GENERAL INFORMATION

G000	COVER SHEET
G101	REGULATORY SITE PLAN
G102	REGULATORY FLOOR PLAN

CIVIL

SD/C100	TOPOGRAPHIC SURVEY LEGEND
SD/C101	TOPOGRAPHIC SURVEY
SD/C102	TOPOGRAPHIC SURVEY
SD/C201	DEMOLITION PLAN
SD/C202	DEMOLITION PLAN
SD/C301	SITE AND LAYOUT PLAN
SD/C302	SITE AND LAYOUT PLAN
SD/C401	GRADING AND DRAINAGE PLAN
SD/C402	GRADING AND DRAINAGE PLAN
SD/C501	UTILITY PLAN
SD/X101	SITE DETAILS
SD/X102	FENCE DETAILS
SD/X201	UTILITY DETAILS
SD/X202	UTILITY DETAILS
SD/L101	IRRIGATION PLAN
SD/L102	IRRIGATION PLAN
SD/L103	IRRIGATION DETAILS
SD/L104	IRRIGATION DETAILS
SD/L201	PLANTING PLAN
SD/L202	PLANTING PLAN
SD/L203	PLANTING LEGEND
SD/L204	PLANTING DETAILS

ARCHITECTURAL

SITE DEVELOPMENT

SD/A101	PARTIAL SITE PLAN - SOUTH
SD/A102	PARTIAL SITE PLAN - NORTH
SD/A103	ENLARGED SITE PLANS

TYPICAL INFORMATION

X/A101	WALL ASSEMBLIES AND DETAILS
X/A201	FINISH SCHEDULES
X/A301	MODULAR CASEWORK SCHEDULE AND DETAILS
X/A401	OPENING SCHEDULES, FRAME ELEVATIONS, DETAILS
X/A410	OPENING AND HARDWARE, DETAILS
X/A501	EXTERIOR DETAILS
X/A502	EXTERIOR DETAILS
X/A601	INTERIOR DETAILS
X/A602	INTERIOR DETAILS

BUILDING S

S/A101	FLOOR PLAN
S/A201	REFLECTED CEILING PLAN
S/A301	ROOF PLAN
S/A401	EXTERIOR ELEVATIONS, BUILDING SECTIONS
S/A501	WALL SECTIONS
S/A601	INTERIOR ELEVATIONS- ROOMS 101 - 105
S/A602	INTERIOR ELEVATIONS- ROOMS 106 - 108
S/A701	SIGNAGE PLAN AND SCHEDULE

STRUCTURAL

X/S101	TYPICAL PROJECT NOTES & DETAILS
X/S102	TYPICAL CONCRETE NOTES & DETAILS
X/S103	TYPICAL CONCRETE NOTES & DETAILS
X/S104	TYPICAL STEEL NOTES & DETAILS
X/S105	TYPICAL LIGHT GAUGE NOTES & DETAILS
X/S106	TYPICAL LIGHT GAUGE NOTES & DETAILS
X/S107	TYPICAL TIMBER NOTES & DETAILS
A/S201	FOUNDATION PLAN
A/S301	ROOF FRAMING PLAN
A/S302	CEILING AND CANOPY FRAMING PLAN
A/S401	ELEVATIONS
A/S403	SECTIONS
A/S501	FOUNDATION DETAILS
A/S601	DETAILS

MECHANICAL

X/M101	MECHANICAL DETAILS
X/M201	MECHANICAL SCHEDULES
X/M301	TITLE 24
X/M302	TITLE 24
X/M303	TITLE 24
S/M101	MECHANICAL PLAN
S/M201	MECHANICAL ROOF PLAN

PLUMBING

SD/P101	PLUMBING SITE PLAN
X/P101	PLUMBING DETAILS
X/P102	PLUMBING DETAILS
X/P103	SEISMIC DETAILS
X/P104	SEISMIC DETAILS
X/P105	SEISMIC DETAILS
X/P106	PLUMBING DETAILS
X/P201	PLUMBING SCHEDULES
S/P101	PLUMBING FLOOR PLAN
S/P102	PLUMBING FLOOR PLAN
S/P202	PLUMBING ROOF PLAN

ELECTRICAL

SD/E101	OVERALL SITE ELECTRICAL PLAN
SD/E201	SITE ELECTRICAL PLAN
X/E101	ELECTRICAL SYSTEMS - SYMBOLS AND NOTES
X/E102	ELECTRICAL SYSTEMS - DETAILS
X/E201	LIGHTING SYSTEMS - DETAILS, NOTES, AND FIXTURE SCHEDULE
X/E301	POWER SYSTEMS - SINGLE LINE DIAGRAM AND DETAILS
X/E401	ELECTRONIC SYSTEMS - SINGLE LINE DIAGRAM AND DETAILS
X/E501	FIRE ALARM SYSTEM - SYMBOLS, NOTES, AND DETAILS
X/E502	FIRE ALARM SYSTEM - SINGLE LINE DIAGRAM AND CALCULATIONS
X/E601	TITLE 24 COMPLIANCE FORMS - INDOOR LIGHTING
X/E602	TITLE 24 COMPLIANCE FORMS - OUTDOOR LIGHTING
X/E603	TITLE 24 COMPLIANCE FORMS - SOLAR AND BATTERY
X/E604	TITLE 24 COMPLIANCE FORMS - ELECT. POWER DISTRIBUTION
S/E101	LIGHTING PLAN
S/E201	POWER AND SYSTEMS PLAN
S/E301	FIRE ALARM PLAN
S/E401	ROOF ELECTRICAL PLAN

BLEACHERS

BL/001	BLEACHERS 9-ROWS
BL/002	BLEACHERS 5-ROWS

MUSCO FIELD LIGHTS

MT1	NOTES, FOUNDATION DETAIL
MS1	80A POLE DETAIL
MD1	ATTACHMENT DETAILS
MD2	ATTACHMENT DETAILS
MD3	ATTACHMENT DETAILS

NEVCO SCOREBOARD DRAWINGS
DSA P.C. 04-122317

SB0.1	COVER SHEET
SB0.2	STRUCTURAL NOTES & SPECIAL INSPECTIONS
SB0.3	DSA 103 - TESTING AND INSPECTIONS
SB2.2	TWO COLUMN CAISSON - BOLTED
SB5.1	ATTACHMENT DETAILS
SB5.2	OPTION SCOREBOARD FEATURE ATTACHMENTS

TOTAL SHEET COUNT: 107

Statement of General Conformance

(Application No. 02-123203 File No. 20-30)

The drawings identified as follows:

- ☒ All drawing sheets included in this set not bearing my stamp and signature.
- ☐ Drawing sheets denoted in the sheet index as follows: _____
- ☐ Drawing sheets included under the following PC approval(s): _____

Have/has been prepared by other design professionals or consultants who are licensed and/or authorized to prepare such drawings (plans) 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 specification prepared by me, and

2) coordination with my drawings (plans) and specifications, and are 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 — Date: 09/01/2025

Architect or Engineer designated to be in general responsible charge

Antonio J. Avila
Print Name

C26235 10-31-25
License Number **Expiration**

Emergency Responder Radio Coverage:

Architect of Record (AOR) shall contact the local fire department and/or emergency communications authority to obtain design and equipment specifications, and testing and acceptance criteria. It is the responsibility of the design professional / AOR to submit plans and requested documentation, and applicable fees, to the local authority having jurisdiction for review and approval. Upon completion, copies of the approved plans, equipment data sheets, and proof of testing and acceptance documentation shall be provided to the school district. The Project Inspectors shall verify that documentation is provided to the school districts.

Energy Code - Acceptance Testing:

The California Energy Code Section 10-103 requires Acceptance Testing on all newly installed lighting controls, mechanical systems, envelopes, and process equipment after installation and before project completion. An Acceptance Test is a functional performance test to help ensure that newly installed equipment is operating and in compliance with the Energy Code.

- Lighting controls acceptance tests must be performed by a certified lighting controls Acceptance Test Technician (ATT).
- Mechanical system acceptance tests must be performed by a certified mechanical ATT for projects submitted on or after October 1, 2021.
- Envelope and process equipment acceptance tests shall be performed by the installing contractor, engineer/architect of record or the owner's agent.
- A listing of certified ATT can be found at: https://www.energy.ca.gov/programs-and-topics/programs/acceptance-test-technician-certification-provider-program/acceptance.
- The Acceptance Testing procedures must be repeated, and deficiencies must be corrected by the builder or installing contractor until the construction/installation of the specified systems conform and pass the required acceptance criteria.
- Project inspectors will collect the forms to confirm that the required Acceptance Tests have been completed.

Changes to Approved Drawings and Specifications:

Changes to the Approved Drawings and Specifications shall be made by an Addendum or a Construction Change Document (CCD) approved by the Division of the State Architect (DSA), as required by Section 4-338, Part 1, Title 24, CCR.

Substitutions affecting items regulated by the Division of the State Architect (DSA) require DSA approval as an Addendum or Construction Change Document (CCD). DSA approval shall be obtained prior to fabrication and/or installation per Section 4-338, Part 1, Title 24, CCR.

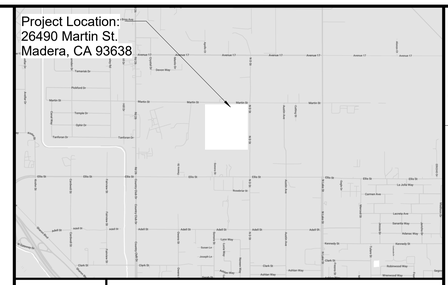
Non-Complying Existing Conditions:

The intent of these Drawings and Specifications is that 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).

Project Certification Contingent on Other Projects:

Note: The Path of Travel includes portions of work currently in construction under 02-122959 (Desmond MS - Track Upgrades) (ACS Only). This project cannot be certified until the Path of Travel is verified as completed, including the portions of site work under 02-122959.

B11 Regulatory Information



N14 Vicinity Map

All work shall be performed in accordance with current applicable codes and standards including, but not limited to, the following:

California Code of Regulations (CCR)
CCR-T5: Title 5-Education
CCR-T8: Title 8-Industrial Safety
CCR-T19: Title 19-Public Safety
CCR-Title 24:

Building Codes and Standards:
2022 California Building Standards Administrative Code (Part 1, Title 24, CCR)

2022 California Building Code, Volumes 1 and 2 (Part 2, Title 24, CCR)

2022 California Electrical Code (Part 3, Title 24, CCR)

2022 California Mechanical Code (Part 4, Title 24, CCR)

2022 California Plumbing Code (Part 5, Title 24, CCR)

2022 California Energy Code (Part 6, Title 24, CCR)

2022 California Elevator Safety Construction Code (Part 7, Title 24, CCR)

2022 California Fire Code, Part 9, Title 24, CCR)

2022 California Referenced Standards Code (Part 12, Title 24, CCR)

2022 California Green Building Standards Code

NFPA 13, 2022 Edition, The Installation of Automatic Sprinkler Systems

NFPA 14, 2019 Edition, Installation of Standpipe

NFPA 24, 2022 Edition, Installation of Private Fire Service Mains and their Appurtenances

NFPA 72, 2022 Edition, National Fire Alarm Code

Division of the State Architect (DSA):
SSS: Structural Safety Section
ACS: Access Compliance Section
FLS: Fire Life Safety
Interpretation of Regulation Manual

A "DSA Certified" project inspector employed by the District (Owner) and approved by the DSA shall provide continuous inspection of the work. The duties of the inspector are defined in Section 4-342, Part 1, Title 24, CCR.

A DSA accepted Testing Laboratory directly employed by the District (Owner) shall conduct all the required tests and inspections for the project.

All construction and demolition shall be in accordance with Chapter 33 of the CBC and CFC, and the written site fire safety plan, Refer to Specification Section 01 50 00 - TEMPORARY FACILITIES AND CONTROLS for requirements.

H14 Applicable Codes

Notes:
1. The Contractor Shall Be Responsible For The Preparation and Submittal Of The Deferred Approval Items To The Division Of The State Architect (DSA) For Review and Approval Prior To The Installation. The Submittal Shall Comply With The Requirements Of Specification Section 013300: Submittals.
2. Installation of Deferred Approval items shall not be started until Contractor's drawing, specifications, and engineering calculations for the actual system(s) to be installed have been reviewed by the Architect and/or the Structural Engineer, and approved by the DSA.

Description of Deferred Item
Bleachers (exceeding 5 rows)
.
.

F14 Deferred Approval

Project includes but is not limited to a new Snack Bar/Toilet Building (Building S), Bleachers, Field Lights, Scoreboard, and associated site and utility work.

B14 Project Description

DSA File No.: *20-30*

DSA Application No.: *02-123203*

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

ELECTRICAL
Hardin-Davidson Engineering
356 Pollasky Ave. Suite 200
Clovis, CA 93612
T (559) 324-4805
F (559) 323-4928

MECHANICAL
Lawrence Engineering Group
7084 N Maple Ave Ste 101
Fresno, CA 93720
(559) 431-0101

STRUCTURAL
Brooks Ransom Associates
7415 N Palm Ave Ste 100
Fresno, CA 93711
T (559) 449-8444
F (559) 449-8404

CIVIL
Blair, Church & Flynn
451 Clovis Ave. Ste 200
Clovis, CA 93612
T (559) 326-1400
F (559) 326-1500

ARCHITECTURAL
Darden Architects, Inc.
6790 N. West Avenue
Fresno, CA 93711
T (559) 448-8051
F (559) 446-1765

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Darden Project Number: *2470.2*

Date: *06/30/25*

Project Information

darden architects
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051
ARCHITECTURE
PLANNING
INTERIORS
www.dardenarchitects.com

LICENSED ARCHITECT ANTONIO J. AVILA No. C26235 Exp. 10-31-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

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	Accessible Parking Spaces CBC Table 11B-208.2			
Parking Lot	Total Spaces	Required Accessible	Van Accessible	Standard Accessible
Lot A (Staff)	15	1	1	1
Lot B (Staff, Visitor, General)	163	6	1	7

DSA 810

FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

Division of the State Architect (DSA) documents referenced within this publication are available on the DSA Forms or DSA Publications webpages.

To facilitate the Division of the State Architect's (DSA) fire and life safety plan review of project site conditions, DSA requires the design professional to provide the following information at time of project submittal for projects consisting of construction of a new campus, construction of new building(s), additions to existing buildings, and for site alternate design means for fire department emergency vehicle access, and fire suppression water supply.

Information associated with compliance items 1 through 3 below is to be provided for all project types indicated above. Information associated with items 4a, 5a, 6a, 7a, and 8a are to be completed when requesting DSA Acknowledgement by the school district and signature from the Local Fire Authority (LFA) is only required when an alternate design means is being requested.

The Project Information and Fire & Life Safety information sections are to be completed for all projects and imaged onto the fire access site plan. When an alternate design/means is proposed, all sections on pages 1 and 2 are to be completed and imaged on the fire access site plan.

For additional information refer to the instructions at the end of this form and DSA Policy *PL 09-01: Fire Flow for Buildings*.

PROJECT INFORMATION	
School District/Owner	Madera Unified School District
Project Name/School	Desmond MS - ELOP Year Two
Project Address	26490 Martin St., Madera, CA 93638

FIRE & LIFE SAFETY INFORMATION				
1.	Has a fire hydrant flow test been performed within the past 12 months? *(If yes, provide a copy of the test data.)*	Yes ☑		No ☐
2.	Was the fire hydrant water flow test performed as part of this LFA review?	Yes ☑		No ☐
3.	Is the project located within a designated fire hazard severity zone (FHSZ) as established by Cal-Fire? (If yes, indicate FHSZ classification below.)	Yes ☐		No ☑
	Refer to the following website for FHSZ locations: Fire Hazard Severity Zones in State Responsibility Area	Moderate ☐	High ☐	Very High ☐
	Wildland Interface Area (WFA): (If any designations are checked, project design must meet the requirements of CBC Chapter 7A.)			WFA ☐

CONDITION MEANS AND METHODS RESOLUTION		ALTERNATE ACCEPTED		
		Yes	No	N/A
4.	Emergency vehicle access roadways do not meet CFC requirements.			
4a.	**Acceptable Alternate:** Emergency vehicle and personnel access as proposed by the project architect is acceptable for providing fire suppression and protection of life and property.	✔		
5.	**Fire Hydrants:** Number and spacing does not meet CFC requirements.			✔
5a.	**Acceptable Alternate:** Number of fire hydrants and spacing as proposed by the project architect is acceptable for fire suppression and protection of life and property.			
6.	**Fire Hydrants:** Water flow and pressure are less than CFC minimum.			✔
6a.	**Acceptable Alternate:** The available flow and pressure is acceptable for providing fire suppression and protection of life and property.			
7.	Location of fire department connection(s) serving fire sprinkler systems or standpipe systems does not meet CFC requirements.			✔
7a.	**Acceptable Alternate:** The location of fire department connection serving the fire sprinkler system and/or standpipe system is acceptable for providing fire suppression and protection of life and property.			

School District Acceptance of Acceptable Design Alternates

By signing this form, the school district acknowledges and accepts the proposed design as an alternative to California Building Code (CBC) and California Fire Code (CFC) minimum requirements, as indicated by one or more of the conditions indicated at items 4a, 5a, 6a or 7a, for providing fire and life safety protection of life and property.

Accepted for: Madera Unified School District Title: Assistant Superintendent

Signature: [signature] Date: 9/29/2025

LOCAL FIRE AUTHORITY (LFA) INFORMATION	
LFA Agency Name:	CITY OF MADERA
LFA Review Official:	MATTHEW STARR
Title:	FIRE MARSHAL / CAPTAIN
Work Phone:	559-324-2451
Work Email:	MSTARR@MADERA.GOV
LFA Reviewer's Signature:	[signature] Date: 9/29/25

FLOW TEST

LOCATION: 16633 North D St

DATE: 8 May 2025

INFO

Static: 48 PSI
Residual: 40 PSI
Pitot: 21 PSI

Orifice Size: 2.5-inch

Flow: 839 GPM

Available Flow at 20 PSI residual pressure: 1650GPM

Q= (.9x29.84x2.5**2x25**1/2) = 839 GPM

At 20 PSI
Q2 = 839 x [(48-20)/ 148-40)]**.54

Q2 = 839 x 1.3**.54 = 1650 GPM

Flow test performed, and calculations run by Matthew S. Tarr, FPE

FLOW TEST

LOCATION: 26490 Martin Street

DATE: 29 July 2025

INFO

Static: 42 PSI
Residual: 36 PSI
Pitot: 22 PSI

Orifice Size: 2.5-inch

Flow: 787 GPM

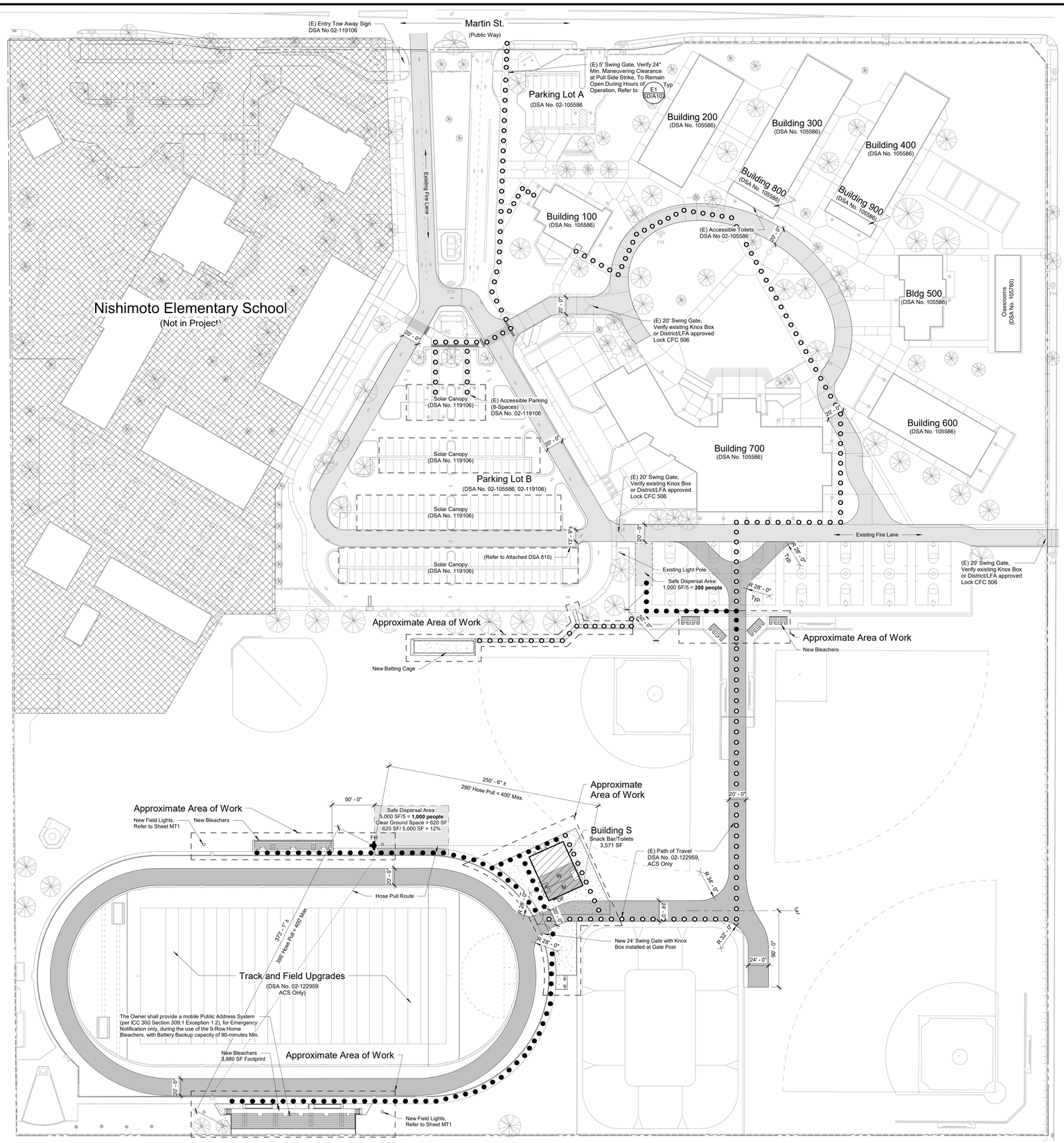
Available Flow at 20 PSI residual pressure: 2729 GPM

Q= (.9x29.84x2.5**2x20**1/2) = 888 GPM

At 20 PSI
Q2 = 787 x [(42-20)/ (42-36)]**.54

Q2 = 787 x 3.67**.54 = 1587 GPM

Flow test performed, and calculations run by Matthew S. Tarr, FPE



DSA File No.:
20-30

DSA Application No.:
02-123203

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DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

SYMBOLS

- Assumed Property Line
- Frontage Line
- Accessible Path of Travel
- Accessible Path of Egress
- Existing Fire Truck Access Lane (Previously Designated)
- New Fire Truck Access Lane (Newly Designated)
- FH — PLUMBING, Fire Hydrant (FH), New
- FH — PLUMBING, Fire Hydrant (FH), Existing
- FDC — PLUMBING, Fire Department Connection (FDC) (Siamese), Existing
- PIV — PLUMBING, Post Indicator Valve (PIV), Existing
- Accessible Restroom Location: B = Boys, G = Girls, M = Men, W = Women, A = All Gender, S = Staff
- Existing Building not included in this project
- New Additions and Existing Buildings included in this project
- Approximate Area of Work Provided for convenience only, refer to Drawings for full extent of scope in Project, including utilities and points of connection

ABBREVIATIONS

DF ACCESSABLE DRINKING FOUNTAIN LOCATION
(-HA = High Adult)
(-LA = Low Adult)

NOTES

1. Site Gates, Site Ramps, and Site Stair locations in the "Path of Travel" are indicated on Drawing REGULATORY COMPLIANCE SITE PLAN and FLOOR PLAN.
2. The Path of Travel shall be a barrier-free route without abrupt level changes exceeding 1/4" vertical or 1/2" if beveled at 1:2 maximum slope. The Path of Travel slopes shall not exceed a running slope of 1:20 (5%). The Path of Travel slopes shall not exceed a Cross Slope of 1:50 (2%). The Path of Travel shall not have overhead obstructions within 80" above the walking surface or obstructions protruding more than 4" between 27" and 80" above the walking surface.
3. The "Path of Travel" as shown on Drawing REGULATORY COMPLIANCE SITE PLAN, shall not have any unprotected vertical drop exceeding 4 inches at the time of the preparation of the contract documents and DSA approval. Contractor shall verify and bring any non-complying items to the attention of the Architect.
4. All new concrete surface within the "Path of Travel" shall have a non-slip medium broom finish as called for in Specification Section CAST-IN-PLACE CONCRETE. A heavy broom finish shall be used on all slopes greater than 6%.

Design Professional in General Responsible Charge Statement:

The POT identified in these construction documents meets the requirements of the current applicable California Building Code (CBC) 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 with the CBC have been identified and 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 indicated in these construction documents.

During construction, if POT items within the scope of the project represented as CBC compliant are found to be nonconforming beyond reasonable construction tolerances, the items shall be brought into compliance with the CBC as a part of this project by means of a construction change document.

G18 | Regulatory Compliance Site Plan Legend

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

GENERAL INFORMATION
REGULATORY SITE PLAN
Drawing

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LICENSED ARCHITECT · DARDEN J. AVILA · No. C-29235 · Exp. 10-31-25 · STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date

Revision

	Designed By:	Copyright 2022 Darden Architects
Scale: As indicated	Drawn By:	G101
Project Number: 2470.2	Checked By:	
Date: 06/30/25	Reviewed By:	

A1 | Regulatory Compliance Site Plan
1" = 50'-0"

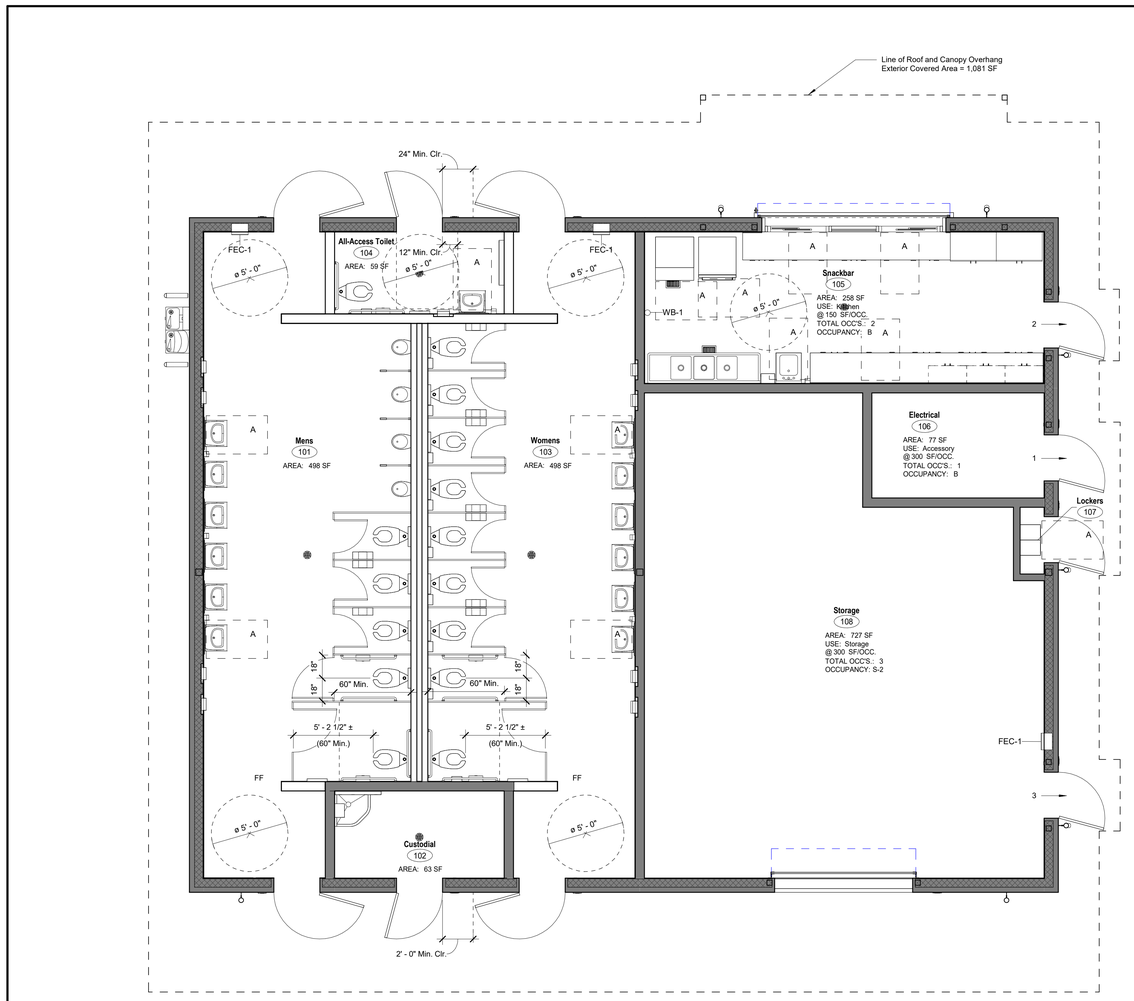
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DSA File No.:
20-30

DSA Application No.:
02-123203

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DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval



SYMBOLS

→ Indicates Exit Occupant Loading

'A' 'A' Indicates Required Accessible Clearance Space

ABBREVIATIONS

DF ACCESSIBLE DRINKING FOUNTAIN LOCATION
(-HA = High Adult)
(-LA = Low Adult)

FEC-1 FIRE PROTECTION SPECIALTIES, Fire Extinguisher and Cabinet. Provide Fire Rated Cabinet at Rated Walls.

WB-1 FIRE PROTECTION SPECIALTIES, Fire Extinguisher on wall bracket

BUILDING INFORMATION

Building Id. & Use: Building S - Snack Bar
Occupancy Classification: Group B and S-2 (Non-Separated)
Construction Type: Type V-B, Non Fire Sprinklered
Actual Building Area:
1st Floor = 2,490 SF
2nd Floor = N/A
Exterior Covered Area = 1,081 SF
Total = 3,571 SF

Basic Allowable Area:
Per Floor (B Occ) = 9,000 SF
Maximum Bldg. Height = (N/A) 2 Floors
Total Building = (N/A) 18,000 SF

Allowable Area Increase: N/A

3,571 SF Actual < 9,000 SF Allowable

F18 | Regulatory Compliance Floor Plan Legend
No Scale

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

GENERAL INFORMATION
REGULATORY FLOOR PLAN
Drawing

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LICENSED ARCHITECT ANTONIO J. AVILES No. C26235 Ren. 10-31-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

Designed Designer
Drawn By: Author
Checked Checker
Reviewed Approver

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Scale: As indicated
Project Number: 2470.2
Date: xx/xx/xx

G102

A7
1/4" = 1'-0"
Regulatory Compliance Floor Plan

Building Orientation on Site
Building View Orientation N

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Desmond MS

GENERAL TOPOGRAPHIC SURVEY LEGEND:

(NOT ALL SYMBOLS SHOWN APPEAR ON THE PLANS)

AB	ABUTMENT
AC	ASPHALTIC CONCRETE
ACE	ASPHALTIC CONCRETE EDGE
AD	ASPHALTIC CONCRETE DIKE
AWT	ALL-WEATHER TRACK
BD	BRIDGE DECK
BFC	BOTTOM FACE OF CURB
BGST	STEPS
BGTR	TOP OF ROOF
BGV	BUILDING VENTS
BOD	BOTTOM OF DITCH
BR	BARRICADE
BRK	BRICK
BW	BARRIER WALL
CB	CATCH BASIN
CDA	CONCRETE DRIVE APPROACH
CE	CONCRETE EDGE
CMP	CORRUGATED METAL PIPE
CON	CONCRETE
COTH	COMMUNICATION TRENCH
CR	CROWN OF ROAD
CRQ	QUARTER CROWN
CS	CONCRETE SLAB
CULV	CULVERT
CW	CONCRETE WALL
DD	DOWN DRAIN
DFL	DITCH FLOWLINE
DWY	DRIVEWAY
ECTH	ELECTRICAL TRENCH
EDR	EDGE OF DIRT ROAD
EGR	EDGE OF GRAVEL ROAD
EOD	EDGE OF OILED DIRT
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
ET	EDGE OF TRAVELED WAY
FF	FINISH FLOOR
FOTH	FIBER OPTIC TRENCH
GB	GRADE BREAK
GFL	GUTTER FLOWLINE
GR	GRATE
GRA	GRAVEL SPOT SHOT
GRAE	EDGE OF GRAVEL
GSTH	GAS TRENCH
HDR	WOOD HEADER
HW	HEAD WALL
KR	K-RAIL
LIP	LIP OF GUTTER
LSDE	DECOMPOSED GRANITE EDGE
LSDG	DECOMPOSED GRANITE
LSGC	GROUND COVER
LSGF	GOLF COURSE FAIRWAY
LSGG	GOLF COURSE GREEN
LSGT	GOLF COURSE TEE
LSSA	SAND
LSSP	SLOPE PROTECTION
LSST	GOLF COURSE SAND TRAP
NPTH	NON-POTABLE TRENCH
PA	PATIO
PGTH	PROPANE GAS TRENCH
POS	POINT ON SLOPE
RCP	REINFORCED CONCRETE
RIEL	RIPARIAN EDGE OF LAKE
RIEP	RIPARIAN EDGE OF POND
RIES	RIPARIAN EDGE OF STREAM
RIEW	RIPARIAN EDGE OF WETLAND
RIFL	RIPARIAN FLOWLINE
RIMC	RIPARIAN MISC.
RIP	RIP-RAP SLOPE PROTECTION
RK	ROCK
RW	RETAINING WALL
SB	SPEED BUMP
SDCD	STORM DRAIN CROSS DRAIN
SDFL	STORM DRAIN FLOWLINE
SDGR	STORM DRAIN GRATE
SDMG	STORM DRAIN MANHOLE W/ GRATE
SSFL	SEWER FLOWLINE
SDTH	STORM DRAIN TRENCH
SSGT	STORM DRAIN GREASE TRAP
SSST	SEWER TANK (SEPTIC)
SSTH	SEWER TRENCH
SWK	SIDEWALK
SWL	SWALE
T	TURF
TBC	TOP BACK OF CURB
TBW	TOP BACK OF WALK
TF	TOP OF FOOTING
TFC	TOP FACE OF CURB
TFW	TOP FACE OF WALK
TLTH	TELEPHONE TRENCH
TOB	TOP OF BANK
TOE	TOE OF SLOPE
TOP	TOP OF SLOPE
TROD	TRUNCATED DOMES
TVTH	TV TRENCH
TW	TOP OF WALL
UTH	UNIDENTIFIED TRENCH/SCAR LINE
VGFL	VALLEY GUTTER FLOWLINE
VGR	VALLEY GUTTER
WALBA	BARRIER WALL
WALBW	BLOCK WALL
WALCW	CONCRETE WALL
WALHW	HEAD WALL
WALRW	RETAINING WALL
WALWW	WING WALL
WCR	WHEELCHAIR RAMP
WLPD	WELL PAD
WTTH	WATER TRENCH
WW	WING WALL
(335.21)	EXISTING ELEVATION
AL	ACCENT LIGHT
AV	ALFALFA VALVE
	BACKFLOW ASSEMBLY
	BASKETBALL GOAL
BOV	BLOW-OFF VALVE
	BM=BENCHMARK; OR SBM=SITE BENCHMARK
BO	BOLLARD
CO	CLEANOUT
COPB	COMMUNICATION PULLBOX
COVA	COMMUNICATION VAULT
312.55	SURVEY CONTROL MONUMENT
DF	DRINKING FOUNTAIN
DS	DOORSTOP
DW	DRYWELL
EG	ELECTRICAL GROUND
ELC	ELECTRICAL CONDUIT
	ELECTRICAL METER
EPB	ELECTRICAL PULLBOX
	ELECTRICAL VAULT LID
ETS	GAS ELECTRONIC TESTING STATION
FDC	FIRE DEPARTMENT CONNECTION
	FIRE HYDRANT
FP	FENCE POST
FLP	FLAG POLE
GAS	GAS LINE; DIAMETER AS SHOWN
GR	GAS REGULATOR
GAV	IRRIGATION GATE VALVE
	GAS METER
GOP	GOAL POST
GP	GUY POLE
GS	GATE STOP
GSR	GAS RISER
GV	GAS VALVE
GRD	GROUNDING ROD
GUY	GUY WIRE
HB	HOSE BIBB
HR	HANDRAIL
ICB	IRRIGATION CONTROLLER
	IRRIGATION DISTRICT MANHOLE
IVA	IRRIGATION REMOTE CONTROL VALVE
ISB	IRRIGATION SPLICE BOX
IHB	IN-GROUND HOSE BIBB
IP	IRON PIPE
JP	JOINT UTILITY POLE
LP	LIGHT POLE
MB	MAIL BOX
	MANHOLE
MV	MANUAL IRRIGATION VALVE
PB	PULLBOX
PIV	POST INDICATOR VALVE
	UTILITY STUB
	PARKING METER
4"POST	POST; DIAMETER AS SHOWN
PP	POWER POLE
6" PVC	PVC PIPE; DIAMETER AS SHOWN
QC	QUICK COUPLER VALVE
RD	ROOF DRAIN
RDU	ROOF DRAIN UNDERGROUND
RS	ROOF SUPPORT
	STADIUM LIGHT POLE
	STORM DRAIN MANHOLE
	SIGN
PPB	SIGNAL LIGHT PUSH BUTTON
	STREET LIGHT
4" SLE	PIPE SLEEVE; DIAMETER AS SHOWN
	SLOPE
SLPB	STREET LIGHT PULLBOX
4"SLV	PIPE SLEEVE; DIAMETER AS SHOWN
	SEWER MANHOLE
SP	SERVICE POLE
SPB	SIGNAL PULLBOX
	SPRINKLER
4" SPO	STEEL POST; DIAMETER AS SHOWN
12"SS	SAND SEPARATOR; SIZE AS NOTED
24"STP	STAND PIPE; DIAMETER AS NOTED
12"STUMP	TREE STUMP; DIAMETER AS SHOWN
WM	SURVEY MONUMENT WELL
4"TEL	TELEPHONE; DIAMETER AS SHOWN
	TELEPHONE MANHOLE
TN	TENNIS NET POLE
TP	TELEPHONE POLE
TPB	TELEPHONE PULLBOX
TVPB	TELEVISION PULLBOX
	TREE; SPREAD SHOWN GRAPHICALLY AND TRUNK DIAMETER AS SHOWN
	PALM TREE; SPREAD SHOWN GRAPHICALLY
TSB	TELEPHONE SPLICE BOX
	TRAFFIC SIGNAL POLE
TSPB	TRAFFIC SIGNAL PULLBOX
UP	UTILITY POLE
UR	UTILITY RISER
VB	VACUUM BREAKER
VN	VOLLEYBALL NET POST
2"VP	VENT PIPE; DIAMETER AS SHOWN
WELL	WELL
W	WATER METER
WP	WELL PUMP
6"WPO	CIRCULAR WOOD POST; DIAMETER AS SHOWN
4"X4"WPO	SQUARE WOOD POST; SIZE AS SHOWN
4"W	WATER LINE; DIAMETER AS SHOWN
WV	WATER VALVE
	ASPHALT PAVEMENT
	CONCRETE BLOCK WALL
	BUILDING
	CONCRETE
	DETECTABLE WARNINGS
	DG OR GRAVEL
	CHAIN LINK FENCE
	CHAIN LINK ROLL GATE
	EDGE OF ASPHALT PAVEMENT
	WOOD FENCE
	DIRECTION OF FLOW
E	UNDERGROUND ELECTRIC
G 6"	GAS LINE; SIZE AS NOTED
OT	OVERHEAD TELEPHONE
SD 18"	STORM DRAIN LINE; SIZE AS NOTED
S 12"	SEWER LINE; SIZE AS NOTED
T	UNDERGROUND TELEPHONE
W 6"	WATER LINE; SIZE AS NOTED
AG 12"	AGRICULTURAL IRRIGATION LINE; SIZE AS NOTED
A 1"	AIR LINE; SIZE AS NOTED
C	COMMUNICATION LINE
350	MAJOR GRADE CONTOUR LINE
345	MINOR GRADE CONTOUR LINE
CW 2"	CHILLED WATER LINE; SIZE AS NOTED
CWR 2"	CHILLED WATER RETURN LINE; SIZE AS NOTED
CWS 2"	CHILLED WATER SUPPLY LINE; SIZE AS NOTED
	LIMIT OF DIRT
	LIMIT OF TURF
DL 1"	DRAIN LINE; SIZE AS NOTED
EMS	EMERGENCY MANAGEMENT SYSTEM
FA	FIRE ALARM LINE
F 8"	FIRE LINE; SIZE AS NOTED
FO	FIBER OPTIC LINE
	DRAIN TUBE
HW 2"	HOT WATER LINE; SIZE AS NOTED
HWR 2"	HOT WATER RETURN LINE; SIZE AS NOTED
HWS 2"	HOT WATER SUPPLY LINE; SIZE AS NOTED
HYD	HYDRAULIC LINE
ID 18"	IRRIGATION DISTRICT; SIZE AS NOTED
	IRON FENCE
IRR 8"	IRRIGATION MAIN LINE; SIZE AS NOTED
L 1"	IRRIGATION LATERAL LINE; SIZE AS NOTED
ITS	INTELLIGENT TRAFFIC SYSTEM
JT	JOINTLY TRENCHED UTILITIES
OC	OVERHEAD COMMUNICATIONS LINE
OE	OVERHEAD ELECTRIC LINE
OEC	OVERHEAD ELECTRIC AND COMMUNICATION LINE
OET	OVERHEAD ELECTRIC AND TELEPHONE LINE
OETV	OVERHEAD ELECTRIC AND TELEVISION LINE
OETVT	OVERHEAD ELECTRIC, TELEVISION AND TELEPHONE LINE
OTS	OVERHEAD TRAFFIC SIGNAL LINE
OTV	OVERHEAD TELEVISION LINE
OU	OVERHEAD UTILITY LINE
P 6"	PETROLEUM LINE; SIZE AS NOTED
RW 3"	RECYCLED WATER IRRIGATION LINE; SIZE AS NOTED
S&SD 6"	SEWER AND STORM DRAIN LINE; SIZE AS NOTED
SFM 6"	SEWER FORCE MAIN; SIZE AS NOTED
ST 2"	STEAM LINE; SIZE AS NOTED
TFO	TRAFFIC FIBER OPTIC LINE
TS	TRAFFIC SIGNAL LINE
TV	TELEVISION LINE
UNK	UNKNOWN UTILITY LINE
	WIRE FENCE
	PROPERTY LINE
	CITY LIMIT
	EASEMENT 1
	EASEMENT 2
	RIGHT-OF-WAY LINE
	SETBACK LINE

DSA File No.:
20-30

DSA Application No.:
02-123203

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DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

General Notes

Blair, Church & Flynn Consulting Engineers
451 Clovis Avenue, Suite 200
Clovis, California 93612
Tel (559) 326-1400
Fax (559) 326-1500

LICENSED PROFESSIONAL ENGINEER — No. 67216 — CIVIL — STATE OF CALIFORNIA
07/18/2025 Date Signed

Consultant

Jack G. Desmond MS - Improvements Phase 2
Madera Unified School District
26490 Martin Street,
Madera, CA 93638

Project

TOPOGRAPHIC SURVEY LEGEND

Drawing

darden architects
ARCHITECTURE
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www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

LICENSED ARCHITECT — ANTONIO J. AVILA — No. C26235 — Exp. 10-31-25 — STATE OF CALIFORNIA

Architect

No.	Revison/Submission	Date

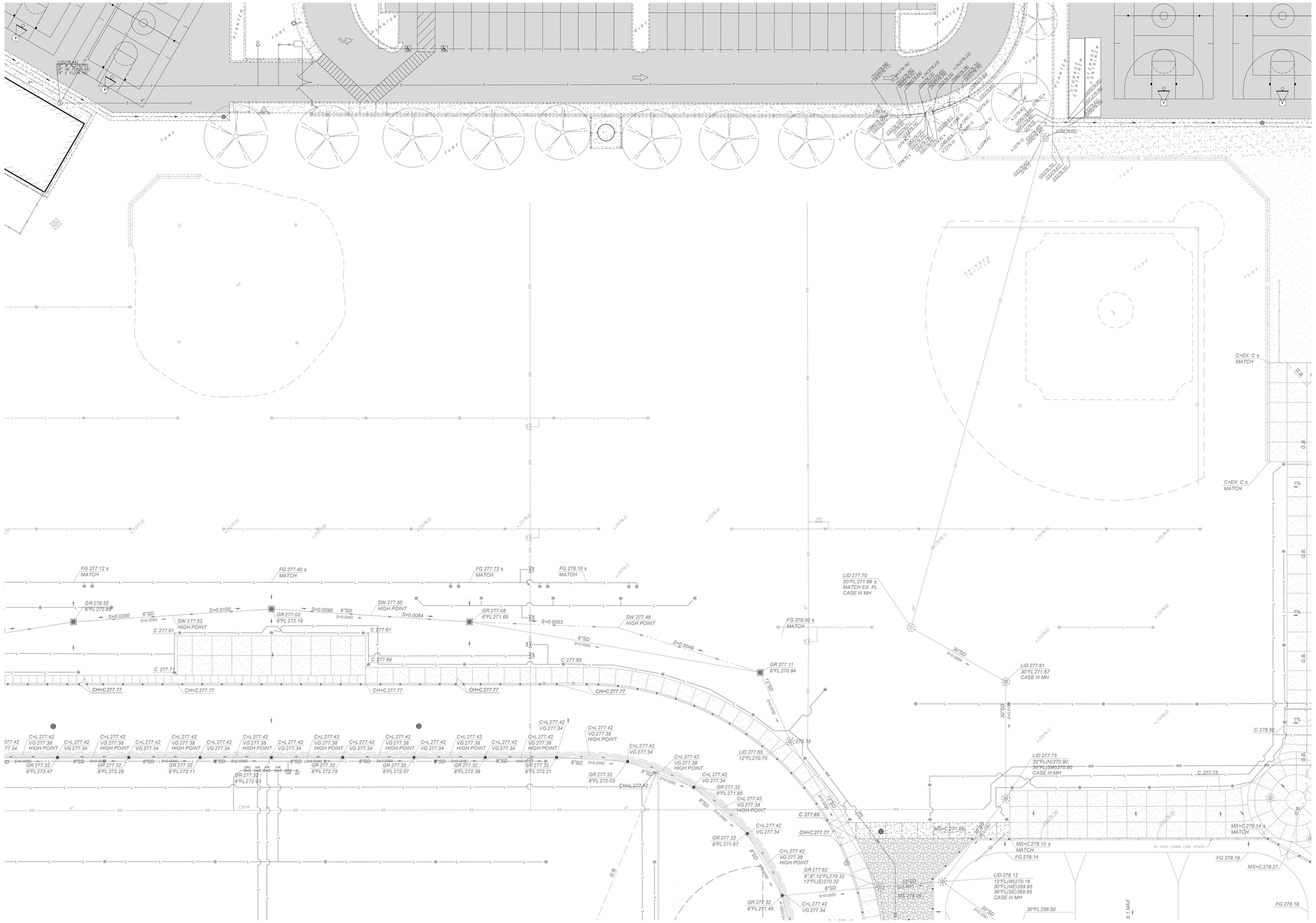
100% CONSTRUCTION DRAWINGS

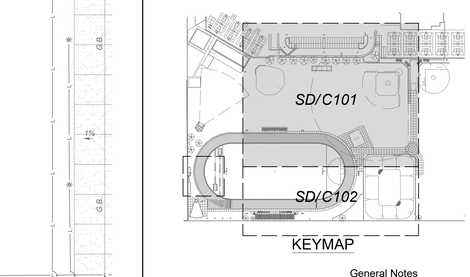
Revision

	Designed By: KL	Copyright 2025 Darden Architects
Scale: 1" = 20'	Drawn By: TJ	
Project Number: 2470.2	Checked By: ZDH	
Date: 07/18/2025	Reviewed By: JB	

SD/C100

Drawing: P:\224\224-0293\Phase_2\ProductionDrawings\224293_ph2_lts01.dwg Layout1 - BCF.ctb
Plot by: ahammouda Jul 30, 2025 - 4:19pm





SCALE: N 1"=20'

0 5 20 40
SCALE IN FEET

DSA File No.:
20-30

DSA Application No.:
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SITE BENCHMARK:

CHISELED X IN CONCRETE MOWSTRIP, APPROXIMATELY 196 FEET EAST OF THE SOUTHWEST CORNER OF THE SITE

ELEV.= 278.31 NAVD88

NOTE:

THIS TOPOGRAPHIC SURVEY LOCATES SPECIFIC PHYSICAL FEATURES OF THE SITE AND THEIR ELEVATION AS DETERMINED NECESSARY BY THE PROJECT ENGINEER. IT IS NOT A COMPLETE TOPOGRAPHIC SURVEY OF THE SITE. THE INFORMATION SHOWN REFLECTS THE DATA OBTAINED BY FIELD SURVEY CONDUCTED ON JANUARY 10, 2025

UTILITY NOTE:

UTILITY INFORMATION SHOWN HEREON IS BASED ON RECORD INFORMATION SUPPLIED TO THE ENGINEER BY UTILITY COMPANIES, PUBLIC AGENCIES AND THE PROPERTY OWNER, TOGETHER WITH OBSERVATION OF VISIBLE EVIDENCE BY A FIELD SURVEY. THE ENGINEER CAN MAKE NO GUARANTEE AS TO THE ACCURACY OR COMPLETENESS OF THE UNDERGROUND UTILITY FACILITIES SHOWN. PRIOR TO ANY SITE EXCAVATIONS, THE CONTRACTOR SHALL CONTACT THE OWNER AND UNDERGROUND SERVICE ALERT (USA) AND REQUEST THAT THEY IDENTIFY THE LOCATION OF ALL UNDERGROUND UTILITIES AT THE SITE.

General Notes

Blair, Church & Flynn CONSULTING ENGINEERS

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451 Clovis Avenue, Suite 200
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Fax (559) 326-1500

REGISTERED PROFESSIONAL ENGINEER — JEFFREY D. ALTOMARE — No. 81218 — CIVIL — STATE OF CALIFORNIA
07/18/2025 Date Signed

Consultant

Jack G. Desmond MS - Improvements Phase 2
Madera Unified School District
26490 Martin Street,
Madera, CA 93638

Project

TOPOGRAPHIC SURVEY

Drawing

darden architects
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INTERIORS
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LICENSED ARCHITECT — DAVID J. ALTOMARE — No. C26235 — Exp. 10-31-25 — STATE OF CALIFORNIA

Architect

No.	Revison/Submission	Date

100% CONSTRUCTION DRAWINGS

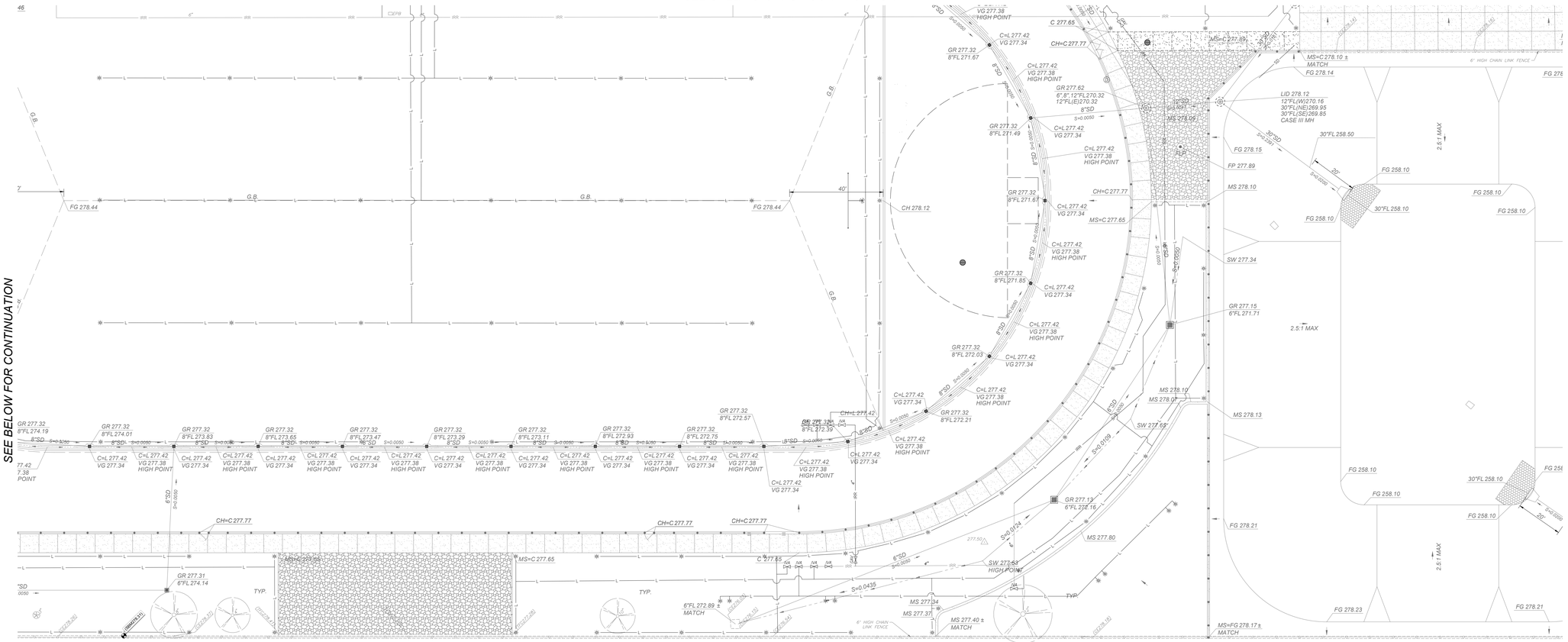
Revision

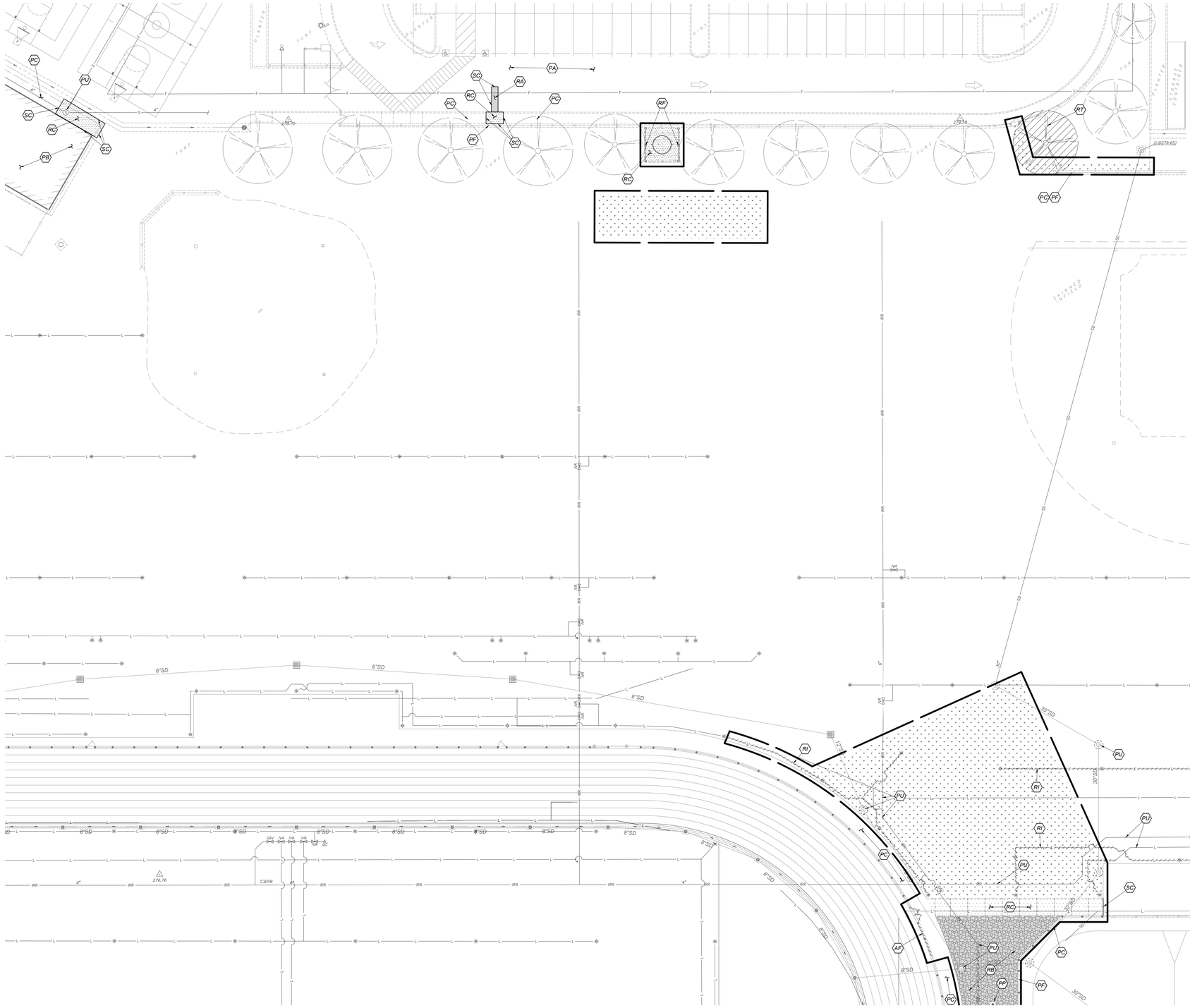
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Scale: 1" = 20'	Drawn By: TJ	**SD/C101**
Project Number: 2470.2	Checked By: ZDH	
Date: 07/18/2025	Reviewed By: JB	

Drawing: P:\224\224-0293\Phase_2\ProductionDrawings\224293_ph2_ls01.dwg: Layout2 - BCF.ctb
Plot by: ahammouda Jul 30, 2025 - 4:19pm

SEE SHEET C101 FOR CONTINUATION

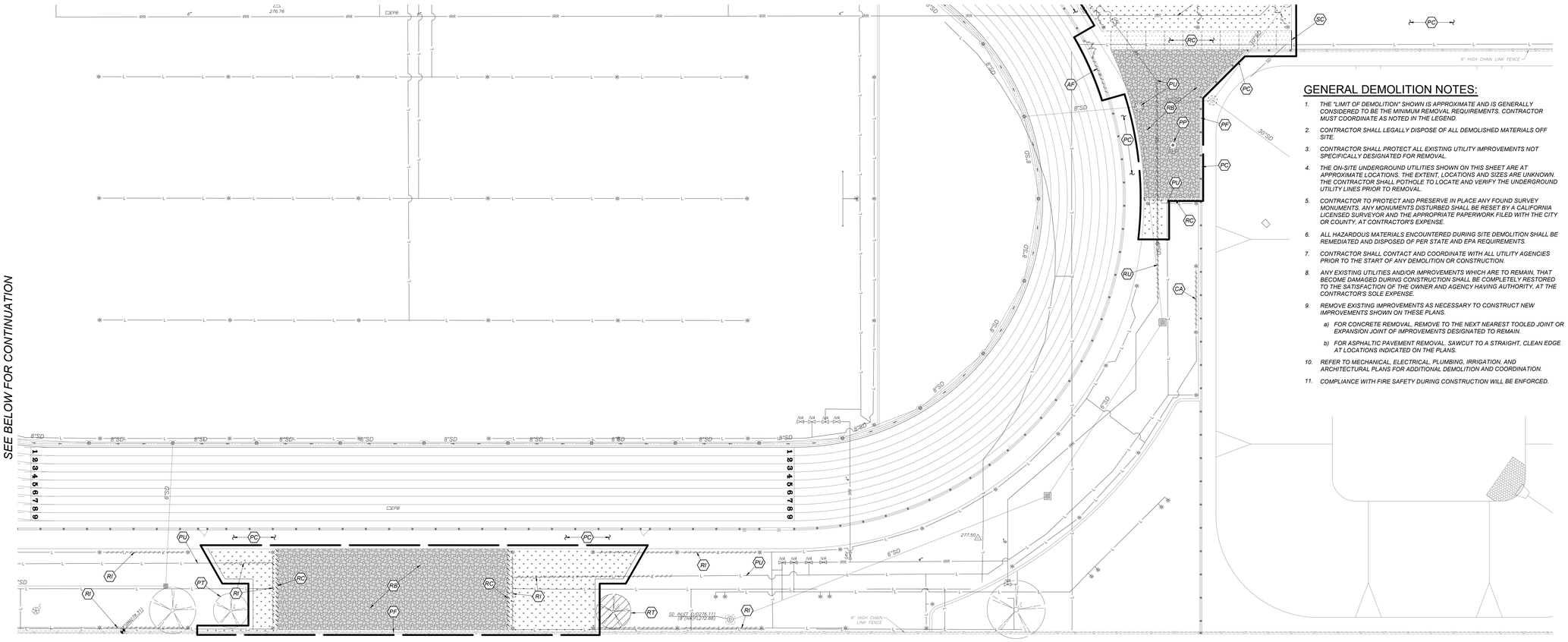
SEE BELOW FOR CONTINUATION


46
IRR
CSEPR
G.B
FG 278.44
40'
CH 278.12
C=L 277.42
VG 277.34
CH=C 277.77
GR 277.32
8"FL 271.67
8"SD
S=0.0050
C=L 277.42
VG 277.38
HIGH POINT
GR 277.62
6",8",12"FL270.32
12"FL(E)270.32
GR 277.32
8"FL 271.49
GR 277.32
8"FL 271.85
GR 277.32
8"FL 272.03
GR 277.32
8"FL 272.21
GR 277.32
8"FL 272.39
GR 277.32
8"FL 272.57
MS=C 277.65
MS=C 277.89
MS=C 278.10 ± MATCH
FG 278.14
LID 278.12
12"FL(W)270.16
30"FL(NE)269.95
30"FL(SE)269.85
CASE III MH
30"SD
30"FL 258.50
FG 278.15
FP 277.89
MS 278.10
FG 258.10
30"FL 258.10
SW 277.34
GR 277.15
6"FL 271.71
2.5:1 MAX
MS 278.07
MS 278.13
SW 277.52
S=0.0109
GR 277.13
6"FL 276.16
MS 277.80
SW 277.52
HIGH POINT
S=0.0124
S=0.0435
MS 277.34
MS 277.37
MS 277.40 ± MATCH
6"FL 272.89 ± MATCH
6" HIGH CHAIN LINK FENCE
MS=FG 278.17 ± MATCH
FG 278.21
FG 278.23
20'
TYP.
GR 277.31
6"FL 274.14
GR 277.32
8"FL 274.19
GR 277.32
8"FL 274.01
GR 277.32
8"FL 273.83
GR 277.32
8"FL 273.65
GR 277.32
8"FL 273.47
GR 277.32
8"FL 273.29
GR 277.32
8"FL 273.11
GR 277.32
8"FL 272.93
GR 277.32
8"FL 272.75
C=L 277.42
VG 277.38
HIGH POINT
C=L 277.42
VG 277.34
CH=C 277.42
6"SD
S=0.0050
8"SD
S=0.0050
S=0.0109
S=0.0124
S=0.0435
S=0.0050
S=0.0050
S=0.0050


PC
PU
SC
RC
PB
SC
PA
SC
RA
RC
PC
PC
PF
SC
RF
RC
PC PF
RT
(.0279.65)
279.4
278.0
TURF
PLANTED
DIRT
PLANTED
TURF
PLANTED
CONCRETE
CURB
TURF
TURF
TURF

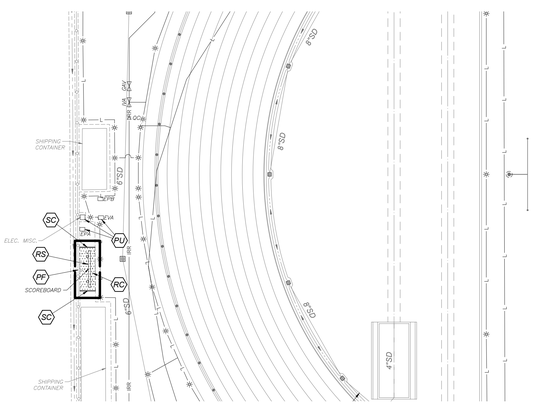
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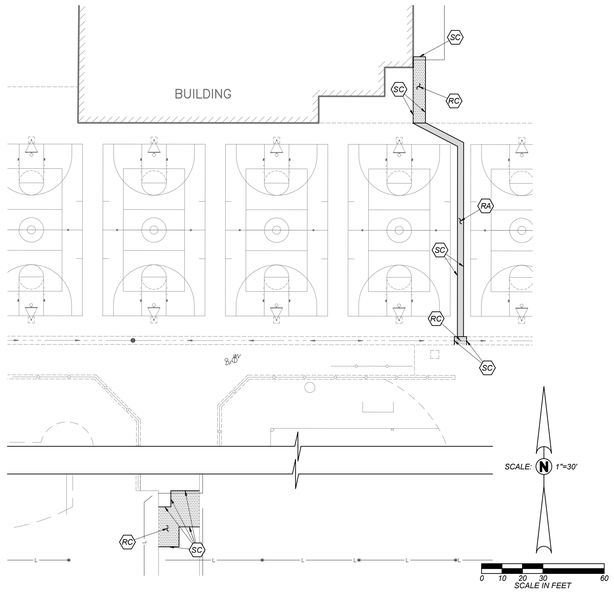
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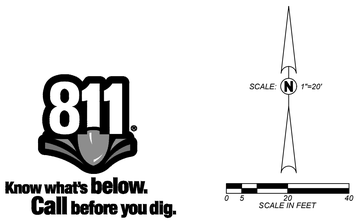
GENERAL DEMOLITION NOTES:

1. *THE "LIMIT OF DEMOLITION" SHOWN IS APPROXIMATE AND IS GENERALLY CONSIDERED TO BE THE MINIMUM REMOVAL REQUIREMENTS. CONTRACTOR MUST COORDINATE AS NOTED IN THE LEGEND.*
2. *CONTRACTOR SHALL LEGALLY DISPOSE OF ALL DEMOLISHED MATERIALS OFF SITE.*
3. *CONTRACTOR SHALL PROTECT ALL EXISTING UTILITY IMPROVEMENTS NOT SPECIFICALLY DESIGNATED FOR REMOVAL.*
4. *THE ON-SITE UNDERGROUND UTILITIES SHOWN ON THIS SHEET ARE AT APPROXIMATE LOCATIONS. THE EXTENT, LOCATIONS AND SIZES ARE UNKNOWN. THE CONTRACTOR SHALL POTHOLE TO LOCATE AND VERIFY THE UNDERGROUND UTILITY LINES PRIOR TO REMOVAL.*
5. *CONTRACTOR TO PROTECT AND PRESERVE IN PLACE ANY FOUND SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE RESET BY A CALIFORNIA LICENSED SURVEYOR AND THE APPROPRIATE PAPERWORK FILED WITH THE CITY OR COUNTY, AT CONTRACTOR'S EXPENSE.*
6. *ALL HAZARDOUS MATERIALS ENCOUNTERED DURING SITE DEMOLITION SHALL BE REMEDIATED AND DISPOSED OF PER STATE AND EPA REQUIREMENTS.*
7. *CONTRACTOR SHALL CONTACT AND COORDINATE WITH ALL UTILITY AGENCIES PRIOR TO THE START OF ANY DEMOLITION OR CONSTRUCTION.*
8. *ANY EXISTING UTILITIES AND/OR IMPROVEMENTS WHICH ARE TO REMAIN, THAT BECOME DAMAGED DURING CONSTRUCTION SHALL BE COMPLETELY RESTORED TO THE SATISFACTION OF THE OWNER AND AGENCY HAVING AUTHORITY, AT THE CONTRACTOR'S SOLE EXPENSE.*
9. *REMOVE EXISTING IMPROVEMENTS AS NECESSARY TO CONSTRUCT NEW IMPROVEMENTS SHOWN ON THESE PLANS.*
   a) *FOR CONCRETE REMOVAL, REMOVE TO THE NEXT NEAREST TOOLED JOINT OR EXPANSION JOINT OF IMPROVEMENTS DESIGNATED TO REMAIN.*
   b) *FOR ASPHALTIC PAVEMENT REMOVAL, SAWCUT TO A STRAIGHT, CLEAN EDGE AT LOCATIONS INDICATED ON THE PLANS.*
10. *REFER TO MECHANICAL, ELECTRICAL, PLUMBING, IRRIGATION, AND ARCHITECTURAL PLANS FOR ADDITIONAL DEMOLITION AND COORDINATION.*
11. *COMPLIANCE WITH FIRE SAFETY DURING CONSTRUCTION WILL BE ENFORCED.*





SEE SHEET C201 FOR CONTINUATION



811 Know what's below. Call before you dig.

DSA File No.: 20-30

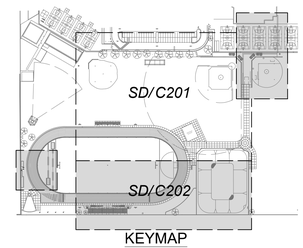
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DEMOLITION LEGEND:

- *REMOVE EXISTING IMPROVEMENTS AS NECESSARY TO CONSTRUCT NEW IMPROVEMENTS SHOWN ON THESE PLANS UNLESS OTHERWISE NOTED ON THE PLAN. THE REMOVAL OF IMPROVEMENTS MUST BE COORDINATED WITH ALL PLAN SHEETS. CONTRACTOR MUST ALSO COORDINATE REMOVAL OF IMPROVEMENTS WITH UTILITY AGENCIES. PROTECT ALL IMPROVEMENTS NOT DESIGNATED FOR REMOVAL. SEE NOTE 1*
- *LIMITS OF VEGETATION REMOVAL. 4" MINIMUM DEPTH*
- *LIMITS OF ASPHALTIC CONCRETE IMPROVEMENT REMOVAL*
- *LIMITS OF CONCRETE IMPROVEMENT REMOVAL*
- *LIMITS OF AGGREGATE BASE REMOVAL*
- *LIMITS OF CONCRETE CURB REMOVAL*
- *LIMIT OF IRRIGATION LATERAL LINE REMOVAL/ABANDONMENT*
- *REMOVE TREE*
- (AF) *ADJUST FENCE FABRIC AS NECESSARY FOR NEW GATE, SEE SITE PLAN. PROTECT FENCE POSTS TO SUIT NEW GATE. PROTECT ALL HARDSCAPE AND TRACK IMPROVEMENTS. REMOVE FENCE POSTS AS NEEDED FOR CLEAR OPENING BY CUTTING FENCE POSTS FLUSH AND GRINDING THE CUT-OFF FENCE POST SMOOTH WITH THE MOWSTRIP. FILL THE BELOW-GRADE POST WITH A 2-SACK CEMENT SLURRY*
- (CA) *CAP AND ABANDON IRRIGATION LATERAL*
- (PA) *PROTECT ASPHALT CONCRETE PAVEMENT TO REMAIN*
- (PB) *PROTECT BUILDING TO REMAIN*
- (PC) *PROTECT CONCRETE IMPROVEMENTS TO REMAIN*
- (PF) *PROTECT FENCE TO REMAIN*
- (PP) *PROTECT FLAG POLE AND FOOTING TO REMAIN*
- (PU) *PROTECT UTILITY TO REMAIN*
- (RA) *REMOVE ASPHALT CONCRETE PAVEMENT STRUCTURAL SECTION*
- (RB) *REMOVE AGGREGATE BASE*
- (RC) *REMOVE CONCRETE IMPROVEMENTS*
- (RI) *REMOVE/ABANDON IRRIGATION SYSTEM AS NEEDED PER IRRIGATION PLAN, SEE SHEET SDL101*
- (RS) *REMOVE SCOREBOARD AND ASSOCIATED ELECTRICAL. COORDINATE WITH OWNER FOR ELECTRICAL REMOVAL/ABANDONMENT. BACKFILL AND PATCH BACK TURF IN AREA OF DEMOLITION AS NECESSARY FOR SCOREBOARD FOOTING REMOVAL*
- (RT) *REMOVE TREE AND ROOTBALL*
- (SC) *SAWCUT*



General Notes

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451 Clovis Avenue, Suite 200
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Fax (559) 326-1500
REGISTERED PROFESSIONAL ENGINEER ZACHARY D. HUGHES No. 91715 CIVIL STATE OF CALIFORNIA

Consultant

Jack G. Desmond MS - Improvements Phase 2
Madera Unified School District
26490 Martin Street,
Madera, CA 93638

Project

DEMOLITION PLAN

Drawing

darden architects
ARCHITECTURE
PLANNING
INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051
LICENSED ARCHITECT ANTONIO J. AZULAY No. C26235 Exp. 10-31-25 STATE OF CALIFORNIA

Architect

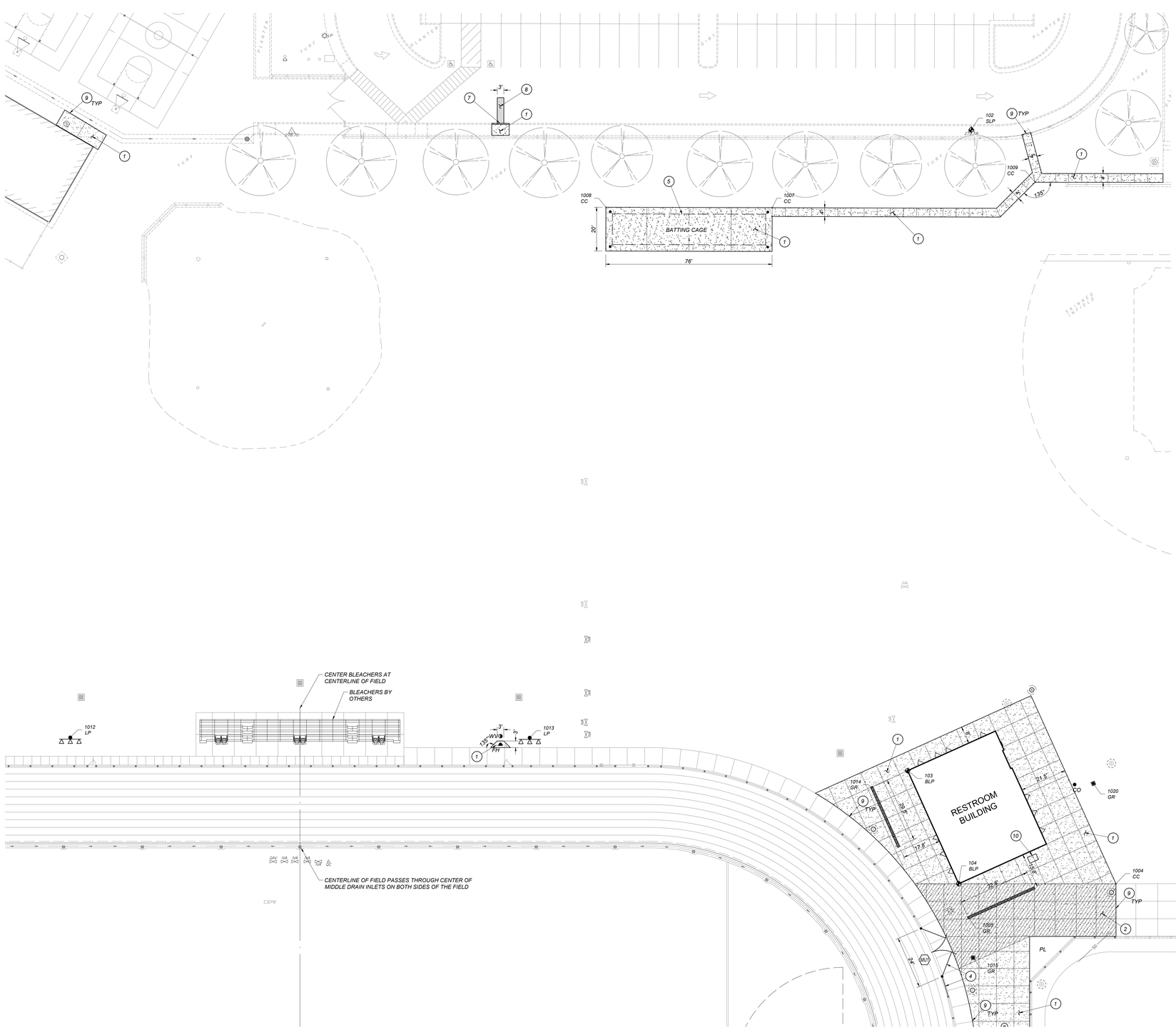
No.	Revison/Submission	Date

100% CONSTRUCTION DRAWINGS

Revision

	Designed By: KL	Copyright 2025 Darden Architects
Scale: 1" = 20'	Drawn By: TJ	
Project Number: 2470.2	Checked By: ZDH	
Date: 07/18/2025	Reviewed By: JB	

SD/C202



SEE SHEET C302 FOR CONTINUATION

SITE LEGEND:

- A / SD/X101 — DETAIL DESIGNATION / DETAIL REFERENCE SHEET LOCATION
- [A/SD/X101] — [DETAIL DESIGNATION / SHEET LOCATION]
- LIMITS OF REGULAR-DUTY CONCRETE IMPROVEMENTS
- LIMITS OF HEAVY-DUTY CONCRETE IMPROVEMENTS
- LIMITS OF AGGREGATE BASE IMPROVEMENTS
- LIMITS OF ASPHALT PLUG
- SINGLE SWING GATE AND DOUBLE SWING GATE PER [A/SD/X102]. SEE HORIZONTAL CONTROL PLAN FOR WIDTH
- CHAIN LINK FENCE PER [A/SD/X102]
- MUSCO LIGHT POLE
- PL — PLANTER, SEE LANDSCAPE PLANS
- TURF — TURF AREA, SEE PLANTING PLANS
- (1) CONCRETE IMPROVMENTS PER [A/SD/X101]
- (2) HEAVY-DUTY CONCRETE PER [B/SD/X101]
- (3) CONCRETE MOWSTRIP PER [C/SD/X101]
- (4) SWING GATE IN 4' TALL CHAIN LINK FENCE PER [A/SD/X102]. GATE TO BE HUNG ON EXISTING POSTS. GATE SHALL HAVE A MINIMUM CLEAR WIDTH OF 20'. ADJUST FENCE FABRIC AS NECESSARY TO SUIT NEW GATE
- (5) BATTING CAGE PER [F/SD/X101]
- (6) SCOREBOARD AND FOOTING BY OTHERS, SEE SCOREBOARDS PLANS
- (7) CONCRETE CURB PER [J/SD/X101]
- (8) ASPHALT PLUG PER [I/SD/X101]
- (9) DOWEL AT CONNECTION TO EXISTING CONCRETE, SEE SITE NOTE 2
- (10) DOMESTIC WATER BOOSTER PUMP AND ENCLOSURE, SEE PLUMBING PLANS
- (11) VERTICAL CONCRETE CURB PER [K/SD/X101]

NORTHING EASTING TABLE

POINT	NORTHING	EASTING	ABV	DESCRIPTION
100	1818782.64	6688196.60	SLP	SITE LAYOUT POINT
101	1819285.15	6687999.90	SLP	SITE LAYOUT POINT
102	1819401.40	6688632.30	SLP	SITE LAYOUT POINT
103	1819108.64	6688603.40	BLP	BUILDING LAYOUT POINT
104	1819057.00	6688626.76	BLP	BUILDING LAYOUT POINT
1000	1818818.13	6688232.97	CC	CORNER CONCRETE
1001	1818818.26	6688418.93	CC	CORNER CONCRETE
1004	1819057.06	6688698.62	CC	CORNER CONCRETE
1005	1819041.55	6688631.26	GR	DRAIN INLET GRATE
1007	1819365.78	6688541.35	CC	CORNER CONCRETE
1008	1819365.93	6688465.35	CC	CORNER CONCRETE
1009	1819377.49	6688661.44	CC	CORNER CONCRETE
1010	1818808.67	6688430.74	LP	LIGHT POLE
1011	1818808.64	6688220.81	LP	LIGHT POLE
1012	1819123.54	6688220.77	LP	LIGHT POLE
1013	1819123.56	6688430.70	LP	LIGHT POLE
1014	1819100.98	6688587.09	GR	DRAIN INLET GRATE
1015	1819023.25	6688633.40	GR	DRAIN INLET GRATE
1016	1818990.48	6688640.16	GR	DRAIN INLET GRATE
1017	1818952.32	6688644.09	CC	CORNER CONCRETE
1018	1818805.14	6688240.37	CC	CORNER CONCRETE
1019	1818805.25	6688411.46	CC	CORNER CONCRETE
1020	1819102.86	6688688.29	GR	DRAIN INLET GRATE

SEE SHEET C302 FOR CONTINUATION

HORIZONTAL CONTROL LEGEND:

- 100 LCP — LAYOUT COORDINATE POINT
- 100 SLP — SITE LAYOUT POINT
- 100 BLP — BUILDING LAYOUT POINT
- CC — CORNER OF CONCRETE
- GR — DRAIN INLET GRATE
- LP — LIGHT POLE

Know what's below. Call before you dig.

