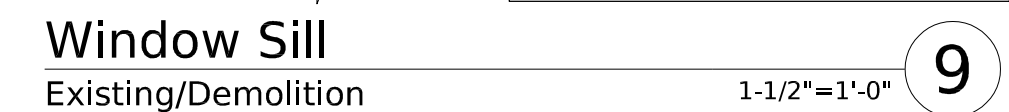
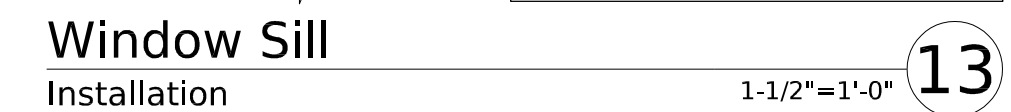
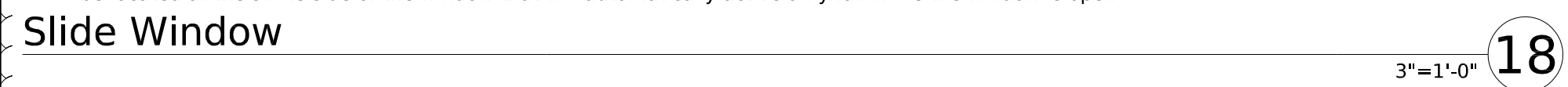
**A6.1**

BA 17-006.1





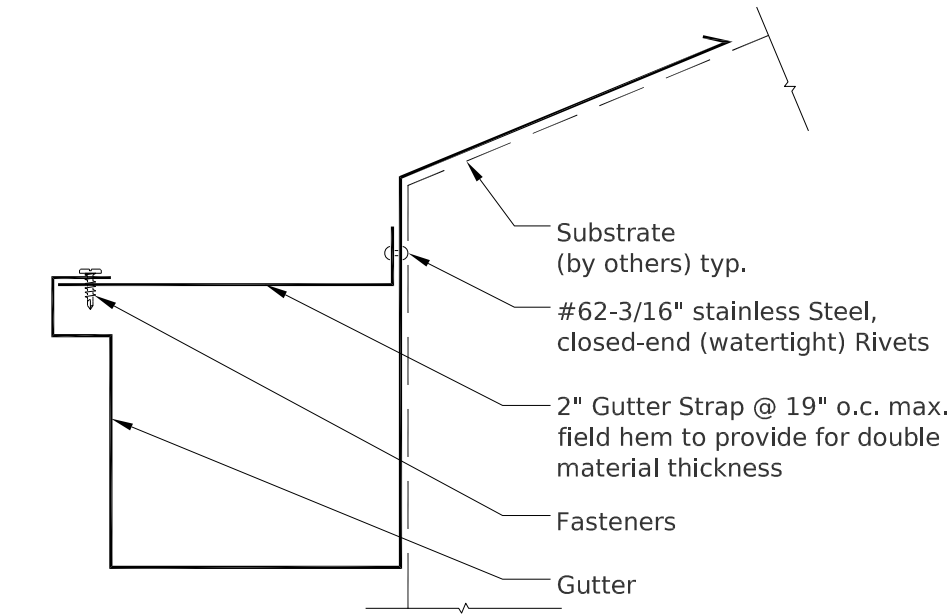




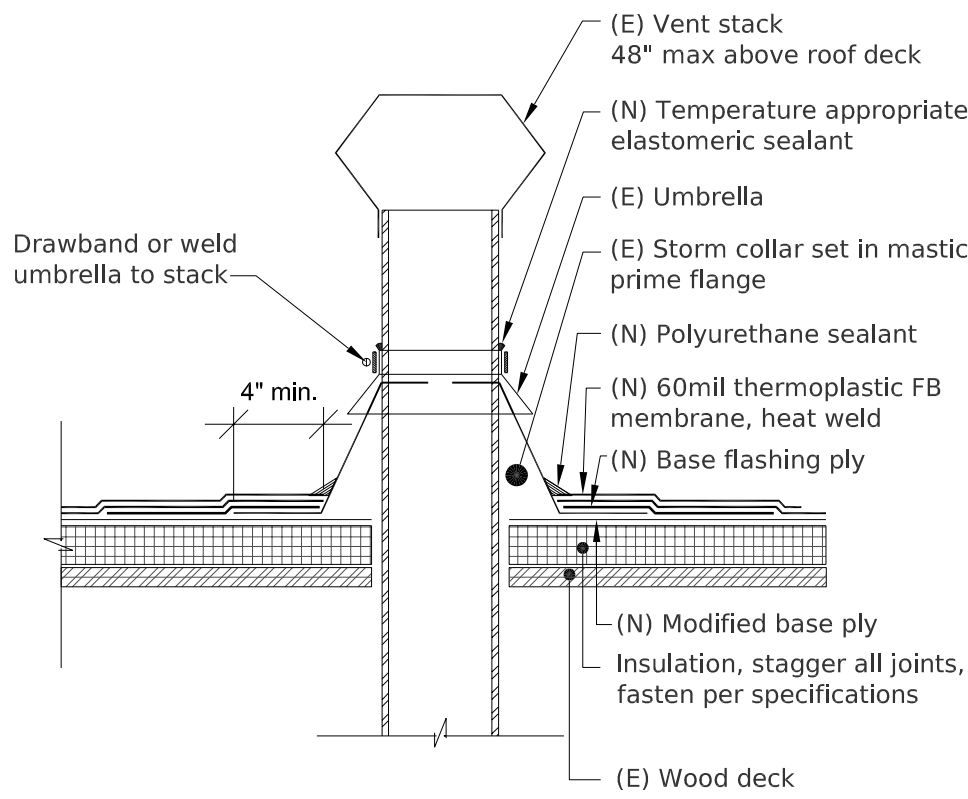
Not Used

A 17-006.1

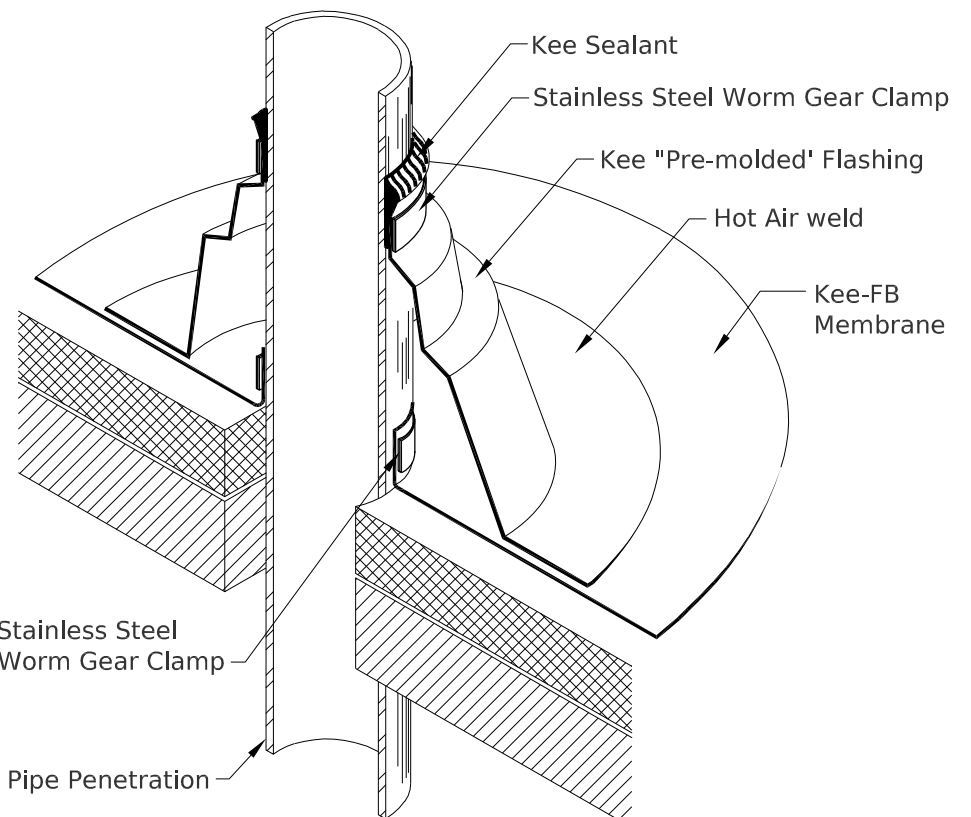




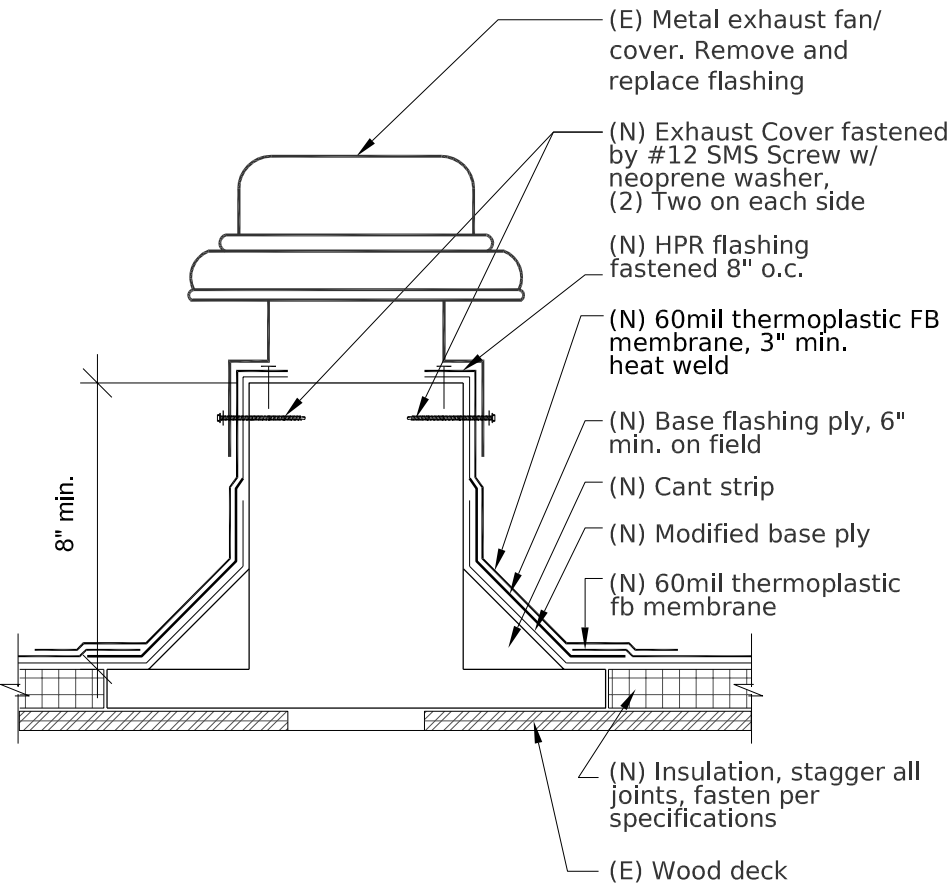
Gutter Detail  
All Sheet Metal per SMACNA



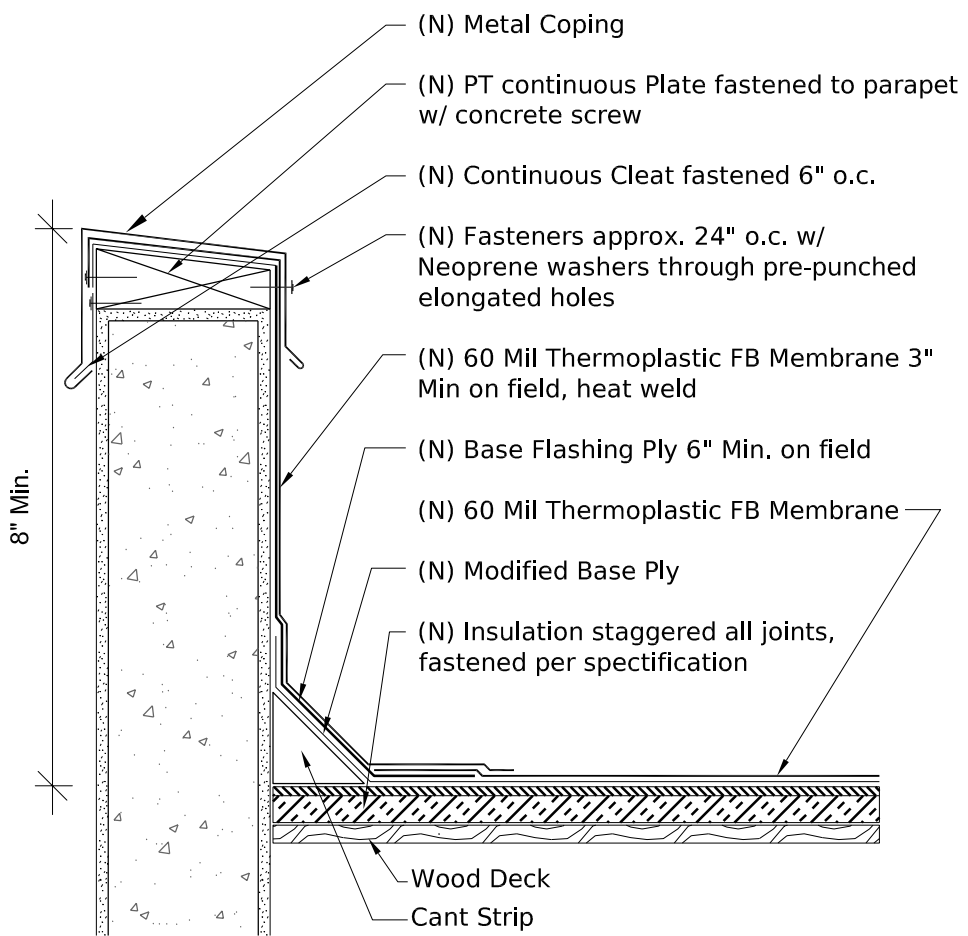
Vent Stack



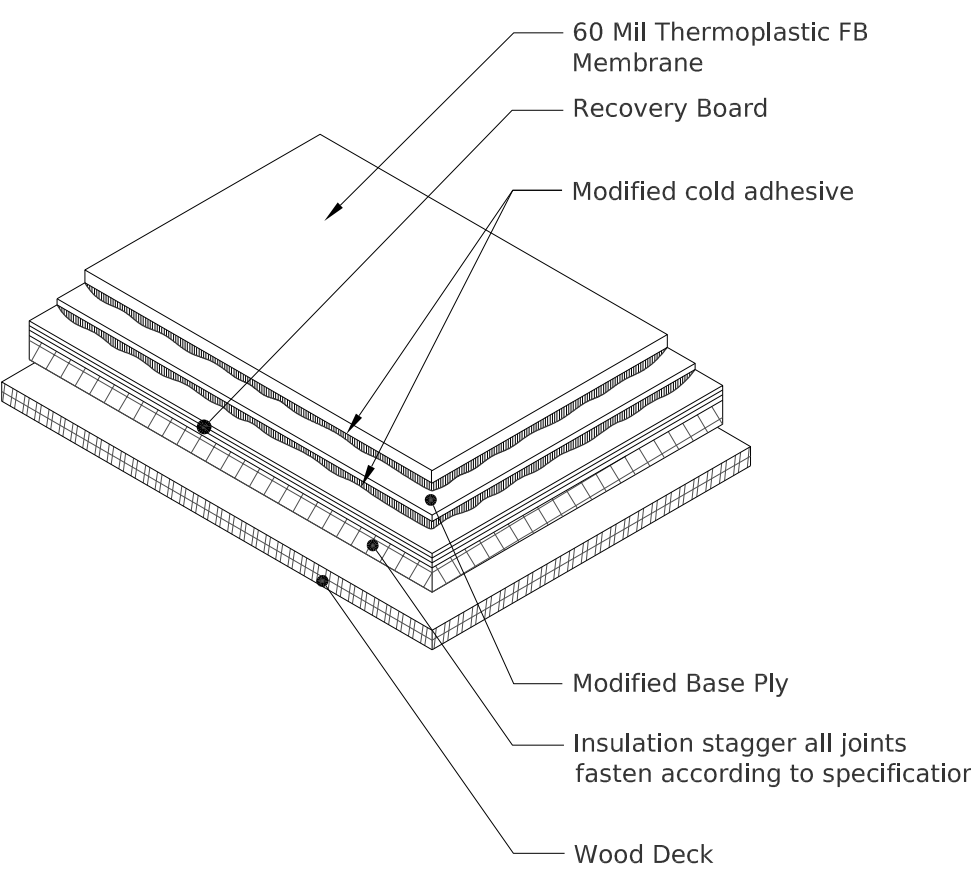
Pre-Form Pipe Flashing



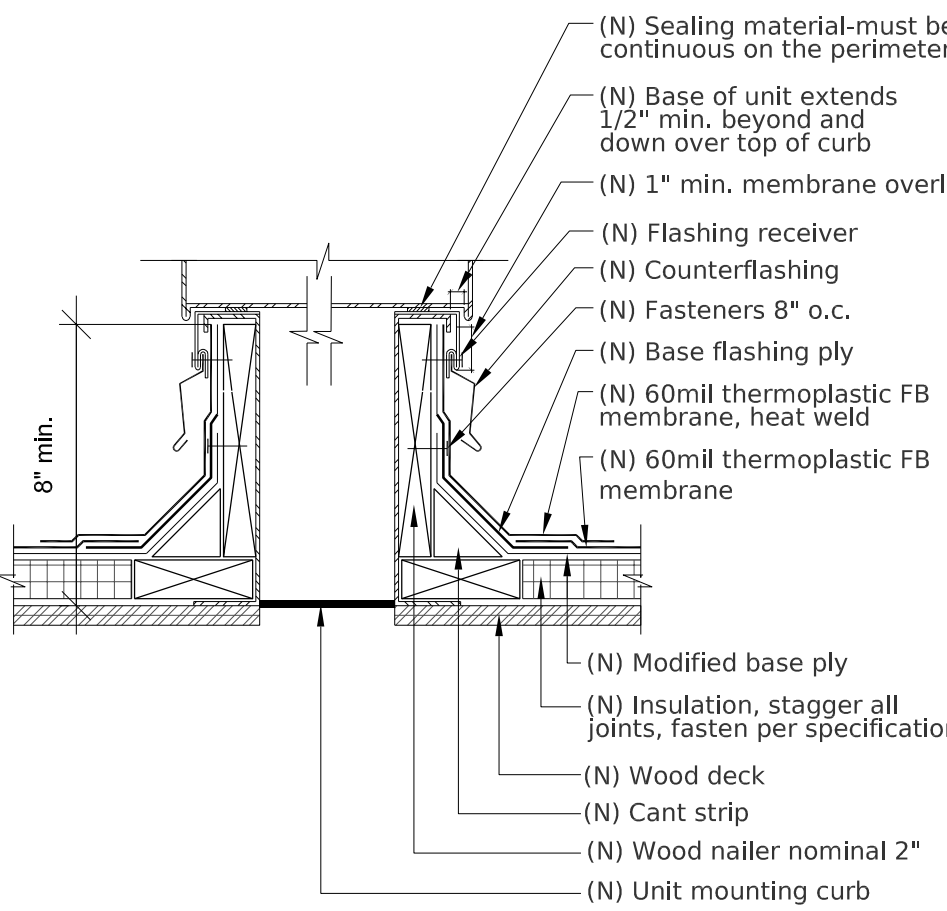
Exhaust fan



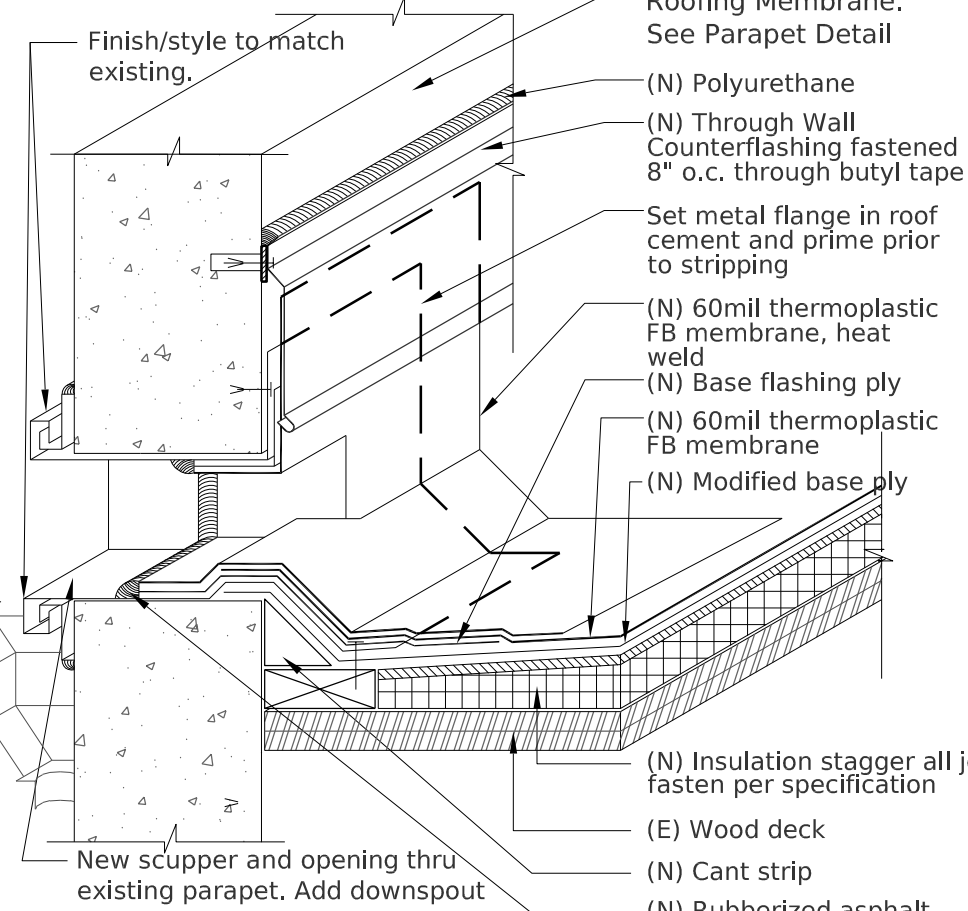
Parapet Coping Cap



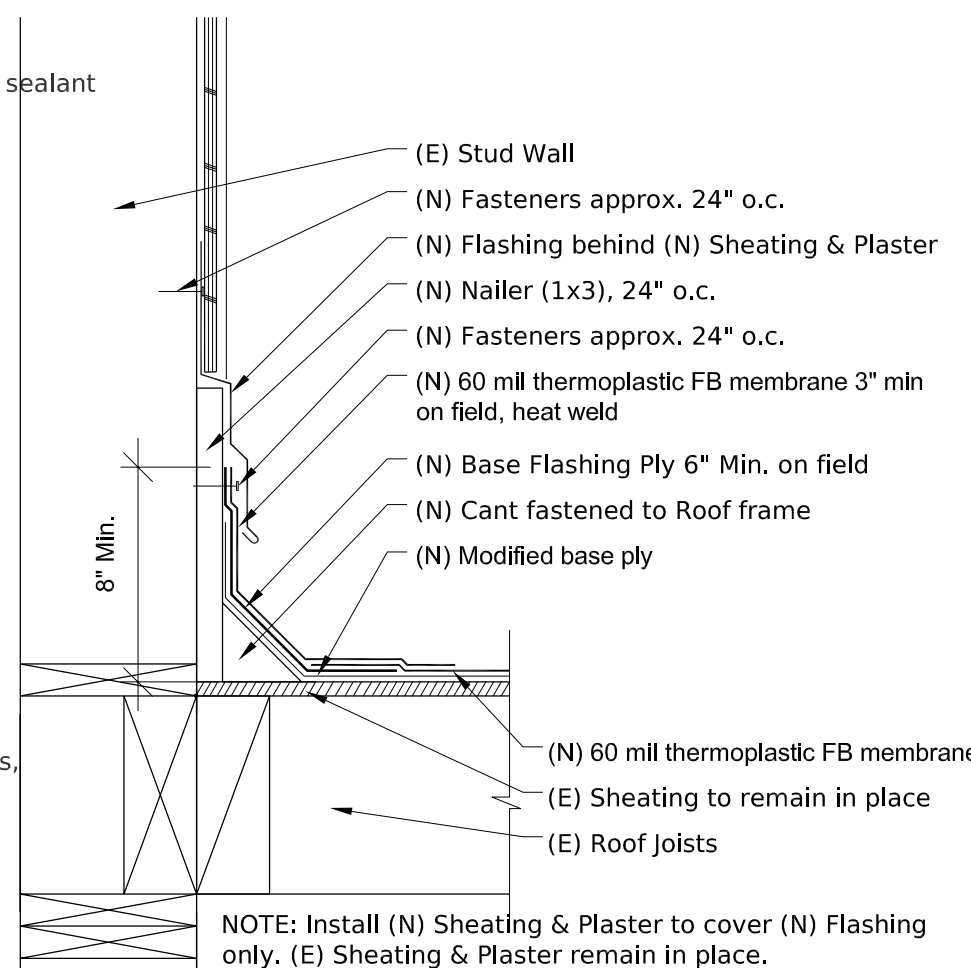
Typical Membrane



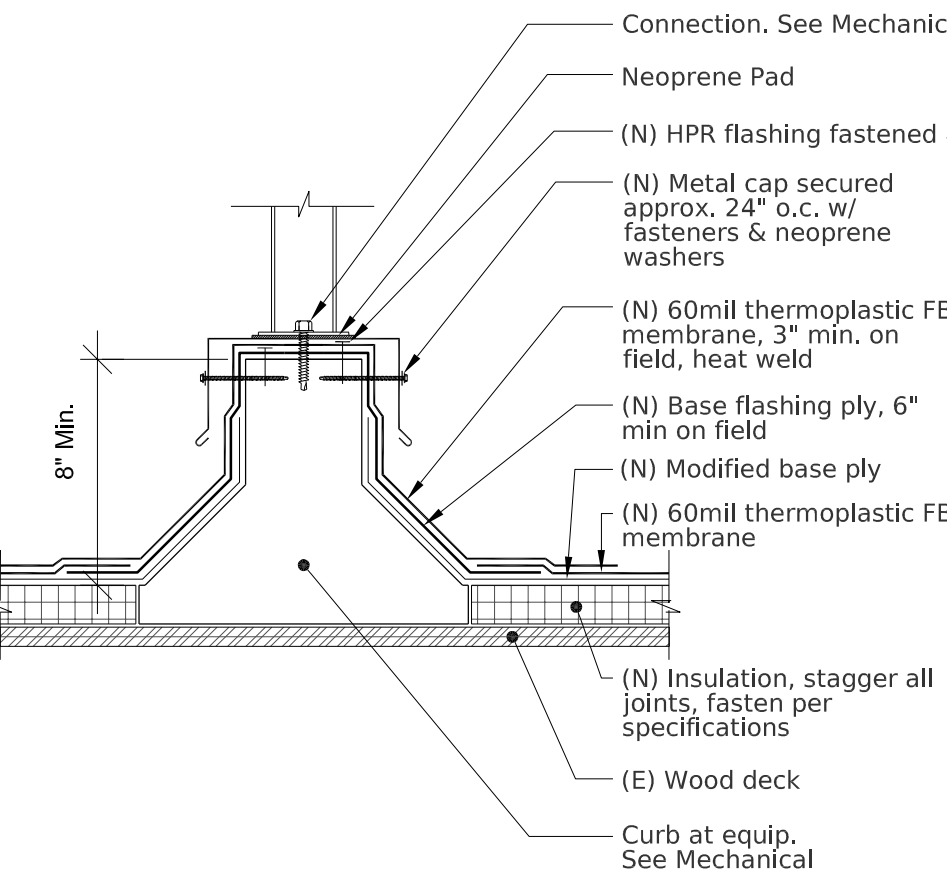
Mech Unit Curb Detail  
Installation



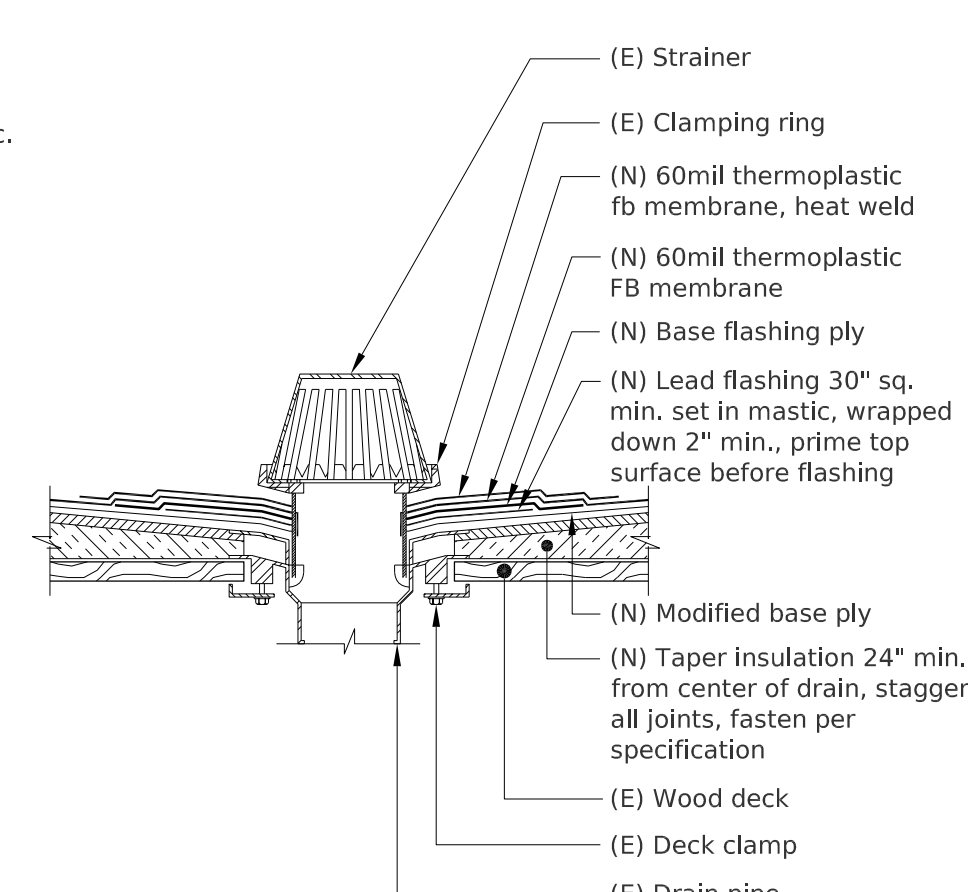
Scupper Overflow



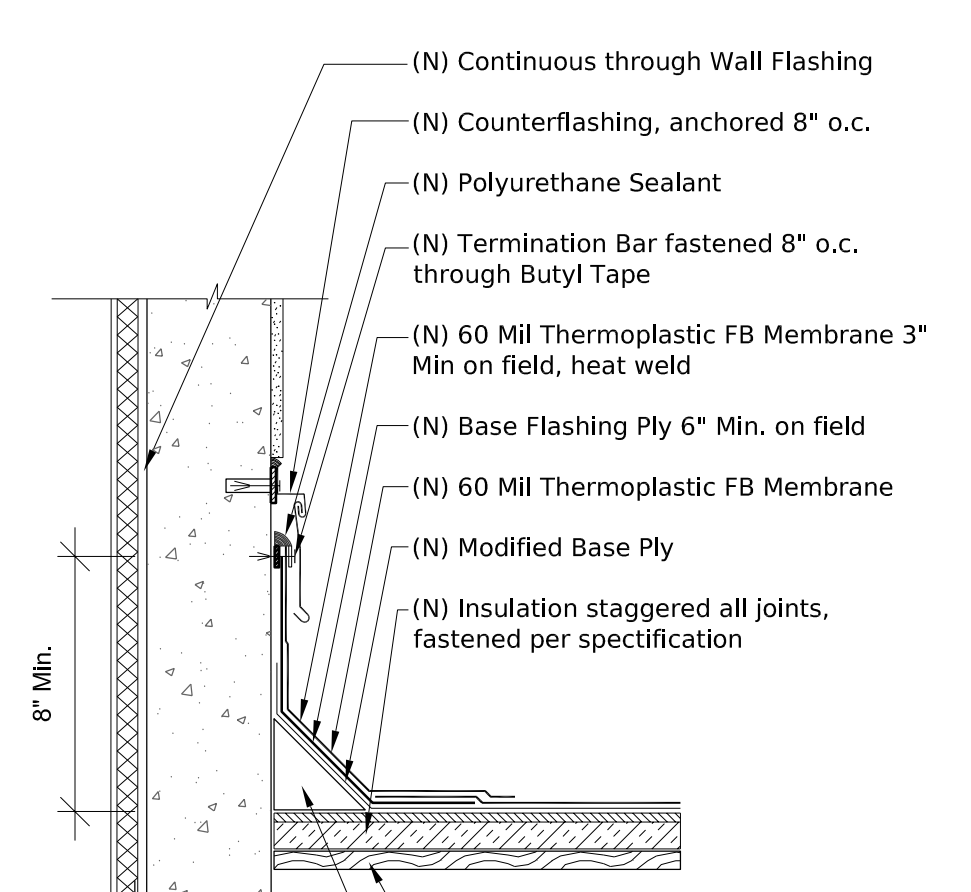
Flashing  
@ Corner of Wall and Flat Roof



Equipment Support



Roof Drains



Through Wall Counterflashing

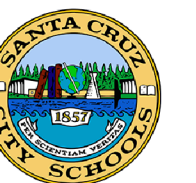
APPROVED  
DIV. OF THE STATE ARCHITECT  
APP. 01-118048 INC.  
REVIEWED FOR  
SS ☒ FLS ☒ ACS ☒  
DATE: 09/05/2019

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**Santa Cruz City Schools**



Mission Hill Middle School  
425 King Street  
Santa Cruz, California, 95060



**Mission Hill Middle School**

Roof Replacement

REVISION	DATE
DSA Submittal	3/1/2019
Bid Set	4/9/2019
DSA Backcheck	9/5/2019

Details  
**A7.1**



Mission Hill Middle School  
Santa Cruz, CA  
Report No. 1  
Rooftop Walkway  
Cusomter: Bartos Architecture

Design Criteria

- 1)Building Code: CBC 2016; IBC 2015  
Building Zip Code Building Height:  
2) Specifications: N/A  
3)Seismic Design Loads:  
A) Component Importance Factor, Ip= 1.5  
B) Occupancy (Risk) Category: III  
C) Seismic Design Category (SDC): D  
D) Site (soil) Class: D  
E) Spectral Response Acceleration (0.2sec)Ss =1.5 ; (1.0sec)S1=0.6  
F) Site Coefficient Fa= -- ; Site Coefficient Fv= --  
G) Design Spectral Acceleration (0.2sec)Sds =1 ; (1.0sec)Sd1=0.6  
4) Wind Loads:  
A) Wind Speed (mph): 115  
B) Exposure Category: C  
5)Live Loads: 40psf (grating) 200lb concentrated handrail  
6) Snow Loads: --

GENERAL NOTES AND SCOPE

- 1)The following report has been reviewed for compliance with the applicable building code, specifications, and accepted engineering practice for support and attachments of components within PSD Scope on the equipment listed in Table 1 scope and Drawing Index. Support design and locations have been reviewed for items listed in scope Table by Petra Seismic Design, LLC (PSD). PSD has reviewed only items included in scope in Table 1. PSD review does not include any component or system that is not expressly included in the scope .  
2) The registered design professionals for Mechanical, Electrical, Plumbing, Fire and Structural are responsible for their pertinent design scope and related operational, and thermal loads. This review does not cover building structure design, air or water conditioning or filtering, or building air/vapor/moisture envelope. This report does not cover electrical or pipe system design for flow, heat transfer, venting, pumping or other hydraulic or electrical needs.  
3)This report, referenced drawings, and/or comments shall not be construed as directing the contractor from complying with project plans and specifications, nor departures there from. The contractor remains responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for field layout verification for fabrication processes, for techniques of assembly, and for performing work in a safe manner.  
a. Furnish and install in compliance with legally constituted public authorities having jurisdiction including county and local ordinances and safety orders of State Industrial Accident Commission, OHSA, PSD, and Owner accept no responsibility for the contractors failure to comply with these requirements.  
4) All attachments to the building structure must be coordinated with and approved by the Structural Engineer of Record.  
5)Typical Details: Details on sheets are applicable throughout Project wherever the described condition occurs and may or may not be specifically referenced on PSD drawings. Contractor is responsible for identifying these details and understanding extent of their application prior to performing Work. Details not shown or noted shall be similar to those shown for similar construction. Contractor shall submit RFI's for details in question prior to proceeding with work.  
6) Details in this report are based only on information received prior to the drawing date. Some details may provide multiple options, where field conditions are unknown. Field Verification: Field verify existing conditions and dimensions prior to construction. Promptly notify PSD in case of discrepancies. See notes under "FOR REVIEW PRIOR TO CONSTRUCTION"

For review prior to construction

1. PSD has developed support locations and size per this report based on customer supplied documents. Only items listed in the scope are included. Some details may provide multiple options where field conditions may vary. If the actual system or geometry does not work with the proposed bracing, psd must be notified. Advise if there are any field elements or structure that prohibit support as layed out in this report.  
2. Contractor must review the report drawings and field verify information including, but not limited to the following:  
\_\_\_\_system geometry & orientation \_\_\_\_\_pipe/duct/distribution system sizes  
\_\_\_\_support methods (rods, clams, cable, etc.) \_\_\_\_\_wall penetrations used as lateral restraint  
\_\_\_\_any obstruction preventing shown installation \_\_\_\_\_other \_\_\_\_\_  
\_\_\_\_ceiling substrate (concrete, steel, open joist, sheet metal deck, etc.)  
(field variations of supports +/- 1 feet are allowed and may be ignored with no affect on final approval)  
3. Any field variation must be sent to PSD for review of affect on support system.  
4. Clearly mark any changes on the drawing. Mark any areas to put on hold

Special Inspection

- 1) Contractor shall coordinate as needed with inspection agency retained by owner to perform Special inspections required by code, specification or items listed herein.  
2)Post installed concrete anchors shall have special inspection as required per anchor manufacturers ICC-ES report & CBC Table 1705A.3, Item 4.

Installation

- 1) Closely follow all manufacturers instructions and referenced ICC-ES evaluation reports or other Accredited Listing product evaluation report.  
2) Torque anchors and fasteners to values specified by manufacturers instructions.  
3) Welding: Shall be per AWS D1.1 and applicable code

Support/restraint Materials

Strut: ASTM A1011 or A570 33,000 psi min. yield and shall be hot-dip galvanized in accordance with ASTM A123 or A153.  
Cold Formed Steel: ASTM C955 Gr.33 at 18ga and 20ga; ASTM C955 Gr.50 at 16ga or thicker  
Strut Fittings, clamps, channel nuts: ASTM A1011, A1018, A575, A576, A635, A675 Gr60 or A36, 33,000 psi min. yield and shall be hot-dip galvanized in accordance with ASTM A123 or A153.  
Standard bolts (min. unless otherwise called out):ASTM A307, SAE J429-Gr.1  
Nuts: ASTM A563, Gr.A; Washers: ASTM A436  
Welding Electrodes (Filler Metal): E60XX (60 ksi), unless indicated otherwise. Provide filler metal with sharp V-notch toughness of 20 ft/lbs average at -20 degrees Fahrenheit at complete penetration welds.  
Joist Lumber connectors: ASTM A653, ASTM A875, ASTM A792, OR ASTM A463, Sawn lumber, structural glued laminated, engineered lumber, min. s.g.=0.5, max moisture 19%.  
Nails: ASTM F1667, min 90Ksi, sized as indicated in drawings, mfg. instructions, or ESR report.

Existing Building Structural

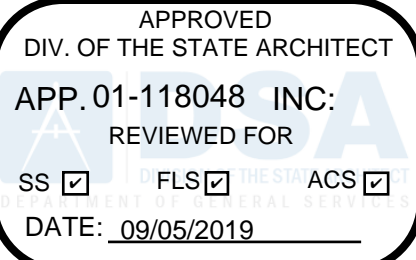
Construction shall be constructed in accordance with the Structural Engineer of Record, applicable building code, and NDS 2015. Structural lumber shall conform to the following min. standards:  
No. 1 Common Lumber

Quality Assurance

- 1)Each contractor responsible for the construction of a wind or seismic force-resisting system shall submit a written statement of responsibility to the building official and the owner prior to commencement of work on the system in accordance with the requirements of local building code.  
2) Contractor to provide evidence of quality assurance and installation inspection as indicated in project specifications, and a submit a certificate of compliance to the building official at the completion of fabrication stating that the work was performed in accordance with the approved construction documents.  
3) Contractor shall coordinate as needed with inspection agency retained by owner to perform inspections required by code, specification or items listed herein.  
4) Prefabricated support or brace elements shall be by an approved manufacturer, who shall submit product information and certify product ratings in compliance with project specifications, the building code and relevant standards.

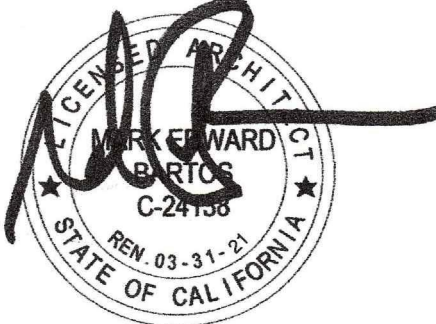
Anchorage and fastening to building structure

- 1) See "Support/Restraint Materials" for minimum material requirements.  
2) All supplemental welding or drilling to structure must be approved by the structural engineer of record.  
Capability of structural element to withstand applied load must be verified by the structural engineer of record  
3) Anchors ratings are base on Dewalt/ powers SD1/2 anchors or Hilti KBTZ per the latest ICC-es report in compliance with ACI 318. No substitutions without prior PSD approval.  
4) Standard bolts (min. unless otherwise called out):ASTM A307, SAE J429-Gr.1, Nuts: ASTM A563, Gr.A  
5)Standard holes for bolted connections shall be limited to 1/16-inch larger in diameter than nominal bolt diameter, unless noted otherwise. Holes for anchor bolts or equipment mounting may be oversized 1/8" or per AISC 360-10 Table C-J9.1.



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425 King Street  
Santa Cruz,  
California, 95060



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**Mission Hill  
Middle School**

Roof Replacement

REVISION	DATE
DSA Submittal	3/1/2019
DSA Backcheck	9/5/19

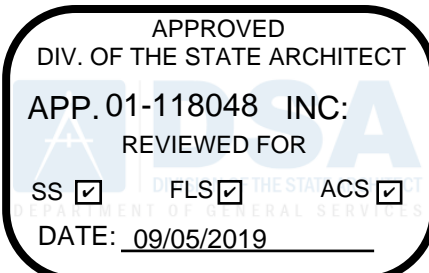
Drawing Index			
Petra Drawings			
Dwg No.	Rev	Date	Drawing Title
G-1.0	1	8/26/2019	General Notes
D-1.0	1	8/26/2019	Roof Walkway Layout
D-2.0	1	8/26/2019	Isometric and Elevation View Details
D-3.0	1	8/26/2019	Section Details
D-4.0	1	8/26/2019	Section Details
D-5.0	1	8/26/2019	Typical Attachment Details
D-6.0	1	8/26/2019	Typical Attachment Details

Title Sheet and  
Drawing Index

G-1.0



Plan Notes:  
1. See G-1.0 for general notes  
2. Verify in field all existing framing, dimensions, conditions, etc.  
3) See D-5.0 for brackets, PHP support, and stanchion details  
4) Supports that interfere with drains or other existing items on the roof may be shifted +/-12" without exceeding a maximum grating span of 48".  
5) Typical framing members for the walkway are specified on D-3.0 to D-6.0  
6) Existing building framing members consist of 2x6 rafters @24" O.C under (E) 1x6 T@G Sheathing.  
7) All materials used for new walkway (including added handrails) weigh less than existing walkway materials.