SCALE: N 1"=20'

0 5 20 40 SCALE IN FEET

DSA File No.: 20-30

DSA Application No.: 02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

GENERAL SITE NOTES:

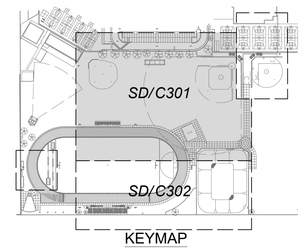
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2. INSTALL DOWELED CONNECTION AT JOINT OF NEW CONCRETE TO EXISTING CONCRETE PER DETAIL [D/SD/X101]
3. NO CONCRETE MAY BE POURED UNTIL THE FORMS HAVE BEEN REVIEWED AND APPROVED BY THE PROJECT INSPECTOR.
4. ALL BURIED METALLIC OBJECTS SHALL HAVE A PROTECTIVE COATING OR BE WRAPPED WITH APPROVED PROTECTIVE WRAP.
5. ADJUST EXISTING SPRINKLER HEADS AND LATERAL LINES AS REQUIRED BY NEW IMPROVEMENTS, OR AS SHOWN ON THE IRRIGATION PLANS.
6. 2 WORKING DAYS BEFORE COMMENCING EXCAVATION OPERATIONS WITHIN THE STREET RIGHT-OF-WAY AND/OR UTILITY EASEMENTS, ALL EXISTING UNDERGROUND FACILITIES SHALL HAVE BEEN LOCATED BY UNDERGROUND SERVICES ALERT (USA). CALL 1-800-642-2444
7. ANY SURVEY MONUMENTS WITHIN THE AREA OF CONSTRUCTION SHALL BE PRESERVED OR RESET BY A PERSON LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA. REPLACEMENT TO BE AT CONTRACTOR'S SOLE EXPENSE.

GENERAL HORIZONTAL CONTROL NOTES:

1. ALIGNMENT OF THE SITE LAYOUT GRID IS BASED ON AN ASSUMED COORDINATE SYSTEM.
2. SITE LAYOUT POINT 100 IS A CHISELED "X" IN THE CONCRETE MOWSTRIP APPROXIMATELY 196' EAST OF THE SOUTHWEST CORNER OF THE SITE.
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5. DIMENSIONS AND POINTS ARE TO CENTER OF FENCE POSTS, FACE OF BUILDINGS, TOP FACE OF CURB, OR EDGE OF CONCRETE. UNLESS SHOWN OTHERWISE.
6. PRIOR TO STARTING DEMOLITION AND STRIPING OF THE SITE, THE CONTRACTOR SHALL SET SITE CONTROL AND LAYOUT POINTS FOR THE PROJECT CORRESPONDING TO THE LAYOUT POINTS THE SITE RELATIVE TO THE TOPOGRAPHIC SURVEY THAT WAS COMPLETED BY BLAIR, CHURCH & FLYNN. THE TOPOGRAPHIC SURVEY AND BOUNDARY SURVEY WILL BE PROVIDED TO THE CONTRACTOR IN AUTOCAD FORMAT FOR USE.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SITE CONTROL AND LAYOUT POINTS FOR THE DURATION OF THE PROJECT AND REPLACING THEM AS NECESSARY.

GATE HARDWARE LEGEND:

(MU) CHAIN LINK DOUBLE LEAF MAINTENANCE SWING GATE PROVIDE APPROPRIATE HARDWARE PER [A/SD/X102]



General Notes

Blair, Church & Flynn CONSULTING ENGINEERS
Blair, Church & Flynn Consulting Engineers
451 Clovis Avenue, Suite 200
Clovis, California 93612
Tel (559) 326-1400
Fax (559) 326-1500

REGISTERED PROFESSIONAL ENGINEER GREGORY D. ALVES No. 87218 CIVIL STATE OF CALIFORNIA

07/18/2025 Date Signed:

Consultant

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LICENSED ARCHITECT GREGORY J. ALVES No. C-30235 Exp. 10-31-25 STATE OF CALIFORNIA

Architect

No.	Revison/Submission	Date

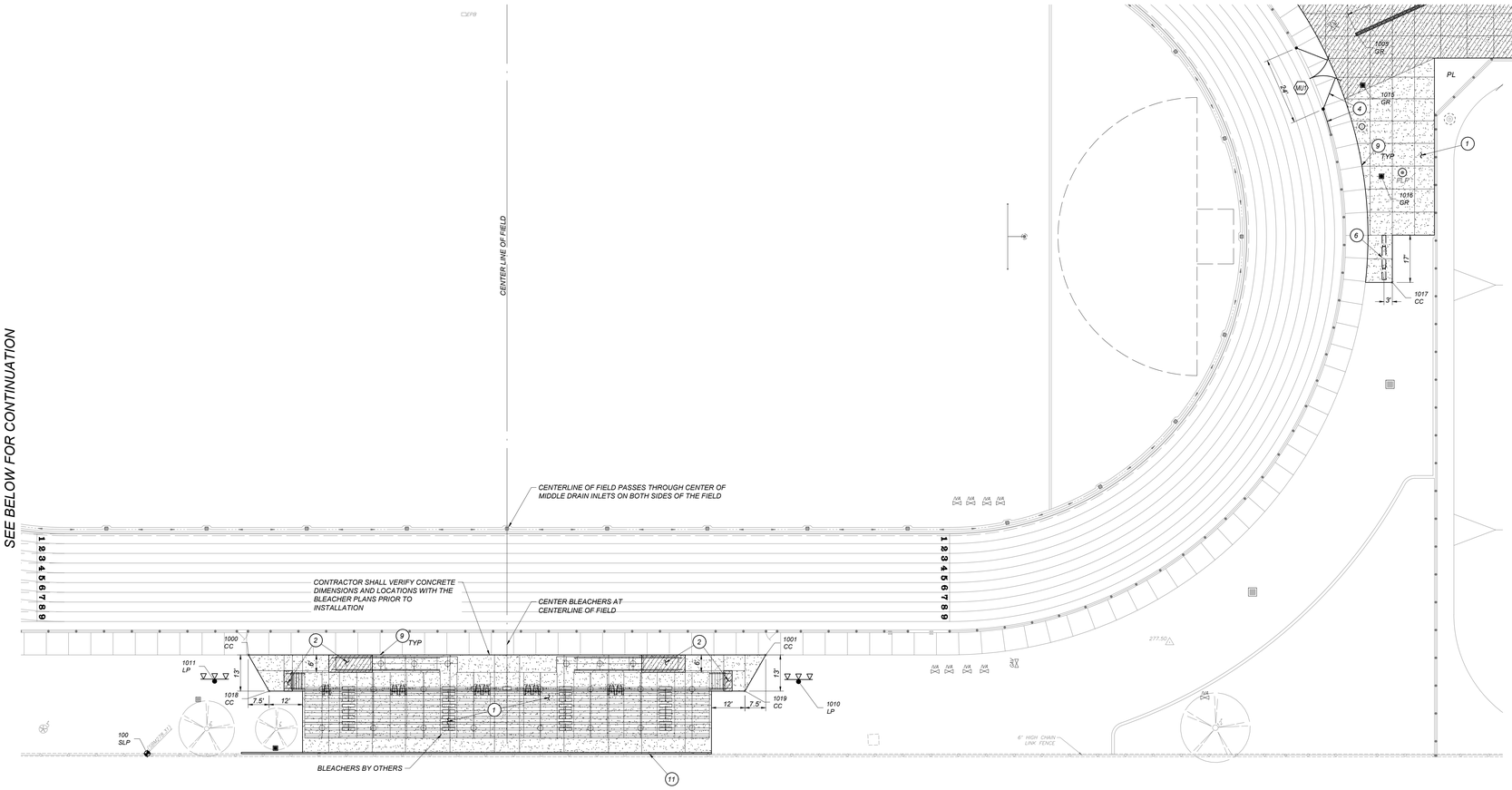
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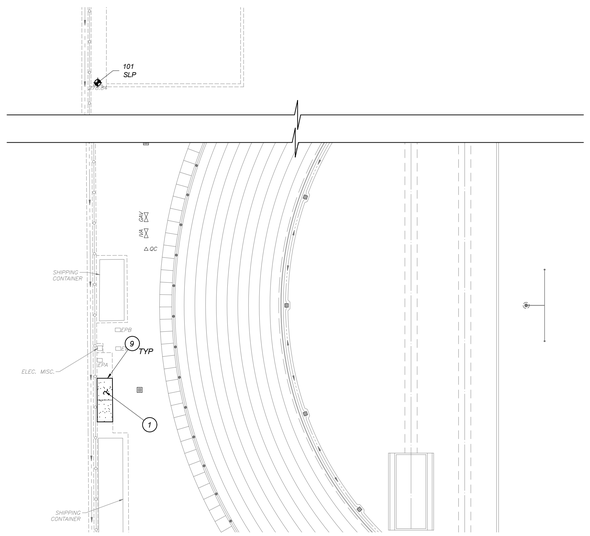
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Scale: 1" = 20'	Drawn By: TJ	SD/C301
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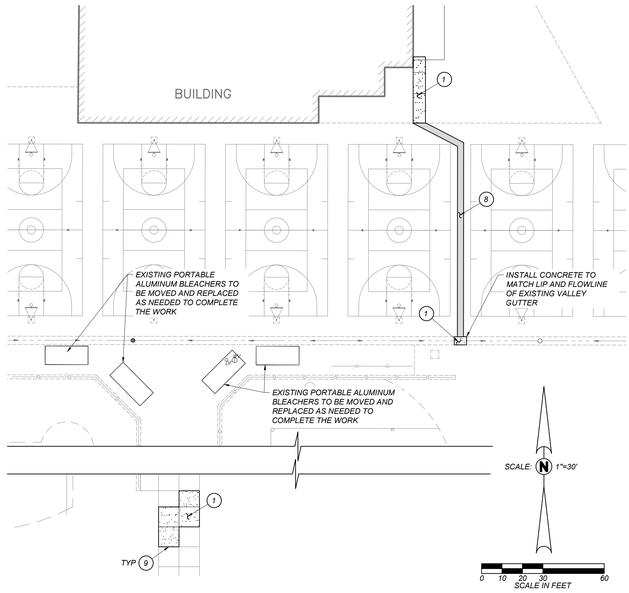
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Plot by: mbacikowski Aug 28, 2025 - 4:54pm

SEE SHEET C301 FOR CONTINUATION

SEE BELOW FOR CONTINUATION







SEE SHEET C301 FOR CONTINUATION

SITE LEGEND:

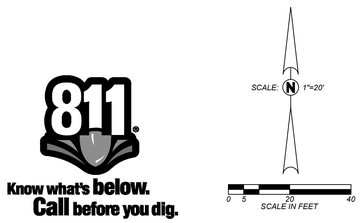
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811 Know what's below. Call before you dig.

DSA File No.: 20-30

DSA Application No.: 02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025
Agency Approval

GENERAL SITE NOTES:

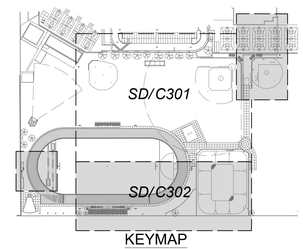
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GATE HARDWARE LEGEND:

- (MU) — CHAIN LINK DOUBLE LEAF MAINTENANCE SWING GATE PROVIDE APPROPRIATE HARDWARE PER [A/SD/X102]



General Notes

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Fax (559) 326-1500
REGISTERED PROFESSIONAL ENGINEER — No. 67216 — CIVIL — STATE OF CALIFORNIA
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Consultant

Jack G. Desmond MS - Improvements Phase 2
Madera Unified School District
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Project

SITE AND LAYOUT PLAN
Drawing

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Architect

No.	Revison/Submission	Date

100% CONSTRUCTION DRAWINGS
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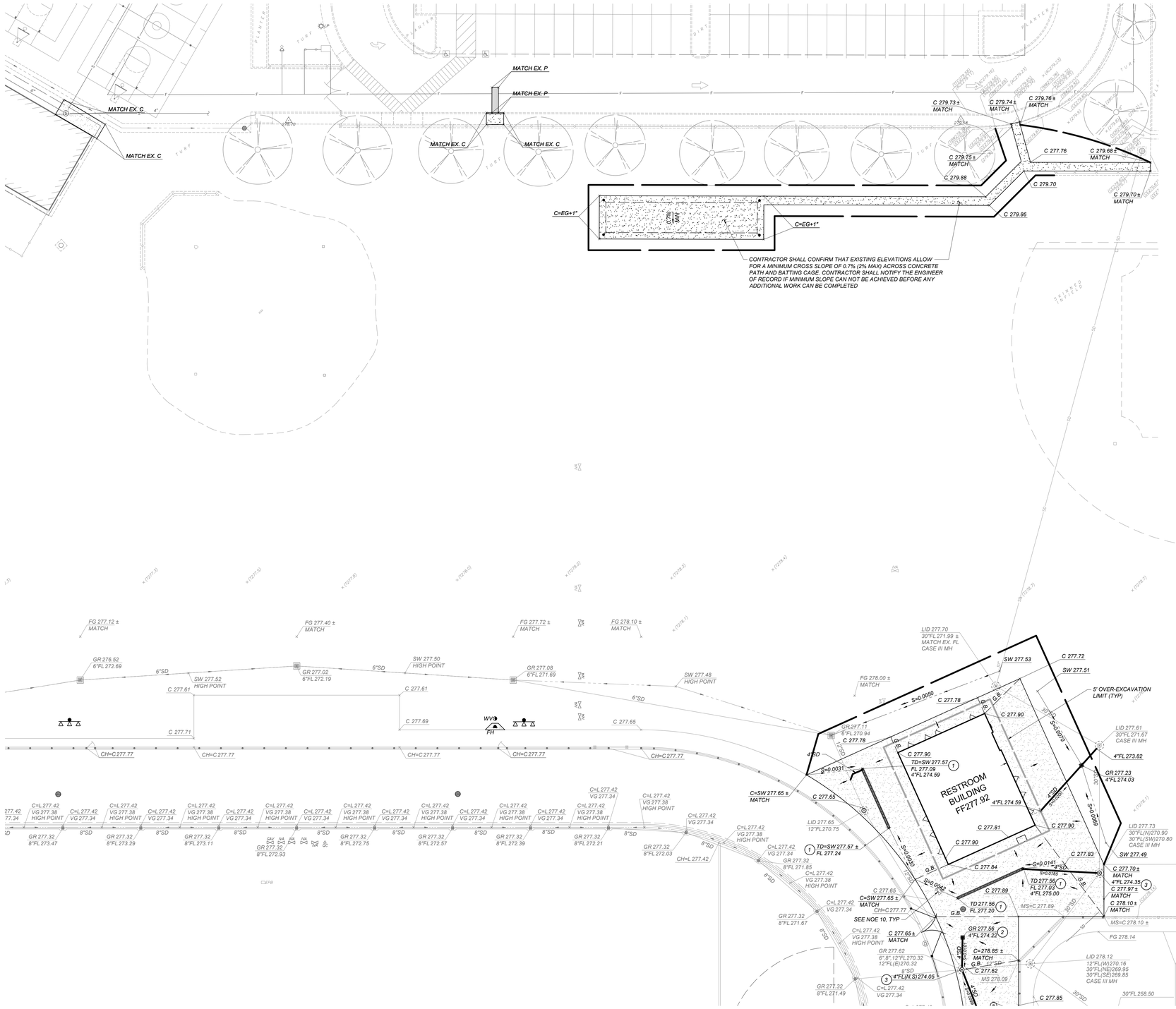
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SD/C302

Drawing: P:\224\224-0293\Phase_2\ProductionDrawings\224293_ph2_s01.dwg; Layout1 (2) - BCF.ctb
Plot by: ahammoude Jul 30, 2025 - 4:20pm



GRADING AND DRAINAGE LEGEND:

(344.9)	EXISTING ELEVATION
328.78	EXISTING ELEVATION FROM PHASE 1 PLANSET
328.78	NEW FINISHED GRADE
C	CONCRETE
EG	EXISTING GROUND
FF	FINISH FLOOR
FL	FLOWLINE
MS	MOWSTRIP
SW	SWALE
TD	TRENCH DRAIN GRATE
S=0.0020	FLOWLINE SLOPE AND DIRECTION OF FLOW
S=0.0050	PIPE SLOPE AND DIRECTION OF FLOW
	DIRECTION OF SURFACE DRAINAGE
	BUILDING OVER-EXCAVATION LIMITS; SEE [J7/X/S102] ON STRUCTURAL PLANS
	SWALE AND DIRECTION OF FLOW
	LIMITS OF GRADING
G.B.	GRADE BREAK
6"SD	STORM DRAIN PIPELINE; SIZE AS NOTED. TRENCH AND BACKFILL PER [C/SD/X201]
1	TRENCH DRAIN PER [E/SD/X201]
2	V12 STORM DRAIN INLET PER DETAIL [F/SD/X201]
3	CONNECT TO EXISTING STORM DRAIN MANHOLE WITH WATER-TIGHT CONNECTION

DSA File No.:
20-30

DSA Application No.:
02-123203

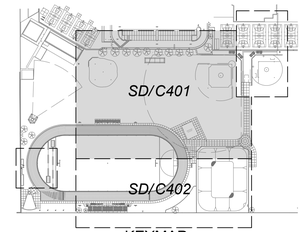
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GENERAL GRADING AND DRAINAGE NOTES:

THE REQUIREMENTS AND INFORMATION SET OUT BELOW ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE AND DO NOT ENCOMPASS ALL PROJECT REQUIREMENTS DESCRIBED BY THE PROJECT PLANS AND SPECIFICATIONS AND/OR APPLICABLE LAWS, REGULATIONS AND/OR BUILDING CODES.

1. *CONSTRUCTION OF ALL PROJECT SITE IMPROVEMENTS SUBJECT TO ADA ACCESS COMPLIANCE, INCLUDING ACCESSIBLE PATH OF TRAVEL, CURB RETURNS, PARKING STALL(S) AND UNLOADING AREAS, BARRIER FREE AMENITIES AND/OR OTHER APPLICABLE SITE IMPROVEMENTS SHALL CONFORM TO THE AMERICANS WITH DISABILITIES ACT, CALIFORNIA TITLE 24, THE CALIFORNIA BUILDING CODE, CURRENT EDITION(S).*
2. *CONTRACTOR SHALL FIELD VERIFY ALL GRADES AND SLOPES PRIOR TO THE PLACEMENT OF CONCRETE AND/OR PAVEMENT FOR CONFORMANCE WITH ADA ACCESS COMPLIANCE REQUIREMENTS. EXAMPLES OF MINIMUM AND MAXIMUM LIMITS RELATED TO ADA ACCESS COMPLIANCE INCLUDE, BUT ARE NOT LIMITED TO:*
   a) *ACCESSIBLE PATH OF TRAVEL CROSS-SLOPE SHALL NOT EXCEED 2%*
   b) *ACCESSIBLE PATH OF TRAVEL LONGITUDINAL SLOPES SHALL NOT EXCEED 5%*
   c) *RAMP LONGITUDINAL SLOPES SHALL NOT EXCEED 8.33%*
   d) *ACCESSIBLE WALKS SHALL NOT HAVE LESS THAN 48 INCHES IN UNOBSTRUCTED WIDTH*
   e) *ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION*
   f) *LANDINGS AT THE TOP AND BOTTOM OF ACCESSIBLE RAMPS SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION*
   g) *GUTTERS AND ROAD SURFACES DIRECTLY ADJACENT TO AND WITHIN 2 FEET OF A CURB RAMP SHALL HAVE A COUNTER SLOPE NOT TO EXCEED 5%*
3. *CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IDENTIFIED BY THE PROFESSIONAL ENGINEERING SEAL AND SIGNATURE ON THESE PLANS, OF ANY SITE CONDITION(S) AND/OR DESIGN INFORMATION THAT PREVENTS THE CONTRACTOR FROM COMPLYING WITH THE LAWS, REGULATIONS AND/OR BUILDING CODES GOVERNING ADA ACCESS COMPLIANCE.*
4. *GROUND SLOPES AWAY FROM BUILDING PADS IN LANDSCAPED OR DIRT AREAS SHALL BE NO LESS THAN 5% FOR AT LEAST TEN (10) FEET, OR AS OTHERWISE NOTED ON THE PLANS.*
5. *DRAINAGE SHALL NOT BE ALLOWED ONTO ADJACENT PROPERTY.*
6. *ALL FILL MATERIAL USED TO SUPPORT THE FOUNDATIONS OF ANY BUILDING OR STRUCTURE SHALL BE PLACED UNDER THE DIRECTION OF A LICENSED GEOTECHNICAL ENGINEER, AND IN COMPLIANCE WITH THE PROJECT SPECIFICATIONS. A SOILS COMPACTION REPORT SHALL BE SUBMITTED TO THE ENGINEER OF RECORD AS REQUIRED BY THE PROJECT SPECIFICATIONS.*
7. *THE CONTRACTOR SHALL IMPLEMENT DUST CONTROL MEASURES AS REQUIRED BY THE PROJECT SPECIFICATIONS, AND BY GOVERNING PUBLIC AGENCIES.*
8. *THE CONTRACTOR SHALL IMPLEMENT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AS REQUIRED BY THE PROJECT SPECIFICATIONS AND THE STATE WATER RESOURCES CONTROL BOARD'S CONSTRUCTION GENERAL PERMIT. IMPLEMENT BEST MANAGEMENT PRACTICES WITHIN PUBLIC RIGHT OF WAY PER LOCAL JURISDICTION REQUIREMENTS.*
9. *AS A FIRST ORDER OF WORK, THE CONTRACTOR SHALL POT HOLE THE EXISTING UTILITY LINES AT THE POINT OF CONNECTION TO VERIFY THE LOCATION, SIZE, PIPE MATERIAL AND ELEVATION SO THAT THE ENGINEER CAN MAKE ELEVATION AND/OR ALIGNMENT ADJUSTMENTS IF NECESSARY. SHOULD POT HOLING DISCOVER ANY DISCREPANCIES, CONTACT THE ENGINEER AND OBTAIN WRITTEN DIRECTION BEFORE PROCEEDING.*
10. *ADJUST UTILITY LIDS WITHIN NEW CONSTRUCTION AREA TO FINISHED GRADE PER DETAIL [E/SD/X101] REPLACE ALL BROKEN LIDS WITH NEW. PROVIDE TRAFFIC RATED LIDS AND BOXES WITHIN AREAS SUBJECT TO VEHICULAR TRAFFIC.*
11. *WATER TEST PAVEMENT WITHIN NEW IMPROVEMENT AREA. REPLACE PAVEMENT WHERE BIRD BATHS OCCUR AFTER TEST AS DIRECTED BY THE INSPECTOR OR ENGINEER.*
12. *SLOPE ON IMPERVIOUS SURFACES PERPENDICULAR TO ADJACENT STRUCTURE(S), WITHIN ADA PATH, SHALL BE 1% MINIMUM AND 2% MAXIMUM. WHERE DOOR AND GATE LANDINGS OCCUR THE CROSS SLOPE SHALL BE 2% MAXIMUM IN ALL DIRECTIONS*



General Notes

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REGISTERED PROFESSIONAL ENGINEER — GARY D. TICE — No. 57215 — CIVIL — STATE OF CALIFORNIA
07/18/2025 Date Signed:

Consultant

Jack G. Desmond MS - Improvements Phase 2
Madera Unified School District
26490 Martin Street,
Madera, CA 93638

Project

GRADING AND DRAINAGE PLAN

Drawing

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ARCHITECTURE
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LICENSED ARCHITECT — ANTONIO J. AVILA — No. C26235 — REG. 10-31-25 — STATE OF CALIFORNIA

Architect

No.	Revison/Submission	Date

100% CONSTRUCTION DRAWINGS

Revision

	Designed By: KL	Copyright 2025 Darden Architects
Scale: 1" = 20'	Drawn By: TJ	SD/C401
Project Number: 2470.2	Checked By: ZDH	
Date: 07/18/2025	Reviewed By: JB	

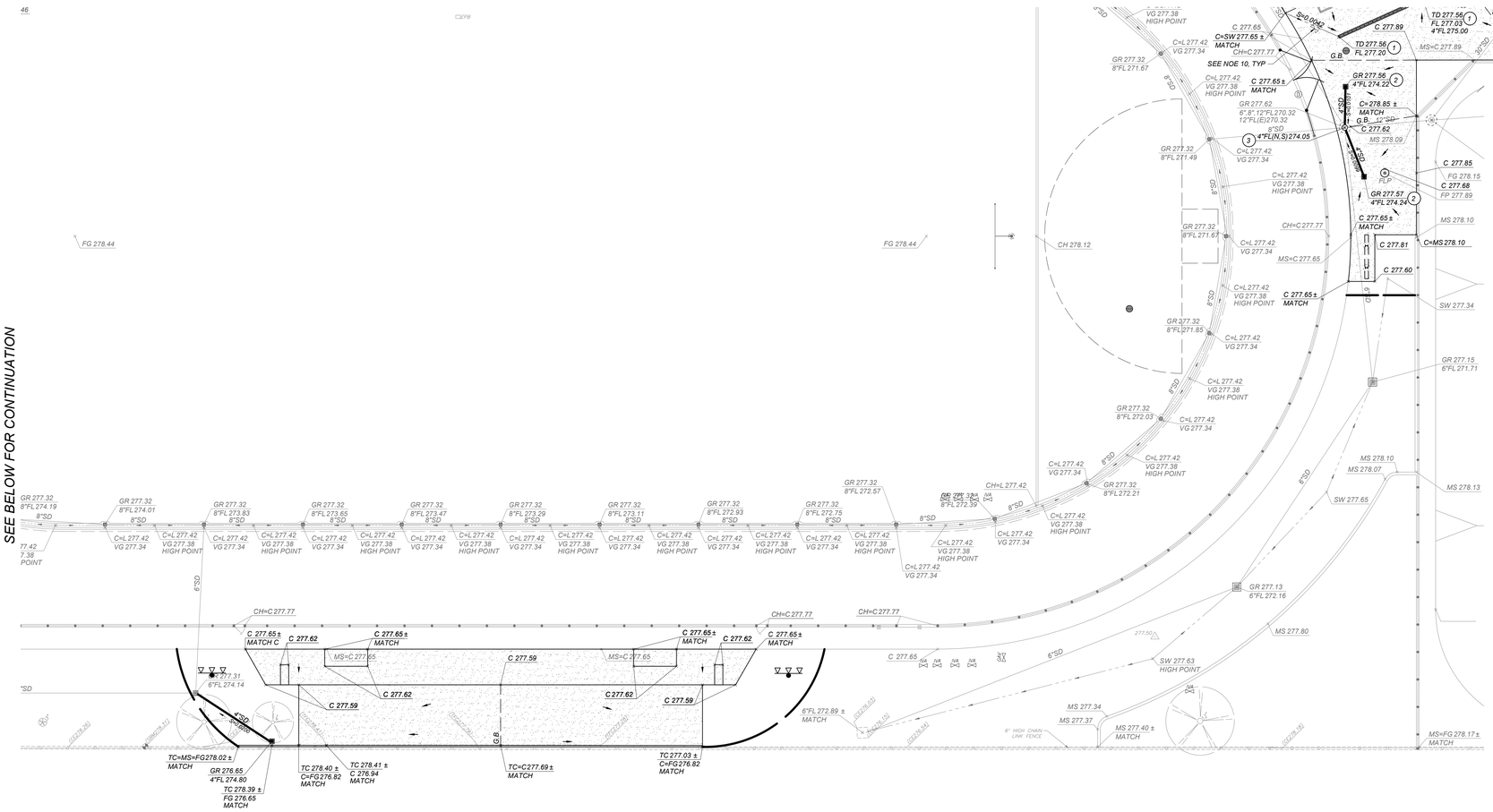
811 Know what's below. Call before you dig.

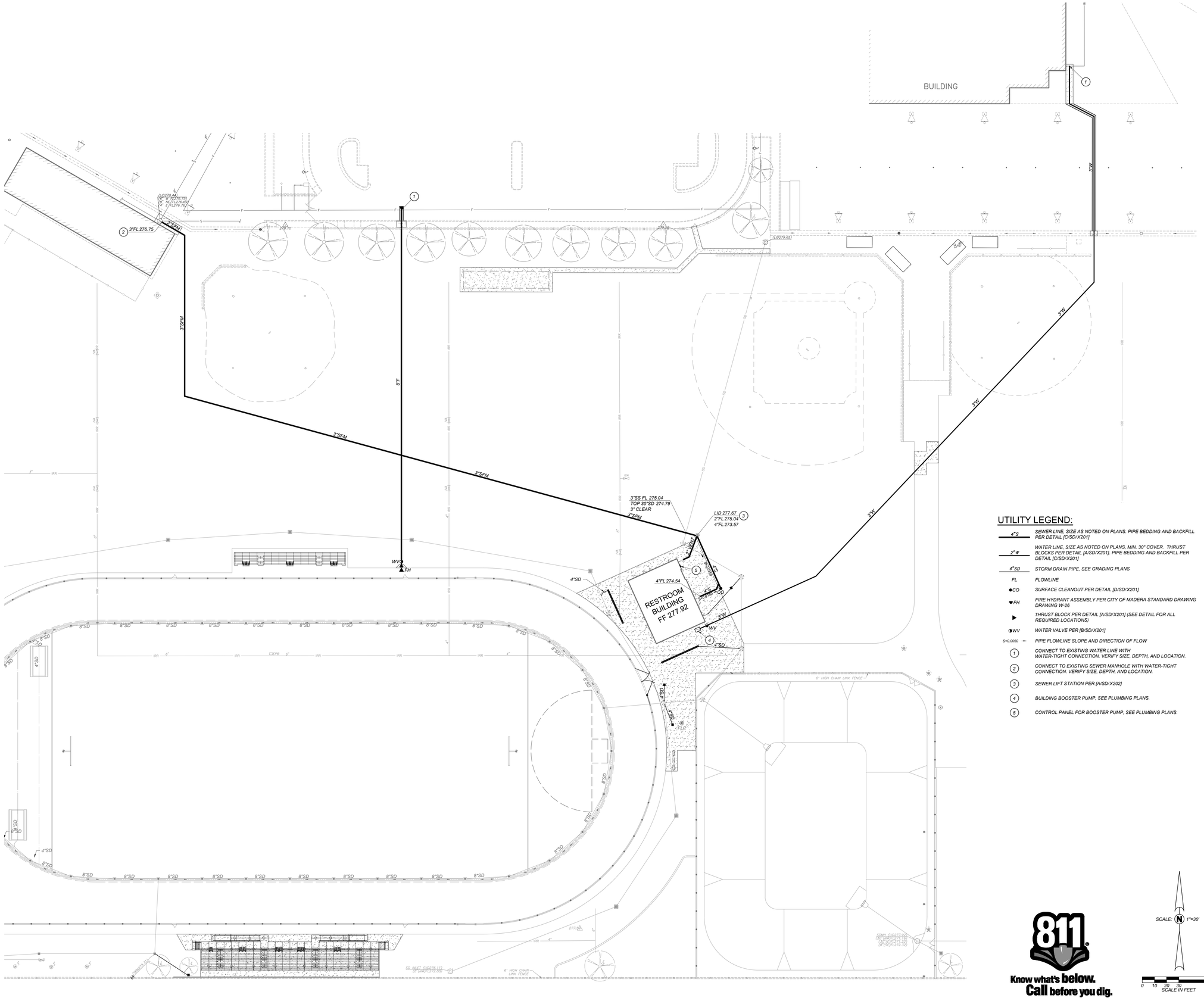
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Plot by: mbackowski Aug 28, 2025 - 4:55pm

SEE SHEET C401 FOR CONTINUATION


SEE BELOW FOR CONTINUATION
CH 278.12
FG 278.44
CH=C277.77
MS=C277.65
C 277.65 ± MATCH C
C 277.62
C 277.59
TC=MS=FG278.02 ± MATCH
GR 276.65 4"FL 274.80
TC 278.39 ± FG 276.65 MATCH
TC 278.40 ± C=FG276.82 MATCH
TC 278.41 ± C 276.94 MATCH
TC=C277.69 ± MATCH
TC 277.03 ± C=FG276.82 MATCH
6"FL 272.89 ± MATCH
MS 277.34
MS 277.37
MS 277.40 ± MATCH
MS=FG 278.17 ± MATCH
SW 277.63 HIGH POINT
GR 277.13 6"FL 272.16
MS 277.80
MS 278.10
MS 278.07
MS 278.13
SW 277.65
SW 277.34
GR 277.15 6"FL 271.71
C 277.85
FG 278.15
C 277.68
FP 277.89
C 277.81
C=MS 278.10
C 277.60
MS 278.09
MS 278.10
C 277.89
TD 277.56 FL 277.03 4"FL 275.00
TD 277.56 FL 277.20
GR 277.56 4"FL 274.22
C=278.85 ± MATCH G.B. 12" SD
C 277.62
GR 277.57 4"FL 274.24
C 277.65 ± MATCH
GR 277.62 6",8",12"FL270.32 12"FL(E)270.32
4"FL(N,S)274.05
C 277.65 MATCH
C=SW 277.65 ± MATCH
C=277.77
SEE NOE 10, TYP
MS=C 277.89
MS=C 278.10 ±
4"FL 274.35
C 277.97 ± MATCH
C 278.10 ± MATCH
6" HIGH CHAIN LINK FENCE
S=0.0040
S=0.0050
GR 277.32 8"FL 271.67
GR 277.32 8"FL 271.49
GR 277.32 8"FL 271.85
GR 277.32 8"FL 272.03
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GR 277.32 8"FL 273.83
GR 277.32 8"FL 274.01
GR 277.32 8"FL 274.19
77.42 7.38 POINT
C=L 277.42 VG 277.34
C=L 277.42 VG 277.38 HIGH POINT
8"SD
6"SD
4"SD
GS 9
GS 8
GS 7
GS 6
GS 5
GS 4
GS 3
GS 2
GS 1
G.B.
3.0%
3.5%
4.0%
277.50
277.31 6"FL 274.14
4"SD PVC SCH 40
CH=C277.77
C 277.65 MATCH
C 277.59
C 277.62
C 277.65 ± MATCH
C 277.65
6" HIGH CHAIN LINK FENCE
CEPB
CEVA
CEGA
CEGAS
CEGAS
CEGAS



UTILITY LEGEND:

4"S	SEWER LINE, SIZE AS NOTED ON PLANS. PIPE BEDDING AND BACKFILL PER DETAIL [C/SD/X201]
2"W	WATER LINE, SIZE AS NOTED ON PLANS, MIN. 30" COVER. THRUST BLOCKS PER DETAIL [A/SD/X201]. PIPE BEDDING AND BACKFILL PER DETAIL [C/SD/X201]
4"SD	STORM DRAIN PIPE, SEE GRADING PLANS
FL	FLOWLINE
CO	SURFACE CLEANOUT PER DETAIL [D/SD/X201]
FH	FIRE HYDRANT ASSEMBLY PER CITY OF MADERA STANDARD DRAWING W-26
	THRUST BLOCK PER DETAIL [A/SD/X201] (SEE DETAIL FOR ALL REQUIRED LOCATIONS)
WV	WATER VALVE PER [B/SD/X201]
S=0.0050	PIPE FLOWLINE SLOPE AND DIRECTION OF FLOW
1	CONNECT TO EXISTING WATER LINE WITH WATER-TIGHT CONNECTION. VERIFY SIZE, DEPTH, AND LOCATION.
2	CONNECT TO EXISTING SEWER MANHOLE WITH WATER-TIGHT CONNECTION. VERIFY SIZE, DEPTH, AND LOCATION.
3	SEWER LIFT STATION PER [A/SD/X202]
4	BUILDING BOOSTER PUMP. SEE PLUMBING PLANS.
5	CONTROL PANEL FOR BOOSTER PUMP, SEE PLUMBING PLANS.

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SCALE: N 1"=30'

0 10 20 30 60
SCALE IN FEET

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

GENERAL SITE UTILITY NOTES:

1. *AS FIRST ORDER OF WORK, CONTRACTOR SHALL POTHOLE EXISTING UTILITIES AND NOTIFY ENGINEER IMMEDIATELY OF LOCATIONS, SIZE AND DEPTH.*
2. *THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION, SIZE, DEPTH, AND TYPE OF ALL EXISTING UTILITIES AND INTERFERENCES SITUATED ALONG THE ROUTE OF THE PROPOSED CONSTRUCTION PRIOR TO COMMENCEMENT OF EXCAVATION, FABRICATION, AND INSTALLATION. THE CONTRACTOR SHALL CONSTRUCT ALL IMPROVEMENTS IN SUCH A MANNER AS WILL PROTECT ALL EXISTING UNDERGROUND UTILITIES AND, IN THE EVENT OF ANY CONFLICTS, SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING.*
3. *SEE IRRIGATION PLANS FOR PROPOSED IRRIGATION PIPE ALIGNMENT.*
4. *COORDINATE EXACT POINTS OF CONNECTION TO BUILDING PLUMBING AND NOTIFY THE ENGINEER OF ANY CONFLICT SO THAT ADJUSTMENTS CAN BE MADE IF NEEDED.*
5. *SAWCUT EXISTING CONCRETE IMPROVEMENTS AS NECESSARY TO INSTALL NEW WATER OR SEWER IMPROVEMENTS. CONSTRUCT NEW CONCRETE IMPROVEMENTS TO MATCH ADJACENT CONCRETE IMPROVEMENTS AND JOIN TOGETHER WITH DOWEL BARS PER DETAIL [D/SD/X101]*
6. *INSTALLATION, TYPE, AND MANUFACTURER'S MODELS OF DOMESTIC WATER METERS, DRAIN INLETS/OUTLETS AND OTHER APPURTENANCES OF SITE UTILITY SYSTEMS SHALL BE DONE IN STRICT ACCORDANCE WITH GOVERNING AUTHORITY REQUIREMENTS.*
7. *LAYOUT OF MATERIALS, EQUIPMENT AND SYSTEMS IS GENERALLY DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED. SOME WORK MAY BE SHOWN OFFSET FOR CLARITY. THE ACTUAL LOCATIONS OF ALL MATERIALS, PIPING, FIXTURES, EQUIPMENT, SUPPORTS, ETC., SHALL BE CAREFULLY PLANNED PRIOR TO INSTALLATION OF ANY WORK TO AVOID ALL INTERFERENCES WITH EACH OTHER OR WITH STRUCTURAL, ELECTRICAL, PLUMBING AND MECHANICAL, ARCHITECTURAL OR ANY OTHER ELEMENTS. ALL CONFLICTS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND THE ENGINEER PRIOR TO THE INSTALLATION OF ANY WORK OR THE ORDERING OF ANY EQUIPMENT.*
8. *ANY INSPECTION TO BE MADE BY THE AUTHORITY HAVING JURISDICTION SHALL REQUIRE A MINIMUM OF 24 HOUR NOTICE.*
9. *PURITY TESTS ARE REQUIRED ON ALL WATER SYSTEM INSTALLATIONS. CONTRACTOR TO COORDINATE WITH THE AUTHORITY HAVING JURISDICTION.*
10. *IF THE TOP OF THE STEM OF ANY WATER GATE VALVE IS DEEPER THAN 4' BELOW FINISHED PAVEMENT GRADE, THE CONTRACTOR SHALL INSTALL A STEM EXTENSION SO THAT THE TOP OF THE STEM, WITH EXTENSION, SHALL BE NO DEEPER THAN 4' NOR SHALLOWER THAN 2' FROM FINISHED GRADE.*
11. *BACKFILL UTILITY TRENCHES PER DETAIL [C/SD/X201]*
12. *ADJUST EXISTING UTILITY LIDS TO FINISHED GRADE PER UTILITY COMPANY STANDARDS AND DETAIL [E/SD/X101] AND INSTALL TRAFFIC RATED LIDS WHERE LOCATED IN A TRAFFIC AREA.*

General Notes

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REGISTERED PROFESSIONAL ENGINEER — BRET D. ALLEN — No. 87218 — CIVIL — STATE OF CALIFORNIA
07/18/2025 Date Signed

Consultant

Jack G. Desmond MS - Improvements Phase 2
Madera Unified School District
26490 Martin Street,
Madera, CA 93638

Project

UTILITY PLAN

Drawing

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LICENSED ARCHITECT — ANTONIO J. RIVAS — No. C26235 — Ren. 10-31-25 — STATE OF CALIFORNIA

Architect

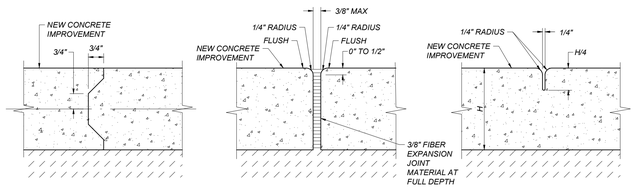
No.	Revison/Submission	Date

100% CONSTRUCTION DRAWINGS

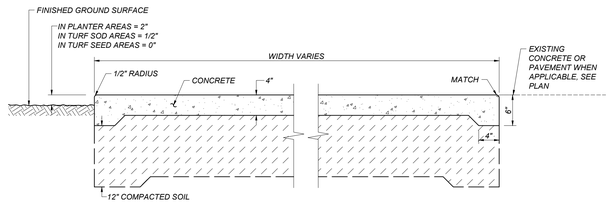
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Scale: 1" = 30'	Drawn By: TJ	SD/C501
Project Number: 2470.2	Checked By: ZDH	
Date: 07/18/2025	Reviewed By: JB	

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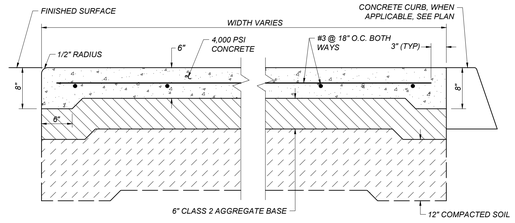


CONSTRUCTION JOINT | EXPANSION JOINT | WEAKENED PLANE JOINT



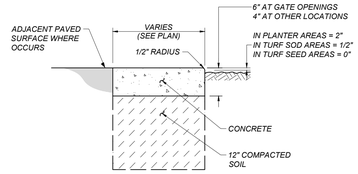
A SD/X101 REGULAR-DUTY CONCRETE

NOT TO SCALE



B SD/X101 HEAVY-DUTY CONCRETE PAVEMENT STRUCTURAL SECTION

NOT TO SCALE

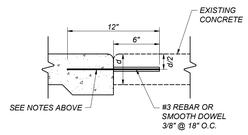


C SD/X101 CONCRETE MOWSTRIP

NOT TO SCALE

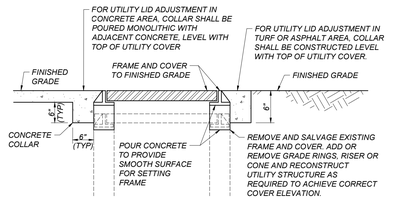
NOTES:

1. DRILL HOLE 1/8" LARGER THAN DOWEL DIAMETER.
2. CLEAN HOLE THOROUGHLY OF DUST AND FRAGMENTS WITH WATER, WIRE BRUSH, AND AIR.
3. FILL HOLE WITH APPROVED ADHESIVE BEFORE INSERTING DOWEL INTO EXISTING CONCRETE.
4. WHERE SMOOTH DOWEL IS USED, APPLY BOND BREAKER TO SIDE IN NEW CONCRETE AS REQUIRED TO ALLOW HORIZONTAL MOVEMENT OF CONCRETE.
5. WHERE DEFORMED REBAR DOWEL IS USED, PROVIDE APPROVED WRAP ON SIDE IN NEW CONCRETE AS REQUIRED TO ALLOW HORIZONTAL MOVEMENT OF CONCRETE.
6. TESTING AND INSPECTION OF DOWELS NOT REQUIRED.



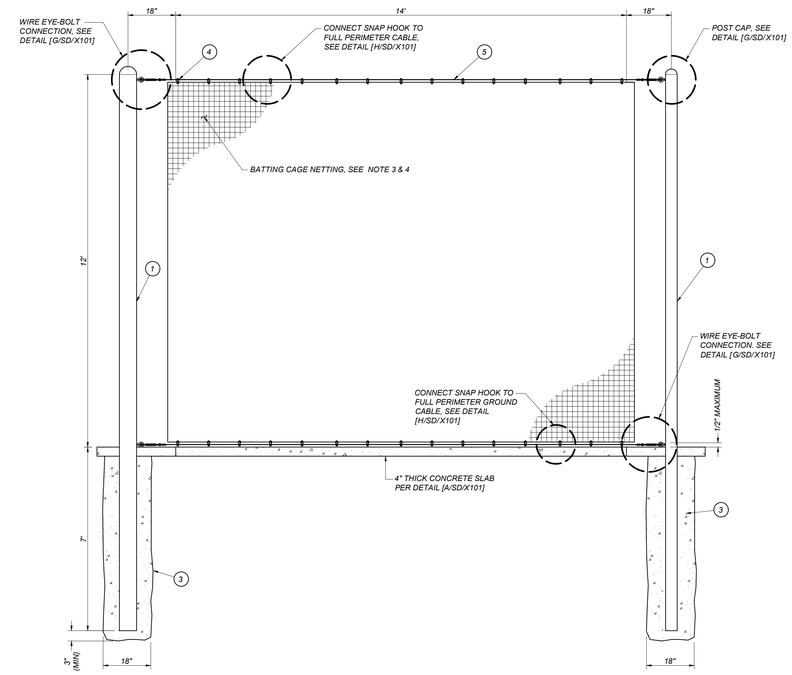
D SD/X101 DOWEL BAR

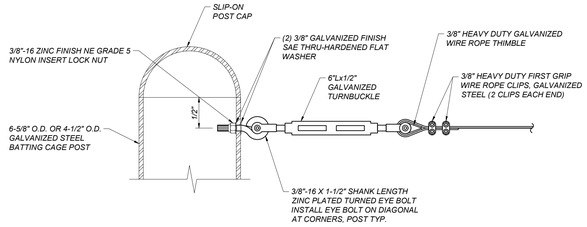
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E SD/X101 ADJUST UTILITY LID

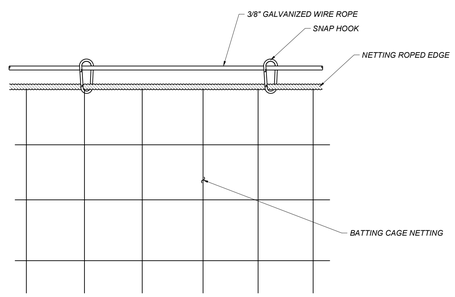
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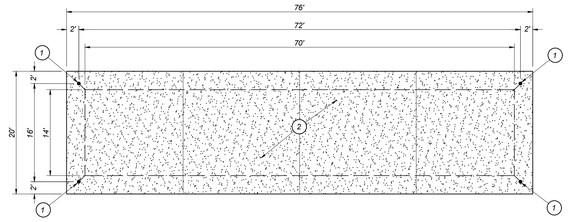
G SD/X101 WIRE EYE BOLT

NOT TO SCALE



H SD/X101 SNAP HOOK CONNECTION TO CABLE

NOT TO SCALE



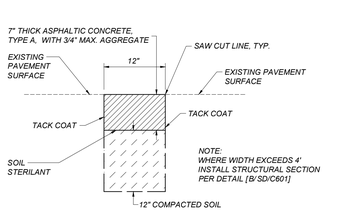
PLAN VIEW

BATTING CAGE LEGEND

1. 6-5/8" O.D. GALVANIZED STEEL CORNER POST (18.99 LB/FT)
2. CONCRETE FLATWORK PER [A/SD/X101]. BATTING CAGE SURFACING BY OWNER
3. CONCRETE FOOTING, TYPICAL.
4. 2-3/4", 1000LB MINIMUM BREAK STRENGTH SNAP HOOK. 24" MAXIMUM SPACING BETWEEN SNAPHOOKS
5. 3/8" GALVANIZED WIRE ROPE WITH GALVANIZED WIRE ROPE CLIPS. POST TO POST, ALL DIRECTIONS. PROVIDE GALVANIZED TURN BUCKLE FOR CABLE TENSIONING AT EACH CABLE RUN (2 MINIMUM RUNS AND TURNBUCKLE)

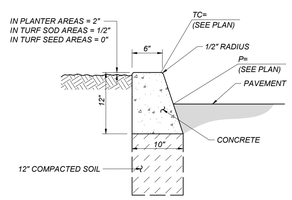
BATTING CAGE NOTES

1. ALL AREAS AFFECTED BY WELDING, TRIMMED ENDS OF BOLTS, STRETCHER BARS, OR ANY EXPOSED STEEL SHALL BE GALVANIZED.
2. INSTALL EYE BOLTS ON THE INSIDE OF CORNER POSTS.
3. BATTING CAGE NETTING: NYLON #36 GAUGE WITH 1-3/4" OPENING, UV TREATED. SEWN BOTTOM ROPE BORDER ON ALL SIDES. PROVIDE END PANEL ENTRANCE.



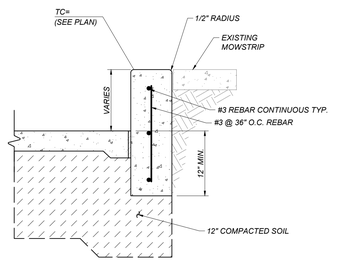
I SD/X101 ASPHALT CONCRETE PLUG

NOT TO SCALE



J SD/X101 CONCRETE CURB

NOT TO SCALE



K SD/X101 VERTICAL CONCRETE CURB

NOT TO SCALE

F SD/X101 BATTING CAGE SOFTBALL AND BASEBALL

NOTE: *THIS DETAIL IS EXEMPT FROM DSA SS REVIEW PER DSA IR-A22 APPENDIX A11*

DSA File No.: *20-30*

DSA Application No.: 02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

General Notes

Blair, Church & Flynn CONSULTING ENGINEERS
Blair, Church & Flynn Consulting Engineers
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REGISTERED PROFESSIONAL ENGINEER — GREGORY D. TOOLEY — No. 67218 — CIVIL — STATE OF CALIFORNIA
07/18/2025 Date Signed:

Consultant

Jack G. Desmond MS - Improvements Phase 2
Madera Unified School District
26490 Martin Street,
Madera, CA 93638

Project

SITE DETAILS

Drawing

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LICENSED ARCHITECT — ANTONIO J. AVILA — No. C26235 — REG. 10-31-25 — STATE OF CALIFORNIA

Architect

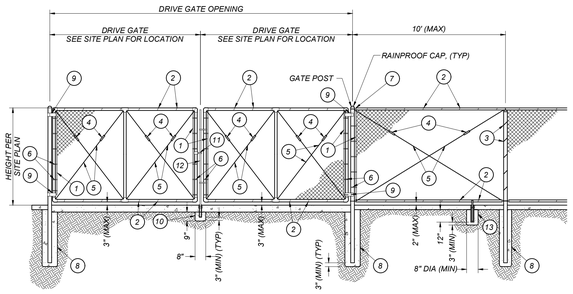
No.	Revison/Submission	Date

100% CONSTRUCTION DRAWINGS

Revision

		Designed By: KL	Copyright 2025 Darden Architects
Scale:	As Noted	Drawn By: TJ	SD/X101
Project Number:	2470.2	Checked By: ZDH	
Date:	07/18/2025	Reviewed By: JB	

Drawing: P:\224\224-0293\Phase_2\ProductionDrawings\224293_gh2_dt01.dwg Layout1 - BCF.ctb
Plot by: ahammouda Jul 30, 2025 - 4:38pm



FENCE AND GATE ELEVATIONS

OPEN FABRIC CHAIN LINK FENCE AND GATE LEGEND:

1. *1/8" X 3/4" GALVANIZED STEEL STRETCHER BAR.*
2. *9 GAUGE (0.148" DIA) GALVANIZED STEEL TIE WIRES OR HOG RINGS AT 15" MAXIMUM SPACING. MINIMUM OF 8 TIE WIRES PER EACH 10' HORIZONTAL RAIL.*
3. *6 GAUGE (0.192" DIA) GALVANIZED STEEL POST CLIPS AT 14" MAXIMUM SPACING. MINIMUM 3 POST CLIPS FOR EACH 4' POST.*
4. *GALVANIZED ADJUSTABLE TURNBUCKLE FOR 3/8" DIAMETER TRUSS ROD.*
5. *3/8" DIAMETER GALVANIZED STEEL ADJUSTABLE TRUSS ROD. TRUSS RODS REQUIRED FOR ALL GATE POST PANELS, END OR CORNER POST PANELS.*
6. *1/8" THICK GALVANIZED STEEL STRETCHER BAR TENSION BAND AT 12" MAXIMUM SPACING. MINIMUM OF 4 TENSION BANDS FOR EACH 4' POST SECTION.*
7. *GALVANIZED RAIL ENDS.*
8. *CONCRETE FOOTING, TYPICAL.*
9. *HINGES PER THE SPECIFICATION.*
10. *GALVANIZED STEEL PIPE SLEEVE FOR GATE DROP ROD.*
11. *LOCKABLE FORK LATCH PER SPECIFICATIONS*
12. *CENTER GATE DROP POST AND LATCH*
13. *INSTALL GATE HOLDBACK FOR ALL GATES.*

OPEN FABRIC CHAIN LINK FENCE AND GATE NOTES:

1. *GATE FRAME SHALL BE 2" O.D. GALVANIZED STEEL (2.72 LB/FT).*
2. *FENCE FABRIC SHALL BE 2" X 2" MESH X 9 GAUGE GALVANIZED FENCE FABRIC WITH KNUCKLED TOP AND BOTTOM SELVAGE. FENCE FABRIC TO BE GALVANIZED BEFORE WEAVING (GBW)*
3. *ALL FENCES ADJACENT TO ATHLETIC FIELDS, COURTS, BALLFIELDS, OR RUNNING TRACKS SHALL HAVE 1.66" O.D. BOTTOM RAILS INSTEAD OF TENSION WIRE*
4. *MATCH OWNER'S LOCKSET GATE HARDWARE AND KEYING SYSTEM FOR ALL KEYED GATES.*
5. *WALK GATE POST SIZE LIMITED TO 6 FOOT WIDTH OR LESS. SEE DRIVE GATE SIZING FOR LARGER LEAF WIDTHS.*
6. *DOUBLE TRUSS RODS ARE REQUIRED IN PANELS ADJACENT TO GATE POSTS AND AT ALL FENCE CORNERS AND END PANELS.*
7. *ALL GATE CORNERS AND SUPPORT POINTS SHALL BE FASTENED TOGETHER AND REINFORCED WITH MALLEABLE IRON FITTINGS DESIGNED FOR THAT PURPOSE. WELDED CONNECTIONS WILL NOT BE ALLOWED.*
8. *TACK WELD ALL GATE HINGES AND LATCH COLLARS TO POST.*
9. *ALL AREAS AFFECTED BY WELDING, TRIMMED ENDS OF BOLTS, STRETCHER BARS, TRUSS RODS OR ANY EXPOSED STEEL SHALL BE PAINTED (GALVANIZED) PER CONTRACT SPECIFICATIONS.*
10. *CONTRACTOR TO PROVIDE AND INSTALL GATE HOLDBACK FOR EACH GATE. HOLDBACK TO BE INSTALLED IN FENCE MOWSTRIP UNLESS OTHERWISE NOTED.*

CHAIN LINK FENCE SIZING SCHEDULE - OPEN FABRIC

FENCE HEIGHT	END, ANGLE, CORNER POSTS			LINE POSTS			SINGLE LEAF MAN GATE POSTS			DOUBLE GATE POSTS			COMMENT
	POST DIAMETER	FOOTING DIAMETER	FOOTING DEPTH	POST DIAMETER	FOOTING DIAMETER	FOOTING DEPTH	POST DIAMETER	FOOTING DIAMETER	FOOTING DEPTH	POST DIAMETER	FOOTING DIAMETER	FOOTING DEPTH	*1.66" O.D. TOP AND BOTTOM RAIL, SCHEDULE 40*
4'	*2-7/8" O.D.*	*12"*	*3'-0"*	*2-3/8" O.D.*	*8"*	*2'-6"*	*2-7/8" O.D.*	*12"*	*3'-0"*	*6" O.D.*	*12"*	*3'-0"*	

A SD/X102 CHAIN LINK FENCE AND GATES

NOT TO SCALE

DSA File No.: *20-30*

DSA Application No.: 02-123203

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DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

General Notes

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07/18/2025
Date Signed:

Consultant

Jack G. Desmond MS - Improvements Phase 2
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26490 Martin Street,
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Project

FENCE DETAILS

Drawing

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6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

LICENSED ARCHITECT DENNIS J. AVILA No. C26235 Ren. 10-31-25 STATE OF CALIFORNIA

Architect

No.	Revison/Submission	Date

100% CONSTRUCTION DRAWINGS

Revision

Designed By: KL
Drawn By: TJ
Checked By: ZDH
Reviewed By: JB

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Scale: As Noted
Project Number: 2470.2
Date: 07/18/2025

SD/X102

Drawing: P:\224\224-02\93\Phase_2\ProductionDrawings\224293_ph2_d01.dwg; Layout1 (2) - BCF.ctb
Plot by: ahammouda Jul 30, 2025 - 4:31pm

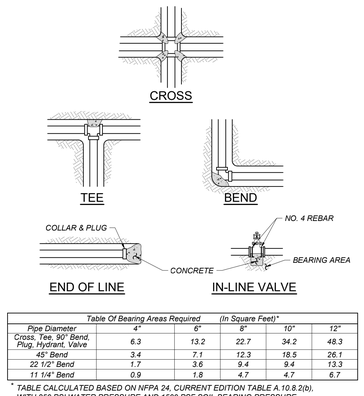
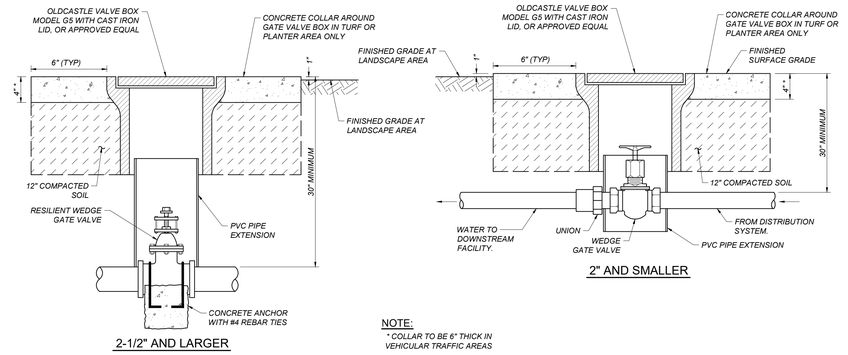


Table Of Bearing Areas Required (In Square Feet)*					
Pipe Diameter	4"	6"	8"	10"	12"
Cross, Tee, 90° Bend, Plug, Hydrant, Valve	6.3	13.2	22.7	34.2	48.3
45° Bend	3.4	7.1	12.3	18.5	26.1
22 1/2° Bend	1.7	3.6	9.4	9.4	13.3
11 1/4° Bend	0.9	1.8	4.7	4.7	6.7

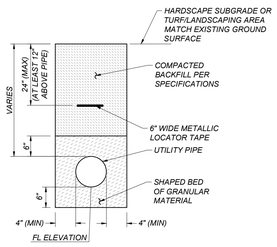
* TABLE CALCULATED BASED ON NFPA 24, CURRENT EDITION TABLE A.10.8.2(b), WITH 250 PSI WATER PRESSURE AND 1500 PSF SOIL BEARING PRESSURE.

A SD/X201 CONCRETE THRUST BLOCKS
NOT TO SCALE

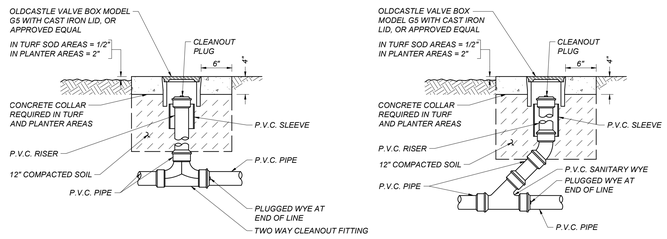


NOTE:
* COLLAR TO BE 6" THICK IN VEHICULAR TRAFFIC AREAS

B SD/X201 GATE VALVE AND LID
NOT TO SCALE

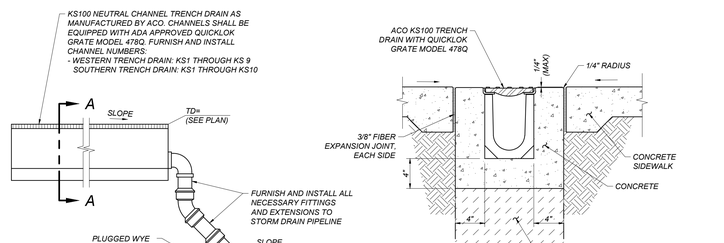


C SD/X201 TRENCH DETAIL FOR UTILITY LINES
NOT TO SCALE

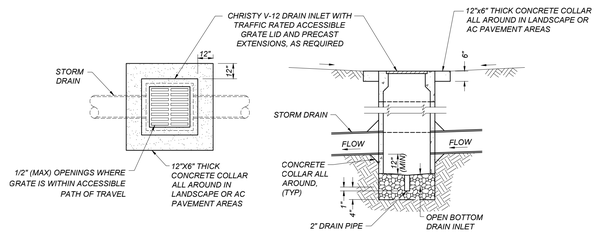


NOTES:
1. USE ONE-WAY CLEANOUTS AT ALL ANGLE POINTS
2. TWO-WAY CLEANOUTS AT ALL OTHER LOCATIONS
3. 6" THICK CONCRETE COLLAR IN VEHICULAR TRAFFIC AREAS

D SD/X201 SURFACE CLEANOUT
NOT TO SCALE



E SD/X201 TRENCH DRAIN
NOT TO SCALE



F SD/X201 V-12 DRAIN INLET WITH CONCRETE COLLAR
NOT TO SCALE

DSA File No.:
20-30

DSA Application No.:
02-123203

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07/18/2025 Date Signed
Consultant

Jack G. Desmond MS - Improvements Phase 2
Madera Unified School District
26490 Martin Street,
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Project

UTILITY DETAILS
Drawing

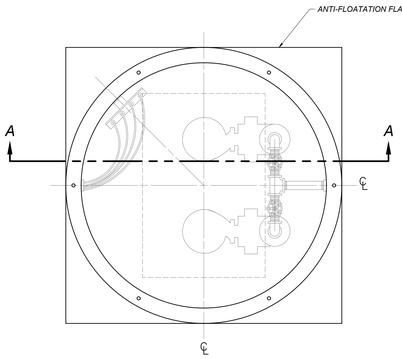
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LICENSED ARCHITECT — GREGORY J. AVIDO — No. C26235 — Exp. 10-31-25 — STATE OF CALIFORNIA
Architect

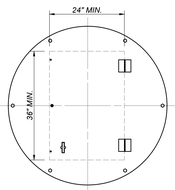
No.	Revison/Submission	Date

100% CONSTRUCTION DRAWINGS Revision

	Designed By: KL	Copyright 2025 Darden Architects
Scale: As Noted	Drawn By: TJ	SD/X201
Project Number: 2470.2	Checked By: ZDH	
Date: 07/18/2025	Reviewed By: JB	

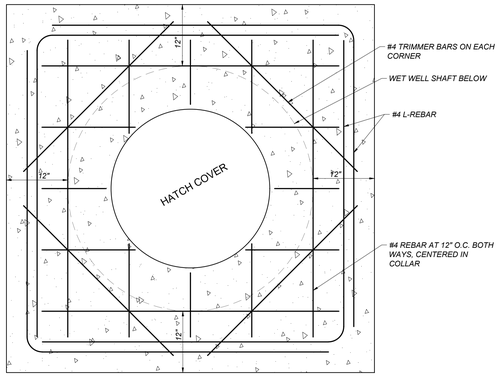
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Plot by: ahammouda Jul 30, 2025 - 4:21pm



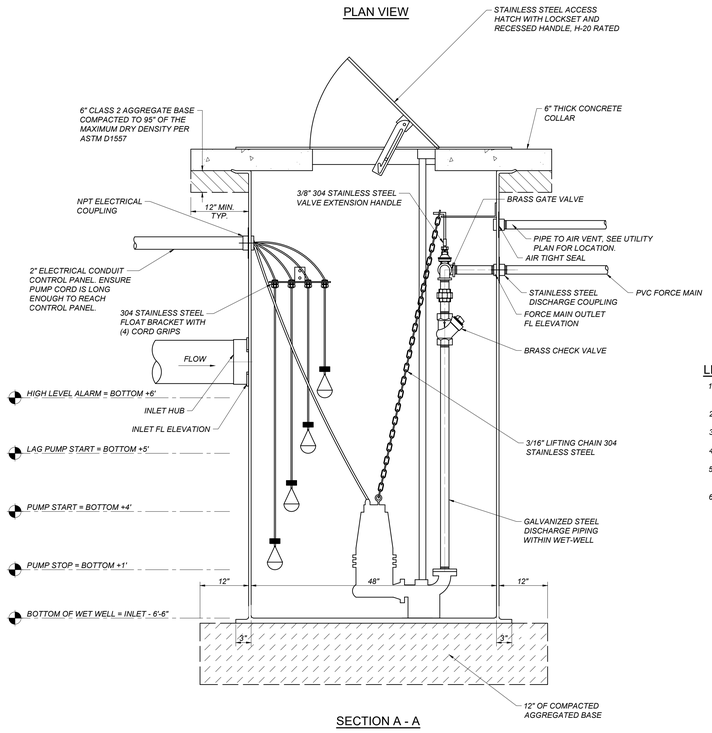


HINGED AND LOCKABLE COVER

PLAN VIEW



CONCRETE COLLAR AND REBAR

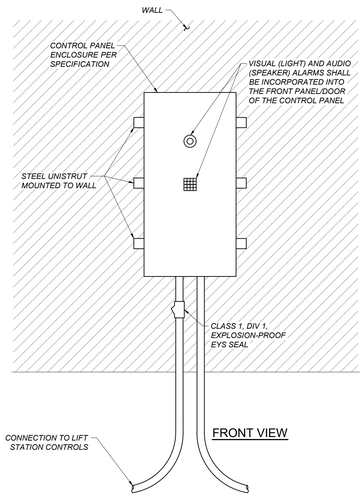


SECTION A - A

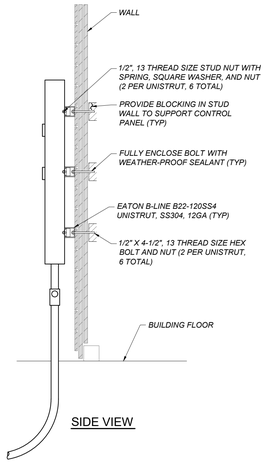
LIFT STATION PARAMETERS:

1. DUPLEX LIFT STATION WITH THE FOLLOWING OPERATIONAL PARAMETERS:
2. WET WELL DIAMETER: 4'
3. PUMP FLOW RATE: 83 GPM
4. SUMP PONDING DEPTH PRIOR TO START: 4'
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND PUMP CURVE FOR REVIEW PRIOR TO ORDERING
6. PUMP CONTROL PANEL SHALL BE 480V. SEE ELECTRICAL PLANS FOR SUPPLY PANEL INFORMATION. REFER TO THE SITE SEWER SPECIFICATION FOR ADDITIONAL INFORMATION

A SD/X202 SEWER LIFT STATION
NOT TO SCALE



FRONT VIEW



SIDE VIEW

B SD/X202 SEWER LIFT STATION PANEL DETAIL
NOT TO SCALE

DSA File No.: *20-30*

DSA Application No.: 02-123203

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DATE: 09/11/2025

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General Notes

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07/18/2025 Date Signed:

Consultant

Jack G. Desmond MS - Improvements Phase 2
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26490 Martin Street,
Madera, CA 93638

Project

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LICENSED ARCHITECT — ANTONIO J. RIVERA — No. C-28235 — Rem. 10-31-25 — STATE OF CALIFORNIA

Architect

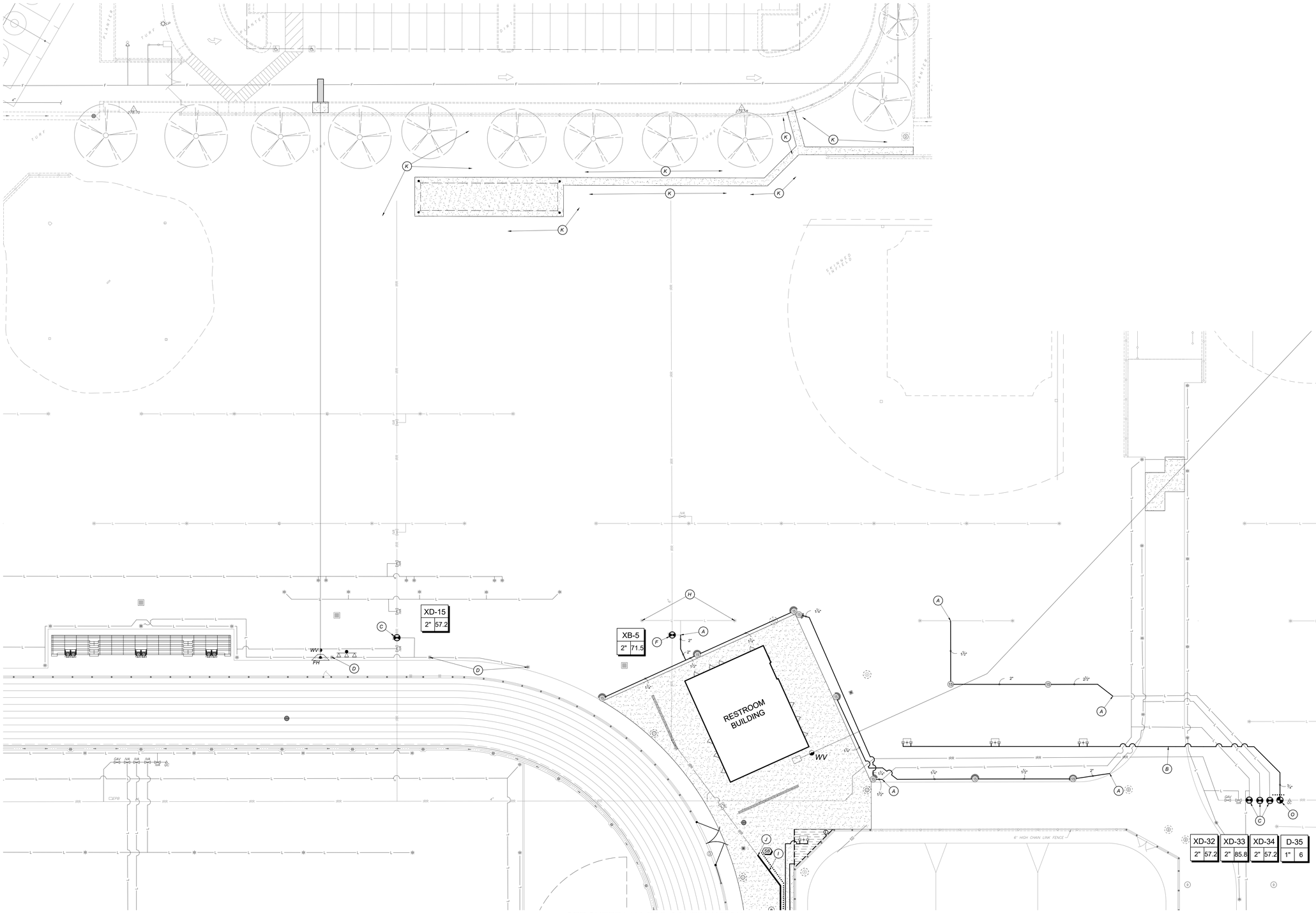
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Project Number: 2470.2	Drawn By: TJ	
Date: 07/18/2025	Checked By: ZDH	
	Reviewed By: JB	

Drawing: P:\224\224-0293\Phase_2\ProductionDrawings\224293_ph2_sl02.dwg; Layout1 (2) - BCF.ctb
Plot by: ahammouda Jul 30, 2025 - 4:21pm



SEE SHEET L102 FOR CONTINUATION

IRRIGATION SYSTEM OBSERVATION LOG:				
		REVIEWED & ACCEPTED BY OWNER'S REPRESENTATIVE		
ITEM NO.	WORK ITEM DESCRIPTION	PRINT NAME	SIGNATURE	DATE
IR-1	EXISTING SYSTEM OPERATION & PRESSURE CHECK			
IR-2	PIPING/WIRE SLEEVES UNDER PAVEMENT			
IR-3	MAIN LINE INSTALLATION & PRESSURE TEST			
IR-4	VALVE INSTALLATIONS			
IR-5	IRRIGATION COVERAGE PRIOR TO PLANTING			
IR-6	CONTROL EQUIPMENT INSTALLATION	N/A		
IR-7	BOOSTER PUMP INSTALLATION & START-UP (MANUF.)	N/A		
IR-8	FINAL SYSTEM OPERATION REVIEW			
NOTES:	THE ORIGINAL VERSION OF THIS LOG SHALL BE MAINTAINED ON THE AS-BUILT RECORD DRAWING SET.			
	WORK ITEMS MAY NOT BE REVIEWED IF PRIOR WORK ITEMS HAVE NOT BEEN ACCEPTED.			
	IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE OWNER'S REPRESENTATIVE IS NOTIFIED OF THESE MILESTONE WITNESS POINTS.			

WATER CONSERVATION COMPLIANCE STATEMENT:

I HAVE COMPLIED WITH THE CRITERIA OF THE LANDSCAPE WATER CONSERVATION ORDINANCE AND GUIDELINES, AND HAVE APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN.