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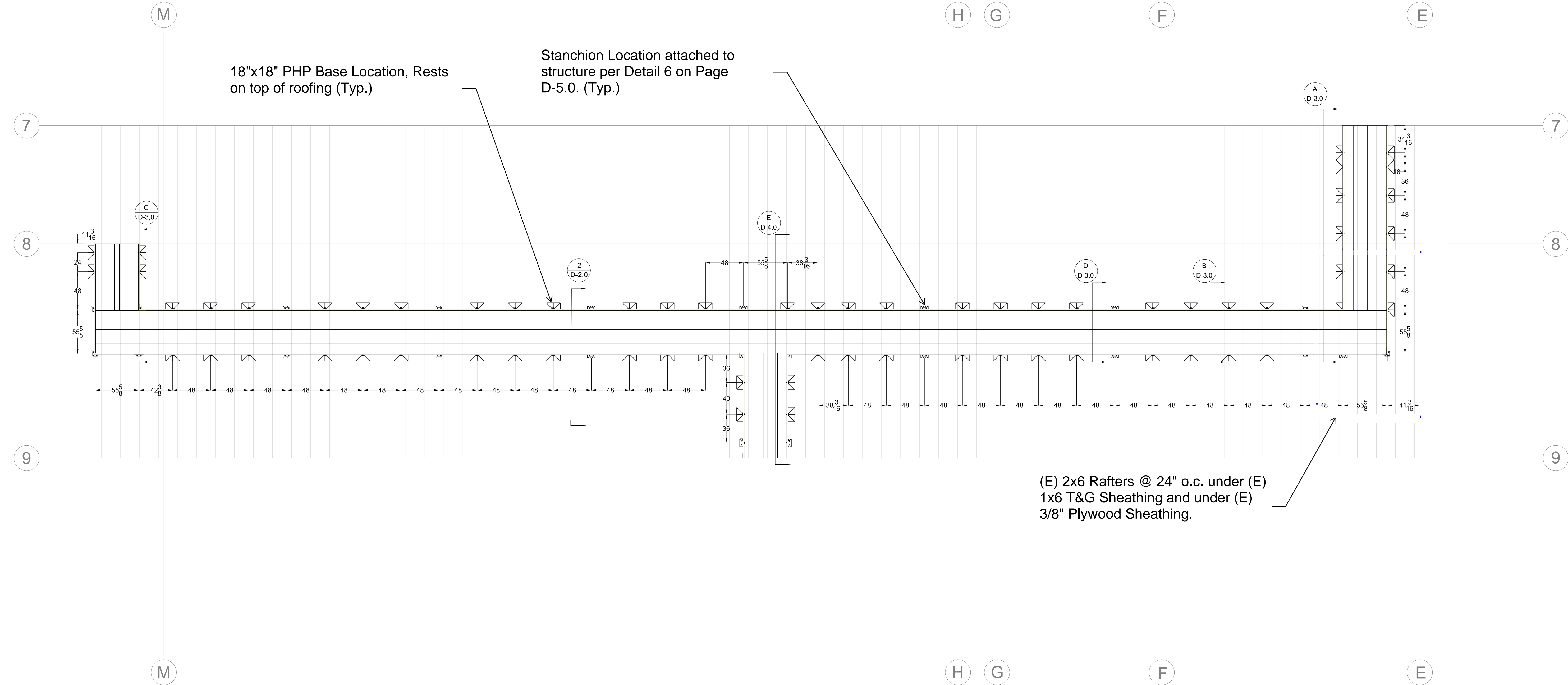
REVISION	DATE
DSA Submittal	3/1/2019
DSA Backcheck	9/5/19

Roof Walkway  
Layout

**D-1.0**

Scale: 3/16"=1'-0"

BA 17-006.9





Notes:  
1) All dimensions are in inches unless otherwise noted.  
2) See G-1.0 for general notes and information regarding materials and bolting hardware.  
3) All strut and bracket parts are based on Cooper-BLine Product model numbers unless otherwise noted.  
4) See D-5.0 for brackets, PHP support, and stanchion details

APPROVED  
DIV. OF THE STATE ARCHITECT  
APP. 01-118048 INC:  
REVIEWED FOR  
SS ☒ FLS ☒ ACS ☒  
DATE: 09/05/2019

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## Mission Hill Middle School

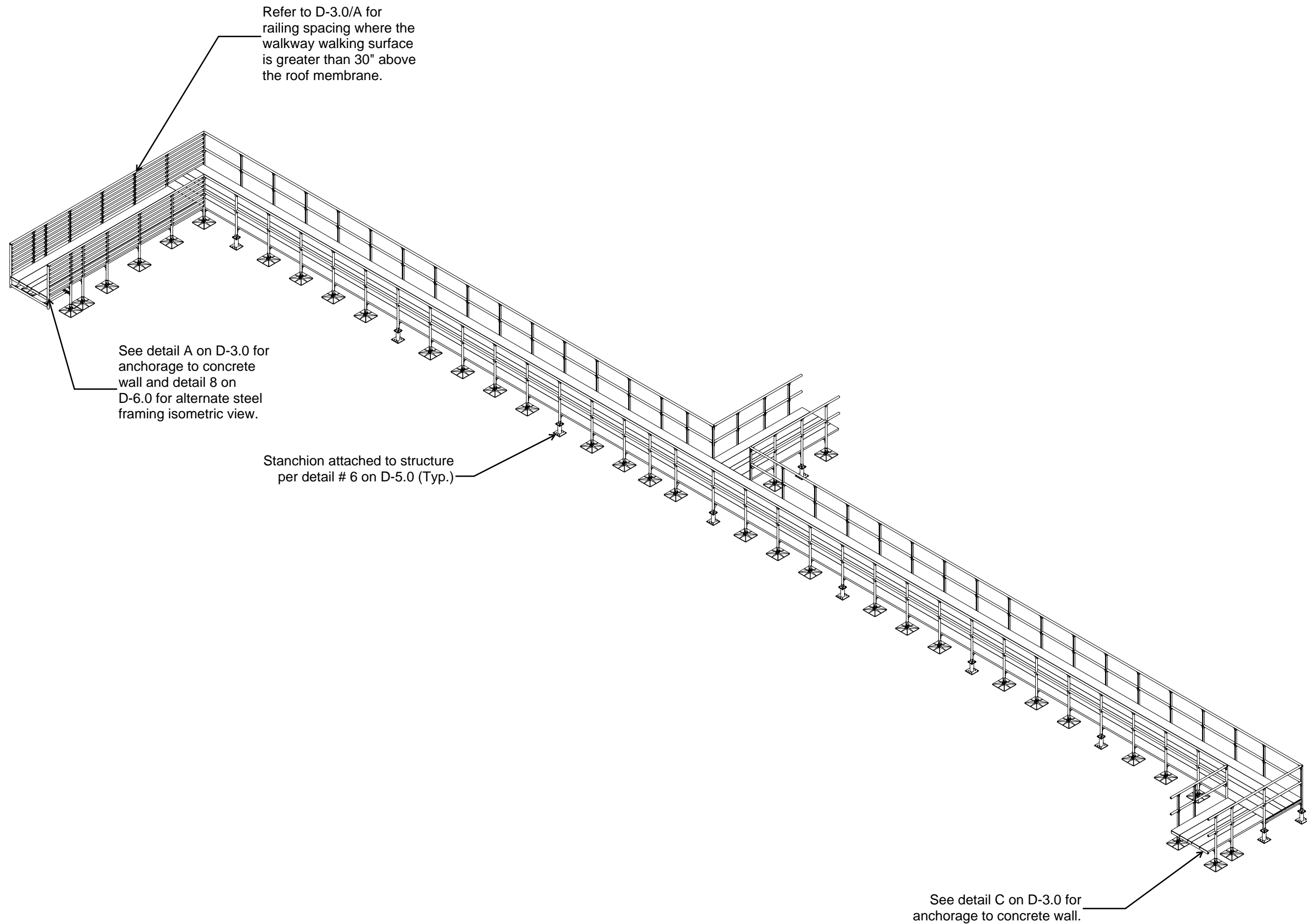
Roof Replacement

REVISION	DATE
DSA Submittal	3/1/2019
DSA Backcheck	9/5/19

Isometric and  
Elevation View  
Details

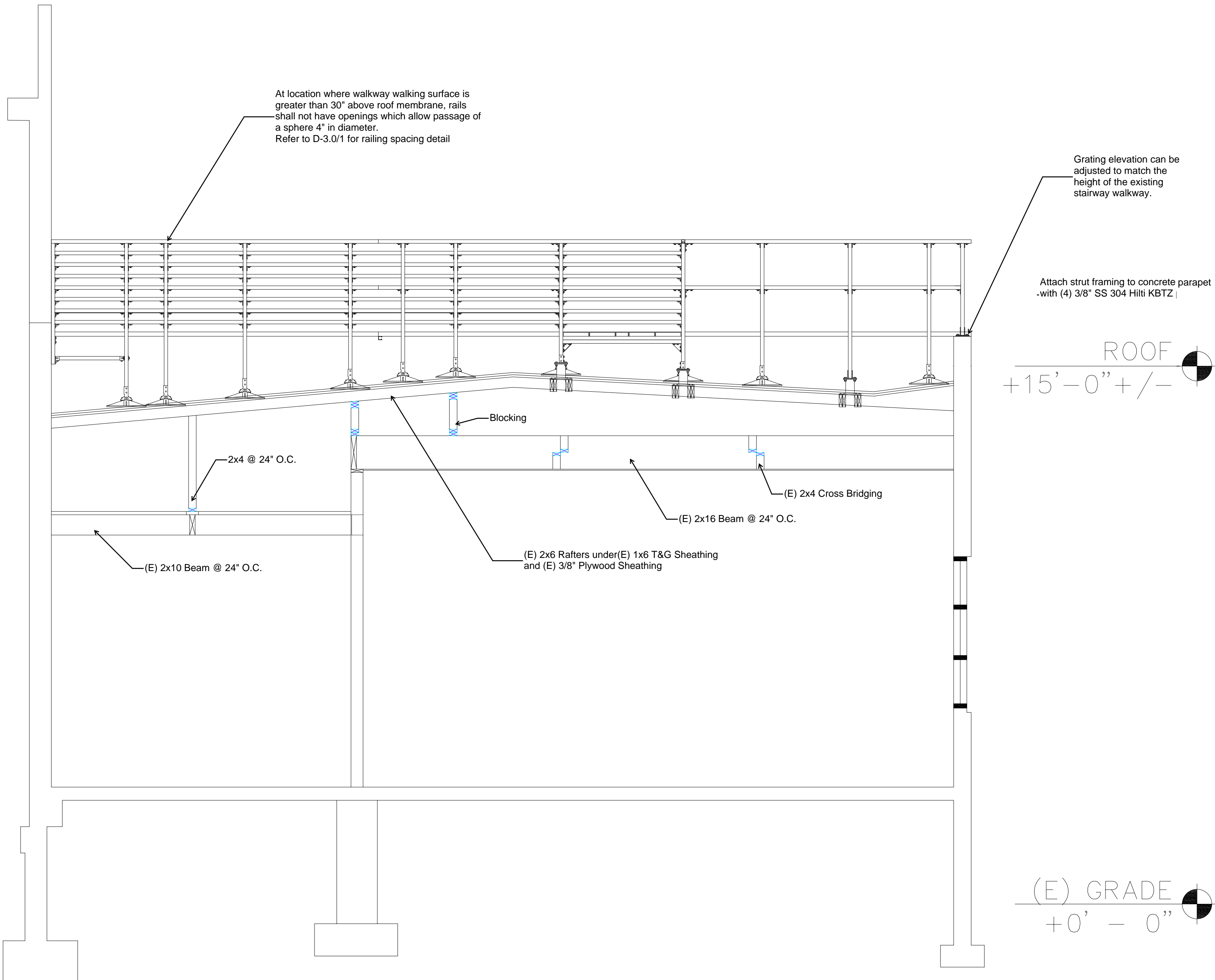
D-2.0

BA 17-006.9



### 1 Walkway Isometric View

Scale: None



### 2 Building Elevation View

Scale: 3/8" = 1'-0"



Notes:  
1) All dimensions are in inches unless otherwise noted.  
2) See G-1.0 for general notes and information regarding materials and bolting hardware.  
3) All strut and bracket parts are based on Cooper-BLine Product model numbers unless otherwise noted.  
4) See D-5.0 for brackets, PHP support, and stanchion details

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DIV. OF THE STATE ARCHITECT  
APP. 01-118048 INC.  
REVIEWED FOR  
SS ☒ FLS ☒ ACS ☒  
DATE: 09/05/2019

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**Santa Cruz Schools**



Mission Hill  
Middle School  
425 King Street  
Santa Cruz,  
California, 95060



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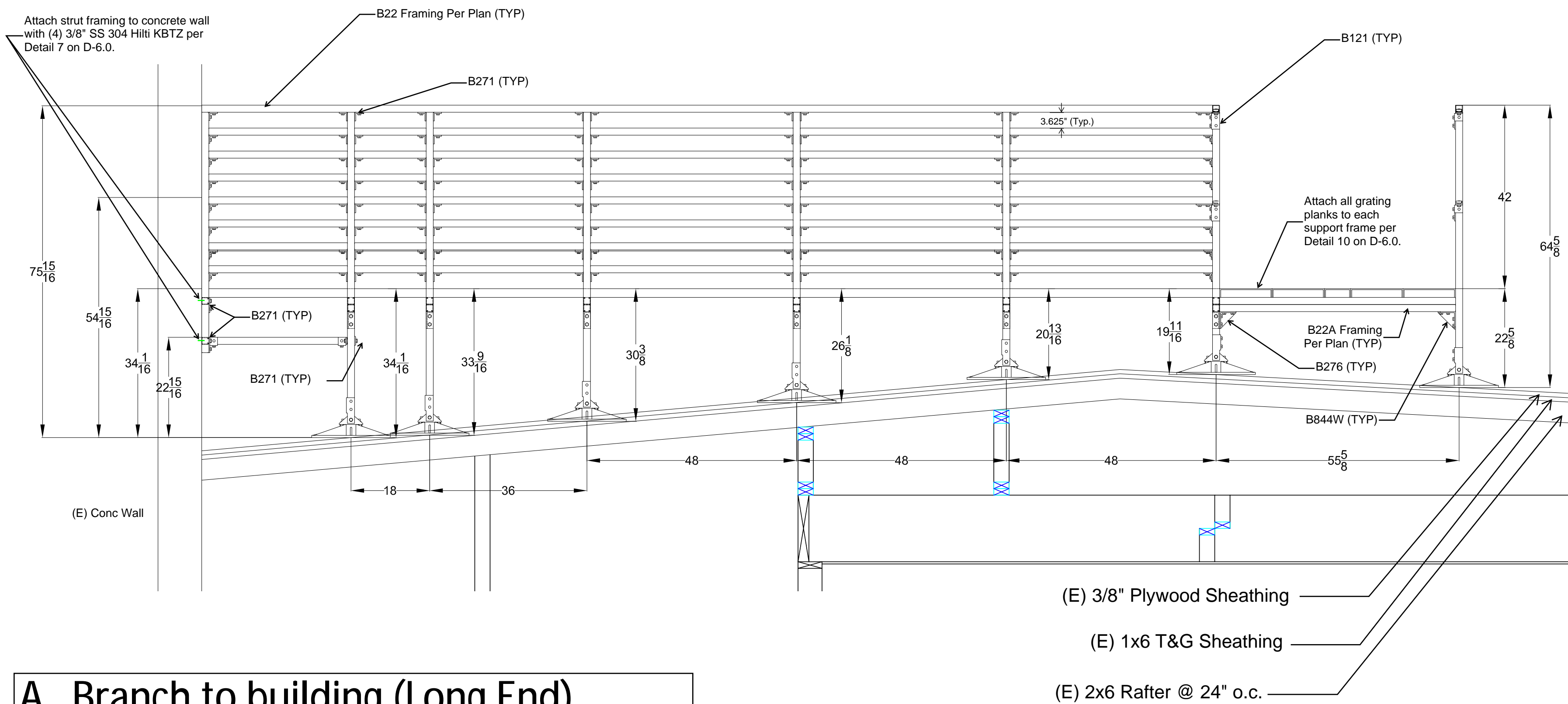


**Mission Hill  
Middle School**

Roof Replacement

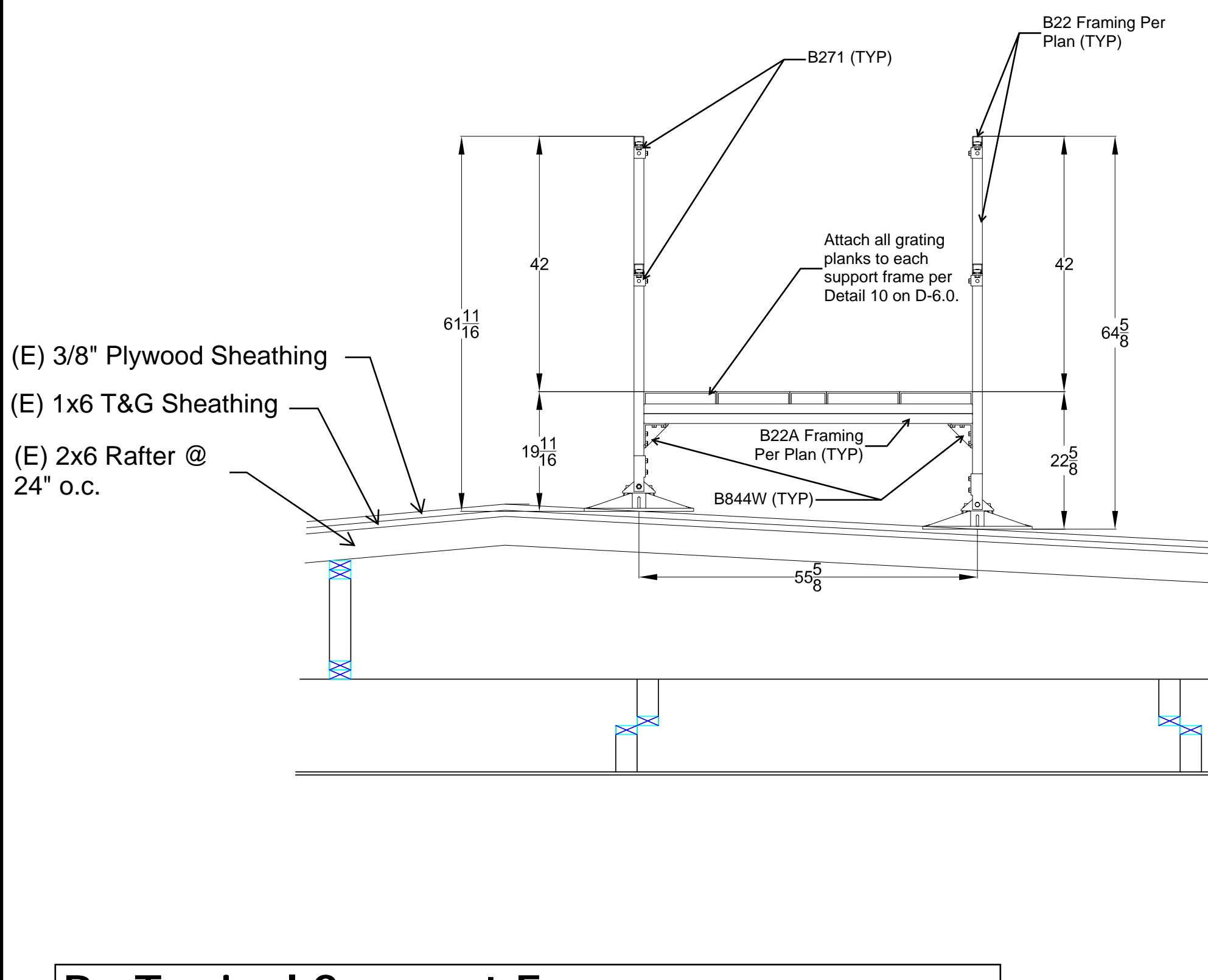
REVISION  
DSA Submittal  
DSA Backcheck