DAVID W. BRILEY, R.L.A. 2787

SEE SHEET L102 FOR IRRIGATION LEGEND AND L103 AND L104 FOR IRRIGATION NOTES AND DETAILS

811 Know what's below. Call before you dig.

SCALE: N 1"=20'

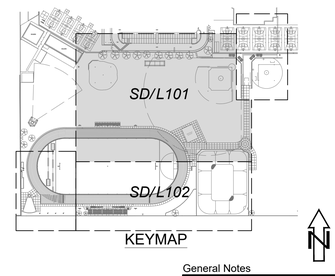
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20-30

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KEYMAP

General Notes

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REGISTERED LANDSCAPE ARCHITECT DAVID W. BRILEY 2787 12/31/26 STATE OF CALIFORNIA

Consultant

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Madera, CA 93638

Project

IRRIGATION PLAN

Drawing

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Architect

No.	Revison/Submission	Date

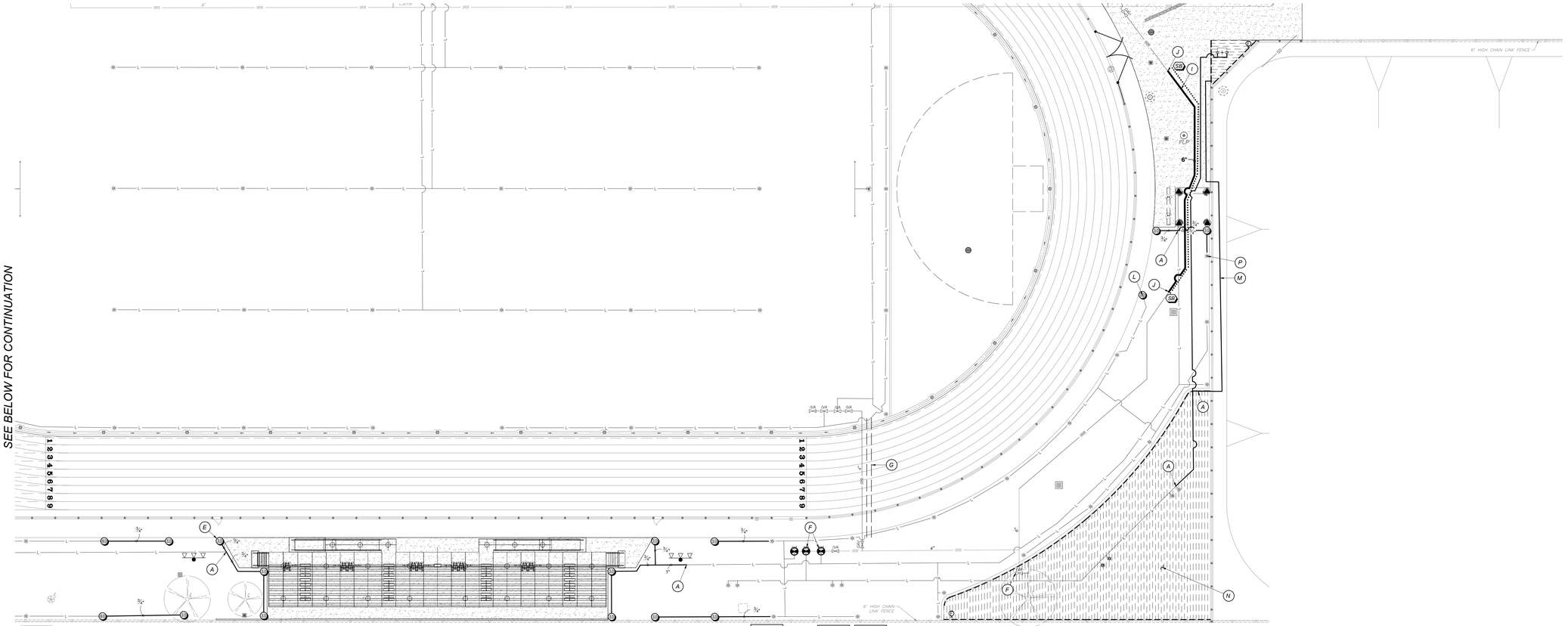
100% CONSTRUCTION DRAWINGS Revision

	Designed By: KC	Copyright 2025 Darden Architects
Scale: 1" = 20'	Drawn By: KC	*SD/L101*
Project Number: 2470.2	Checked By: DB	
Date: 07/18/2025	Reviewed By: DB	

Drawing: P:\224\224-0293\Phase_2\production\drawings\224293_ph2_lr01.dwg; L101 - BCF.ctb
Plot by: mbackowski Aug 28, 2025 - 4:56pm

SEE SHEET L101 FOR CONTINUATION

SEE BELOW FOR CONTINUATION



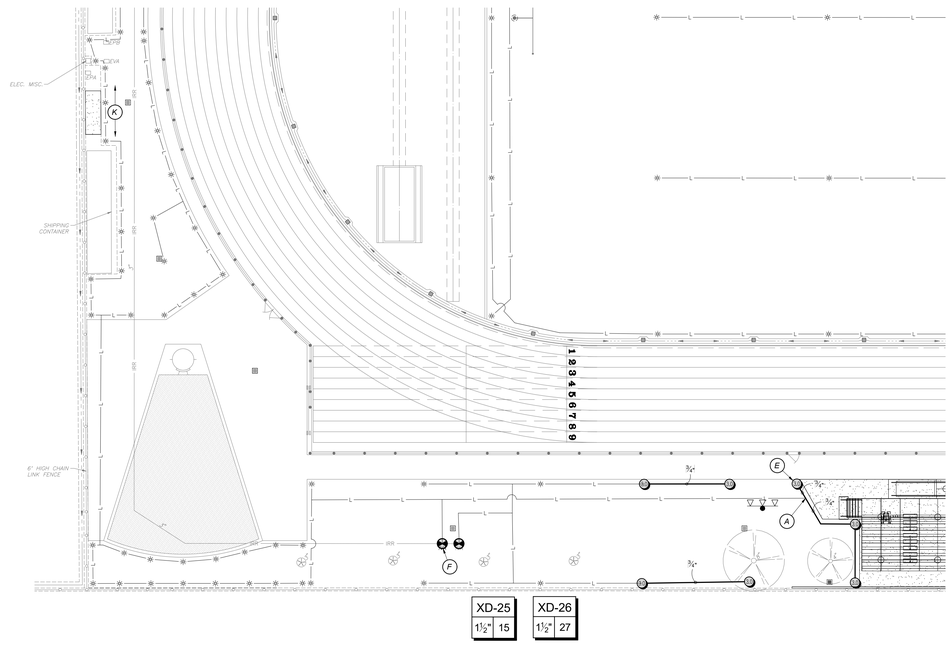
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XD-27 | 2" | 51

XD-28 | 1" | 10

XD-29 | 1½" | 27.2

XD-30 | 1" | 16.7



XD-25 | 1½" | 15

XD-26 | 1½" | 27

IRRIGATION LEGEND

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	ARC	PSI	GPM	RADIUS	DETAIL
▲	RAIN BIRD R-VAN 18 NOZZLE ON A HUNTER PROS-04-PRS40-CV-F BODY	90-210	40	0.98	18'	F/SD/L103
⛭	TREE BUBBLER 10F HUNTER PROS-PRS30-04-MSBN	360	30	1	1'	D/SD/L103

SYMBOL	MANUFACTURER/MODEL	PSI	GPM	RADIUS	DETAIL
50	HUNTER I-20-04-SS-PRB 3.0	45	3	38'	F/SD/L103
15	HUNTER I-25-04-SS 15	60	14.3	57'	F/SD/L103

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
■	DRIP ZONE CONTROL KIT MF IRRITROL 700-1-MF	A/SD/L104
⊡	FLUSH VALVE ASSEMBLY	D/SD/L104
	AREA TO RECEIVE DRIPLINE NETAFIM TLCV-04-18 TECHLINE PRESSURE COMPENSATING 17MM LANDSCAPE DRIPLINE WITH CHECK VALVE. 0.4 GPH EMITTERS AT 18" O.C. DRIPLINE LATERALS SPACED AT 18" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. MINIMUM 1" COVER	B/SD/L104

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
⊠	EXISTING REMOTE CONTROL VALVE	
◔	REMOTE CONTROL VALVE 1", 1-1/2" HUNTER ICV-101G/151G WITH AS-ADJ PRESSURE REGULATOR	E/SD/L103
SB	SPLICE BOX	J/SD/L103
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40, BELL END SOLVENT WELD, SIZE AS NOTED	C/SD/L103
	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21 RUBBER GASKETED, SIZE AS NOTED	A/SD/L103
	PIPE SLEEVE: PVC SCHEDULE 40 TWICE PIPE SIZE	I/SD/L103

#	VALVE NUMBER
#" #•	VALVE FLOW (GPM)
	VALVE SIZE
L	EXISTING LATERAL LINE - CLASS 200 NON-PRESSURE (SIZE AS NOTED)
IRR	EXISTING MAIN LINE - SCHEDULE 40 (SIZE AS NOTED)
	DRIPLINE MANIFOLD: RAIN BIRD XQF-10-18-100 QF DRIPLINE HEADER 1" DIA. AT 18" SPACING (INSTALL PER MANUFACTURER'S SPECIFICATIONS) — C/SD/L104
	CONTROL WIRE PLUS ONE (1) COMMON WIRE — H/SD/L103
+	PROPOSED TREE, SEE PLANTING PLAN ON SHEET L201 FOR VARIETY AND SIZE

A	CONNECT NEW LATERAL LINE TO EXISTING LATERAL LINE
B	BORE NEW LATERAL LINE UNDER EXISTING CONCRETE WALKWAY.
C	PROTECT EXISTING VALVE SCHEDULED TO REMAIN OPERATIONAL ON EXISTING MAIN LINE.
D	MAINTAIN THE 15 NOZZLE HEAD LAYOUT AT 50' SPACING FROM PHASE 1
E	RELOCATE AND CHANGE (E) SPRINKLER TO 'Q 'ARC, AND REPIPE WITH 'Q' ZONE (SEE DEMOLITION PLAN FOR CURRENT LOCATION)
F	EXISTING IRRIGATION VALVE WITH REVISED FLOW
G	SPARE 4" SLEEVE PIPE
H	CHANGE (E) SPRINKLER TO 'H 'ARC
I	RE-ROUTE MAIN LINE. SEE DEMO PLAN FOR CURRENT LOCATION.
J	CONNECT NEW MAIN LINE TO EXISTING MAIN LINE
K	REMOVE EXISTING SPRINKLER HEADS AND LATERAL LINES WITHIN THE AREA OF WORK. COORDINATE WITH THE EXTENT OF GRADING WORK TO REPLACE IRRIGATION LATERALS AND SPRINKLER HEADS AS NEEDED. SEE GRADING AND DRAINAGE PLAN (SHEETS SD/C401 AND SD/C402).
L	EXISTING RELOCATED SPRINKLER HEAD (SEE DEMOLITION PLAN FOR CURRENT LOCATION)
M	PIPE SHOWN OUTSIDE OF PLANTER FOR CLARITY. INSTALL PIPE WITHIN PLANTER. SEE GENERAL IRRIGATION NOTE #8
N	EXISTING DRIP TUBING (PHASE# 1)
O	CONTRACTOR SHALL VERIFY SPARE WIRES. IF THERE ARE NO SPARE WIRES, CONTRACTOR SHOULD USE A DOUBLER BY TSM - DOUBLER AUTOMATIC VALVE CONTROL.
P	CONNECT TO AND ADJUST ARC TO A QUARTER CIRCLE

SEE SHEET L103 AND L104 FOR IRRIGATION NOTES AND DETAILS

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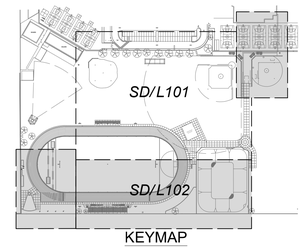
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Architect

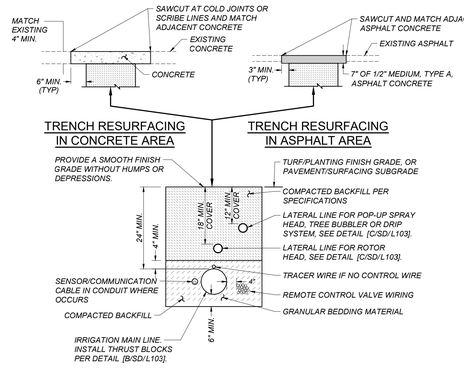
No.	Revison/Submission	Date

100% CONSTRUCTION DRAWINGS

Revision

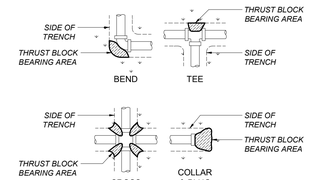
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Scale: 1" = 20'	Drawn By: KC	**SD/L102**
Project Number: 2470.2	Checked By: DB	
Date: 07/18/2025	Reviewed By: DB	

Drawing: P:\224\224-0293\Phase_2\Production\Drawings\224293_ph2_lr01.dwg; L102 - BCF.ctb
Plot by: ahammouda Jul 30, 2025 - 4:22pm



TYPICAL TRENCH SHOWN IN PLANTING AREA

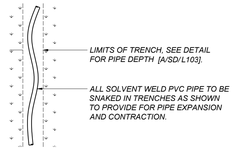
A SD/L103 IRRIGATION TRENCH BACKFILL
NOT TO SCALE



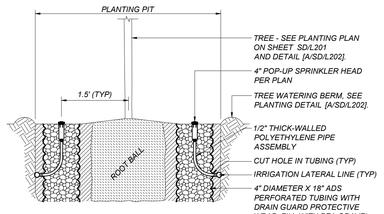
NOTE: CONCRETE PER SPECIFICATIONS. THRUST BLOCKS NOT REQUIRED WITH LESS THAN 2" MAIN LINE

TABLE OF BEARING AREAS REQUIRED (IN SQUARE FEET)					
PIPE DIAMETER	≤4"	6"	8"	10"	12"
CROSS, TEE, 90° BEND, PLUG, FIRE HYDRANT	1	3	5	8	11
45° BEND	1	2	3	4	6
22-1/2" BEND	0.5	1	2	2	3
11-1/4" BEND	0	0	1	1	2
GATE VALVE (IN-LINE)	0	1	2.5	4	9

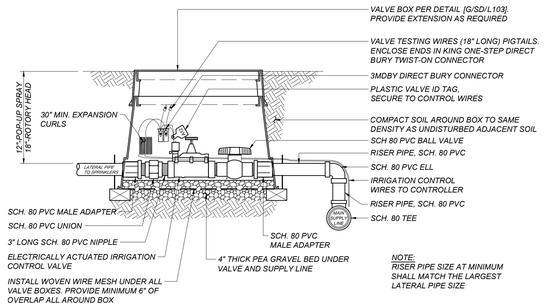
B SD/L103 CONCRETE THRUST BLOCKS
NOT TO SCALE



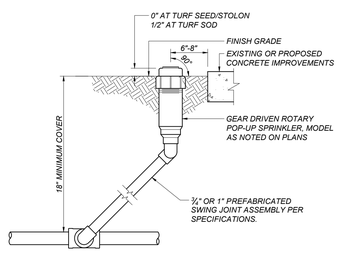
C SD/L103 SOLVENT WELD PIPE
NOT TO SCALE



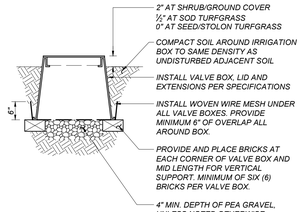
D SD/L103 TREE BUBBLERS
NOT TO SCALE



E SD/L103 REMOTE CONTROL VALVE WITH BALL VALVE - GLOBE
NOT TO SCALE



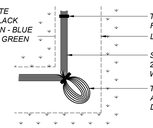
F SD/L103 POP-UP ROTOR
NOT TO SCALE



NOTE:
PROVIDE A TRAFFIC RATED CONCRETE BOX AND LID FOR ANY BOX LOCATED IN HARDSCAPE PAVEMENT AND SET FLUSH TO FINISHED SURFACE. PROVIDE A 6"X6" CONCRETE COLLAR AROUND THE BOX IF LOCATED IN ASPHALTIC CONCRETE.

G SD/L103 IRRIGATION VALVE BOX
NOT TO SCALE

NOTES:
1. WIRES UNDER PAVEMENT OR WALKS SHALL BE INSTALLED WITHIN A CONDUIT WHICH HAS BEEN PLACED BY BORING, JACKING OR DRILLING. CONDUIT TO BE PVC SCH 40 TYPE II PIPE. WIRES SHALL NOT BE TAPED TOGETHER INSIDE THE CONDUIT.
2. NO SPLICES ARE ALLOWED BETWEEN POINTS OF CONNECTIONS.
3. A VALVE BOX MUST BE PROVIDED AT ALL UNDERGROUND SPLICE CONNECTIONS.
4. HOT - RED
COMMON - WHITE
SPARE HOT - BLACK
SPARE COMMON - BLUE
TRACER WIRE - GREEN

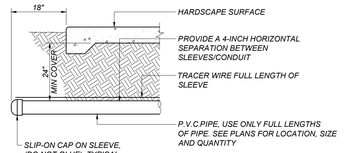


H SD/L103 IRRIGATION WIRE
NOT TO SCALE

CONDUIT/SLEEVE FOR CONTROL WIRE

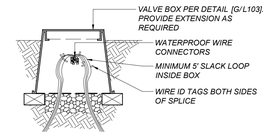
CONDUIT/SLEEVE SIZE	QTY. 14 GA. WIRE
1"	8 OR LESS
1-1/4"	15
1-1/2"	20
2"	32
2-1/2"	45
3"	70
4"	120

NOTE: SLEEVE FOR PIPE IS 2X THE PIPE DIAMETER



NOTE:
IF CONTROL WIRES ARE ROUTED IN CONDUIT, SLEEVE FOR WIRES IS NOT REQUIRED

I SD/L103 IRRIGATION SLEEVE/CONDUIT
NOT TO SCALE



J SD/L103 SPLICEBOX
NOT TO SCALE

GENERAL IRRIGATION NOTES:

1. ALL ITEMS IN THE LEGEND ARE TO BE FURNISHED AND INSTALLED, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL FURNISH THE ARTICLES, EQUIPMENT, MATERIALS OR PROCESSES SPECIFIED BY NAME. NO SUBSTITUTION WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE DESIGN ENGINEER. (ALL MATERIAL REQUIRED SHALL BE NEW AND OF THE BEST QUALITY AVAILABLE)
2. THE DESIGN ENGINEER RESERVES THE RIGHT TO REJECT ANY MATERIAL OR WORK WHICH DOES NOT CONFORM TO THE CONTRACT PLANS AND SPECIFICATIONS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE DESIGN ENGINEER.
3. PRIOR TO STARTING WORK, THE CONTRACTOR SHALL VERIFY THE EXISTING SYSTEM COMPONENTS' LOCATION, SIZES AND ROUTING FOR BACKFLOW PREVENTERS, CONTROLLERS, MAIN AND LATERAL PIPING, VALVES, SPRINKLER HEADS AND CONTROL WIRE; AND SHALL CONFIRM THEIR OPERATIONAL STATUS IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL ALSO VERIFY THE AVAILABLE STATIC PRESSURE AT THE POINT-OF-CONNECTION. FAILURE TO NOTIFY THE OWNER'S REPRESENTATIVE BEFORE STARTING WORK OF ANY DEVIATION FROM THE INFORMATION SHOWN ON THE CONTRACT DOCUMENTS, OR NECESSARY REPAIRS TO THE EXISTING SYSTEM, SHALL MAKE THE CONTRACTOR RESPONSIBLE TO PROVIDE, AT HIS OWN EXPENSE, ANY CORRECTIVE WORK OR COMPONENTS NECESSARY FOR A FULLY FUNCTIONAL SYSTEM WITH FULL COVERAGE.
4. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND KEEP ANY EXISTING IRRIGATION SYSTEM SCHEDULED TO REMAIN OPERATIONAL AT ALL TIMES DURING THE COURSE OF THIS WORK. THE CONTRACTOR SHALL REPLACE ANY PLANTS DEAD OR DISTRESSED DUE TO THE INTERRUPTION OF EXISTING IRRIGATION SCHEDULES AND SHALL PERFORM ALL WORK NECESSARY TO MAINTAIN THE EXISTING SYSTEM'S OPERATIONAL.
5. THE CONTRACTOR IS RESPONSIBLE TO LOCATE AND PROTECT ALL EXISTING UTILITIES. UTILITIES SHOWN ARE FOR THE CONTRACTOR'S AWARENESS AND NO SURVEY HAS BEEN COMPLETE TO VERIFY THE ACCURACY OF THE UTILITIES SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO REPAIR ANY DAMAGED UTILITIES CAUSED BY CONSTRUCTION ACTIVITIES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL DIMENSIONS SHOWN AND TO ADJUST SAID DIMENSIONS TO FIT SITE CONDITIONS AND ACTUAL EQUIPMENT INSTALLED.
7. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION FACILITIES AS INDICATED ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS MIGHT NOT HAVE BEEN CONSIDERED IN THE DESIGN. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.
8. THE IRRIGATION PLAN IS DIAGRAMMATIC. ALL PIPING, VALVES, AND HEADS SHALL BE LOCATED IN PLANTING AREAS WHENEVER POSSIBLE.
9. THE CONTRACTOR SHALL PROVIDE ADEQUATE SAFETY MEASURES TO WARN AND PROTECT THE PUBLIC. OTHER SITE CONTRACTORS AND HIS WORKERS FROM POSSIBLE INJURY DUE TO HIS CONSTRUCTION EQUIPMENT AND OPERATIONS.
10. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, ETC. WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL HIS WORK, AND PLAN HIS WORK ACCORDINGLY, FURNISHING SUCH FITTINGS, ETC., AS MAY BE REQUIRED TO INSTALL THE PROPOSED FACILITIES AND ACCOMMODATE THE SITE CONDITIONS. DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE DONE TO PROVIDE A COMPLETE AND OPERATIONAL IRRIGATION SYSTEM. ALL WORK TO BE DONE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, LOCAL CODES AND ORDINANCES.
11. VALVES SHALL BE LOCATED IN SHRUB/GROUND COVER AREAS INSTEAD OF IN TURFGRASS AREAS WHENEVER POSSIBLE. VALVES IN ATHLETIC SPORTS FIELDS SHALL BE LOCATED OUTSIDE OF THE FIELD-OF-PLAY TO THE GREATEST EXTENT POSSIBLE.
12. THE CONTRACTOR SHALL REPLACE ANY EXISTING PLANTS SCHEDULED TO REMAIN (SEE LANDSCAPE PLANS) THAT ARE DAMAGED BY THIS WORK WITH NEW PLANTS OF THE SAME SPECIES/VARIETY AND SIZE AS THE ORIGINAL.
13. ANY EXISTING TURFGRASS REMOVED FOR THIS WORK SHALL BE REPLANTED IF VIABLE, OR NEW SOD OF THE SAME SPECIES/VARIETY INSTALLED. THE UPPER 6 INCHES OF THE COMPACTED TRENCH BACKFILL SHALL BE CONDITIONED PER LANDSCAPE SPECIFICATIONS PRIOR TO SOD INSTALLATION. THE NEW SOD SURFACE SHALL BE FLUSH TO THE ADJACENT TURFGRASS WITHOUT HUMPS OR DEPRESSIONS.
14. INSTALL SLEEVES UNDER ALL ASPHALT/CONCRETE IMPROVEMENTS. SLEEVES SHALL BE PVC SCH. 40 PVC OR SDR 35 AND TWICE THE DIAMETER OF THE PIPE UNLESS OTHERWISE NOTED. CONTROL WIRING SHALL BE SLEEVED IN 2" SCH 40 PVC UNLESS OTHERWISE NOTED. MINIMUM DEPTH OF SLEEVES UNDER ALL ASPHALT/CONCRETE IMPROVEMENTS IS 18" BELOW SUBGRADE OR 24" BELOW FINISHED GRADE, WHICHEVER IS GREATER.
15. CONTRACTOR SHALL SAWCUT TO EXISTING JOINTS. REMOVE AND REPLACE SURFACING (CONCRETE, ASPHALT) AS NECESSARY TO INSTALL THE IRRIGATION SYSTEM.
16. THE CONTRACTOR SHALL PROVIDE AND KEEP AN UP-TO-DATE "RECORD DRAWING" SHOWING ALL CHANGES TO THE ORIGINAL DRAWINGS AND EXACT LOCATIONS OF THE FACILITIES INSTALLED. BEFORE FINAL INSPECTION, THE CONTRACTOR SHALL FURNISH MARKED "RECORD DRAWINGS" TO THE INSPECTOR.
17. THE CONTRACTOR SHALL PROVIDE ADJUSTMENT OF NOZZLE ARC AND RADIUS, INCLUDING ANY ALTERNATE NOZZLE TYPES, NECESSARY TO PROVIDE COMPLETE COVERAGE, TO SUIT ACTUAL SITE CONDITIONS, AND TO MINIMIZE OVERSPRAY ONTO HARDSCAPE, PAVEMENT AND/OR STRUCTURES.
18. CONCRETE ANCHORS OR THRUST BLOCKS SHALL BE PROVIDED ON ALL MAIN LINE PIPING. THEY ARE TO BE LOCATED AT ALL ABRUPT CHANGES IN PIPELINE GRADE, CHANGES IN HORIZONTAL ALIGNMENT, REDUCTION IN PIPE SIZES, END OF LINE AND IN-LINE VALVES TO ABSORB ANY AXIAL THRUST OF THE PIPE. THE PIPE MANUFACTURER'S RECOMMENDATIONS FOR THRUST CONTROL SHALL BE FOLLOWED. THRUST BLOCKS MUST BE FORMED AGAINST UNDISTURBED EARTH.
19. ALL MAIN LINE AND LATERAL LINE PIPES UNDER PAVEMENT SHALL BE PRESSURE TESTED WITH THE VALVES INSTALLED. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT NEEDED. IF ANY LEAKS DEVELOP, THE REPAIRS ARE TO BE MADE AND THE TEST REPEATED UNTIL THE SYSTEM IS PROVEN WATERTIGHT. THE CONTRACTOR IS TO CENTER LOAD THE PIPE AND LEAVE ALL JOINTS EXPOSED FOR INSPECTION. THE PRESSURE TEST SHALL BE OBSERVED AND APPROVED BY THE OWNER'S REPRESENTATIVE. WHEN THE PIPE IS PROVEN WATERTIGHT AND ONLY THEN MAY THE LINE BE BACKFILLED.
20. WIRED CONNECTIONS BETWEEN THE CONTROLLER AND REMOTE CONTROL VALVES SHALL BE MADE WITH ONE CONTINUOUS DIRECT BURIAL WIRE RUN. A VALVE BOX MUST BE PROVIDED AT THE CONTRACTOR'S EXPENSE AT ALL UNDERGROUND SPLICES.
21. ONLY TEFLON TAPE OR AN APPROVED TEFLON PASTE MAY BE USED AS THE SEALING MATERIAL TO MAKE ALL THREADED CONNECTIONS. A MINIMUM OF TWO (2) WRAPS IN THE DIRECTION OF THE THREADS TO BE USED FOR TAPE. NO OTHER PIPE JOINT MATERIAL WILL BE ALLOWED WITHOUT THE WRITTEN AUTHORIZATION FROM THE DESIGN ENGINEER.
22. THE CONTRACTOR SHALL PROVIDE TWO (2) INDIVIDUALLY BOUND SETS OF OPERATION AND MAINTENANCE MANUALS. THE MANUAL SHALL CONTAIN THE FOLLOWING INFORMATION:
    A. CONTRACTOR'S ADDRESS AND PHONE NUMBER.
    B. DURATION OF GUARANTEE PERIOD (ONE YEAR AFTER FINAL ACCEPTANCE).
    C. NAMES, ADDRESSES AND PHONE NUMBERS OF LOCAL MANUFACTURER REPRESENTATIVES.
    D. COMPLETE SET OF MANUFACTURER'S LITERATURE AND SPECIFICATIONS.
    E. COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS ON ALL MAJOR EQUIPMENT.
    F. ISSUE A "CERTIFICATE OF CONSTRUCTION COMPLIANCE" WHICH STATES THAT ALL WORK DONE AND MATERIALS AND EQUIPMENT USED ARE IN CONFORMANCE WITH THE APPROVED PLANS, SPECIFICATIONS AND ALL AUTHORIZED REVISIONS.
    G. INITIAL ELECTRICAL DATA ON EACH VALVE:
        (1) OHMMS READING FOR EACH VALVE TAKEN AT THE CONTROLLER.
        (2) VOLTAGE READING FOR EACH VALVE TAKEN BOTH AT THE CONTROLLER AND AT THE VALVE.
23. THE CONTRACTOR SHALL PROVIDE TWO SETS OF CONTROLLER CHARTS. THE CHARTS TO BE A REDUCED DRAWING OF THE ACTUAL PLANS. THE CHARTS SHALL BE COLORED WITH A DIFFERENT COLOR FOR EACH IRRIGATION CIRCUIT. THE CHARTS SHALL BE COVERED IN A WATERTIGHT ENVELOPE.
24. IRRIGATION LINE TRENCHING AND PIPE INSTALLATION LOCATED WITHIN THE CANOPY DRIP LINE OF EXISTING TREES SHALL BE PERFORMED BY HAND OR BY AIR SPADE WITHOUT CUTTING OR DAMAGING EXISTING ROOTS GREATER THAN ONE INCH IN DIAMETER. SEE EXISTING LANDSCAPE PROTECTION SECTION FOR ADDITIONAL REQUIREMENTS.
25. REPLACE ALL DAMAGED EXISTING VALVE BOXES AND/OR LIDS WITHIN THE AREA OF WORK. ADJUST THE ELEVATION OF ALL EXISTING VALVE BOXES WITHIN THE AREA OF WORK TO FINISH GRADE AS NECESSARY TO COMPLY WITH THE VALVE BOX DETAIL.

CONTRACTOR SPECIAL IRRIGATION NOTES:

1. THE CONTRACTOR SHALL PERFORM AN OPERATIONAL ASSESSMENT OF THE EXISTING IRRIGATION SYSTEM WITHIN THE AREA OF WORK WITH THE OWNER'S REPRESENTATIVE PRIOR TO THE START OF CONSTRUCTION OPERATIONS.
2. THE CONTRACTOR SHALL ENSURE THAT ALL EXISTING PLANTING SCHEDULED TO REMAIN SHALL CONTINUE TO BE IRRIGATED THROUGHOUT THE COURSE OF CONSTRUCTION OPERATIONS. ANY DAMAGE TO THE EXISTING IRRIGATION SYSTEM THAT IMPACTS EXISTING PLANTING TO REMAIN SHALL BE IMMEDIATELY REPAIRED TO THE OWNER'S SATISFACTION.
3. PRIOR TO THE START OF ANY SHRUB, GROUND COVER, AND/OR TURFGRASS PLANTING, AN OPERATIONAL REVIEW OF THE IRRIGATION SYSTEM SHALL BE PERFORMED FOR PROPER COVERAGE AND SOIL MOISTURE DEPTH BY THE OWNER'S REPRESENTATIVE. ALL CORRECTIONS AND/OR ADJUSTMENTS SHALL BE COMPLETED AND VERIFIED BY THE OWNER'S REPRESENTATIVE BEFORE GROUND LEVEL PLANTING MAY COMMENCE.
4. THE ORIGINAL IRRIGATION SYSTEM OBSERVATION LOG SHALL BE MAINTAINED ON THE AS-BUILT RECORD DRAWING SET.
5. THE AS-BUILT RECORD DRAWING SET AND OTHER CLOSE-OUT ITEMS SHALL BE SUBMITTED AND ACCEPTED PRIOR TO THE SCHEDULING OF A FINAL ACCEPTANCE REVIEW.
6. UNLESS NOTED OTHERWISE, SALVAGE AND RETURN TO THE OWNER ALL IRRIGATION VALVES, HEADS AND OTHER EQUIPMENT COMPONENTS REMOVED AS PART OF THE WORK. SALVAGED COMPONENTS SHALL BE CLEAN AND IN WORKING CONDITION UNLESS NOTED AS NON-OPERATIONAL DURING THE OPERATIONAL ASSESSMENT.

SEE SHEET L101 AND L102 FOR IRRIGATION PLAN

811 Know what's below. Call before you dig.

DSA File No.: *20-30*

DSA Application No.: 02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

General Notes

Blair, Church & Flynn CONSULTING ENGINEERS
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451 Clovis Avenue, Suite 200
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Consultant

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Madera Unified School District
26490 Martin Street,
Madera, CA 93638

Project

IRRIGATION DETAILS

Drawing

darden architects
ARCHITECTURE PLANNING INTERIORS
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Architect

No.	Revison/Submission	Date

100% CONSTRUCTION DRAWINGS

Revision

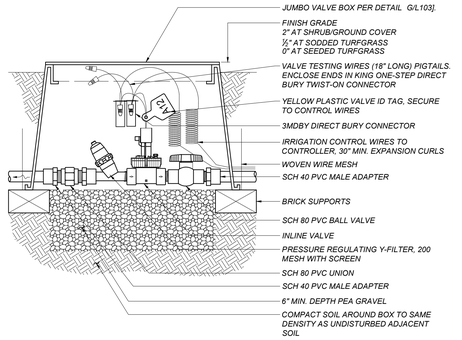
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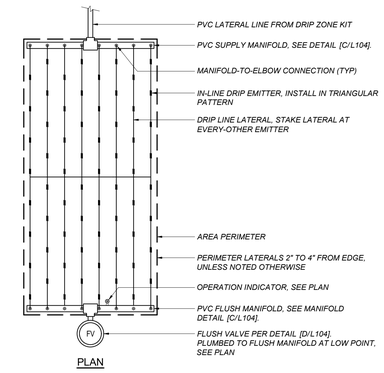
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SD/L103

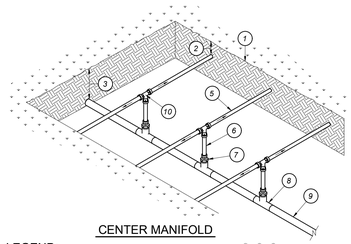
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Plot by: ahammouda Jul 30, 2025 - 4:22pm



A SD/L104 DRIP ZONE ASSEMBLY
NOT TO SCALE



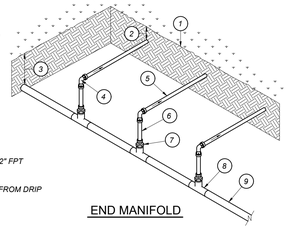
B SD/L104 DRIPLINE LAYOUT SCHEMATIC
NOT TO SCALE



CENTER MANIFOLD

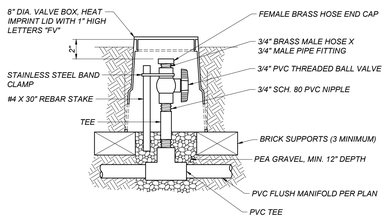
LEGEND:

1. *FINISH GRADE*
2. *DEPTH OF TUBING BELOW FINISHED GRADE - SEE LEGEND*
3. *MIN. 12" DEPTH OF PVC SUPPLY / FLUSH MANIFOLD BELOW FINISHED GRADE*
4. *ELBOW*
5. *DRIPLINE LATERAL, SEE PLAN*
6. *POLY TUBING, LENGTH AS NECESSARY*
7. *MALE ADAPTER*
8. *SCH 40 PVC TEE (SxSxT) WITH 1/2" FPT OUTLET*
9. *SCH 40 PVC SUPPLY MANIFOLD FROM DRIP ZONE KIT*
10. *TEE*



END MANIFOLD

C SD/L104 DRIPLINE MANIFOLD
NOT TO SCALE



D SD/L104 DRIPLINE FLUSH VALVE
NOT TO SCALE

DRIP SYSTEM IRRIGATION NOTES:

1. *ALL ITEMS, ACCESSORIES, FITTINGS, ETC. NECESSARY FOR A COMPLETE AND PROPERLY FUNCTIONING SUB-SURFACE DRIP SYSTEM ARE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR, UNLESS NOTED OTHERWISE.*
2. *THE EQUIPMENT AND COMPONENTS CALLED OUT ON THE DRAWING LEGEND ARE THE PREFERENCE OF THE OWNER AND ARE SELECTED TO MATCH EQUIPMENT AND COMPONENTS IN USE IN OTHER SIMILAR IRRIGATION SYSTEMS OF THE OWNER.*
3. *PRIOR TO STARTING WORK, THE CONTRACTOR SHALL VERIFY ANY EXISTING SYSTEM COMPONENTS' LOCATION, SIZES AND ROUTING FOR BACKFLOW PREVENTERS, CONTROLLERS, MAIN AND LATERAL PIPING, VALVES, SPRINKLER HEADS AND CONTROL WIRE; AND SHALL CONFIRM THEIR OPERATIONAL STATUS IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL ALSO VERIFY THE AVAILABLE STATIC PRESSURE AND AVAILABLE SAFE FLOW AT THE POINT-OF-CONNECTION. FAILURE TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE ENGINEER BEFORE STARTING WORK, OF ANY DEVIATION FROM THE INFORMATION SHOWN ON THE CONTRACT DOCUMENTS OR NECESSARY REPAIRS TO THE EXISTING SYSTEM, SHALL MAKE THE CONTRACTOR RESPONSIBLE TO PROVIDE, AT HIS OWN EXPENSE, ANY CORRECTIVE WORK OR COMPONENTS NECESSARY FOR A FULLY FUNCTIONAL SYSTEM WITH FULL COVERAGE.*
4. *THE IRRIGATION PLAN IS DIAGRAMMATIC. ALL PIPING, VALVES, AND COMPONENTS SHALL BE LOCATED IN PLANTING AREAS, UNLESS NOTED OTHERWISE. VALVES SHALL BE LOCATED IN SHRUB/GROUND COVER AREAS INSTEAD OF IN TURFGRASS AREAS WHENEVER POSSIBLE.*
5. *INSTALL DRIP EMITTERS IN A TRIANGULAR OR STAGGERED PATTERN AND AT A CONSISTENT DEPTH BELOW GRADE AS SHOWN OR INDICATED IN THE DRAWINGS.*
6. *STAKE THE EMITTER TUBING USING THE MANUFACTURER'S RECOMMENDED STAKES DIRECTLY OVER EVERY OTHER EMITTER. FOR EXAMPLE, IF THE EMITTERS ARE SPACED AT 18 INCHES O.C., THEN STAKE AT 36 INCHES O.C.*
7. *PRIOR TO BACKFILLING THE DRIP TUBING AND THE START OF PLANTING OPERATIONS, THE SYSTEM SHALL BE REVIEWED FOR PROPER OPERATION BY THE OWNER'S REPRESENTATIVE.*
8. *PROGRAM THE CONTROLLER TO OPERATE THE CONTROL VALVE(S) FOR THE DRIP SYSTEM USING THE CONTROLLER'S "CYCLE AND SOAK" FEATURE IN ORDER TO APPLY THE REQUIRED WATER AMOUNT IN THREE EQUAL CYCLES.*
9. *PRIOR TO THE START OF PLANTING OPERATIONS, THE DRIP SYSTEM SHALL BE OPERATED FOR A FREQUENCY AND DURATION TO ADEQUATELY MOISTEN THE TOPSOIL TO A MINIMUM DEPTH OF 12 INCHES AT ANY LOCATION WITHIN THE PLANTING AREA .*
10. *THE CONTRACTOR SHALL PROVIDE ONE HUNDRED (100) FEET OF IN-LINE EMITTER TUBING OF THE SAME MODEL AS SPECIFIED, ENOUGH STAKES FOR THE 100 FEET, AND TEN (10) OF EACH TYPE OF FITTINGS USED ON THE PROJECT FOR THE OWNER'S USE AS SPARE PARTS.*
11. *IT IS THE CONTRACTOR'S RESPONSIBILITY TO KEEP ANY EXISTING IRRIGATION SYSTEM SCHEDULED TO REMAIN OPERATIONAL AT ALL TIMES DURING THE COURSE OF THIS WORK. THE CONTRACTOR SHALL REPLACE ANY PLANTS DEAD OR DISTRESSED DUE TO THE INTERRUPTION OF EXISTING IRRIGATION SCHEDULES, AND SHALL PERFORM ALL WORK NECESSARY TO MAINTAIN THE EXISTING SYSTEM'S OPERATION.*
12. *THE CONTRACTOR SHALL REPLACE ANY EXISTING PLANTS SCHEDULED TO REMAIN THAT ARE DAMAGED BY THIS WORK WITH NEW PLANTS OF THE SAME SPECIES/VARIETY AND SIZE AS THE ORIGINAL PRIOR TO THE START OF WORK. ANY EXISTING TURFGRASS REMOVED FOR THIS WORK SHALL BE REPLANTED IF VIABLE, OR NEW SOD OF THE SAME SPECIES/VARIETY INSTALLED. THE UPPER 6 INCHES OF THE COMPACTED TRENCH BACKFILL SHALL BE CONDITIONED PER THE PLANTING SPECIFICATIONS PRIOR TO SOD INSTALLATION. THE NEW SOD SURFACE SHALL BE FLUSH TO THE ADJACENT TURFGRASS WITHOUT HUMPS OR DEPRESSIONS.*

SEE SHEET L101 AND L102 FOR IRRIGATION PLAN

811 Know what's below. Call before you dig.

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

General Notes

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Consultant

Jack G. Desmond MS - Improvements Phase 2
Madera Unified School District
26490 Martin Street,
Madera, CA 93638
Project

IRRIGATION DETAILS
Drawing

darden architects
ARCHITECTURE
PLANNING
INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051
LICENSED ARCHITECT CLIFFORD J. AVILA No. C-30235 Exp. 10-31-25 STATE OF CALIFORNIA
Architect

No.	Revison/Submission	Date

100% CONSTRUCTION DRAWINGS Revision

	Designed By: KC	Copyright 2025 Darden Architects
Scale: 1" = 20'	Drawn By: KC	*SD/L104*
Project Number: 2470.2	Checked By: DB	
Date: 07/18/2025	Reviewed By: DB	

Drawing: P:\224\224-0293\Phase_2\ProductionDrawings\224293_ph2_lm801.dwg: L104 - BCF.ctb
Plot by: ahammouda Jul 30, 2025 - 4:22pm

TURF (TYP.) C

TURF (TYP.) C

LIMIT OF DEMO/ GRADING C

TURF (TYP.) C

LIMIT OF DEMO/ GRADING C

TURF (TYP.) C

RESTROOM BUILDING

PLA ACE

MULCH

45'

45'

30'

25'

DIE BIC

LAG RUB

RHA UMB

6' HIGH CHAIN LINK FENCE

FH

B

B

SEE SHEET L202 FOR CONTINUATION

SEE SHEET L203 FOR PLANTING LEGEND AND CALCULATIONS AND L204 FOR DETAILS AND NOTES

811 Know what's below. Call before you dig.

SCALE: N 1"=20'

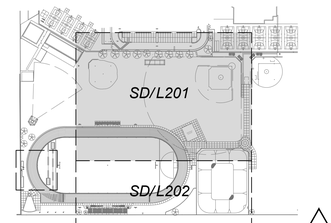
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KEYMAP

General Notes

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PLANTING PLAN

Drawing

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ARCHITECTURE
PLANNING
INTERIORS
www.dardenarchitects.com

Licensed Architect — Gregory J. Zovich — No. C26235 — Exp. 10-31-25 — State of California

Architect

No.	Revison/Submission	Date

100% CONSTRUCTION DRAWINGS

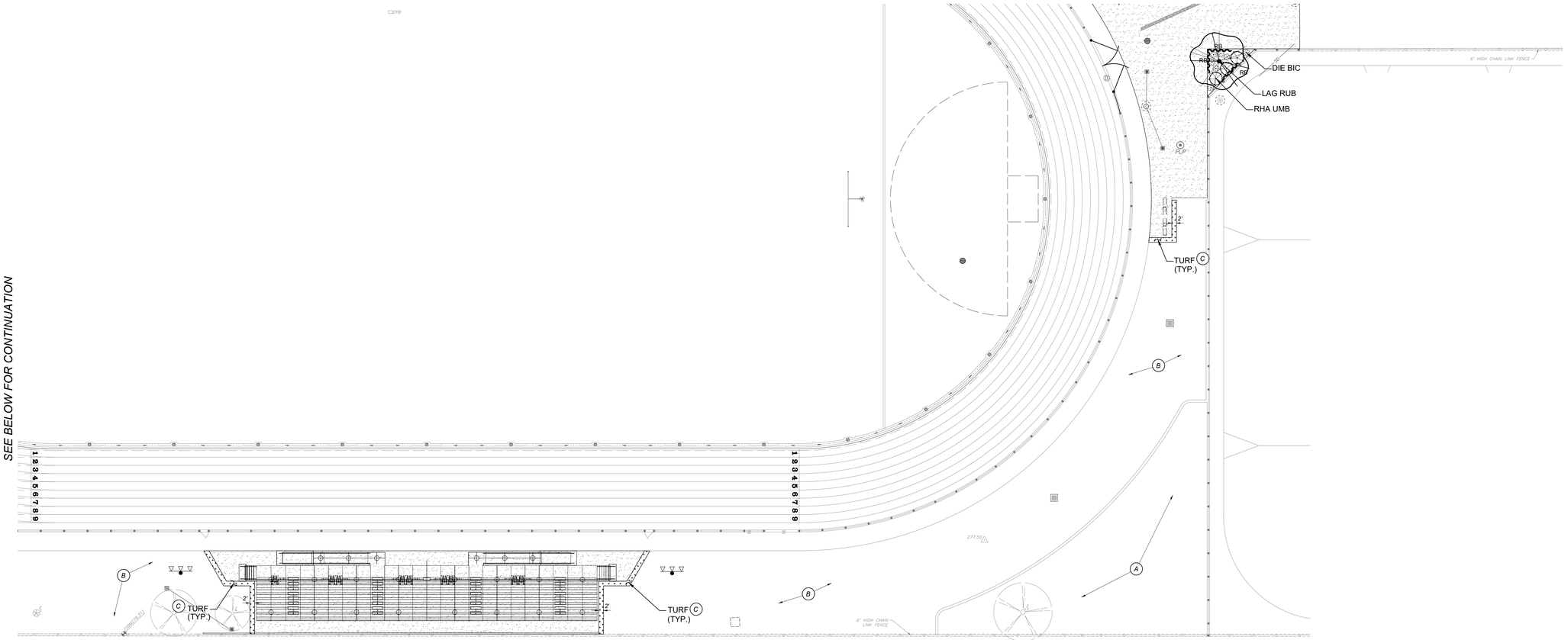
Revision

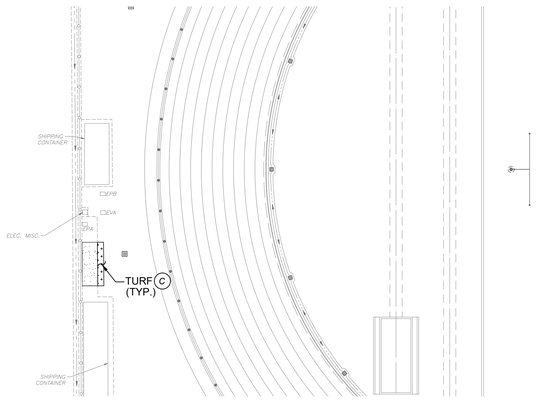
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Scale: 1" = 20'	Drawn By: KC	SD/L201
Project Number: 2470.2	Checked By: DB	
Date: 07/18/2025	Reviewed By: DB	

Drawing: P:\2024\24-0293\Phase_2\production\drawings\224293_ph2_lal01.dwg; L201 - BCF.ctb
Plot by: mbaldowski Aug 28, 2025 - 4:57pm

SEE SHEET L201 FOR CONTINUATION

SEE BELOW FOR CONTINUATION





SEE SHEET L203 FOR PLANTING LEGEND AND CALCULATIONS AND L204 FOR DETAILS AND NOTES

811 Know what's below. Call before you dig.

SCALE: N 1"=20'

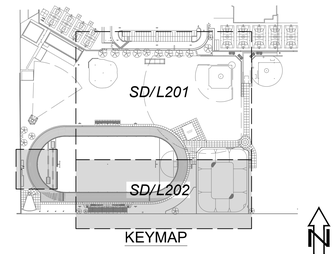
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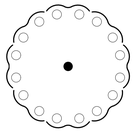
100% CONSTRUCTION DRAWINGS Revision

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Scale: 1" = 20'	Drawn By: KC	*SD/L202*
Project Number: 2470.2	Checked By: DB	
Date: 07/18/2025	Reviewed By: DB	

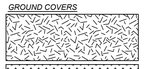
Drawing: P:\224\224-0293\Phase_2\ProductionDrawings\224293_ph2_lw01.dwg; L202 - BCF.ctb
Plot by: ahammouda Jul 30, 2025 - 4:22pm

PLANT LEGEND

TOTAL MIXED PLANTING AREA = 206 SF *SUNSET ZONE: 9* *MS = MATURE SIZE*

SYMBOL	CODE	BOTANICAL / COMMON NAME	CONT	WATER USE	QTY	DETAIL	REMARKS
SMALL TREES							
	LAG RUB	LAGERSTROEMIA INDICA 'RUBRA' RED CRAPE MYRTLE	24"BOX	L	1	A/SD/L203	DECIDUOUS. STANDARD FORM. FULL SUN. SUMMER FLOWERING. MS: 25' H X 25" W
LARGE TREES							
	PLA ACE	PLATANUS X ACERIFOLIA LONDON PLANE TREE	24"BOX	L	3	A/SD/L203	DECIDUOUS. STANDARD FORM. PARTIAL SHADE TO FULL SUN. YELLOW-BROWN FOLIAGE IN FALL. MS: 40'-80' H X 30'-40' W

SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	WATER USE	QTY	DETAIL	REMARKS
SHRUBS							
	DIE BIC	DIETES BICOLOR FORTNIGHT LILY	1 GAL	L	7	F/SD/L203	FULL SUN. LIGHT YELLOW IRIS-LIKE FLOWERS WITH VIVID MAROON BLOTCHES MS: 2'-3' H X 2'-3' W
	RHA UMB	RHAPHIOLEPIS UMBELLATA YEDDA HAWTHORN	5 GAL	L	3	F/SD/L203	FULL SUN. WHITE FLOWERS. MS: 4'-6' H X 4'-6' W

SYMBOL	CODE	BOTANICAL / COMMON NAME	CONT	WATER USE	QTY	DETAIL	REMARKS
GROUND COVERS							
	MULCH	WALK-ON WOOD MULCH	N/A	N/A	84 SF	C/SD/L203	MIN. 3 INCH COMPRESSED DEPTH. SEE PLANTING NOTE #18.
	TURF	`CELEBRATION` BERMUDAGRASS	SOD	M	1,990 SF	B/SD/L203	FINISH GRADE AND PLANT PER SECTION 329000.
RB		ROOT BARRIER UB24-2				D/SD/L203	
(A)		PROTECT EXISTING PLANTING TO REMAIN, TYP.					
(B)		PROTECT EXISTING TURF TO REMAIN, TYP.					
(C)		VERIFY THE EXTENT AND COORDINATE NEW REPLACEMENT TURFGRASS SOD WIDTH WITH BOTH THE LIMIT OF CLEARING SHOWN ON THE DEMOLITION PLAN AND THE LIMIT OF TRANSITION GRADING. NEW SOD SHALL BE A MINIMUM 2' WIDTH FROM ANY HARDSCAPE EDGE. REPLACE ANY CLEARED, DAMAGED AND/OR DISTRESSED TURFGRASS AS A RESULT OF CONSTRUCTION ACTIVITIES AND/OR THE CONTRACTOR'S NEGLECT WITH NEW TURFGRASS SOD. PROVIDE FULL WIDTH SOD STRIPS FOR ALL REPAIRS/REPLACEMENTS. INSTALL FLUSH TO ADJACENT SURFACES.					

WATER CONSERVATION COMPLIANCE STATEMENT:

I HAVE COMPLIED WITH THE CRITERIA OF THE LANDSCAPE WATER CONSERVATION ORDINANCE AND GUIDELINES, AND HAVE APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE PLANTING DESIGN PLAN.

DAVID W. BRILEY, RLA 2787

LANDSCAPE PLANTING AREA REQUIREMENT (DSA 1-L)

	AREA (SF)
NEW BUILDING FOOTPRINT:	*2,488*
REQUIRED MWELO COMPLIANT PLANTING:	*1,866*
EXISTING IRRIGATED AREA DESIGNATED FOR REMOVAL:	*8,102*
PROPOSED MWELO COMPLIANT PLANTING:	*206*
TOTAL CREDIT FOR MWELO COMPLIANT PLANTING:	*8,308*
EXCESS / (DEFICIT) OF PROPOSED COMPLIANT PLANTING:	*6,442*

LANDSCAPE SHADE CALCULATIONS

SHADING PER CALGREEN 5.106.12

SITE SHADING - LANDSCAPE & HARDSCAPE	***QUANTITY PROPOSED (SF)***	***PERCENT REQUIRED***	***SHADE AREA REQUIRED (SF)***
LANDSCAPED AREA (EXCLUDING SPECIAL USE & PARKING LANDSCAPE AREAS)	*206*	*20*	*41*
UNCOVERED HARDSCAPE AREA (EXCLUDING PARKING HARDSCAPE AREAS)	*10,116*	*20*	*2,023*
TOTAL SITE SHADE REQUIRED			*2,064*

PROVIDED SHADE TREES	***PROVIDED SHADE AREA***	***NO. TREES***
VERY LARGE (40' dia.= 1256 SF)	*0*	*0*
LARGE (35' dia.= 962 SF)	*2,886*	*3*
MEDIUM (30' dia.= 707 SF)	*0*	*0*
SMALL (20' dia.= 314 SF)	*314*	*1*
TOTALS	*3,200*	*4*
OVER (UNDER) LANDSCAPE & HARDSCAPE SHADE REQUIREMENT		***1,136***

LANDSCAPE PLANTING OBSERVATION LOG:

ITEM NO.	WORK ITEM DESCRIPTION	REVIEWED & ACCEPTED BY OWNER'S REPRESENTATIVE: PRINT NAME	SIGNATURE	DATE
PL-1	REPORT & PROTECTION OF EXISTING TREES			
PL-2	RIPPING OF PLANTING AREAS			
PL-3	SOIL CONDITIONING & TILLAGE DEPTH			
PL-4	IRRIGATION COVERAGE PRIOR TO PLANTING			
PL-5	FINISH GRADING PRIOR TO PLANTING			
PL-6	TREES - INITIAL QUALITY & LAYOUT			
PL-7	PLANTS - INITIAL QUALITY & LAYOUT			
PL-8	GRANULAR PRE-EMERGENT HERBICIDE IN MULCHED AREAS			
PL-9	WOOD MULCH DEPTH			

NOTES:
- THE ORIGINAL VERSION OF THIS LOG SHALL BE MAINTAINED ON THE AS-BUILT RECORD DRAWING SET.
- WORK ITEMS MAY NOT BE REVIEWED IF PRIOR WORK ITEMS HAVE NOT BEEN ACCEPTED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE OWNER'S REPRESENTATIVE IS NOTIFIED OF THESE MILESTONE WITNESS POINTS.

TREE SIZE AND QUALITY STANDARDS

AMERICAN STANDARDS FOR NURSERY STOCK (ANSI Z60.1) AND GUIDELINE SPECIFICATIONS FOR NURSERY TREE QUALITY (URBAN TREE FOUNDATION SHALL APPLY

	TYPES 1 & 2 SHADE TREES			TYPE 3 SMALL UPRIGHT TREES **			TYPE 4 SMALL SPREADING TREES ***		
CONTAINER SIZE	MIN. CALIPER	MAX. CALIPER	TYPE 1 MIN./MAX. HEIGHT *	MIN. CALIPER	MAX. CALIPER	MIN./MAX. HEIGHT	MIN. CALIPER	MAX. CALIPER	MIN./MAX. HEIGHT
15 GALLON	0.75	2.0	7-10 FT	0.75	2.0	6-8 FT	0.75	2.0	4-8 FT
24" BOX	1.25	3.0	8-12 FT	1.25	3.0	8-10 FT	1.25	3.0	6-10 FT
36" BOX	1.75	3.5	10-16 FT	1.75	3.5	10-14 FT	1.75	3.5	7-12 FT
42" BOX	2.0	4.0	12-20 FT	2.0	4.0	12-18 FT	2.0	4.0	8-14 FT
48" BOX	2.5	5.0	14-26 FT	2.5	5.0	14-22 FT	2.5	5.0	9-16 FT

* TYPE 2 TREE HEIGHTS SHALL NOT BE LESS THAN TWO-THIRDS THE LISTED HEIGHT RANGE.

** TYPE 3 TREES SHALL HAVE A MINIMUM OF SEVEN BRANCHES.

*** TYPE 4 TREES SHALL HAVE A MINIMUM OF EIGHT BRANCHES.

CALIPER MEASUREMENT FOR CLUMP OR MULTI-STEM TREES IS ONE-HALF THE SUM OF THE THREE LARGEST TRUNK CALIPERS.

CALIPER MEASUREMENT FOR <4" TRUNK IS +6" ABOVE ROOTBALL (NOT INCLUDING ROOTSTOCK). >4" TRUNK IS +12".

TREES SHALL HAVE A CENTRAL LEADER. NEW LEADERS LESS THAN HALF THE DIAMETER OF A HEADED LEADER, BROKEN OR CO-DOMINATE LEADERS ARE NOT ACCEPTABLE.

SCAFFOLD BRANCHES SHALL BE LESS THAN 2/3 THE DIAMETER OF THE TRUNK, WITHOUT INCLUDED BARK AT ATTACHMENT. SCAFFOLD BRANCHES SHALL BE BALANCED, WELL SPACED VERTICALLY, AND WITH A RADIALLY BLANK SECTOR NO GREATER THAN 1/3 OF THE CANOPY CIRCUMFERENCE.

TEMPORARY BRANCHES ON THE LOWER TRUNK SHALL BE LESS THAN 3/8 INCH DIAMETER; AND THE CLEAR TRUNK HEIGHT SHALL BE NO MORE THAN 40% OF THE TOTAL TREE HEIGHT.

THE ROOT COLLAR AND ROOTBALL SHALL BE FREE OF DEFECTS INCLUDING CIRCLING, KINKED AND GIRDLING ROOTS. ROOTS THE EDGE AND BOTTOM OF THE CONTAINER SHALL BE LESS THAN 1/4 INCH DIAMETER, AND UNIFORM THROUGHOUT THE CONTAINER.

TREE CANOPY WIDTH SHALL BE A MINIMUM OF 25% OF THE STANDARD FORM TREE HEIGHT.

DO NOT HEAD BACK OR PRUNE TREES UNLESS APPROVED AND/OR DIRECTED TO BY THE LANDSCAPE ARCHITECT.

SEE SHEET L201 AND L202 FOR PLANTING PLAN, AND L204 FOR PLANTING DETAILS

811 Know what's below. Call before you dig.

SCALE: N 1"=20'

0 5 20 40
SCALE IN FEET

DSA File No.: *20-30*

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General Notes

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Drawing

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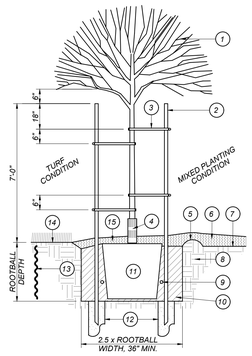
Architect

No.	Revison/Submission	Date

100% CONSTRUCTION DRAWINGS Revision

	Designed By: KC	Copyright 2025 Darden Architects
Scale: 1" = 20'	Drawn By: KC	*SD/L203*
Project Number: 2470.2	Checked By: DB	
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Drawing: P:\224\224-0293\Phase_2\Production\Drawings\224293_ph2_la01.dwg; L203 - BCF.ctb
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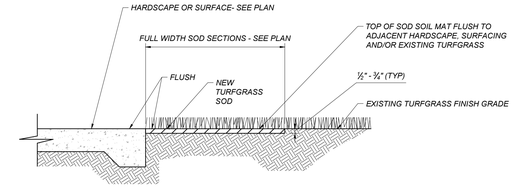
1. *TREE PER PLANTING PLAN.*
2. *2" X 10' LODGEPOLE PINE STAKE. DO NOT DRIVE STAKE THROUGH ROOTBALL. CUT OFF TOP SECTION DAMAGED BY HAMMERING. TOP OF STAKE IS 6" CLEAR OF LOWEST TREE BRANCHES.*
3. *FLEXIBLE VINYL TREE TIE, 4 / TREE (V.I.T. OR APPROVED EQUAL.)*
4. *TREE TRUNK PROTECTOR (GRAY) WHERE TREE IS IN TURF AREA.*
5. *4" HIGH WATERING BERM.*
6. *ADJACENT PLANTING AREA WITH MULCH WHERE OCCURS.*
7. *FINISH GRADE.*
8. *SITE SOIL.*
9. *PLANT FERTILIZER TABLET. SEE SPECIFICATIONS.*
10. *AMENDED BACKFILL. SEE SPECIFICATIONS.*
11. *ROOTBALL. SET TOP OF ROOTBALL 2" ABOVE FINISH GRADE.*
12. *DRAINAGE SUMP: 12" DIA. PER DRAINAGE SUMP NOTES. FILL WITH CONCRETE SAND PER SSPWC 200-1.5.5.*
13. *ROOT CONTROL BARRIER WHERE REQUIRED. SEE GENERAL PLANTING NOTES AND DETAIL.*
14. *ADJACENT TURFGRASS PLANTING WHERE OCCURS.*
15. *MULCH, MINIMUM 3" DEPTH. SEE GENERAL PLANTING NOTE 17.*

DRAINAGE SUMP NOTES:

A. *DRAINAGE SUMPS SHALL PENETRATE THROUGH AND BEYOND ANY UNDERLYING PAVEMENT OR HARDPAN SOIL STRATUM, AND SUCH PAVEMENT OR HARDPAN MATERIAL SHALL BE REMOVED FROM THE SUMP HOLES.*

B. *THE SUMP HOLE SHALL BE DRILLED TO MINIMUM DEPTH OF TEN (10) FEET, UNLESS VISUAL EVIDENCE OF A SUBSURFACE SAND AND/OR GRAVEL DRAINAGE STRATUM IS APPARENT AT A LESSER DEPTH. THE SUMP HOLES SHALL EXTEND INTO THE DRAINAGE STRATUM A MINIMUM OF ONE (1) FOOT.*

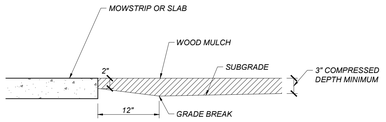
A / SD/L204 — DOUBLE STAKE TREE PLANTING
NOT TO SCALE



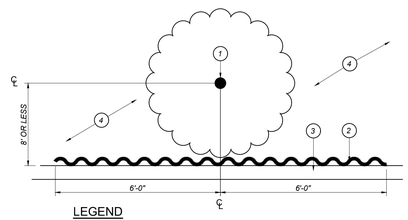
NOTE:

IF THE EXISTING TURFGRASS FINISH GRADE IS HIGHER OR LOWER THAN THE NEW FINISH SURFACE, TRANSITION GRADE THE NEW SOD AT A MAXIMUM 1V:12H SLOPE

B / SD/L204 — TURF SOD INSTALLATION
NOT TO SCALE



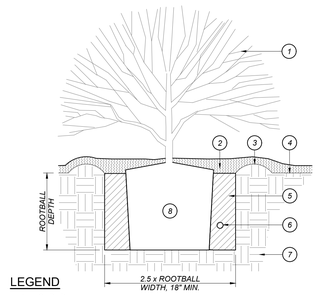
C / SD/L204 — MULCH DETAIL
NOT TO SCALE



LEGEND

1. *TREE TRUNK.*
2. *12 LF OF 24"-DEEP ROOT CONTROL BARRIER: DEEP ROOT UB24-2 OR EQUIVALENT. CENTER BARRIER ON TRUNK OF TREE. INSTALL PER MANUFACTURER'S SPECIFICATIONS.*
3. *HARDSCAPE ELEMENT: CURB, SIDEWALK, WALL, ETC.*
4. *PLANTING AREA.*
5. *INSTALL ROOT CONTROL BARRIER ON ALL SIDES OF THE PLANTING AREA WHEN SURROUNDED BY HARDSCAPE WITHIN 8' OF THE TREE TRUNK.*

D / SD/L204 — ROOT CONTROL BARRIER
NOT TO SCALE



LEGEND

1. *SHRUB.*
2. *WOOD MULCH LAYER.*
3. *3" HIGH WATERING BASIN.*
4. *FINISH GRADE.*
5. *AMENDED BACKFILL. SEE SPECIFICATIONS.*
6. *FERTILIZER PACKET. SEE SPECIFICATIONS.*
7. *SITE SOIL.*
8. *ROOTBALL. SET TOP OF ROOTBALL 1" ABOVE FINISH GRADE.*

F / SD/L204 — SHRUB PLANTING
NOT TO SCALE

PLANTING NOTES:

1. *IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE IF IT IS OBVIOUS THAT OBSTRUCTIONS OR STRUCTURES, IRRIGATION SYSTEM MALFUNCTION, EXISTING TREES OR PLANTS, GRADE DIFFERENCES OR CHANGES IN THE SITE PLAN ARE PRESENT THAT WILL IMPACT THE PLANTING DESIGN. FAILURE TO GIVE SUCH NOTIFICATION SHALL PLACE THE RESPONSIBILITY ON THE CONTRACTOR FOR ANY REVISIONS OR REPLACEMENTS NECESSARY FOR CORRECTION.*
2. *ANY EXISTING PLANTING SHOWN ON THE PLAN IS FOR REFERENCE ONLY. THE CONTRACTOR SHALL VERIFY THE EXISTING PLANTING AT THE SITE PRIOR TO STARTING WORK, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL PROTECT THE EXISTING PLANTING ADJACENT TO THE WORK FROM DAMAGE OR DISTRESS.*
3. *ALL TREES AND SHRUBS SHALL BE OF CLASS A QUALITY WITHOUT PESTS, DISEASE OR DAMAGE, SHALL BE WELL ESTABLISHED IN THEIR CONTAINERS WITHOUT GIRDLING ROOTS OR EXCESSIVE TOP GROWTH, AND SHALL COMPLY WITH THE REQUIREMENTS OF THE "AMERICAN STANDARDS FOR NURSERY STOCK" (ANSI Z60.1).*
4. *NOTIFY THE LANDSCAPE ARCHITECT PRIOR TO THE INSTALLATION OF IRRIGATION COMPONENTS AND TREE AND/OR SHRUB PLANTING FOR APPROVAL OF THE PLANT LAYOUT AND PLANT QUALITY. PLANT LOCATIONS SHALL AVOID CONFLICTS WITH EXISTING IMPROVEMENTS, PLANTINGS OR UTILITIES, LIGHT POLES WHILE MEETING THE DESIGN INTENT. DO NOT PLANT TREES WITHIN 15 FEET OF LIGHT POLES UNLESS SPECIFICALLY AUTHORIZED. FAILURE TO OBTAIN SUCH APPROVAL SHALL PLACE THE RESPONSIBILITY ON THE CONTRACTOR FOR ANY RELOCATION OR REPLACEMENT OF IRRIGATION COMPONENTS, PLANTED TREES AND/OR SHRUBS.*
5. *PLANT QUANTITIES ARE PROVIDED FOR BIDDING CONVENIENCE ONLY. THE CONTRACTOR SHALL PROVIDE SUFFICIENT QUANTITIES OF PLANTS EQUAL TO THE SYMBOL COUNT OR TO FILL THE AREA SHOWN ON THE PLAN AT THE SPECIFIED TRIANGULAR SPACING.*
6. *WHERE GROUND COVER PLANTS ARE SHOWN AT A SPECIFIED SPACING, THE GROUND COVER PLANTING CONTINUES UNDERNEATH THE TALLER SHRUBS AND TREES AS SHOWN IN THE PLANTING DETAILS. DO NOT PLANT GROUND COVER IN SHRUB OR TREE WATERING BASINS.*
7. *ALL NEW TREES LOCATED WITHIN 8 FEET OF PAVEMENT OR STRUCTURES SHALL HAVE A ROOT CONTROL BARRIER INSTALLED WHEN PLANTED. UNLESS OTHERWISE SPECIFIED, INSTALL A 12 FOOT LONG X 24 INCH DEEP LINEAR POLYETHYLENE BARRIER VESPRO OR EQUAL AT THE EDGE OF PAVEMENT/STRUCTURE, CENTERED ON THE TREE TRUNK AS SHOWN IN THE PLANTING DETAILS.*
8. *REMOVE NURSERY STAKES FROM TREES AFTER TREE STAKING OR GUYING AS SHOWN IN THE DETAILS.*
9. *INSTALL PERFORATED POLYETHYLENE TREE TRUNK PROTECTORS FOR ALL NEW TREES PLANTED IN TURF, UNLESS NOTED OTHERWISE. MAINTAIN A MINIMUM 6 FOOT DIAMETER MULCHED AREA AT THE BASE OF THE TREE INSIDE THE WATERING BASIN.*
10. *THE CONTRACTOR SHALL PRUNE NEW TREES ONLY WHEN SPECIFICALLY DIRECTED BY THE LANDSCAPE ARCHITECT. TREES HEADED BACK WITHOUT INTACT SCAFFOLDING BRANCH STRUCTURE OR IN ROOT-BOUND CONTAINERS SHALL BE REJECTED.*
11. *SUBMIT REPRESENTATIVE SOIL SAMPLES OF NATIVE AND PROPOSED IMPORT, IF NEEDED, PLANTING TOPSOIL TO A SOIL LAB FOR HORTICULTURAL ANALYSES AND FERTILITY RECOMMENDATIONS. AMEND SOIL ACCORDING TO THE RECOMMENDATIONS OF THE SOILS REPORT AND LANDSCAPE ARCHITECT'S DIRECTION. SEE THE LANDSCAPE PLANTING SPECIFICATIONS FOR ADDITIONAL INSTRUCTIONS.*
12. *PROVIDE SANDY LOAM TOPSOIL PER SPECIFICATION IN ALL RAISED PLANTERS AND WHERE IMPORT TOPSOIL IS REQUIRED. NATIVE SITE SOIL MAY BE USED IN RAISED PLANTERS ONLY WHEN THE NATIVE SITE SOIL MEETS THE CRITERIA FOR SANDY LOAM TOPSOIL AS DETERMINED BY A SOIL ANALYSIS.*
13. *PRIOR TO SOIL CONDITIONING IN NEW PLANTING AREAS, RIP IN TWO DIFFERENT DIRECTIONS WITH TINES AT 12 INCH SPACING, ALL TURFGRASS AREAS TO A 12 INCH DEPTH, AND SHRUB/GROUND COVER AREAS TO A 18 INCH DEPTH. ROUGH GRADE. AND TILL THE APPROVED SOIL CONDITIONERS AND FERTILIZERS INTO THE TOP SIX (6) INCHES OF ALL PLANTING AREAS PER THE LANDSCAPE PLANTING SPECIFICATIONS. COMPOST RATE SHALL BE A MINIMUM OF SIX (6) CUBIC YARDS PER 1,000 SQUARE FEET OR AS MODIFIED BY THE LANDSCAPE ARCHITECT BASED ON THE SOIL FERTILITY ANALYSIS.*
14. *UPON THE COMPLETION OF THE SOIL CONDITIONING, REMOVE ROCKS AND CLODS 1 INCH DIAMETER AND GREATER FROM THE TOP TWO INCHES OF TOPSOIL, AND ALL DEBRIS. FINISH GRADE THE AREA TO +/- 0.04 FOOT TOLERANCE. FINISH GRADE IN MULCHED AREAS SHALL BE STRAIGHT GRADES WITHOUT HUMPS OR DEPRESSIONS AND SHALL BE 2 INCHES BELOW ADJACENT HARDSCAPE, INLETS OR UTILITY BOX COLLARS. RELATIVE DENSITY OF THE TOPSOIL SHALL NOT EXCEED 85% COMPACTION.*
15. *OBTAIN THE APPROVAL OF THE OWNER'S REPRESENTATIVE TO BEGIN PLANTING OPERATIONS ONCE THE IRRIGATION SYSTEM IS OPERATIONAL AND THE SOIL CONDITIONING AND FINISH GRADING IS COMPLETED.*
16. *AFTER PLANTING IS COMPLETED AND JUST PRIOR TO MULCH INSTALLATION, APPLY A BROAD SPECTRUM PRE-EMERGENT HERBICIDE TO ALL NON-TURFGRASS PLANTING AREAS PER THE MANUFACTURER'S SPECIFICATIONS.*
17. *WHERE MULCH IS TO BE INSTALLED IN AN EXISTING PLANTING AREA, BREAKUP/TILL THE EXISTING SOIL TO A MINIMUM 6 INCH DEPTH PER SPECS, AND ADJUST FINISH GRADE ADJACENT TO HARDSCAPE AND DRAINAGE ELEMENTS TO PROVIDE A 2 INCH DEPTH THAT TRANSITIONS TO THE EXISTING GRADE OVER 1 TO 2 FEET.*
18. *INSTALL A MINIMUM 3 INCH DEPTH OF CHIPPED WALK-ON WOOD MULCH IN ALL PLANTING AREAS AND TREE WATERING BASINS EXCEPT FOR TURFGRASS AREAS, SLOPES 3H:1V OR GREATER, AREAS TO RECEIVE SEED PLANTING, OR AS NOTED ON THE PLAN. AREAS PLANTED WITH FLATS SHALL HAVE A MINIMUM MULCH DEPTH OF 2 INCHES. INSTALL A MINIMUM 3 FOOT RADIUS OF 3 INCH DEEP WOOD MULCH AT THE BASE OF ALL TREES IN NEW TURFGRASS AREAS.*
19. *ALL EXISTING PLANTS AND/OR TURFGRASS SHOWN TO REMAIN AND DAMAGED OR REMOVED BY CONSTRUCTION OPERATIONS AND/OR UTILITY/IRRIGATION/DRAINAGE LINES SHALL BE REPLACED WITH PLANTS THAT MATCH AS CLOSELY AS POSSIBLE TO THE EXISTING PLANT SPECIES, VARIETY AND SIZE. THE REPLACEMENT TURFGRASS SOD VARIETY SHALL BE THE SAME AS SHOWN IN THE PLANTING LEGEND AS IF FOR NEW WORK, OR SHALL MATCH THE EXISTING TURFGRASS VARIETY WHERE EXISTING TILL SOIL CONDITIONING MATERIALS INTO THE TOP 6 INCHES OF THE SOIL OVER THE AREA OF REPAIR/REPLACEMENT AS IF FOR NEW WORK. ADJUST FINISH GRADE SO NEW TURFGRASS SOD ABUTS FLUSH TO EXISTING SOD GRADE. THE REPLACEMENT PLANTS AND/OR TURFGRASS SOD SHALL BE MAINTAINED AS PART OF THE ORIGINAL SCOPE OF WORK. THE REPAIR OR REPLACEMENT WORK SHALL BE AT THE CONTRACTOR'S SOLE EXPENSE.*
20. *CONTRACTOR SHALL MAINTAIN THE NEW PLANTING FOR HEALTHY AND VIGOROUS GROWTH. WHICH INCLUDES BUT IS NOT LIMITED TO WATERING, WEEDING, FERTILIZING, MOWING AND EDGING (AT LEAST ONCE A WEEK), REMOVING TRASH AND DEBRIS, AND OTHER RELATED ACTIVITIES THROUGHOUT THE DURATION OF THE MAINTENANCE PERIOD UNTIL FINAL ACCEPTANCE.*

CONTRACTOR SPECIAL PLANTING NOTES:

1. *AN ASSESSMENT AND VALUATION OF ONSITE EXISTING TREES SCHEDULED TO REMAIN IN THE AREA OF WORK SHALL BE PERFORMED BY THE CONTRACTOR'S ARBORIST PRIOR TO THE START OF CONSTRUCTION OPERATIONS PER THE 'EXISTING LANDSCAPE PROTECTION' SPECIFICATION.*
2. *THE CONTRACTOR SHALL RIP, CONDITION AND TILL THE ENTIRE EXTENT OF ALL PLANTING AREAS RECEIVING NEW PLANTS PER THE PLANTING NOTES AND 'LANDSCAPE PLANTING' SPECIFICATIONS.*
3. *ALL EXISTING MIXED PLANTING AREAS RECEIVING NEW WOOD MULCH SHALL BE MANUALLY TILLED TO A MINIMUM DEPTH OF 4 INCHES, CLODS BROKEN UP TO A MAXIMUM 1 INCH DIAMETER, FINISH GRADED TO 2 INCHES BELOW ADJACENT SURFACES AND UTILITY/IRRIGATION BOXES WITHIN 12 INCHES OF THE HARDSCAPE EDGE, AND A PRE-EMERGENT HERBICIDE APPLIED PRIOR TO WOOD MULCH INSTALLATION. PROTECT EXISTING PLANTING DURING WOOD MULCH PREPARATION AND INSTALLATION.*
4. *THE ORIGINAL PLANTING OBSERVATION LOG SHALL BE MAINTAINED ON THE AS-BUILT RECORD DRAWING SET.*
5. *THE AS-BUILT RECORD DRAWING SET AND MAINTENANCE MANUAL SHALL BE SUBMITTED AND ACCEPTED PRIOR TO THE SCHEDULING OF A FINAL ACCEPTANCE REVIEW.*

SEE SHEET L201 AND L202 FOR PLANTING PLAN

811 Know what's below. Call before you dig.

DSA File No.:
20-30

DSA Application No.:
02-123203

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DATE: 09/11/2025

Agency Approval

General Notes

Blair, Church & Flynn CONSULTING ENGINEERS
Blair, Church & Flynn Consulting Engineers
451 Clovis Avenue, Suite 200
Clovis, California 93612
Tel (559) 326-1400
Fax (559) 326-1500

Consultant

Jack G. Desmond MS - Improvements Phase 2
Madera Unified School District
26490 Martin Street,
Madera, CA 93638

Project

PLANTING DETAILS

Drawing

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Architect

No.	Revison/Submission	Date

100% CONSTRUCTION DRAWINGS Revision

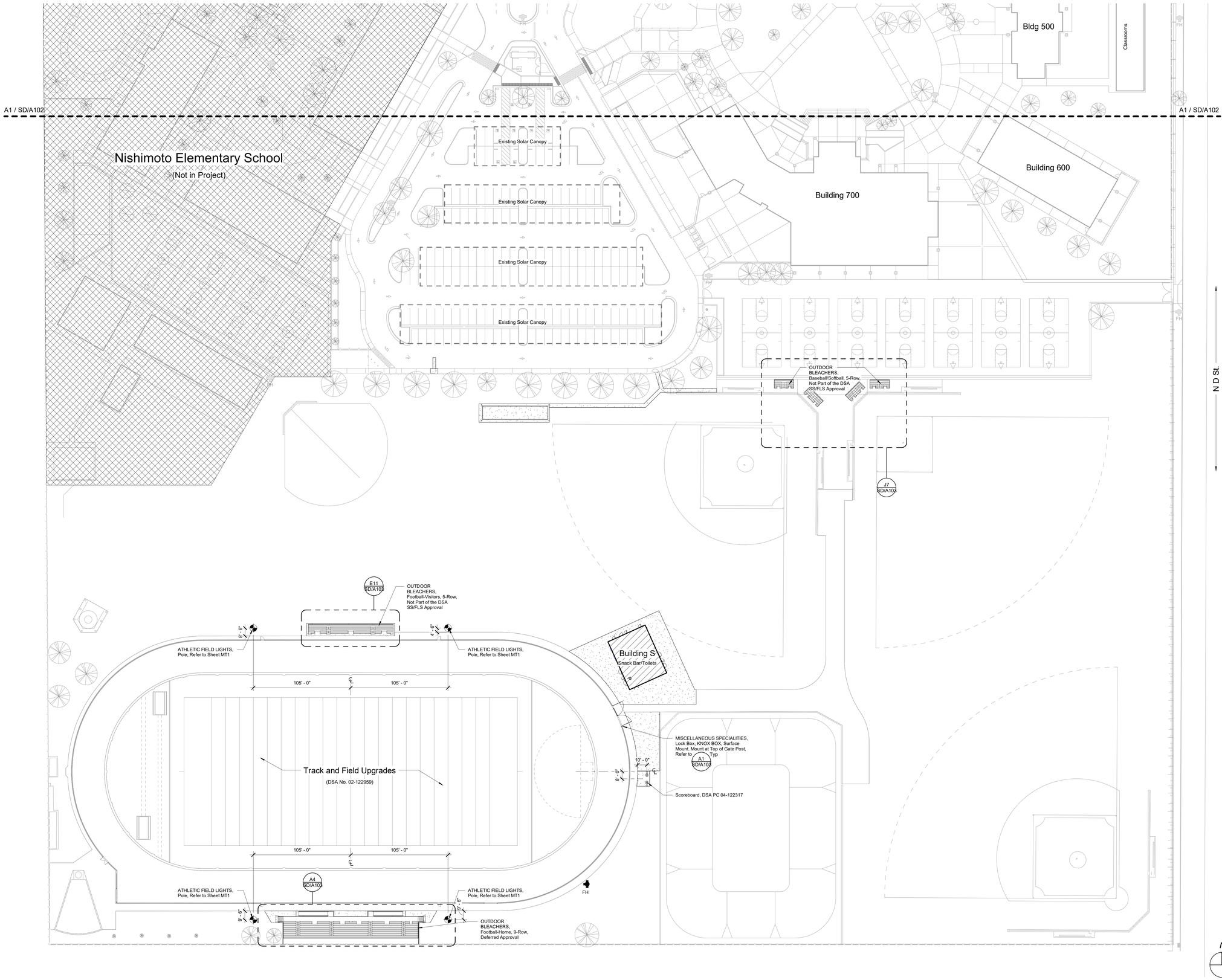
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Drawn By: KC
Checked By: DB
Reviewed By: DB

Scale: 1" = 20'
Project Number: 2470.2
Date: 07/18/2025

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SD/L204

Drawing: P:\224\224-0293\Phase_3\Production\Drawings\224293_ph2_la801.dwg; L203 - BCF.ctb
Plot by: ahammouda Jul 30, 2025 - 4:23pm



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SYMBOLS

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- Limits of Construction (Project Area)
- Fence
- Pipe/Utility
- FH — PLUMBING, Fire Hydrant, Existing
- FDC — PLUMBING, Fire Department Connection (Siamese), Existing
- PIV — PLUMBING, Post Indicator Valve, Existing
- ELECTRICAL, Existing Light Pole

SITE TAGS

ABBREVIATIONS

(E)	Existing	FF	Finish Floor	PL	Planter
AC	Air Conditioning System	FG	Finish Grade	R	Radius
AD	Area Drain, (See Plumbing)	FL	Flow Line	RWL	Rain Water Leader
BW	Back of Walk	FMFCD	Fresno Metropolitan Flood Control District	SD	Storm Drain
C	Concrete	FS	Floor Sink	SL	Site Lighting
CB	Catch Basin	G	Gas	S	Signal
CJ	Control Joint	GT	Gutter	SS	Sanitary Sewer
CM	Communications	GB	Grade Break	TB	Top of Bench
COB	Clean Out Box	RG	Rough Grade	TC	Top of Curb
CW	Cold Water	HPG	High Pressure Gas	TD	Trench Drain
DB	Drain Box	HL	Hydronics Line	TG	Top of Grate
DI	Drain Inlet	INV N	Invert North	TF	Top of Fence
DS	Drainage Swale	INV NE	Invert Northeast	TL	Top of Lid
EMS	Energy Management System	MH	Manhole	TLB	Top of Light Base
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EJ	Expansion Joint, 1/2"	OC	On Center	Typ.	Typical
F	Fire Protection	P	Pavement	UNO	Unless Noted Otherwise
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FDC	Fire Dept Connection	PIV	Post Indicator Valve	W	Waste

NOTES

1) CIVIL, See CIVIL Drawings for additional site information and site scope, typical

G18 — Site Plan Legend
No Scale

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
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SITE DEVELOPMENT
PARTIAL SITE PLAN - SOUTH
Drawing

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Architect

No.	Revision/Submission	Date

Revision

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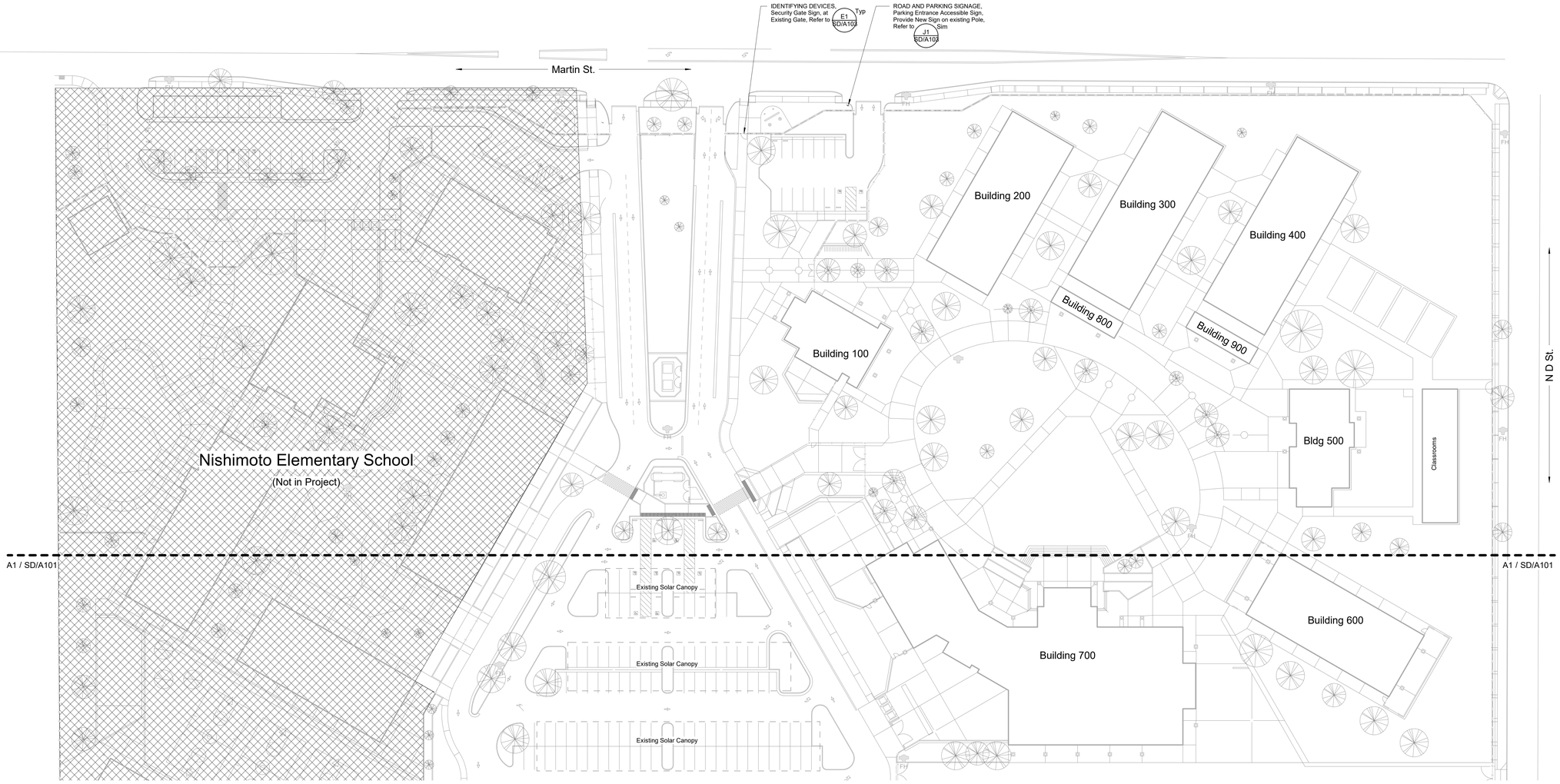
Designed By:
Drawn By:
Checked By:
Reviewed By:

Scale: As indicated
Project Number: 2470.2
Date: 06/30/25

SD/A101

A1 — Partial Site Plan - South
1" = 40'-0"

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SITE TAGS

ABBREVIATIONS

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AC	Air Conditioning System	FG	Finish Grade	R	Radius
AD	Area Drain, (See Plumbing)	FL	Flow Line	RWL	Rain Water Leader
BW	Back of Walk	FMFCD	Fresno Metropolitan Flood Control District	SD	Storm Drain
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DI	Drain Inlet	INV N	Invert North	TF	Top of Fence
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NOTES

1) CIVIL, See CIVIL Drawings for additional site information and site scope, typical

G18 — Site Plan Legend
No Scale

Consultant

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

PARTIAL SITE PLAN - NORTH
Drawing

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Architect

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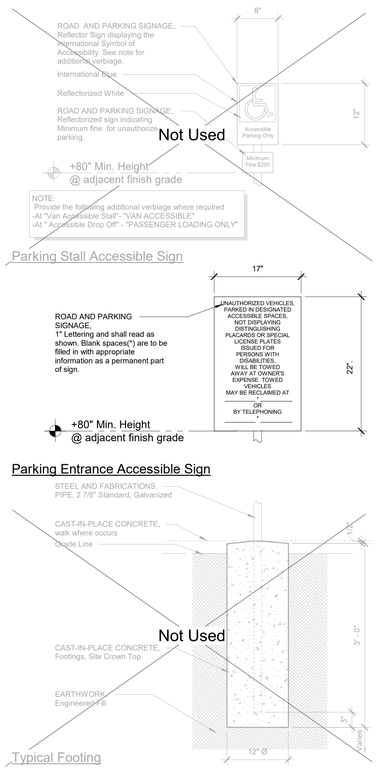
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Drawn By:
Checked By:
Reviewed By:

Scale: As indicated
Project Number: 2470.2
Date: 06/30/25

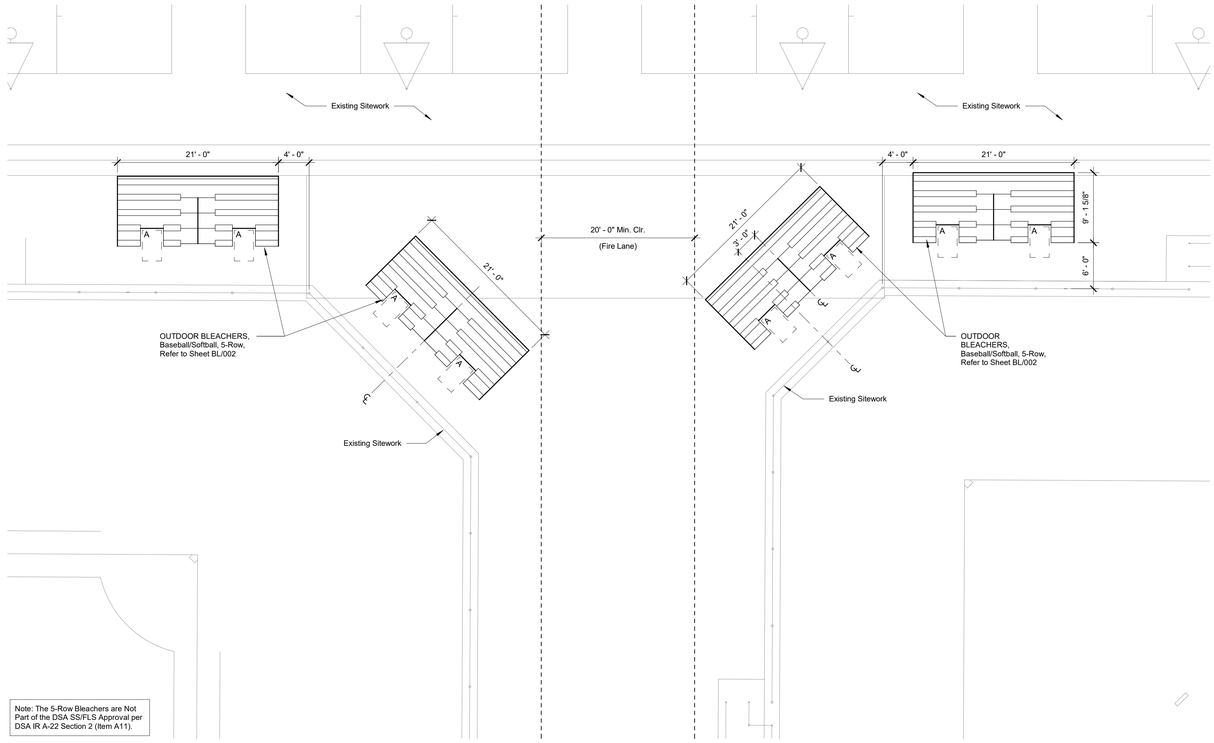
SD/A102

A1 — Partial Site Plan - North
1" = 40'-0"

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J1	ROAD AND PARKING SIGNAGE, Accessible Parking & Entrance Sign
1" = 1'-0"	



J7	Enlarged Site Plan - Baseball/Softball Bleachers
1/8" = 1'-0"	

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20-30

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- ELECTRICAL, Existing Light Pole

SITE TAGS

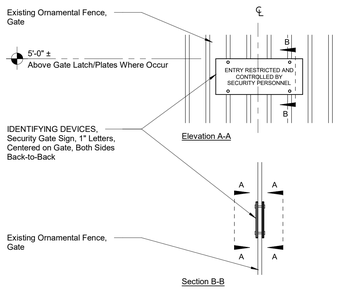
ABBREVIATIONS

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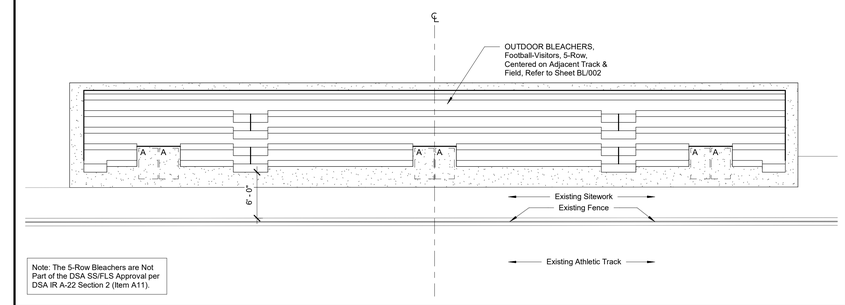
NOTES

1) CIVIL, See CIVIL Drawings for additional site information and site scope, typical

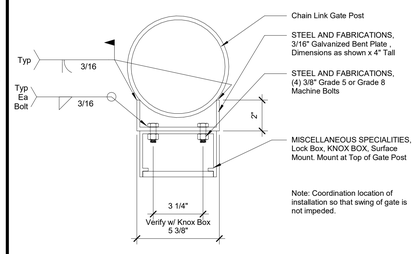
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No Scale	



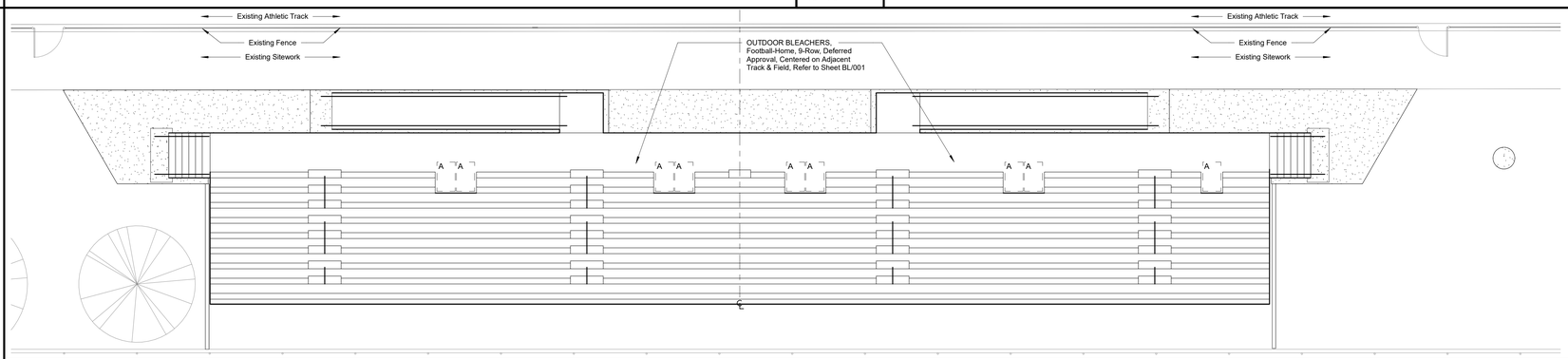
E1	IDENTIFYING DEVICES, Security Gate Sign at Ornamental Metal Gate
1" = 1'-0"	



E11	Enlarged Site Plan - Visitor Bleachers
1/8" = 1'-0"	



A1	MISCELLANEOUS SPECIALTIES, Knox Box, Installation at Post
3" = 1'-0"	



A4	Enlarged Site Plan - Home Bleachers
1/8" = 1'-0"	

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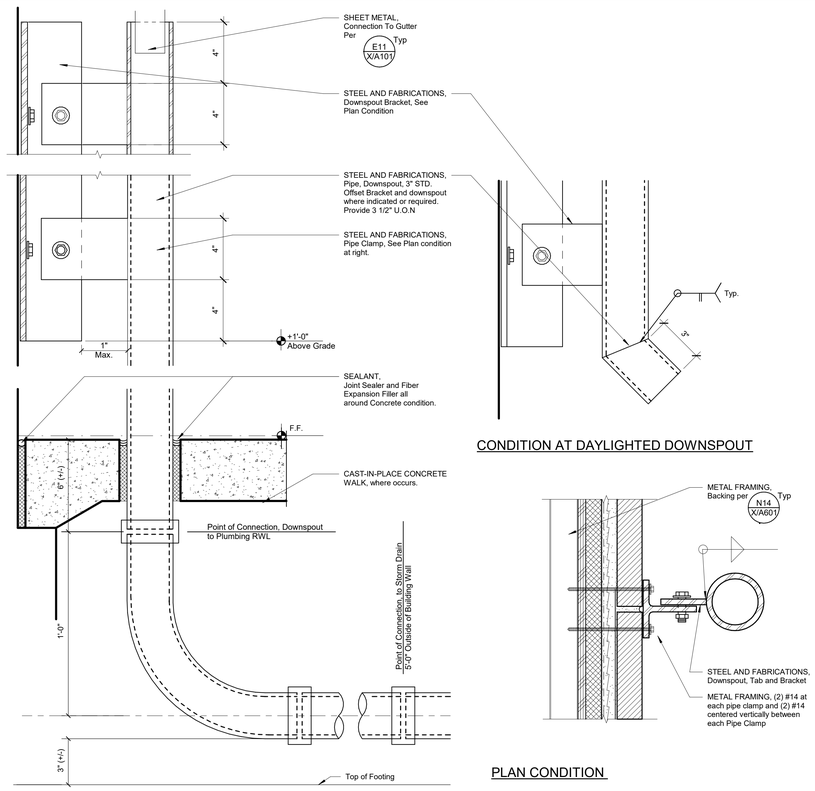
Designed Designer
Drawn By: Author
Checked tChecker
Reviewed Approver

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Project Number: 2470.2
Date: 06/30/25

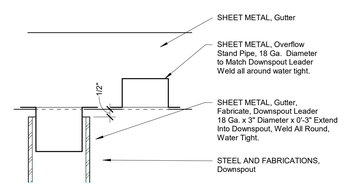
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CONDITION AT DAYLIGHTED DOWNSPOUT

PLAN CONDITION

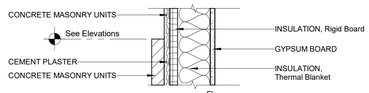


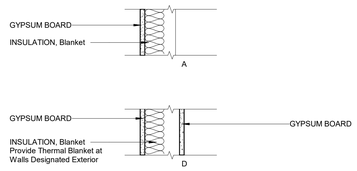
Note:

1. Verify Downspout inside diameter and coordinate with leader.
2. Overflow and Downspout Leader size to be equal

E11 — SHEET METAL, Downspout/RWL and Overflow Pipe

3" = 1'-0"





A4 — STEEL AND FABRICATIONS, Downspout — 3" = 1'-0"

A11 — Exterior Wall Assembly — 1 1/2" = 1'-0"

A14 — Interior Wall Assembly — 1 1/2" = 1'-0"

Building Orientation on Site

Building View Orientation

DSA File No.: 20-30

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APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

NOTES

1. These Schedules are provided for the convenience of the Contractor. All conditions and dimensions shall be field verified prior to any fabrication.
2. The intent of these schedules is to indicate the various layers of materials which comprise the different Wall Assembles.
3. Refer to the Exterior Elevations and Exterior Finish Schedule for additional Wall Covering and for Material Finishes.
4. Refer to the Interior Elevations and Interior Finish Schedule for additional Wall Coverings and for Material Finishes.
5. Where Ceramic Tile Systems are designated, refer to the Finish Schedule and Specification Section for the appropriate Ceramic Tile System.
6. Provide a continuous Thermal Blanket Insulation at all walls designated as Exterior Walls. Refer to the Specification Section for the Insulation Type and location for Installation.
7. Provide a continuous Sound Blanket at walls designated as Interior walls where insulation is indicated as part of Assembly.
8. Refer to Floor Plans for Typical and Special Wall Assemblies References.
9. Refer to the Floor Plans for Walls that are Designated to be Rated Assemblies.
10. Refer to Structural Sheets for Metal Stud Gauges and Lengths.

WALL ASSEMBLY SYMBOLS

Nominal Stud Depth — -#.X- — Wall Assemblies
Location — -X.X- — Stud Material

DEFINITIONS

LOCATION
E = Exterior
I = Interior
A = Acoustical

STUD MATERIAL
W = Wood
M = Metal

NOMINAL STUD DEPTH

	METAL	WOOD
3 =	3 5/8"	2 1/2"
4 =	4"	3 1/2"
6 =	6"	5 1/2"
8 =	8"	7 1/4"
10 =	10"	9 1/4"
9 =	Special Wall Assemblies. Reserved for Special Construction, i.e., Multi-Stud Assemblies, refer to Special Wall Assembly Schedules	

WALL ASSEMBLIES
See Typical and Special Wall Assemblies Schedules

F18 — Typical Wall Assemblies Legend

No scale

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Project

TYPICAL INFORMATION
WALL ASSEMBLIES AND DETAILS

Drawing

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LICENSED ARCHITECT ANTONIO J. AVILA No. C26235 REG. 10-31-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

Designed Designer
Drawn By: Author
Checked Checker
Reviewed Approver

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Scale: As indicated
Project Number: 2470.2
Date: xx/xx/xx

X/A101

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Desmond MS

Interior Finish Schedule

Room Number	Room Name	Floor Finishes: CAST-IN-PLACE CONCRETE, Concrete Slab	Floor Finishes: TILE, Ceramic Tile, SYS-IFA (Conc.Sub Floor - Thin Set)	Floor Finishes: RESINOUS FLOORING	Base Finishes: CAST-IN-PLACE CONCRETE, Concrete Curb	Base Finishes: TILE, Ceramic Tile, SYS-IWD (WR Gyp Bd - Thin Set)	Base Finishes: RESILIENT BASE AND ACCESSORIES, Rubber Wall Base, 4"	Base Finishes: RESINOUS FLOORING, Integral Base	Wall Finishes: ROUGH CARPENTRY, 3/4" FRT Plywood over Gypsum Board	Wall Finishes: GYPSUM BOARD, Wallboard, (Texture GB-2)	Wall Finishes: GYPSUM BOARD, Moisture Resistant, (Texture GB-2)	Wall Finishes: TILE, Ceramic Tile, SYS-IWD (WR Gyp Bd - Thin Set),	Wall Finishes: WALL COVERINGS, FRP Panels, Moisture Resistant Gypsum Board (GB-3)	Ceiling Finishes: GYPSUM BOARD, Wallboard (Texture GB-2)	Ceiling Finishes: ACOUSTICAL CEILINGS, Suspension System	Ceiling Finishes: ROUGH CARPENTRY, Exposed Framing	Miscellanous Finishes: STEEL AND FABRICATIONS, (Exposed to view)	Miscellanous Finishes: METAL DOORS AND FRAMES, Doors, Panels and Frames	Miscellanous Finishes: ACCESS DOORS AND FRAMES, Doors, Panels and Frames	Miscellanous Finishes: MECHANICAL, All Items Exposed to View (Grilles, Ducts Etc.)	Miscellanous Finishes: PLUMBING, Piping Exposed to View, etc.	Miscellanous Finishes: ELECTRICAL, All Items Exposed to View, Conduits, etc.	Miscellanous Finishes: COILING DOOR, Coiling Door	Remarks
101	Mens	-	CT-1	-	-	CT-1	-	-		-	-	CT-2, CT-3, CT-4	-	DW-2	-	-	M-2	M-2	M-2	M-2	M-2	M-2	-	
102	Custodial	CFS	-	-	CFS	-	-	-		-	-	-	FF	-	FF	-	M-2	M-2	-	M-2	M-2	M-2	-	
103	Womens	-	CT-1	-	-	CT-1	-	-		-	-	CT-2, CT-3, CT-4	-	DW-2	-	-	M-2	M-2	M-2	M-2	M-2	M-2	-	
104	All-Access Toilet	-	CT-1	-	-	CT-1	-	-		-	-	CT-4	-	DW-2	-	-	M-2	M-2	-	M-2	M-2	M-2	-	
105	Snackbar	-	-	RF-1	-	-	-	RF-1		-	DW-3	-	FF	-	FF	-	M-2	M-2	-	M-2	M-2	M-2	FF	
106	Electrical	CFS	-	-	-	-	FF	-	W-2	DW-2	-	-	-	-	-	W-1	M-2	M-2	-	M-2	M-2	M-2	-	
107	Lockers	CFS	-	-	-	-	FF	-		DW-2	-	-	-	-	-	W-1	M-2	M-2	-	M-2	M-2	M-2	-	
108	Storage	CFS	-	-	-	-	FF	-	W-2	DW-2	-	-	-	-	-	W-1	M-2	M-2	-	M-2	M-2	M-2	-	

DSA File No.:
20-30

DSA Application No.:
02-123203

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REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

ABBREVIATIONS

CFS = Clear Floor Sealer
CT-# = Ceramic Tile Type
FF = Factory Finish
RF-# = Resinous Floor Type

Interior Paint Finishes:

Refer To Specification Section - PAINTING
DW-# = Gypsum Board Finish
M-# = Metal Finish
W-# = Woodwork Finish

NOTES

1. Refer to appropriate Specification Sections for Materials, Systems and Types.
2. All Details, Materials and Finishes shall be considered "Typical" for all similar conditions, Unless Otherwise Noted.
3. Do not paint Fire Rated Door and Frame Rating Plates.
4. Refer to Interior Elevations and Interior Design sheets for additional information.
5. This Schedule is provided for the convenience of the Contractor. Field verify all conditions and dimensions prior to fabrication, installation or application.
6. See Appendix B, Interior Color Schedule for Finish / Material Colors.
7. Gypsum Board Textures indicated are for areas exposed to view. Areas above ceilings shall be GB5, Unless Otherwise Noted. Refer to Specifications for appropriate locations of other textures.
8. SHEET METAL, MECHANICAL, ELECTRICAL, and PLUMBING, All items exposed to view to be M-2, UNO.
9. Refer to Reflected Ceiling Plan for Acoustical Ceiling Tile Type.
10.

REMARKS

Not Applicable

J9 — Interior Finish Schedule — No Scale — Refer to J18 for Notes

J18 — Interior Finish Schedule Legend — No Scale

SITE DEVELOPMENT

MATERIAL	FINISH	REMARKS
PAVEMENT		
Asphalt Concrete	Slurry Seal	
Striping and Markings	X-1	
Wheelstops	Natural Cast Concrete	
CHAIN LINK		
Fences, Gates, Posts, Rails, Pickets, Gates and all Accessories	Galvanized	
CAST-IN-PLACE CONCRETE		
Curbs, Curb and Gutters, Mowstrips, Aprons, Valley Gutter, Housekeeping Pads, Site Light Pole Bases	Natural Cast Concrete	
Walks, Platforms, Steps, Ramps	Broom Finish	
CONCRETE MASONRY UNITS		
Block, Block Veneer and Mortar	ECB-1	
STEEL AND FABRICATION		
Steel Gates and Frame, Rails Fencing and Gates, Supports Posts	EM-2	
Handrail and Brackets, Queuing Rails, Pipe Guard Rails, Can Wash Rails	Hot Dipped Galvanized after Fabrication	
Fixed Bollards, Removable Bollards	Hot Dipped Galvanized after Fabrication	
HARDWARE		
Steel Gates, Hinges, Hasps, Cane Bolts, etc.	EM-2	
Chain Link Gates, Hinges, Hasps, Cane Bolts, etc.	Galvanize	
Ornamental Gates, Hinges, Hasps, Cane Bolts, etc.	EM-2	

BUILDINGS

MATERIAL	FINISH	REMARKS
CONCRETE MASONRY UNITS		
Block, Block Veneer and Mortar	ECB-1	
STEEL AND FABRICATION		
Columns, Beams, Lintels, Building Canopies, Sunshades	EM-2	All Steel Exposed to View
Parapet Screens, Downspouts, Ladders, and All Misc. Items	EM-2	All Steel Exposed to View
METAL DECK		
Deck, Cover Plates, Closure Strips, and All Misc. Items	EM-2	All Metal Exposed to View
METAL PANELS		
Exterior Roof, Accessories, Gutters, Trim, Flashing, All Misc. Profile Closure + Filler Shapes	F.F.	
SHEET METAL		
Architectural Soffits	F.F.	Prefinished Sheet Metal
Architectural	EM-2	Exposed to all Viewing Angles
Utility	Galvanized	
STOREFRONT		
Doors, Frames, Flashing and Accessories	F.F.	
SERVICE WINDOWS		
Frames and Accessories	F.F.	
	F.F.	
METAL DOORS AND FRAMES		
Doors, Panels, Frames and Louvers	EM-2	
COILING DOORS		
Curtain	FF	
Hoods, Fascia	FF	
CEMENT PLASTER		
Cement Plaster	EP-6	Includes back of Parapets
Metal Accessories	EP-6	Includes back of Parapets
Accessories, Special Trim Shape	F.F.	
PLUMBING		
Drinking Fountains	F.F.	
MECHANICAL		
Exhaust Fans, Vent Stacks, Mechanical Units, & Misc... Equipment	EM-2	See Remark 1
ELECTRICAL		
Exposed to View Conduits	EM-2	
Switchgear, Transformer, Light Fixtures, Fire Alarm Devices, Speakers.	F.F.	

ABBREVIATIONS:

F.F. = Factory Finish

Exterior Paint Finishes:
Refer to Specification Section - PAINTING
ECB-x = Concrete or Concrete Masonry Units
X-x = Specialty Finish
EM-x = Exterior Metal Finish
EW-x = Exterior Wood Finish
EP-x = Cement Plaster

NOTES:

1. Refer to Appropriate Specification Sections for Materials and Systems.
2. All Details. Material and Finishes Shall be Considered "Typical" for all Similar Conditions Unless Noted Otherwise.
3. Refer to Exterior Elevations for extent of materials and finishes, Includes Backs of Parapets, Typical.

REMARKS

1 Do not paint Mechanical Units Condensing Coils and Name Plates.

A1 — Exterior Finish Schedule — No Scale — Refer to A14 for Notes

A14 — Ext. Fin. Schedule Legend — No Scale

Building Orientation on Site

Building View Orientation N

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

TYPICAL INFORMATION
FINISH SCHEDULES
Drawing

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LICENSED ARCHITECT — ANTONIO J. ANTUNEZ — No. C-29235 — Ren. 10-31-25 — STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date

Revision

Designed Designer
Drawn By: Author
Checked tChecker
Reviewed Approver

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Scale: As indicated
Project Number: 2470.2
Date: xx/xx/xx

X/A201

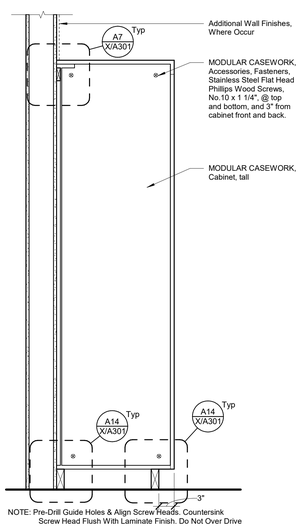
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Desmond MS

Casework Schedule

Room No	Group No.	Description	Catalog No.	No Req'd	Length	Height	Depth	Accessories	Remarks
105	a 105	Base Cabinet w/ Drawers	211	1	1' - 3"	2' - 8"	1' - 9"	L	
105	a 105	Base Cabinet w/ Drawers	222	2	2' - 6"	2' - 8"	1' - 9"	L	
105	a 105	Base Cabinet w/ Drawers	291	2	3' - 6"	4"	1' - 9"	L	
105	a 105	Tall Storage Cabinet	402	2	3' - 0"	7' - 0"	1' - 11"	L	
105	a 105	Counter Top	Custom	1		2' - 9 1/2"	1' - 10"		1
105	b 105	Base Cabinet w/ Drawers	212	4	3' - 0"	2' - 8"	1' - 11"	L	
105	b 105	Base Cabinet w/ Drawers	291	1	3' - 0"	4"	1' - 11"	L	
105	b 105	Wall Hung Cabinet	302	3	2' - 6"	2' - 2"	1' - 2"	L	
105	b 105	Counter Top	Custom	1		2' - 9 1/2"	2' - 0"		1

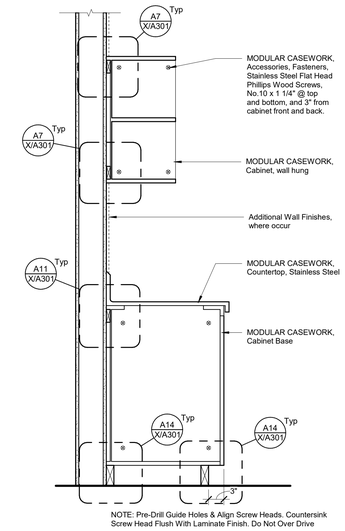
N11 | MODULAR CASEWORK, Schedule



NOTE: Pre-Drill Guide Holes & Align Screw Heads. Countersink Screw Head Flush With Laminate Finish. Do Not Over Drive

L11 | MODULAR CASEWORK, Cabinet, Tall

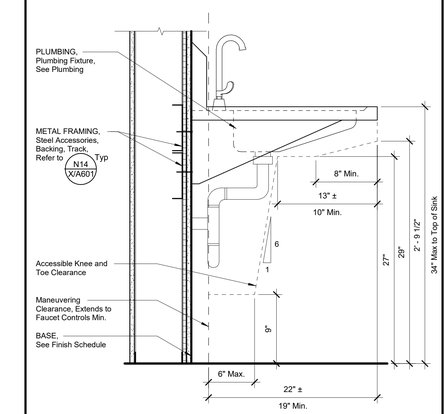
1" = 1'-0"



NOTE: Pre-Drill Guide Holes & Align Screw Heads. Countersink Screw Head Flush With Laminate Finish. Do Not Over Drive

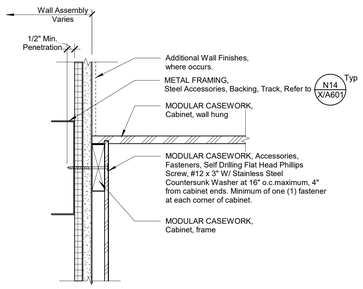
L14 | Modular Casework, Cabinet, Wall Hung & Base

1" = 1'-0"



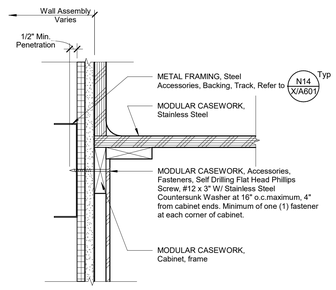
A4 | PLUMBING, Accessible Sink, Knee Clearance

1 1/2" = 1'-0"



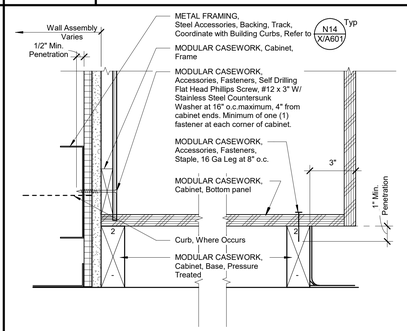
A7 | MODULAR CASEWORK, Cabinet Wall Hung Anchorage

3" = 1'-0"



A11 | MODULAR CASEWORK, Cabinet Base Anchorage

3" = 1'-0"



A14 | MODULAR CASEWORK, Cabinet Base Anchorage

3" = 1'-0"

Building Orientation on Site

Building View Orientation N

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
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APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

TYPICAL NOTES

1. This schedule is provided for the convenience of the contractor. field verify all conditions and dimensions prior any fabrication
2. Schedule dimensions shall be considered nominal
3. See Sheet X/A301 for modular casework attachment and details.
4. All details, materials, and finishes shall be considered typical for all similar conditions unless noted otherwise.
5. W.I. Number cabinet designs with suffix "M" shall be modified as indicated or detailed.
6. Provide all filler pieces, scribe strips, flush panels and closures, matching modular cabinetwork, required to complete cabinetwork assemblies and close the finish surfaces.
7. Provide cabinet door and drawer locks at all cabinets unless noted otherwise.
8. All cabinets shall be constructed in accordance with the Architectural Woodwork Institute of Architectural Woodwork Standards, Section 10 for custom grade as modified by Specification Section 06 41 23, MODULAR CASEWORK, unless noted otherwise.
9. All countertops shall be have 6" integral self coved Back and End Splashes, unless noted otherwise. Refer to interior elevations for splash heights which may vary in height. Align splashes with other materials, if shown to be aligned.
10. Base cabinet counter heights shall not exceed 34" in height, unless otherwise noted for undercounter equipment which requires at 36" counter height. In the event the interior elevations or cabinet schedule indicate a 36" counter height, the actual height shall be verified prior to and fabrication.
11. See MODULAR CASEWORK specification for shelves, typical.

REMARKS

1. Counter Top to be Stainless Steel

ACCESSORIES

L - LOCK

H18 | MODULAR CASEWORK , Notes

No Scale

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Project

TYPICAL INFORMATION
MODULAR CASEWORK SCHEDULE AND DETAILS

Drawing

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LICENSED ARCHITECT GERTRUDO J. HUTCHINS No. C-29235 Exp. 10-31-2025 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

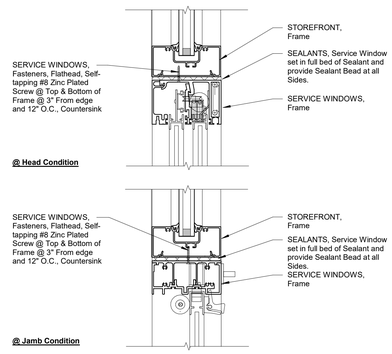
Revision

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Scale: As indicated | Drawn By: Author
Project Number: 2470.2 | Checked tChecker
Date: xx/xx/xx | ReviewedApprover

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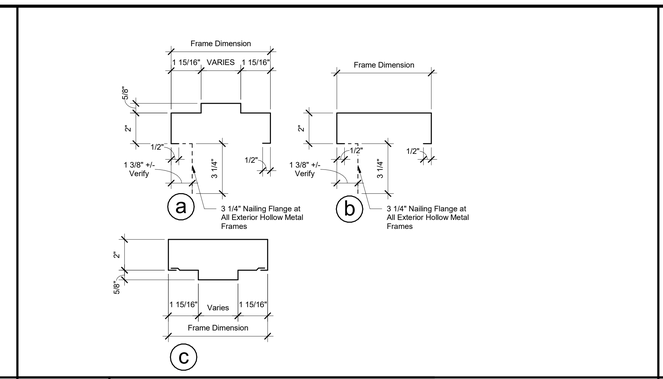
Desmond MS



N1

3" = 1'-0"

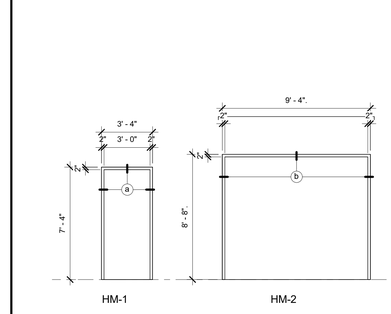
SERVICE WINDOWS-SLIDING, Head Detail



N4

3" = 1'-0"

Hollow Metal Frame Details

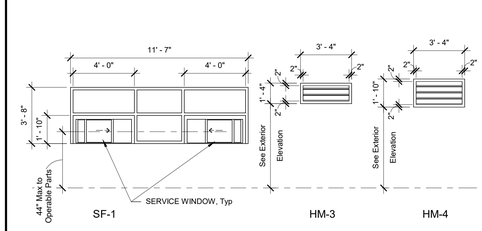


N10

No Scale

Door Frame Types

.

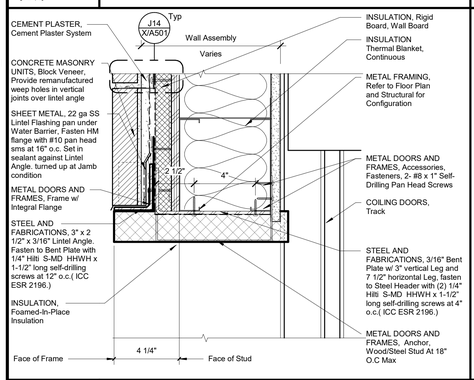


N14

No Scale

Window Types

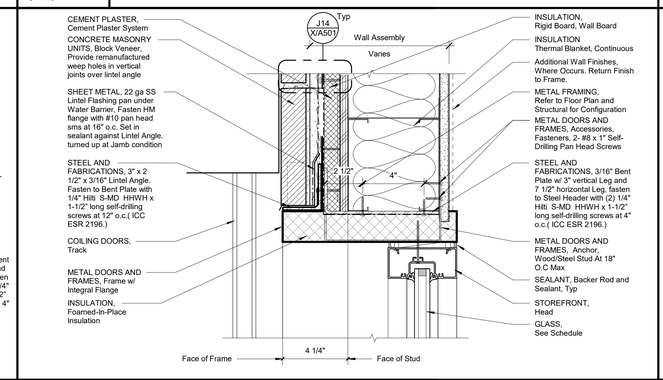
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J1

3" = 1'-0"

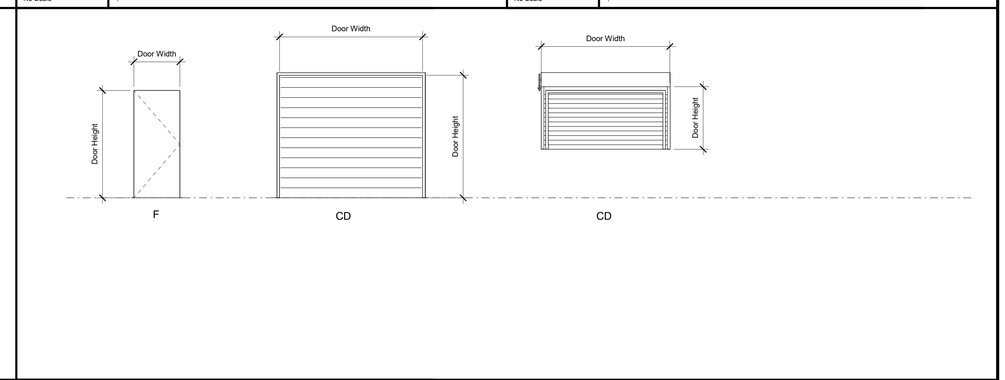
COILING DOORS, Head @ Exterior Block Veneer



J4

3" = 1'-0"

COILING DOORS, Head @ Exterior Block Veneer

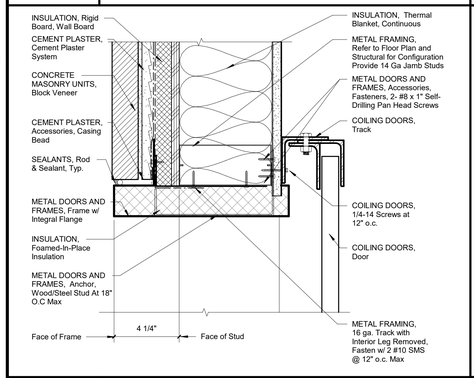


J10

No Scale

Door Types

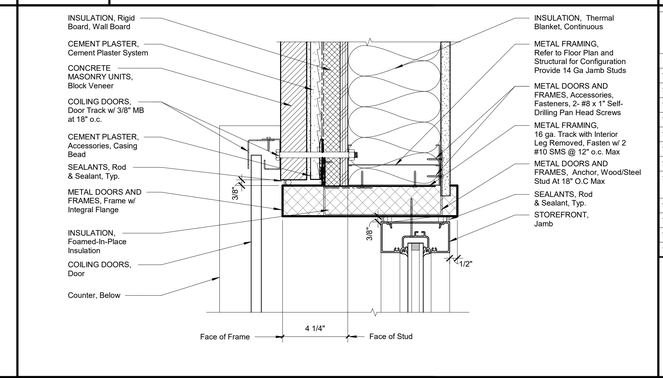
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E1

3" = 1'-0"

COILING DOORS, Jamb @ Exterior Block Veneer



E4

3" = 1'-0"

COILING DOORS, Jamb @ Exterior Block Veneer

E10

No Scale

Door Schedule

.

Opening Schedule Door

Door No.	Frame Type	Size			Door Material	Model No	Door Type	Glass Type	Louver Type	Head	Jamb	Threshold	Hardware		Fire Rating	Comments
		Width	Height	Thickness									Group	Keying Room No		
101 a	HM-1	3' - 0"	7' - 2"	1 3/4"	HM		F	-	-	N11-X/A410	J11-X/A410	E14-X/A410	02	Ext	-	1
101 b	HM-1	3' - 0"	7' - 2"	1 3/4"	HM		F	-	-	N11-X/A410	J11-X/A410	E14-X/A410	02	Ext	-	1
102 a	HM-1	3' - 0"	7' - 2"	1 3/4"	HM		F	-	-	N11-X/A410	J11-X/A410	E14-X/A410	01	Ext	-	2
103 a	HM-1	3' - 0"	7' - 2"	1 3/4"	HM		F	-	-	N11-X/A410	J11-X/A410	E14-X/A410	02	Ext	-	1
103 b	HM-1	3' - 0"	7' - 2"	1 3/4"	HM		F	-	-	N11-X/A410	J11-X/A410	E14-X/A410	02	Ext	-	1
104 a	HM-1	3' - 0"	7' - 2"	1 3/4"	HM		F	-	-	N11-X/A410	J11-X/A410	E14-X/A410	04	Ext	-	2
105 a	HM-1	3' - 0"	7' - 2"	1 3/4"	HM		F	-	-	N11-X/A410	J11-X/A410	E14-X/A410	03	Ext	-	2
105 b	-	12' - 1 1/2"	3' - 10 1/2"	2"	AL	ESC10	CD	-	-	E4-X/A401	J4-X/A401	A4-X/A401	-	Ext	-	
106 a	HM-1	3' - 0"	7' - 2"	1 3/4"	HM		F	-	-	N11-X/A410	J11-X/A410	E14-X/A410	01	Ext	-	2
107 a	HM-1	3' - 0"	7' - 2"	1 3/4"	HM		F	-	-	N11-X/A410	J11-X/A410	E14-X/A410	03	Ext	-	2
108 a	HM-1	3' - 0"	7' - 2"	1 3/4"	HM		F	-	-	N11-X/A410	J11-X/A410	E14-X/A410	01	Ext	-	2
108 b	HM-2	9' - 0"	8' - 6"	2"	SS	ESD30	CD	-	-	J1-X/A401	E1-X/A401	A1-X/A401	05	108	-	

E10

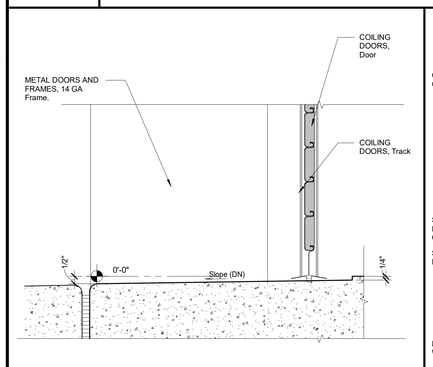
No Scale

Door Schedule

.

Opening Schedule Window

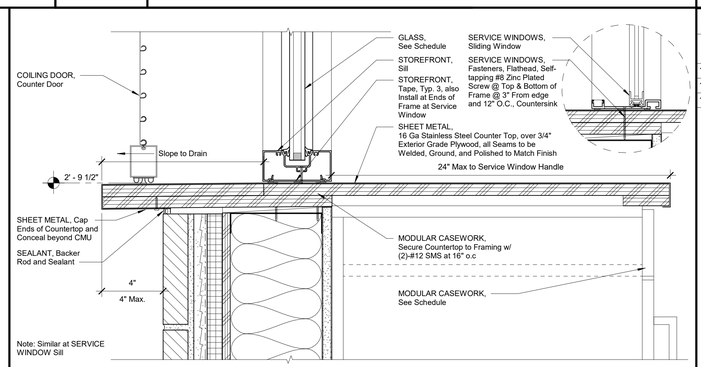
Window No.	Frame Type	Size		Material	Head	Jamb	Sill	Glazing	Fire Rating	Comments
		Width	Height					Type		
105 c	SF-1	11' - 7"	3' - 8"	AL	E4-X/A401	J4-X/A401	A4-X/A401	C2-2	-	3
105 d	HM-3	3' - 4"	1' - 4"	HM	N7-X/A410	J7-X/A410	E7-X/A410	-	-	4
108 c	HM-4	3' - 4"	1' - 10"	HM	N7-X/A410	J7-X/A410	E7-X/A410	-	-	4



A1

3" = 1'-0"

COILING DOORS, Threshold



A4

3" = 1'-0"

STOREFRONTS, Snack Bar Counter

A10

No Scale

Window Schedule

.

Building Orientation on Site

Building View Orientation N

OPENING SCHEDULE COMMENTS

1 HARDWARE, Floor Stop, See detail A11 X/A410 Typ

2 HARDWARE, Provide Overhead Door Stop

3 SERVICE WINDOWS, Verify sizes, See detail N1 X/A401 Typ

4 Louver, See Mechanical

GENERAL NOTES

1. This schedule is provided for the convenience of the General Contractor. Dimensions indicated are nominal dimensions.
2. The General Contractor is responsible for all coordination and review of drawings and verifying all field conditions and dimensions prior to fabrication. Not all detail references are included in the schedule.
3. All details, materials and finishes shall be considered typical for all similar conditions unless noted otherwise.
4. All fire rated doors shall be automatic-closing or self-closing as provided in Section 716.5.9, 2022 CBC.
5. Door Types are shown on sheet X/A401.
6. Frame Types are shown on sheets X/A401.
7. For material transition at doors see E11-XA410
8. Exit Doors shall be openable from inside without the use of a key or any special knowledge or effort.
9. For opening Head, Jamb, and Sill framing conditions, see Structural Drawings.
10. At exterior wall locations, provide flashing as noted in Opening Schedule Comments #1, whether noted in the schedule or not.
11. Doors, and sidelites adjacent to doors, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches (1090 mm) maximum above the floor, This shall not apply if all Glazing Panels are 66" or greater above the Finish Floor.

ABBREVIATIONS

SG	- Steel Gate	SS	- Stainless Steel
SW	- Service Window	CL	- Chain Link
STL	- Steel	WD	- Wood
AL	- Aluminum	CD	- COILING DOORS/ Counter Door
SF	- Storefront		
HM	- Hollow Metal	GALV	- Galvanized Finish
SG	- Site Gate	S&F	- Steel and Fabrications
SPF	- Steel Post Fence	RO	- Rough Opening
		H	- Hazard Class 1 Glazing (CBC) Tempered or Laminated Glass, See Opening Schedule for type

DSA File No.: 20-30

DSA Application No.: 02-123203

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DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
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SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

F18

No Scale

Opening Schedule Legend

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Project

TYPICAL INFORMATION
OPENING SCHEDULES, FRAME ELEVATIONS, DETAILS

Drawing

darden architects
ARCHITECTURE PLANNING INTERIORS
www.dardenarchitects.com
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LICENSED ARCHITECT ANTONIO J. AVILA No. C26235 REN. 10-31-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

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Scale: As indicated | Drawn By: Author

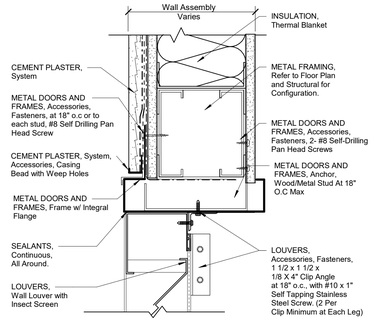
Project Number: 2470.2 | Checked Checker

Date: xx/xx/xx | Reviewed Approver

X/A401

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Desmond MS

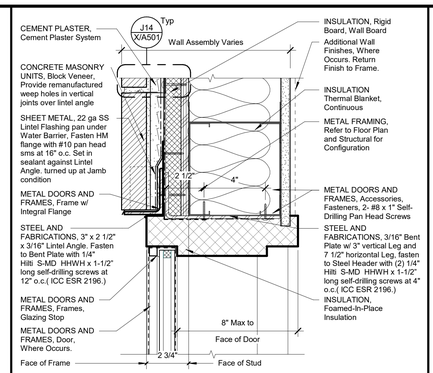


N7

3" = 1'-0"

METAL DOORS AND FRAMES, Louver Head at Metal Stud

Refer to A1-X/A410 for Flashing of Opening, Typ

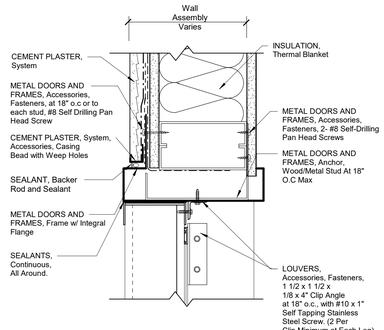


N11

3" = 1'-0"

METAL DOORS AND FRAMES, Head @ Exterior Block Veneer

Refer to A1-X/A410 for Flashing of Opening, Typ

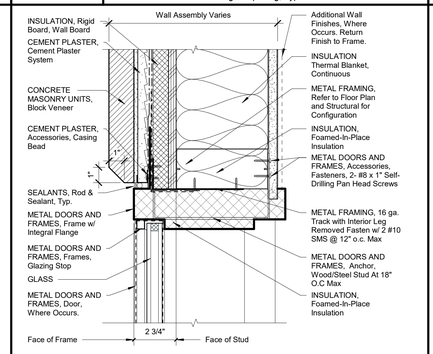


J7

3" = 1'-0"

METAL DOORS AND FRAMES, Louver Jamb at Metal Stud

Refer to A1-X/A410 for Flashing of Opening, Typ

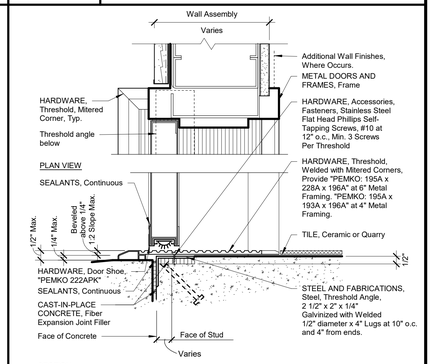


J11

3" = 1'-0"

METAL DOORS AND FRAMES, Jamb @ Exterior Block Veneer

Refer to A1-X/A410 for Flashing of Opening, Typ

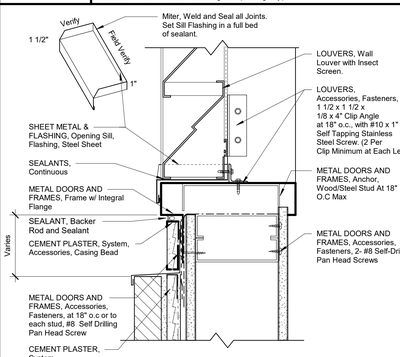


E7

3" = 1'-0"

METAL DOORS AND FRAMES, Louver Sill at Metal Stud

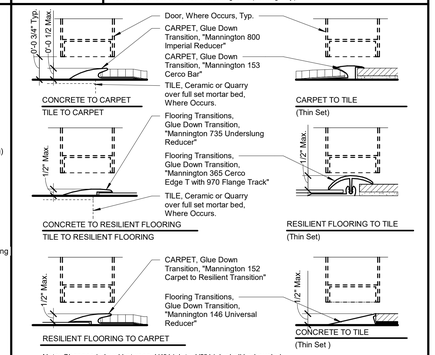
Refer to A1-X/A410 for Flashing of Opening, Typ



E11

3" = 1'-0"

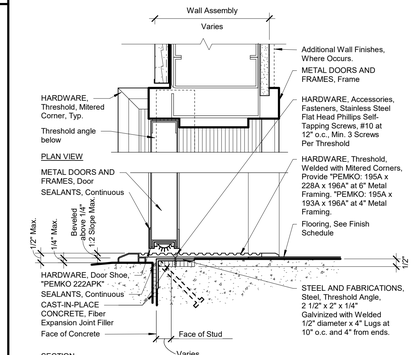
Flooring Transitions, at Interior

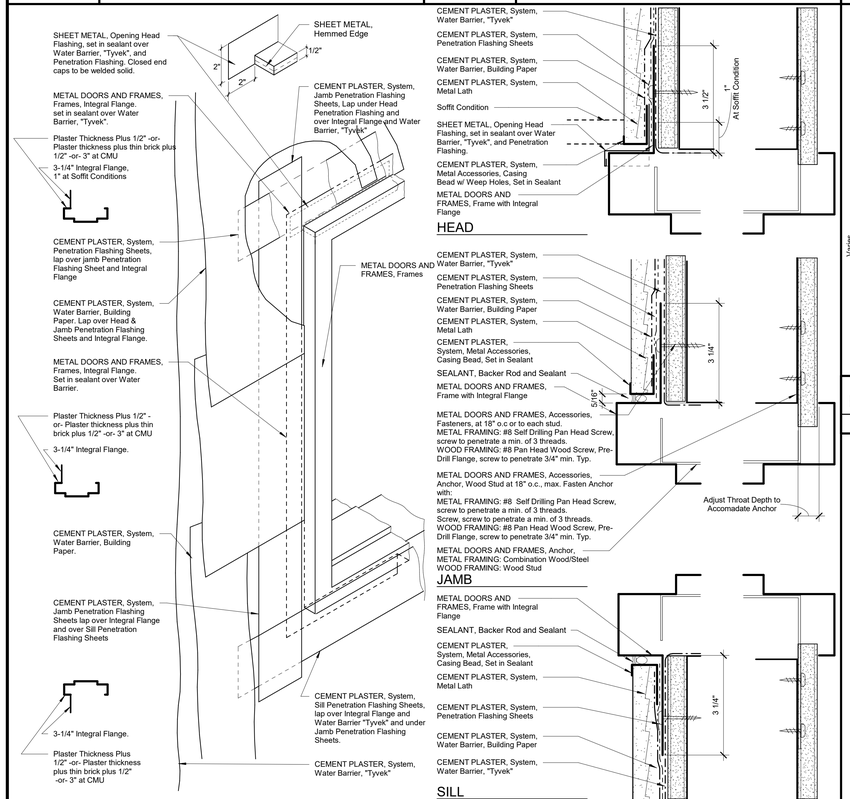


E14

3" = 1'-0"

HARDWARE, Threshold at Exterior Metal Doors

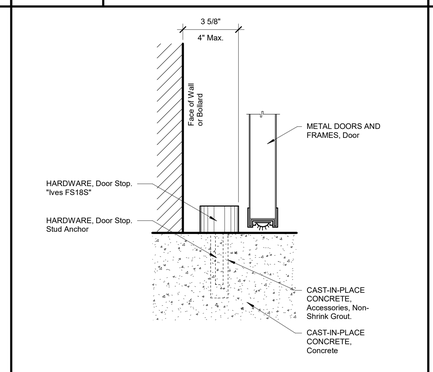




A1

3" = 1'-0"

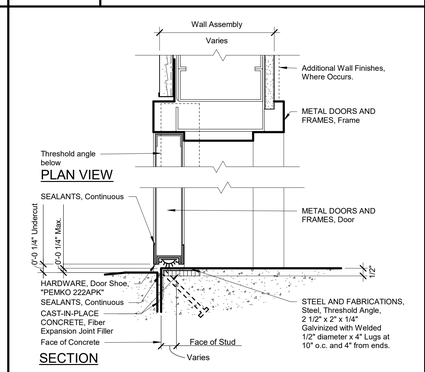
METAL DOORS AND FRAMES. Opening Head, Jamb, and Sill Flashing @ Exterior



A11

3" = 1'-0"

HARDWARE, Door Stop at Exterior & Interior



A14

3" = 1'-0"

HARDWARE, Threshold at Exterior Metal Doors

Building Orientation on Site

Building View Orientation

N

DSA File No.: 20-30

DSA Application No.: 02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Project

OPENING AND HARDWARE, DETAILS

Drawing

darden architects
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LICENSED ARCHITECT EDMUND J. ARVO No. C26235 Exp. 10-31-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

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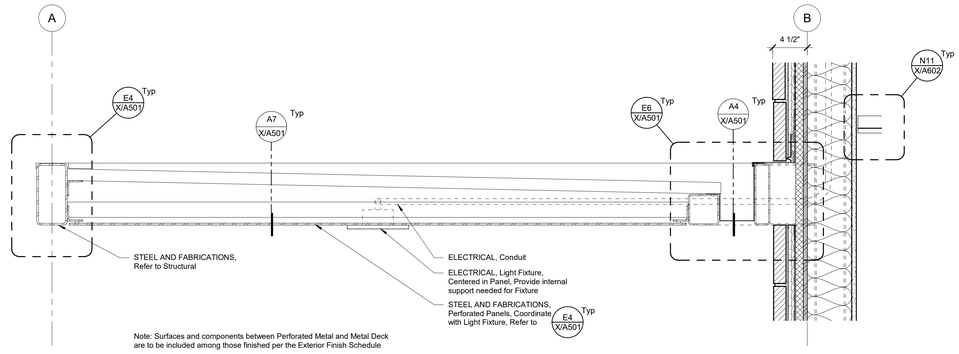
Scale: As indicated | Drawn By: Author

Project Number: 2470.2 | Checked IChecker

Date: xx/xx/xx | ReviewedApprover

X/A410

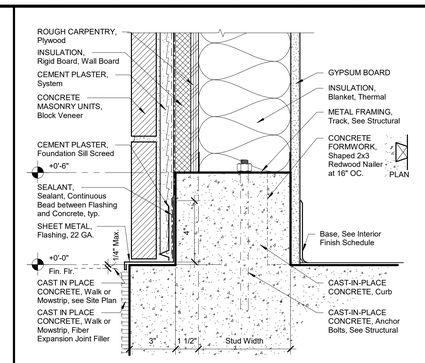
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Note: Surfaces and components between Perforated Metal and Metal Deck are to be included among those finished per the Exterior Finish Schedule

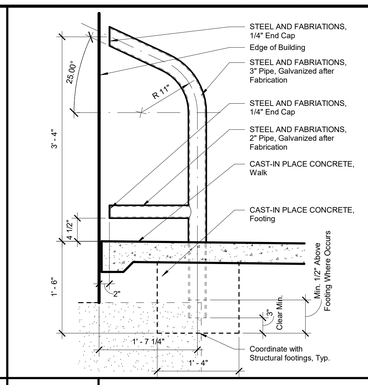
N1 — STEEL AND FABRICATIONS, Snack Bar Canopy

1 1/2" = 1'-0"



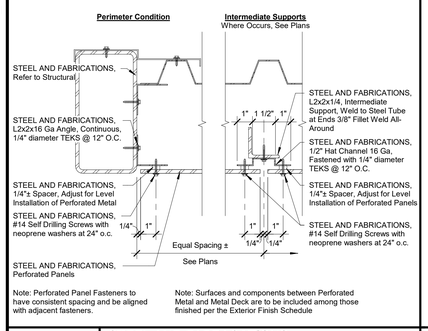
N11 — CAST-IN-PLACE CONCRETE, Exterior Wall Sill at Concrete Curb

3" = 1'-0"



N14 — STEEL AND FABRICATIONS, Bollard

1" = 1'-0"

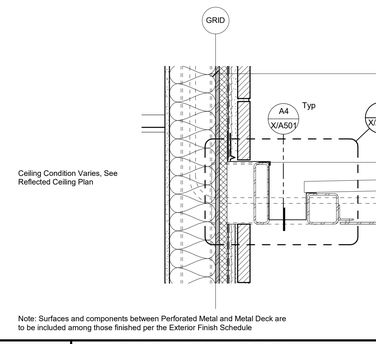


Note: Perforated Panel Fasteners to have consistent spacing and be aligned with adjacent fasteners.

Note: Surfaces and components between Perforated Metal and Metal Deck are to be included among those finished per the Exterior Finish Schedule

J1 — STEEL AND FABRACATIONS, Perforated Panels, Typical Attachment

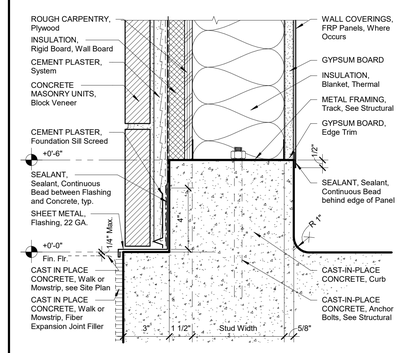
3" = 1'-0"



Note: Surfaces and components between Perforated Metal and Metal Deck are to be included among those finished per the Exterior Finish Schedule

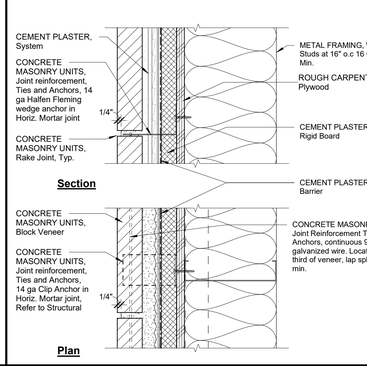
J4 — STEEL AND FABRICATIONS, Eyebrow Canopy

1 1/2" = 1'-0"



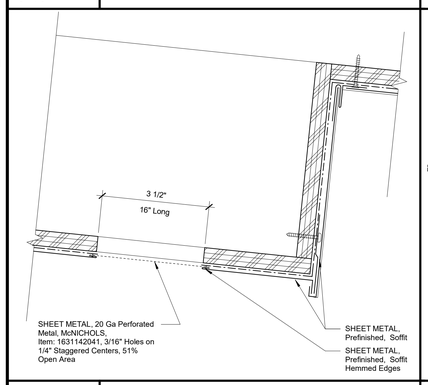
J11 — CAST-IN-PLACE CONCRETE, Exterior Wall Sill at Concrete Curb

3" = 1'-0"



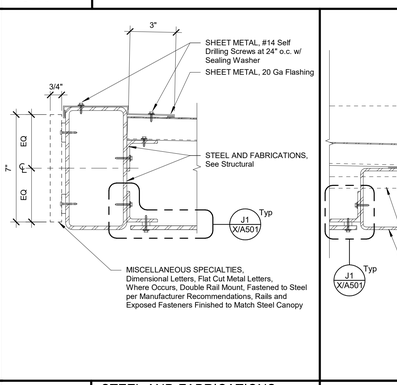
J14 — CONCRETE MASONRY UNITS, Joint Reinforcement, Ties and Anchor Detail

3" = 1'-0"



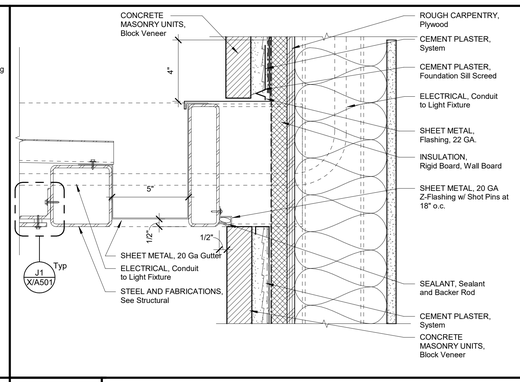
E1 — SHEET METAL, Vent

6" = 1'-0"



E4 — STEEL AND FABRICATIONS, Canopy Ridge

3" = 1'-0"

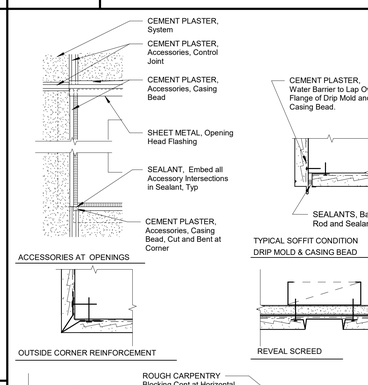


E6 — STEEL AND FABRACATIONS, Canopy Eave

3" = 1'-0"

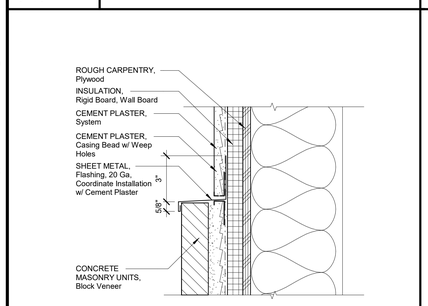
E11 — CAST-IN-PLACE CONCRETE, Exterior Wall Sill at Concrete Curb

3" = 1'-0"



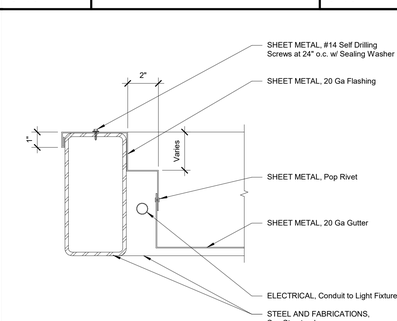
A14 — CEMENT PLASTER , ACCESORIES

3" = 1'-0"



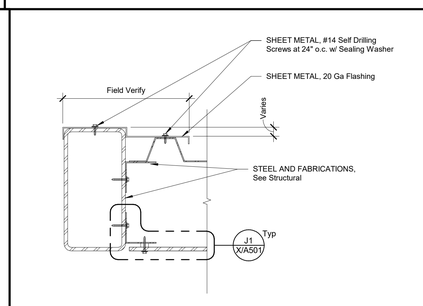
A1 — SHEET METAL, Flashing at CMU

3" = 1'-0"



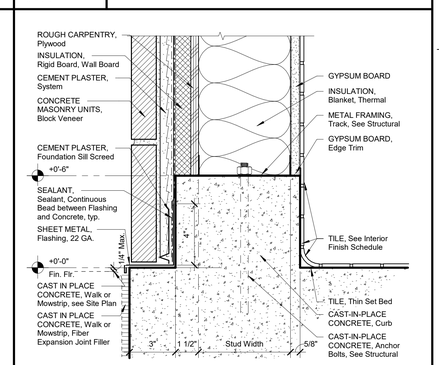
A4 — STEEL AND FABRACATIONS, Canopy Rake At Gutter

3" = 1'-0"



A7 — STEEL AND FABRACATIONS, Canopy Rake

3" = 1'-0"



A11 — CAST-IN-PLACE CONCRETE, Exterior Wall Sill at Concrete Curb

3" = 1'-0"

A14 — CEMENT PLASTER , ACCESORIES

3" = 1'-0"

Building Orientation on Site

Building View Orientation

DSA File No.: 20-30

DSA Application No.: 02-123203

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DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

NOTES

1. CEMENT PLASTER, Cement Plaster System, Accessories, Refer to Detail A14 X/A501 Typ

H18 — Exterior Detail Notes

No Scale

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Project

TYPICAL INFORMATION
EXTERIOR DETAILS

Drawing

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LICENSED ARCHITECT ANTONIO J. AVILA No. C30235 REG. 10-31-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

Designed Designer
Drawn By: Author
Checked Checker
Reviewed Approver

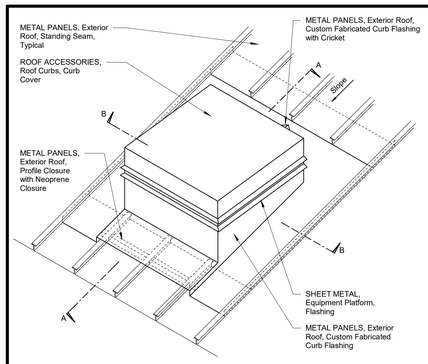
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Scale: As indicated
Project Number: 2470.2
Date: xx/xx/xx

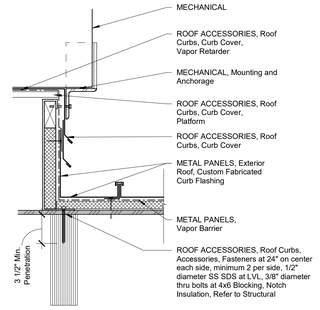
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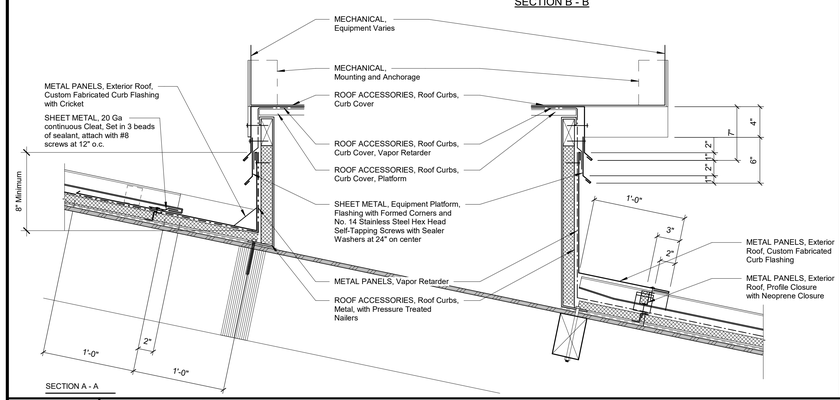
Desmond MS



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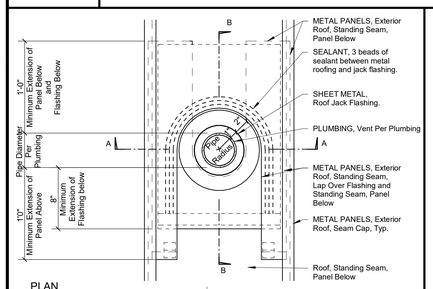


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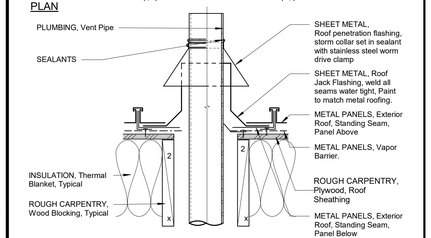


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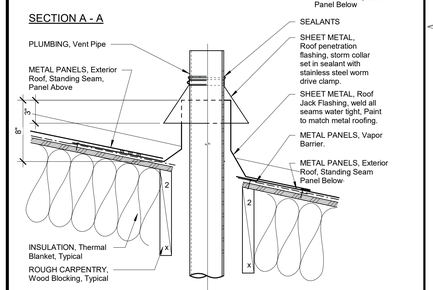
J1	METAL PANELS, Mechanical Equipment Support
1 1/2" = 1'-0"	



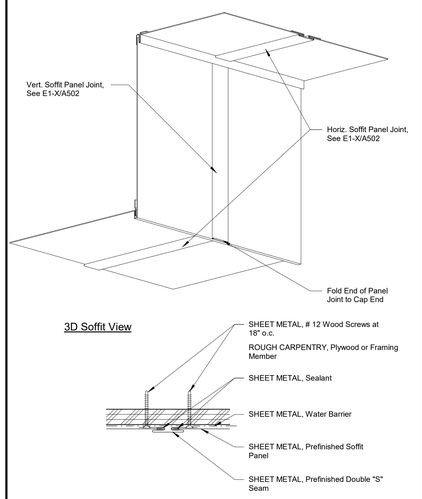
PLAN



SECTION A - A

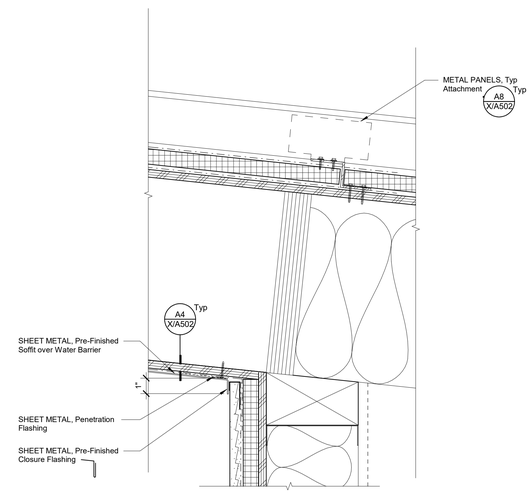


A1	METAL PANELS, Roof Penetration
1 1/2" = 1'-0"	

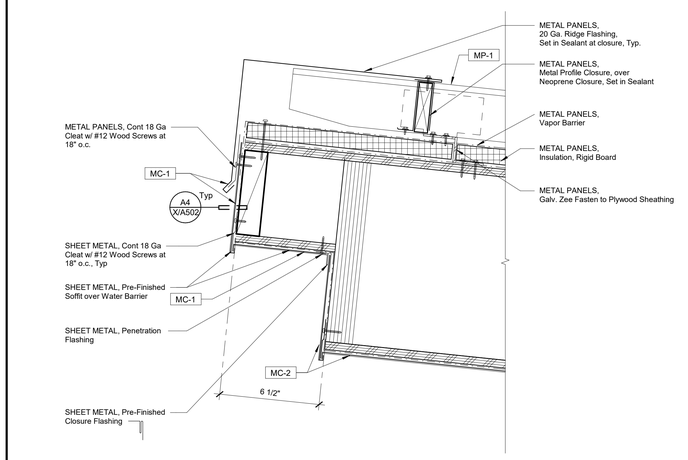


3D Soffit View

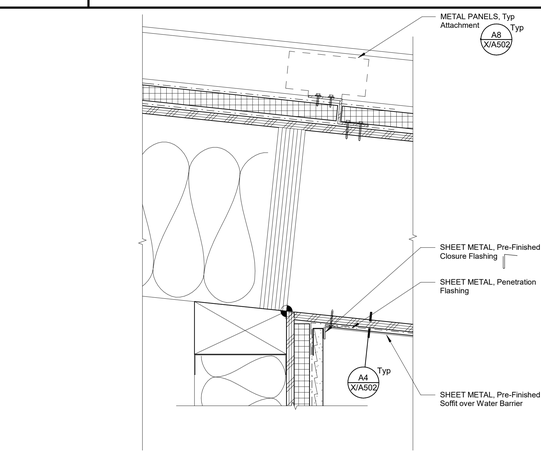
A4	SHEET METAL, Soffit Panel Joint
6" = 1'-0"	



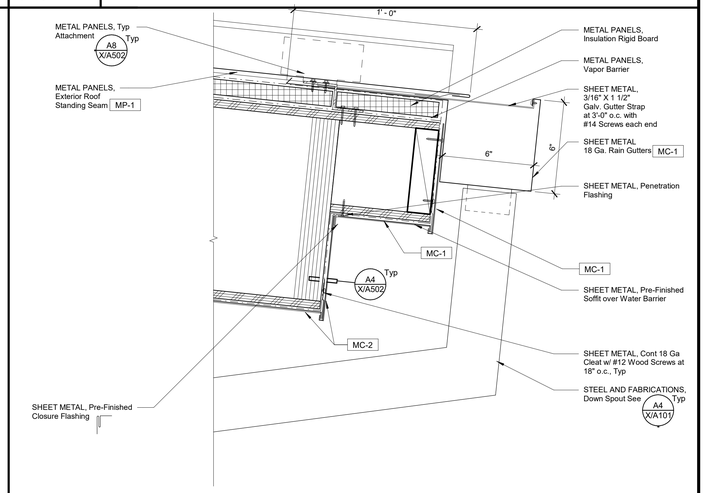
M8	SHEET METAL, Soffit at Ridge
3" = 1'-0"	



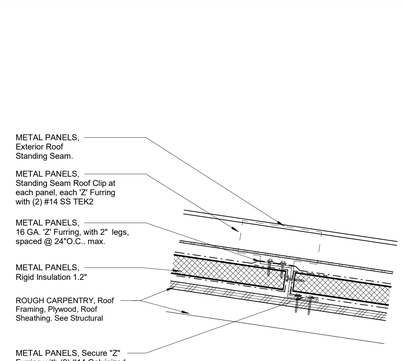
M12	SHEET METAL, Ridge Soffit
3" = 1'-0"	



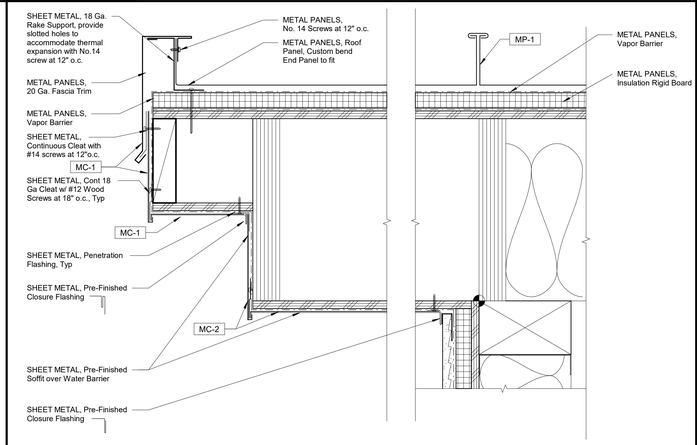
F8	SHEET METAL, Soffit at Eave
3" = 1'-0"	



F12	SHEET METAL, Eave Soffit
3" = 1'-0"	



A8	METAL PANELS, Typical Roof Attachment
3" = 1'-0"	



A12	SHEET MEATL, Rake Soffit
3" = 1'-0"	

Building Orientation on Site

Building View Orientation

DSA File No.: 20-30

DSA Application No.: 02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Project

EXTERIOR DETAILS

Drawing

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LICENSED ARCHITECT ANTONIO J. ALVAREZ No. C29235 Exp. 10-31-25 STATE OF CALIFORNIA

Architect

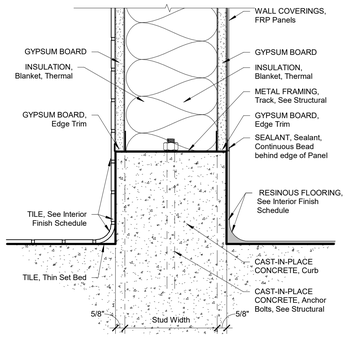
No.	Revision/Submission	Date

Revision

	Designed Designer	Copyright 2022 Darden Architects
Scale: As indicated	Drawn By: Author	X/A502
Project Number: 2470.2	Checked Checker	
Date: xx/xx/xx	Reviewed Approver	

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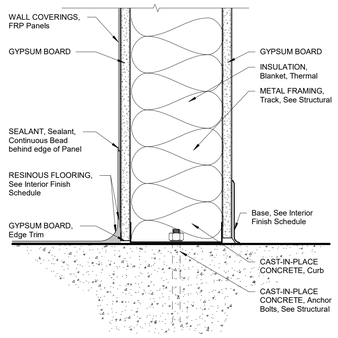
Desmond MS



N1

CAST-IN-PLACE CONCRETE, Interior Curb-Tile-Resinous Flooring

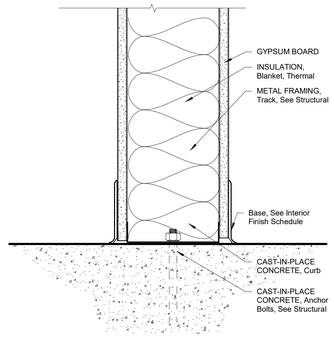
3" = 1'-0"



N4

CAST-IN-PLACE CONCRETE, Interior Wal - Resinous Flooring-Gyp. Bd.

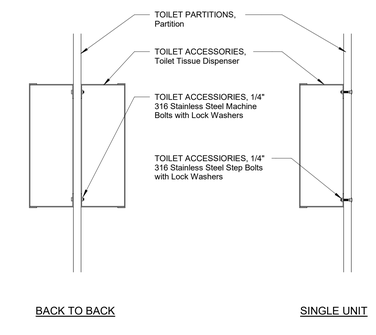
3" = 1'-0"



N7

CAST-IN-PLACE CONCRETE, Interior Wall-Gyp. Bd.

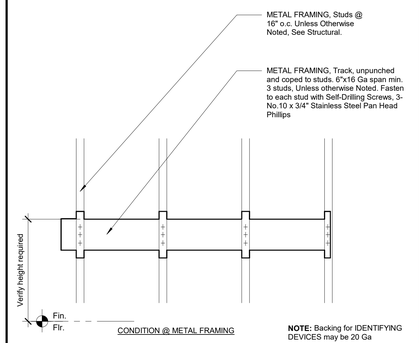
3" = 1'-0"



N11

TOILET ACCESSORIES, Partition Mounted Toilet Paper Dispensers

1 1/2" = 1'-0"



N14

METAL FRAMING , Backing Detail

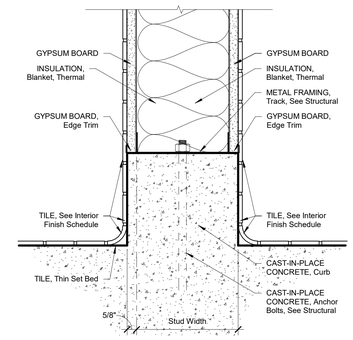
1" = 1'-0"

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

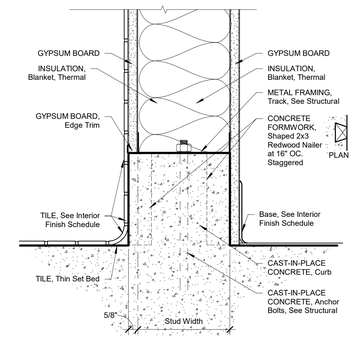
Agency Approval



J1

CAST-IN-PLACE CONCRETE, Interior Curb-Tile-Tile

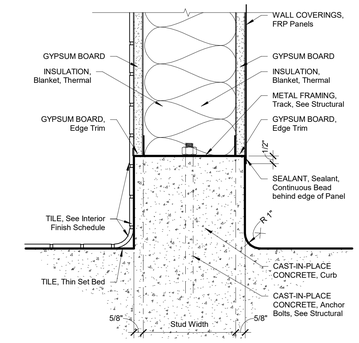
3" = 1'-0"



J4

CAST-IN-PLACE CONCRETE, Interior Curb-Tile-Gyp. Bd.