DATE  
3/1/2019  
9/5/19



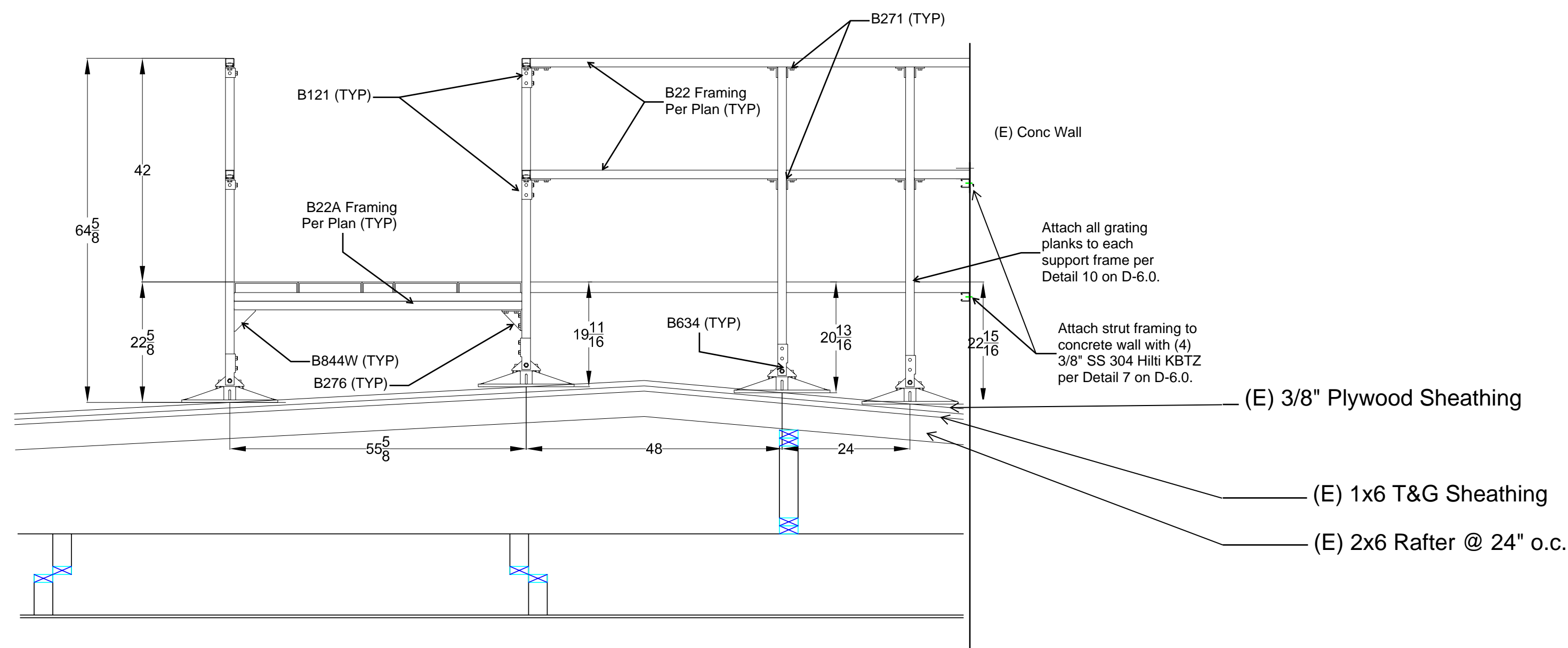
**A Branch to building (Long End)**

Scale: 5/8" = 1'-0"



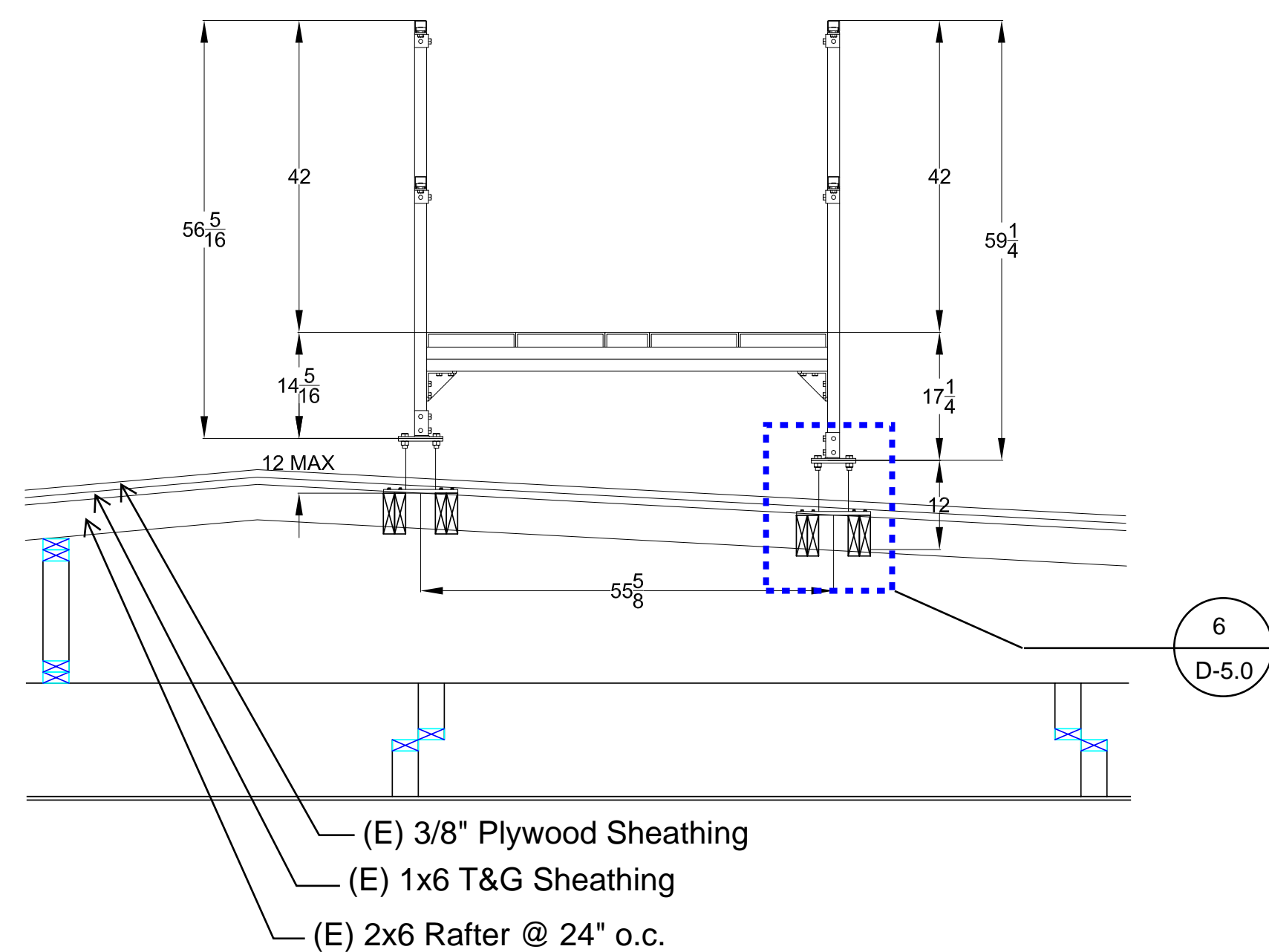
**B Typical Support Frame**

Scale: 5/8" = 1'-0"



**C Branch to building (Short End)**

Scale: 5/8" = 1'-0"



**D Typical Restrained Support Frame**

Scale: 5/8" = 1'-0"

Section Details

**D-3.0**

BA 17-006.9

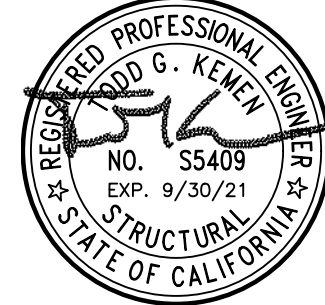


Notes:  
1) All dimensions are in inches unless otherwise noted.  
2) See G-1.0 for general notes and information regarding materials and bolting hardware.  
3) All strut and bracket parts are based on Cooper-BLine Product model numbers unless otherwise noted.  
4) See D-5.0 for brackets, PHP support, and stanchion details

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California, 95060



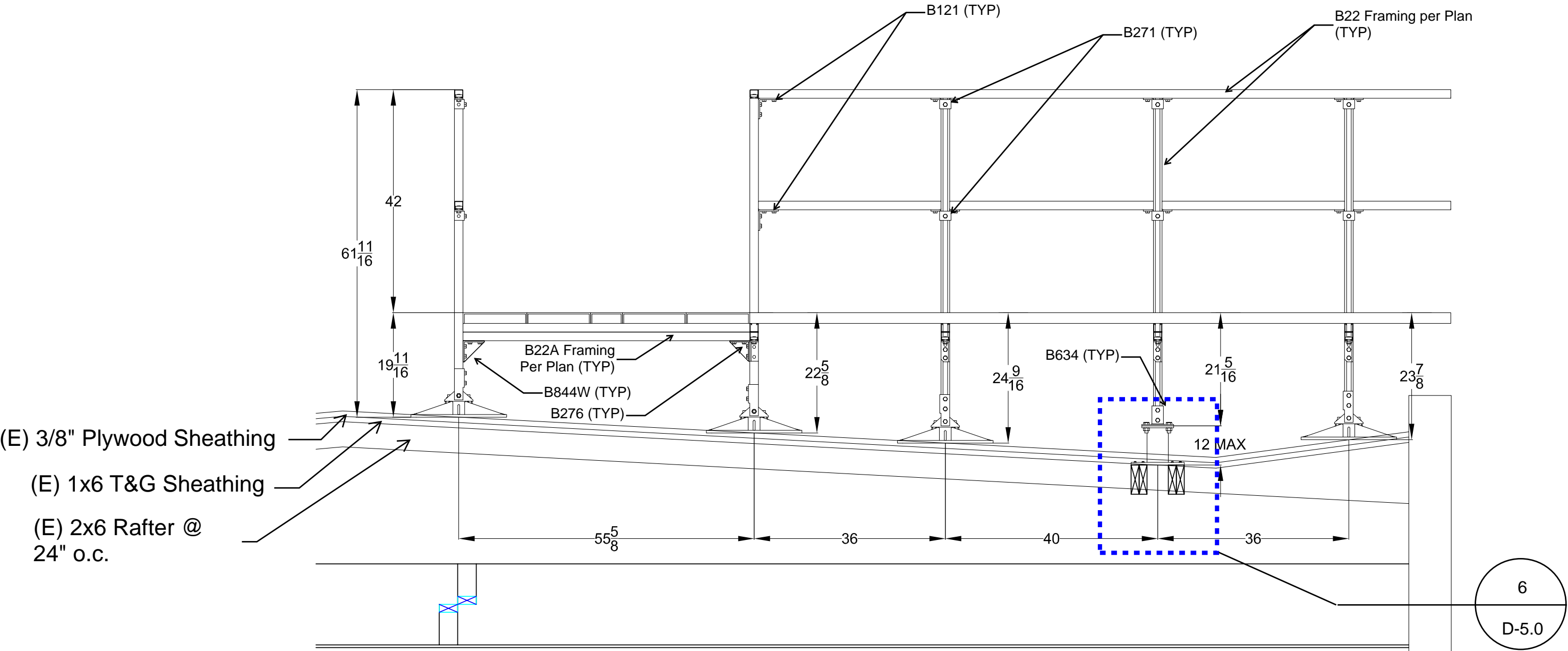
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Mission Hill  
Middle School

Roof Replacement

REVISION	DATE
DSA Submittal	3/1/2019
DSA Backcheck	9/5/19



E Branch to Exterior Stairs

Scale: 5/8" = 1'-0"

Section Details

D-4.0

BA 17-006.9



Notes:  
1) All dimensions are in inches unless otherwise noted.  
2) See G-1.0 for general notes and information regarding materials and bolting hardware.  
3) All strut and bracket parts are based on Cooper-BLine Product model numbers unless otherwise noted.  
4) All new lumber in contact with existing framing must be kiln-dry.