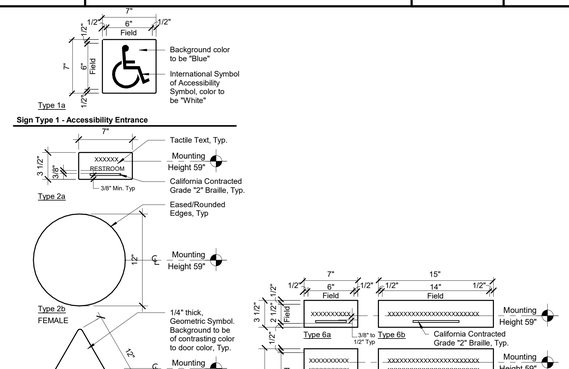
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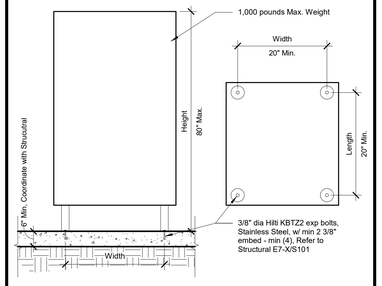


J7

CAST-IN-PLACE CONCRETE, Interior Curb-Tile-FRP

3" = 1'-0"

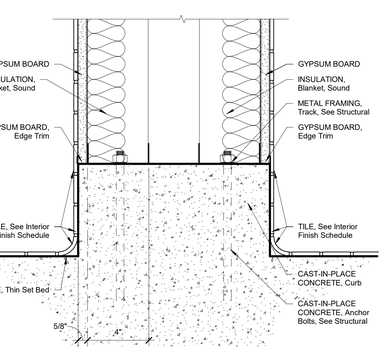




J18

TYPICAL FLOOR MOUNTED EQUIPMENT - Feet

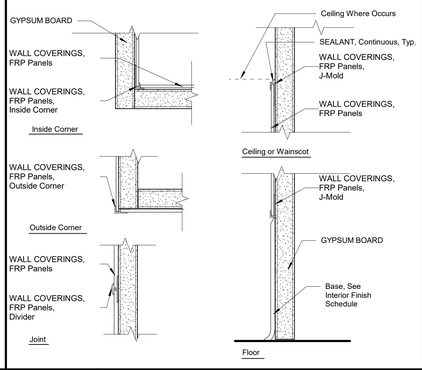
1/2" = 1'-0"



E1

CAST-IN-PLACE CONCRETE, Interior Curb-Chase

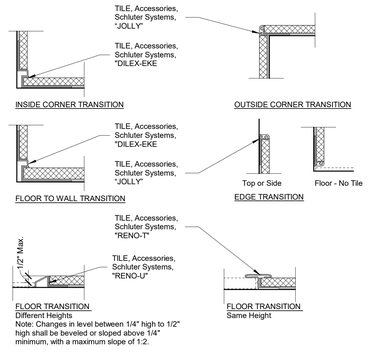
3" = 1'-0"



E4

WALL COVERINGS, FRP Panels, Aluminum Trim

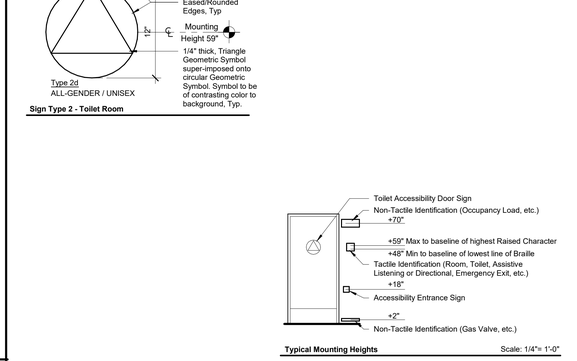
6" = 1'-0"



E7

TILE, Intersection Trims

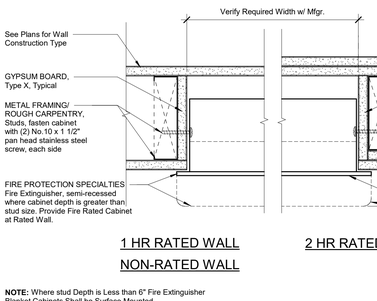
6" = 1'-0"



E11

IDENTIFYING DEVICES, Signage Locations and Dimensions

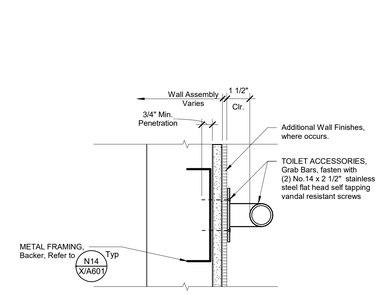
1 1/2" = 1'-0"



A1

FIRE PROTECTION SPECIALITIES, Fire Extinguisher Cabinets

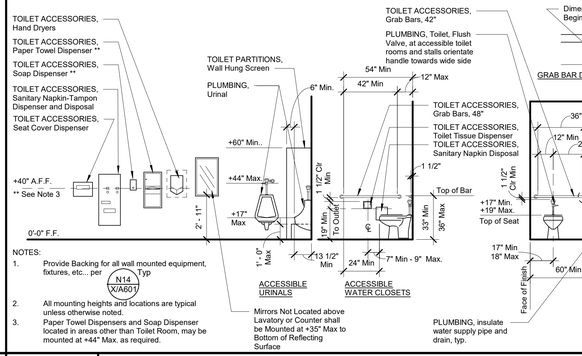
3" = 1'-0"



A7

TOILET ACCESSORIES, Grab Bars

3" = 1'-0"



A11

TOILET ACCESSORIES AND PLUMBING FIXTURES,

1/4" = 1'-0"

Building Orientation on Site

Building View Orientation N

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Architect

No.	Revision/Submission	Date

Revision

Designed Designer

Drawn By: Author

Checked fChecker

Reviewe vApprover

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Scale: As indicated

Project Number: 2470.2

Date: xx/xx/xx

X/A601

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

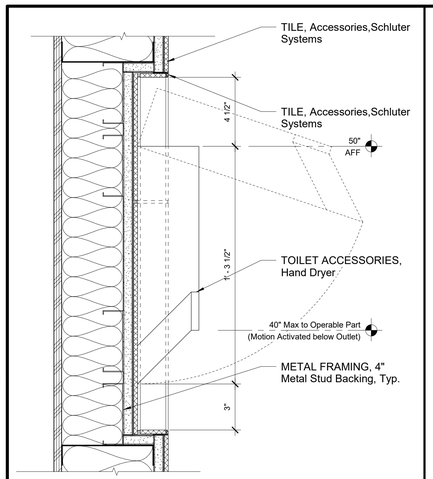
Project

TYPICAL INFORMATION
INTERIOR DETAILS

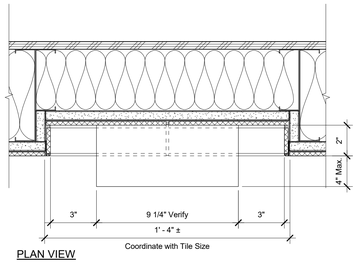
Drawing

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Desmond MS



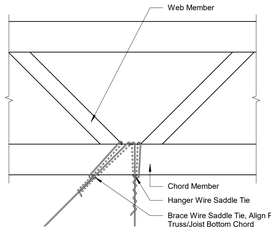
SECTION VIEW



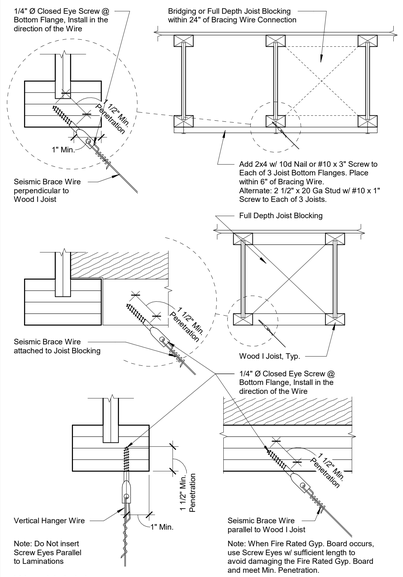
PLAN VIEW

J1 — TOILET ACCESSORIES, Recessed Hand Dryer

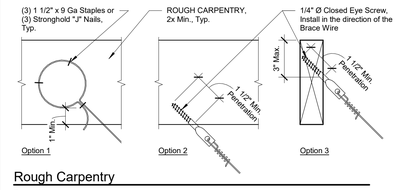
3" = 1'-0"



Wood Chord Truss and Open Web Steel Joist

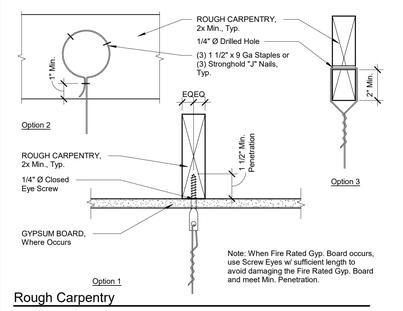


Wood I Joists



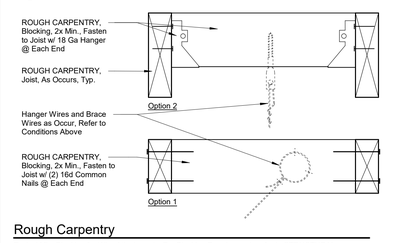
Rough Carpentry

Brace Wire



Rough Carpentry

Hanger Wire

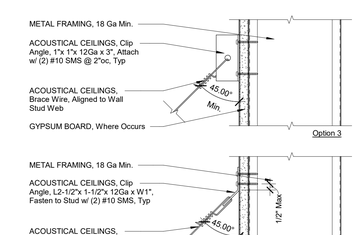


Rough Carpentry

Typical Min. Blocking for Wire Attachments, For Blocking Requirements refer to STRUCTURAL

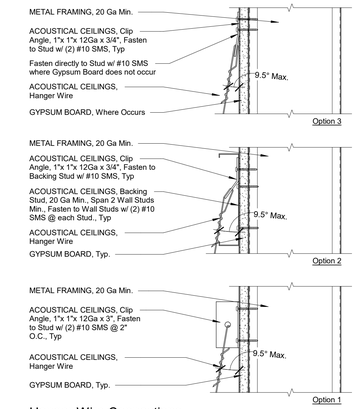
A1 — ACOUSTICAL CEILINGS, Suspension System, Hanger & Bracing (Splay) Wire Attachments

3" = 1'-0"



Wall Stud Gauge	Connection to Wall Stud (w/ Gyp. Board)	Connection to Wall Stud (w/out Gyp. Board)
20 Gauge	(5) #10 x 1 1/4" SMS	(3) #10 x 1 1/4" SMS
18 Gauge	(4) #10 x 1 1/4" SMS	(2) #10 x 1 1/4" SMS

Brace Wire Connections



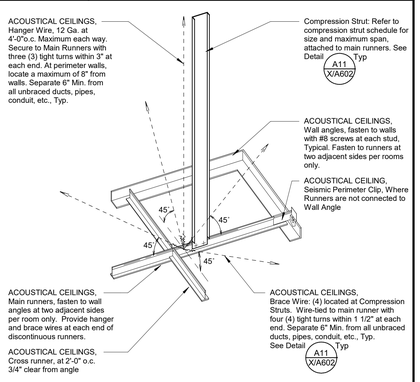
Hanger Wire Connections

ACOUSTICAL CEILINGS, Suspension System, See A7 X/A602 Typ

For Typical Wire Turns, See A1 X/A602 Typ

G7 — ACOUSTICAL CEILINGS, Wire Connections to Metal Stud Wall Detail

3" = 1'-0"



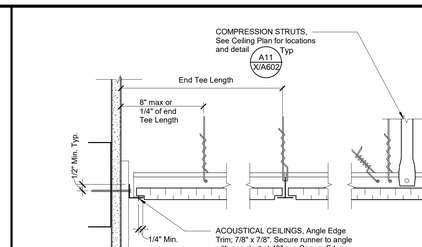
Notes:

1. Splices in Slotted Wall Angles shall be with minimum 12" lap and fasten with (2) #8 screws at each flange.
2. FIRE RATED CEILINGS: Wire Brace and Compression Strut Assemblies are required for each 96 square feet and the first assembly shall be located maximum 4'-0" from each wall.
3. Refer to the Division of the State Architect (DSA) Interpretations of Regulations (I.R.) Manual, IR 25-2 (2022 CBC) for Supplemental Acoustical Ceiling Suspension System Information. A copy of the manual can be obtained through DSA. (916) 937-3700 or www.dsa.ca.gov.
4. Refer to CBC Section 1617A.1.21, the design and installation to be in compliance with ASTM C635, C636, and E580, Section 5, as amended by 2022 CBC Section 1617A.1.21 .
5. For attachement of hanger and bracing wire to roof structure, See A1 X/A602 Typ. For attachement of hanger wire to adjacent wall, See G7 X/A602 Typ
6. Ceiling is rated Heavy Duty

Lay-In Tile Condition

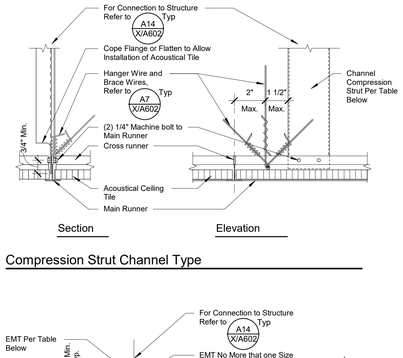
A7 — ACOUSTICAL CEILINGS, Suspension System

3" = 1'-0"

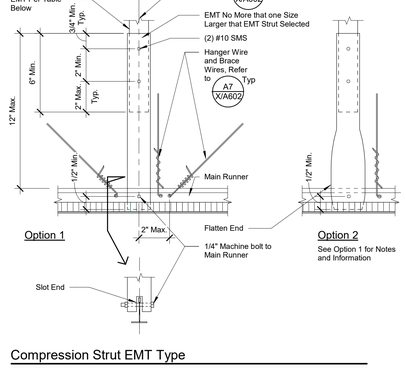


N11 — ACOUSTICAL CEILINGS, Perimeter Ceiling Detail

3" = 1'-0"



Compression Strut Channel Type



Compression Strut EMT Type

Electrical Metallic Tubing (EMT)	Max. Length
1/2" Diameter EMT (0.042" Wall Thickness)	3'-11"
3/4" Diameter EMT (0.049" Wall Thickness)	6'-4"
1" Diameter EMT (0.057" Wall Thickness)	9'-9"
1 1/4" Diameter EMT (0.065" Wall Thickness)	12'-9"
1 1/2" Diameter EMT (0.065" Wall Thickness)	14'-9"
2" Diameter EMT (0.065" Wall Thickness)	18'-10"
Channel Type Strut	
250S125-33	5'-10"
250S137-33	6'-10"
362S137-33	8'-0"
250S137-43	8'-10"
400S137-43	10'-10"

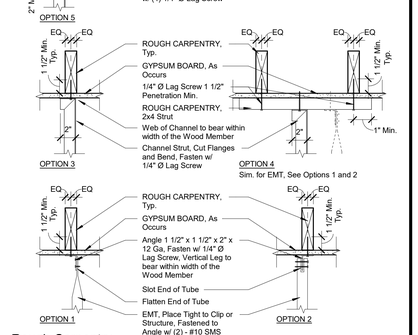
Notes:

1. This detail shall be used for ACOUSTICAL CEILINGS, Lay-In Tiles
2. The Strut Table comports with DSA IR 25-2 (2022 CBC), Sheet 3.21
3. Material Used Shall not be less than the Minimum Shown in the Above Tables.
4. Compression Strut and Bracing Wire conditions shall be located on a grid not exceeding 12'-0" x 12'-0". The "Datum" point for starting the strut/bracing grid shall be 6'-0" from one wall (half of 12'-0") and 6'-0"from an adjacent perpendicular wall (half of 12'-0").
5. Compression Strut shall not replace the vertical Hanger Wires. For Hanger and Bracing Wire information, see detail A7 X/A602 Typ

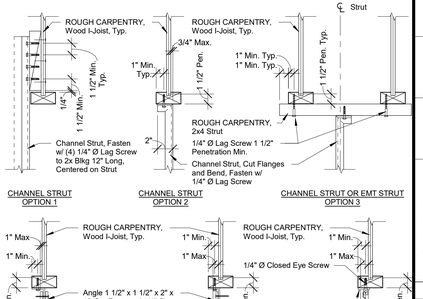
Strut Schedule

A11 — GYP. BD. & ACOUSTICAL CEILING SUSP. SYSTEM, COMP. STRUT SCHEDULE

3" = 1'-0"



Rough Carpentry



Rough Carpentry - I-Joists

A14 — ACOUSTICAL CEILINGS, Strut To Structure

1 1/2" = 1'-0"

Building Orientation on Site

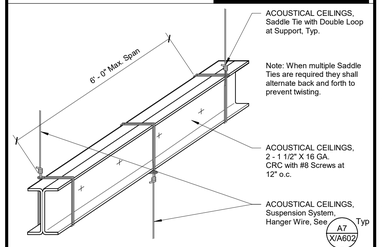
Building View Orientation N

DSA File No.: 20-30

DSA Application No.: 02-123203

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N18 — ACOUSTICAL CEILINGS, Suspended Ceiling Trapeze Support

3" = 1'-0"

Desmond MS - ELOP Year Two
Madera Unified School District
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Project

TYPICAL INFORMATION
INTERIOR DETAILS
Drawing

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Architect

No.	Revision/Submission	Date

Revision

Designed Designer | Drawn By: Author | Checked tChecker | Reviewed Approver

Scale: As indicated

Project Number: 2470.2

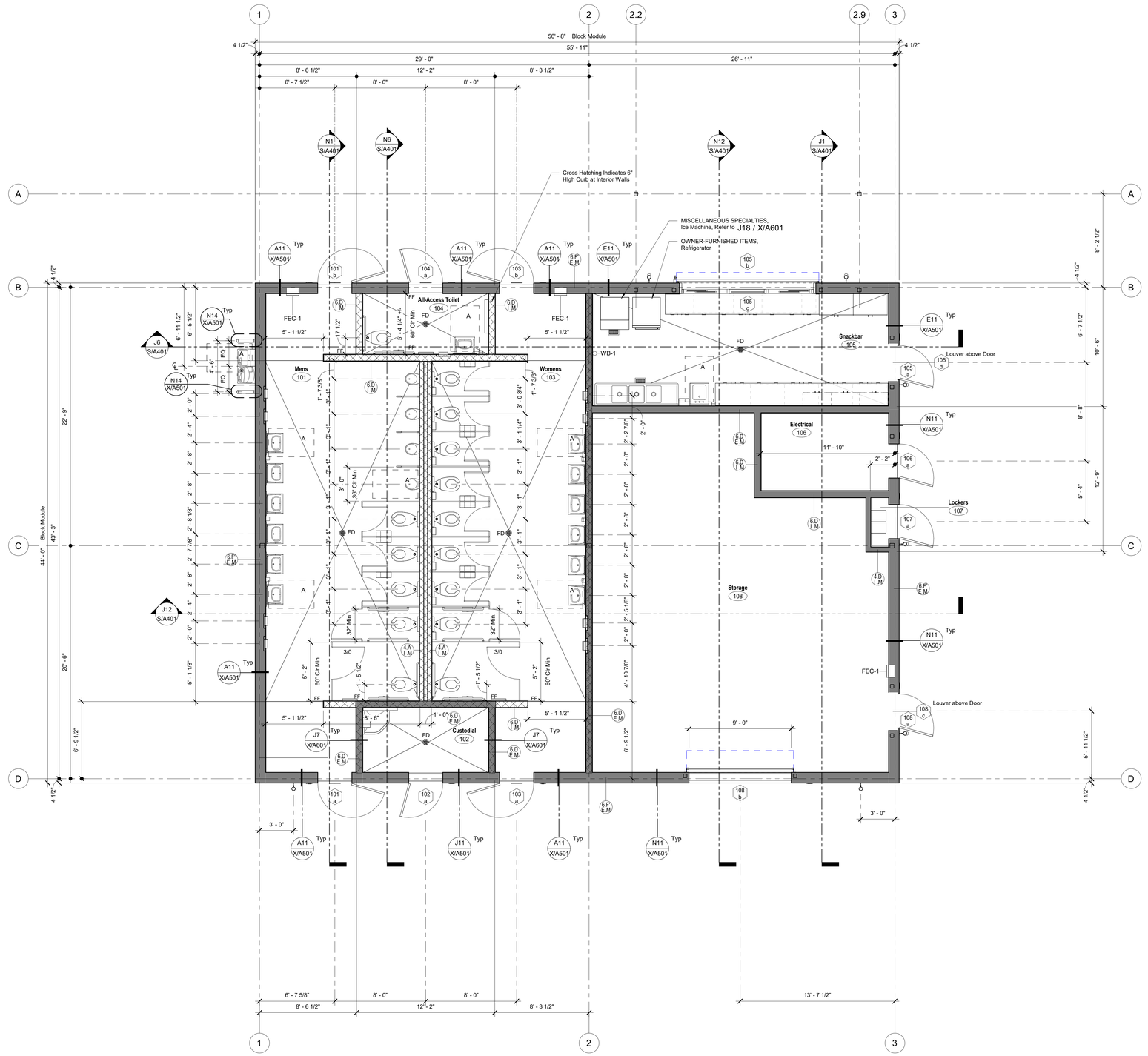
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X/A602

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SYMBOLS

Stud Wall, Studs and Interior Wall materials continuous from floor to underside of floor or roof deck. Studs at 16" o.c. unless otherwise noted. Interior Wall material shall include Batt Insulation, Sound Deadening Board, Plywood Sheathing, Gypsum Board, and Cement Plaster/ Ceramic Tile setting bed where occurs.

Stud Wall. Studs and finish material continuous from floor to minimum 6" above ceiling. Studs to be braced to underside of roof framing or deck if not required to be continuous to roof framing or deck. Studs at 16"o.c. Unless Otherwise Noted. See Structural for bracing and extent of Structural Sheathing.

0 — Reference Grid

101 a — Opening Group No. Refer to Door or Window Opening Schedules

Eq Mark — Equipment Item No. Refer to Equipment Schedule

Room name 101 — Room Designation

ABBREVIATIONS

FEC	FIRE PROTECTION SPECIALTIES, Fire Extinguisher Cabinet, Type FEC-1, Unless Noted Otherwise. Provide Fire Rated Cabinet at Rated Walls, See A1 X/A601 Typ
FF	Face of Finish
FOC	Face of Concrete
FD	Floor Drain
FOM	Face of Masonry
FOS	Face of Stud
FS	Floor Sink
HB	Hose Bib
MO	Masonry Opening
UNO	Unless Noted Otherwise
RO	Rough Opening
VCT	RESILIENT FLOORING, Vinyl Composition Tile
Typ.	Typical
Sim.	Similar
OH	Opposite Hand

NOTES

1. All Exterior Walls shall be Wall Assembly Type 6.F E.M Unless Noted Otherwise.
2. All Interior Walls shall be Wall Assembly Type 6.D I.M Unless Noted Otherwise.
3. All Dimensions are to Face of Stud (FOS) or Center Line, Unless Noted Otherwise.
4. All Elevation Dimensions are above Finish Floor at each floor level, Unless Noted Otherwise.
5. Dimensions noted as "+/-" are nominal.
6. Floor Drains (FD) and Floor Sinks (FS) shall be set -3/4" and a min. of 3'-0" from nearest wall, Unless Noted Otherwise.
7. IDENTIFYING DEVICES, For Room Signage refer E11 X/A601 Typ to and Specifications

F18 — Floor Plan Legend
No Scale

Desmond MS - ELOP Year Two
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Madera, CA 93637
Project

BUILDING S
FLOOR PLAN
Drawing

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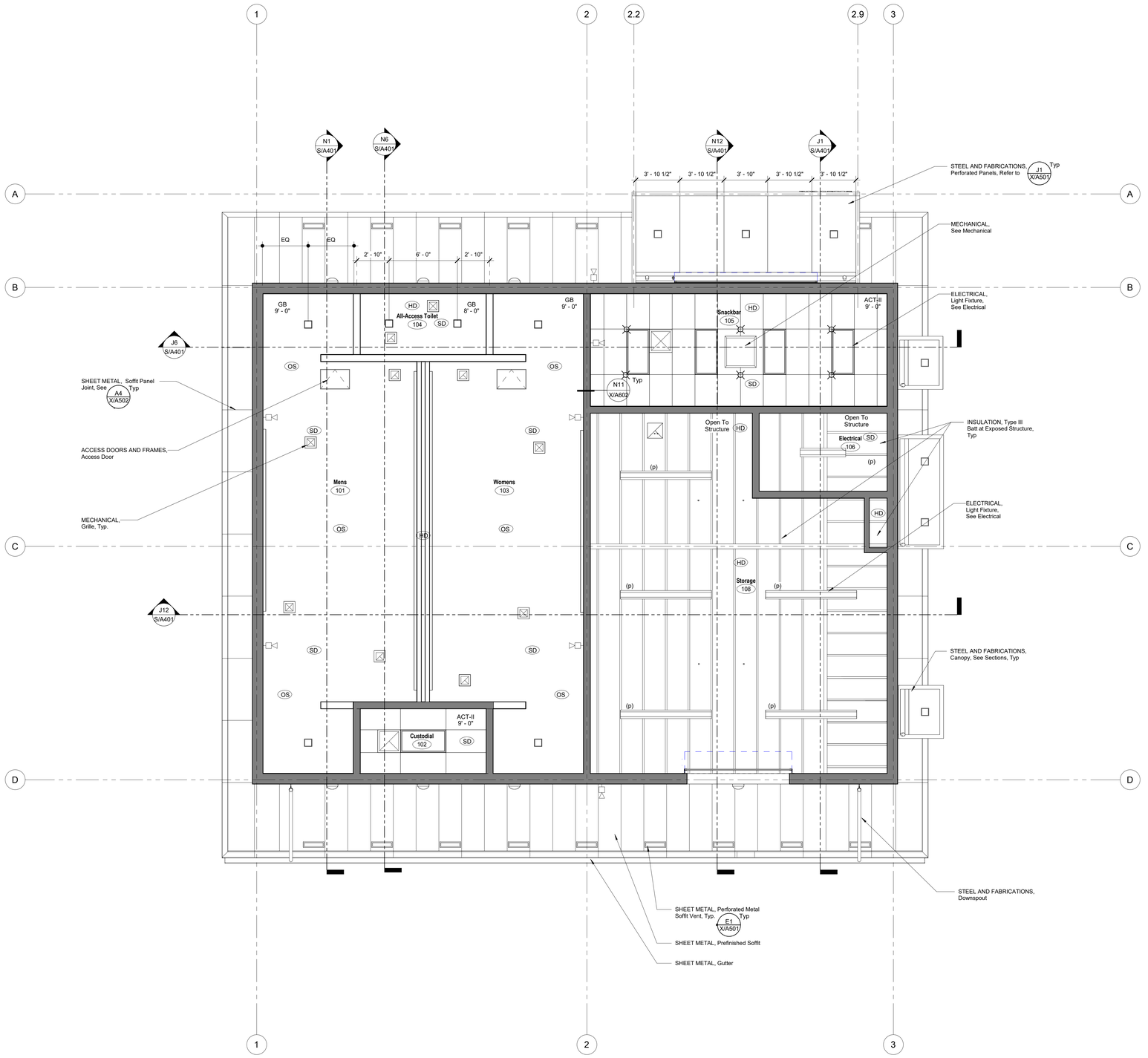
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Date: xx/xx/xx	ReviewedApprover	

A4
1/4" = 1'-0"
Floor Plan
Refer to F18 for Legend Symbols, Abbreviations and Notes

Building Orientation on Site
Building View Orientation N

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Desmond MS



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SYMBOLS

- MECHANICAL, Air Supply Grill
- MECHANICAL, Air Return Grill
- MECHANICAL, Strip Grill
- MECHANICAL, Exhaust Fan
- FIRE PROTECTION, Fire Sprinkler Head
- OD — PLUMBING, Overflow Drain
- ACOUSTICAL CEILINGS, Suspended Ceiling Compression Strut/ Splay Wire location
- (RA) — ROOF ACCESSORIES, Roof Hatch
- ELECTRICAL, Light Fixture, Recessed. Unless Noted Otherwise. (p) = Pendant Mounted (s) = Surface Mounted
- HD — ELECTRICAL, Fire Alarm Device, Heat Detector
- SD — ELECTRICAL, Fire Alarm Device, Smoke Detector
- OS — ELECTRICAL, Occupancy Sensor
- GYPSUM BOARD, Refer to Interior Finish Schedule
- ACOUSTICAL CEILINGS, Refer to Plan for Type.
- ACCESS DOORS AND FRAMES, Access Doors, Ceiling (20" X 30"), UNO
- Reference Point

ABBREVIATIONS

ACT	ACOUSTICAL CEILINGS, Tile, Suspended, Unless Noted Otherwise.
CLG	Ceiling
CP	CEMENT PLASTER, System
(E)	Existing
GB	GYPSUM BOARD, Type 'X', Unless Noted Otherwise.
GLB	GLUE-LAMINATED CONSTRUCTION, Beam
HT	Height
MD	METAL DECK
TYP	Typical
SIM	Similar
OH	Opposite hand
DS	Downspout
OD	Overflow Drain
UNO	Unless Noted Otherwise

NOTES

1. ACOUSTICAL CEILINGS, For typical suspended ceiling support and bracing, Refer to A11 X/A602 Typ, A7 X/A602 Typ
2. Gypsum Board Ceilings Noted As "CLG HT Varies", Gypsum Board is attached to bottom side of framing/ joists, UNO
3. Ceiling Heights indicated are above Finish Floor at each floor level, UNO.
4. Where Fire Sprinklers occur at Acoustic Tile, Sprinkler Heads shall be centered in the Tile.
5. Not all fire Sprinkler Head locations are shown to provide code required coverage. But locations shown are intended to convey design intent. Coordinate with FIRE PROTECTION.
6. See Structural for framing of soffits and ceilings
7. Single Lights or Single Rows of Lights at Soffits/ Ceilings shall be centered, UNO.

E18 — Reflected Ceiling Legend
No Scale

Desmond MS - ELOP Year Two
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Madera, CA 93637
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BUILDING S
REFLECTED CEILING PLAN
Drawing

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Reviewed Approver

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S/A201

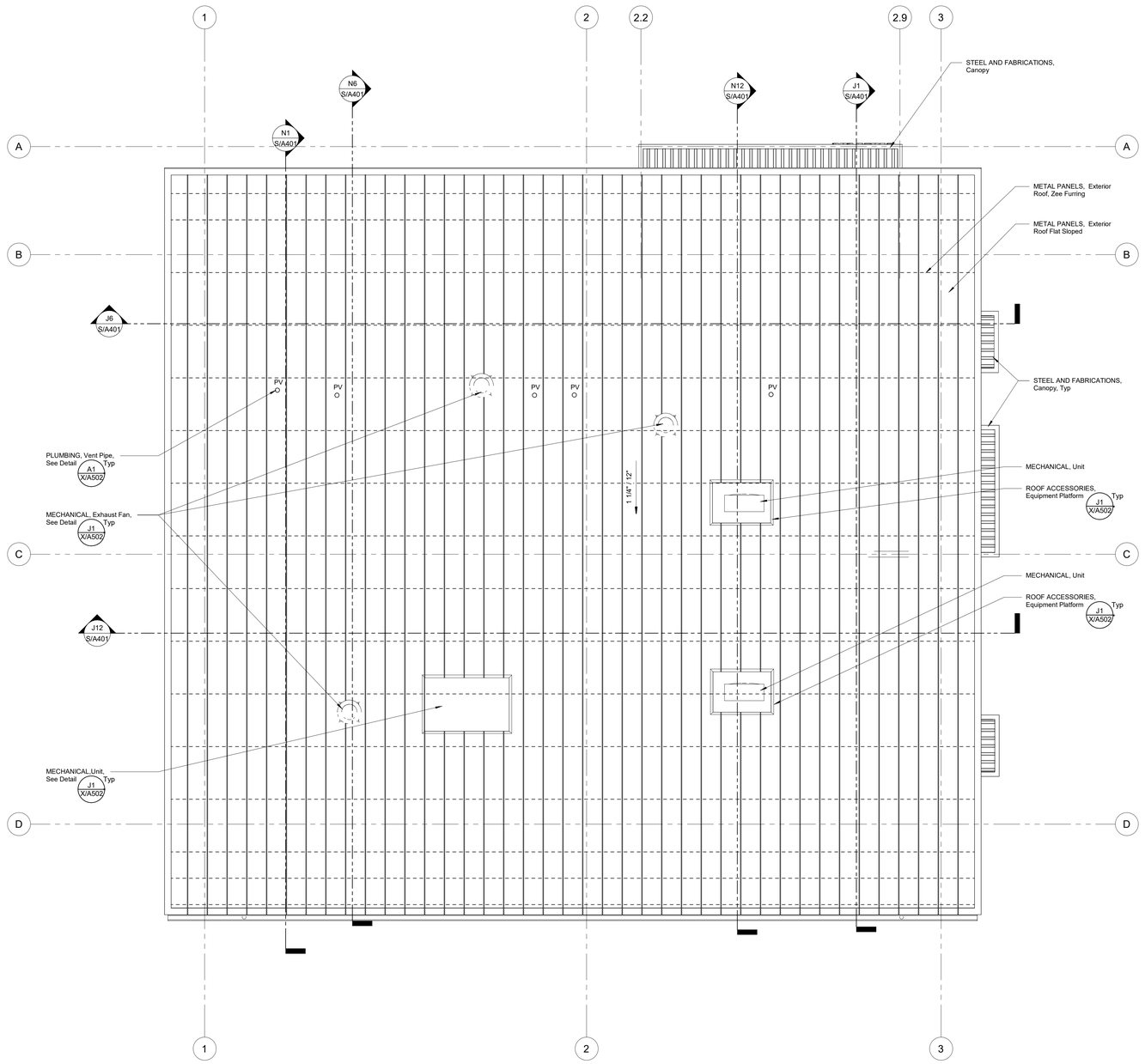
A4
1/4" = 1'-0"

Reflected Ceiling Plan
Refer to E18 for Legend Symbols, Abbreviations and Notes

Building Orientation on Site
Building View Orientation N

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SYMBOLS

PV	PLUMBING, Vent
+14'-6" TOP	Elevation above finish floor
Slope (DN)	Direction of slope
	Line of Wall below
	Reference Point

ABBREVIATIONS

TOP	Top of Parapet Framing
FO Frmg.	Face of Framing
OD	PLUMBING, Overflow Drain
TOB	Top of Parapet Brace Framing
TOF	Top of Framing
RD	PLUMBING, Roof Drain
TOM	Top of Masonry
OH	Opposite Hand
DS	Downspout
FOS	Face of Stud
TOS	Top of Steel
Sim.	Similar
Typ.	Typical

NOTES

1. Refer to Plumbing, Mechanical, Telecommunications, Food Service, and Electrical for all roof penetrations and roof mounted equipment. For appropriate details, Refer to Unless Otherwise Noted. A1 X/A502 Typ, J1 X/A502 Typ
2. All rooftop componenent requiring service, including Mechanical Units and Exhaust Fans, are to be 12' - 0" Min. from the nearest edge of roof.

F18 | Roof Plan Legend
No Scale

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ROOF PLAN
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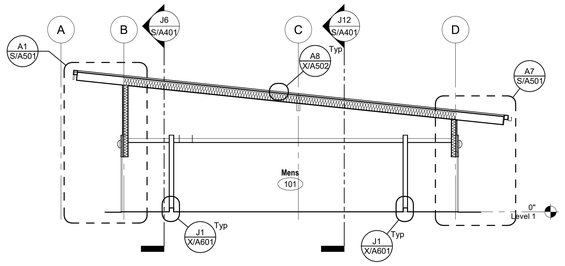
A4
1/4" = 1'-0"
Roof Plan
Refer to F18 for Legend Symbols, Abbreviations and Notes

Building Orientation on Site
Building View Orientation N

N

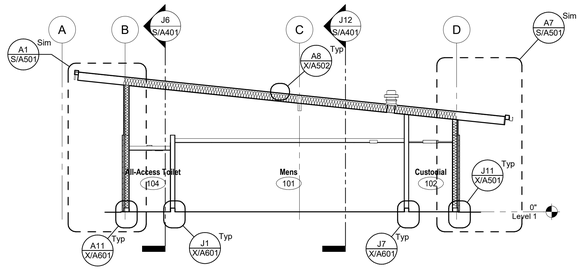
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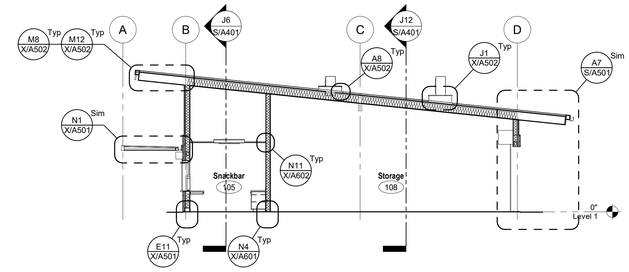
N1 — Building Section

1/8" = 1'-0"



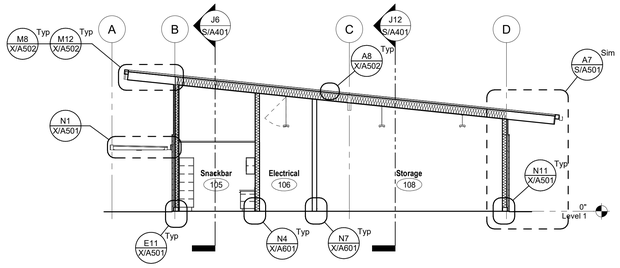
N6 — Building Section

1/8" = 1'-0"



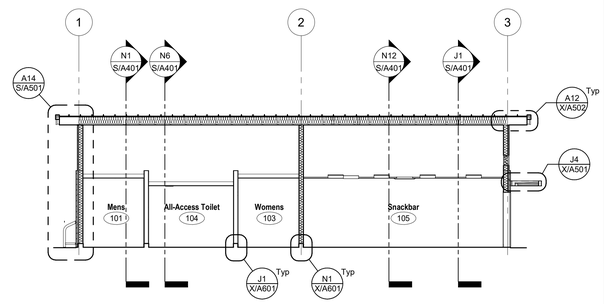
N12 — Building Section

1/8" = 1'-0"



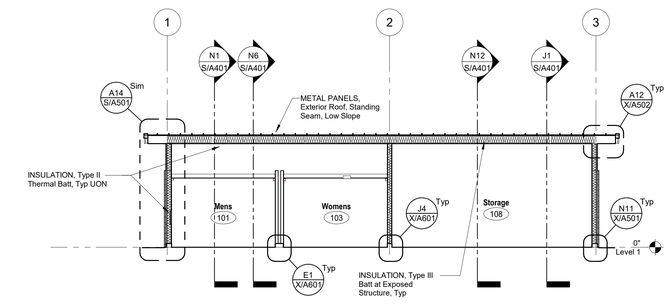
J1 — Building Section

1/8" = 1'-0"



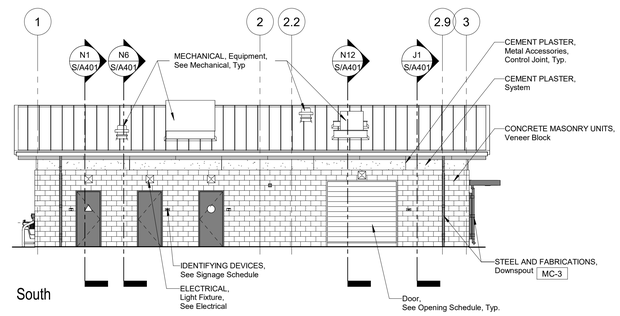
J6 — Building Section

1/8" = 1'-0"

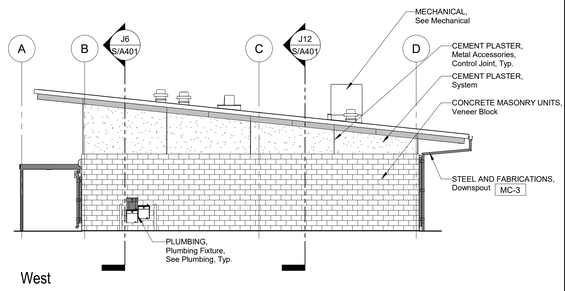


J12 — Building Section

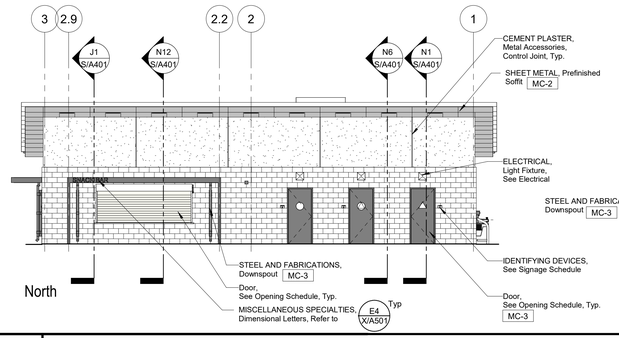
1/8" = 1'-0"



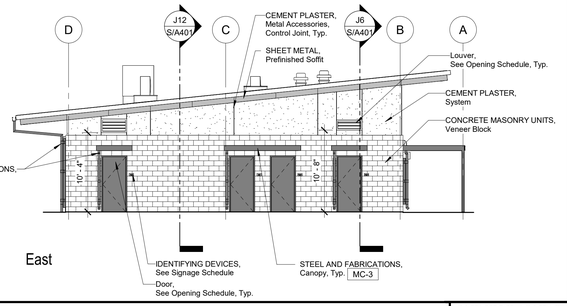
South



West



North



East

A7 — Exterior Elevations

1/8" = 1'-0"

Refer to E18 for Legend Symbols, Abbreviations and Notes

Building Orientation on Site

Building View Orientation N

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EXTERIOR COLOR LEGEND

Plaster Colors

PC-1 — Cement Plaster Unless Noted Otherwise

Plaster walls perpendicular to elevation, not shown elsewhere, shall be the same color as face plane, Unless Noted Otherwise.

Block Colors

BC-1 — Veneer Block Unless Noted Otherwise

All Precision Block to be BC-X, UNO. All Split Face Block to be BC-X, UNO. Concrete Masonry Units below +0'-0" Shall Be BC-X, UNO.

Metal Colors

MC-1 — Roof, Eaves, and Fascia Unless Noted Otherwise

MC-2 — Accent Eaves and Fascia

MC-3 — Accent Color

All Hollow Metal Frames to be match adjacent wall.
All Steel and Fabrications to match adjacent wall, UNO.
All METAL DECKING to be MC-1, UNO.
All Metal columns to be MC-1, UNO.

Metal Panel Colors

MP-1 — Roof Panels Unless Noted Otherwise

Door Colors

All Doors to match adjacent Frame & Wall, UNO.

Color Notes

1. XX-X Color Designation.
2. Parapet caps to match color of wall below, UNO.
3. Soffits to match color of outer face wall, UNO.

Outer Face Wall
Soffit
Inner Face Wall

4. Horizontal soffits adjacent to fascia board shall be PC-1.

Fascia Board
PC-1

SYMBOLS

- H — ELECTRICAL, Horn
- S — ELECTRICAL, Speaker
- ELECTRICAL, Outlet
- ELECTRICAL, Light Fixture, +10'-0" B.O. Fixture UNO

ABBREVIATIONS

AFF	Above Finished Floor
BO	Bottom of
CJ	Control Joint
DS	Downspout
EJ	Expansion Joint
HB	PLUMBING, Hose Bibb.
OD	PLUMBING, Overflow Drain, Refer to
OH	Opposite Hand
Sim.	Similar
TO	Top of
TOM	Top of Masonry
TOP	Top of Parapet Framing
TOF	Top of Framing
TOR	Top of Roof
TOS	Top of Steel
TPL	Top of Plate
Typ.	Typical
UNO	Unless Noted Otherwise

NOTES

1. CEMENT PLASTER, Cement Plaster System, Accessories, Refer to Detail A14 X/A501 Typ
2. Refer to Specifications Section Appendix "C" Exterior Color Schedule.
3. Refer to Exterior Finish Schedule on Sheet X/A201.

E18 — Exterior Elevations Legend

No Scale

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

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BUILDING S
EXTERIOR ELEVATIONS, BUILDING SECTIONS

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Revision

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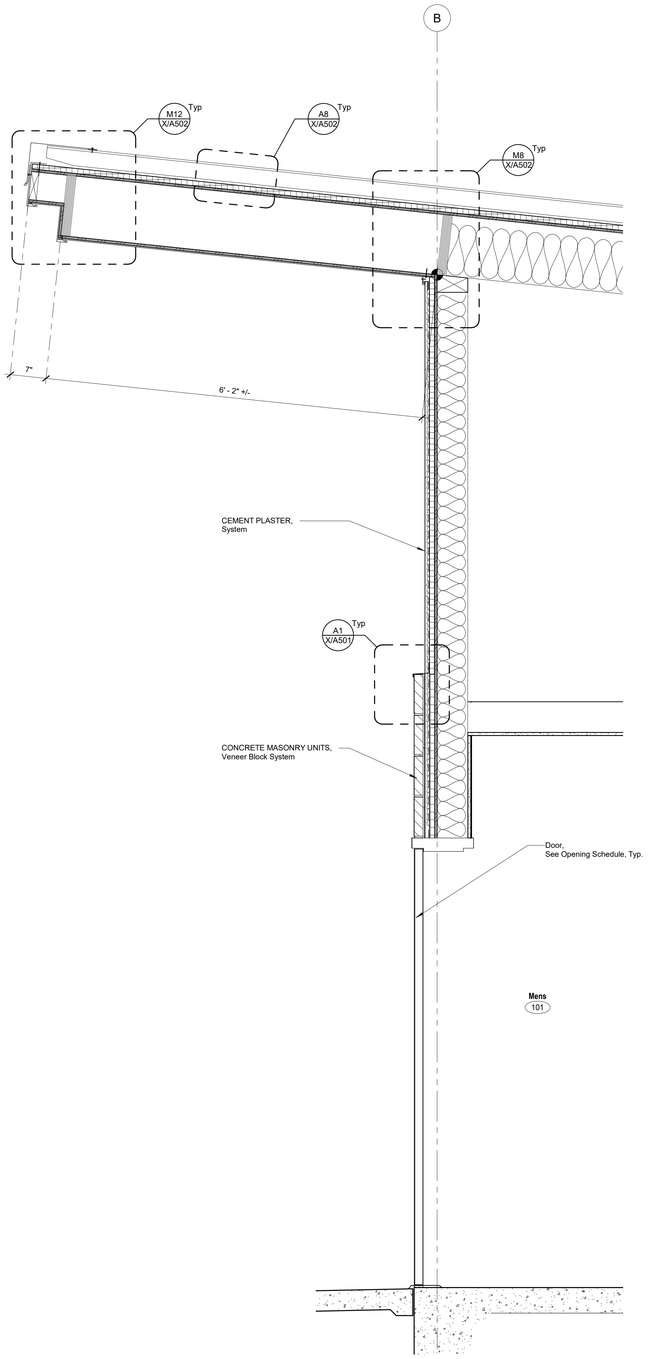
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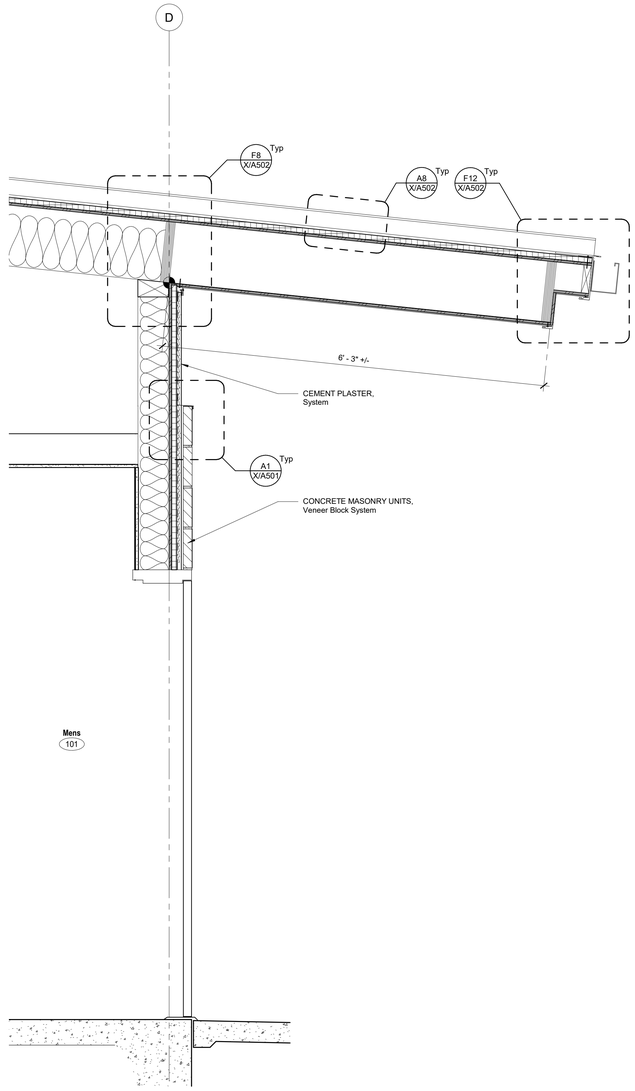
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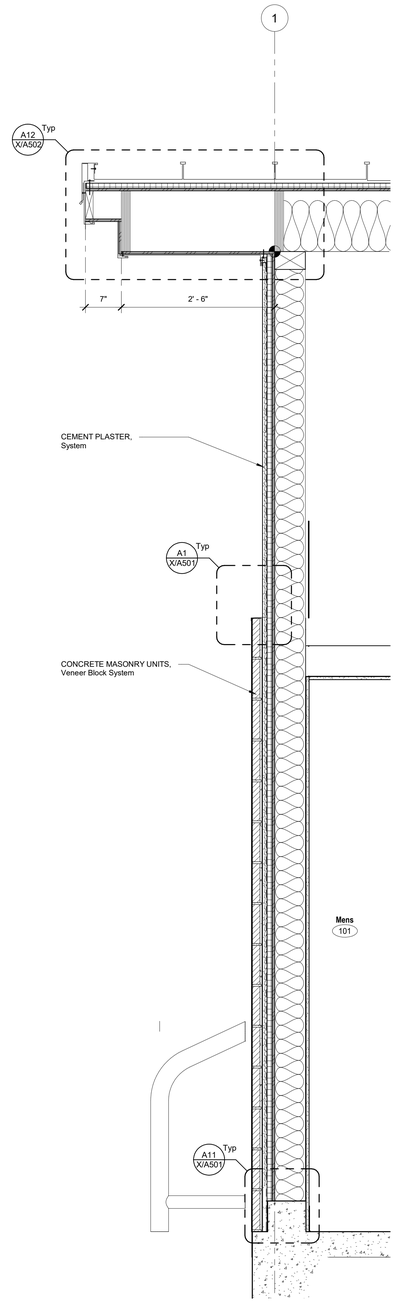
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Desmond MS







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SYMBOLS

INSULATION

0 Reference Grid

Room name
101 Room Designation

ABBREVIATIONS

AFF	Above Finished Floor
BO	Bottom of
CJ	Control Joint
OH	Opposite Hand
Sim.	Similar
TO	Top of
TOM	Top of Masonry
TOP	Top of Parapet Framing
TOF	Top of Framing
TOS	Top of Steel
TPL	Top of Plate
Typ.	Typical
UNO	Unless Noted Otherwise

NOTES

1. CEMENT PLASTER, Accessories, Refer to A14 Typ X/A501
2. METAL FRAMING, For Typical Soffit Framing see STRUCTURAL

F18 | Sections Legend
No Scale

Desmond MS - ELOP Year Two
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Project

BUILDING S
WALL SECTIONS
Drawing

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Revision

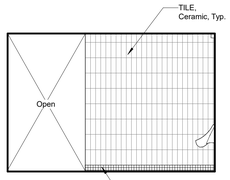
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Project Number: 2470.2	Checked tChecker	
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A1	Wall Section	A7	Wall Section	A14	Wall Section
1" = 1'-0"		1" = 1'-0"		1" = 1'-0"	

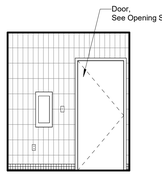
Building Orientation on Site | Building View Orientation N

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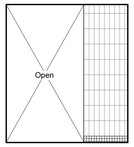
Desmond MS



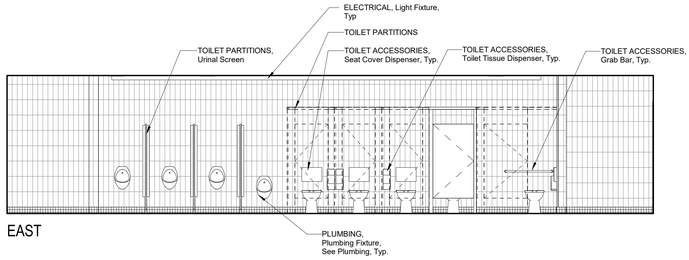
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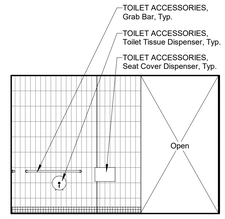
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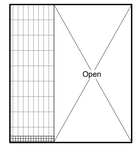
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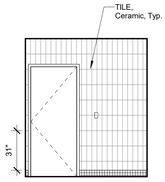


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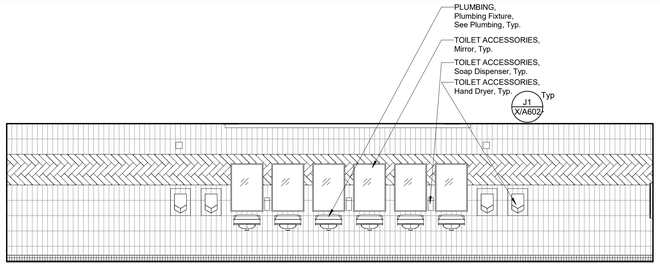


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101 Mens

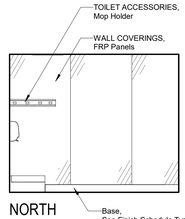


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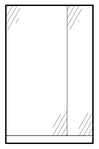


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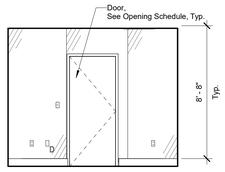
101 Mens
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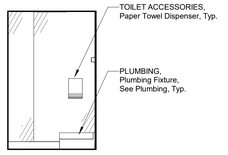
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EAST

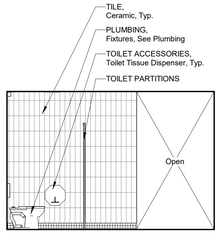


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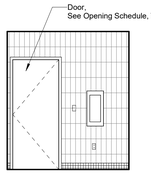


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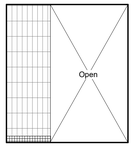
102 Custodial



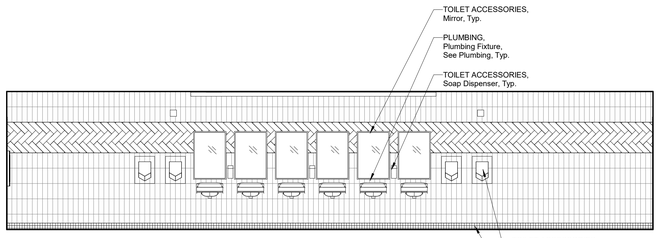
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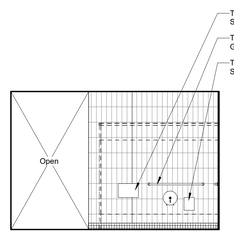
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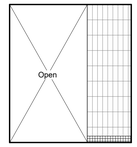
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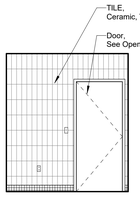


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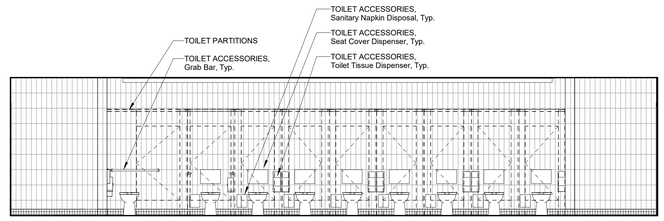


SOUTH PARTIAL- N ENTRY

103 Womens

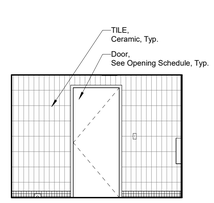


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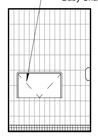


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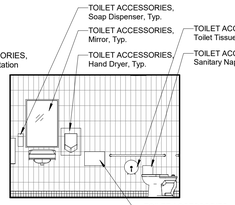
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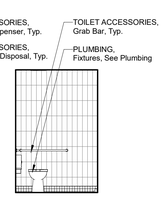
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EAST

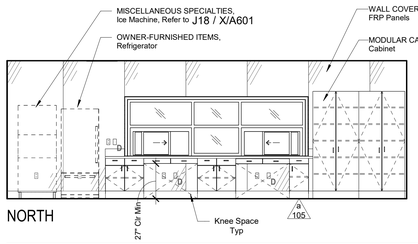


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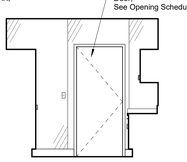


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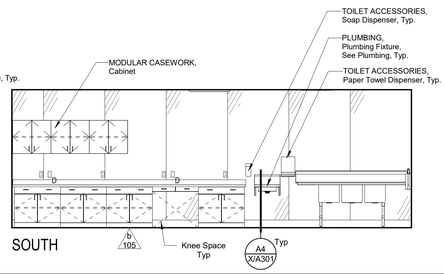
104 All-Access Toilet



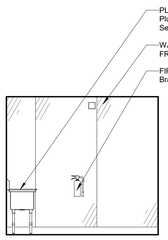
NORTH



EAST



SOUTH



WEST

105 Snackbar

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

SYMBOLS

- a / ### — Cabinet Group No. Refer to Modular Casework Schedule and Lab Casework Schedule.
- 10 — Equipment Item No. Refer to Equipment Schedule.
- FEC — FIRE PROTECTION SPECIALTIES, Fire Extinguisher Cabinet, Top of Cabinet @ +5'-0", Unless Noted Otherwise. Provide Fire Rated Cabinet at Rated Walls
- FEBC — FIRE PROTECTION SPECIALTIES, Fire Extinguisher/Blanket Cabinet, Top of Cabinet @ +5'-0", Unless Noted Otherwise. Provide Fire Rated Cabinet at Rated Walls. Provide Surface Mounted Cabinet at Rated Walls Where Stud Depth is Less than 6" and at Masonry Walls.
- ELECTRICAL, Speaker @ +7'-6" to center of device, Unless Noted Otherwise.
- ELECTRICAL, Clock @ +7'-6" to center of device, Unless Noted Otherwise.
- ELECTRICAL, Clock/Speaker @ +7'-6" to center of device, Unless Noted Otherwise.
- ELECTRICAL, Outlet
- ELECTRICAL, Light Switch
- FA — ELECTRICAL, Fire Alarm Device
- V — ELECTRICAL, Volume Control
- TV — ELECTRICAL, Television Outlet
- T — MECHANICAL, Thermostat
- HB — PLUMBING, Hose Bib
- D — ELECTRICAL, Data Outlet
- M — ELECTRICAL, Microphone Outlet
- IS — ELECTRICAL, Intrusion Sensor
- MS — ELECTRICAL, Motion Sensor
- ELECTRICAL, Telephone Outlet
- FRP Panels
- Glass

ABBREVIATIONS

Gl.	Glass
KS	Knee Space
OH	Opposite Hand
Typ.	Typical
Sim.	Similar
Dia.	Diameter
UNO	Unless Noted Otherwise

NOTES

1. All Details, Materials and Finishes shall be considered typical for all similar conditions Unless Noted Otherwise.
2. Refer to Plumbing, Mechanical, Telecommunications, Food Service, and Electrical for all wall mounted devices and coordinate location and heights with Architectural (ie. casework, equipment, etc.)
3. Locate and mount TOILET ACCESSORIES and PLUMBING per detail A11 X/A601 Typ Unless Noted Otherwise.
4. Provide backing at all TOILET ACCESSORIES, TOILET PARTITIONS, and IDENTIFYING DEVICES per detail N14 X/A601 Typ Unless Noted Otherwise.
5. Provide Backing for TOILET ACCESSORIES, Grab Bars per detail A7 X/A601 Typ
6. Locate and mount IDENTIFYING DEVICES per detail E11 X/A601 Typ Unless Noted Otherwise.
7. Provide backing at all MODULAR CASEWORK and/or LAB CASEWORK AND EQUIPMENT per detail N14 X/A601 Typ
8. Attach all MODULAR CASEWORK and/or LAB CASEWORK AND EQUIPMENT per details L14 X/A301 Typ L11 X/A301 Typ
9. WALL COVERINGS, FRP Panels, See detail E4 X/A601 Typ
10. TILE, for Transitions Trims See detail E7 X/A601 Typ

F18 | Interior Elevation legend
No Scale

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

BUILDING S
INTERIOR ELEVATIONS- ROOMS 101 - 105
Drawing

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LICENSED ARCHITECT — ANTONIO J. ANTOS — No. C-29235 — Exp. 10-31-25 — STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date

Revision

Designed Designer | Copyright 2022 Darden Architects
Scale: 1/4" = 1'-0" | Drawn By: Author
Project Number: 2470.2 | Checked fChecker
Date: xx/xx/xx | ReviewedApprover

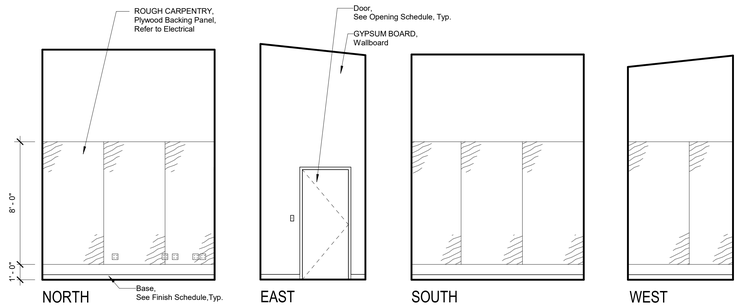
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A1 | Interior Elevations
1/4" = 1'-0" | Refer to F18 for Legend Symbols, Abbreviations and Notes

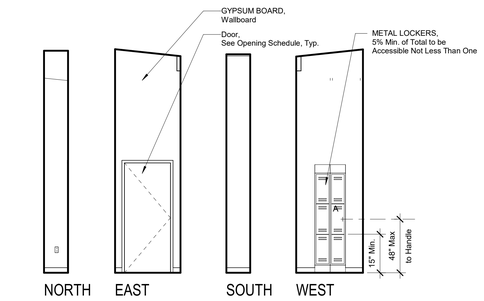
Building Orientation on Site | Building View Orientation N

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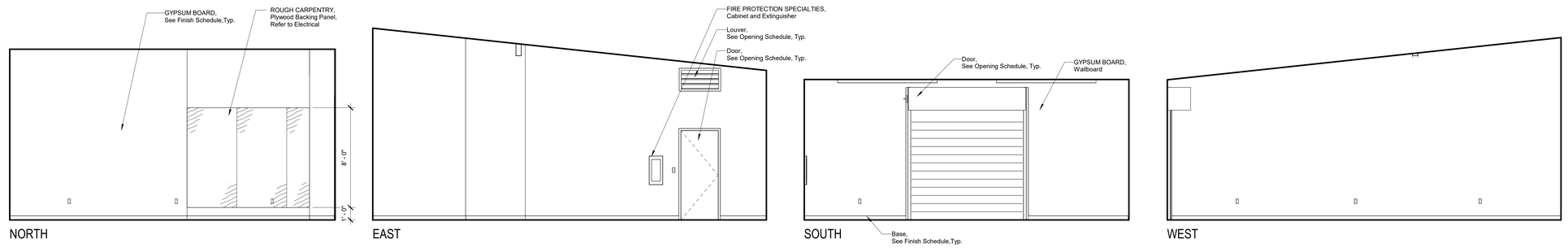
Desmond MS



106 Electrical



107 Lockers



108 Storage

Building Orientation on Site

Building View Orientation N

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

SYMBOLS

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- ELECTRICAL, Light Switch
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- $_{V}$ ELECTRICAL, Volume Control
- $_{TV}$ ELECTRICAL, Television Outlet
- $_{T}$ MECHANICAL, Thermostat
- $_{HB}$ PLUMBING, Hose Bib
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- FRP Panels
- Glass

ABBREVIATIONS

Gl.	Glass
KS	Knee Space
OH	Opposite Hand
Typ.	Typical
Sim.	Similar
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8. Attach all MODULAR CASEWORK and/or LAB CASEWORK AND EQUIPMENT per details L14/X/A301 Typ L11/X/A301 Typ
9. WALL COVERINGS, FRP Panels, See detail E4/X/A601 Typ
10. TILE, for Transitions Trims See detail E7/X/A601 Typ

F18 — Interior Elevation legend

No Scale

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

BUILDING S
INTERIOR ELEVATIONS- ROOMS 106 - 108
Drawing

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LICENSED ARCHITECT — GIOVANNI J. AVILA — No. C36235 — Exp. 10-31-25 — STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

Designed Designer
Drawn By: Author
Checked Checker
Reviewed Approver

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Scale: 1/4" = 1'-0"
Project Number: 2470.2
Date: xx/xx/xx

S/A602

9/1/2025 1:00:24 PM
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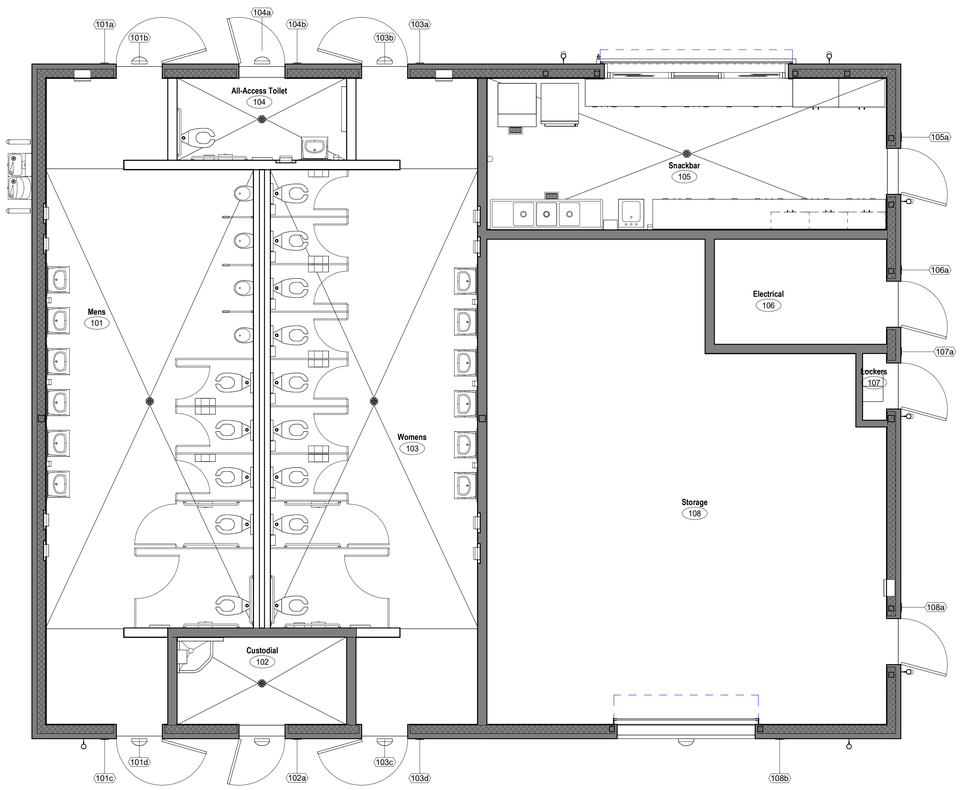
Desmond MS

Signage Schedule

Sign Mark	Sign Type	Sign Material	Sign Copy Line 1	Sign Copy Line 2	Sign Copy Line 3	Mtg Height	Mtg Cond	Remarks
101a	2a	A	MENS	-	-	4' - 11"	3	-
101b	2c	A	-	-	-	4' - 11"	5	-
101c	2a	A	MENS	-	-	4' - 11"	3	-
101d	2c	A	-	-	-	4' - 11"	5	-
102a	6a	A	CUSTODIAL	-	-	4' - 11"	3	-
103a	2a	A	WOMENS	-	-	4' - 11"	3	-
103b	2b	A	-	-	-	4' - 11"	5	-
103c	2b	A	-	-	-	4' - 11"	5	-
103d	2a	A	MENS	-	-	4' - 11"	3	-
104a	2d	-	-	-	-	4' - 11"	5	-
104b	2a	A	UNISEX	-	-	4' - 11"	3	-
105a	6a	A	SNACK BAR	-	-	4' - 11"	3	-
106a	6a	A	ELECTRICAL	-	-	4' - 11"	3	-
107a	6a	A	LOCKERS	-	-	4' - 11"	3	-
108a	6a	A	STORAGE	-	-	4' - 11"	3	-
108b	6a	A	STORAGE	-	-	4' - 11"	3	-

L1 — Signage Schedule

No Scale — Refer to G18 for Schedule Legend



A7 — Signange Floor Plan

1/4" = 1'-0" — Refer to L1

Building Orientation on Site — Building View Orientation N

DSA File No.: 20-30

DSA Application No.: 02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

MOUNTING CONDITION

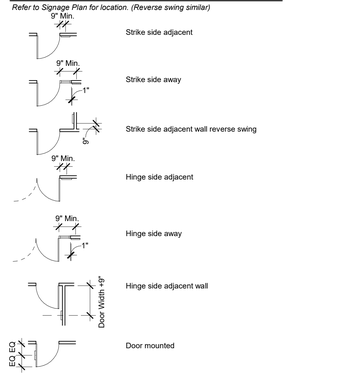
1. Metal Stud Framed Wall
2. Wood Stud Framed Wall
3. Concrete and Concrete Masonry
4. Glass
5. Door
6. See Plan

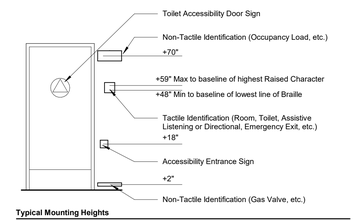
SIGN MATERIAL

A	=	Acrylic
EM	=	Exterior Metal.
IM	=	Interior Metal.
EP	=	Exterior Plastic.
IP	=	Interior Plastic.
D	=	Decal.

MOUNTING LOCATION

Refer to Signage Plan for location. (Reverse swing similar)





Typical Mounting Heights

Scale: N.T.S.

NOTES

1. Refer to Specification Section IDENTIFYING DEVICES.
2. Refer to Plan for Mounting Location.
3. Verify Sign Copy with Owner prior to fabrication, "-" indicates a blank space
4. For IDENTIFYING DEVICES, Signage Dimensions, refer to detail E11 X/A601 Typ

G18 — Signage Schedule Legend

No Scale

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Project

BUILDING S
SIGNAGE PLAN AND SCHEDULE

Drawing

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LICENSED ARCHITECT GERONIO J. AVILA No. C28235 Exp. 10-31-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

	Designed Designer	Copyright 2022 Darden Architects
Scale: As indicated	Drawn By: Author	S/A701
Project Number: 2470.2	Checked IChecker	
Date: xx/xx/xx	Reviewed Approver	

9/1/2025 1:00:25 PM
C:\Users\Bens\Documents\2468.2 - ELOP MS Snackbar Building_V22_bens_darden.rvt

Desmond MS

N7 "SHOT PIN" NOTES FOR HILTI X-U

X/S101 | NOT TO SCALE

1. THESE NOTES GOVERN ALL CONDITIONS CALLED OUT ON THE PLANS AS "SHOT PINS" UNLESS SPECIFICALLY NOTED OTHERWISE.
2. ALL SHOT PINS SHALL BE AS MANUFACTURED BY HILTI, INCORP. REFERENCE SHALL BE MADE TO THE LATEST EDITION OF THE HILTI 'PRODUCT TECHNICAL GUIDE' AND THE ICC-ES ESR-2269 REPORT FOR ADDITIONAL INFORMATION.
3. SHOT PINS DRIVEN INTO STEEL BASE MATERIAL SHALL BE X-U TYPE WITH P8 WASHERS. LENGTH OF PIN SHALL BE AS REQUIRED TO PENETRATE THROUGH THE STEEL BASE MATERIAL. MINIMUM EDGE DISTANCE TO ANY CONNECTED PART SHALL BE 1/2" AND MINIMUM FASTENER SPACING SHALL BE 2". ENTIRE POINTED END OF PIN MUST PENETRATE THROUGH STEEL LESS THAN 1/2" THICK OR PENETRATE A MINIMUM OF 1/2" INTO STEEL 1/2" THICK OR GREATER. PINS IN STEEL SUBJECT TO WITHDRAW LOADS ARE REQUIRED TO HAVE KNURLED SHANK.
4. SHOT PINS DRIVEN INTO CONCRETE BASE MATERIAL SHALL BE X-U TYPE WITH P8 WASHERS. LENGTH OF PIN SHALL BE AS REQUIRED TO PENETRATE 1 1/2" INTO THE CONCRETE BASE MATERIAL. MINIMUM EDGE DISTANCE TO ANY CONCRETE MATERIAL SHALL BE 3" AND MINIMUM FASTENER SPACING SHALL BE 4".
5. SHOT PINS DRIVEN INTO CONCRETE BASE MATERIAL THROUGH METAL DECK SHALL BE X-U TYPE WITH P8 WASHERS. LENGTH OF PIN SHALL BE AS REQUIRED TO PENETRATE 1" INTO THE CONCRETE THROUGH THE LOW FLUTE. PIN SHALL BE CENTERED IN THE LOW FLUTE AND MINIMUM FASTENER SPACING SHALL BE 4".
6. WHERE STEEL WASHERS ARE INDICATED ON THE DRAWINGS, PINS SHALL BE X-U WITH PREMOUNTED STEEL WASHERS WITH A MINIMUM DIAMETER OF 36mm (1 7/16").

J7 HILTI HIT-HY 200 V3 EPOXY NOTES

X/S101 | NOT TO SCALE

1. EPOXY SHALL BE HILTI HIT-HY 200 V3 ADHESIVE AS MANUFACTURED BY HILTI, INC., 7250 DALLAS PARKWAY, SUITE 1000, PLANO, TEXAS 75024. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND I.C.C. REPORT NO. ESR-4868.
2. TEST VALUES AND INSTALLATION REQUIREMENTS SHALL BE AS FOLLOWS:

BAR SIZE	BOLT SIZE	MIN. EMBEDMENT	TEST LOAD (POUNDS)
#4	1/2"	4 1/2"	1190
#5	5/8"	5 5/8"	1540
#6	3/4"	6 3/4"	2190

3. PLACEMENT GUIDELINES FOR ABOVE VALUES IN ITEM 2 REQUIRE THE FOLLOWING CONDITIONS.
   - TABLE VALUES ARE BASED ON f'c = 3000 PSI
   - 6" MIN. EDGE DISTANCE & 12" MIN. BOLT/BAR SPACING
   - HOLES DRILLED WITH A HAMMER DRILL AND CARBIDE BIT
   - BIT DIAMETER EQ/ALS (BAR DIAMETER) + 1/8"
   - HOLES SHALL BE DRY OR WATER-SATURATED, BUT NOT WATER FILLED
   - MAX. LONG TERM TEMPS OF 110° F OR LESS & MAX. SHORT TERM OF 162° F OR LESS
   - ANY SEISMIC DESIGN CATEGORY PER 2022 C.B.C.
   - A.S.T.M. A615 GRADE 60 REBAR
   - A.S.T.M. A193 GRADE B7 THREADED RODS
   - A.C.I. 'CRACKED' CONCRETE CONDITION IS SUFFICIENT
   - DEPTH/THICKNESS OF CONCRETE BEING ATTACHED TO MUST BE AT LEAST 1 1/2" GREATER THAN THE EMBEDMENT DEPTH.
4. WHEN INSTALLING EPOXIED REBAR/BOLTS IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A MINIMUM CLEARANCE OF ONE-INCH BETWEEN THE EXISTING REINFORCEMENT AND THE EPOXIED REBAR/BOLT.
5. ANY REBAR/BOLTS SHOWN ON THE APPROVED PLANS AS BEING EPOXIED, REQUIRES SPECIAL INSPECTION IN ACCORDANCE WITH SECTION 4.4 IN THE I.C.C. REPORT. SPECIAL INSPECTION SHALL BE BY AN APPROVED TESTING AND INSPECTION AGENCY. ANY ITEMS THAT REQUIRE EPOXY BUT ARE NOT SPECIFICALLY SHOWN AS BEING EPOXIED ON THE APPROVED PLANS MUST BE APPROVED BY THE STRUCTURAL ENGINEER AND D.S.A./H.C.A.I. PRIOR TO INSTALLATION.

E7 HILTI KWIK BOLT TZ2 IN CONC.

X/S101 | NOT TO SCALE

1. EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT TZ2 AS MANUFACTURED BY HILTI, INC., 7250 DALLAS PARKWAY, SUITE 1000, PLANO, TEXAS 75024. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND I.C.C. REPORT NO. ESR-4266.
2. TEST VALUES AND INSTALLATION REQUIREMENTS SHALL BE AS FOLLOWS:

BOLT SIZE	MIN. EMBED	CONC. THKS.	TENSION TEST	TORQUE TEST (C.S.)	TORQUE TEST (S.S.)
3/8"	2"	4"	1100#	30 #-FT	30 #-FT
1/2"	2 1/2"	5"	2000#	50 #-FT	40 #-FT
5/8"	4"	6"	2300#	40 #-FT	60 #-FT
3/4"	4 3/4"	8"	3700#	110 #-FT	125 #-FT

3. PLACEMENT GUIDELINES FOR ABOVE VALUES IN ITEM 2 REQUIRE THE FOLLOWING CONDITIONS:
   - TABLE VALUES ARE BASED ON f'c = 3000 PSI
   - HOLES DRILLED WITH A HAMMER DRILL AND CARBIDE BIT COMPLYING W/ ANSI B212.15-1994
   - BIT DIAMETER EQUALS THE SIZE OF THE ANCHOR BEING INSTALLED
   - HOLE DEPTH MUST EXCEED MIN. EMBED. BY ONE BOLT DIAMETER
   - ANY SEISMIC DESIGN CATEGORY PER 2022 C.B.C.
   - TENSION LOAD VALUES SHALL BE MULTIPLIED BY 0.6 FOR LIGHTWEIGHT CONCRETE
   - A.C.I. 'CRACKED' CONCRETE CONDITION IS SUFFICIENT
   - FOR CARBON OR STAINLESS STEEL BOLTS
4. WHEN INSTALLING EXPANSION ANCHORS IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A MINIMUM CLEARANCE OF ONE-INCH BETWEEN THE EXISTING REINFORCEMENT AND THE EXPANSION ANCHOR.
5. ANY BOLTS SHOWN ON THE APPROVED PLANS AS EXPANSION ANCHORS, REQUIRES SPECIAL INSPECTION IN ACCORDANCE WITH SECTION 4.4 IN THE I.C.C. REPORT. SPECIAL INSPECTION SHALL BE BY AN APPROVED TESTING AND INSPECTION AGENCY. ANY ITEMS THAT REQUIRE EXPANSION ANCHORS BUT ARE NOT SPECIFICALLY SHOWN ON THE APPROVED PLANS MUST BE APPROVED BY THE STRUCTURAL ENGINEER AND D.S.A./H.C.A.I. PRIOR TO INSTALLATION.

A7 ARCH'L EXPOSED STRUCT'L STEEL

X/S101 | NOT TO SCALE

1. WORK SHALL CONFORM TO THE 2022 A.I.S.C. CODE OF STANDARD PRACTICE, SECTION 10, "ARCHITECTURALLY EXPOSED STRUCTURAL STEEL" U.N.O.
2. ALL STRUCTURAL STEEL MEMBERS, CONNECTIONS ETC., SHALL BE CONSIDERED AS "ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (A.E.S.S.)" IF EXPOSED TO VIEW PER PLANS.
3. ERECTION MARKS AND AIDS SHALL NOT BE MADE ON THOSE SURFACES THAT ARE TO BE EXPOSED TO VIEW IN THE COMPLETED STRUCTURE.
4. ERECTION AID BOLTS SHALL BE REMOVED AFTER ALL STRUCTURAL STEEL WORK IS COMPLETE AND ERECTION AID HOLE FILLED WITH PLASTIC STEEL PUTTY TO A.E.S.S. APPEARANCE.
5. SEAMS OF HOLLOW STRUCTURAL SECTIONS SHALL BE ORIENTED AWAY FROM VIEW, U.N.O.
6. STRUCTURAL BOLT PLACEMENT SHALL BE ORIENTED IN A WAY TO HAVE ALL BOLT HEADS ON ONE SIDE OF CONNECTION, RANDOM PLACEMENT IS NOT ACCEPTABLE.
7. FIELD WELDING OF MISPLACED BOLTS WILL NOT BE ACCEPTABLE.
8. UNPLANNED SPLICES ON ANY MEMBERS SHALL BE SUBMITTED TO ARCHITECT OF RECORD FOR REVIEW PRIOR TO PERFORMING ANY WORK ON CONNECTION OF SPLICES.