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Middle School**

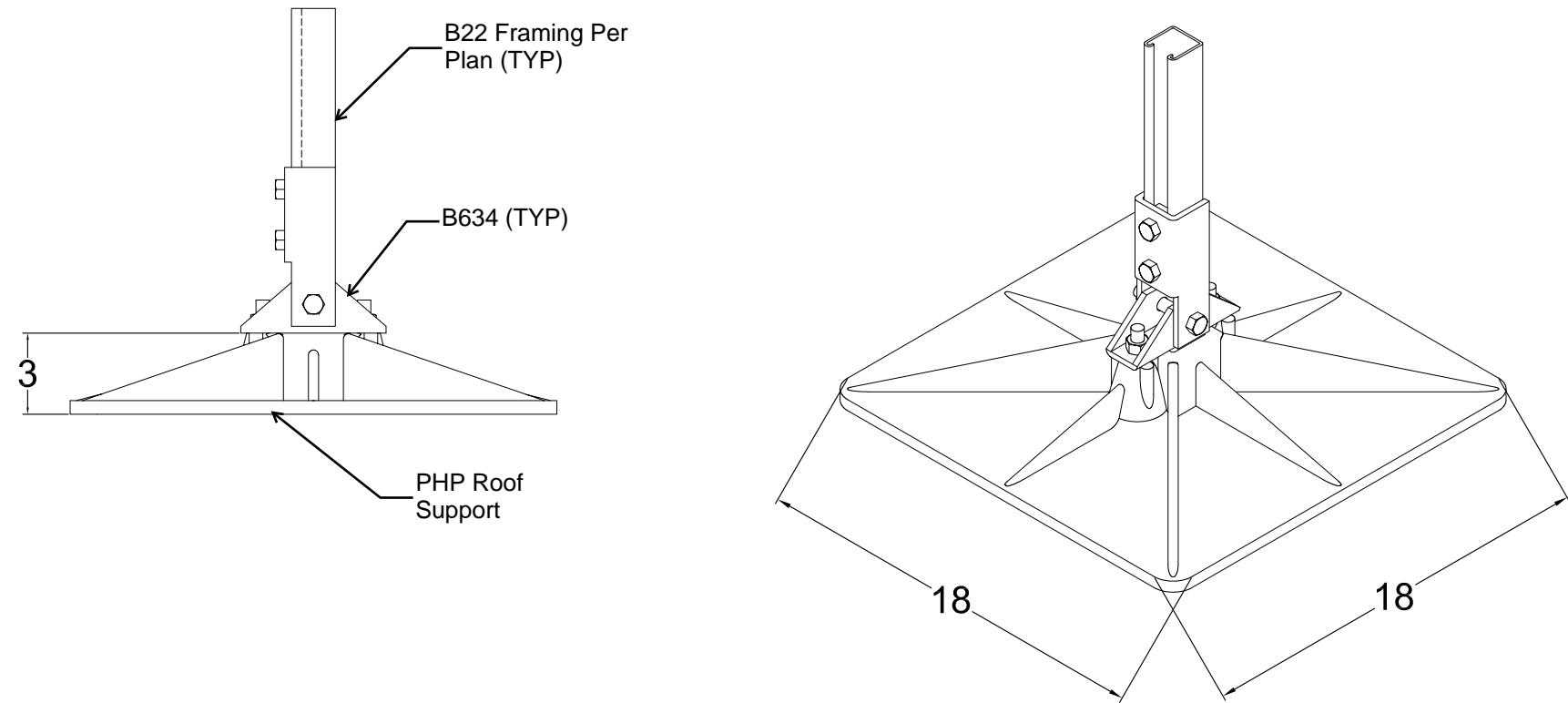
Roof Replacement

REVISION	DATE
DSA Submittal	3/1/2019
DSA Backcheck	9/5/19

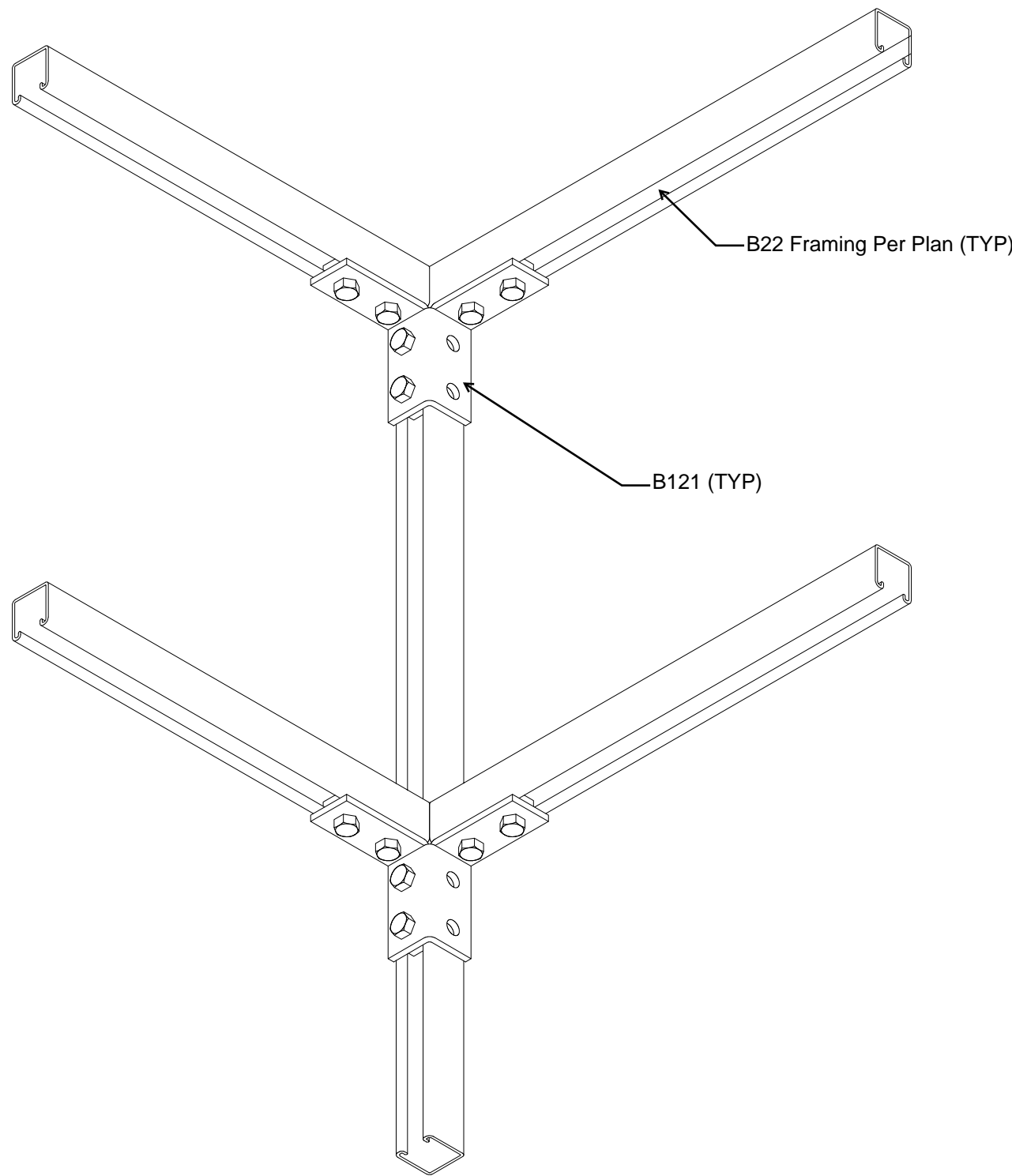
Typical Attachment  
Details

D-5.0

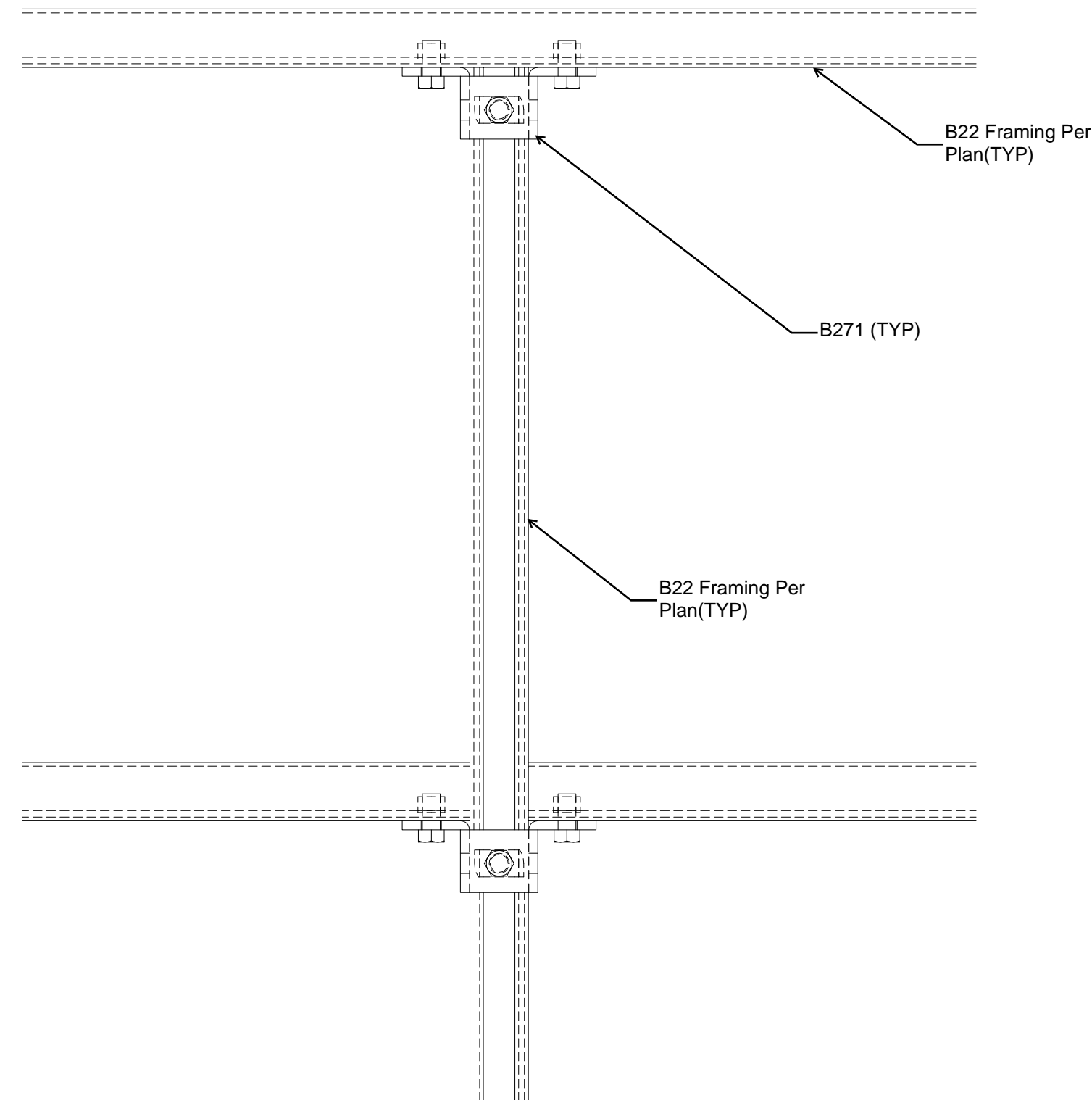
BA 17-006.9



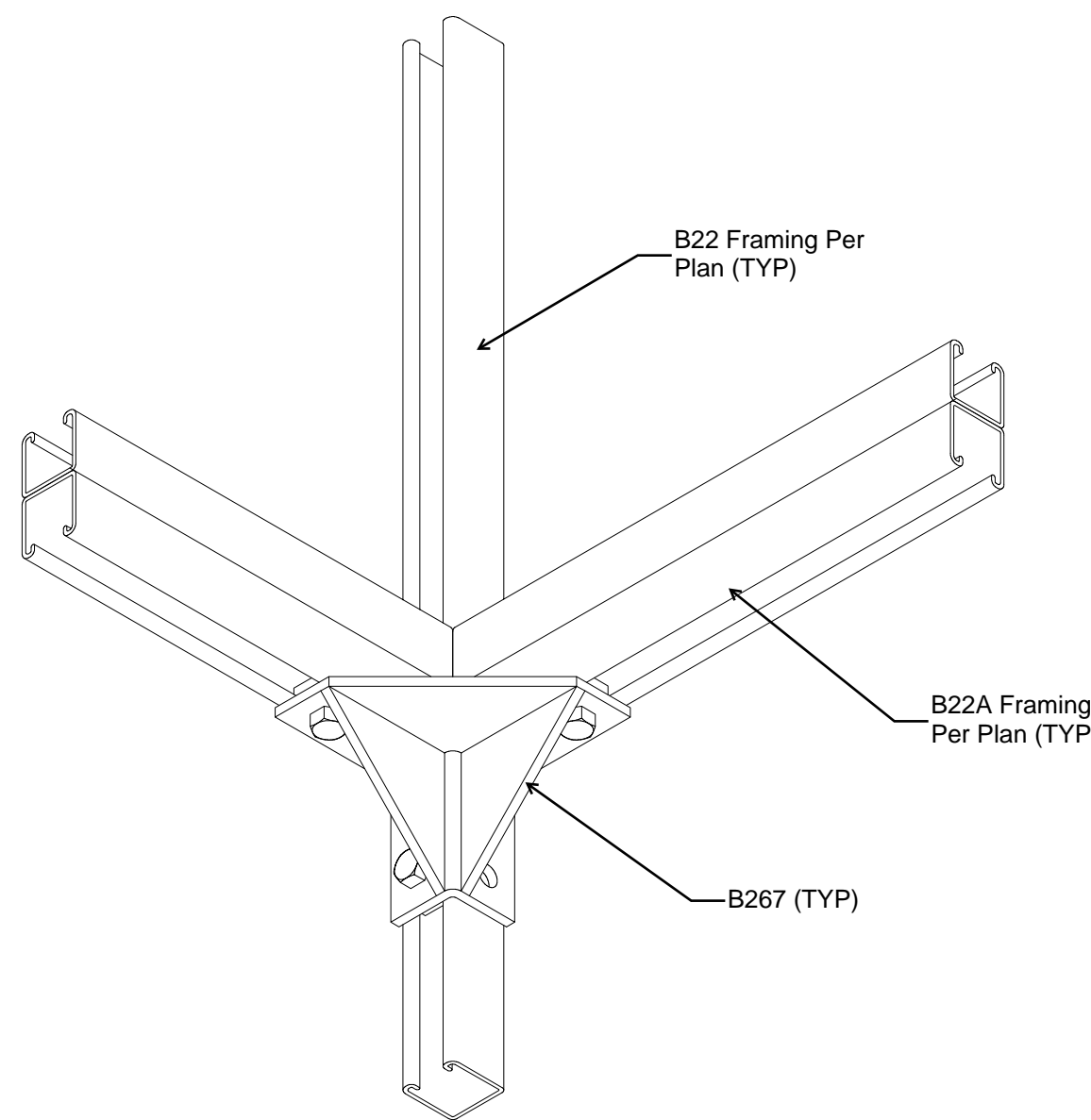
1 Typical Roof Base Attachment  
Scale: None



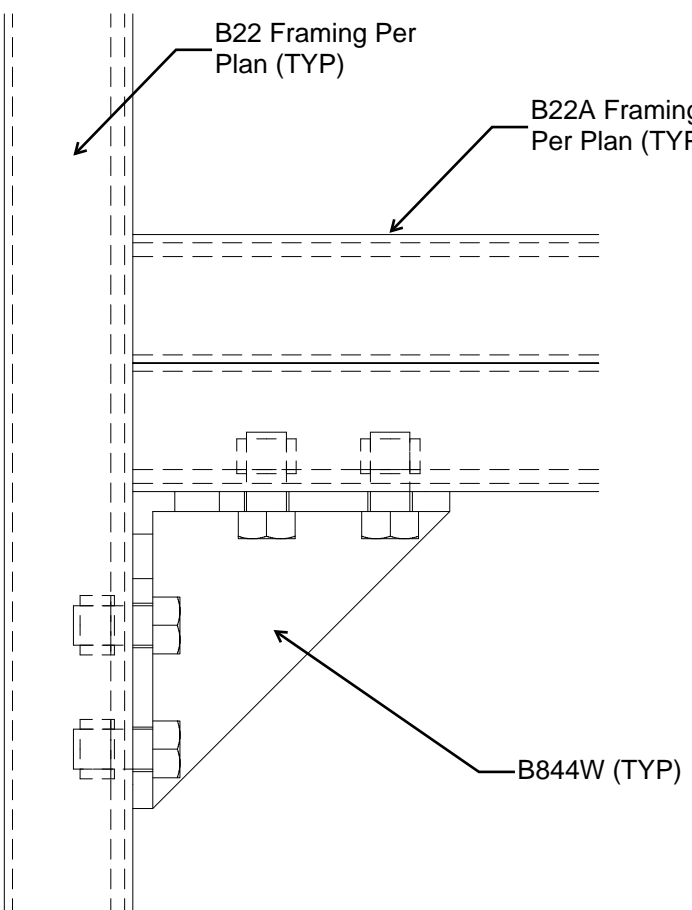
2 Typical Handrail Attachment-Corner  
Scale: None



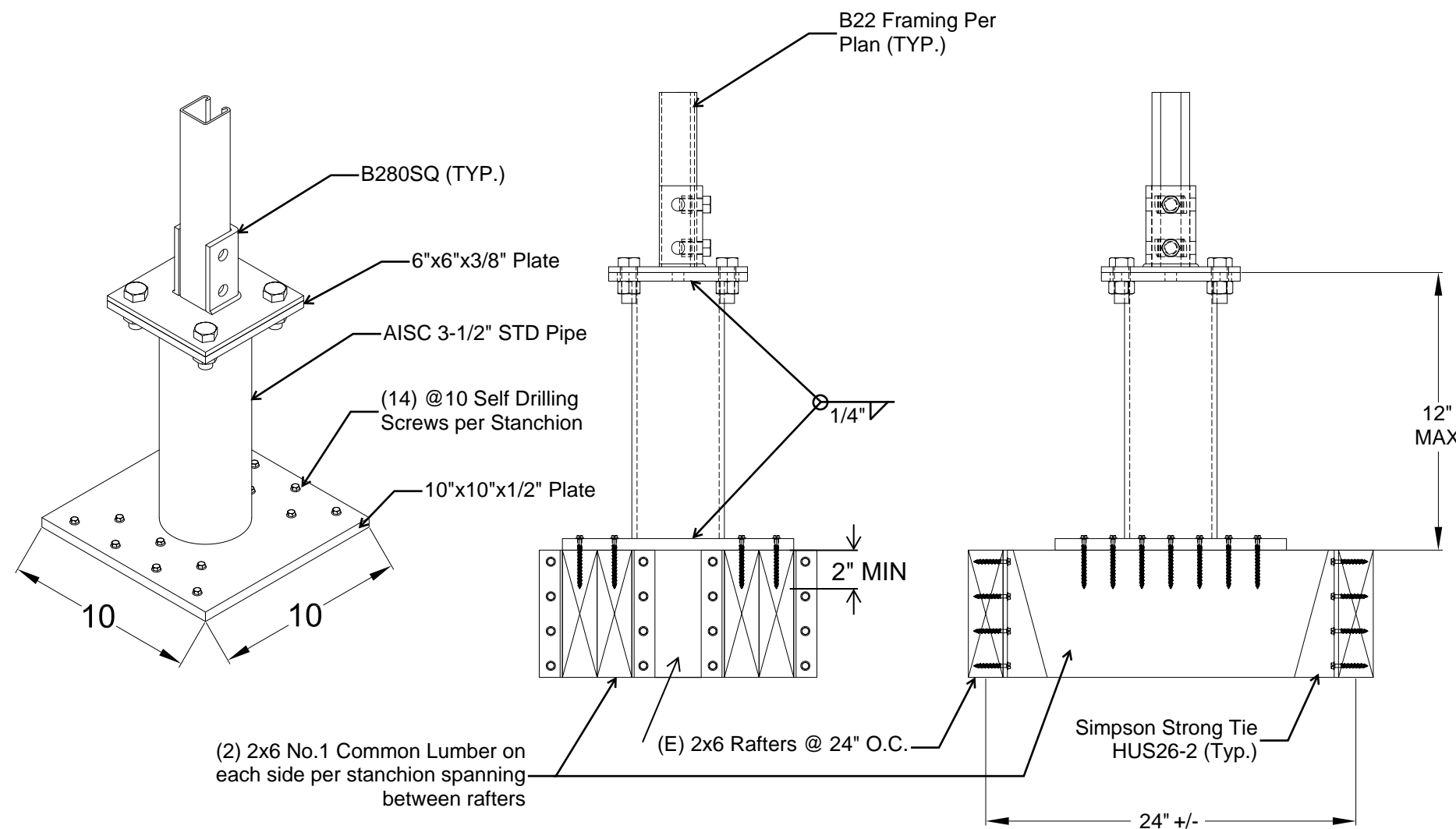
3 Typical Handrail Attachment  
Scale: None



4 Typical Grating Support-Corner  
Scale: None



5 Typical Grating Support Attachment  
Scale: None



6 Typical Stanchion Attachment  
Scale: None



Notes:  
1) All dimensions are in inches unless otherwise noted.  
2) See G-1.0 for general notes and information regarding materials and bolting hardware.  
3) All strut and bracket parts are based on Cooper-BLine Product model numbers unless otherwise noted.  
4) Do not cut/damage existing wall reinforcement

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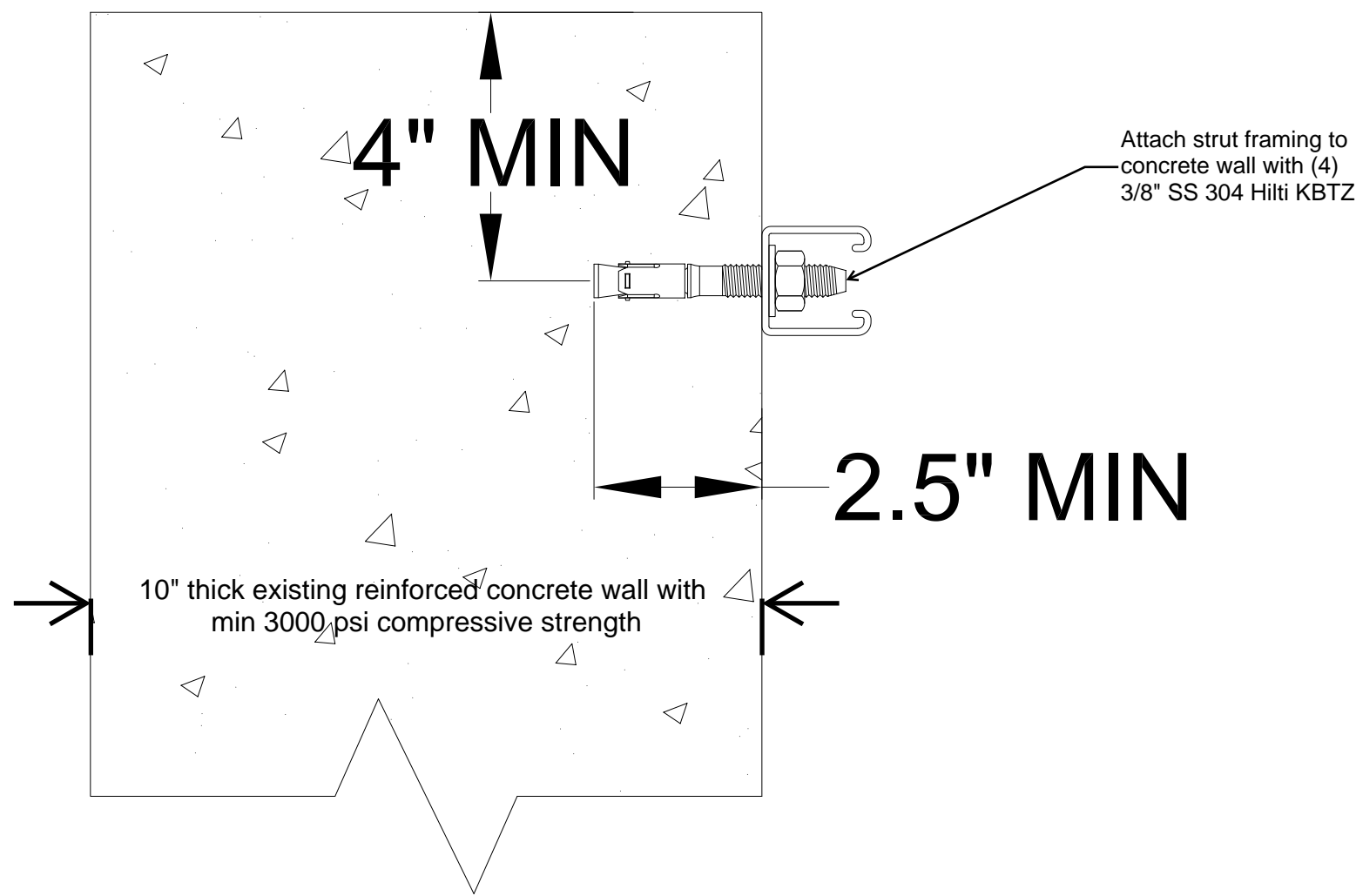


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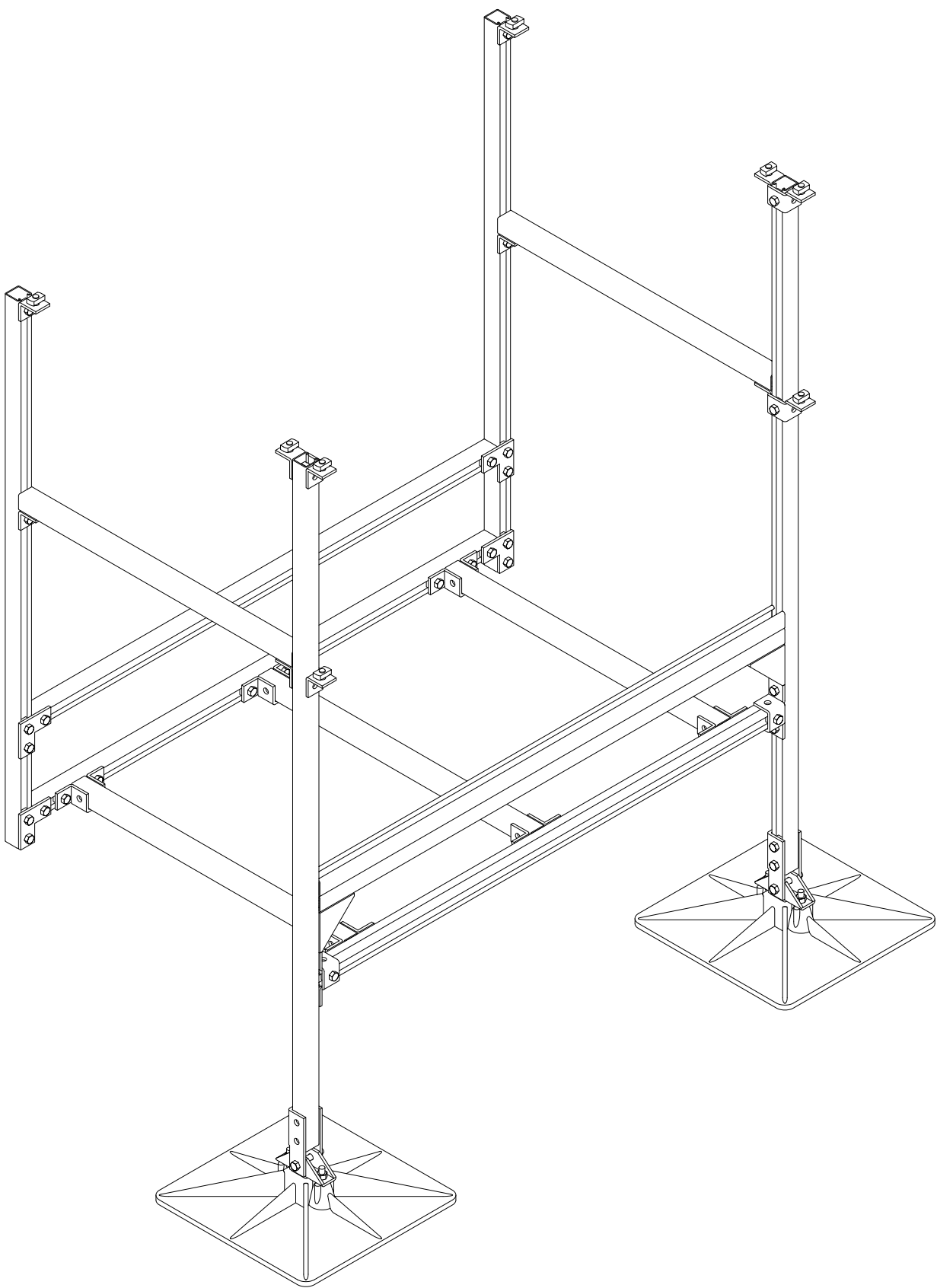
Mission Hill  
Middle School