J11 GENERAL PROJECT NOTES

X/S101 | NOT TO SCALE

1. ANY SUBSTITUTIONS FOR STRUCTURAL ITEMS ON APPROVED PLANS SHALL BE REVIEWED BY THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO USE. REVIEW WILL BE BILLED ON A TIME AND MATERIALS BASIS TO CONTRACTOR WITH NO GUARANTEE THE SUBSTITUTION WILL BE ALLOWED.
2. DETAILS AND NOTES ON TYPICAL SHEETS SHALL APPLY U.N.O. DETAILS OF CONSTRUCTION NOT FULLY SHOWN SHALL BE OF THE SAME NATURE AS SHOWN FOR SIMILAR CONDITIONS. U.N.O.
3. DO NOT SCALE STRUCTURAL DRAWINGS. IF DIMENSIONS IN DRAWINGS ARE NOT CLEAR, OR DISCREPANCIES EXIST ON THE DRAWINGS OR SPECIFICATIONS, CONTACT THE ENGINEER.
4. SEE MECHANICAL, ELECTRICAL, AND/OR ARCHITECTURAL DRAWINGS FOR LOCATION AND SIZE OF PIPES, CONDUITS, FLOOR DRAINS, VENTS, DUCTS, DRAIN LEADERS AND OTHER SIMILAR OPENINGS NOT INDICATED ON THE STRUCTURAL DRAWINGS.
5. SEE MECHANICAL, ELECTRICAL AND/OR ARCHITECTURAL DRAWINGS FOR EMBEDMENT OF BOLTS, ANCHORS AND OTHER MISCELLANEOUS EMBEDDED ITEMS NOT SHOWN ON STRUCTURAL DRAWINGS.
6. THE DESIGN, FABRICATION AND CONSTRUCTION SHALL COMPLY WITH ACCEPTED LOCAL GOVERNING CODES OF THE PARTICULAR AREA.
7. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE SHOWN, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL SOLELY AND COMPLETELY BE RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
8. THE DUTY OF THE ENGINEER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.
9. CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ENGINEER WHETHER PERFORMED PRIOR TO, DURING, OR AFTER COMPLETION OF CONSTRUCTION ARE PERFORMED SOLELY FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS, BUT THEY DO NOT GUARANTEE CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.
10. ALL WORK SHALL CONFORM TO THE LATEST APPLICABLE CONSTRUCTION SAFETY REQUIREMENTS OF O.S.H.A. AND ANY OTHER GOVERNMENTAL ENTITY HAVING JURISDICTION.
11. SHOP DRAWINGS:
    - SHOP DRAWINGS SHALL BE SUBMITTED PER PROJECT SPECIFICATIONS.
    - PRIOR TO SUBMISSION, THE CONTRACTOR SHALL REVIEW ALL SUBMITTALS FOR CONFORMANCE WITH THE APPROVED DOCUMENTS AND SHALL STAMP SUBMITTALS AS BEING 'REVIEWED FOR CONFORMANCE' TO APPROVED CONTRACT DOCUMENTS.
    - THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE DESIGN TEAM THAT HE AND THE SUBCONTRACTOR UNDERSTAND THE DESIGN CONCEPT BY INDICATING WHICH MATERIAL HE INTENDS TO FURNISH AND INSTALL AND BY DETAILING THE FABRICATION AND INSTALLATION METHODS HE INTENDS TO USE.
    - DESIGN DOCUMENTS ARE NOT SHOP DRAWINGS AND SHALL NOT BE SUBMITTED AS SUCH.
12. ALL NOTES SPECIFIED ON PLANS AND IN DETAILS WITH THE WORD 'TYPICAL' FOLLOWED BY **BOLD AND UNDERLINED** TEXT REFER TO THE TYPICAL PROJECT DETAILS ON S1 SERIES SHEETS. TYPICAL DETAILS ARE NOT SPECIFICALLY REFERENCED ON PLANS AND SPECIFIC DETAIL U.N.O.

E11 LEGENDS AND SYMBOLS

X/S101 | NOT TO SCALE

-STEEL
-NATIVE SOIL
-MASONRY
-ENGINEERED FILL
-AGGREGATE
-GROUT
-WOOD BLOCK
-CONCRETE
-CONTINUOUS WOOD MEMBER

DETAIL NUMBER / SHEET NUMBER → -DETAIL
SECTION NUMBER / SHEET NUMBER → -SECTION
ELEVATION NUMBER / SHEET NUMBER → -ELEVATION

A SPECIAL INSPECTOR EMPLOYED BY THE OWNER IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA CODE OF REGULATIONS, TITLE 24 AND SECTION 1704A.2 OF THE 2022 C.B.C. SHALL BE REQUIRED TO INSPECT THE PORTIONS OF THE PROJECT LISTED BELOW. THE SPECIAL INSPECTOR'S DUTIES ARE SPECIFICALLY DEFINED BY TITLE 24. THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF INSPECTIONS AS REQUIRED IN SECTION 1704A.2.4 OF THE 2022 C.B.C. AND SUBMIT THEIR REPORTS DIRECTLY TO D.S.A./H.C.A.I.

REQUIRED AREAS OF INSPECTION	2022 C.B.C. REFERENCES
· STEEL	SECTIONS 1705A.2.1 & 1705A.12.2 & TABLE 1705A.2.3
· CONCRETE	SECTION 1705A.3 & TABLE 1705A.3
· MASONRY	SECTIONS 1705A.4
-OCCUPANCY CATEGORY I, II OR III	TMS 402/ACI 530/ASCE 5
-OCCUPANCY CATEGORY IV	TMS 602/ACI 530.1/ASCE 6
· WOOD	SECTIONS 1705A.5 & 1705A.11.1/1705A12.1
· SOILS	SECTION 1705A.6 & TABLE 1705A.6
· PILE FOUNDATIONS	SECTION 1705A.7 & TABLE 1705A.7
· PIER FOUNDATIONS	SECTIONS 1705A.9 & TABLE 1705A.9
· POST-INSTALLED ANCHORS	SECTION 1910A.5 & I.C.C. ES R. REPORTS
· EPOXY ADHESIVES	SECTION 1910A.5 & I.C.C. ES R. REPORTS

NOTE: FOR SPECIFIC REQUIREMENTS REGARDING SPECIAL INSPECTION FOR D.S.A. PROJECTS, SEE THE TESTING AND INSPECTION FORM FOR THIS PROJECT.

A11 SPECIAL INSPECTION NOTES

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J14 DESIGN CRITERIA

X/S101 | NOT TO SCALE

CODE
2022 CALIFORNIA BUILDING CODE

RISK CATEGORY	TYPE II
ROOF LOAD	
DEAD LOADS	21 PSF
LIVE LOAD	20 PSF
CANOPY LOADS	
DEAD LOADS	8 PSF
LIVE LOADS	20 PSF
WALL LOADS	
EXTERIOR WALL DEAD LOADS	38 PSF
INTERIOR WALL DEAD LOADS	10 PSF
SEISMIC LOADING CRITERIA	
ANALYSIS PROCEDURE USED	ELF
SEISMIC IMPORTANCE FACTOR	1.00
MAPPED SPECTRAL ACCELERATION, MCE:	
a. Ss	0.580
b. S1	0.230
SPECTRAL RESPONSE COEFFICIENT:	
a. Fa	1.336
b. Fv	2.140
MAXIMUM CONSIDERED EARTHQUAKE RESPONSE ACCELERATIONS:	
a. Sms	0.775
b. Sm1	0.759
DESIGN SPECTRAL RESPONSE ACCELERATIONS:	
a. Sds	0.517
b. Sd1	0.492
SEISMIC DESIGN CATEGORY	D
RESPONSE MODIFICATION COEFFICIENT, R (LIGHT FRAME CFS WALLS SHEATHED W/ WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE)	6.5
SEISMIC RESPONSE COEFFICIENT/BASE SHEAR	0.079 *W
SEISMIC SYSTEM OVERSTRENGTH FACTOR	3
SEISMIC DEFLECTION AMPLIFICATION FACTOR	4
SEISMIC FORCE REDUNDANCY FACTOR	1.3
DESIGN BASE SHEAR	13 KIPS
HORIZONTAL/VERTICAL IRREGULARITIES	NONE
BASE LOCATION	-1'-0" F.F.
WIND LOADING CRITERIA:	
BASIC WIND SPEED	94 MPH
ASD WIND SPEED	73 MPH
EXPOSURE CATEGORY	C
VELOCITY PRESSURE EXPOSURE COEFFICIENT, Kz	0.90
TOPOGRAPHIC FACTOR, Kzt	1.00
ENCLOSURE CLASSIFICATION	ENCLOSED
DESIGN WALL WIND LOADS, Pnet	19.1 PSF
DESIGN UPLIFT WIND LOADS, Pnet	-10.6 PSF
SOILS CRITERIA:	
ALLOWABLE BEARING PRESSURE (DL+LL)	2500 PSF*
PASSIVE EARTH PRESSURE	275 PSF
COEFFICIENT OF FRICTION	0.35
SITE CLASSIFICATION	D
TESTING LAB	SALEM ENGINEERING GROUP, INC.
SOILS REPORT NUMBER	1-224-1068A
SOILS REPORT DATE	02/12/2025

*PER SOILS REPORT, ALLOWABLE BEARING PRESSURE CAPACITY MAY BE INCREASED BY 1/3 FOR WIND AND SEISMIC LOADING

A14 ABBREVIATIONS

X/S101 | NOT TO SCALE

A.B.	ANCHOR BOLT
ABV.	ABOVE
A.C.I.	AMERICAN CONCRETE INSTITUTE
ADDL.	ADDITIONAL
A.E.S.S.	ARCHITECTURAL EXPOSED STEEL
A.F.P.A.	AMERICAN FOREST AND PAPER ASSOCIATION
A.I.S.C.	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
A.I.T.C.	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
ALT.	ALTERNATE
A.P.A.	AMERICAN PLYWOOD ASSOCIATION
ARCH.	ARCHITECT(URAL)
A.E.S.S.	ARCHITECTURAL EXPOSED STRUCTURAL STEEL
A.S.C.E.	AMERICAN SOCIETY OF CIVIL ENGINEERS
A.S.T.M.	AMERICAN SOCIETY FOR TESTING & MATERIALS
A.W.S.	AMERICAN WELDING SOCIETY
BLDG.	BUILDING
BLK.	BLOCK,
BLKG.	BLOCKING
BM.	BEAM
B.O.	BOTTOM OF
BOT.	BOTTOM
C	CHANNEL
C.B.C.	CALIFORNIA BUILDING CODE
CDX	C-D EXPOSURE 1
C.J.	CONSTRUCTION JOINT
CL.	CENTERLINE
CLG.	CEILING
CLR.	CLEAR
C.M.U.	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONT.	CONTINUOUS
CTSK.	COUNTERSINK
d	PENNY NAILS
DBL.	DOUBLE
DEMO.	DEMOLISH
DET., DTL.	DETAIL
DF	DOUGLAS FIR
DIA., ø	DIAMETER
DIAG.	DIAGONAL
DIM.	DIMENSION
DL	DEAD LOAD
DO	DITTO / DO OVER
DP	DEEP
D.S.A.	DEPARTMENT OF STATE ARCHITECT
DWG	DRAWING
(E)	EXISTING
EA.	EACH
ELEV.	ELEVATION
E.N.	EDGE NAILING
ENGR.	ENGINEER
EQ.	EQUAL
EQUIP.	EQUIPMENT
EXP.	EXPANSION
E.W.	EACH WAY
FDN.	FOUNDATION
F.E.M.A.	FEDERAL EMERGENCY MANAGEMENT AGENCY
F.F.	FINISH FLOOR
FIN.	FINISH
FLR.	FLOOR
F.N.	FIELD NAILING
FRMG.	FRAMING
FT., FTG.	FOOT, FOOTING
F.V.	FIELD VERIFY
GA.	GAUGE
GALV.	GALVANIZED
GLB	GLUE LAMINATED BEAM
H.D.	HOLDOWN
HDR.	HEADER
HGR.	HANGER
HORIZ.	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
HT.	HEIGHT
I.B.C.	INTERNATIONAL BUILDING CODE
I.C.C.	INTERNATIONAL CODE COUNCIL
IN	INCH
I.D.	INSIDE DIAMETER
INT.	INTERIOR
I.R.	INTERPRETATION OF REGULATIONS
JST.	JOIST
K	KIPS
KSI	KIPS PER SQUARE INCH
L	ANGLE
LBS, #	POUNDS (XXX LBS, XXX#)
LL	LIVE LOAD
LLV(LLH)	LONG LEG VERTICAL (HORIZ.)
LOC.	LOCATION
LSL	LAMINATED STRAND LUMBER
LT. WT.	LIGHT WEIGHT
LVL	LAMINATED VENEER LUMBER
MAS.	MASONRY
MAX.	MAXIMUM
M.B.	MACHINE BOLT
MFR	MANUFACTURER
MIN.	MINIMUM
M.S.R.	MACHINE STRESS RATED
MTL.	METAL
(N)	NEW
NO., #	NUMBER, (NO. XX, #XX)
N.T.S.	NOT TO SCALE
O/, O/	OVER,
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.H.	OPPOSITE HAND
OPNG.	OPENING
OP.	OPPOSITE
OSB	ORIENTED STRAND BOARD
O.S.H.P.D.	OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
PL.	PLATE
P.T.	PRESSURE TREATED
PLYWD.	PLYWOOD
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
REINF.	REINFORCING
REQD.	REQUIRED
RM.	ROOM
SCHED.	SCHEDULE
SHTG.	SHEATHING
SHT.	SHEET
SIM.	SIMILAR
SMS	SHEET METAL SCREWS
SPEC.	SPECIFICATION
SQ.	SQUARE
STGR.	STAGGER
STD.	STANDARD
STIFF.	STIFFENER
STL.	STEEL
STRUCT.	STRUCTURAL
SYM.	SYMMETRICAL
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
THK.	THICK
TL	TOTAL LOAD
T.O.	TOP OF
TYP.	TYPICAL
U.N.O., U.O.N.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
W/, W/O	WITH, WITH OUT
WD	WOOD
W.F.	WIDE FLANGE
W.C.L.I.B.	WEST COAST LUMBER INSPECTION BUREAU
WT.	WEIGHT
W.W.F.	WELDED WIRE FABRIC
W.W.M.	WELDED WIRE MESH
W.W.P.A.	WESTERN WOOD PRODUCTS ASSOCIATION

DSA File No.: 20-30
DSA Application No.: 02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025
Agency Approval

BrooksRansom ASSOCIATES
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REGISTERED PROFESSIONAL ENGINEER
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No. 52366
EXPIRES 3-31-26
STRUCTURAL
STATE OF CALIFORNIA
Consultant

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

TYPICAL PROJECT NOTES & DETAILS
Drawing

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PLANNING
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LICENSED ARCHITECT
GREGORY J. AYOUB
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Exp. 10-31-25
STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date

Revision

Designed By: ER
Drawn By: ER
Checked By: AL
Reviewed By: AL
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Scale: 12" = 1'-0"
Project Number: 2470.2
Date: 06/20/2025

X/S101

6/17/2025 1:50:12 PM
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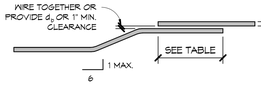
Desmond MS

N1 LAP SPLICE SCHEDULE (CONC.)

X/S102 | NOT TO SCALE

LAP LENGTH (3,000 PSI OR GREATER CONCRETE)

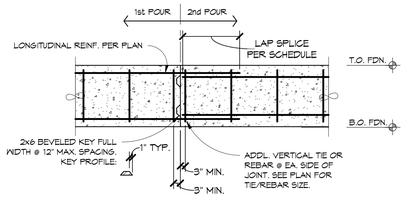
BAR SIZE	#3	#4	#5	#6	#7	#8	#9	#10	#11
BOTTOM BAR	16"	28"	36"	43"	62"	72"	81"	91"	101"
TOP BAR	21"	38"	47"	56"	81"	94"	105"	118"	131"



NOTES:
1. SPLICES ARE SHOWN IN INCHES AND SHALL CONFORM TO CLASS "B" SPLICES AS PER A.C.I.318-19, FOR 3,000 PSI CONCRETE.
2. SPLICE LENGTHS ASSUME THE MODIFICATION FACTORS OF A.C.I.318-19 SECTIONS 25.1.1 ARE 1.0. FOR OTHER CONDITIONS PROVIDE SPLICE LENGTHS IN ACCORDANCE WITH A.C.I.318-19.
3. USE THE SPLICE LENGTH GIVEN FOR TOP BARS WHEN MORE THAN 12" OF CONCRETE IS CAST BELOW HORIZONTAL BARS IN THE MEMBER. USE THE SPLICE LENGTH GIVEN FOR BOTTOM BARS FOR ALL OTHER CONDITIONS.

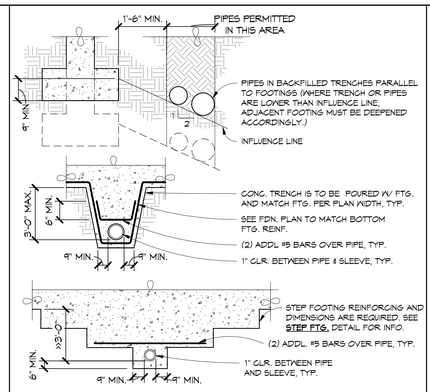
N4 CONCRETE FOOTING JOINT

X/S102 | NOT TO SCALE

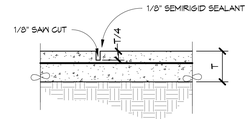


N7 PIPES BELOW/ADJACENT TO FTG.

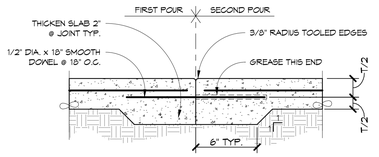
X/S102 | NOT TO SCALE



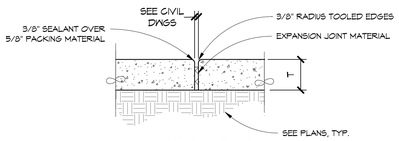
NOTES:
1. JOINT SPACING SHALL NOT EXCEED 10 FEET O.C. IN ANY DIRECTION.
2. JOINTS SHALL DIVIDE SLABS INTO AREAS NOT EXCEEDING 100 SQUARE FEET. THESE AREAS SHALL NOT CONTAIN REENTRY CORNERS AND MUST HAVE LENGTH TO WIDTH RATIOS NOT EXCEEDING 1.5 TO 1.0.
3. THE CONTRACTOR SHALL SUBMIT A CONTROL JOINT PLAN FOR APPROVAL PRIOR TO POURING THE CONCRETE SLAB.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE SLAB JOINTS WITH THE LOCATIONS OF TILE CRACK CONTROL JOINTS. VERIFY TILE CRACK CONTROL JOINTS WITH THE ARCHITECT, IF APPLICABLE.
5. CONCRETE SLAB WORK SHALL BE IN ACCORDANCE WITH A.C.I. 302.1R.



CONTROL JOINT



CONSTRUCTION JOINT



EXPANSION JOINT
FOR FLATWORK ONLY.
(SEE ARCH. AND/OR CIVIL DRAWINGS)

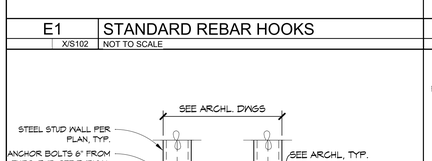
1. FOUNDATIONS SHALL BEAR ON ENGINEERED FILL OR NATIVE SOIL A MINIMUM OF 18" BELOW ADJACENT GRADE OR FINISHED GRADE U.N.O. IN A SOILS REPORT.
2. MAXIMUM SIZE AGGREGATE SHALL BE AS FOLLOWS:
   - SLAB ON GRADE: 1"
   - FOOTINGS: 1 1/2"
3. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE AS FOLLOWS:
   - 4000 PSI NORMAL WEIGHT SLAB ON GRADE
   - 3000 PSI NORMAL WEIGHT FOOTINGS
4. MAXIMUM WATER CEMENT RATIOS SHALL BE AS FOLLOWS:
   - 0.45 SLAB ON GRADE
   - 0.58 FOOTINGS
5. LIGHT WEIGHT CONCRETE REFERS TO THE USE OF LIGHT WEIGHT COARSE AGGREGATES (A.S.T.M.C330) WITH SAND FINES RESULTING IN CONCRETE DRY DENSITIES OF 110 LBS. (±3 LBS.) PER CU. FT. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
6. THE FOLLOWING ARE MINIMUM CONCRETE COVER DIMENSIONS PER A.C.I. 318-19 SECTION 20.5.1. THEY ARE FROM FACE OF REINFORCING STEEL TO FACE OF CONCRETE. ALL REINFORCING STEEL SHALL MAINTAIN THE FOLLOWING CLEAR DISTANCES, U.N.O.
   - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
   - CONCRETE EXPOSED TO EARTH OR WEATHER: (NO. 6 THROUGH NO. 18) 2"; (NO. 5 AND SMALLER) 1 1/2"
   - CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: SLABS, WALLS AND JOISTS: (NO. 14 AND NO. 18) 1 1/2"; (NO. 11 AND SMALLER) 3/4"; BEAMS AND COLUMNS: (ALL SIZES) 1 1/2"; SHELLS AND FOLDED PLATE MEMBERS: (NO. 6 AND LARGER) 3/4"; (NO. 5 AND SMALLER) 1/2"
   - PLACE REINF. AT MID-THICKNESS FOR SLABS ON GRADE.
7. CONSTRUCTION LOADS SHALL NOT BE PLACED ON NEW CONCRETE CONSTRUCTION, INCLUDING CONCRETE TOPPING ON METAL DECK, FOR AT LEAST 7 DAYS AFTER CONCRETE PLACEMENT OR WITH APPROVAL BY ENGINEER.
8. ALL SPLICES IN CONTINUOUS REINFORCEMENT USED IN WALLS, FOOTINGS, ETC. SHALL HAVE A MINIMUM LAP AS DESCRIBED IN THE TYPICAL **LAP SPLICE** DETAIL. SPLICES IN ADJACENT BARS SHALL NOT BE LESS THAN 4'-0" APART. VERTICAL WALL BARS SHALL BE SPLICED AT OR NEAR FLOOR LINES, OR WHERE SPECIFICALLY DETAILED TO BE SEPARATED.
9. ALL REINFORCEMENT CROSSING CONSTRUCTION JOINTS SHALL BE CONTINUOUS, OR SHALL BE MADE EFFECTIVELY CONTINUOUS BY USE OF FULLY DEVELOPED LAP SPLICES, DOWELS (WITH LAPPED SPLICES) OR APPROVED COUPLERS.
10. HORIZONTAL CONSTRUCTION JOINTS SHALL HAVE ENTIRE SURFACE REMOVED TO EXPOSE\CLEAN AGGREGATE SOLIDLY EMBEDDED.
11. CONCRETE SHALL NOT BE DROPPED THROUGH REINF. STEEL (AS IN WALL) SO AS TO CAUSE SEGREGATION OF AGGREGATES. IN SUCH CASES, HOPPERS AND VERTICAL CHUTES OR TRUNKS SHALL BE USED. CHUTES OR TRUNKS SHALL BE OF VARIABLE LENGTHS SO THAT FREE UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED FIVE (5) FEET AND A SUFFICIENT NUMBER OF CHUTES AND TRUNKS SHALL BE USED TO ENSURE THE CONCRETE REMAINS LEVEL AT ALL TIMES.
12. ALL STEEL COLUMN BASE PLATES AND STEEL BEAMS BEARING ON CONCRETE SHALL BEAR UPON 1 1/2" OF NON-SHRINK, 8,000 PSI MIN. GROUT PADS AND LEVELING NUTS, U.N.O.
13. WHERE STEEL MEMBERS BEAR IN CONCRETE OR MASONRY WALLS, OPENINGS SHALL BE DRY-PACKED AFTER STEEL IS IN PLACE.
14. CONTRACTOR SHALL SUBMIT PROPOSED POUR SCHEDULE FOR ENGINEER'S APPROVAL PRIOR TO THE FORMING OR POURING OF ANY CONCRETE WORK.
15. PROVIDE 3/4" CHAMFER AT EXPOSED EDGES OF CONCRETE BEAMS, COLUMNS AND WALLS UNLESS NOTED OTHERWISE.
16. THE CONTRACTOR SHALL FURNISH AND INSTALL PRE-MOLDED EXPANSION JOINTS IN ALL EXTERIOR WALKS AND SLABS AS INDICATED ON CIVIL DRAWINGS, BUT IN NO CASE MORE THAN 24'-0" O.C.
17. ALL REINFORCING SHALL CONFORM TO A.S.T.M. A615 AND SHALL BE GRADE 40 FOR #3, GRADE 60 FOR #4 AND LARGER.
18. WELDED WIRE FABRIC SHALL CONFORM TO A.S.T.M. A185.
19. ALL WELDING OF REINFORCING STEEL SHALL BE WITH LOW HYDROGEN ELECTRODES U.N.O. WELDING OF REINFORCING SHALL BE ALLOWED ONLY WHERE DETAILED ON DRAWINGS. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AMERICAN WELDING SOCIETY SPECIFICATIONS A.W.S. D1.4. WELDING SHALL NOT BE DONE WITHIN TWO BAR DIAMETERS OF ANY BENT PORTION OF A BAR WHICH HAS BEEN BENT COLD. WELDING OF CROSSING BARS SHALL NOT BE PERMITTED FOR ASSEMBLY OF REINFORCEMENT UNLESS AUTHORIZED BY THE STRUCTURAL ENGINEER OF RECORD. A.S.T.M. A706 REINFORCING SHALL BE USED FOR ALL REINFORCING THAT IS BEING WELDED.
20. CONCRETE SLAB SHALL BE SUPPORTED ON 4" MIN. NON-RECYCLED CLASS 2 AGGREGATE BASE COMPACTED TO 95% RELATIVE COMPACTION OVER ENGINEERED FILL PER SOILS REPORT.

DSA File No.: 20-30

DSA Application No.: 02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval



D = BAR DIAMETER
B = FINISHED INSIDE BEND DIA.

B = 6D FOR #3 THROUGH #8
B = 8D FOR #9, #10 AND #11
B = 10D FOR #14 AND #18

DIMENSION OF STD. 180° HOOKS, ALL GRADES

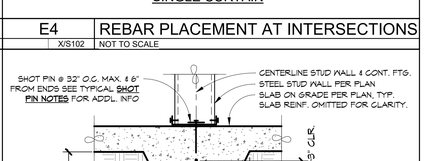
BAR SIZE	A OR G	J	B
#3	5"	3"	2 1/4"
#4	6"	4"	3"
#5	7"	5"	3 3/4"
#6	8"	6"	4 1/2"
#7	10"	7"	5 1/4"
#8	11"	8"	6"
#9	1'-3"	1'-1 3/4"	9 1/2"
#10	1'-5"	1'-1 1/4"	10 3/4"
#11	1'-7"	1'-2 3/4"	12"
#14	2'-3"	1'-9 3/4"	18 1/4"
#18	3'-0"	2'-4 1/2"	24"

DIMENSION OF STD. 90° HOOKS, ALL GRADES

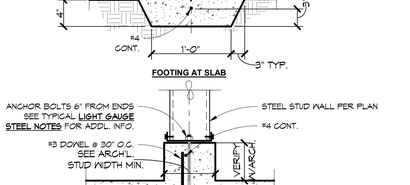
A OR G	B
6"	2 1/4"
8"	3"
10"	3 3/4"
1'-0"	4 1/2"
1'-2"	5 1/4"
1'-4"	6"
1'-7"	9 1/2"
1'-10"	10 3/4"
2'-0"	12"
2'-7"	18 1/4"
3'-5"	24"

J4 CONDUITS AND BOXES IN SLAB

X/S102 | NOT TO SCALE



CONDUIT



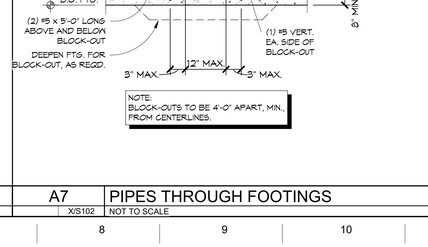
RECESSED BOX

NOTE:
SEAL ALL PENETRATIONS THROUGH VAPOR BARRIER, AND PATCH ALL PUNCTURES AND CUTS, PRIOR TO PLACING CONCRETE.

J7 OVER EXCAVATION

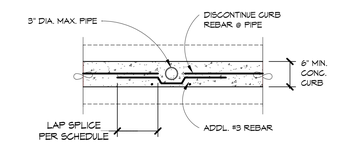
X/S102 | NOT TO SCALE

NOTES:
1. REMOVE AND STRIP ALL SURFACE MATERIAL PER SOILS REPORT
2. EXCAVATE AND STOCKPILE EXISTING SOIL AT PROPOSED BUILDINGS
3. REVIEW WITH GEOTECHNICAL ENGINEER FOR ANY ADDITIONAL REMOVAL PRIOR TO PROCEEDING WITH RECOMPACTION
4. SCARIFY, MOISTURE CONDITION AND RECOMPACT AS ENGINEERED FILL 12" AT BOTTOM OF EXCAVATION AND BUILDING PAD. RECOMPACT TO 90% PER ASTM D1557
5. RETURN EXCAVATED SOIL AS ENGINEERED FILL WITH PRIOR APPROVAL FROM GEOTECHNICAL ENGINEER AND RECOMPACT TO 90% OF MAXIMUM DRY DENSITY PER ASTM D1557. ENGINEERED FILL SOILS SHOULD BE PLACED IN LOOSE LIFTS APPROXIMATELY 8" THICK. MOISTURE - CONDITION TO WITHIN 3% OF THE OPTIMUM MOISTURE CONTENT

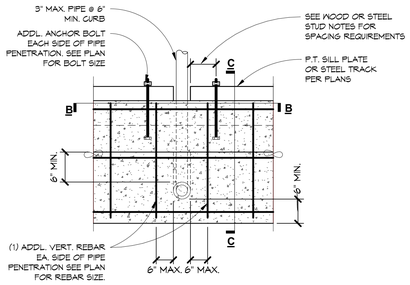


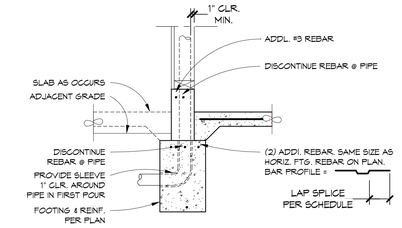
J11 CONCRETE SLAB JOINTS

X/S102 | NOT TO SCALE



VIEW B-B





VIEW C-C

E1 STANDARD REBAR HOOKS

X/S102 | NOT TO SCALE

STIRRUP HOOKS
(TIE BENDS SIMILAR)

SEISMIC STIRRUP/TIE

BAR SIZE	B	90° A OR G	135° A OR G	135° APPROX H.
#3	1 1/2"	4"	4"	2 1/2"
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	1'-0"	8"	4 1/2"
#7	5 1/4"	1'-2"	9"	5 1/4"
#8	6"	1'-4"	10 1/2"	6"

SIZE	B	135° SEISMIC HOOK A OR G	APPROX H.
#3	1 1/2"	4 1/4"	3"
#4	2"	4 1/2"	3"
#5	2 1/2"	5 1/2"	3 3/4"
#6	4 1/2"	8"	4 1/2"
#7	5 1/4"	9"	5 1/4"
#8	6"	10 1/2"	6"

E4 REBAR PLACEMENT AT INTERSECTIONS

X/S102 | NOT TO SCALE

DOUBLE CURTAIN

SINGLE CURTAIN

E14 FOUNDATION AND CONC. NOTES

X/S102 | NOT TO SCALE

NOTES:
1. FOUNDATION CONCRETE MAY BE PLACED DIRECTLY INTO NEAT EXCAVATIONS PROVIDED THAT FOUNDATION TRENCH WALLS ARE STABLE AS DETERMINED BY THE ARCHITECT, OR STRUCTURAL ENGINEER, SUBJECT TO THE APPROVAL OF THE D.S.A./H.C.A.I. IN SUCH CASE, THE MINIMUM FORM WORK SHOWN ABOVE IS MANDATORY TO INSURE CLEAN EXCAVATIONS IMMEDIATELY PRIOR TO, AND DURING, THE PLACING OF CONCRETE.
2. FORMWORK NOT PERMITTED BELOW GRADE UNLESS FULLY FORMED.

A1 NON-BRG DBL WALL CONN.

X/S102 | NOT TO SCALE

A4 NON-BRG WALL CONN.

X/S102 | NOT TO SCALE

A7 PIPES THROUGH FOOTINGS

X/S102 | NOT TO SCALE

NOTE:
BLOCK-OUTS TO BE 4'-0" APART, MIN., FROM CENTERLINES.

A11 PIPE THRU CONC. CURB AND FTG.

X/S102 | NOT TO SCALE

A14 REQUIRED CONT. FTG. FORM WORK

X/S102 | NOT TO SCALE

BrooksRansom ASSOCIATES
1926 PALM AVE. STE 150 | FRESNO, CA 93721
(559) 449-8444 OFFICE | (559) 449-8404 FAX
24472

REGISTERED PROFESSIONAL ENGINEER GAYLORD R. RANSOM No. 52386 EXPIRES 3-31-26 STRUCTURAL
Consultant

darden architects
ARCHITECTURE PLANNING INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051
LICENSED ARCHITECT GREGORIO J. AVILA No. C26235 Exp. 10-31-26 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date

Revision

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

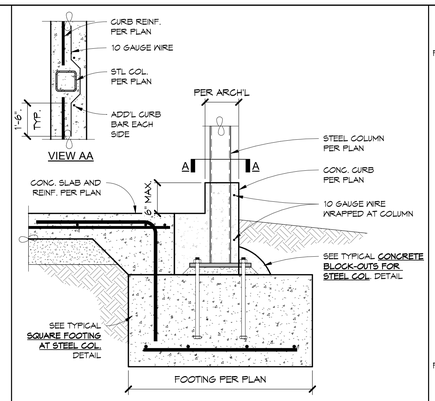
TYPICAL CONCRETE NOTES & DETAILS
Drawing

Designed By: ER | Copyright Darden Architects
Scale: As indicated | Drawn By: ER
Project Number: 2470.2 | Checked By: AL
Date: 06/20/2025 | Reviewed By: AL

X/S102

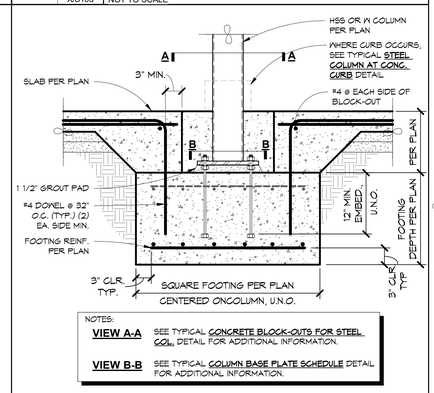
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Desmond MS



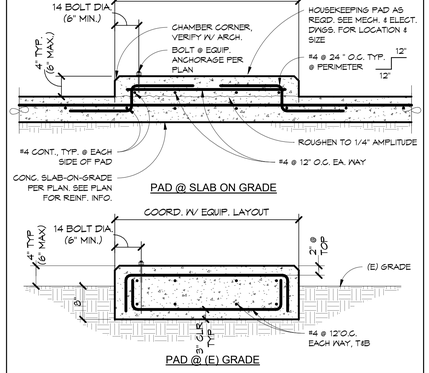
N11 STEEL COLUMN AT CONC. CURB

X/S103 NOT TO SCALE



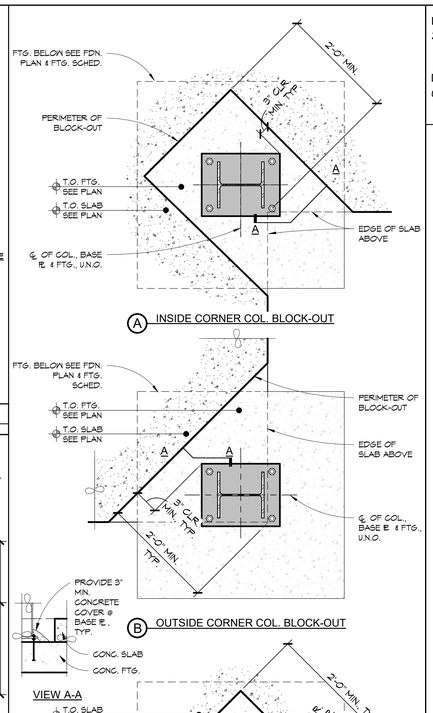
J11 SQUARE FOOTING AT STEEL COL.

X/S103 NOT TO SCALE



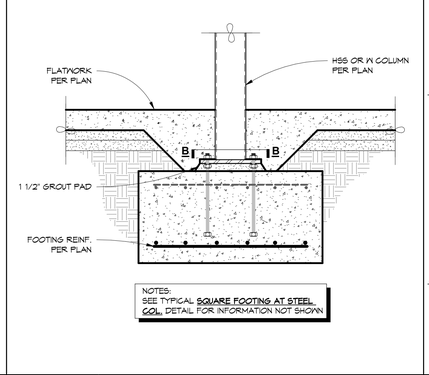
E11 HOUSEKEEPING PAD

X/S103 NOT TO SCALE



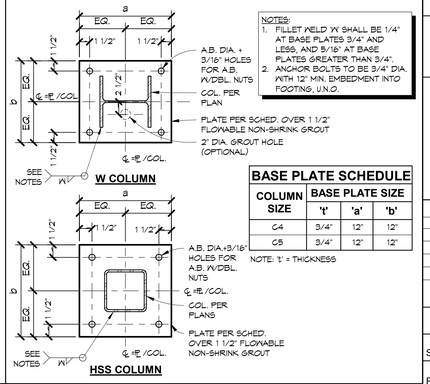
E14 CONCRETE BLOCK-OUTS FOR STL COL.

X/S103 NOT TO SCALE



A11 SQ. FTG. AT STEEL COL. AT FLATWORK

X/S103 NOT TO SCALE



BASE PLATE SCHEDULE

COLUMN SIZE	BASE PLATE SIZE		
	't'	'a'	'b'
C4	3/4"	12"	12"
C5	3/4"	12"	12"

NOTE: 't' = THICKNESS

A14 COLUMN BASE PLATE SCHEDULE

X/S103 NOT TO SCALE

DSA File No.: *20-30*

DSA Application No.: *02-123203*

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APP: 02-123203 INC:
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SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

BrooksRansom ASSOCIATES
7418 N. PALM AVE. STE 100 | FRESNO, CA 93711
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Consultant

Desmond MS - ELOP Year Two
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Madera, CA 93637

Project

TYPICAL CONCRETE NOTES & DETAILS

Drawing

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LICENSED ARCHITECT ANTONIO J. AVALOS No. C30235 REG. 10-31-25 STATE OF CALIFORNIA

Architect

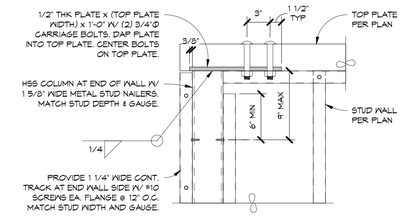
No.	Revision/Submission	Date

Revision

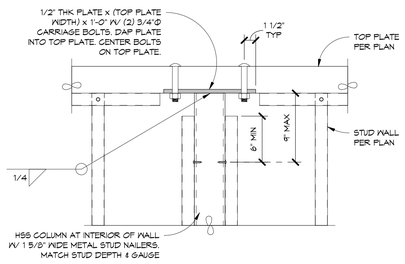
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Scale: As indicated	Drawn By: ER		*X/S103*
Project Number: 2470.2	Checked By: AL		
Date: 06/20/2025	Reviewed By: AL		

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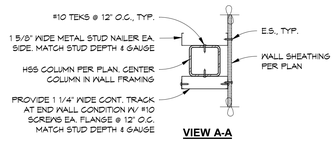
Desmond MS



END WALL LOCATION



INTERIOR WALL LOCATION

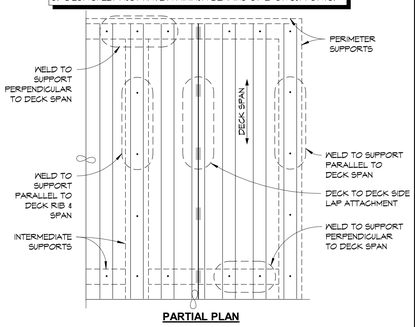


VIEW A-A

J7 STEEL COLUMN WITH NAILERS

X/S104 NOT TO SCALE

NOTES:
1. MINIMUM LENGTH OF DECK SHEETS SHALL BE SINGLE SPANS.
2. ENDS OF DECK SHEETS MUST BE LAPPED A MINIMUM OF 2", AND LAPS MUST OCCUR OVER SUPPORTS.
3. DECK SHEET MUST HAVE A MINIMUM BEARING OF 2" ON SUPPORTS.

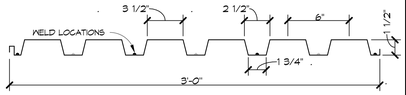


PARTIAL PLAN

E7 DECK ATTACHMENT LAYOUT

X/S104 NOT TO SCALE

- STEEL DECKING SHALL BE TYPE HSB-36 AS MANUFACTURED BY VERCO MANUFACTURING COMPANY, 4340 NORTH 42ND AVENUE, PHOENIX, ARIZONA 85019. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION AND UES ER NO. 2018. AN EQUIVALENT DECKING CAN BE SUBSTITUTED WITH THE APPROVAL OF THE STRUCTURAL ENGINEER. THE EQUIVALENT DECKING MUST MEET OR EXCEED ALL OF THE CRITERIA STATED BELOW.
- DECKING SHALL BE FORMED FROM COLD ROLLED ZINC COATED STEEL (A.S.T.M. A 653) SHEETS WITH COATING DESIGNATION G60 (Z180) AND HAVE A MINIMUM YIELD STRENGTH OF 33,000 PSI. DECKING AT EXPOSED EXTERIOR APPLICATIONS SHALL HAVE ZINC COATING DESIGNATION G40 (Z275).
- THE DECK PROFILE AND DIMENSION SHALL BE AS FOLLOWS:



- DECK GAGE, WEIGHT AND PROPERTIES SHALL BE AS SELECTED BELOW:

GAGE	WEIGHT (PSF)	I (in⁴)	+S (in³)	-S (in³)	SELECTED DECK
22	1.9	0.178	0.178	0.188	✓
20	2.3	0.219	0.230	0.237	
18	2.9	0.302	0.314	0.331	
16	3.5	0.381	0.398	0.410	

- DECK ATTACHMENT TO SUPPORTS PERPENDICULAR TO RIBS SHALL BE WITH 1/2" DIA. EFFECTIVE ARC SPOT (PUDDLE) WELDS WITH A PATTERN AS SELECTED BELOW:

PATTERN DESIGNATION	PATTERN DIAGRAM	SELECTED PATTERN
36/4		✓
36/5		
36/6		
36/7		

- TYPE AND SPACING OF DECK ATTACHMENT TO SUPPORTS PARALLEL WITH DECK RIBS SHALL BE AS SELECTED BELOW:

ATTACHMENT TYPE	ATTACHMENT SPACING	SELECTED ATTACHMENT
1/2" DIA. EFF. ARC SPOT WELD	24" O.C.	✓
1/2" DIA. EFF. ARC SPOT WELD	18" O.C.	
1/2" DIA. EFF. ARC SPOT WELD	12" O.C.	
1/2" DIA. EFF. ARC SPOT WELD	6" O.C.	

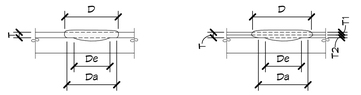
- TYPE AND SPACING OF DECK ATTACHMENT AT SIDE LAPS SHALL BE AS SELECTED BELOW:

ATTACHMENT TYPE	ATTACHMENT SPACING	SELECTED ATTACHMENT
BUTTON PUNCH (BP)	24" O.C.	✓
BUTTON PUNCH (BP)	12" O.C.	
1 1/2" TOP SEAM WELD (TSW)	24" O.C.	
1 1/2" TOP SEAM WELD (TSW)	18" O.C.	
1 1/2" TOP SEAM WELD (TSW)	12" O.C.	
1 1/2" TOP SEAM WELD (TSW)	6" O.C.	

- SEE **DECK ATTACHMENT LAYOUT DETAIL** FOR ADDITIONAL INFORMATION.

E11 STEEL ROOF DECK NOTES (HSB-36)

X/S104 NOT TO SCALE



GAGE	VISIBLE WELD SIZE
(0.0283") 22	3/4" DIA. (0.774)
(0.0346") 20	3/4" DIA. (0.788)
(0.0451") 18	7/8" DIA. (0.811)
(0.0566") 16	7/8" DIA. (0.836)

NOTE:
BASED ON 1/2" EFFECTIVE WELD
ARC SPOT WELDS PER AWS. D1.3/ D1.3M
D = (De + 1.5T)/0.7 VISIBLE DIAMETER
Da = RESULTING AVERAGE DIAMETER
De = EFFECTIVE DIAMETER

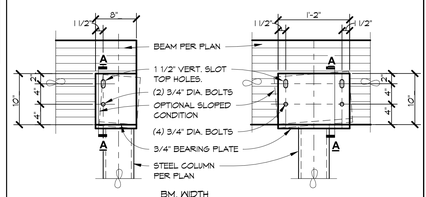
A11 ARC SPOT WELDS PER AWS D1.3/D1.3M

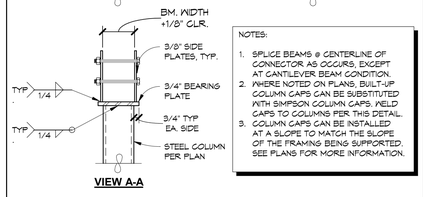
X/S104 NOT TO SCALE

1. MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE LATEST EDITION OF THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDING" PUBLISHED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
2. ALL BUTT WELDS SHALL BE COMPLETE JOINT PENETRATION WELDS.
3. ALL WELDING OF STRUCTURAL STEEL MEMBERS SHALL BE DONE BY CURRENTLY CERTIFIED WELDERS AND DONE IN CONFORMANCE WITH THE A.I.S.C. AND A.W.S. SPECIFICATIONS. WELDING IS NOT PERMITTED ON MEMBERS SUPPORTING LOADS.
4. WHERE THE CONTRACTOR REQUESTS WELDING TO BE USED IN LIEU OF BOLTED CONNECTIONS, SUCH WELDING SHALL BE DONE ONLY WITH THE ENGINEERS PRIOR APPROVAL. WHERE EMBEDDED PLATES OCCUR WITH SHEAR TABS, CONTRACTOR HAS OPTION TO FIELD WELD STEEL BEAM TO SHEAR TAB TO FACILITATE ERECTION WITH APPROVAL FROM ENGINEER. EMBEDDED PLATE MAY BE OVERSIZED BY 1" IN EACH DIRECTION TO FACILITATE FIELD WELDING. ANY TESTING AND/OR INSPECTION THE ENGINEER MAY DEEM NECESSARY TO BE ASSURED OF THE QUALITY OF SUCH WELDING, SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.
5. A.S.T.M. A325 BOLTS SHALL BE USED UNLESS NOTED OTHERWISE. TWIST-OFF TYPE TENSION-CONTROL A.S.T.M. F1852 BOLT ASSEMBLIES MAY BE SUBSTITUTED FOR A.S.T.M. A325 BOLTS AT ANYTIME. WHERE A.S.T.M. A490 BOLTS ARE SPECIFIED ON THE PLANS TWIST-OFF TYPE TENSION-CONTROL A.S.T.M. F2280 BOLT ASSEMBLIES MAY BE SUBSTITUTED AT ANYTIME.
6. A.S.T.M. F1554 GRADE 36 ANCHOR BOLTS SHALL BE USED UNLESS NOTED OTHERWISE. A.S.T.M. F1554 GRADE 36 BOLTS MAY BE WELDED, WHILE GRADE 55 MAY BE WELDED ONLY IF IT IS ORDERED WITH SUPPLEMENT S1 AND THE CARBON EQUIVALENT FORMULA SPECIFIED IN SECTION S.1.5.2.1 OF THE A.S.T.M. GRADE 105 BOLTS MAY NOT BE WELDED.
7. A.S.T.M. A563 HEAVY-HEX NUTS SHALL BE USED UNLESS NOTED OTHERWISE. SEE A.S.T.M. A563 FOR THE APPROPRIATE GRADE AND FINISH OF THE NUTS WHICH VARY ACCORDING TO APPLICATION.
8. A.S.T.M. F436 WASHERS SHALL BE USED UNLESS NOTED OTHERWISE. AT SLIP CRITICAL CONNECTIONS A.S.T.M. F959 COMPRESSIBLE-WASHER-TYPE DIRECT TENSION INDICATORS SHALL BE USED UNLESS TWIST-OFF-TYPE TENSION-CONTROL BOLT ASSEMBLIES WITH A.S.T.M. F436 WASHERS ARE USED.
9. A.S.T.M. A108 SHEAR STUD CONNECTORS SHALL BE USED UNLESS NOTED OTHERWISE. THE MECHANICAL REQUIREMENTS MUST MEET A.W.S. D1.1 TABLE 7.1 FOR TYPE B SHEAR STUDS CONNECTORS. (Fy=50 ksi, Fu=65 ksi)
10. HOLES PUNCHED OR DRILLED IN BEAMS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE ON THE DRAWING: HOLES FOR BOLTS SHALL BE 1/16" LARGER THAN THE NOMINAL DIAMETER OF THE BOLT WHERE CONNECTION IS OF SHEAR TYPE, AND 1/8" LARGER WHERE CONNECTION IS OF BEARING TYPE ON CONCRETE OR MASONRY.
11. ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL SHALL RECEIVE ONE SHOP COAT OF RED OXIDE, ZINC CHROMATE OR APPROVED EQUAL BASE.
12. ALL STEEL MEMBERS AND THEIR CONNECTIONS, EXPOSED TO EARTH OR WEATHER SHALL BE HOT DIPPED GALVANIZED, UNLESS NOTED OTHERWISE. CAP ALL VENT HOLES AT ENCLOSED HSS STEEL SECTIONS AND SEAL HOLES TO A WATER TIGHT CONDITION.
13. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE FOLLOWING A.I.S.C. STANDARDS:
    - CHANNELS, ANGLES, PLATES 1/2" THICK OR LESS AND MISCELLNEOUS STEEL, SHALL BE A.S.T.M. A36. (Fy=36 ksi, Fu=58 ksi)
    - PLATES GREATER THAN 1/2" THICK SHALL BE A.S.T.M. A572 GR. 50. (Fy=50 ksi, Fu=65 ksi)
    - RECTANGULAR AND SQUARE HSS SHALL BE A.S.T.M. A500 GRADE B (Fy=46 ksi, Fu=58 ksi)
14. ALL ENDS OF EXPOSED STRUCTURAL SHAPES & HOLLOW STRUCTURAL SHAPED STEEL MEMBERS SHALL HAVE 1/4" CAP PLATE WITH PARTIAL PENETRATION WELDS, U.N.O., GRIND SMOOTH, A.E.S.S.
15. ALL STEEL BEAMS SHALL HAVE INSTALLED STANDARD MILL TOLERANCE UP, TYP., U.N.O.
16. FILLER METAL AND WELDING FLUX: E70XX IN ACCORDANCE WITH A.W.S. D1.1-2015.
17. WHERE LATERAL FORCE RESISTING COLUMNS OCCUR, A DOUBLE NUT SHALL BE PROVIDED ABOVE THE BASE PLATE AT ALL THREADED ROD/BOLT LOCATIONS.
18. CONTRACTOR SHALL PROVIDE AN ALLOWANCE EQUAL TO 2% OF THE BID FOR STRUCTURAL STEEL MISCELLANEOUS IRON, AND REINFORCING STEEL TO BE USED AT THE DISCRETION OF THE STRUCTURAL ENGINEER. UNUSED PORTION TO REVERT TO THE OWNER UPON COMPLETION OF THE PROJECT.

J14 STEEL NOTES

X/S104 NOT TO SCALE



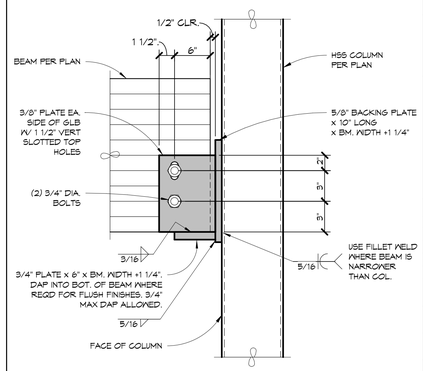


VIEW A-A

NOTES:
1. SPLICE BEAMS @ CENTERLINE OF CONNECTOR AS OCCURS, EXCEPT AT CANTILEVER BEAM CONDITION.
2. WHERE NOTED ON PLANS, BUILT-UP COLUMN CAPS CAN BE SUBSTITUTED WITH SIMPSON COLUMN CAPS. WELD CAPS TO COLUMNS PER THIS DETAIL.
3. COLUMN CAPS CAN BE INSTALLED AT A SLOPE TO MATCH THE SLOPE OF THE FRAMING BEING SUPPORTED. SEE PLANS FOR MORE INFORMATION.

E14 WD BM TO STL COL (TOP MOUNTED)

X/S104 NOT TO SCALE



E14 WD BM TO STL COL (SIDE MOUNTED)

X/S104 NOT TO SCALE

DSA File No.: *20-30*

DSA Application No.: *02-123203*

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

BrooksRansom ASSOCIATES
3151 N. PALM AVENUE, FRESNO, CA 93711
(559) 449-0444 OFFICE | (559) 449-0404 FAX
24472

REGISTERED PROFESSIONAL ENGINEER GAYLORD R. RANSOM No. S2386 EXPIRES 3-31-26 STRUCTURAL

Consultant

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

TYPICAL STEEL NOTES & DETAILS
Drawing

darden architects
ARCHITECTURE PLANNING INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

LICENSED ARCHITECT ANTONIO J. ALVAREZ No. C26235 Exp. 10-31-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

Designed By: ER
Drawn By: ER
Checked By: AL
Reviewed By: AL

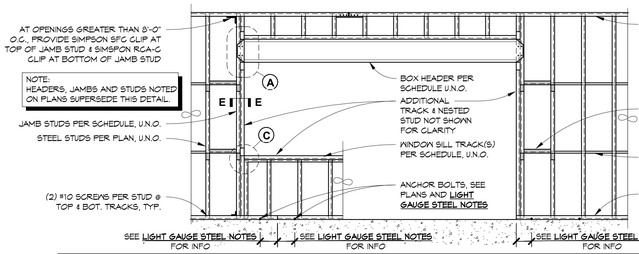
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Scale: As indicated
Project Number: 2470.2
Date: 06/20/2025

X/S104

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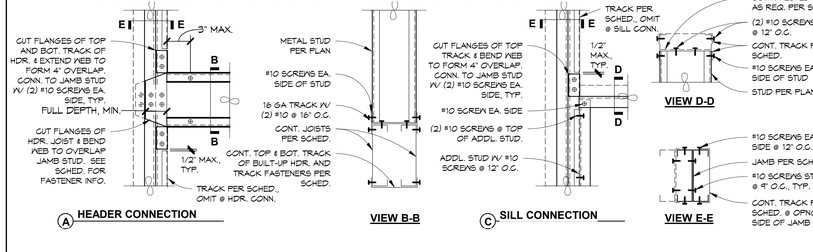
Desmond MS



LIGHT GAUGE FRAMING SCHEDULE

WALL TYPE	SPAN LENGTH	BOX HEADER		JAMB STUDS	WINDOW SILL TRACK(S)	NO. OF #10 SCREWS @ HDR. JST. TO JAMB	SPACING OF #10 SCREWS @ EA. HDR. TRK. TO EA. HDR. JST.
		DBL. JOISTS	T&B TRACKS				
3 5/8" STUDS	0'-0" TO 8'-0"	600S162-54	362T125-54	(3)362S162-68 [3]	362T125-54	3	12" O.C.
	8'-1" TO 10'-0"	800S162-54	362T125-54	(3)362S162-68 [3]	(2)362T125-54 [5]	4	10" O.C.
6" STUDS	0'-0" TO 8'-0"	600S162-54	600T125-54	(2)600S162-54 [4]	600T125-43	3	12" O.C.
	8'-1" TO 10'-0"	800S162-54	600T125-54	(2)600S162-54 [4]	600T125-54	4	10" O.C.
	10'-1" TO 12'-0"	1000S162-54	600T125-54	(2)600S162-54 [4]	600T125-54	5	8" O.C.
	12'-1" TO 14'-0"	1000S162-97	600T125-97	(2)600S162-68 [4]	(2)600T125-54 [5]	5	6" O.C.
	14'-1" TO 18'-0"	1200S250-97	600T125-97	(2)600S162-54 [4]	(2)600T125-68 [5]	6	6" O.C.
8" STUDS	0'-0" TO 8'-0"	600S162-54	800T125-54	(2)800S162-54 [4]	800T125-43	3	12" O.C.
	8'-1" TO 10'-0"	800S162-54	800T125-54	(2)800S162-54 [4]	800T125-43	4	10" O.C.
	10'-1" TO 12'-0"	1000S162-54	800T125-54	(2)800S162-54 [4]	800T125-54	5	8" O.C.
	12'-1" TO 14'-0"	1000S162-97	800T125-97	(2)800S162-54 [4]	800T125-54	5	6" O.C.
	14'-1" TO 18'-0"	1200S250-97	800T125-97	(2)800S162-54 [4]	(2)800T125-54 [5]	6	6" O.C.

1. LIMITATIONS: 1) 450 PLF MAX. VERTICAL LOAD (ASD) TO HDR. 2) 20 PSF MAX. OUT-OF-PLANE LOAD (ASD) TO HDR, JAMB AND SILL. 3) 14'-0" MAX WALL HT.
2. DEFLECTION LIMITATIONS: 1) L/360 VERTICAL. 2) L/600 OUT-OF-PLANE AT BRICK VENEER.
3. TWO TRUCKS REQUIRED. TRACKS MUST HAVE 125 FLANGE AND MATCH STUD WIDTH AND GAUGE. SEE DETAILS FOR PLACEMENT.
4. ONE TRUCK REQUIRED. TRACK MUST HAVE 125 FLANGE AND MATCH STUD WIDTH AND GAUGE. SEE DETAILS FOR PLACEMENT.
5. NESTED STUD REQUIRED IN UPPER TRACK. NESTED STUD MUST HAVE 162 FLANGE AND MATCH TRACK WIDTH AND GAUGE.

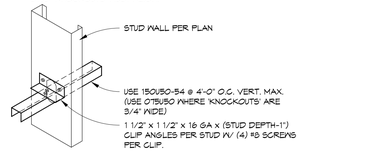


NOTES:
1. BRIDGING MUST BE INSTALLED IN ALL BEARING, NON-BEARING, EXTERIOR OR INTERIOR, LIGHT GAUGE STUD WALLS.
2. BRIDGING MAY BE OMITTED AT INTERIOR, NON-BEARING, LIGHT GAUGE STUD WALLS IF BOTH SIDES OF WALL WILL HAVE FULL HEIGHT WALL SHEATHING.
3. ANY OF THE FOLLOWING TYPES OF BRIDGING MAY BE APPLIED:



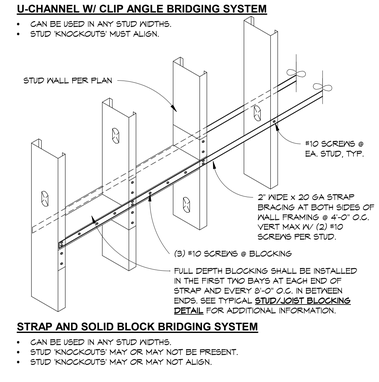
PROPRIETARY BRIDGING SYSTEM

- SHALL NOT BE USED IN STUDS OVER 6" WIDE.
- STUD 'KNOCKOUTS' MUST ALIGN.



U-CHANNEL W/ CLIP ANGLE BRIDGING SYSTEM

- CAN BE USED IN ANY STUD WIDTHS.
- STUD 'KNOCKOUTS' MUST ALIGN.



STRAP AND SOLID BLOCK BRIDGING SYSTEM

- CAN BE USED IN ANY STUD WIDTHS.
- STUD 'KNOCKOUTS' MAY OR MAY NOT BE PRESENT.
- STUD 'KNOCKOUTS' MAY OR MAY NOT ALIGN.

STANDARD TRACK (T) SECTIONAL PROPERTIES

SECTION	STUD SIZE	EFFECTIVE Sxx (IN.³)	EFFECTIVE Ixx (IN.⁴)
362T125-27	3 5/8" x 22 GA	0.135	0.301
362T125-30	3 5/8" x 20 GA	0.182	0.339
362T125-43	3 5/8" x 18 GA	0.245	0.531
362T250-43 *	3 5/8" x 18 GA	0.186	0.763
362T125-54	3 5/8" x 16 GA	0.312	0.676
362T250-54 *	3 5/8" x 16 GA	0.244	0.923
400T125-27	4" x 22 GAUGE	0.156	0.380
400T125-33	4" x 20 GAUGE	0.201	0.484
400T125-43	4" x 18 GAUGE	0.262	0.666
400T250-43 *	4" x 18 GAUGE	0.227	0.946
400T125-54	4" x 16 GAUGE	0.358	0.849
400T250-54 *	4" x 16 GAUGE	0.284	1.216
600T125-27	6" x 22 GAUGE	0.225	1.041
600T125-30	6" x 20 GAUGE	0.272	1.159
600T125-33	6" x 20 GAUGE	0.335	1.291
600T125-43	6" x 18 GAUGE	0.515	1.750
600T250-43 *	6" x 18 GAUGE	0.434	2.383
600T125-54	6" x 16 GAUGE	0.653	2.221
600T250-54 *	6" x 16 GAUGE	0.543	3.003
600T125-68	6" x 14 GAUGE	0.974	2.930
600T125-97	6" x 12 GAUGE	1.347	4.281
800T125-43	8" x 18 GAUGE	0.739	3.600
800T250-43 *	8" x 18 GAUGE	0.619	4.642
800T125-54	8" x 16 GAUGE	0.961	4.548
800T250-54 *	8" x 16 GAUGE	0.782	5.944
800T125-97	8" x 12 GAUGE	2.082	8.613

STANDARD TRACK (S) SECTIONAL PROPERTIES

SECTION	STUD SIZE	EFFECTIVE Sxx (IN.³)	EFFECTIVE Ixx (IN.⁴)
162S125-30	1 5/8" x 20 GA	0.059	0.060
162S125-33	1 5/8" x 20 GA	0.130	0.110
250S162-33	2 1/2" x 20 GA	0.180	0.235
250S162-43	2 1/2" x 18 GA	0.240	0.302
250S162-54	2 1/2" x 16 GA	0.288	0.370
250S162-68	2 1/2" x 14 GA	0.397	0.492
350S162-33	3 1/2" x 20 GA	0.219	0.306
350S162-43	3 1/2" x 18 GA	0.312	0.654
350S162-54	3 1/2" x 16 GA	0.447	0.804
350S162-68	3 1/2" x 14 GA	0.563	0.985
362S125-27	3 5/8" x 22 GA	0.154	0.338
362S125-30	3 5/8" x 20 GA	0.1750	0.375
362S162-33	3 5/8" x 20 GA	0.292	0.551
362S162-43	3 5/8" x 18 GA	0.384	0.710
362S162-54	3 5/8" x 16 GA	0.466	0.873
362S162-68	3 5/8" x 14 GA	0.594	1.095
400S125-27	4" x 22 GAUGE	0.127	0.428
400S125-30	4" x 20 GAUGE	0.202	0.473
400S162-33	4" x 20 GAUGE	0.332	0.692
400S162-43	4" x 18 GAUGE	0.443	0.942
400S162-54	4" x 16 GAUGE	0.533	1.045
400S162-68	4" x 14 GAUGE	0.666	1.346
550S162-33	5 1/2" x 20 GA	0.512	1.459
550S162-43	5 1/2" x 18 GA	0.651	1.888
550S162-54	5 1/2" x 16 GA	0.821	2.324
550S162-68	5 1/2" x 14 GA	1.031	2.861
600S125-27	6" x 22 GAUGE	0.274	1.148
600S125-30	6" x 20 GAUGE	0.331	1.259
600S125-43	6" x 18 GAUGE	0.504	1.802
600S162-33	6" x 20 GAUGE	0.577	1.793
600S162-43	6" x 18 GAUGE	0.767	2.316
600S162-54	6" x 16 GAUGE	0.927	2.860
600S162-68	6" x 14 GAUGE	1.164	3.528
600S162-97	6" x 12 GAUGE	1.598	4.787
800S125-43	8" x 18 GAUGE	0.644	3.646
800S162-33	8" x 20 GAUGE	0.757	3.562
800S162-43	8" x 18 GAUGE	1.1158	4.633
800S162-54	8" x 16 GAUGE	1.347	5.736
800S162-68	8" x 14 GAUGE	1.757	7.089
800S162-97	8" x 12 GAUGE	2.748	9.713
1000S162-54	10" x 16 GAUGE	1.712	9.450
1000S162-97	10" x 12 GAUGE	3.343	16.967
1200S250-97	12" x 12 GAUGE	5.446	34.016

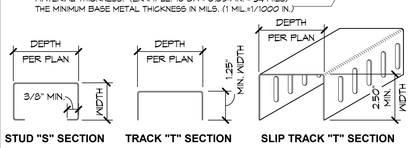
* SLOTTED MTL. TRACK. SEE TYP. SLIP TRACK DETAIL FOR ADDL. INFO.

1. ALL MEMBERS SHALL BE MANUFACTURED BY A CURRENT MEMBER OF THE STEEL STUD MANUFACTURER'S ASSOCIATION, IN ACCORDANCE WITH THE LATEST AMERICAN IRON AND STEEL INSTITUTE - NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS INCLUDING THE LATEST SUPPLEMENTS (A.I.S.I.-N.A.S.).
2. ALL GALVANIZED STUDS, TRACKS AND JOISTS SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE MINIMUM REQUIREMENTS OF THE LATEST A.I.S.I.-N.A.S. STANDARD.
3. ALL STEEL MEMBERS SHALL HAVE PHYSICAL MARKING AND IDENTIFICATION NUMBERS AS REQUIRED BY A.S.T.M. C645 AND A.S.T.M. C955. THESE MARKINGS MUST INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING INFORMATION: DEPTH, FLANGE WIDTH, MINIMUM STEEL THICKNESS, MANUFACTURER DESIGNATION, STEEL YIELD STRENGTH AND PROTECTIVE COATING WEIGHT.
4. STRUCTURAL STEEL FRAMING MEMBERS MUST MEET THE PHYSICAL REQUIREMENTS OF A.S.T.M. C955, THE INSTALLATION REQUIREMENTS OF A.S.T.M. C1007 AND THE MINIMUM COATING REQUIREMENTS OF A.S.T.M. A653 COATING DESIGNATION G-60.
5. NON-STRUCTURAL STEEL FRAMING MEMBERS MUST MEET THE PHYSICAL REQUIREMENTS OF A.S.T.M. C645, THE INSTALLATION REQUIREMENTS OF A.S.T.M. C754 AND THE MINIMUM COATING REQUIREMENTS OF A.S.T.M. A653 COATING DESIGNATION G-40.
6. STEEL SHALL BE A.S.T.M. A1003, GRADE 50 FOR 12, 14, AND 16 GAUGE SECTIONS, AND A.S.T.M. A1003, GRADE 33 FOR 18 AND HIGHER GAUGE SECTIONS.
7. PROVIDE STEEL MEMBERS WITH SECTION PROPERTIES EQUAL TO OR GREATER THAN THOSE SPECIFIED BY THE "STEEL STUD MANUFACTURER'S ASSOCIATION" (S.S.M.A.) CATALOG, ICC ESR-3084P, FOR THE MEMBER SIZES DESIGNATED ON THE PLANS.
8. THE CONTRACTOR MUST PROVIDE A MATERIAL SUBMITTAL INDICATING THE SIZE, GAUGE, SECTIONAL PROPERTIES AND MATERIALS TO BE USED TO THE ARCHITECT AND ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION ACCORDANCE WITH THE SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AGENCY APPROVAL FOR ANY SUBSTITUTIONS.
9. BENT, KINKED, DISTORTED, CORRODED OR DAMAGED SECTIONS SHALL NOT BE USED.
10. STUDS MAY HAVE CUTOUTS (OR KNOCKOUTS). CUTOUTS MAY BE A MAXIMUM DIMENSION OF 1 1/2" WIDE x 4" LONG AND HAVE A MINIMUM SPACING OF 24" O.C. EXCEPT CUTOUTS FOR 1 5/8" AND 2 1/2" MUST NOT EXCEED A WIDTH OF 3/4". CUTOUTS SHALL NOT BE CLOSER THAN 12" FROM MEMBER ENDS.
11. ALL WELDING TO BE PERFORMED BY LIGHT GAUGE WELDERS CERTIFIED FOR ALL APPROPRIATE DIRECTIONS COMPLYING WITH AWS. D1.3. WELDING RODS SHALL CONFORM TO THE FOLLOWING:
    - 18 GA. AND LIGHTER: E60XX
    - 16 GA. AND HEAVIER: E70XX OR E6013
    - LIGHT GAUGE TO STRUCTURAL STEEL: E70XX LOW HYDROGEN
12. ALL WELDS OF GALVANIZED STEEL SHALL BE TOUCHED UP WITH A ZNC-RICH PAINT. ALL WELDS OF CARBON SHEET STEEL SHALL BE TOUCHED UP WITH PAINT.
13. WIRE TYING OF COMPONENTS SHALL NOT BE PERMITTED.
14. LATERAL BRIDGING FOR STEEL STUD IS REQUIRED WHEN WALL BOARD, INSTALLED IN ACCORDANCE WITH A.I.S.I.-N.A.S. REQUIREMENTS, DOES NOT CONTINUE FULL HEIGHT ON BOTH SIDES. BRIDGING SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND TYPICAL DTL. BRIDGING FOR LT. GAUGE STL. ALL EXTERIOR WALLS SHALL HAVE BRIDGING PER TYPICAL DTL. BRIDGING FOR LT. GAUGE STL.
15. SCREWS SHALL BE ITW BUILDEX TEKS (ESR-1976) OR EQUIVALENT SELF-DRILLING/SELF-TAPPING STEEL SCREWS INSTALLED IN ACCORDANCE WITH THE A.I.S.I.-N.A.S. SCREWS SHALL HAVE SUFFICIENT LENGTH TO ENSURE A MINIMUM OF 3 FULL THREADS SHOWING AFTER PENETRATION OF JOINED LIGHT GAUGE MATERIALS. SCREWS SHALL HAVE A MINIMUM OF 1" EDGE/SPACING DISTANCE. THE MINIMUM SCREW HEAD DIAMETER SHALL BE 5/16", AND SCREW SIZES SHALL CONFORM TO THE FOLLOWING, U.N.O. :

METAL TO METAL FASTENER SIZE	
METAL THICKNESS 'T'	SCREW TYPE
T < 12 GA.	#10 W/ #3 POINT
12 GA. < T < 3/16"	#12 W/ #3 POINT
3/16" < T < 5/16"	1/4" DIA. W/ #4 POINT

16. LIGHT GAUGE STEEL CONTRACTOR SHALL PROVIDE ALL ACCESSORIES INCLUDING, BUT NOT LIMITED TO, TRACKS, CLIPS, WEB STIFFENERS, ANCHORS, FASTENING DEVICES, RESILIENT CLIPS AND OTHER ACCESSORIES REQUIRED FOR A COMPLETE AND PROPER INSTALLATION, AND AS RECOMMENDED BY THE MANUFACTURER FOR THE STEEL MEMBERS BEING USED.
17. STEEL TRACKS THAT OCCUR UNDER ALL EXTERIOR CURTAIN WALLS, BEARING WALLS AND SHEAR WALLS SHALL BE BOLTED TO MASONRY OR CONCRETE WITH 5/8"Ø x 12" BOLTS SPACED NOT MORE THAN 5'-0" ON CENTER, WITH A MIN. OF 2 BOLTS FOR EACH PIECE OF TRACK, U.N.O. USE STANDARD STEEL PLATE WASHERS AT EACH BOLT LOCATION.
18. ALL ANCHOR BOLTS IN STEEL TRACKS SHALL BE 4 INCH MINIMUM AND 12 INCH MAXIMUM FROM THE END OF THE TRACK, AND HAVE 7 INCH MINIMUM EMBEDMENT INTO CONCRETE OR MASONRY. ANY LOCATION WHERE A HOLE OR NOTCH OCCURS THROUGH A TRACK FLANGE, TRACK SHALL HAVE AN ADDITIONAL ANCHOR BOLT PLACED 4 INCHES TO 12 INCHES ON EACH SIDE OF THE HOLE OR NOTCH.
19. ALL ANCHOR BOLTS SHALL BE MACHINE MADE TYPE F1554 GRADE 36 U.N.O. BOLTS WITH UPSET THREADS ARE NOT PERMITTED.
20. ALL STEEL FRAMING MEMBERS SHALL BE DESIGNATED ON PLANS WITH THE S.S.M.A. STUD AND TRACK SECTION NOMENCLATURE AS DESCRIBED BELOW:
    - MEMBER DEPTH: (EXAMPLE: 6" = **600** X 1/100 INCHES) FOR ALL "T" SECTIONS MEMBER DEPTH IS THE INSIDE TO INSIDE DIMENSION.
    - STYLE: (EXAMPLE: STUD OR JOIST SECTION = **S**)
    - FLANGE WIDTH: (EXAMPLE: 1 5/8" = 1.625" = **162**) ALL FLANGE WIDTHS ARE TAKEN IN 1/100 INCHES.
    - MATERIAL THICKNESS: (EXAMPLE: 18 GA = 0.054 IN. = **54** MILS) THE MINIMUM BASE METAL THICKNESS IN MILS. (1 MIL=1/1000 IN.)

600 S 162 - 54



STUD "S" SECTION | TRACK "T" SECTION | SLIP TRACK "T" SECTION

DSA File No.: *20-30*

DSA Application No.: *02-123203*

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APP: 02-123203 INC:
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SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025
Agency Approval

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Consultant

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

TYPICAL LIGHT GAUGE NOTES & DETAILS
Drawing

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ARCHITECTURE
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LICENSED ARCHITECT
GREGORY J. ARVANITES
No. C-26235
Exp. 10-31-25
STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date

Revision

Designed By: ER | Copyright Darden Architects
Scale: 12" = 1'-0" | Drawn By: ER
Project Number: 2470.2 | Checked By: AL
Date: 06/20/2025 | Reviewed By: AL

X/S105

J1 BEARING AND EXTERIOR WALL FRAMING AT OPENINGS

X/S105 NOT TO SCALE

E1 SHEAR WALL SCHEDULE

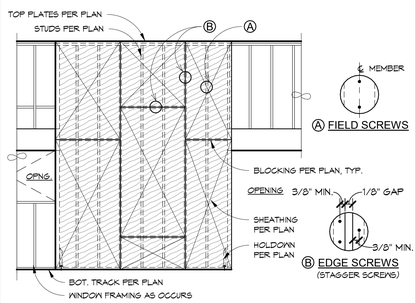
X/S105 NOT TO SCALE

SHEAR WALL SCHEDULE					
MARK	SHEATHING TYPE	SHEATHING SCREWS (2)	ANCHOR BOLTS (1)	COMMENT	MAX. ALLOWABLE SHEAR (PLF)
A	15/32" STRUCT 1 PLYWOOD	#8 SMS @ 6:12	48" O.C.	(4)	356
B	15/32" STRUCT 1 PLYWOOD	#8 SMS @ 4:12	32" O.C.	(4)	532

1. 5/8"Ø x 12" LONG (MIN.) ANCHOR BOLTS AT BOT. TRACK, U.N.O. USE 3"x3"x1/4" SLOTTED WASHER PER C.B.C. 2305.1.2 (OR SIMPSON BPS) AT EACH ANCHOR BOLT. SEE LIGHT GAUGE STEEL NOTES FOR ADDITIONAL WASHER REQUIREMENTS.
2. ALL SCREWS SHALL BE #8, DO NOT CRUSH FACEPLY. (I.E., 6:12 = 6" O.C. E.S., 12" O.C. F.S.)
3. BOTTOM TRACK ATTACHMENT PER TYPICAL BEARING AND EXTERIOR WALL FRAMING AT OPENINGS DETAIL.
4. BLOCK ALL PLYWOOD EDGES AND STAGGER SCREWS ON EACH SIDE OF PLYWOOD JOINTS.
5. PLYWOOD SHALL NOT BE LESS THAN 1'-4" IN LEAST DIMENSION OR 8 SQ. FT. IN AREA. SEE SHEAR WALL ELEVATION DETAIL.
6. SHEAR WALLS MORE THAN ONE PANEL IN HEIGHT SHALL HAVE STAGGERED JOINTS.
7. PRE-DRILL ALL HOLES WHERE PLYWOOD TENDS TO SPLIT.

E4 SHEAR WALL ELEVATION (SEGMENTED)

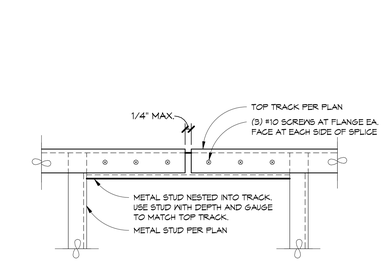
X/S105 NOT TO SCALE



NOTES:
1. SHEAR WALLS LESS THAN ONE VERT. PANEL IN HEIGHT DO NOT REQUIRE STAGGERED PANELS.
2. SEE WOOD NOTES AND SHEARWALL SCHEDULE FOR ADDL. INFO.
3. SEE TYP. WALL FRAMING DETAIL FOR WALL CONST. INFO. U.N.O.

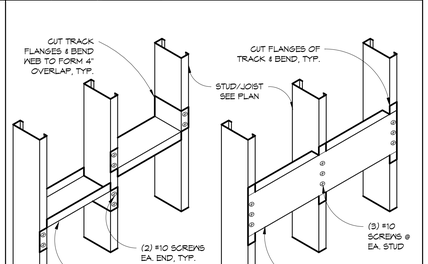
E7 TRACK SPLICE FOR LIGHT GAGE STEEL

X/S105 NOT TO SCALE



E11 STUD/JOIST BLOCKING FOR LT GA STL.

X/S105 NOT TO SCALE



E14 LIGHT GAUGE STEEL NOTES

X/S105 NOT TO SCALE

A1 HOLDOWN SCHEDULE

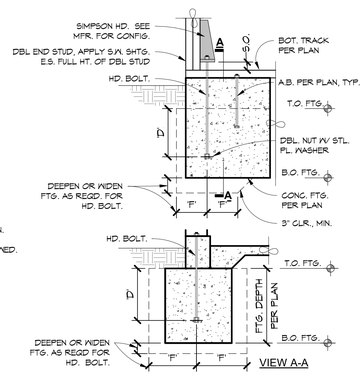
X/S105 NOT TO SCALE

HOLDOWN SCHEDULE							
MARK	SIMPSON HOLDOWN TYPE	MIN. STUD THK. (U.N.O. ON PLANS)	STAND OFF (S.O.) (INCHES)	HOLDOWN BOLT TYPES			
				SIMPSON PRE-ASSEMBLED ANCHOR BOLT (PAB)			
				BOLT DIA. (IN.)	WASHER SIZE (IN x IN x IN THICK)	MIN. EFFECTIVE DEPTH D (IN)	MIN. COVER F (IN)
A	S/HDU4	(2) -54	1 1/2	5/8	1 3/4 x 1 3/4 x 1/2	6	9
B	S/HDU6	(2) -54	1 1/2	5/8	1 3/4 x 1 3/4 x 1/2	6	9

1. REFER TO THE LATEST EDITION OF THE SIMPSON STRONG-TIE CATALOG FOR HOLDOWN INSTALLATION INSTRUCTIONS, AND FOR THE NUMBER AND TYPE OF FASTENERS REQUIRED FOR EACH TYPE OF HOLDOWN.
2. HOLDOWN BOLTS DO NOT REPLACE ADJACENT TYPICAL ANCHOR BOLTS.
3. WHERE BOLTS ATTACH HOLDOWN TO THE ADJACENT POST, NO COUNTER SINKING OF THE BOLTS IS ALLOWED.
4. DOUBLE NUTS SHALL BE SNUG TIGHT TO STEEL PLATE WASHER.
5. HOLDOWN BOLTS MUST BE TIED SECURELY INTO POSITION PRIOR TO THE POURING OF CONCRETE.
6. DOUBLE 600S162-54 MUST BE STITCH SCREWED FULL HEIGHT WITH #8 @ 6" O.C., STAGGERED.
7. CONCRETE COMPRESSIVE STRENGTH OF 3,000 PSI MIN.

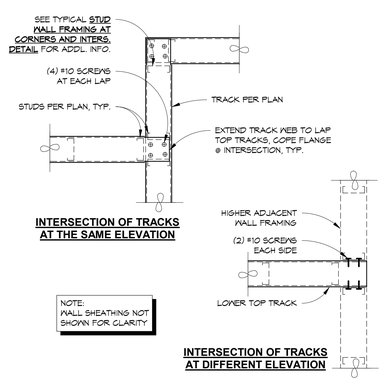
A4 SHEAR WALL ELEVATION (SEGMENTED)

X/S105 NOT TO SCALE



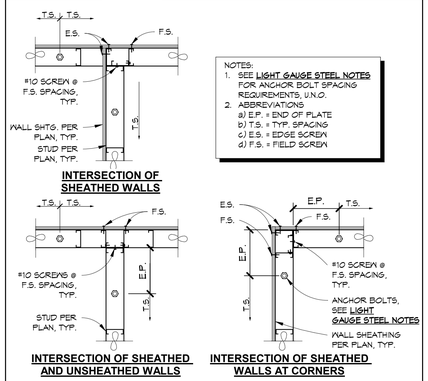
A7 TOP TRACK FRAMING AT CORNERS

X/S105 NOT TO SCALE



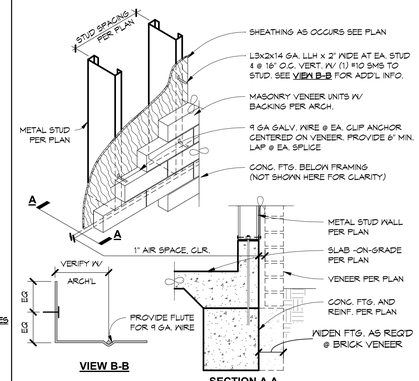
A11 STUD WALL FRAMING AT CORNERS

X/S105 NOT TO SCALE



A14 MASONRY VENEER TO MTL. STUD FRMG

X/S105 NOT TO SCALE

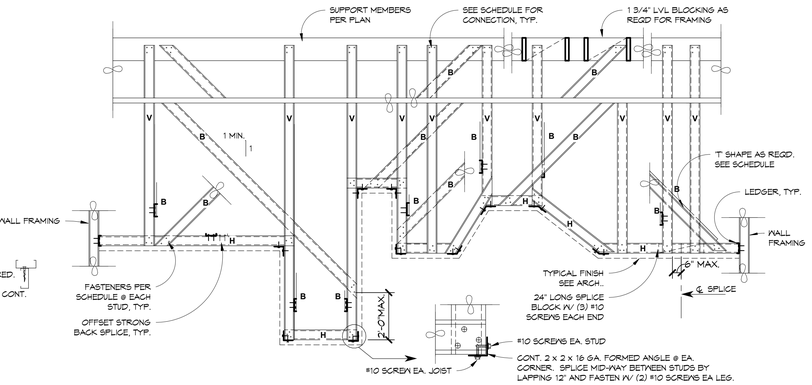

STUD SPACING PER PLAN
SHEATHING AS OCCURS SEE PLAN
L3x2x14 GA. LLH x 2" WIDE AT EA. STUD & @ 16" O.C. VERT. W/ (1) #10 SMS TO STUD. SEE VIEW B-B FOR ADD'L INFO.
MASONRY VENEER UNITS W/ BACKING PER ARCH.
9 GA

SOFFIT FRAMING SCHEDULE				
	H	V	B	LEDGER
MAX. O.C. MEMBER SPACING	2'-0"	2'-0"	4'-0"	-
MAX. LENGTH OF MEMBER	<10'-0"	8'-0"	<6'-0"**	-
	10'-1" TO 12'-0" *		6'-1" TO 14'-0"***	
REQUIRED FASTENERS @ CONNECTIONS	(2) #10 SCREWS	(3) #10 SCREWS[a]	(3) #10 SCREWS[a]	(2) #10 SCREWS MIN. PER STEEL STUD

SCHEDULE ASSUMES:
- 400S125-30 MEMBERS U.N.O.
- 13.0 PSF D.L. + 10 PSF L.L.
- MAX D.L. DEFLECTION = L/360
- (*) INDICATES 600S125-30 MEMBER REQUIRED.
- (**) INDICATES 400S162-33
- (***) INDICATES DBL. 400S162-33 W/ #10 SCREWS @ 12" O.C. STITCHED IN "I" SHAPE REQUIRED.
- LEDGER TRACKS SHALL MATCH JOIST DEPTH & GAUGE.
- ALL HORIZONTAL MEMBERS LONGER THAN 6'-0" MUST HAVE A 150U150-54 STRONG BACK CONT. @ MIDSPAN. USE (2) #10 SCREWS @ CONNECTIONS.

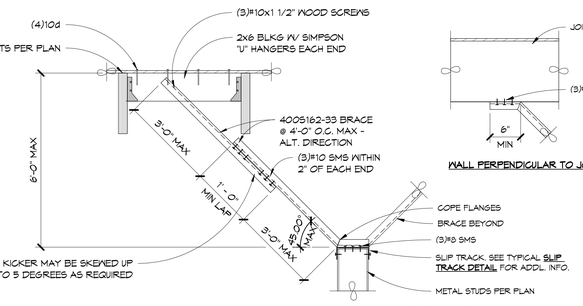
a. WHERE CONNECTING TO WOOD FRAMING, USE #10 x 3" MIN. PEN. WOOD SCREWS.

NOTE:
BRACES REQUIRED AT ALL VERTICAL OFFSETS.
ALTERNATE DIRECTION OF BRACES WHERE POSSIBLE

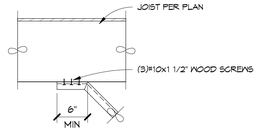


N1 SOFFIT FRAMING FOR LT. GA. STL. CONSTRUCTION

X/S106 NOT TO SCALE



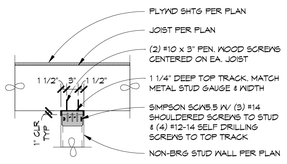
WALL PARALLEL OR SKEWED TO JOIST



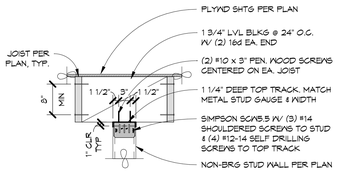
WALL PERPENDICULAR TO JOIST

J1 NON-BEARING WALL BRACING FOR LT. GAUGE STL. TO WOOD ROOF

X/S106 NOT TO SCALE



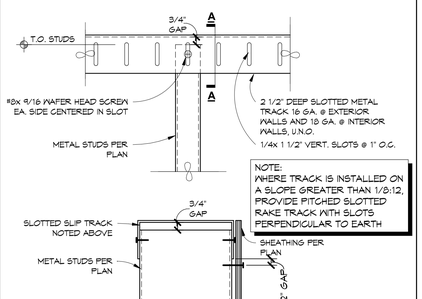
PERPENDICULAR TO JOISTS



PARALLEL TO JOISTS

E1 NON-BRG FULL HT. WALL TO WD RF

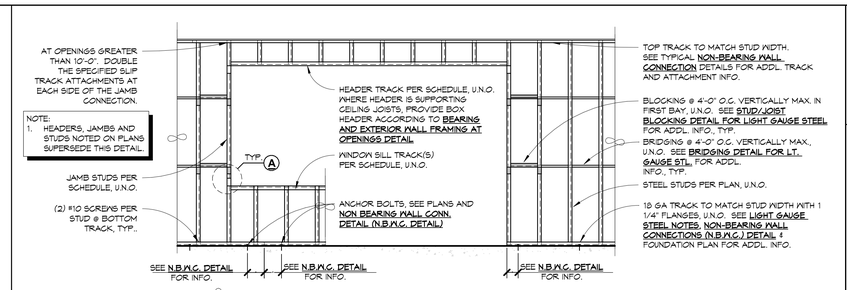
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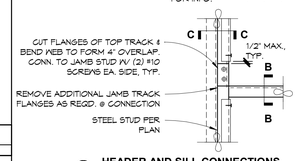


VIEW A-A

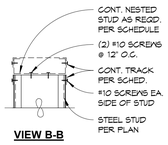
J7 SLIP TRACK FOR NON-BRG LT GA STL.

X/S106 NOT TO SCALE

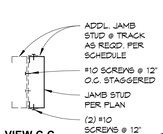




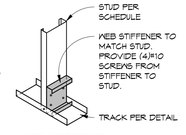
A HEADER AND SILL CONNECTIONS



VIEW B-B



VIEW C-C



D WEB STIFFENER

J11 NON-BEARING AND INTERIOR WALL FRAMING AT OPENINGS

X/S106 NOT TO SCALE

ALLOWABLE STUD HEIGHTS[1]						
STUD MEMBER	INTERIOR (5 PSF LAT) NON-LOAD BEARING BRITTLE FINISHES[2]			INTERIOR (5 PSF LAT) NON-LOAD BEARING FLEXIBLE FINISHES[3]		
	12" O.C.	16" O.C.	24" O.C.	12" O.C.	16" O.C.	24" O.C.
362S125-21	16'-6"	15'-0"	13'-1"	18'-10"	16'-4"	13'-4"
362S125-30	17'-0"	15'-6"	13'-6"	20'-3"	17'-7"	14'-4"
400S125-21	17'-10"	16'-2"	14'-1"	14'-11"	17'-3"	14'-1"
400S125-30	18'-5"	16'-8"	14'-7"	21'-5"	18'-6"	15'-2"
600S125-21	24'-4"±	21'-6"±	17'-1"±	24'-10"±	21'-6"±	17'-1"±
600S125-30	25'-2"	22'-11"	18'-11"	26'-10"	23'-3"	18'-11"
600S125-43	36'-1"	32'-9"	28'-8"	40'-11"	35'-5"	28'-11"

1. THIS INFORMATION IS PER ICC ESR-3064P AS REVISED IN 2024 FOR THE ABOVE REFERENCED STUDS. ALLOWABLE HEIGHTS ARE FROM THE 559MA 2021 IBC COMPLIANT CATALOGUE.
2. BRITTLE FINISHES INCLUDE WALLS WITH STUCCO OR CEMENT PLASTER ON BOTH SIDES OR ONE SIDE & GYPSUM WALL BOARD ON OTHER SIDE. DEFLECTION LIMIT= L/240.
3. FLEXIBLE FINISHES INCLUDE WALLS WITH GYPSUM WALLBOARD OR WOOD SIDING ON BOTH SIDES. DEFLECTION LIMIT = L/120.
4. WHERE LIMITING HEIGHTS ARE FOLLOWED BY "e", WEB STIFFENERS ARE REQUIRED. SEE DETAIL D ABOVE FOR ADDITIONAL INFORMATION.

LIGHT GAUGE FRAMING SCHEDULE[1]				
WALL TYPE	SPAN LENGTH	HEADER TRACK	JAMB STUDS	WINDOW SILL TRACK(S)
3 5/8" STUDS	0'-0" TO 8'-0"	362T125-43	(2)362S162-33[3]	362T125-21
	8'-1" TO 10'-0"	362T125-54	(2)362S125-33[3]	362T125-30
	10'-1" TO 14'-0"	(2)362T125-54[3]	(2)362S125-43[3]	(2)362T125-30[3]
4" STUDS	0'-0" TO 8'-0"	400T125-21	400S162-54	400T125-21
	8'-1" TO 8'-0"	400T125-33	(2)400S162-33[3]	400T125-21
	8'-1" TO 10'-0"	400T125-54	(2)400S162-33[3]	400T125-21
	10'-1" TO 14'-0"	(2)400T125-43[3]	(2)400S162-33[3]	400T125-54
6" STUDS[4]	0'-0" TO 8'-0"	600T125-30	600S162-54	600T125-21
	8'-1" TO 8'-0"	600T125-43	(2)600S162-33[3]	600T125-21
	10'-1" TO 12'-0"	600T125-54	(2)600S162-33[3]	600T125-30
	12'-1" TO 14'-0"	(2)600T125-43[3]	(2)600S162-43[3]	600T125-33
	14'-1" TO 16'-0"	(2)600T125-54[3]	(2)600S162-54[3]	600T125-54

1. LIMITATIONS: 1) 5 PSF MAX. OUT-OF-PLANE LOAD (ASD) TO HDR, JAMB AND SILL. 2) 15'-0" MAX WALL HT. FOR 3 5/8" AND 4" STUDS. 3) 22'-0" MAX WALL HT. FOR 6" STUDS. 4) DEFLECTION LIMIT = L/240 OUT-OF PLANE.
2. ADDITIONAL TRACK REQUIRED. TRACK MUST HAVE 125 FLANGE AND MATCH STUD WIDTH AND GAUGE. SEE DETAILS FOR PLACEMENT.
3. NESTED STUD REQUIRED IN UPPER TRACK. NESTED STUD MUST HAVE 162 FLANGE AND MATCH TRACK WIDTH AND GAUGE.
4. WHERE 6" STUDS ARE REQUIRED, USE FLANGE SIZES & GAUGES SPECIFIED FOR 6" MEMBERS IN CHART.

DSA File No.: *20-30*

DSA Application No.: *02-123203*

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025
Agency Approval

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TYPICAL LIGHT GAUGE NOTES & DETAILS
Drawing

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LICENSED ARCHITECT ANTONIO J. AVALOS No. C26235 REG. 10-31-25 STATE OF CALIFORNIA

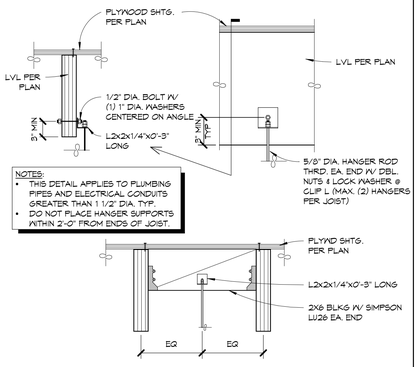
Architect

No.	Revision/Submission	Date

Revision

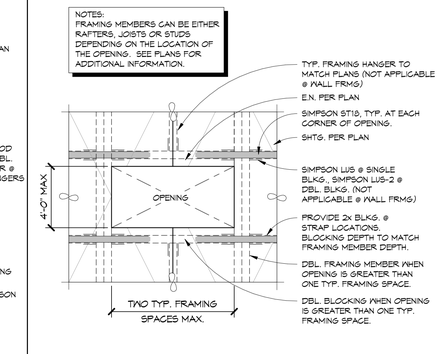
	Designed By: ER	Copyright	Darden Architects
Scale: As indicated	Drawn By: ER	X/S106	
Project Number: 2470.2	Checked By: AL		
Date: 06/20/2025	Reviewed By: AL		

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N1 MECHL HANGER SUPPORT

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N4 BLOCKING AROUND OPENING

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NAILING SCHEDULE			
#	CONNECTION	FASTENING a,g,h,i	LOCATION
1.	JOIST TO SILL OR GIRDER	3 - 8d	TOENAIL
2.	BRIDGING TO JOIST	2 - 8d	TOENAIL EACH END
3.	1"x6" SUBFLOOR OR LESS TO EACH JOIST	2 - 8d	FACE NAIL
4.	1"x6" SUBFLOOR OR GREATER TO EACH JOIST	3 - 8d	FACE NAIL
5.	2" SUBFLOOR TO JOIST OR GIRDER	2 - 16d	BLIND & FACE NAIL
6.	SOLE PLATE TO JOIST OR BLOCKING	16d @ 16" O.C.	TYPICAL FACE NAIL
	SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANEL	3 - 16d @ 16"O.C.	BRACED WALL PANELS
7.	TOP PLATE TO STUD	2- 16d	END NAIL
8.	STUD TO SOLE PLATE	4 - 8d 2 - 16d	TOENAIL END NAIL
9.	DOUBLE STUDS	16d @ 24" O.C.	FACE NAIL
10.	DOUBLE 2x TOP PLATE	16d @ 16" O.C. 8 - 16d	FACE NAIL LAP SPLICE
	3x TOP PLATE OVER 2X PLATE	20d @ 16"O.C. 8 - 20d	FACE NAIL LAP SPLICE
11.	BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	3 - 8d	TOENAIL
12.	RIM JOIST TO TOP PLATE	8d @ 6" O.C.	TOENAIL
13.	TOP PLATES, LAPS & INTERSECTIONS	2 - 16d	FACE NAIL
14.	CONTINUOUS HEADER, TWO PIECES	16d	16" O.C. @ EDGE
15.	CEILING JOISTS TO PLATE	3 - 8d	TOENAIL
16.	CONTINUOUS HEADER TO STUD	4 - 8d	TOENAIL
17.	CEILING JOISTS LAPS OVER PARTITIONS	3 - 16d MIN. TABLE 2308.7.3.1	FACE NAIL
18.	CEILING JOISTS TO PARALLEL RAFTERS	3 - 16d TABLE 2308.7.3.1	FACE NAIL
19.	RAFTER TO PLATE	3 - 8d	TOENAIL
20.	1" DIAGONAL BRACE TO EACH STUD AND PLATE	2 - 8d	FACE NAIL
21.	1"x8" SHEATHING TO EA. BEARING	3 - 8d	FACE NAIL
22.	WIDER THAN 1"x8" SHEATHING TO EACH BEARING	3 - 8d	FACE NAIL
23.	BUILT-UP CORNER STUDS	16d	24" O.C.
24.	BUILT-UP GIRDER AND BEAMS	20d @ 32" O.C.	FACE NAIL @ TOP AND BOT. STAG. ON OPPOSITE SIDES
		2 - 20d	FACE NAIL @ ENDS AND @ EA. SPLICE
25.	2" PLANKS	16d	@ EACH BEARING
26.	COLLAR TIE TO RAFTER	3 - 10d	FACE NAIL
27.	JACK RAFTER TO HIP	3 - 10d 2 - 16d	TOENAIL FACE NAIL
28.	ROOF RAFTER TO 2x RIDGE BEAM	2 - 16d 2 - 16d	TOENAIL FACE NAIL
29.	JOIST TO BAND JOIST	3 - 16d	FACE NAIL
30.	LEDGER STRIP	3 - 16d	FACE NAIL
31.	WOOD STRUCTURAL PANELS AND PARTICLEBOARD, SUBFLOOR, ROOF AND WALL SHEATHING (TO FRAMING)f	1/2" & LESS 19/32" to 3/4" 7/8" to 1" 1 1/8" to 1 1/4"	6d f 8d, 6d 8d 10d, 8d -
	SINGLE FLOOR (COMBINATION SUBFLOOR-UNDERLAYMENT TO FRAMING)f	3/4" & LESS 7/8" to 1" 1 1/8" to 1 1/4"	6d 8d 10d / 8d -
32.	PANEL SIDING (TO FRAMING)	1/2" & LESS 5/8"	6d c 8d c -
33.	FIBERBOARD SHEATHING	1/2" 25/32"	6d 8d -
34.	INTERIOR PANELINGf	1/4" to 3/8"	6d -

a. COMMON NAILS ARE REQUIRED TO BE USED U.N.O. COMMON NAIL PROPERTIES ARE AS FOLLOWS:
- 6d = 0.113"Ø x 2" LONG
- 8d = 0.131"Ø x 2 1/2" LONG
- 10d = 0.148"Ø x 3" LONG
- 16d = 0.162"Ø x 3 1/2" LONG
- 20d = 0.192"Ø x 4" LONG

b. NAILS SPACED AT 6" O.C. AT EDGES, 12" AT INTERMEDIATE SUPPORTS EXCEPT 6" AT SUPPORTS WHERE SPANS ARE 48" OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND PARTICLEBOARD DIAPHRAGMS AND SHEAR WALLS, REFER TO SECTION 2305.

c. CORROSION-RESISTANT SIDING (6d - 1 1/8"x0.106"; 8d - 2 3/8"x0.128") OR CASING (6d - 2"x0.099"; 8d - 2 1/2"x0.113") NAIL.

d. FASTENERS SPACED 3" O.C. AT EXTERIOR EDGES AND 6" O.C. AT INTERMEDIATE SUPPORTS, WHEN USED AS STRUCTURAL SHEATHING. SPACING SHALL BE 6" O.C. EN. & 12" O.C. F.N. FOR NONSTRUCTURAL APPLICATIONS.

e. NAILS SPACED 6" ON PANEL EDGES, 12" AT INTERMEDIATE SUPPORTS.

f. ROOF SHEATHING APPLICATIONS, 8d ARE THE MINIMUM REQUIRED FOR WOOD STRUCTURAL PANELS.

g. NAILING DRIVEN INTO PRESERVATIVE TREATED WOOD SHALL BE HOT DIPPED GALVANIZED OR EQUIVALENT.

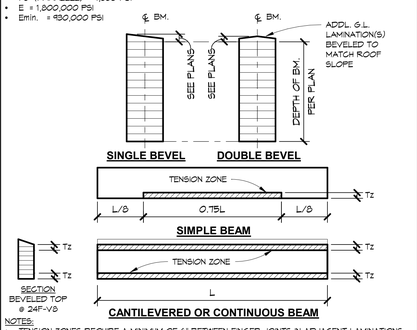
h. THIS SCHEDULE WILL GOVERN UNLESS NOTED OTHERWISE ON PLANS.

i. FASTENERS USED FOR THE ATTACHMENT OF EXTERIOR WALL COVERINGS SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, WITH COATING PER A.S.T.M. A153.

E7 NAILING SCHED C.B.C. TABLE 2304.10.2

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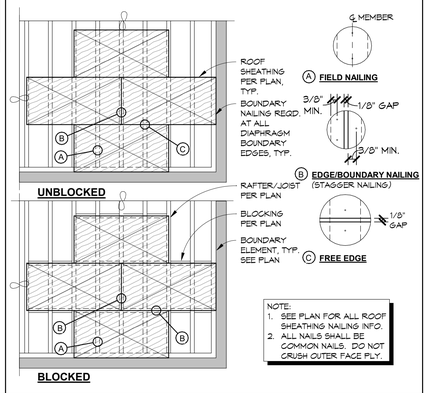
1. ALL GLB MEMBERS TO BE 'GLUE LAMINATED' TIMBERS AS SPECIFIED IN N.D.S.-18 SECTION 5 AND 2022 C.B.C. SECTION 2303.1.3.1. ALL GLB SHALL BE CONSTRUCTED FROM THE D.F. SPECIES GROUP MATERIAL. SEE STRUCTURAL PLANS FOR SPECIFIC INFORMATION ON THE GLB'S BEING USED ON THIS PROJECT. SUBSTITUTE GLB'S MUST BE SUBMITTED AND APPROVED BY D.S.A./H.C.A.I. AS A CHANGE ORDER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL BEAR ALL COSTS OF OBTAINING APPROVAL OF SUBSTITUTES, WITH NO GUARANTEE THAT THE SUBSTITUTE WILL BE ACCEPTED.
2. ALL GLB SHALL BE MANUFACTURED AND IDENTIFIED AS REQUIRED BY A.I.T.C. A190.1 AND A.S.T.M. D3737.
3. ALL GLB MEMBERS SHALL BE DESIGNED TO THE REQUIREMENTS OF THE 2022 C.B.C. CHAPTER 23 AND N.D.S.-18 SECTION 5.
4. ALLOWABLE STRESS INCREASES FOR LOAD DURATION SHALL BE:
- WIND OR SEISMIC 1.6
- ROOF AND SNOW 1.15
- FLOOR 1.0
5. NO REPETITIVE MEMBER STRESS INCREASES ARE ALLOWED PER N.D.S.-18 SECTION 5.
6. NO HOLES OR NOTCHES OF ANY KIND ARE ALLOWED IN ANY GLB'S, UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
7. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS WITH ARCHITECTURAL DRAWINGS, AND THEN VERIFY IN FIELD WALL LAYOUT DIMENSIONS. NOTIFY THE ENGINEER AND ARCHITECT PRIOR TO PROCEEDING IF ANY DISCREPANCIES EXIST.
8. ALL GLB'S ARE IN DRY SERVICE CONDITIONS, U.N.O. WHERE WET SERVICE CONDITIONS OCCUR, THE GLB'S SHALL MEET THE REQUIREMENTS OF THE 2022 C.B.C. SECTION 2304.11.3.
9. DURING SHIPPING AND FIELD HANDLING, ALL SEALING AND WRAPPING REQUIREMENTS OF A.I.T.C. 111 SHALL APPLY.
10. ALL SIMPLE SPAN GLB MEMBERS SHALL BE 24F-V4. ALL CANTILEVERED OR MULTI SPAN GLB MEMBERS SHALL BE 24F-V8, U.N.O.
11. GLB MEMBERS SHALL MEET THE MINIMUM PROPERTIES SHOWN BELOW:
- Fb = 2,400 PSI
- Fv = 265 PSI
- Fc (PERPENDICULAR) = 650 PSI
- Fc (PARALLEL) = 1,650 PSI
- E = 1,800,000 PSI
- Emin. = 930,000 PSI



NOTES:
- TENSION ZONES REQUIRE A MINIMUM OF 6" BETWEEN FINGER JOINTS IN ADJACENT LAMINATIONS
- Tz = 1/8" DEPTH + 1 LAMINATION

E11 ROOF SHTG FOR WOOD DIAPHRAGMS

X/S107 NOT TO SCALE



NOTE:
1. SEE PLAN FOR ALL ROOF SHEATHING NAILING INFO.
2. ALL NAILS SHALL BE COMMON NAILS. DO NOT CRUSH OUTER FACE PLY.

J11 GLUE LAMINATED BEAM NOTES

X/S107 NOT TO SCALE

1. ALL BOLTS SHALL BE MACHINE MADE TYPE F1554 GRADE 36 U.N.O.
2. BOLT HOLES IN WOOD SHALL BE OVERSIZED BY NOT MORE THAN 1/32".
3. ALL BOLTS AND LAG SCREWS SHALL BE PROVIDED WITH STANDARD STEEL WASHERS UNDER HEAD AND NUTS WHICH BEAR ON WOOD ACCORDING TO THE WASHER SCHEDULE BELOW, U.N.O.

WASHER SCHEDULE			
BOLT SIZE	STEEL PLATE SQUARE	MALLEABLE IRON ROUND	STANDARD CUT WASHER
1/2"Ø	2 x 2 x 1/4"	2 1/2"Ø x 1/4"	1 3/8"Ø x 7/64"
5/8"Ø	2 1/2 x 2 1/2 x 1/4"	2 3/4"Ø x 5/16"	1 3/4"Ø x 1/8"
3/4"Ø	3 x 3 x 5/16"	3"Ø x 3/8"	2"Ø x 5/32"
7/8"Ø	3 1/2 x 3 1/2 x 5/8"	3 1/2"Ø x 7/16"	2 1/4"Ø x 11/64"
1"Ø	3 3/4 x 3 3/4 x 7/16"	4"Ø x 1/2"	2 1/2"Ø x 11/64"
1 1/8"Ø	4 x 4 x 7/16"	4 1/2"Ø x 9/16"	2 3/4"Ø x 11/64"
1 1/2"Ø	4 1/4 x 4 1/4 x 1/2"	5"Ø x 5/8"	3 1/2"Ø x 3/16"

4. BOLTS AND SCREWS SHALL BE TIGHTENED AT TIME OF ERECTION AND RETIGHTENED BEFORE CLOSING IN OR AT COMPLETION OF JOB.
5. ALL EXPOSED FASTENERS SHALL HAVE ZINC-COATING CORROSION RESISTANCE.
6. ALL FASTENERS AND HARDWARE IN CONTACT WITH PRESERVATIVE-TREATED OR FIRE RETARDANT WOOD SHALL BE HOT DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. THE COATING WEIGHT FOR ZINC-COATED FASTENERS SHALL BE IN ACCORDANCE WITH A.S.T.M. A 153. EXCEPTION: FASTENERS OTHER THAN NAILS, TIMBER RIVETS, WOOD SCREWS AND LAG SCREWS SHALL BE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC COATED STEEL WITH COATING WEIGHTS IN ACCORDANCE WITH A.S.T.M. B 695, CLASS 55 MIN.
7. ALL FASCIA BOARDS MUST BE CONTINUOUS WITH NO SPLICES ALLOWED WITHIN 12'-0" MINIMUM FROM FRAMING CORNERS, UNLESS NOTED OTHERWISE.
8. PLYWOOD NOTES:
   - IN HORIZONTAL PLYWOOD DIAPHRAGMS, NO PANEL LESS THAN 24" WIDE SHALL BE USED. IN VERTICAL PLYWOOD SHEAR WALLS, NO PANEL LESS THAN 12" WIDE SHALL BE USED. PLYWOOD SHEETS SHALL NOT BE LESS THAN 8 SQUARE FEET AT ANY LOCATION. PROVIDE FULL SHEETS OF PLYWOOD WHEREVER POSSIBLE.
   - ANY PIECE OF PLYWOOD SPANNING ACROSS FEWER THAN 3 SUPPORTS SHALL BE BLOCKED ON ALL EDGES.
   - SHEAR WALL PLYWOOD SHALL BE BLOCKED AT ALL EDGES.
   - DIAPHRAGM AND SHEAR WALL NAILING SHALL CONFORM TO SECTION 2306.3 OF C.B.C. 2022.
   - NAILS SHALL NOT BE OVER DRIVEN AS TO CAUSE CRUSHING OF FACEPLY.
   - WHERE GLUING OF PLYWOOD IS REQUIRED, INSURE THAT CONTACT SURFACES ARE FREE OF DIRT, DUST, STANDING WATER OR OTHER DELETERIOUS MATTER. APPLY A BEAD OF GLUE ABOUT 1/4 INCH IN DIAMETER TO ALL CONTACT/ BEARING SURFACES. ON WIDE AREAS, APPLY GLUE IN SERPENTINE PATTERN. APPLY TWO BEADS OF GLUE ON JOISTS WHERE PANEL ENDS BUTT TO EACH OTHER. APPLY GLUE PROGRESSIVELY TO BUTTING EDGES OF PANELS AND INTO THE GROOVED EDGES OF TONGUE AND GROVE PANELS AS WORK PROGRESSES. ADHESIVE SHALL CONFORM TO A.P.A. SPEC AFG-01.
9. ALL STRUCTURAL WOOD SHALL CONFORM WITH THE FOLLOWING SPECIFICATIONS:
   - DOUGLAS FIR - LARCH . . . . . WCLIB OR WWPA RULES
   - PLYWOOD . . . . . U.S. PRODUCT STANDARD PS1-07 FOR SOFTWOOD PLYWOOD
10. MINIMUM GRADES SHALL BE AS FOLLOWS U.N.O. ON DRAWINGS:
   - STRUCTURAL FRAMING . . . . . DF NO. 1 OR BETTER
   - 4x AND LARGER AND POST. . . . . DF NO. 1 OR BETTER
   - STRUCTURAL PLYWOOD. . . . . PLYWOOD SHEATHING, GROUP 1, EXP. 1, U.N.O.
11. PREDRILL HOLES WHERE WOOD TENDS TO SPLIT.
12. WHERE LAG SCREWS ARE INDICATED, PROVIDE A FULL BODY DIAMETER LAG SCREW. THE SHANK SHALL EXTEND BEYOND THE ADJOINING MEMBER PLANE, U.N.O. LAG SCREWS SHALL NOT HAVE UPSET THREADS OR REDUCED BODY.
13. FOR LAG SCREWS, LEAD HOLE FOR THE UNTHREADED PORTION SHALL HAVE A DIAMETER EQUAL TO THE SHANK DIAMETER AND THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 65% OF THE SHANK DIAMETER. MINIMUM PENETRATION (NOT INCLUDING THE LENGTH OF TAPERED TIP) OF THE LAG SCREW INTO MAIN MEMBER SHALL BE EIGHT TIMES THE DIAMETER. LEAD HOLES ARE NOT REQUIRED FOR 3/8" AND SMALLER DIAMETER LAG SCREWS PROVIDED THAT EDGE DISTANCES, END DISTANCES, AND SPACING ARE SUFFICIENT TO PREVENT UNUSUAL SPLITTING.
14. SEE **NAILING SCHEDULE** FOR MINIMUM NAILING REQUIREMENTS.
15. USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOB SITE DEMONSTRATION FOR EACH PROJECT AND THE APPROVAL BY THE PROJECT ARCHITECT OR STRUCTURAL ENGINEER AND D.S.A./O.S.H.P.D. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE. MACHINE NAILING WILL NOT BE APPROVED IN 5/16" PLYWOOD. IF NAIL HEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER OR IF MIN. ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.

E14 WOOD NOTES

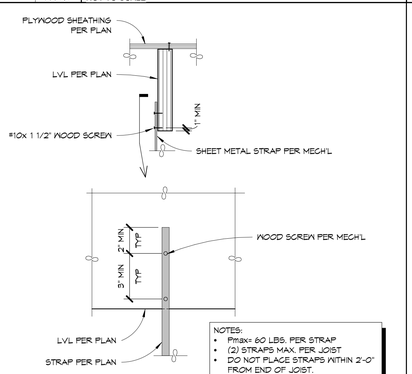
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DSA File No.: *20-30*

DSA Application No.: *02-123203*

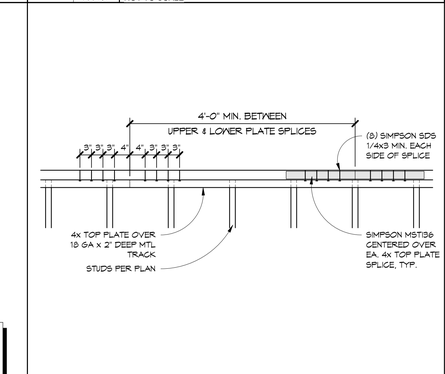
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval



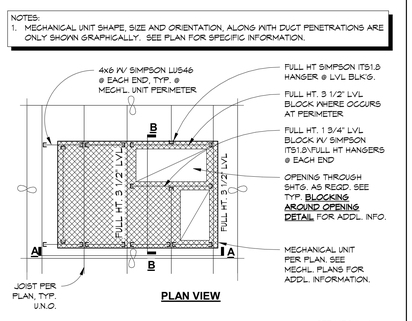
J1 MECH'L DUCT HANGER @ "I" JOIST

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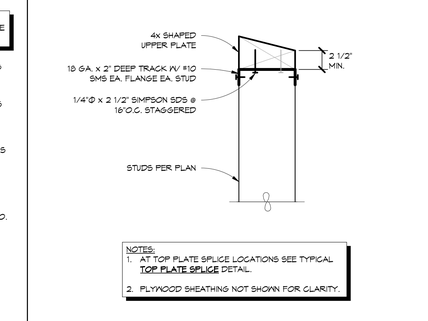
J4 TOP PLATE SPLICE

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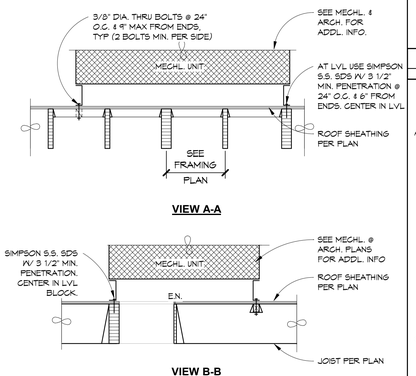
A1 MECHANICAL UNIT ATTACHMENT

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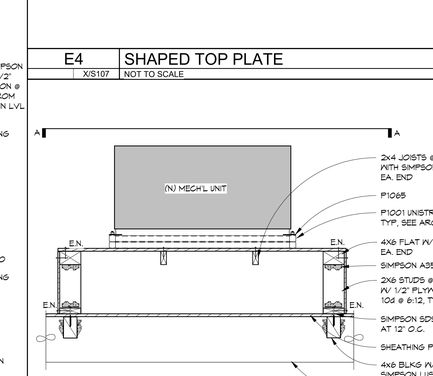
A4 MECHANICAL UNIT PLATFORM

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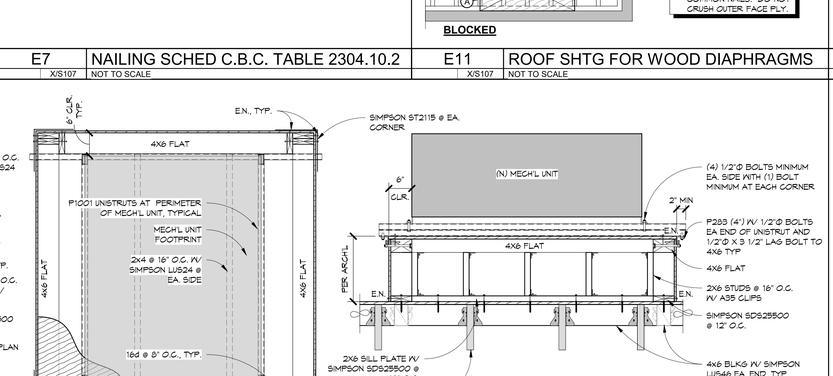
E4 SHAPED TOP PLATE

X/S107 NOT TO SCALE



A7 MECHANICAL UNIT PLATFORM

X/S107 NOT TO SCALE



A14 LVL NOTES LAMINATED VENEER LUMBER

X/S107 NOT TO SCALE

1. ALL LVL TO BE 'REDLAM' AS MANUFACTURED BY REDBUILT, OR EQUIVALENT. SEE STRUCTURAL PLANS FOR SPECIFIC INFORMATION ON THE LVL'S BEING USED ON THIS PROJECT. SUBSTITUTE LSL'S MUST BE SUBMITTED AND APPROVED BY D.S.A./O.S.H.P.D. AS A CHANGE ORDER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL BEAR ALL COSTS OF OBTAINING APPROVAL OF SUBSTITUTES, WITH NO GUARANTEE THAT THE SUBSTITUTE WILL BE ACCEPTED.
2. DESIGN AND FABRICATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2022 C.B.C. AND I.C.C. E.S. REPORT E.S.R.-2983.
3. ALLOWABLE STRESS INCREASES FOR LOAD DURATION SHALL BE:
- WIND OR SEISMIC 1.6
- ROOF AND SNOW 1.15
- FLOOR 1.0
4. ALLOWABLE STRESS INCREASES FOR REPETITIVE MEMBERS SHALL NOT BE TAKEN GREATER THAN 1.0 PER N.D.S.-18 SECTION 8.3.1.
5. NO HOLES OR NOTCHES OF ANY KIND ARE ALLOWED IN ANY LVL'S, UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
6. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS WITH ARCHITECTURAL DRAWINGS, AND THEN VERIFY IN FIELD WALL LAYOUT DIMENSIONS. NOTIFY THE ENGINEER AND ARCHITECT PRIOR TO PROCEEDING IF ANY DISCREPANCIES EXIST.
7. LVL MEMBERS SHALL MEET THE MINIMUM PROPERTIES SHOWN BELOW:
- Fb = 2,900 PSI
- Fv = 285 PSI
- Fc (PERPENDICULAR) = 750 PSI
- Fc (PARALLEL) = 2,635 PSI
- E = 2,000,000 PSI
- Emin. = 1,036,850 PSI

A14 LVL NOTES LAMINATED VENEER LUMBER

X/S107 NOT TO SCALE

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24472

GAYLORD R. RANSOM No. S2386 EXPIRES 3-31-27 REGISTERED PROFESSIONAL ENGINEER STRUCTURAL

Consultant

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LICENSED ARCHITECT ANTONIO J. JIMENEZ No. C26235 Ren. 10-31-25 STATE OF CALIFORNIA

Architect

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Project

TYPICAL TIMBER NOTES & DETAILS

Drawing

No.	Revision/Submission	Date

Revision

Designed By: ER
Drawn By: ER
Checked By: AL
Reviewed By: AL

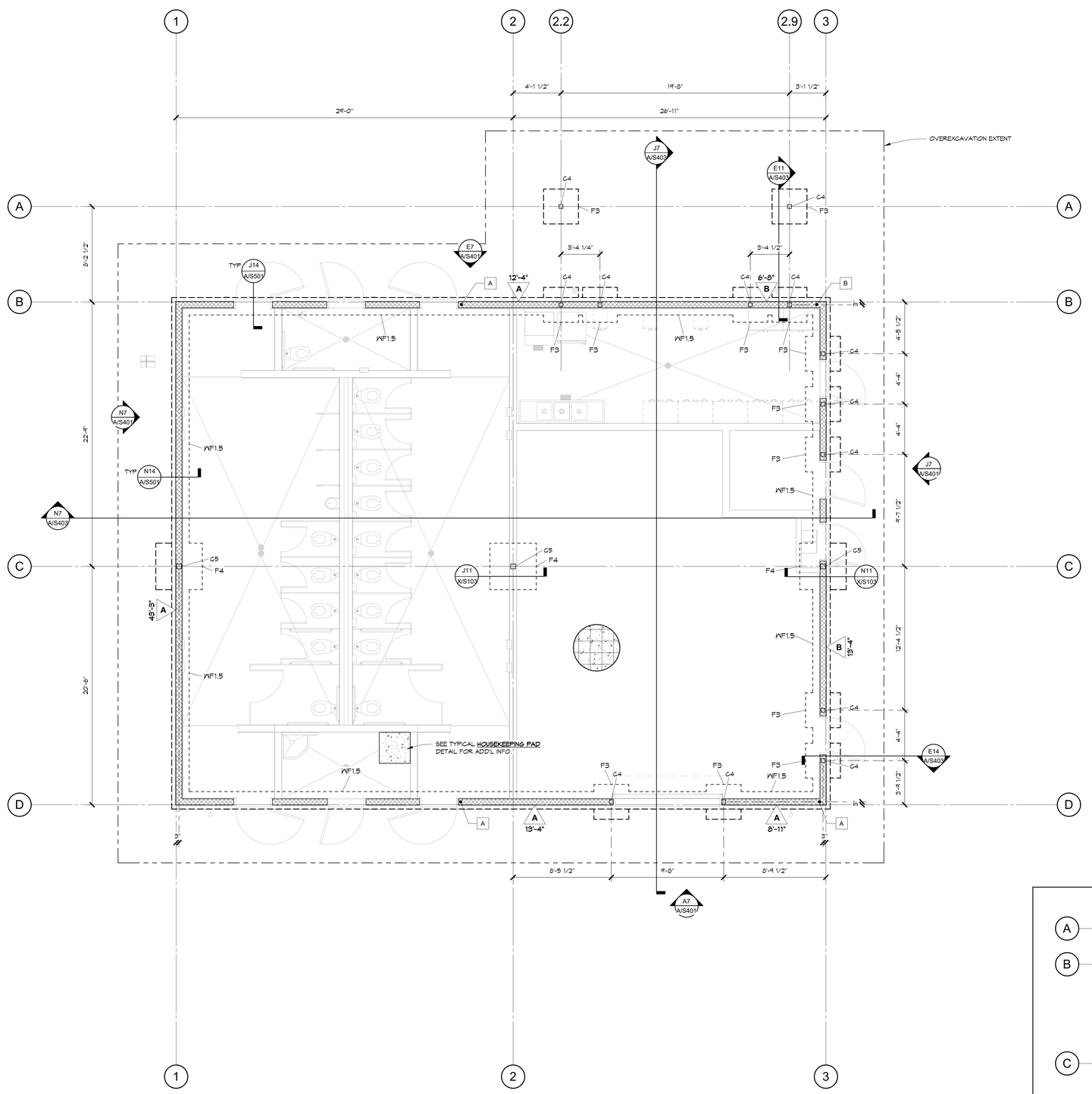
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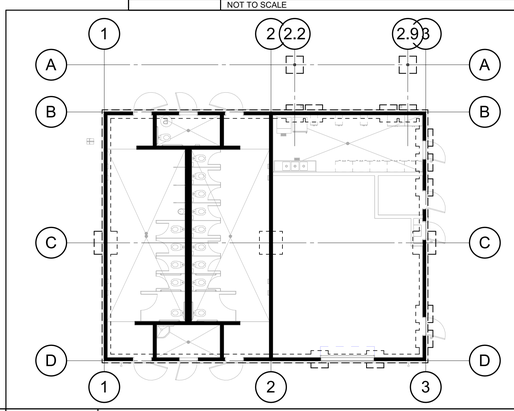
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Desmond MS





INDICATES 6" TALL CONCRETE CURB. SEE CURB PLAN AND SPECIFIC DETAILS FOR CURB INFORMATION

STEEL STUDS. AT EXTERIOR WALL LOCATIONS, PROVIDE 600S162-43 @ 16" O.C., U.N.O. SEE TYPICAL **BEARING AND EXTERIOR WALL FRAMING AT OPENINGS FOR LIGHT GAUGE STEEL** DETAIL. AT INTERIOR WALL LOCATIONS, SEE ARCHITECTURAL AND TYPICAL **INTERIOR NON-BEARING WALL FRAMING AT OPENINGS FOR LIGHT GAUGE STEEL** DETAIL.

LT. GA. STUD SHEAR WALL. X-X" INDICATES THE MINIMUM SHEAR WALL LENGTH. IF THE LENGTH IS NOT NOTED, THEN THE LENGTH IS EQUAL TO THE TOTAL WALL LENGTH. SEE TYPICAL **SHEAR WALL SCHEDULE** AND BEARING WALL NOTE ABOVE.

HOLDOWN. HOLDOWNS MAY REQUIRE LARGER FOOTINGS NOT SHOWN. SEE TYPICAL **HOLDOWN SCHEDULE**.

"XX" AS INDICATED ON PLAN. SEE TYPICAL **SCHEDULES** AS FOLLOWS:
C# - COLUMN SCHEDULE
F# - FOUNDATION SCHEDULE

FINISHED FLOOR (F.F.) OR TOP OF FRAMING (T.O.F.). +X'-X" IS THE DISTANCE FROM FINISHED FIRST FLOOR, UNLESS NOTED OTHERWISE.

CONCRETE SLAB. PROVIDE 5" THICK MINIMUM SLAB WITH #4 @ 16" O.C. EACH WAY, U.N.O. SEE TYPICAL **FOUNDATION AND CONCRETE NOTES** AND ARCHITECTURAL DRAWINGS FOR SUB-GRADE AND VAPOR BARRIER INFORMATION.

N14 FOUNDATION LEGEND
A/S201 NOT TO SCALE

1. SEE TYPICAL SHEETS FOR ALL GENERAL AND MATERIAL NOTES, AND ALL TYPICAL SCHEDULES AND DETAILS. THE INFORMATION ON THE TYPICAL SHEETS APPLY TO THE PROJECT AND ARE NOT SPECIFICALLY REFERENCED ON PLAN WORK, UNLESS NOTED OTHERWISE. IF TYPICAL DETAILS ARE SPECIFIED ON PLANS OR NOTES, THEY WILL BE REFERENCED WITH THE WORD 'TYPICAL' FOLLOWED BY **BOLD AND UNDERLINED** TEXT STATING THE TITLE OF THE TYPICAL DETAIL OR NOTE.
2. ALL DIMENSIONS SHOWN ARE TO FACE OF EXTERIOR WALLS, CENTER OF COLUMN OR CENTER OF INTERIOR WALLS UNLESS NOTED OTHERWISE. EDGE OF SLAB AT PERIMETER OF BUILDING SHALL BE INDICATED IN SPECIFIC DETAILS AND ARCHITECTURAL. VERIFY ALL BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. NOTIFY THE ARCHITECT IMMEDIATELY IF THERE ARE ANY CONFLICTS WITH THE DIMENSIONS SHOWN.
3. ALL UNCLEAR AND/OR MISSING DETAILS SHALL BE BROUGHT TO THE STRUCTURAL ENGINEER'S ATTENTION BEFORE PROCEEDING WITH CONSTRUCTION.
4. ALL PAD AND CONTINUOUS FOOTINGS ARE TO BE CENTERED ON WALLS AND COLUMNS ABOVE UNLESS NOTED OTHERWISE.
5. SEE CIVIL AND/OR ARCHITECTURAL SITE PLAN FOR LOCATION AND DIMENSIONS OF SIDEWALKS, MOW STRIPS, PLANTERS AND OTHER LANDSCAPING FEATURES.
6. SEE ARCHITECTURAL AND PLUMBING PLANS FOR LOCATION OF ALL PIPING AND DRAINS. SEE TYPICAL DETAILS FOR STRUCTURAL REQUIREMENTS AT LOCATIONS WHERE PIPES INTERSECT OR ALIGN NEXT TO FOOTINGS AND SLABS.
7. ALL EMBEDDED ITEMS SHALL BE IN PLACE AND SECURED PRIOR TO POURING OF CONCRETE.
8. ALL SILL PLATE ANCHOR BOLTS SHALL BE SIZED, SPACED, PLACED, AND HAVE THE WASHER AND MATERIAL FINISH AS SPECIFIED IN THE **LIGHT GAUGE STEEL NOTES**.
9. CONTRACTOR SHALL SUBMIT CONTROL JOINT PLAN FOR APPROVAL PRIOR TO POURING SLAB. SEE TYPICAL **CONTROL JOINT** DETAIL FOR ADDITIONAL INFORMATION.
10. ALL EXTERIOR WALLS SHALL HAVE 15/32" SHEATHING WITH 10d @ 6"O.C. E.S. AND 10d @ 12" O.C. F.S., UNLESS NOTED OTHERWISE. SEE **WOOD NOTES** FOR SHEATHING MATERIAL.
11. ALL TOP OF FOOTINGS SHALL BE 1'-0" BELOW FINISH SLAB, UNLESS NOTED OTHERWISE.
12. ALL ITEMS ARE NEW UNLESS NOTED OTHERWISE.

J14 FOUNDATION NOTES
A/S201 NOT TO SCALE

STRUCTURAL COLUMN SCHEDULE		
MARK	TYPE	COMMENTS
C4	HSS4X4X1/4	SEE TYPICAL COLUMN BASE PLATE SCHEDULE
C5	HSS5X5X1/4	SEE TYPICAL COLUMN BASE PLATE SCHEDULE

STRUCTURAL FOUNDATION SCHEDULE		
MARK	TYPE	REINFORCEMENT
F3	3'-0" SQ. x 18" DEEP	(4) #5 EA. WAY T&B
F4	4'-0" SQ. x 18" DEEP	(5) #5 EA. WAY T&B
WF1.5	1'-6" WIDE x 1'-6" DEEP CONT.	(2) #5 CONT. T&B

E14 SCHEDULES
NOT TO SCALE

A13 CURB PLAN
A/S201 NOT TO SCALE

A1 FOUNDATION PLAN
A/S401 | A/S201 1/4" = 1'-0"

Building Orientation on Site N
Building View Orientation N

DSA File No.: *20-30*

DSA Application No.: *02-123203*

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Project

FOUNDATION PLAN
Drawing

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Architect

No.	Revision/Submission	Date

Revision

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Checked By: AL
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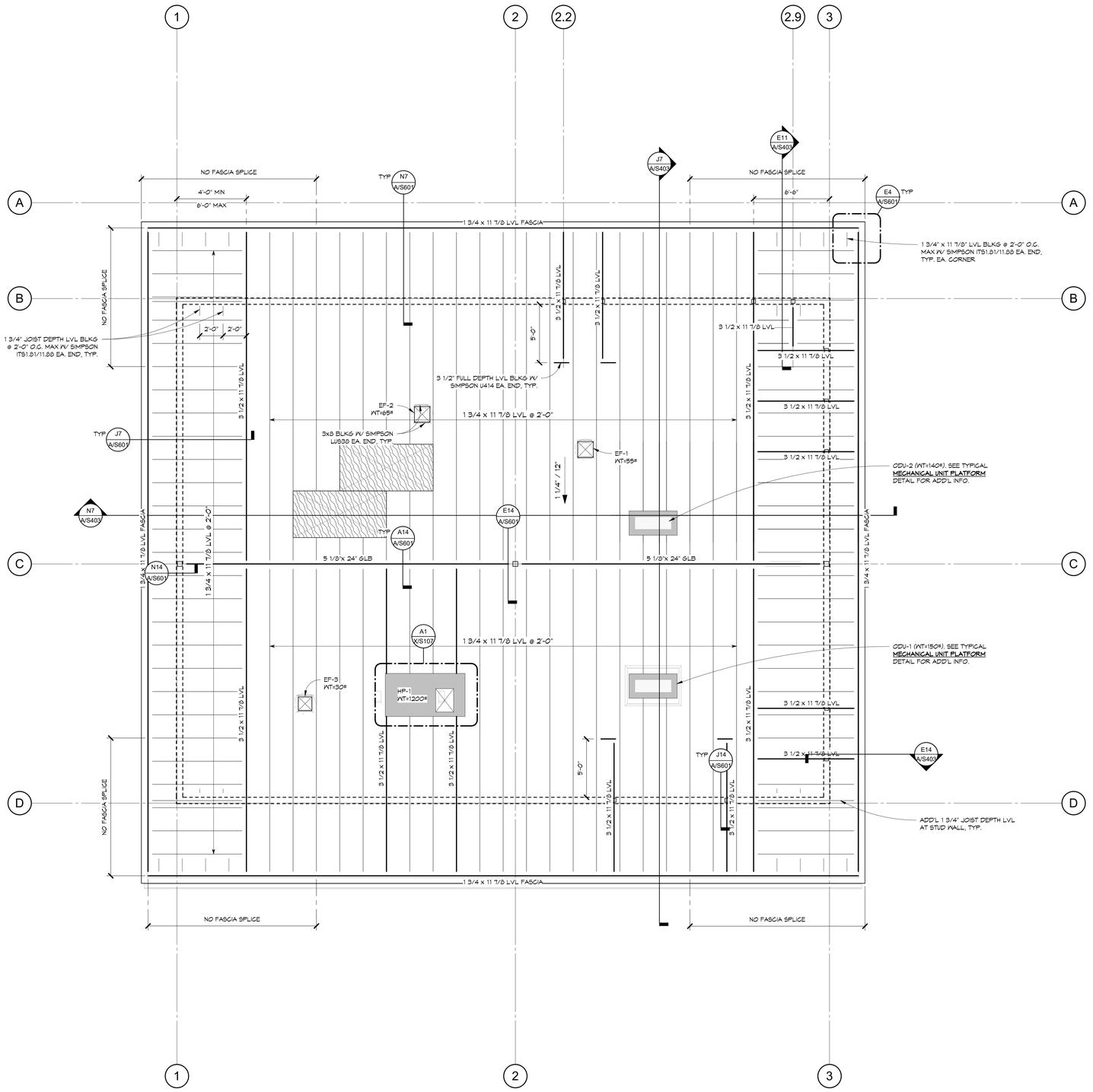
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A/S201

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Desmond MS



N14 FRAMING LEGEND

A/S301 | NOT TO SCALE

1. SEE TYPICAL SHEETS FOR ALL GENERAL AND MATERIAL NOTES, AND ALL TYPICAL SCHEDULES AND DETAILS. THE INFORMATION ON THE TYPICAL SHEETS APPLY TO THE PROJECT AND ARE NOT SPECIFICALLY REFERENCED ON PLAN WORK, UNLESS NOTED OTHERWISE. IF TYPICAL DETAILS ARE SPECIFIED ON PLANS OR NOTES, THEY WILL BE REFERENCED WITH THE WORD "TYPICAL," FOLLOWED BY **BOLD AND UNDERLINED** TEXT STATING THE TITLE OF THE TYPICAL DETAIL OR NOTE.
2. ALL UNCLEAR AND/OR MISSING DETAILS SHALL BE BROUGHT TO THE STRUCTURAL ENGINEER'S ATTENTION BEFORE PROCEEDING WITH CONSTRUCTION.
3. ALL EXTERIOR WALLS AND EXTERIOR SOFFITS SHALL HAVE 15/32" SHEATHING WITH #8 SMS @ 6" O.C. E.S. AND #8 SMS @ 12" O.C. F.S., UNLESS NOTED OTHERWISE. SEE **WOOD NOTES** FOR SHEATHING MATERIAL.
4. ALL TOP OF FRAMING ABOVE FINISH SLAB VARIES, SEE PLAN FOR INFORMATION.
5. VERIFY ROOF SLOPE(S) WITH ARCHITECTURAL PLANS.
6. SEE TYPICAL **MECHANICAL UNIT ATTACHMENT** DETAIL FOR ROOF MOUNTED EQUIPMENT. CONTRACTOR SHALL VERIFY AND COORDINATE WEIGHTS AND LOCATIONS OF ALL ROOF SUPPORTED MECHANICAL AND ELECTRICAL UNITS, AND NOTIFY THE STRUCTURAL ENGINEER OF RECORD IF ANY DISCREPANCIES ARE DETERMINED.
7. AT OPENINGS IN DIAPHRAGM OR WALL SHEATHING SEE TYPICAL **BLOCKING AROUND OPENING** DETAIL FOR INFORMATION, UNLESS NOTED OTHERWISE.
8. TOP PLATE SPLICES SHALL BE FASTENED PER THE TYPICAL **TOP PLATE SPLICE** DETAIL.
9. ALL FRAMING SHALL BE D.F. NO. 1 OR BETTER, UNLESS OTHERWISE NOTED. SEE TYPICAL **WOOD NOTES** ADDITIONAL INFORMATION.
10. COORDINATE WITH ARCHITECTURAL IF ADDITIONAL FRAMING BLOCKING IS REQUIRED FOR SUSPENDED CEILING, SOFFITS AND FINISHES.
11. DIAPHRAGM SHEATHING SHALL BE BOUNDARY NAILED TO ALL BLOCKING, BEAM AND RAFTERS THAT ARE IN LINE WITH SHEAR WALLS.
12. WHERE HEADERS ARE NOT SPECIFICALLY NOTED ON PLAN, SEE TYPICAL **WALL FRAMING AT OPENINGS** DETAIL FOR HEADER INFORMATION.
13. ALL ITEMS ARE NEW UNLESS NOTED OTHERWISE.

J14 FRAMING NOTES

A/S301 | NOT TO SCALE

WALL BELOW. SEE FRAMING PLAN AT LEVEL BELOW.

F.F. +X'-X" — FINISHED FLOOR (F.F.) OR TOP OF FRAMING (T.O.F.). 'X'-X" IS THE DISTANCE FROM FINISHED FIRST FLOOR, UNLESS NOTED OTHERWISE.

HEADER. WHERE "SIZE" IS NOT INDICATED, SEE TYPICAL **WALL FRAMING AT OPENINGS** DETAIL.

ROOF SHEATHING. PROVIDE 5/8" THICK STRUCT. I SHEATHING WITH 10d NAILS @ 6:6:12, U.N.O. SEE TYPICAL **ROOF SHEATHING** DETAIL.
- FIELD
- PANEL EDGE
- CONTINUOUS PANEL EDGE & BOUNDARY

HANGER SCHEDULE	
MEMBER SIZE	SIMPSON HANGER
1 3/4" x 11 7/8" LVL	BA1.81/11.88 (MAX)
3 1/2" x 11 7/8" LVL	BA3.56/11.88 (MAX)

NOTES:
1. USE 10d x 1 1/2" NAILS TYP. U.N.O.
2. USE SKEWED/SLOPED HANGERS AS INDICATED & REQUIRED.
3. HANGERS BASED ON SIMPSON C2024 CATALOG.
4. SEE SECTIONS FOR ALTERNATE HANGER REQUIREMENTS.
5. FILL ALL NAIL HOLES.

E14 HANGER SCHEDULE

A/S301 | NOT TO SCALE

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ROOF FRAMING PLAN

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LICENSED ARCHITECT
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Exp. 10-31-25
STATE OF CALIFORNIA

Architect

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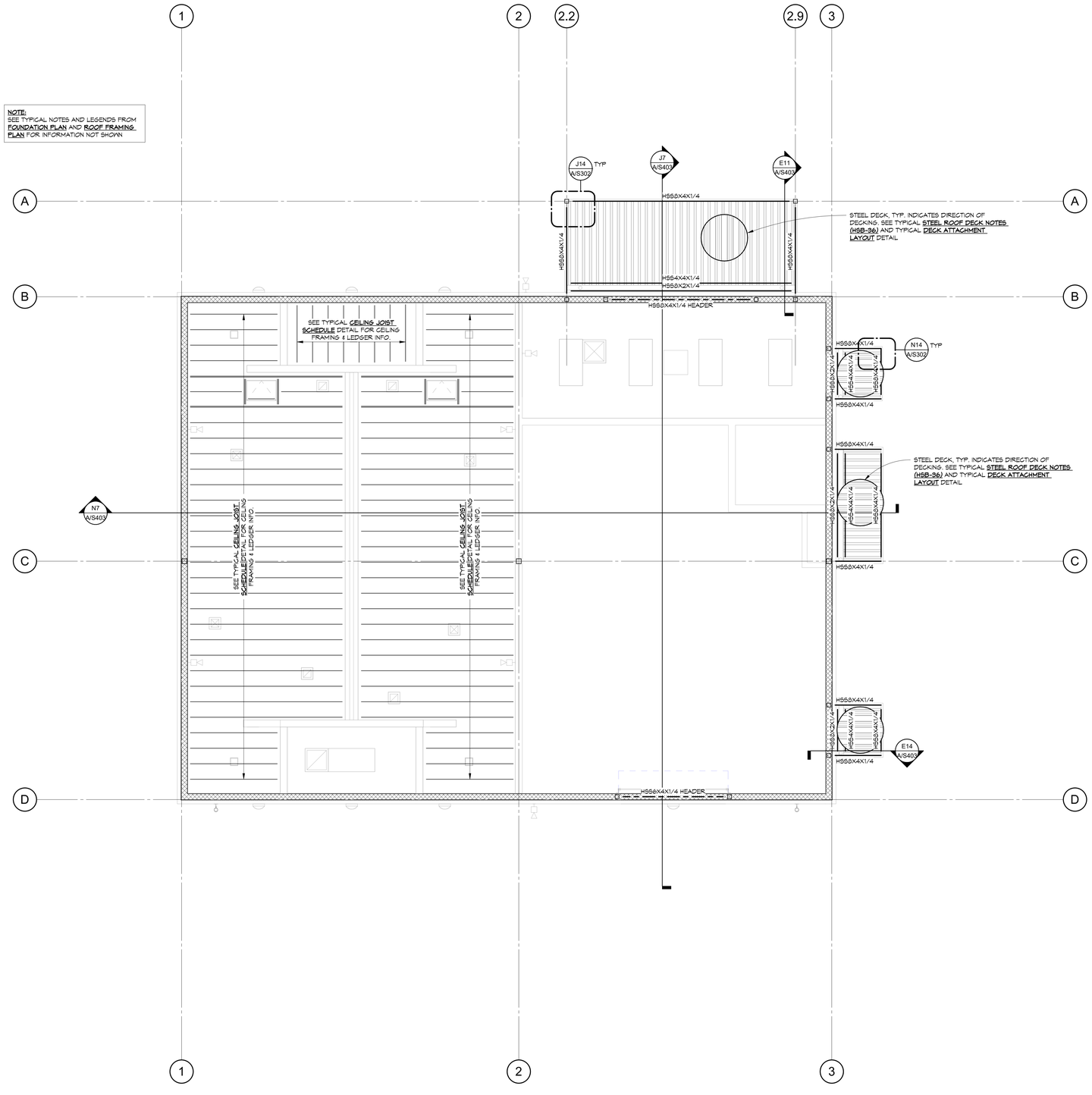
A/S301

Building Orientation on Site — Building View Orientation

A1 ROOF FRAMING PLAN

A/S401 | A/S301 | 1/4" = 1'-0"

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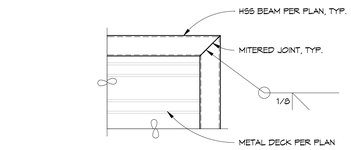


Building Orientation on Site

Building View Orientation

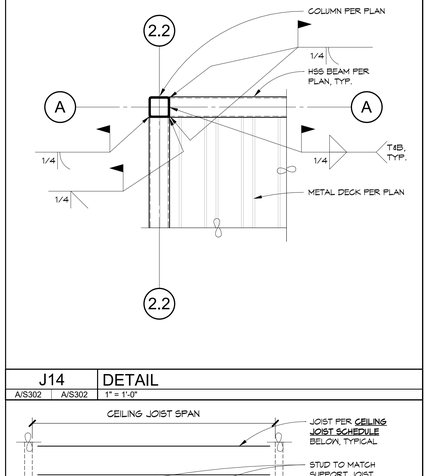
A1 CEILING AND CANOPY FRAMING PLAN

A/S401 | A/S302 | 1/4" = 1'-0"



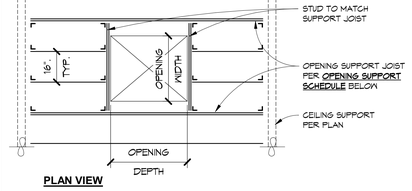
N14 DETAIL

A/S302 | A/S302 | 1" = 1'-0"

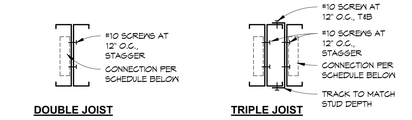


J14 DETAIL

A/S302 | A/S302 | 1" = 1'-0"



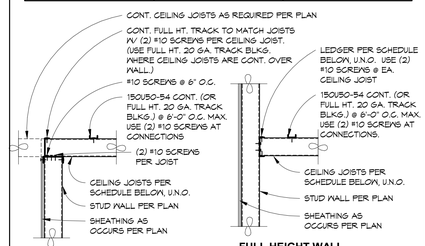
PLAN VIEW



DOUBLE JOIST | TRIPLE JOIST

OPENING SUPPORT SCHEDULE

OPENING WIDTH	JOIST TYPE	CONNECTION TYPE
16" MAX.	SINGLE JOIST	(1) SIMPSON LSO
32" MAX.	DOUBLE JOIST	(1) SIMPSON LSO
48" MAX.	TRIPLE JOIST	(2) SIMPSON LSO



PARTIAL HEIGHT WALL | FULL HEIGHT WALL

CEILING JOIST SCHEDULE

MAX SPAN	SIZE/SPACING	LEDGER SIZE / ATTACHMENT
UP TO 10'-0"	400S162-33 @ 16" O.C.	400T125-33 W/(2) #10 SCREWS PER STUD
10'-1" TO 12'-0"	600S162-33 @ 16" O.C.	600T125-33 W/(3) #10 SCREWS PER STUD
12'-1" TO 18'-0"	600S162-43 @ 16" O.C.	600T125-43 W/(3) #10 SCREWS PER STUD

NOTES:
1. DEFLECTION LIMIT IS L/360 WITH 13 PSF D.L. AND 10 PSF L.L.
2. JOISTS SPAN AND SPACING PER ICC-ES ESR-3064P TABLES.

A14 CEILING JOIST SCHEDULE

A/S302 | NOT TO SCALE

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Madera, CA 93637
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CEILING AND CANOPY FRAMING PLAN
Drawing

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LICENSED ARCHITECT — GREGORY J. AVILES — No. C26235 — Exp. 10-31-25 — STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

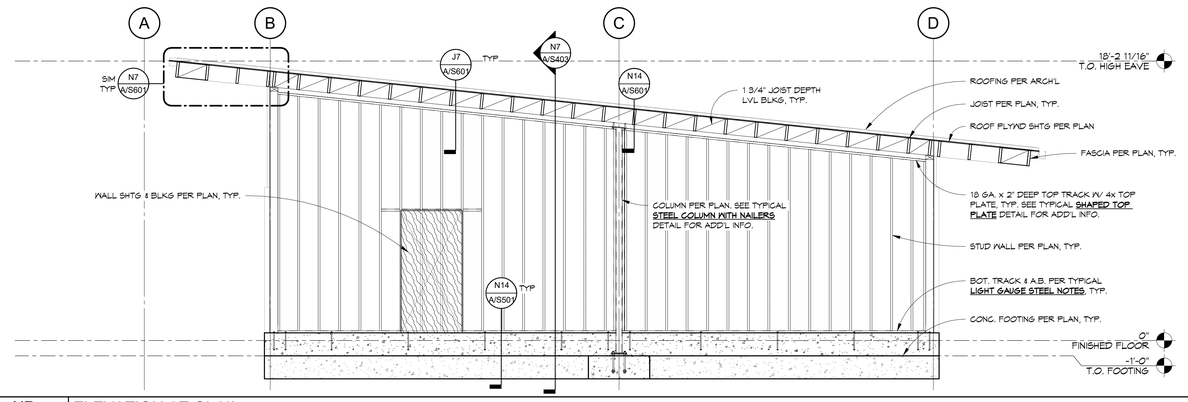
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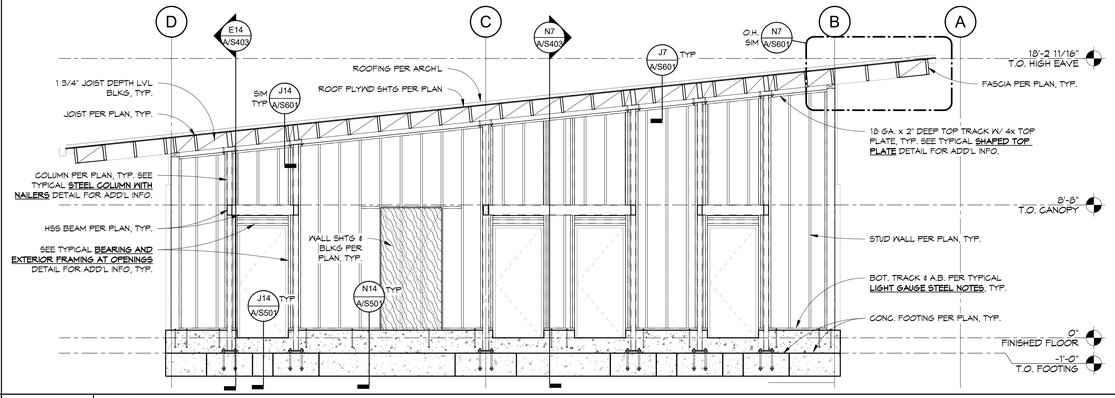
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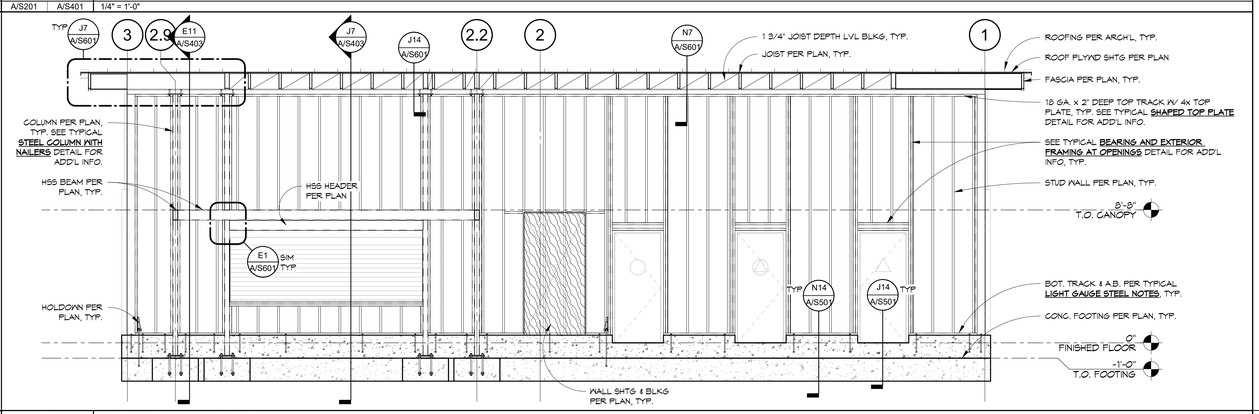
N7 ELEVATION AT GL '1'

A/S201 A/S401 1/4" = 1'-0"



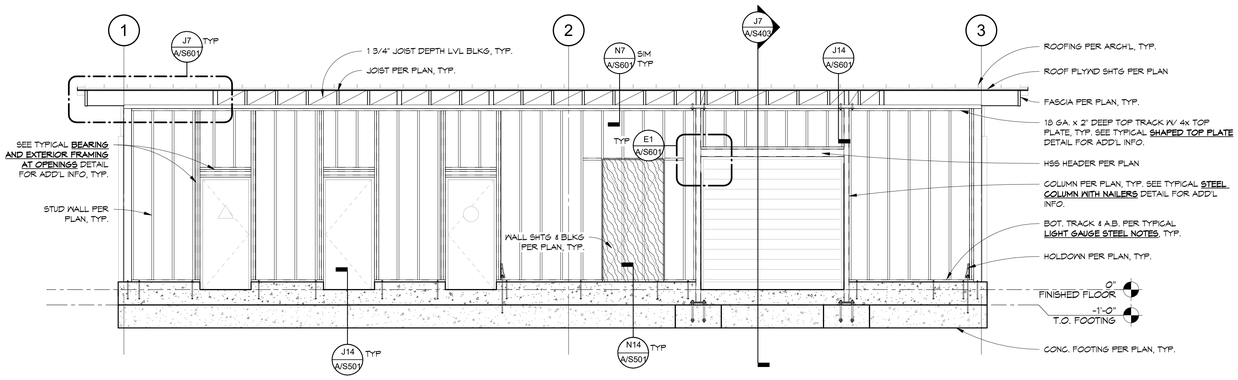
J7 ELEVATION AT GL '3'

A/S201 A/S401 1/4" = 1'-0"



E7 ELEVATION AT GL 'B'

A/S201 A/S401 1/4" = 1'-0"



A7 ELEVATION AT GL 'D'

A/S201 A/S401 1/4" = 1'-0"

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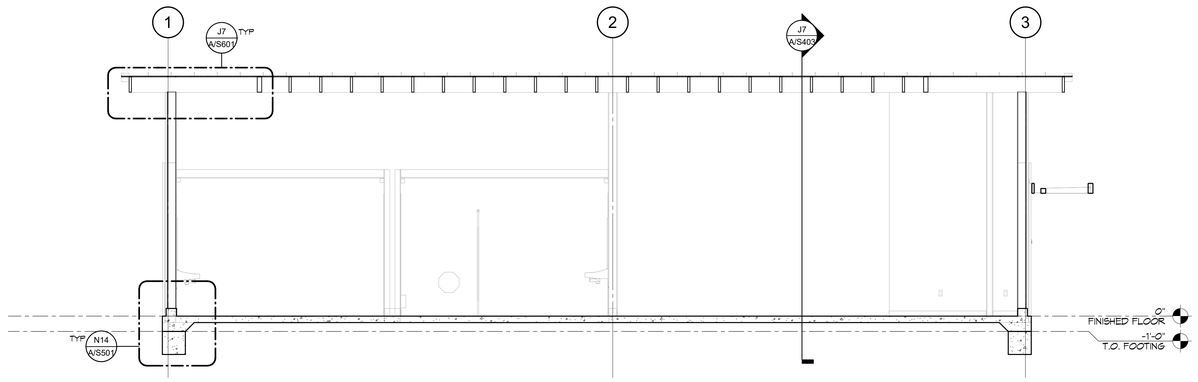
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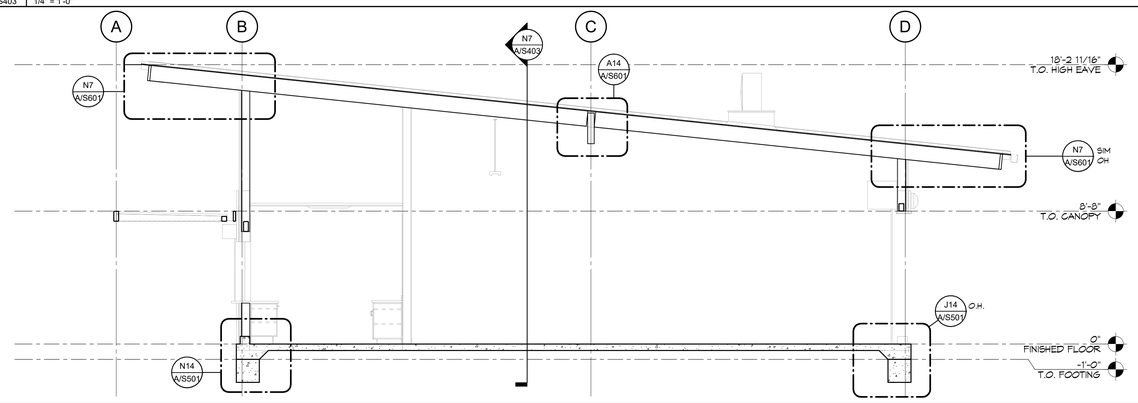
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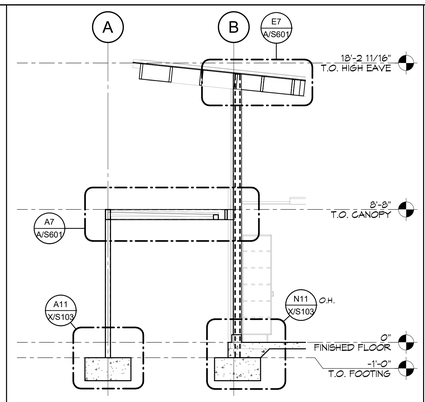
Desmond MS



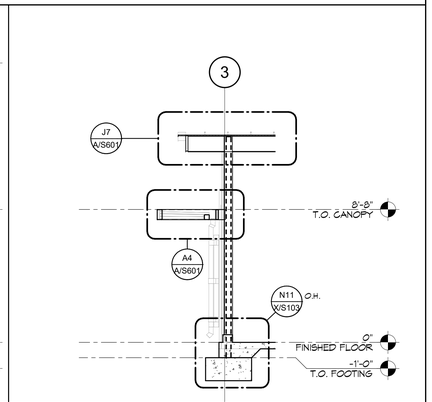
N7 SECTION
A/S201 A/S403 1/4" = 1'-0"



J7 SECTION
A/S201 A/S403 1/4" = 1'-0"



E11 SECTION
A/S201 A/S403 1/4" = 1'-0"



E14 SECTION
A/S201 A/S403 1/4" = 1'-0"

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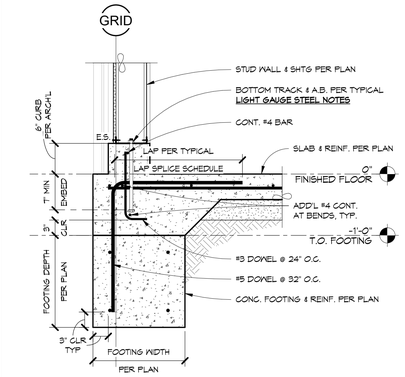
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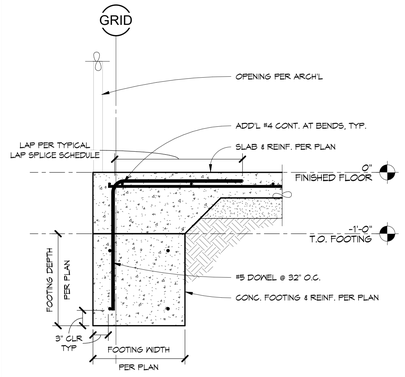
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N14 DETAIL
A/S201 A/S501 1" = 1'-0"



J14 DETAIL
A/S201 A/S501 1" = 1'-0"