Roof Replacement



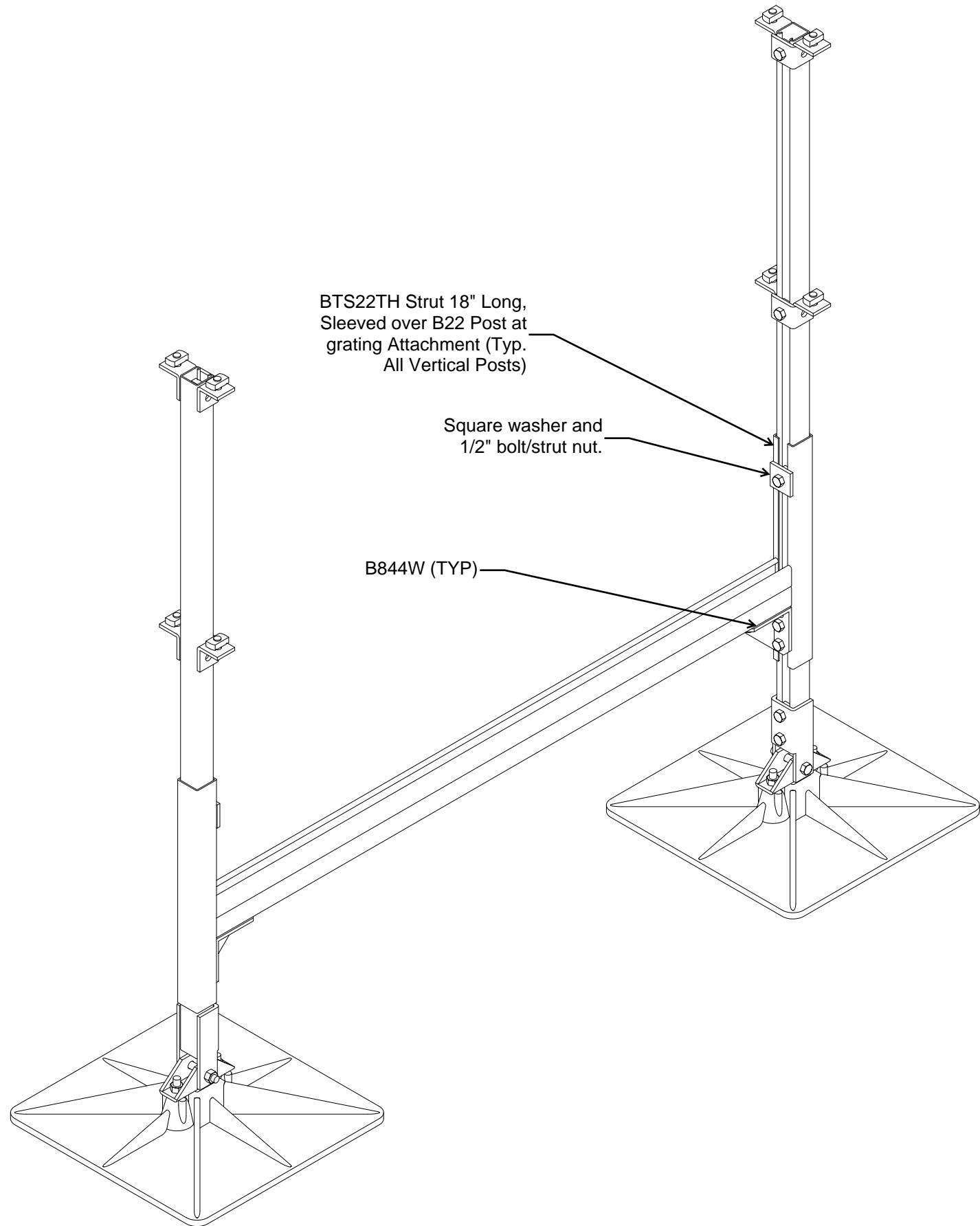
7 Typical Wall Attachment Anchor Detail

Scale: None



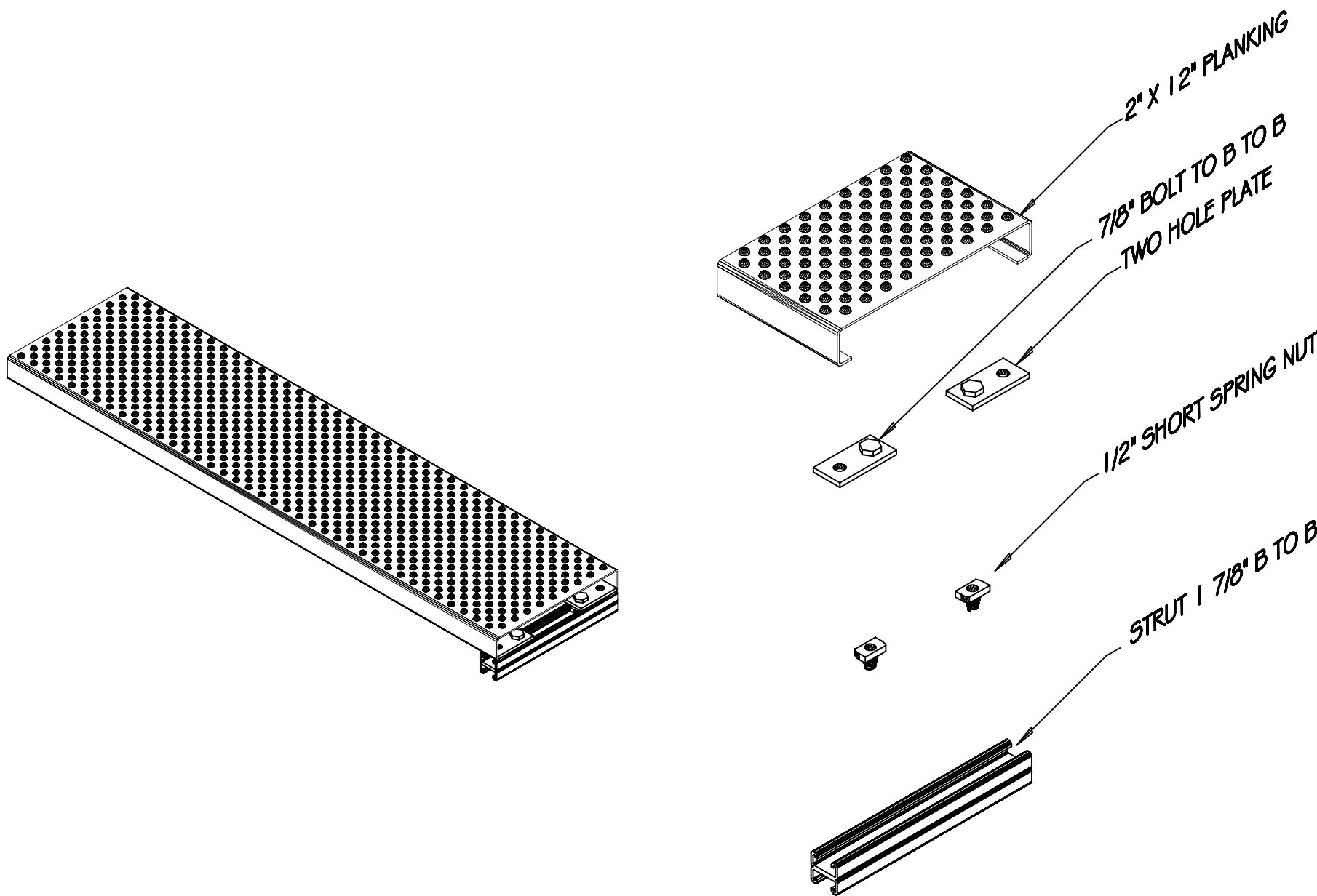
8 Isometric Framing View

Scale: None



9 Typical Handrail Post Reinforcement

Scale: None



10 Typical Grating Attachment Detail

Scale: None

REVISION	DATE
DSA Submittal	3/1/2019
DSA Backcheck	9/5/19

Typical Attachment  
Details

D-6.0

BA 17-006.9

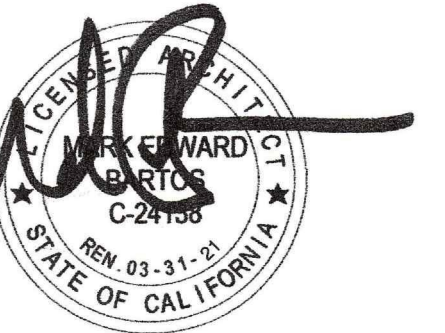


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- 2 Dimensions given as "CLR" are to face of finish. All other dimensions are to face of stud/structure unless otherwise noted.
- 3 Repeating items or assemblies may not be noted or dimensioned at all occurrences where repetition is obvious.
- 4 Not all demolition and patching is shown on drawings. Contractor to verify actual field conditions for full extent of demolition and patching.
- 5 Contractor shall remove and replace all flashings. Flashing shall be added to provide adequate water tight assemblies through entire roof areas.
- 6 Remove all existing gutters and downspouts. Replace with new aluminum gutters and downspouts.
- 7 Connect all new downspouts to existing storm drain connections above grade. Verify locations and connections prior fabricators and installation.
- 8 Existing slope of flat roof areas shall be min. 1/4" per foot. Insulation shall be either replaced or added to ensure that all flat roof areas conform to this minimum slope.
- 9 Patch cement plaster exterior wall finish if damaging during construction.
- 10 Roof sheathing to remain in place.
- 11 Existing mechanical equipment, vents, ducts, and fans to be replaced in kind unless otherwise noted. Refer to Mechanical drawings. Provide new flashing and sealant at all new and existing equipment.
- 12 Replace all (E) conduit and piping. Prime and paint.

123.1	Keynotes are arranged by CSI section. Refer Specifications for additional information.
(E)	Existing, Protect in Place
(D)	Demolish and Remove
(R)	Remove and Relocate
<b>05</b>	<b>Metals</b>
055.1	Roof Ladder
<b>06</b>	<b>Wood, Plastics and Composites</b>
061.0	Roof Walkway, Protect in place
<b>07</b>	<b>Thermal and Moisture Protection</b>
073.3	Membrane Roofing System
074.0	Metal Gutter
076.2	Roof to Wall Flashing
076.9	Pipe / Penetration Flashing
077.0	Downspouts
077.1	Roof Drain
077.3	Roof Access Hatch and Guard-Rail
<b>08</b>	<b>Openings</b>
083.0	Chimney / Saddle
085.0	Attic Door- Vented, Replace
086.1	Skylight, see details 9 & 13 / A7.0
<b>09</b>	<b>Finishes</b>
092.3	Cement Plaster
099.1	Paint
<b>15</b>	<b>Mechanical / Plumbing</b>
150.0	Mechanical Equipment, Refer to M1.0 for details.
151.0	Rooftop Duct
151.1	Rooftop Duct / Penetration. Refer to M1.0 for Mechanical detail.
152.0	Stack Vent
153.0	Condensing Unit
154.0	Exhaust Fan, Refer to 4/M1.0
154.1	Gravity Vent
154.2	Boiler Flue, Demolish at interior and exterior.
154.3	Water Heater Flue. Refer to Mechanical.
155.0	Smoke Vent
156.0	Relief Vent, see detail 5/A7.1 & Mechanical drawings.
<b>16</b>	<b>Electrical</b>
165.1	Emergency Lighting Fixture



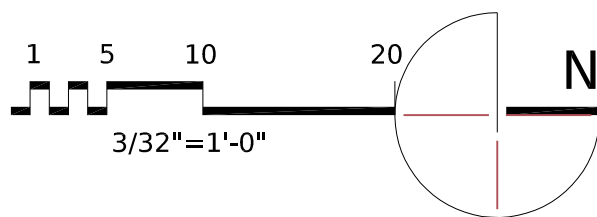
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LIVERICKS  
HILL • SANTA CRUZ

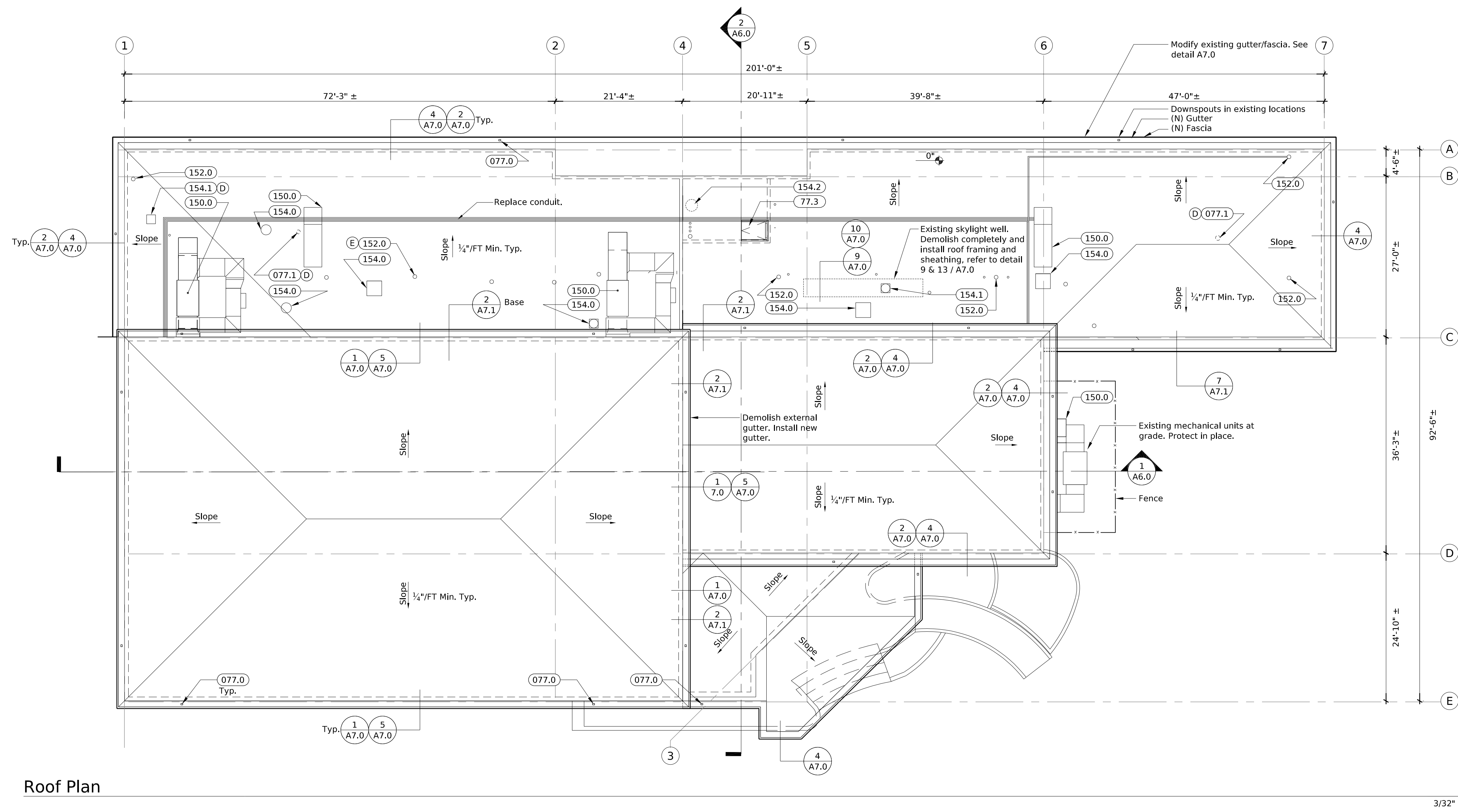
## Roof Replacement

REVISION	DATE
DSA Submittal	3/1/2019
Bid Set	4/9/2019
DSA Backcheck	9/5/2019



## A2.0

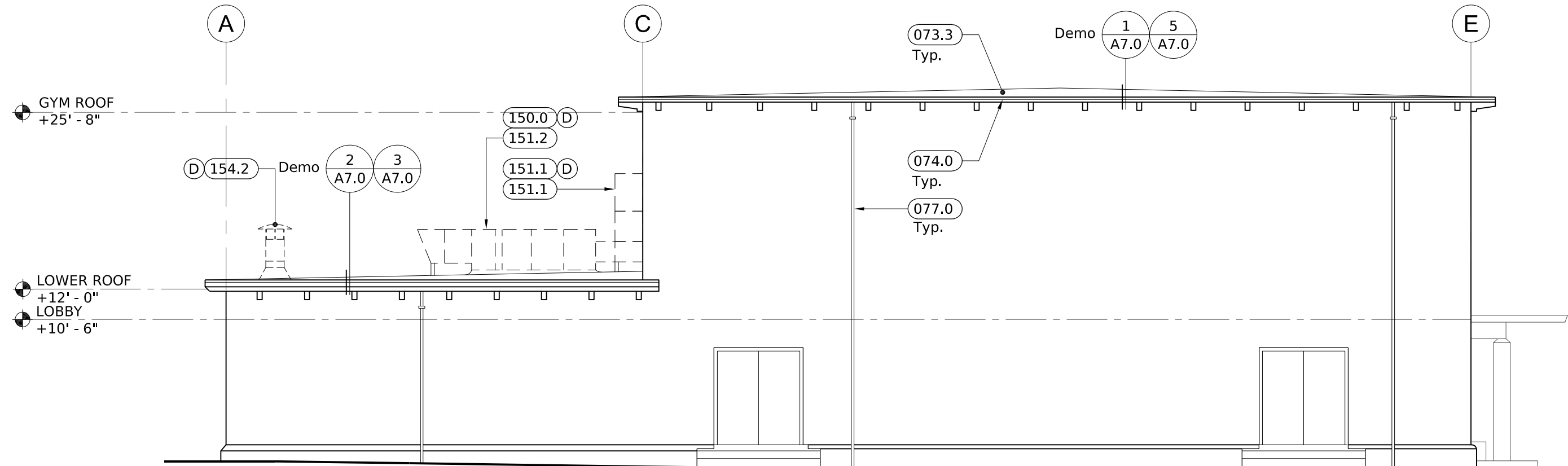
BA 17-006.1



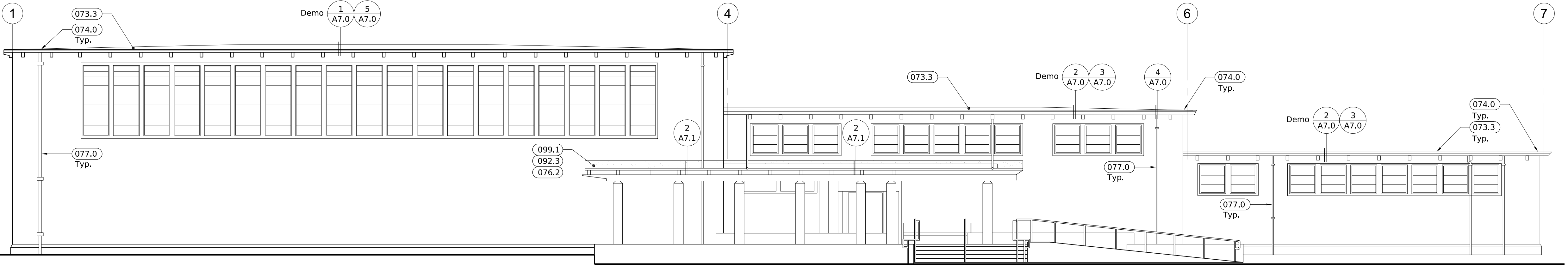




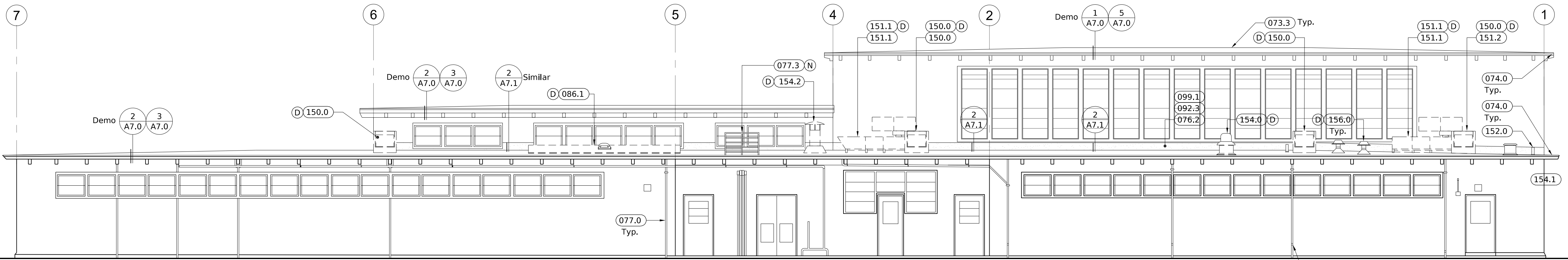
North Elevation



South Elevation



East Elevation



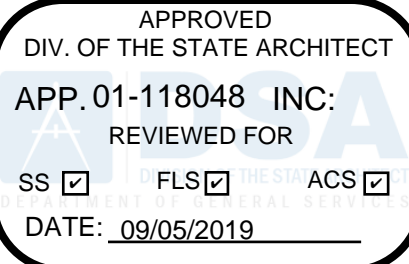
West Elevation

## Sheet Notes

- 1 Remove and replace all insulation.
- 2 All dimensions given take precedence over scale. Contractor shall not scale drawing to determine dimensions without consulting the Architect. Contractor shall review all dimensions for accuracy prior to construction.
- 3 Dimensions given as "CLR" are to face of finish. All other dimensions are to face of stud/structure unless otherwise noted.
- 4 Repeating items or assemblies may not be noted or dimensioned at all occurrences where repetition is obvious.
- 5 Not all demolition and patching is shown on drawings. Contractor to verify actual field conditions for full extent of demolition and patching.
- 6 Contractor shall remove and replace all flashings. Flashing shall be added to provide adequate water tight assemblies through entire roof areas.
- 7 Remove all existing gutters and downspouts. Replace with new aluminum gutters and downspouts.
- 8 Connect all new downspouts to existing storm drain connections above grade. Verify locations and connections prior fabricators and installation.
- 9 Existing slope of flat roof areas shall be min. 1/4" per foot. Insulation shall be either replaced or added to ensure that all flat roof areas conform to this minimum slope.
- 10 Patch cement plaster siding as needed.
- 11 Refer to Demolition Plan for all items to remain, items to be salvaged and/or relocated.
- 12 Refer to Mechanical and Plumbing drawings for additional information and requirements.
- 13 Refer to Specifications for additional requirements.

## Keynotes

- 123.1 Keynotes are arranged by CSI section. Refer Specifications for additional information.
- (E) Existing, Protect in Place  
(D) Demolish and Remove  
(R) Remove and Relocate
- 05 Metals**  
055.1 Roof Ladder
- 06 Wood, Plastics and Composites**  
061.0 Roof Walkway. Protect in place
- 07 Thermal and Moisture Protection**  
073.3 Membrane Roofing System
- 074.0 Metal Gutter
- 076.2 Roof to Wall Flashing  
076.9 Pipe / Penetration Flashing
- 077.0 Downspouts  
077.1 Roof Drain  
077.3 Roof Access Hatch and Guard-Rail
- 08 Openings**  
083.0 Chimney / Saddle  
085.0 Attic Door- Vented. Replace  
086.1 Skylight, see details 9 & 13 / A7.0
- 09 Finishes**  
092.3 Cement Plaster  
099.1 Paint
- 15 Mechanical / Plumbing**  
150.0 Mechanical Equipment. Refer to M1.0 for details.
- 151.0 Rooftop Duct  
151.1 Rooftop Duct / Penetration. Refer to M1.0 for Mechanical detail.
- 152.0 Stack Vent
- 153.0 Condensing Unit
- 154.0 Exhaust Fan. Refer to 4/M1.0  
154.1 Gravity Vent  
154.2 Boiler Flue. Demolish at interior and exterior.  
154.3 Water Heater Flue. Refer to Mechanical.
- 155.0 Smoke Vent
- 156.0 Relief Vent, see detail 5/A7.1 & Mechanical drawings.
- 16 Electrical**  
165.1 Emergency Lighting Fixture

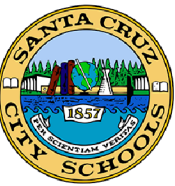


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**Santa Cruz City Schools**



Mission Hill Middle School  
425 King Street  
Santa Cruz, California, 95060



## Mission Hill Middle School

Roof Replacement

REVISION	DATE
DSA Submittal	3/1/2019
Bid Set	4/9/2019
DSA Backcheck	9/5/2019

Gymnasium  
Exterior  
Elevations

**A5.0**



Sheet Notes

- 1

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- 2

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- 3

Repeating items or assemblies may not be noted or dimensioned at all occurrences where repetition is obvious.
- 4

Not all demolition and patching is shown on drawings. Contractor to verify actual field conditions for full extent of demolition and patching.
- 5

Contractor shall remove and replace all flashings. Flashing shall be added to provide adequate water tight assemblies through entire roof areas.
- 6

Remove all existing gutters and downspouts. Replace with new aluminum gutters and downspouts.
- 7

Connect all new downspouts to existing storm drain connections above grade. Verify locations and connections prior fabricators and installation.
- 8

Existing slope of flat roof areas shall be min. 1/4" per foot. Insulation shall be either replaced or added to ensure that all flat roof areas conform to this minimum slope.
- 9

Patch cement plaster exterior wall finish if damaged during construction
- 10

Roof sheating to remain in place.
- 11

Existing mechanical equipment, vents, ducts, and fans to be replaced in kind unless otherwise noted. Refer to Mechanical drawings. Provide new flashing and sealant at all new and existing equipment.

Keynotes

- 123.1

Keynotes are arranged by CSI section. Refer Specifications for additional information.
- E

Existing, Protect in Place
- D

Demolish and Remove
- R

Remove and Relocate

- 05

**Metals**  
055.1 Roof Ladder
- 06

**Wood, Plastics and Composites**  
061.0 Roof Walkway. Protect in place
- 07

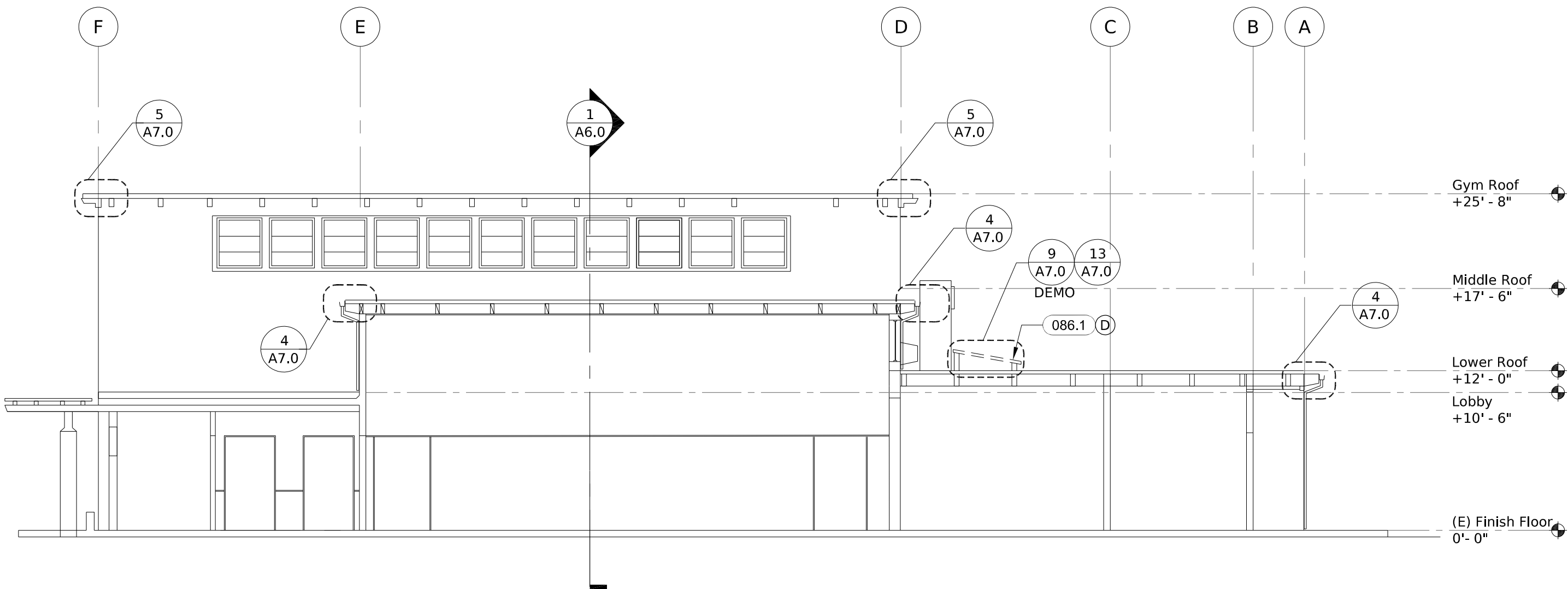
**Thermal and Moisture Protection**  
073.3 Membrane Roofing System  
  
074.0 Metal Gutter  
  
076.2 Roof to Wall Flashing  
076.9 Pipe / Penetration Flashing  
  
077.0 Downspouts  
077.1 Roof Drain  
077.3 Roof Access Hatch and Guard-Rail
- 08

**Openings**  
083.0 Chimney / Saddle  
085.0 Attic Door- Vented. Replace  
086.1 Skylight, see details 9 & 13 / A7.0
- 09

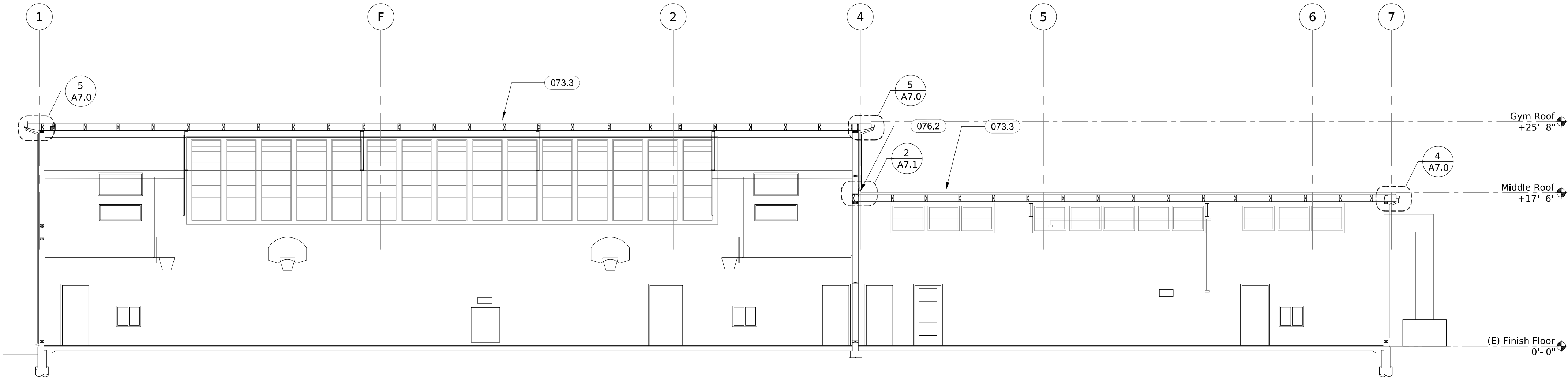
**Finishes**  
092.3 Cement Plaster  
099.1 Paint
- 15

**Mechanical / Plumbing**  
150.0 Mechanical Equipment. Refer to M1.0 for details.  
  
151.0 Rooftop Duct  
151.1 Rooftop Duct / Penetration. Refer to M1.0 for Mechanical detail.  
  
152.0 Stack Vent  
  
153.0 Condensing Unit  
  
154.0 Exhaust Fan. Refer to 4/M1.0  
154.1 Gravity Vent  
154.2 Boiler Flue. Demolish at interior and exterior.  
154.3 Water Heater Flue. Refer to Mechanical.  
  
155.0 Smoke Vent  
  
156.0 Relief Vent, see detail 5/A7.1 & Mechanical drawings.
- 16

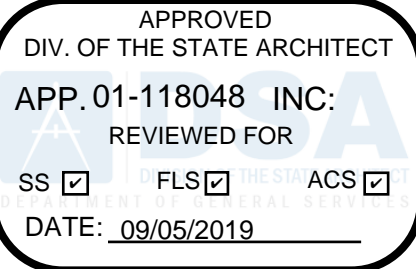
**Electrical**  
165.1 Emergency Lighting Fixture



Gymnasium Section



Gymnasium Section

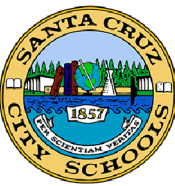


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Roof Replacement

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Gymnasium Sections

A6.0

BA 17-006.1



MEP Component Anchorage Notes:

All mechanical, plumbing and electrical components shall be anchored and installed per the details on the dsa approved construction documents. Where no detail is indicated, the following components shall be anchored or braced to meet the force and displacements prescribed in the 2016 CBC, sections 1616A.1.18 through 1616A.1.26 and ASCE 7-10 chapter 13, 26 and 30.

1. All permanent equipment and components
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT THE ATTACHEMENT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING AND CONDUIT.

- A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT
- B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3.6.5.6, 13.6.7, 13.6.8 AND 2016 CBC SECTIONS 1616A.1.24, 1616A.1.25 AND 1616A.1.26

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G. SMACNA OR OSHPD OPM), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

- MP

☒

MD

☒

PP

☐

E

☐
- OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS
- MP

☐

MD

☐

PP

☐

E

☐
- OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM#) \_\_\_\_\_
- MP

☐

MD

☐

PP

☐

E

☐
- OPTION 3: SHALL COMPLY WITH THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION (2009), INCLUDING ANY ADDENDA. FASTENERS AND OTHER ATTACHMENTS NOT SPECIFICALLY IDENTIFIED IN THE SMACNA SEISMIC RESTRAINT MANUAL OSHPD EDITION, ARE DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS. THE DETAILS SHALL ACCOUNT FOR THE APPLICABLE SEISMIC HAZARD LEVEL \_\_\_\_\_ AND CONNECTION LEVEL \_\_\_\_\_ FOR THE PROJECT CONDITIONS

MATERIALS (ALSO SEE SPECIFICATIONS):

DUCTWORK MATERIAL : STEEL DUCTS: GALVANIZED SHEET STEEL, LOCK-FORMING QUALITY. SEALANT: UL LISTED, NON-HARDENING, WATER-RESISTANT, FIRE-RESISTIVE, USED ALONE OR WITH TAPE.

DUCTWORK CONSTRUCTION: FABRICATE AND SUPPORT IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS. CONSTRUCT T'S, BENDS AND ELBOWS WITH RADIUS OF 1-1/2 TIMES WIDTH OF DUCT ON CENTER LINE. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 30 DEGREES DIVERGENCE AND 45 DEGREE CONVERGENCE. RECTANGULAR DUCT LONGITUDINAL SEAMS SHALL BE PITTSBURGH LOCK. TRANSVERSE JOINTS SHALL BE DRIVE SLIP SEALED WITH CANVAS AND ADHESIVE. OR DUCTMATE . DUCT AND PLENUM JOINTS AND FIELD FORMED SEAMS SHALL BE SEALED FOR AIR AND WATER TIGHTNESS. TAPE SHALL BE OF 6 OZ. CANVAS SATURATED WITH ARABOL OR DUCTMATE ENVIROSEAL UL181 DUCT SEALANT WITHOUT TAPE. TAPE OR SEALANT SHALL BE EXTENDED A MINIMUM OF ONE INCH BEYOND JOINT OR SEAM OPENINGS. SEAL DUCTWORK ACCORDING TO SMACNA TABLE 1-2, SEAL CLASS B. DUCT SIZES SHOWN ARE CLEAR INTERNAL DIMENSIONS. PITCH TOP OF RECTANGULAR DUCT SO THAT WATER DOES NOT POND.

DUCTWORK LINER: OWENS CORNING QUIET-R ROTARY DUCT LINER, R-8 RIGID, RESIN BONDED FIBROUS GLASS BLANKETS OR BOARD WITH FLAME RETARDANT VEIL FACED AIRSTREAM SURFACE, COMPLY WITH ASTM C916 AND ADHERE DUCT LINER TO SHEET METAL WITH 90% COVERAGE OF ADHESIVE, SECURE DUCT LINER WITH METAL FASTENERS, EITHER WELD-SECURED OR IMPACT DRIVEN, SPACING PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS FOR VELOCITY LESS THAN 2500 FT/MIN.

GAS PIPING MATERIAL: SCHEDULE 40 GALVANIZED STEEL PIPE, ANSI B125.2 WITH 150 PSI GALVANIZED MALLEABLE IRON THREADED FITTINGS ANSI B16.3; VALVES: APOLLO MODEL 94A BRASS, 2-PIECE, FULL PORT BALL VALVE WITH CSA, UL AND FM APPROVALS

General Notes

- 1

WORK SHALL COMPLY WITH STATE & LOCAL CODES
- 2

PROVIDE LABOR, MATERIALS, TOOLS, APPURTENANCES & EQUIPMENT REQUIRED TO FURNISH & INSTALL COMPLETE & OPERATIONAL MECHANICAL SYSTEMS SHOWN
- 3

DUCTWORK & PIPING SHALL BE SEISMICALLY BRACED & SUPPORTED PER CBC CHAPTER 16A, SEE MEP ANCHORAGE NOTES
- 4

INSTALLATION INSTRUCTIONS FOR LISTED EQUIPMENT SHALL BE MADE AVAILABLE TO INSPECTOR OF RECORD AT TIME OF INSPECTION
- 5

PROVIDE CUTTING & PATCHING AS REQUIRED FOR INSTALLATION OF NEW WORK. PATCHING SHALL MATCH ADJACENT FINISH, COLOR & MATERIAL TO SATISFACTION OF SCHOOL DISTRICT
- 6

CONTRACTOR TO FIELD VERIFY LOCATION OF ALL MECHANICAL UTILITY POINTS OF CONNECTION & REQUIREMENTS PRIOR TO STARTING CONSTRUCTION
- 7

PROVIDE UL LISTED FIRESTOP SYSTEMS FOR ALL DUCTWORK & PIPING PENETRATIONS THROUGH RATED FLOORS, WALLS AND ROOF
- 8

"REMOVE" INDICATES REMOVAL OF FIXTURES INCLUDING ASSOCIATED DUCTWORK, PIPING, HANGERS, INSULATION, WIRING, SUPPORTS, ETC. REMOVE BRANCH PIPING BACK TO WITHIN 6" OF ACTIVE MAIN & CAP OR CONNECT TO NEW WORK
- 9

REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF RATED WALL, FLOOR AND CEILING ASSEMBLIES
- 10

CONTRACTOR SHALL STOP WORK AND ALERT THE GENERAL CONTRACTOR IMMEDIATELY IF ANY WORK UNDER THIS SECTION DISRUPTS ASBESTOS AND/OR LEAD-CONTAINING MATERIALS. REFER TO SECTION "HAZARDOUS MATERIAL CONDITIONS" FOR LOCATIONS OF HAZARDOUS MATERIALS AT THE SITE.
- 11

CONTRACTOR SHALL PROVIDE SCALED SHOP DRAWINGS OF ROOFTOP DUCTWORK FOR REVIEW PRIOR TO INSTALLATION.

List of Codes

2016 CA BUILDING CODE
2016 CA ELECTRICAL CODE
2016 CA MECHANICAL CODE
2016 CA PLUMBING CODE
2016 CA FIRE CODE
2016 CA BUILDING ENERGY CODE
2016 CA BUILDING GREEN BUILDING STANDARDS

LIST OF CODES AND STANDARDS MODEL CODE EDITIONS EFFECTIVE JANUARY 1, 2017

Legend & Abbreviations

24 x 12

24 x 12

RECTANGULAR DUCT WITH NET INSIDE DIMENSION SHOWN, FIRST FIGURE IS WIDTH, SECOND FIGURE IS DEPTH

24 x 12

24 x 12

SHOWN, FIRST FIGURE IS WIDTH, SECOND FIGURE IS DEPTH

12"Ø

12"Ø

ROUND DUCT WITH NET INSIDE DIMENSIONS SHOWN

R

W

RADIUS ELBOW IN DUCT, R=W

SQUARE ELBOW IN DUCT WITH TURNING VANES

VOLUME DAMPER IN DUCT

EQUIPMENT TO BE REMOVED

AP	ACCESS PANEL	IE	INVERT ELEVATION
AFF	ABOVE FINISHED FLOOR	MEOR	MECHANICAL ENGINEER OF RECORD
BF	BELOW FLOOR	MFR	MANUFACTURER
CMC	CALIFORNIA MECHANICAL CODE	(N)	NEW
CLG	CEILING	NCRA	NON-RESIDENTIAL CERTIFICATE OF ACCEPTANCE
CTE	CONNECT TO EXISTING (  )	NRCC	NON-RESIDENTIAL CERTIFICATE OF COMPLIANCE
CTN	CONNECT TO NEW	N.T.S.	NOT TO SCALE
DF	DUCT FURNACE	POC	POINT OF CONNECTION
DH	DUCT HEATER	SS	STAINLESS STEEL
DN	DOWN	TYP	TYPICAL
DSA	DIVISION OF THE STATE ARCHITECT	U.O.N.	UNLESS OTHERWISE NOTED
(E)	EXISTING		
E.S.P.	EXTERNAL STATIC PRESSURE		
FC	FLOW CONTROL		
GPM	GALLONS PER MINUTE		

EF

1

EQUIPMENT TYPE

EQUIPMENT NO.

EQUIPMENT TAG

1

M4.01

DETAIL NO.

SHEET NO.

DETAIL TAG

Mechanical Scope of Work

Remove rooftop heating and ventilating units, exhaust fans, flues, ductwork, piping and supports.  
Install new rooftop heating and ventilating units, exhaust fans, flues, ductwork, piping and supports. New equipment of similar size, capacity and weight as existing.

Mechanical Drawing Index

SHEET NUMBER	SHEET TITLE
M0.0	MECHANICAL LEGEND & ABBREVAITIONS AND GENERAL NOTES
M1.0	MECHANICAL SCHEDULES AND DETAILS
M2.0	MECHANICAL ROOF DEMOLITION PLAN
M2.1	MECHANICAL ROOF PLAN

APPROVED

DIV. OF THE STATE ARCHITECT

APP. 01-118048 INC.

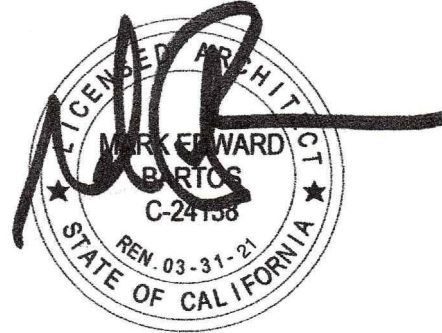
REVIEWED FOR

SS ☒ FLS ☒ ACS ☒

DATE: 09/05/2019

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Santa Cruz  
Schools



Mission Hill  
Middle School  
425 King Street  
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Mission Hill  
Middle School

Roof Replacement

REVISION	DATE
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DSA Backcheck	9/5/2019

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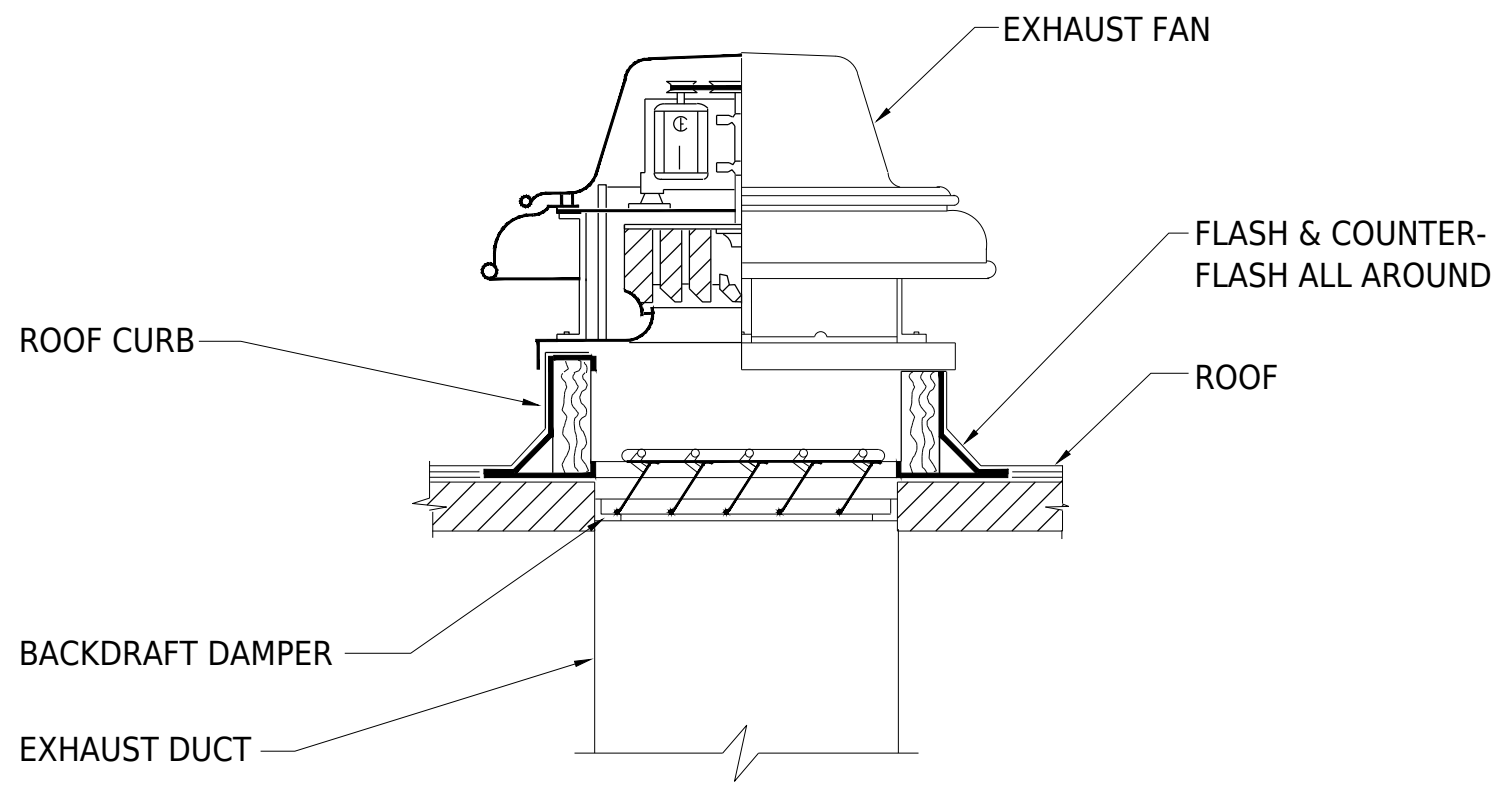


Mechanical  
Legend & Abbreviations,  
& General Notes

M0.0

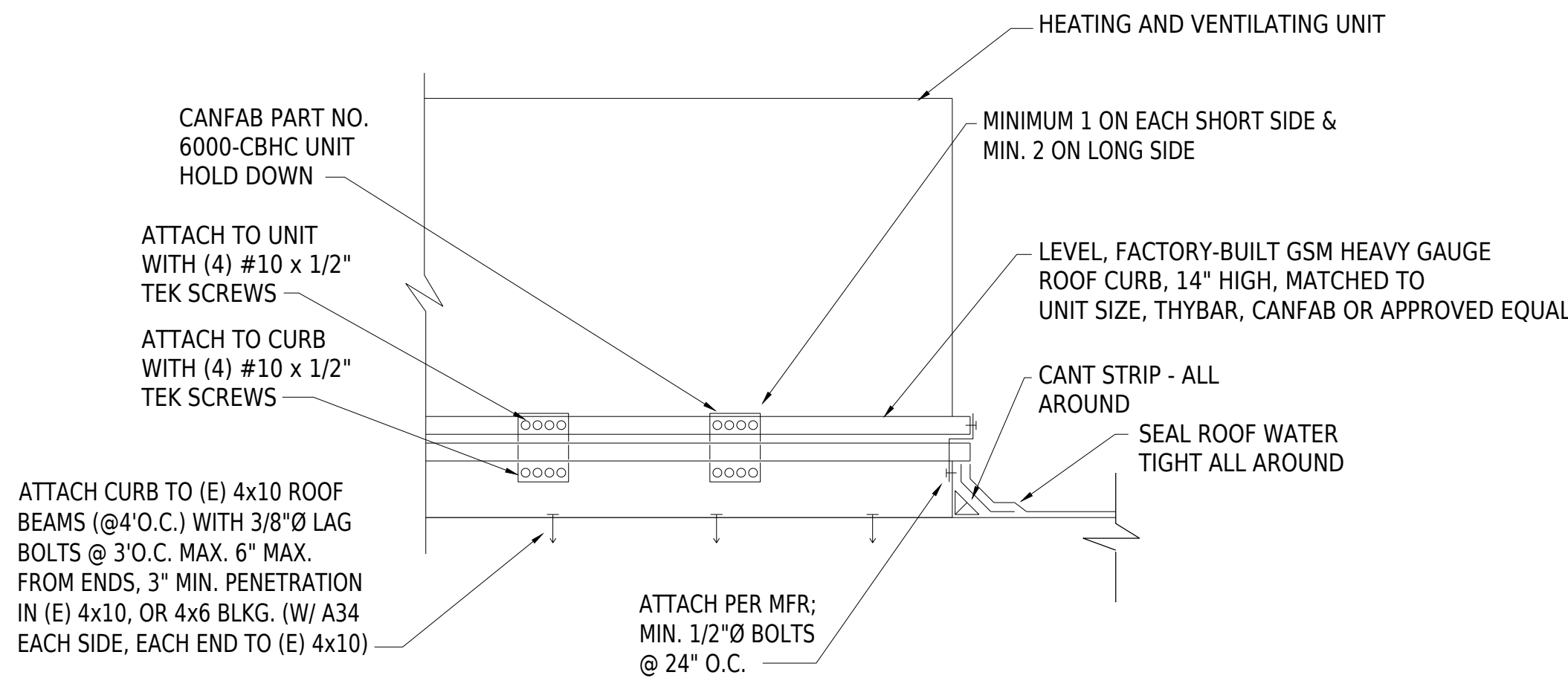
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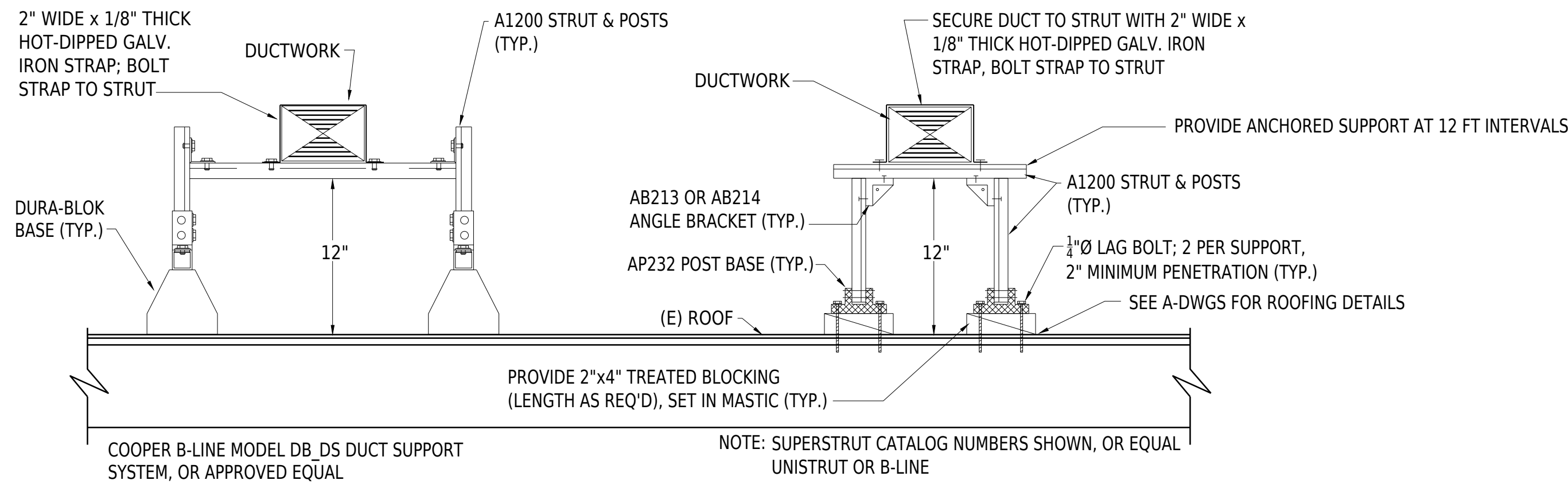
DETAIL - EXHAUST FAN ON ROOF  
NTS

4



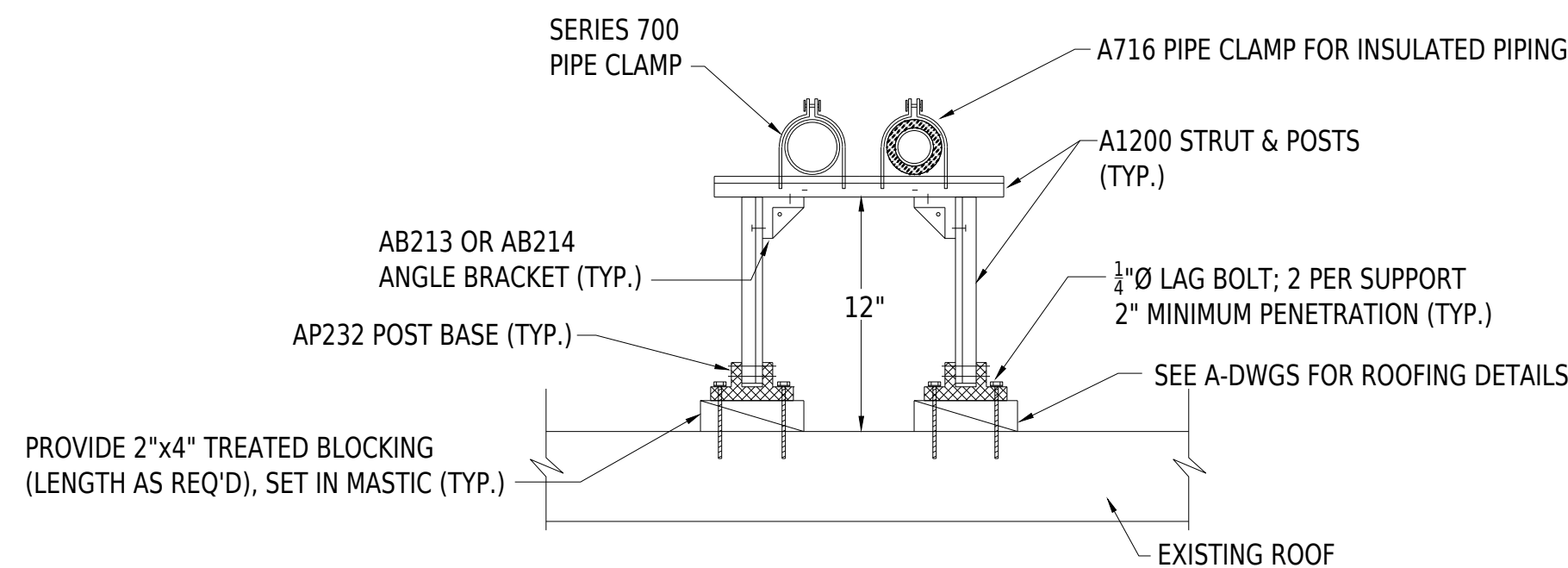
DETAIL - HEATING AND VENTILATING UNIT MOUNTING ON ROOF  
NTS

3



DETAIL - RECTANGULAR DUCT SUPPORT ON ROOF  
NTS

2



DETAIL - PIPE SUPPORT ON ROOF  
NTS

1

NOTE: SUPERSTRUT CATALOG NUMBERS SHOWN, OR EQUAL UNISTRUT OR B-LINE

## HEATING AND VENTILATING UNIT SCHEDULE

TAG	SERVICE	MFR	MODEL	SUPPLY CFM	T.S.P.	ELECTRICAL DATA			HEATING INPUT (MBH)	HEATING OUTPUT (MBH)	WEIGHT (LBS)	REMARKS
						VOLTS	PHASE	HP				
RTU-1	BOYS LOCKER	TRANE	GRAA15GDBF0	4200	1/2"	208	3	3	150	120	784	① ② ④
RTU-2	GIRLS LOCKER	TRANE	GRAA15GDBF0	4200	1/2"	208	3	3	150	120	784	① ② ④
RTU-3	GYM WEST	TRANE	GRAA20GDBF0	4200	1/2"	208	3	5	200	160	895	② ③ ④ ⑤
RTU-4	GYM EAST	TRANE	GRAA20GDBF0	4200	1/2"	208	3	5	200	160	895	② ③ ④ ⑤

### NOTES:

- ① PROVIDE FACTORY ROOF CURB (SEE 3/M1.0), VERTICAL DUCT CONFIGURATION, OUTSIDE AIR HOOD WITH BACKDRAFT DAMPERS
- ② PROVIDE DUCT MOUNTED SMOKE DETECTOR IN SUPPLY DUCT WIRED TO SHUT DOWN UNIT UPON ACTIVATION PER CMC 608
- ③ PROVIDE FACTORY ROOF CURB (SEE 3/M1.0), HORIZONTAL DUCT CONFIGURATION
- ④ PROVIDE NEW WALL MOUNTED PROGRAMMABLE THERMOSTAT WITH LOCKING PROTECTIVE COVER, MOUNT WITH TOP OF BOX AT +48" ABOVE FLOOR
- ⑤ PROVIDE DEMAND CONTROL VENTILATION CONTROLS

## EXHAUST FAN SCHEDULE

TAG	SERVICE	MFR	MODEL	EXHAUST CFM	T.S.P.	ELECTRICAL DATA			WEIGHT (LBS)	REMARKS
						VOLTS	PHASE	HP		
EF-10	GIRLS TOILET	GREENHECK	G-095	500	1/2"	120	1	1/6	37	① ②
EF-11	GIRLS LOCKER	GREENHECK	GB-200	5000	1/2"	208	3	1-1/2	159	① ②
EF-12	BOYS LOCKER	GREENHECK	GB-180	3500	1/2"	208	3	3/4	157	① ②
EF-13	BOYS TOILET	GREENHECK	G-095	500	1/2:	120	1	1/6	37	① ②

### NOTES:

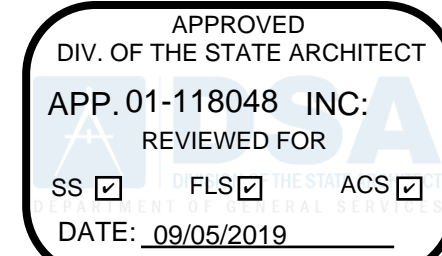
- ① PROVIDE ROOF CURB AND BACKDRAFT DAMPER; SEE 4/M1.0
- ② CONNECT TO EXISTING CONTROLS

## EXISTING H&V UNIT SCHEDULE

TAG	MFR	MODEL	HP	VOLTS	PH.	HEATING INPUT (MBH)	HEATING OUTPUT (MBH)	WEIGHT	REMARKS
RTU-1	TRANE	GRAA15GDA	3	208	3	150	120	784 LBS.	REMOVE AND REPLACE
RTU-2	TRANE	GRAA15GDA	3	208	3	150	120	784 LBS.	REMOVE AND REPLACE
RTU-3	TRANE	GRAA20GDB	3	208	3	200	160	895 LBS.	REMOVE AND REPLACE
RTU-4	TRANE	GRAA20GDB	3	208	3	200	160	895 LBS.	REMOVE AND REPLACE

## EXISTING EXHAUST FAN SCHEDULE

TAG	MFR	MODEL	HP	VOLTS	PH.	WEIGHT	REMARKS
EF-10	PENN	DX10	1/6	120	1	43 LBS.	REMOVE AND REPLACE
EF-11	GREENHECK	GB-200	1/4	120	1	84 LBS.	REMOVE AND REPLACE
EF-12	GREENHECK	GB-180	1/2	120	1	139LBS.	REMOVE AND REPLACE
EF-13	PENN	DX10	1/4	120	1	64 LBS.	REMOVE AND REPLACE



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**Santa Cruz  
Schools**



Mission Hill  
Middle School  
425 King Street  
Santa Cruz,  
California, 95060



**Mission Hill  
Middle School**

Roof Replacement

REVISION DATE  
DSA Submittal 3/1/2019  
DSA Backcheck 9/5/2019

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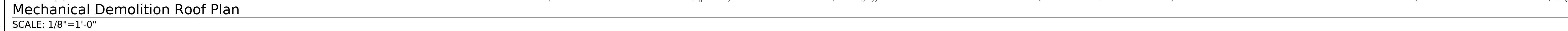


Mechanical  
Schedules and Details

**M1.0**

BA 17-006.9





SHEET NOTES:

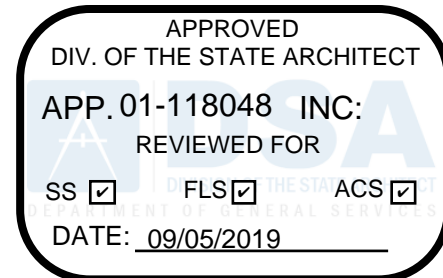
- ① Remove heating and ventilating unit
- ② Remove exhaust fan
- ③ Remove gravity ventilator
- ④ Remove gas piping
- ⑤ Remove flue thru roof
- ⑥ Remove ductwork
- ⑦ Remove air intake thru roof
- ⑧ Remove disconnect
- ⑨ Remove boiler thru roof, and below roof in boiler room below; remove water heater flue

REVISION	DATE
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Mechanical  
Demolition Roof Plan  
**M2.0**

BA 17-006.9



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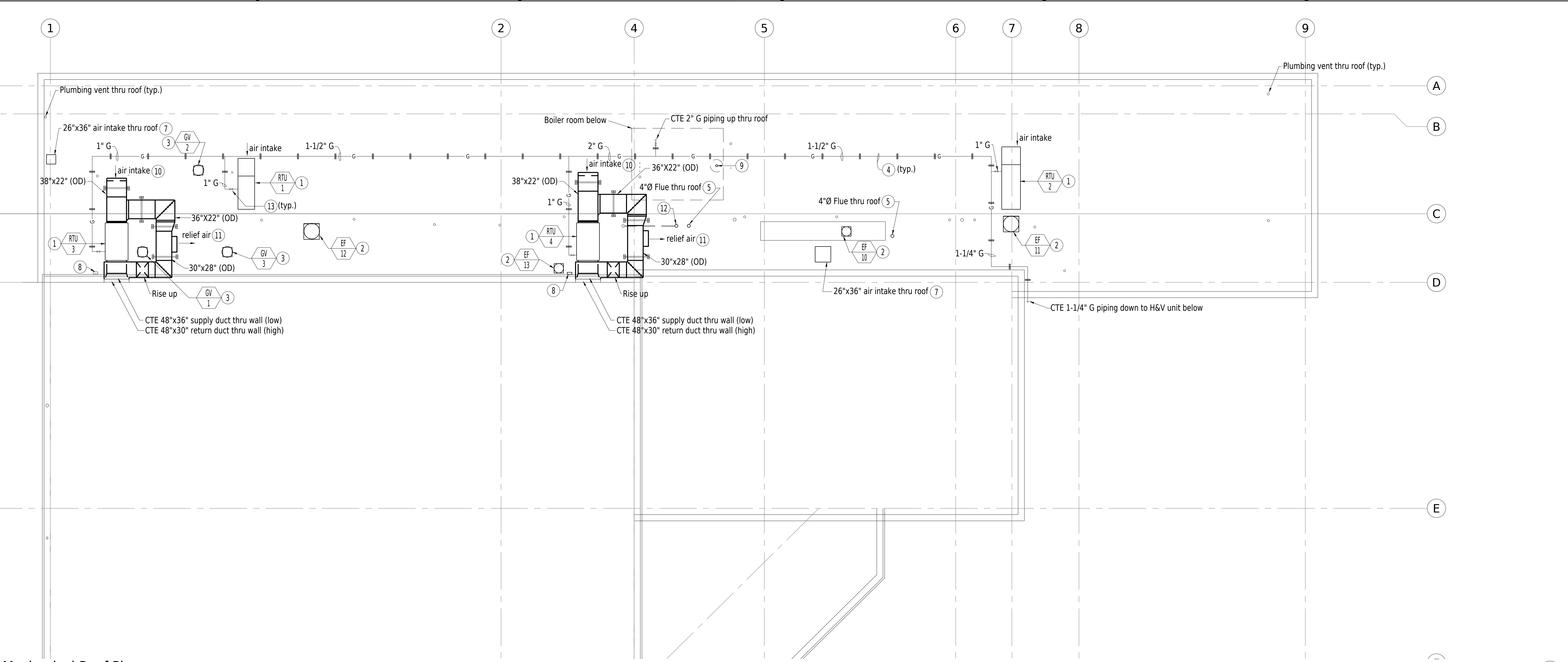
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## Roof Replacement





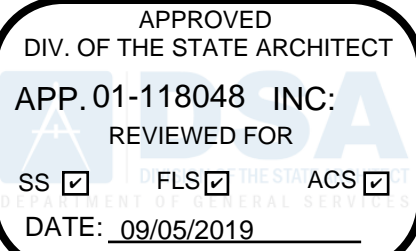
Mechanical Roof Plan  
SCALE: 1/8"=1'-0"

GENERAL NOTES

- 1 Install (N) equipment as shown, generally in the same location as the equipment that was removed, connect to (E) ductwork or piping
- 2 Coordinate work with roofing contractor
- 3 At the completion of the work, test, adjust, balance and record supply, return, outside air and exhaust air quantities for rooftop equipment and provide report, see specifications
- 4 Ductwork and piping sizes noted on these plans shall be verified in field prior to ordering of new materials; contractor shall match existing ductwork and pipe sizes, u.o.n.
- 5 Seal water tight all curb, ductwork and piping penetrations of walls and roof
- 6 New ductwork on roof shall be galvanized sheet metal with internal insulation, see specifications

SHEET NOTES:

- 1 Install (N) heating and ventilating unit on (N) curb
- 2 Install (N) exhaust fan on (N) curb
- 3 Install (N) gravity ventilator on (N) curb
- 4 Install (N) galv. steel gas piping on roof with (N) sup
- 5 Install (N) flue thru roof with (N) UL Listed weather cap
- 6 Install (N) ductwork with (N) supports
- 7 Install (N) air intake thru roof; provide weather cap
- 8 Install (N) weatherproof disconnect for H&V unit on
- 9 Install (N) 4"Ø flue for (E) gas water heater below, extend up thru roof and install (N) UL Listed weather cap
- 10 Install (N) 38"x22" outside air intake with motorized dampers and galv. birdscreen over 45 degree angled opening; maintain min. 10 ft between air intakes and exhaust discharges, flues and plumbing vents
- 11 Install (N) 30"x20" relief air discharge with motorized dampers and galv. birdscreen over 45 degree angled opening
- 12 Offset 4"Ø flue below roof and rise up thru roof in location shown; Install (N) UL Listed weather cap
- 13 Install (N) UL Listed ball type shut off valve, flexible connector and dirt leg at connection to H&V unit



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1

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Mechanical  
Roof Plan

**M2.1**

BA 17-006.9