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STATE OF CALIFORNIA

Architect

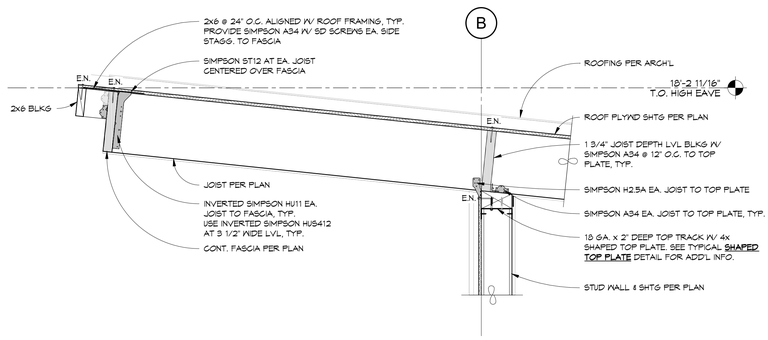
No.	Revision/Submission	Date

Revision

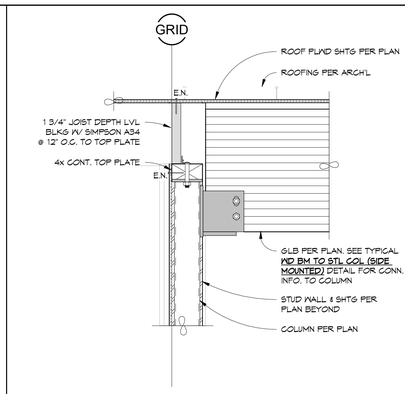
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Copyright Darden Architects
Scale: 1" = 1'-0"
Drawn By: ER
Project Number: 2470.2
Checked By: AL
Date: 06/20/2025
Reviewed By: AL

A/S501

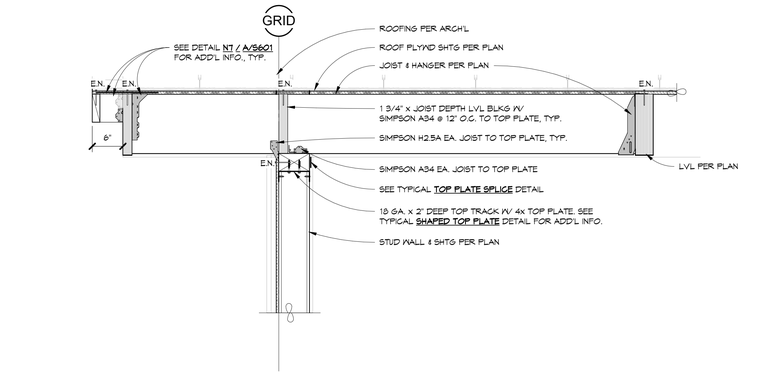
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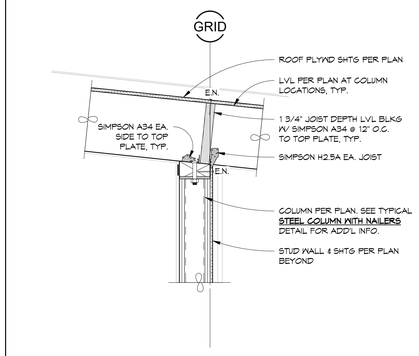
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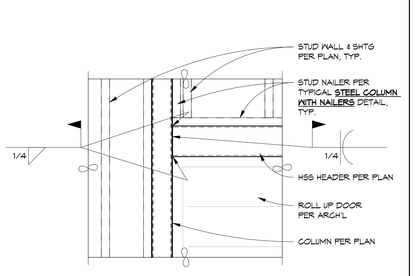
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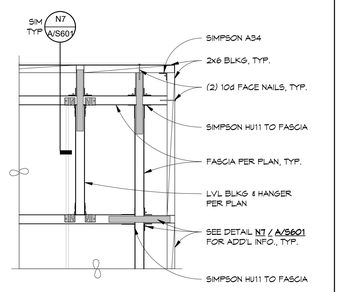
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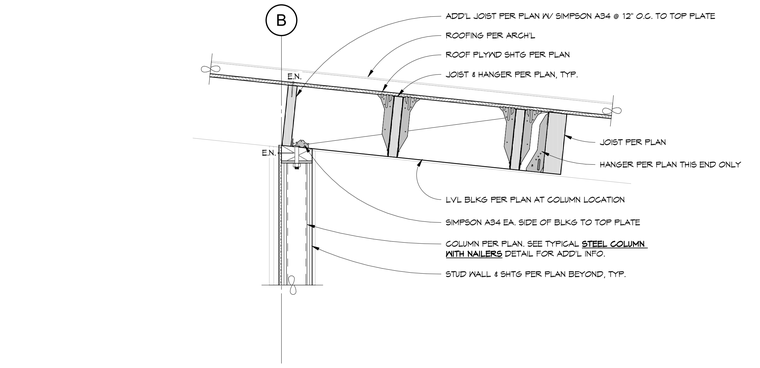
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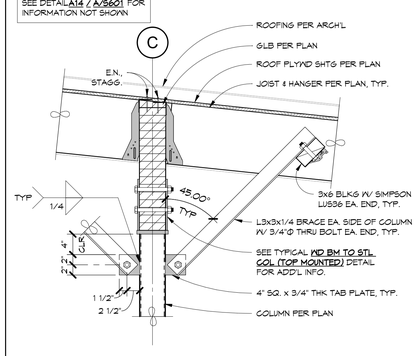
E1 DETAIL
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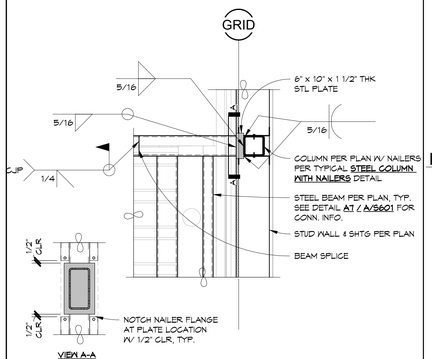
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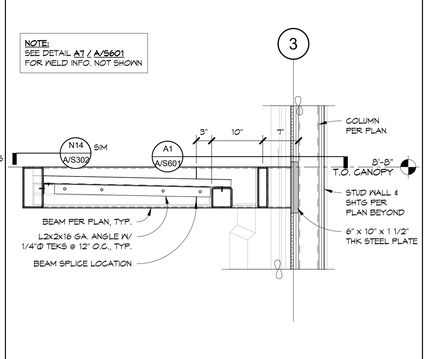
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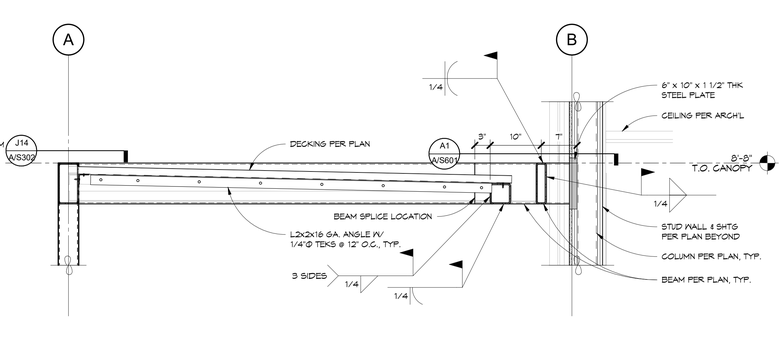
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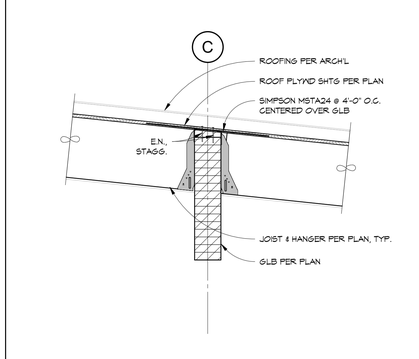
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A4 DETAIL
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A7 DETAIL
A/S403 A/S601 1" = 1'-0"



A14 DETAIL
A/S301 A/S601 1" = 1'-0"

DSA File No.: *20-30*

DSA Application No.: *02-123203*

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

BrooksRansom ASSOCIATES
5116 N. PALM AVE. STE 102 | FRESNO, CA 93711
(559) 449-8444 OFFICE | (559) 449-8454 FAX
24472

REGISTERED PROFESSIONAL ENGINEER
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No. 52386
EXPIRES 3-31-26
STRUCTURAL
STATE OF CALIFORNIA

Consultant

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

DETAILS
Drawing

darden architects
ARCHITECTURE PLANNING INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

LICENSED ARCHITECT
GREGORY J. AYOUB
No. C26235
Exp. 10-31-25
STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

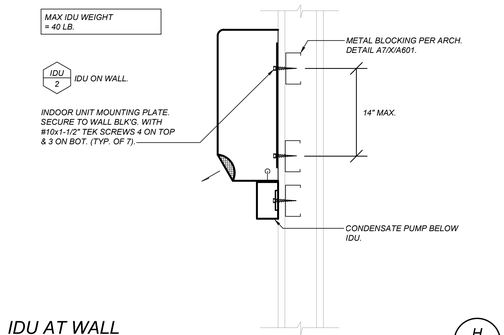
Revision

Designed By: ER
Drawn By: ER
Checked By: AL
Reviewed By: AL
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Scale: 1" = 1'-0"
Project Number: 2470.2
Date: 06/20/2025

A/S601

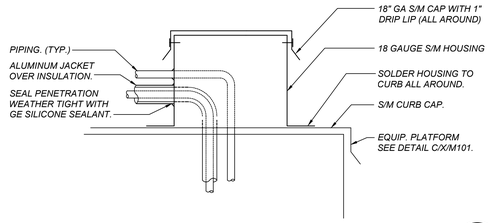
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IDU AT WALL

SCALE: NONE

H
X/M101

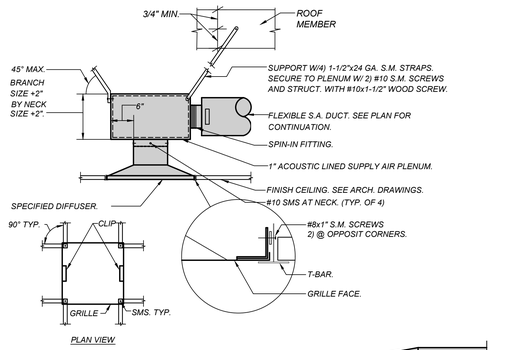


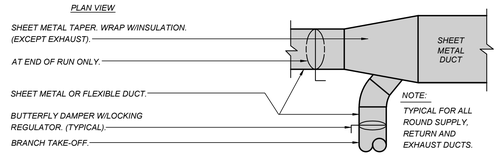
PIPE THRU PLATFORM DETAIL

SCALE: NONE

MP198

J
X/M101

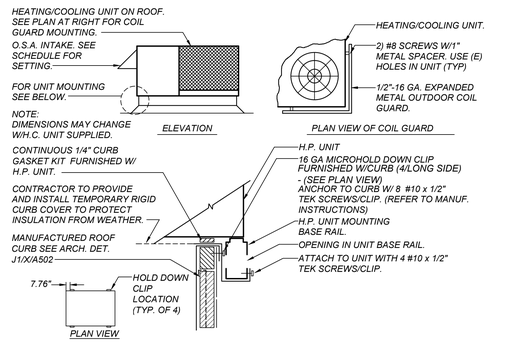




TYPICAL S.A. DEVICE-BRANCH DUCT DETAIL

SCALE: NONE

E
X/M101

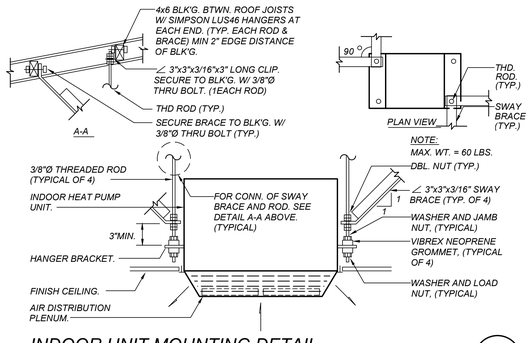


H.P. UNIT ROOF MOUNTING DETAIL

SCALE: NONE

MM117

F
X/M101

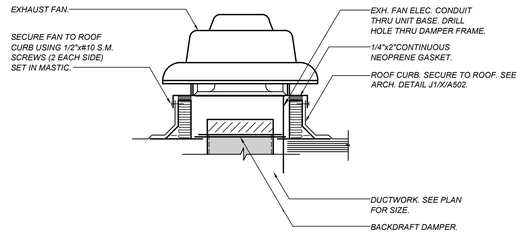


INDOOR UNIT MOUNTING DETAIL

SCALE: NONE

MM057

G
X/M101

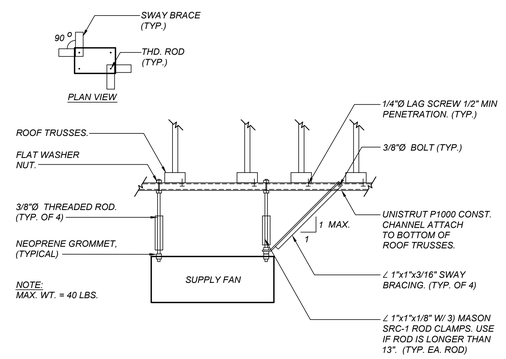


ROOF EXHAUST FAN MOUNTING DETAIL

SCALE: NONE

MM120

A
X/M101

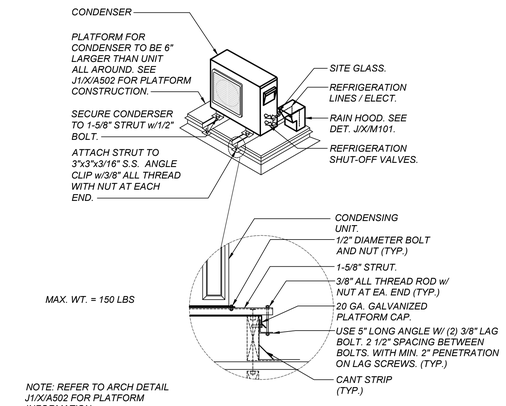


SUPPLY FAN MOUNTING DETAIL

SCALE: NONE

MM116

B
X/M101

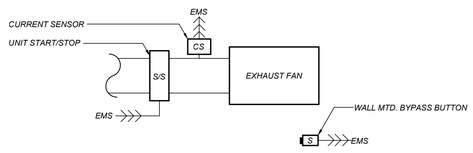


OUTDOOR UNIT MOUNTING DETAIL

SCALE: NONE

MM064B

C
X/M101



EXHAUST FAN DIAGRAM

SCALE: NONE

D
X/M101

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

LAWRENCE
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REGISTERED PROFESSIONAL ENGINEER
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Exp. 6-30-26
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STATE OF CALIFORNIA

Consultant

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Project

Mechanical Details

Drawing

darden architects
ARCHITECTURE
PLANNING
INTERIORS
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6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

LICENSED ARCHITECT
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No. C26235
Exp. 10-31-25
STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

	Designed By: -	Copyright 2022 Darden Architects
Scale:	Drawn By: -	X/M101
Project Number: 2470.1	Checked By: -	
Date: 12/10/24	Reviewed By: -	

25 June 2025 10:59 AM P:\2024\24133 MUSD ELOP\4-Drawings\4 M\000 – Desmond\XM101 – MECHANICAL DETAILS.dwg david s

GENERAL NOTES :

1. THE INTENT OF THE DRAWING AND SPECIFICATIONS IS TO CONSTRUCT THE BUILDING IN ACCORDANCE WITH THE 2022 EDITION OF TITLE 24, CALIFORNIA CODE OF REGULATIONS. CHANGES TO THE STRUCTURAL, ACCESSIBILITY OR FIRE AND LIFE-SAFETY PORTIONS OF THE APPROVED PLANS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR CONSTRUCTION CHANGE DOCUMENT AS REQUIRED IN SECTION 4-338, PART 1, TITLE 24, CCR, AND SHALL BE SUBMITTED TO AND APPROVED BY DSA PRIOR TO COMMENCEMENT OF THE WORK. DOCUMENTS SHALL BE PREPARED AND SUBMITTED TO DSA IN COMPLIANCE WITH DSA INTERPRETATION OF REGULATION IR A-6.

2. LAYOUT OF MATERIALS, EQUIPMENT AND SYSTEMS IS GENERALLY DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED. SOME WORK MAY BE SHOWN OFFSET FOR CLARITY. THE HVAC BUILDING PLANS HAVE BEEN PREPARED TO MATCH THE ARCHITECTURAL PLANS. IF DIFFERENCES OCCUR, THE ARCHITECTURAL PLANS ARE TO TAKE PRECEDENCE. THE ACTUAL LOCATIONS OF ALL MATERIALS, PIPING, DUCTWORK, FIXTURES, EQUIPMENT, SUPPORTS, ETC. SHALL BE CAREFULLY PLANNED, PRIOR TO INSTALLATION OF ANY WORK, TO AVOID ALL INTERFERENCE WITH EACH OTHER, OR WITH STRUCTURAL, ELECTRICAL, ARCHITECTURAL, OR OTHER ELEMENTS. ALL DUCT AND PIPE OFFSET ELBOWS FOR COORDINATION BETWEEN TRADES ARE NOT SHOWN. CONTRACTOR SHALL INCLUDE SUFFICIENT FUNDS FOR THE COORDINATION OFFSETS IN THE BID. VERIFY THE PROPER VOLTAGE AND PHASE OF ALL EQUIPMENT WITH THE ELECTRICAL PLANS. ALL CONFLICTS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND THE ENGINEER PRIOR TO THE INSTALLATION OF ANY WORK OR THE ORDERING OF ANY EQUIPMENT.

3. WHEN INSTALLING DRILLED-IN ANCHORS AND/OR POWDER-DRIVEN PINS IN EXISTING NON-PRESTRESSED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. WHEN INSTALLING THEM INTO EXISTING PRESTRESSED CONCRETE (PRE- OR POST-TENSIONED), LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR AND/OR PIN.

4. ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE THERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 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 ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE ATTACHMENT OF THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT 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 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 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 STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

5. 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 SECTION 13.3 AS DEFINED IN ASCE 7 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25, 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR THE CONTENT ON THE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR16-13.

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 OPM, WITHIN PROJECT SUBMITTAL

MP☐MD☐PP☐ E☐ OPTION 3: SHALL COMPLY WITH THE APPLICABLE OSHPD OPM, DEFERRED SUBMITTAL

6. PENETRATIONS THROUGH FIRE RATED WALLS, FLOOR/CEILING, AND ROOF/CEILING ASSEMBLIES SHALL BE SEALED USING AN APPROVED SYSTEM CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC TO FIRE STOPS PER 2022 CBC SECTION 714. THIS INCLUDES EXISTING PIPE AND CONDUIT THROUGH NEW ASSEMBLIES. CUSTOM DESIGNED SYSTEMS WHICH COMBINE COMPONENTS FROM DIFFERENT APPROVED SYSTEMS BUT HAVE NOT BEEN TESTED AS A COMPLETE ASSEMBLY WILL NOT BE ACCEPTABLE. FOR FIRE STOPS FOR PIPE PENETRATIONS SEE SPECIFICATIONS.

7. DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS. WHERE ACOUSTIC LINING IS SHOWN, INCREASE EACH SHEET METAL DIMENSION TO ACCOMMODATE LINING & MAINTAIN CLEAR INSIDE DUCT DIMENSIONS SHOWN.

8. SA DUCTWORK SHALL BE 1" PRESSURE CLASS, AND] RA & EA DUCTWORK SHALL 1" PRESSURE CLASS UNLESS OTHERWISE NOTED.

9. ALL DIFFUSERS ARE 4-WAY DISTRIBUTION UNLESS OTHERWISE NOTED ON THE PLANS.

10. A DSA CERTIFIED PROJECT INSPECTOR (CLASS 2) EMPLOYED BY THE DISTRICT & APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-338, PART 1, TITLE 24, CCR.

11. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.

GRILLE SCHEDULE

MARK	DUTY	DESCRIPTION
A	CEILING SUPPLY	TITUS TDC (TYPE 1) LOUVER FACE SQUARE OR RECTANGULAR NECK DIFFUSER FOR SURFACE MOUNTING, AND NO. 26 OFF-WHITE FINISH.
B	CEILING RETURN OR EXHAUST	TITUS CORE 50F (TYPE 3) ALUMINUM EGG CRATE REGISTER WITH 1/2" x 1/2" GRID, FOR LAY-IN CEILING, AND NO. 26 OFF-WHITE FINISH.
C	WALL, CEILING OR DUCT RETURN	TITUS CORE 3FL (TYPE 1) ALUMINUM RETURN REGISTER WITH NO. 26 WHITE FINISH.
D	WALL, CEILING OR DUCT RETURN	TITUS CORE 50FF W/1" FILTER. NO. 26 OFF WHITE FINISH.
E	WALL LOUVER	RUSKIN ELF 375D STATIONARY EXTRUDED ALUMINUM DRAINABLE BLADE LOUVER. 3/4" MESH SCREEN ON INSIDE FACE. MILL FINISH FOR PAINTING.

EXHAUST FAN SCHEDULE

DESIGNATION	EF 1	EF 2	EF 3
CFM	800	1435	100
EXT. S.P. (IN. WC)	0.25	0.3	0.27
HP / BHP	.25 / 0.1	.50 / 0.2	.016 / 0.02
VOLTS / PHASE	120 / 1	120 / 1	120 / 1
MCA / MOP (AMPS)	- / -	- / -	- / -
FLA (AMPS)	-	-	-
RPM	1266	1215	1550
TIP SPEED/ SONES	3707 / 8.8	4173 / 10.4	3297 / 3.6
DRIVE	DIRECT	DIRECT	DIRECT
MOUNTING	ROOF	ROOF	ROOF
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK
TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
MODEL NUMBER	G-099-VG	G-130-VG	G-060-D
CONTROL	2	1	3
LOCATION	SEE PLAN	SEE PLAN	SEE PLAN
OPER. WT. (LBS)	55	65	30
ACCESSORIES			

1 . ROOM PRESSURE TRANSDUCTOR LOCATED IN ROOM TO MODULATE EXHAUST FAN SPEED.
2. WALL THERMOSTAT SET FOR 90°F ADJ.
3. EMS SEE DET. D/X/M101

PACKAGE HEAT PUMP SCHEDULE

	DESIGNATION	HP 1
	VOLTS/PHASE	460 / 3
	M.C.A	39.0
	M.O.C.P.	40
	SEER/EER @ ARI	13.6 / -
BLOWER	SUPPLY AIR (CFM)	1,325
BLOWER	EXT. SP (IN. WC)	0.6
BLOWER	MIN. O.S.A. (CFM)	1,325
BLOWER	HP	0.67
BLOWER	RPM	1611
BLOWER	DRIVE	DIRECT
COOLING	SENSIBLE (MBH)	60.6
COOLING	TOTAL (MBH)	60.6
COOLING	EADB/EAWB (°F)	105 / 72
COOLING	AMBIENT AIR (°F)	105.0
COOLING	UNIT DISCH. TEMP (°F)	63.4
COOLING	REFRIGERANT TYPE	R-4548
COOLING	REFRIG. CLASSIFICATION	A2L
COOLING	TONS OF REFRIGERATION	5
HEATING	CAPACITY @ 47 DEG. (MBH)	54.0
HEATING	HSPF / COP	- / 3.45
HEATING	AUXILIARY ELEC. (KW)	15.0
HEATING	NO. OF STAGES	1
HEATING	EAT DB/WB (°F)	32 / 30
FILTERS	QUANTITY/SIZE (RETURN)	
FILTERS	TYPE	AP THIRTEEN / 13
FILTERS	QUANTITY/SIZE (OSA)	
FILTERS	TYPE	DISPOSABLE
FILTERS	P D (IN WC)	0.1
	MANUFACTURER	AAON
	TYPE	HEAT PUMP
	MODEL NUMBER	RQA-005-A-A-3
	CONDENSING UNIT	-
	LOCATION	ROOF
	OPER. WT (LBS)	1,200
	ACCESSORIES	

1 . UV LITES, 15KW ELECTRIC HEATER

TITLE 24 ACCEPTANCE TESTING TABLE

FORM / TITLE	DESIGNATION	IDU 1	HP 1	IDU 2
	NRCA-MCH-02-A OUTDOOR AIR.	X	X	X
	NRCA-MCH-03-A CONSTANT VOLUME SINGLE ZONE HVAC.	X	X	X
	NRCA-MCH-04-A AIR DISTRIBUTION DUCT LEAKAGE.			
	NRCA-MCH-05-A AIR ECONOMIZER CONTROLS.		X	
	NRCA-MCH-06-A DEMAND CONTROL VENTILATION SYSTEMS.			
	NRCA-MCH-07-A SUPPLY FAN VARIABLE FLOW CONTROLS.			
	NRCA-MCH-08-A VALVE LEAKAGE TEST.			
	NRCA-MCH-09-A SUPPLY WATER TEMPERATURE RESET CONTROLS.			
	NRCA-MCH-10-A HYDRONIC SYSTEM VARIABLE FLOW CONTROLS.			
	NRCA-MCH-11-A AUTOMATIC DEMAND SHED CONTROLS.			
	NRCA-MCH-12-A FDD FOR PACKAGED DIRECT EXPANSION UNITS.		X	
	NRCA-MCH-13-A AUTOMATIC FDD FOR AIR HANDLING UNITS AND ZONE TERMINAL UNITS.			
	NRCA-MCH-14-A DISTRIBUTED ENERGY STORAGE DX AC SYSTEMS.			
	NRCA-MCH-15-A THERMAL ENERGY STORAGE (TES) SYSTEM.			
	NRCA-MCH-16-A SUPPLY AIR TEMPERATURE RESET CONTROLS.			
	NRCA-MCH-17-A CONDENSER WATER TEMPERATURE RESET CONTROLS.			
	NRCA-MCH-18-A ENERGY MANAGEMENT CONTROL SYSTEMS.			
	NRCA-MCH-19-A OCCUPANCY SENSOR CONTROLS.			
	NRCA-MCH-20 MULTI-FAMILY VENTILATION.			
	NRCA-MCH-21 MULTI-FAMILY ENVENLOPE LEAKAGE.			
	NRCA-MCH-22-A MF DUCT LEAKAGE.			
	NRCA-MCH-23-A MF HRV/ERV VERIFICATION.			

1. REFER TO TITLE-24 DOCUMENTS FOR ADDITIONAL INFORMATION.
2. NRCA MUST BE SUMBITTED AND COMPLETED BY A CERTIFED ACCEPTANCE TEST TECHNICIAN TO COMPLY WITH CALIFORNIA ENERGY CODE.
3. SUBMIT ACCEPTANCE FORMS TO PROJECT INSPECTOR & MEOR FOR REVIEW.

AIR CONDITIONING LEGEND

SYMBOL	ITEM	ABBR
	ROUND DUCT	Ø
	FLAT OVAL DUCT	⟺
	SHEET METAL DUCT	—
	ACOUSTIC LINING FOR DUCT OR GRILLES	(L)
	DUCT W/EXT INSULATION & GALV. SM SUNSHIELD	—
	SUPPLY AIR DUCT DROP	—
	RETURN AIR DUCT DROP	—
	EXHAUST DUCT AIR DROP	—
	SUPPLY AIR DUCT RISE	—
	RETURN AIR DUCT RISE	—
	EXHAUST AIR DUCT RISE	—
	TURNING VANES	TV
	EXTRACTOR	—
	VOLUME CONTROL DAMPER W/LOCKING QUADRANT	VCD
	OPPOSED BLADE DAMPER	OBD
	BACKDRAFT DAMPER	BDD
	VOLUME CONTROL DAMPER W/ REMOTE REGULATOR	VCR
CFM	CUBIC FEET OF AIR PER MINUTE	CFM
T	THERMOSTAT	—
SP	EMS STATIC PRESSURE SENSOR	SP
CS	EMS CURRENT SENSOR	CS
	DIRECTION OF FLOW	—
	SUPPLY AIR	SA
	RETURN AIR	RA
	EXHAUST AIR	EA
—	OUTSIDE AIR	OSA
	PIPE/DUCT TURN DOWN	—
	PIPE/DUCT TURN UP	—
	NEW (DESIGNATED)	(N)
SD	DUCT SMOKE DETECTOR	SD
A/V	AUDIBLE/VISUAL ALARM	A/VA
	BYPASS TIMER	BPT
—EMS—	ENERGY MANAGEMENT SYSTEM CABLE IN CONDUIT	EMS

SUPPLY FAN SCHEDULE

DESIGNATION	SF 1
CFM	100
EXT. S.P. (IN. WC)	0.3
HP / BHP	.06 / .02
VOLTS / PHASE	120 / 1
MCA / MOP (AMPS)	- / 15
FLA (AMPS)	-
RPM	1456
TIP SPEED/ SONES	3097 / 3.2
DRIVE	DIRECT
MOUNTING	IN-LINE
MANUFACTURER	GREEN HECK
TYPE	CANTRIFUGAL
MODEL NUMBER	SQ-70-VG
CONTROL	I.L.W/ IDU
LOCATION	STORAGE RM.
OPER. WT. (LBS)	40
ACCESSORIES	-

INDOOR UNIT SCHEDULE

	DESIGNATION	IDU 1	IDU 2
BLOWER	SUPPLY AIR (CFM)	530	530
BLOWER	EXT. S P (IN. WC)	-	-
BLOWER	MIN. O.S.A. (CFM)	-	-
BLOWER	MOCP	SEE ODU-1	SEE ODU-2
BLOWER	MCA / FLA (AMPS)	SEE ODU-1	SEE ODU-2
BLOWER	VOLTS/PHASE	SEE ODU-1	SEE ODU-2
BLOWER	SEER / EER	21 / -	23 / -
COOLING	SENSIBLE (MBH)	18.6	15.0
COOLING	TOTAL (MBH)	23.9	16.6
COOLING	EADB/EAWB (°F)	80 / 67	80 / 67
COOLING	REFRIGERANT	R-32	R-32
HEATING	CAPACITY (MBH) @47°F	20.9	-
HEATING	KW	-	-
HEATING	STAGES	-	-
FILTER	QUANTITY/SIZE	- / -	- / -
FILTER	TYPE	WASHABLE	WASHABLE
FILTER	P D (IN. WC)	-	-
	MANUFACTURER	LG	LG
	TYPE	CEILING CASSETTE	HIGH WALL
	MODEL NUMBER	KNSCB 241A	KNUAB 181A
	CONDENSING UNIT	ODU-1	ODU-2
	LOCATION	SNACK BAR	ELECTRICAL ROOM
	OPER. WT (LBS)	55	35
	ACCESSORIES	1	1

1 . WIRED UNIT CONTROLLER, WALL MTG. KIT

OUTDOOR UNIT SCHEDULE

DESIGNATION	ODU 1	ODU 2
COOLING CAPACITY (MBH)	23.9	16.6
HEATING CAPACITY (MBH)	20.9	-
NOMINAL TONS	2	1.5
VOLTS/PHASE	208 / 1	208 / 1
FLA	N/A	N/A
MCA / MOCP	16 / 25	19/30
SEER / EER (AT ARI)	- / -	- / -
AMBIENT (°F)	105	105
REFRIG. LINE SIZE		
LIQUID (IN.OD)	3/8	3/8
SUCTION (IN. OD)	5/8	5/8
REFRIG. TYPE	R-32	R-32
REFRIG. CLASSIFICATION	A2L	A2L
MANUFACTURER	LG	LG
TYPE	HEAT PUMP	HEAT PUMP
MODEL NUMBER	KUSXB241A	KUSAB 181A
SERVICE	IDU-1	IDU-2
OPER. WT (LBS)	150	140
ACCESSORIES	-	-

DSA File No.: 20-30

DSA Application No.: 02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

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Consultant

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Project

Mechanical Schedules

Drawing

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LICENSED ARCHITECT — ANTONIO J. ARTUSI — No. C26235 — Exp. 10-31-25 — STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

Designed By: -
Drawn By: -
Checked By: -
Reviewed By: -

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Scale:
Project Number: 2470.1
Date: 12/10/24

X/M201

25 June 2025 10:39 AM P:\2024\24133 MUSD ELOP\4 - Drawings\4 M\000 - Desmond\XM201 - MECHANICAL SCHEDULES.dwg david s

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	**(Page 3 of 17)**

C1. COMPLIANCE SUMMARY

COMPLIES[3]			
	Time Dependent Valuaton (TDV)		Source Energy Use
	Efficiency[1] (kBtu/ft² - yr)	Total[2] (kBtu/ft² - yr)	Total[2] (kBtu/ft² - yr)
Standard Design	615.05	615.05	59.24
Proposed Design	531.55	531.55	48.5
Compliance Margins	**83.5**	**83.5**	**10.74**
	Pass	**Pass**	**Pass**

[1] Efficiency measures include improvements like a better building envelope and more efficient equipment
[2] Compliance Totals include efficiency, photovoltaics and batteries
[3] New Construction, Complete Addition Scope: Building complies when all efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded
Existing, Addition and Alteration Scope: Building complies when efficiency compliance margin is greater than or equal to zero and unmet load hour limits are not exceeded

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	**(Page 2 of 17)**

B. PROJECT SUMMARY

Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within the permit application.

Building Components Complying via Performance					Building Components Complying Prescriptively	
Envelope (See Table G)	Nonres	Performance	Solar Thermal Water Heating (See Table I3)	☐ Performance	The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PRF-E).	
	MultiFam	Not Included		☒ Not Included		
Mechanical (See Table H)	Nonres	Performance	Covered Process: Commercial Kitchens (see Table J)	☐ Performance	Indoor Lighting (Unconditioned) 140.6 & 170.2(e)	NRCC-LTI-E is required
	MultiFam	Not Included		☒ Not Included	Outdoor Lighting 140.7 & 170.2(e)	NRCC-LTO-E is required
Domestic Hot Water (See Table I)	Nonres	Performance	Covered Process: Laboratory Exhaust (see Table J)	☐ Performance	Sign Lighting 140.8 & 170.2(e)	NRCC-LTS-E is required
	MultiFam	Not Included		☒ Not Included	**Building Components Complying with Mandatory Measures**	
Lighting (Indoor Conditioned, see Table K)	Nonres	Not Included	Photovoltaics (see Table F)	☐ Performance	Electrical power systems, commissioning, solar ready, elevator and escalator requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)	
	MultiFam	Not Included		☒ Not Included	Electrical Power Distribution 110.11	NRCC-ELC-E is required
			Battery (see Table F)	☐ Performance	Commissioning 120.8	NRCC-CXR-E is required
				☒ Not Included	Solar and Battery 110.10	NRCC-SAB-E is required

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	**(Page 1 of 17)**

Project Name:	MUSD ELOP - Desmond	Date Prepared:	2025-03-12

A. General Information

1	Project Name	MUSD ELOP - Desmond			
2	Run Title	Title 24 Analysis			
3	Project Location	Madera, CA 93682			
4	City	Madera	5	Standards Version	Compliance 2022
6	Zip code	93683	7	Compliance Software (version)	EnergyPro 9.4
8	Climate Zone	13	9	Building Orientation (deg)	180
10	Building Type(s)	• Nonresidential	11	Weather File	MADERA_STYP20.epw
12	Project Scope	• New envelope and mechanical	13	Number of Dwelling Units	0
14	Total Conditioned Floor Area in Scope (ft²)	1368	15	Total # of hotel/motel rooms	0
16	Total Unconditioned Floor Area (ft²)	822	17	Fuel Type	Natural gas
18	Nonresidential Conditioned Floor Area	1368	19	Total # of Stories (Habitable Above Grade)	1
20	Residential Conditioned Floor Area	0			

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	**(Page 6 of 17)**

C4. SOURCE ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual SOURCE Energy Use, kBtu/ft² /yr)

COMPLIES[2]			
Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE)[1]
Space Heating	19.74	20.73	-0.99
Space Cooling	6	6.94	-0.94
Indoor Fans	16.22	10.93	5.29
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	14.69	7.31	7.38
Indoor Lighting	2.59	2.59	0
Flexibility	---	---	---
EFFICIENCY COMPLIANCE TOTAL	**59.24**	**48.5**	**10.74 (18.1%)**
Photovoltaics	---	---	---
Batteries	---	---	---
TOTAL COMPLIANCE	**59.24**	**48.5**	**10.74 (18.1%)**

[1] Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	**(Page 5 of 17)**

C3. TDV ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Receptacle	29.01	29.01	---
Process	118.63	118.63	---
Other Ltg	13.49	13.49	---
Process Motors	12.24	11.95	0.29
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**788.42**	**704.63**	**83.79 (10.6%)**

[1] Notes: This table is not used for Energy Code Compliance.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	**(Page 4 of 17)**

C2. TDV ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft² - yr)

COMPLIES[2]			
Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	145.96	152.97	-7.01
Space Cooling	143.49	168.33	-24.84
Indoor Fans	187.51	110.09	77.42
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	104.75	66.82	37.93
Indoor Lighting	33.34	33.34	0
Flexibility	---	---	---
EFFICIENCY COMPLIANCE TOTAL	**615.05**	**531.55**	**83.5 (13.6%)**
Photovoltaics	---	---	---
Batteries	---	---	---
TOTAL COMPLIANCE	**615.05**	**531.55**	**83.5 (13.6%)**

[1] Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	**(Page 9 of 17)**

C8. ENERGY USE INTENSITY (EUI)

	Standard Design (kBtu/ft² / yr)	Proposed Design (kBtu/ft² / yr)	Margin (kBtu/ft² / yr)	Margin Percentage
GROSS EUI[1]	59.46	51.1	8.36	14.06
NET EUI[1]	59.46	51.1	8.36	14.06

[1] Notes: Gross EUI is Energy Use Total (not including PV)/Total Building Area. Net EUI is Energy Use Total (including PV)/Total Building Area.

D1. EXCEPTIONAL CONDITIONS

• PV/Battery Building Type has been modified from software defaults for one or more spaces. Review project's PV/Battery Building Type(s) with documentation author. Refer to Energy Code section 140.10 for Nonresidential or 170.2(g) for more information.

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

01	02	03	04
Opaque Surfaces & Orientation	**Total Gross Surface Area (ft²)**	**Total Fenestration Area (ft²)**	**Window to Wall Ratio (%)**
North-Facing[1]	188	0	0
East-Facing[2]	581	0	0
South-Facing[3]	888	0	0
West-Facing[4]	278	0	0
Total	**1935**	**0**	**0**
Roof	1368	0	0

Notes
[1]North-Facing is oriented to within 45 degrees of true north, including 45 00'00" east of north (NE), but excluding 45 00'00" west of north (NW),
[2]East-Facing is oriented to within 45 degrees of true east, including 45 00'00" south of east (SE), but excluding 45 00'00" north of east (NE),
[3]South-Facing is oriented to within 45 degrees of true south, including 45 00'00" west of south (SW), but excluding 45 00'00" east of south (SE),
[4]West-Facing is oriented to within 45 degrees of true west, including 45 00'00" north of west (NW), but excluding 45 00'00" south of west (SW),

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	**(Page 8 of 17)**

C7. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	7	7.4	-0.4	---	---	---
Space Cooling	4.7	5.1	-0.4	---	---	---
Indoor Fans	8.3	5.3	3	---	---	---
Heat Rejection	---	---	---	---	---	---
Pumps & Misc.	---	---	---	---	---	---
Domestic Hot Water	4.5	3.3	1.2	6.7	---	---
Indoor Lighting	1.8	1.8	0	---	---	---
Flexibility	---	---	---	---	---	---
EFFICIENCY TOTAL	**26.3**	**22.9**	**3.4**	**6.7**	**0**	**6.7**
Photovoltaics	---	---	---	---	---	---
Batteries	---	---	---	---	---	---
ENERGY USE SUBTOTAL	**26.3**	**22.9**	**3.4**	**6.7**	**0**	**6.7**
Receptacle	1.6	1.6	0	---	---	---
Process	7	7	0	---	---	---
Other Ltg	0.7	0.7	0	---	---	---
Process Motors	0.6	0.6	0	---	---	---
ENERGY USE TOTAL	**36.2**	**32.8**	**3.4**	**6.7**	**0**	**6.7**

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	**(Page 7 of 17)**

C5. SOURCE ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE)[1]
Receptacle	2.12	2.12	---
Process	8.46	8.46	---
Other Ltg	1.05	1.05	---
Process Motors	1.14	1.12	0.02
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**72.01**	**61.25**	**10.76 (14.9%)**

[1] Notes: This table is not used for Energy Code Compliance.

C6. 'ABOVE CODE' QUALIFICATIONS

☐ This project is pursuing CalGreen Tier 1 ☐ This project is pursuing CalGreen Tier 2

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

LAWRENCE ENGINEERING GROUP
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REGISTERED PROFESSIONAL ENGINEER JAN W. C. LAWRENCE No. M34846 Exp. 6-30-26 MECHANICAL STATE OF CALIFORNIA
Consultant

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

TITLE 24
Drawing

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LICENSED ARCHITECT ANTONIO J. TINTO No. C26235 Exp. 10-31-25 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date

Revision

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Designed By: -
Drawn By: -
Checked By: -
Reviewed By: -
Scale:
Project Number: 2470.1
Date: 12/10/24

X/M301

25 June 2025 10:39 AM P:\2024\24133 MUSD ELOP\4-Drawings\4 M\000 – Desmond_VM201-M303 – TITLE 24.dwg dsvid s

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 12 of 17)

G6A. OPAQUE DOOR SUMMARY (NONRESIDENTIAL)

01	02	03	04
Assembly Name	Area (ft²)	Overall U-factor	Status[1]
Metal Door11	249	0.7	N

[1] Status: N - New, A - Altered, E - Existing

H1. DRY SYSTEM EQUIPMENT (FURNACES, AIR HANDLING UNITS, HEAT PUMPS, VRF, ECONOMIZERS ETC.)

01	02	03	04	05	06	07	08	09	10	11	12
			Heating				Cooling				
Equipment Name	Equipment Type	Qty	Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	Status[1]
IDU-1 / ODU-1 LG KNSCB	Single Zone Heat Pump (SZHP) Air System	1	21.77	0	HSPF	9	17.86	SEER	21	No Economizer	N
HP-1 AAON RQA-005-A-A-3	Single Zone Heat Pump (SZHP) Air System	1	56.24	0	HSPF2	7.5	58.18	EER2 SEER2	11.25 13.6	Differential DB	N
ODU-2/IDU-2 LG LS243HLV3	Single Zone Heat Pump (SZHP) Air System	1	27.08	0	HSPF2	9.5	21.12	EER2 SEER2	13 22	No Economizer	N

[1] Status: N - New, A - Altered, E - Existing

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 11 of 17)

G5. OPAQUE SURFACE ASSEMBLY SUMMARY

01	02	03	04	05	06		07	08	09	10
					Continuous R-Value					
Surface Name	Construction Type	Area (ft²)	Framing Type	Cavity R-Value	Interior	Exterior	Units	Value	Description of Assembly Layers	Status[1]
24133 Ext Wall8	Exterior Wall	2,747	Metal	19	N/A	N/A	U-factor	0.1498	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Plywood - 3/8 in. Plywood - 1/2 in. Composite-1 Gypsum Board - 5/8 in.	N
Slab On Grade13	Underground Floor	2,190	N/A	0	N/A	N/A	F-factor	0.73	Slab Type =Unheated slab on grade Insulation Orientation =None Insulation R-Value =none	N
24133 Roof15	Roof	2,189	Metal	30	N/A	N/A	U-factor	0.0696	Metal Standing Seam - 1/16 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Composite-2 Gypsum Board - 5/8 in.	N
Interior Wall17	Interior Wall	661	Metal	19	N/A	N/A	U-factor	0.124	Mortar - Cement - 1 in. Gypsum Board - 5/8 in. Composite-3 Acoustic Tile - 3/8 in. Plywood - 1/4 in. Gypsum Board - 5/8 in. Mortar - Cement - 1 in.	N

[1] Status: N - New, A - Altered, E - Existing

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 10 of 17)

G4. NONRESIDENTIAL AIR BARRIER

01	02
Building Story Name	Air Barrier
Com-Floor 1	No air barrier

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 15 of 17)

I1. WATER HEATER EQUIPMENT SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input	Rated Input Unit	Efficiency	Efficiency Unit	Tank Insulation R-value Int/Ext	Standby Loss Fraction	1st Hr. Rating or Flow Rate (gal)	Heat Pump Type	Tank Location or Ambient Condition
A.O. Smith DSE-50A-152	Electricity	Storage	1	50	15	kW	0.93	TE	N/A	0.04	N/A	N/A	N/A

L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections made by Documentation Author indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online

Building Component	Form/Title
Envelope	NRCI-ENV-E - Envelope (for all buildings)
Mechanical	NRCI-MCH-E - For all buildings with Mechanical Systems
Plumbing	NRCI-PLB-E - For all buildings with Plumbing Systems

M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP).

Building Component	Form/Title & System Name(s)
Mechanical	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
	IDU-1 / ODU-1 LG KNSCB, HP-1 AAON RQA-005-A-A-3 and ODU-2/IDU-2 LG LS243HLV3.
Mechanical	NRCA-MCH-03-A - Constant Volume Single Zone HVAC
	IDU-1 / ODU-1 LG KNSCB, HP-1 AAON RQA-005-A-A-3 and ODU-2/IDU-2 LG LS243HLV3.
Mechanical	NRCA-MCH-05-A - Air Economizer Controls
	HP-1 AAON RQA-005-A-A-3
Mechanical	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units
	HP-1 AAON RQA-005-A-A-3

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 14 of 17)

H8. SYSTEM SPECIAL FEATURES

01	02	03	04
System Name	Equipment Type	Interlocks per 140.4(n)[1]	Other Special Features and Controls
A.O. Smith DSE-50A-151 - SHW	Service Hot Water	N/A	Fixed Temperature Control

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.

[1] Yes = interlocks are provided, No = interlocks are not provided, NA means no operable openings.

H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION

01	02		03	04	05	06	07
		Mechanical Ventilation					
Zone Name	Ventilation Function		# of People	Supply OA CFM	Exhaust CFM	Conditioned Area (sf)	DCV or Occupant Sensor Controls, or Both
1-Zone 1	Misc - All others		1.27	38.1	0	254	N/A
2-Zone 2	Exhaust - Toilets, public		5.3	0	1435	1061	N/A
4-Zone 3	General - Unoccupied		0.08	0	0	53	N/A

H11. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12
			Rated Capacity (kBtuh)		Airflow (cfm)			Fan			
System ID	System Type	Qty	Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	VSD
1-Zone 1-Trm	Uncontrolled	1	N/A	N/A	530	N/A	0	N/A	N/A	N/A	☐
2-Zone 2-Trm	Uncontrolled	1	N/A	N/A	1,325	N/A	0	N/A	N/A	N/A	☐
4-Zone 3-Trm	Uncontrolled	1	N/A	N/A	601	N/A	0	N/A	N/A	N/A	☐

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 13 of 17)

H3. NONRESIDENTIAL / COMMON USE AREA FAN SYSTEMS SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12	13
			Supply Fan				Return / Relief Fan					
Name or Item Tag	Qty	Design OA CFM	CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control	Status[1]
IDU-1 / ODU-1 LG KNSCB	1	38.1	530	0.05	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
HP-1 AAON RQA-005-A-A-3	1	0	1,325	0.67	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
ODU-2/IDU-2 LG LS243HLV3	1	0	601	0.06	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N

[1] Status: N - New, A - Altered, E - Existing

H5. GENERAL EXHAUST FAN SUMMARY

01	02	03	04	05	06	07	08
System ID	Zone Name	Qty	CFM	Power	Power Units	Continuous Operation?	Status[1]
Zone 218-EF	2-Zone 2	1	1435	0.2	BHP	No	N
Unconditioned37-EF	3-Unconditioned	1	100	0.02	BHP	No	N
Unconditioned49-EF	5-Unconditioned	1	800	0.1	BHP	No	N

[1] Status: N - New, A - Altered, E - Existing

H8. SYSTEM SPECIAL FEATURES

01	02	03	04
System Name	Equipment Type	Interlocks per 140.4(n)[1]	Other Special Features and Controls
HP-1 AAON RQA-005-A-A-3	Single Zone Heat Pump (SZHP) Air System	N/A	Differential DB

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.

[1] Yes = interlocks are provided, No = interlocks are not provided, NA means no operable openings.

STATE OF CALIFORNIA

Domestic Water Heating System

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-PLB-E

This document is used to demonstrate compliance for nonresidential occupancies with requirements in 110.1, 110.3, 120.3, and 140.5, and with requirements in 141.0 for additions and alterations, for domestic water heating scopes using the prescriptive path. For high-rise residential and hotel/motel occupancies compliance is demonstrated with requirements in 110.1, 110.3, 160.4 and 170.2(d), and with requirements 180.1 for additions and 180.2 for alterations.

Project Name: MUSD ELOP **Report Page:** (Page 1 of 6)

Project Address: Madera, CA 93682 **Date Prepared:** 3/12/2025

A. GENERAL INFORMATION

01	Project Location (city)	Madera	02	Climate Zone	13
03	Occupancy Types Within Project (select all that apply):				

● Support Areas ● All Other Occupancies

B. PROJECT SCOPE

This table includes domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in 140./170.2(d) and 141.0(a)/ 180.1, or 141.0(b)2N / 180.2 for additions or alterations. Solar water heating systems are documented on the NRCC-SAB compliance document. Combined hydronic water heating systems are documented on the NRCC-MCH compliance document.

01	02	03	
My project consists of (check all that apply):	System Type[1,2]	System Components	
☒ New system (DHW system being installed for the first time)	Individual System (serving nonresidential spaces)	☒ Equipment	☒ Distribution ☒ Controls
☐ System Alteration (equipment, distribution or controls)		☐ Equipment	☐ Distribution ☐ Controls

[1] FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.
[2] Dwelling units refers to hotel/motel guest rooms and units in a multifamily residential occupancy.
[3] DHW systems serving 2 or more dwelling units are considered "Central Systems" for multifamily occupancies

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. or the table indicated as not compliant for guidance.

01	02	03	04
Domestic Hot Water Equipment	Distribution Systems	Controls	Compliance Results
Table F	Table G	Table H	
Yes	Yes	Yes	COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

Generated Date/Time: Documentation Software: EnergyPro

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 17 of 17)

Documentation Author's Declaration Statement

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Mathew Alviso	Documentation Author Signature: *Mathew Alviso*
Company: Lawrence Engineering Group	Signature Date: 2025-03-12
Address: 4910 E. Clinton Way, Suite 101	CEA/HERS Certification Identification (if applicable):
City/State/Zip: Fresno, CA 93727	Phone: (559) 431-0101

Responsible Person's Declaration statement

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I understand that a registered copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections, and I will take the necessary steps to accomplish this requirement.
6. I understand that a registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy, and I will take the necessary steps to accomplish these requirements.

Responsible Designer Name: Antonio J. Avila	Responsible Designer Signature:	
Company: Darden Architects		
Address: 6790 N. West Ave.	Date Signed: 06/29/2025	
City/State/Zip: Fresno, CA 93711	License #: C26235	
Phone: (559) 448-8051	Title:	Scope:
Responsible Designer Name: Ryan W.Carlson	Responsible Designer Signature:	
Company: Lawrence Engineering Group		
Address: 4910 E. Clinton Way., Suite 101	Date Signed: 2025-03-12	
City/State/Zip: Fresno, CA 93727	License #: M34846	
Phone: (559) 431-0101	Title:	Scope:

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 16 of 17)

N. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Selections made by Documentation Author indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online

There are no Certificates of Verification applicable to this project

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

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No. M34846
Exp. 6-30-26
MECHANICAL
STATE OF CALIFORNIA

Consultant

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Project

TITLE 24

Drawing

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LICENSED ARCHITECT
ANTONIO J. AVILA
No. C26235
Exp. 10-31-25
STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

	Designed By: -	Copyright 2022 Darden Architects
Scale:	Drawn By: -	
Project Number: 2470.1	Checked By: -	X/M302
Date: 12/10/24	Reviewed By: -	

25 June 2025 10:39 AM P:\2024\24133 MUSD ELOP\4-Drawings\4 WD\000 – Desmond\XM301-M303 – TITLE 24.dwg david s

STATE OF CALIFORNIA
Domestic Water Heating System CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PLB-E
Project Name: MUSD ELOP	**Report Page:** (Page 4 of 6)
	Date Prepared: 3/12/2025

H. DOMESTIC HOT WATER CONTROLS

This table is used to demonstrate compliance with control requirements in 110.3 for all occupancies. For multifamily residential and hotel/motel occupancies, compliance is also demonstrated with requirements in 160.4(e) / 170.2(d).

	Yes	No	Not Applicable	Requirement
01	☒	☐	☐	Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per 110.3(a).
02	☐	☐	☒	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per 110.3(c)1 unless covered by California Plumbing Code 613.0.
03	☐	☐	☒	Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)2 unless systems serves healthcare facility.
04	☐	☐	☒	For recirculation systems serving multiple dwelling units, design includes automatic pump controls per 170.2(d) or 180.1(b)3 for additions.
05	☐	☐	☒	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA4.4.9 per 170.2(d).
06	☐	☐	☒	Combustion air positive shut-off shall be provided per 160.4(3).on all newly installed commercial boilers as follows: • Boilers with input capacity >= 2.5 MMBtu/h, in which the boiler is designed to operate with a nonpositive vent static pressure • Boilers where one stack serves two or more boilers with a total combined input capacity per stack of 2.5 MMBtu/h.
07	☐	☐	☒	Boiler combustion air fans with motor >= 10 hp shall meet one of the following • The fan motor shall be driven by a variable speed drive OR • The fan motor shall include controls that limit the fan motor demand to <=30% of the total design wattage at 50% of the design air volume.
08	☐	☐	☒	Newly installed boilers with an input capacity (d:gte/) 5MMBtu/h and a steady state full-load combustion efficiency < 90% shall maintain excess (stack-gas) oxygen concentrations <= 5% by volume on a dry basis over firing rates of 20-100%. Combustion air volume shall be controlled with respect to firing rate or flue gas oxygen concentration. Use of a common gas and combustion air control linkage or jack shaft is prohibited.

STATE OF CALIFORNIA
Domestic Water Heating System CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PLB-E
Project Name: MUSD ELOP	**Report Page:** (Page 3 of 6)
	Date Prepared: 3/12/2025

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

This table is used to demonstrate compliance for nonresidential occupancies with distribution requirements in 120.3 and 140.5. For multifamily and hotel/motel occupancies, compliance is demonstrated with requirements 110.3(c), 160.4, 170.2(d).

Mandatory Pipe Insulation All Occupancies

13	☐	For systems serving dwelling units, pipe insulation must meet the minimum insulation requirements in Table 160.4-A (see blow) except: • Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration. Piping that penetrates metal framing shall use grommets, plugs, wrapping or other insulating material to assure that no contact is made with the metal framing. Insulation shall abut securely against all framing members • Piping installed in interior or exterior walls shall not be required to have pipe insulation if all of the requirements are met for compliance with Quality Insulation Installation (QII) as specified in the Reference Residential Appendix RA3.5. • Piping surrounded with a minimum of 1 inch of wall insulation, 2 inches of crawlspace insulation, or 4 inches of attic insulation, shall not be required to have pipe insulation.
14	☒	For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A (see below) per 120.3: • Recirculating system piping, including supply and return piping of the water heater • The first 8 ft of hot and cold outlet piping, including between storage tank and heat trap, for a nonrecirculating storage system • Pipes that are externally heated
15	☒	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per 120.3(b) / 160.4(f). Pipe insulation buried below grade must be installed in a water proof and non-crushable casing or sleeve.

TABLE 120.3-A / 160.4-A PIPE INSULATION THICKNESS

Fluid Temperature Range (°F)	Conductivity Range (Btu-in per hour per ft² per °F)	Insulation Mean Rating Temp (°F)	Nominal Pipe Diameter (in)			
			< 1	1 to < 1.5	1.5 to < 4	1.5 to < 4 Multifamily & Hotel/Motel
			Minimum Insulation Required			
105-140	0.22 - 0.28	100	1.0 in or R-7.7	1.5 in or R-12.5	1.5 in or R-11	2.0 in or R-16

STATE OF CALIFORNIA
Domestic Water Heating System CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PLB-E
Project Name: MUSD ELOP	**Report Page:** (Page 6 of 6)
Project Address: Madera, CA 93682	**Date Prepared:** 3/12/2025

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Mathew Alviso	*Mathew Alviso*
Company: Lawrence Engineering Group	Signature Date: 2025-03-12
Address: 4910 E. Clinton Way, Suite 101	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Fresno CA 93727	Phone: (559) 431-0101

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
Ryan W.Carlson	
Company: Lawrence Engineering Group	Date Signed: 2025-03-12
Address: 4910 E. Clinton Way., Suite 101	License: M34846
City/State/Zip: Fresno CA 93727	Phone: (559) 431-0101

STATE OF CALIFORNIA
Domestic Water Heating System CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PLB-E
Project Name: MUSD ELOP	**Report Page:** (Page 2 of 6)
	Date Prepared: 3/12/2025

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demonstrate compliance with mandatory equipment requirements in 110.1 and 110.3. Compliance with prescriptive requirements in 140.5(c) / 170.2(d) must also be demonstrated and with 141.0 / 180.1/ 180.2 for addition and alteration scopes.

Equipment Schedule: Water Heating Efficiency and Standby Loss

03		04		05		06		
System Name	A.O. Smith DSE-50A-15	Exception to 140.5(c)/ 170.2(d)3		☐	Gas Service Water Heating System >= 1MMBtu/h[1]	Capacity-weighted Average Efficiency %		
07	08	09	10	11	12	13	14	15
Name or Item Tag	Equipment Type	Volume (gal)	Rated Input Capacity (Btu/h)	Max GPM/ First Hour Rating (FHR)	Rated Efficiency	Minimum Efficiency Required	Efficiency Unit	Designed Standby Loss	Maximum Standby Loss
A.O. Smith DSE-50A-15	Commercial Electric Storage Water Heater	50	51,182	FHR >=75	0.93	0.93	UEF		

[1]*FOOTNOTE: In systems >= 1MMBtu/h with multiple units, gas water heaters with input capacity > 100,000 Btu/h may meet 90% Et requirements via an input capacity-weighted average.*

Water Heating Equipment All Occupancies

	Yes	No	Not Applicable	Requirement
18	☐	☐	☒	Unfired storage tank insulation shall have Internal + External >=R-16 OR External >=R-3.5. Label required per 110.3(c)3
19	☐	☐	☒	New state buildings 60% of energy for service water heating from site solar energy or recovered energy per 110.3(c)5
20	☐	☐	☒	Isolation valves for instantaneous water heater with input rating >6.8 KBTUH or 2 kW has been specified per 110.3(c)6
21	☐	☐	☒	School buildings < 25,000 ft² and < 4 stories must install a heat pump water heating system per 140.5(a)1. Water heating systems serving an individual bathroom space may be an instantaneous electric water heater.

STATE OF CALIFORNIA
Domestic Water Heating System CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PLB-E
Project Name: MUSD ELOP	**Report Page:** (Page 5 of 6)
	Date Prepared: 3/12/2025

I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-PLB-E - Must be submitted for all buildings

J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no forms required for this project.

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

LAWRENCE ENGINEERING GROUP
4910 E. Clinton Way, Suite 101
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2413
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FAX (559) 431-1562
REGISTERED PROFESSIONAL ENGINEER RYAN W. CARLSON No. M34846 Exp. 6-30-26 MECHANICAL STATE OF CALIFORNIA

Consultant

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Project

TITLE 24

Drawing

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LICENSED ARCHITECT ANTONIO J. TINOCO No. C26235 Exp. 10-31-25 STATE OF CALIFORNIA

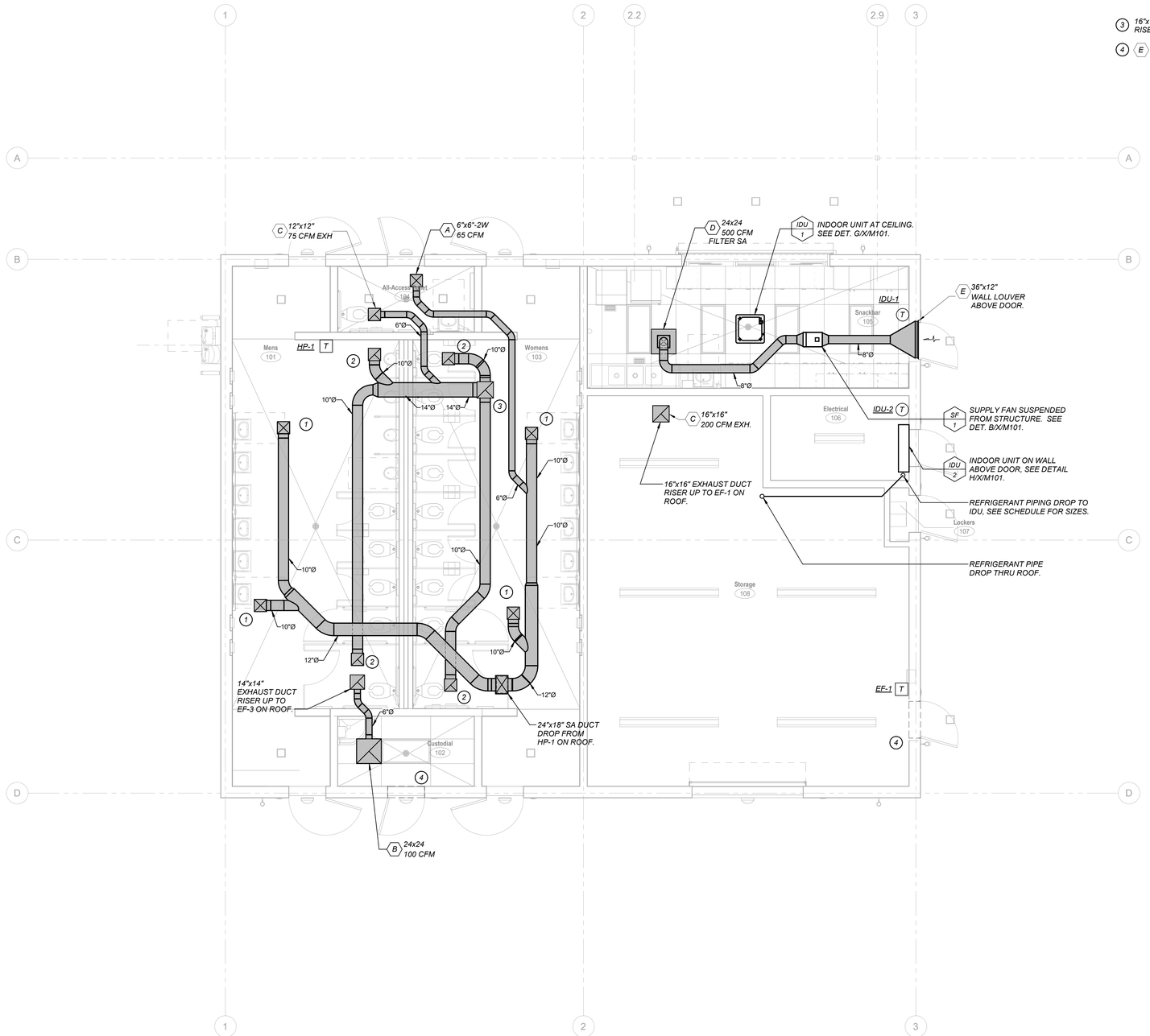
Architect

No.	Revision/Submission	Date

Revision

	Designed By: -	Copyright 2022 Darden Architects
Scale:	Drawn By: -	
Project Number: 2470.1	Checked By: -	X/M303
Date: 12/10/24	Reviewed By: -	

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DSA File No.:
20-30

DSA Application No.:
02-123203

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APP: 02-123203 INC:
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SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

LAWRENCE ENGINEERING GROUP
4910 E. Clinton Way., Suite 101 Fresno, CA 93727
(559) 431-0101 24133 FAX (559) 431-1342

REGISTERED PROFESSIONAL ENGINEER BRYAN W. LAWRENCE No. M34846 Exp. 6-30-26 MECHANICAL STATE OF CALIFORNIA

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

MECHANICAL PLAN
Drawing

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LICENSED ARCHITECT ANTONIO J. ALVAREZ No. C26235 Exp. 10-31-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

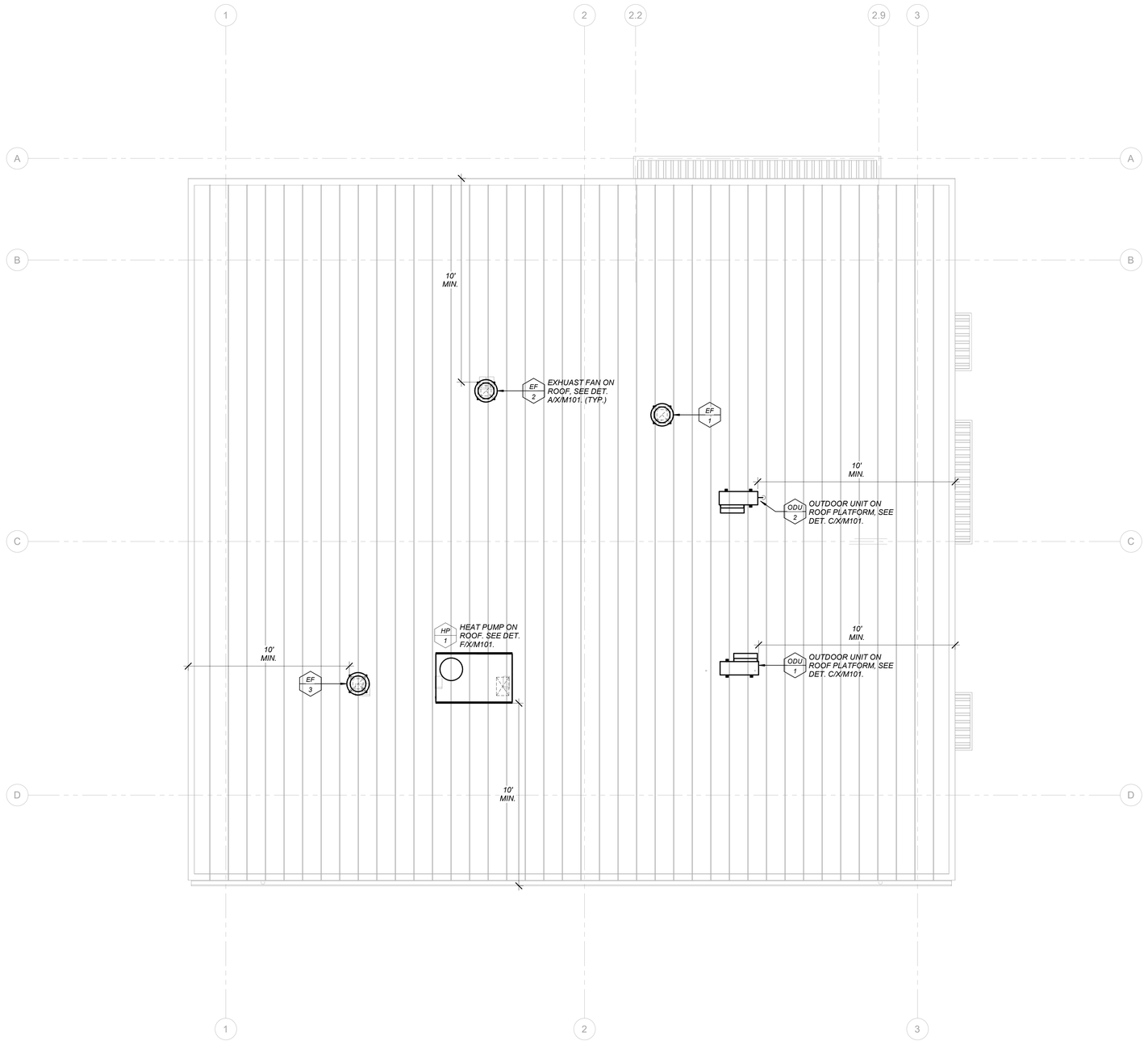
	Designed Designer	Copyright 2022 Darden Architects
Scale: 1/4" = 1'-0"	Drawn By: Author	S/M101
Project Number: 2470.2	Checked IChecker	
Date: xx/xx/xx	Reviewed Approver	

A1
1/4" = 1'-0"
MECHANICAL PLAN

Building Orientation on Site
Building View Orientation N

6/25/2025 10:31:10 AM
C:\Users\davids\Documents\MECH - ELOP MS Snackbar Building_V22_davids@lejfresno.com.rvt

Desmond MS



DSA File No.:
20-30

DSA Application No.:
02-123203

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DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

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REGISTERED PROFESSIONAL ENGINEER
RYAN D. LAWRENCE
No. M34846
Exp. 6-30-26
MECHANICAL
STATE OF CALIFORNIA

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Project

MECHANICAL ROOF PLAN

Drawing

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LICENSED ARCHITECT
ANTONIO J. AVILA
No. C28235
Exp. 10-31-25
STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

	Designed Designer	Copyright 2022 Darden Architects
Scale: 1/4" = 1'-0"	Drawn By: Author	S/M201
Project Number: 2470.2	Checked IChecker	
Date: xx/xx/xx	Reviewed Approver	

A1
1/4" = 1'-0"

MECHANICAL ROOF PLAN

Building Orientation on Site

Building View Orientation N

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Desmond MS

GENERAL PLUMBING NOTES:

1. *THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO CONSTRUCT THE BUILDING IN ACCORDANCE WITH THE 2022 EDITION OF TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WOULD NOT COMPLY WITH SAID TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUESTED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK.*

2. *THE APPLICABLE CODES AND REGULATIONS FOR THIS PROJECT INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:*

   CALIFORNIA CODE OF REGULATIONS
   TITLE 8, INDUSTRIAL RELATIONS
   TITLE 19, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
   TITLE 24, PART 1, ADMINISTRATIVE REGULATIONS
   2022 CALIFORNIA BUILDING CODE, PART 2, TITLE 24 CCR
   2022 CALIFORNIA ELECTRICAL CODE, PART 3, TITLE 24 CCR
   2022 CALIFORNIA MECHANICAL CODE, PART 4, TITLE 24 CCR
   2022 CALIFORNIA PLUMBING CODE, PART 5, TITLE 24 CCR
   2022 CALIFORNIA FIRE CODE, PART 9, TITLE 24 CCR

   NFPA 101 2021 EDITION
   OSHA - OCCUPATIONAL SAFETY AND HEALTH ACT

3. *LAYOUT OF MATERIALS, EQUIPMENT AND SYSTEMS IS GENERALLY DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED. SOME WORK MAY BE SHOWN OFFSET FOR CLARITY. THE PLUMBING BUILDING PLANS HAVE BEEN PREPARED TO MATCH THE ARCHITECTURAL PLANS. IF DIFFERENCES OCCUR, THE ARCHITECTURAL PLANS ARE TO TAKE PRECEDENCE. THE ACTUAL LOCATIONS OF ALL MATERIALS, PIPING, DUCTWORK, FIXTURES, EQUIPMENT, SUPPORTS, ETC. SHALL BE CAREFULLY PLANNED, PRIOR TO INSTALLATION OF ANY WORK, TO AVOID ALL INTERFERENCE WITH EACH OTHER, OR WITH STRUCTURAL, ELECTRICAL, ARCHITECTURAL, OR OTHER ELEMENTS. ALL PIPE OFFSET ELBOWS FOR COORDINATION BETWEEN TRADES ARE NOT SHOWN. CONTRACTOR SHALL INCLUDE SUFFICIENT FUNDS FOR THE COORDINATION OFFSETS IN THE BID. VERIFY THE PROPER VOLTAGE AND PHASE OF ALL EQUIPMENT WITH THE ELECTRICAL PLANS. ALL CONFLICTS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND THE ENGINEER PRIOR TO INSTALLATION OF ANY WORK OR THE ORDERING OF ANY EQUIPMENT.*

4. *WHEN INSTALLING DRILLED-IN ANCHORS AND/OR POWDER-DRIVEN PINS IN EXISTING NON-PRESTRESSED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. WHEN INSTALLING THEM INTO EXISTING PRE-STRESSED CONCRETE (PRE- OR POST-TENSIONED), LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR AND/OR PIN.*

5. ***MEP COMPONENT ANCHORAGE NOTE:***

   ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 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. *TEMPORARY, MOVABLE, OR MOBILE EQUIPMENT WHICH IS 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 IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.*

   THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.

   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.

   THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. 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 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25, 1617A.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., HCAI OPM FOR 2013 CBC OR LATER), 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. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR THE CONTENT OF THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

MP ☐ MD ☐ PP ☐ A. OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MP ☐ MD ☐ PP ☒ B. OPTION 2: PLUMBING PIPING (PP) - SHALL COMPLY WITH OPM-0043-13 HCAI PRE-APPROVAL (MASON WEST, SEISMIC RESTRAINT GUIDELINES FOR SUSPENDED DISTRIBUTION SYSTEMS).

MP ☐ MD ☐ PP ☐ C. OPTION 3: PLUMBING PIPING (PP) - SHALL COMPLY WITH OPM (OSHPD / HCAI), DEFERRED SUBMITTAL.

6. *BRACE ALL PIPING GREATER THAN 3" DIAMETER; USE Ip=1.0 FOR SEISMIC DESIGN CALCULATIONS. EXCEPTION: NATURAL GAS PIPING GREATER THAN 1" DIAMETER, USE Ip=1.5 FOR SEISMIC DESIGN CALCULATIONS.*

7. *PENETRATIONS THROUGH FIRE RATED WALLS, FLOOR/CEILING, AND ROOF/CEILING ASSEMBLIES SHALL BE SEALED USING AN APPROVED SYSTEM CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC TO FIRE STOPS PER 2022 CBC SECTION 714. THIS INCLUDES EXISTING PIPE AND CONDUIT THROUGH NEW ASSEMBLIES. CUSTOM DESIGNED SYSTEMS WHICH COMBINE COMPONENTS FROM DIFFERENT APPROVED SYSTEMS BUT HAVE NOT BEEN TESTED AS A COMPLETE ASSEMBLY WILL NOT BE ACCEPTABLE. FOR FIRE STOPS FOR PIPE PENETRATIONS SEE SPECIFICATIONS.*

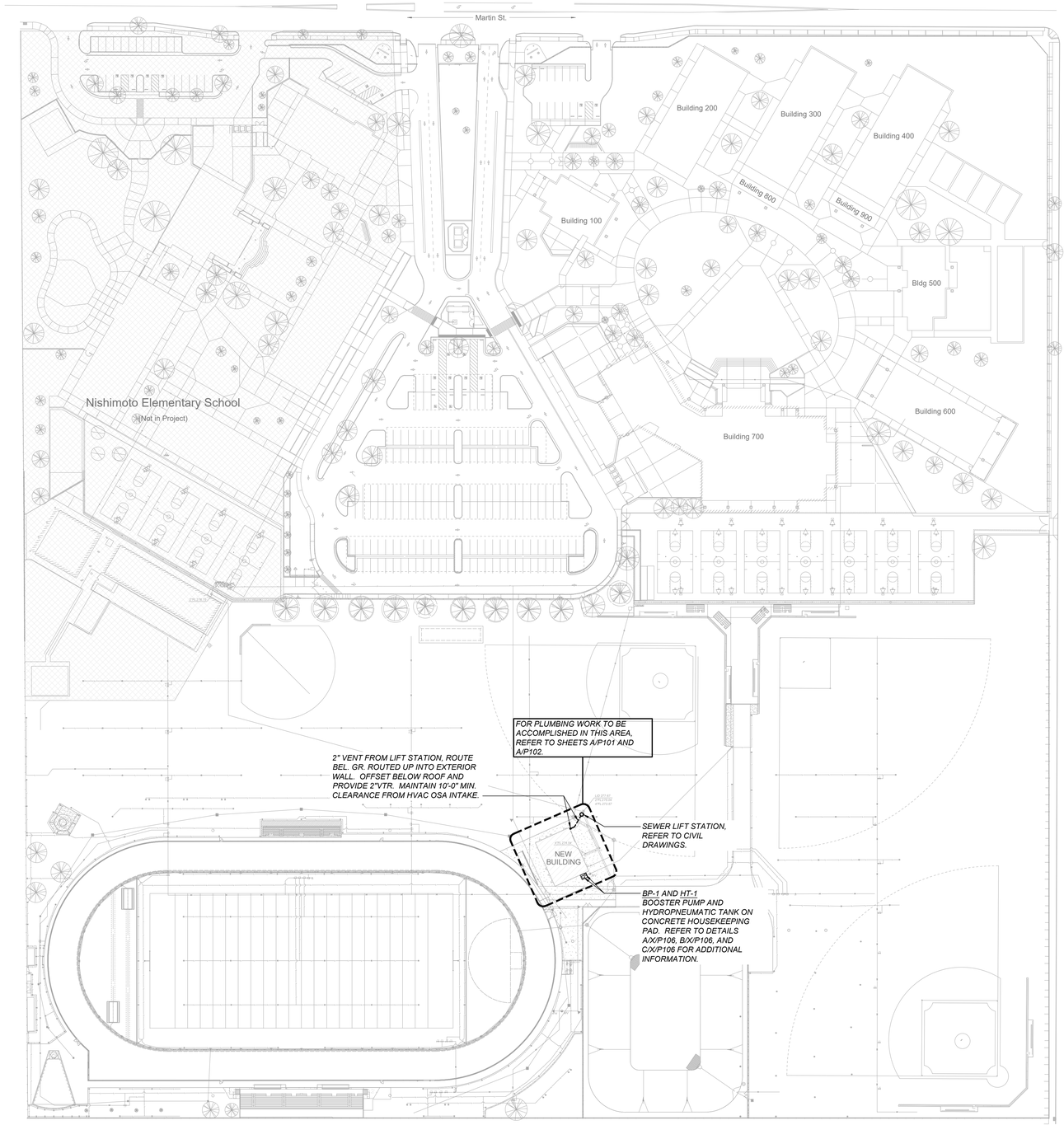
8. *FIELD VERIFY THE EXACT LOCATION, DEPTH AND SIZE OF ALL NEW POINTS OF CONNECTION TO EXISTING UTILITIES PRIOR TO COMMENCING NEW UTILITY WORK.*

9. *INSTALLATION OF NEW UTILITIES FROM EXISTING MAINS IN THE STREET SHALL BE DONE IN STRICT ACCORDANCE WITH GOVERNING AUTHORITY REQUIREMENTS.*

10. *INSTALLATION, TYPE AND MANUFACTURERS MODELS OF DOMESTIC WATER METERS, BACKFLOW PREVENTERS, FIRE HYDRANTS, DETECTOR CHECK VALVES, MANHOLES, DRAIN INLETS/OUTLETS AND OTHER APPURTENANCE OF SITE UTILITY SYSTEMS SHALL BE DONE IN STRICT ACCORDANCE WITH GOVERNING AUTHORITY REQUIREMENTS.*

11. *CONTRACTOR SHALL EXCAVATE AND BACKFILL THE GAS SERVICE TRENCH FOR THE LOCAL GAS UTILITY. THE LOCAL GAS UTILITY SHALL INSTALL THEIR GAS SERVICE LINE TO THE GAS METER. TRENCHING SHALL BE IN ACCORDANCE WITH UTILITY STANDARDS. ALL CHARGES AND FEES INCURRED BY THE UTILITY FOR NEW GAS SERVICE SHALL BE PAID BY THE CONTRACTOR.*

12. *ALL DOMESTIC WATER PIPING SHALL BE A MINIMUM OF 1/2" SIZE UNLESS NOTED OTHERWISE. USE A REDUCING DROP ELL AT FIXTURE CONNECTION WHEN APPLICABLE.*



	PLUMBING LEGEND	
SYMBOL	ITEM	ABBR
	SOIL or WASTE	S or W
	VENT	V
	VENT RISER	VR
	VENT THRU ROOF	VTR
	DOMESTIC COLD WATER	CW
	DOMESTIC HOT WATER	HW
	DOMESTIC HOT WATER RETURN	HWR
—G—	LOW PRESSURE NATURAL GAS	G
—2#G—	2 PSI GAS	2#G
—5#G—	5 PSI GAS	5#G
--GSM--	GAS SERVICE MAIN BY THE LOCAL GAS UTILITY	GSM
—C—	CONDENSATE DRAIN	CD
—RWL—	RAIN WATER LEADER	RWL
—OD—	OVERFLOW DRAIN	OD
—SD—	STORM DRAIN	SD
—IW—	INDIRECT WASTE	IW
—F—	FIRE PROTECTION LINE	F
	EXISTING PIPING	(E)
(E)	EXISTING	
(N)	NEW	
	ABOVE CEILING	ABV CLG
	BELOW FLOOR	BEL FLR
	BELOW GRADE	BEL GR
	TYPICAL	TYP
	CONTINUATION	CONT
	DOWN	DN
	FLOOR CLEANOUT	FCO
	CLEANOUT TO GRADE	COTG
	WALL CLEANOUT	WCO
	PIPING TURN UP	
	PIPING TURN DOWN	
	POINT OF CONNECTION	POC
	SHUT-OFF VALVE IN BOX	SOV
	SHUT-OFF VALVE	SOV
	SHUT-OFF VALVE IN RISER	-
	SHUT-OFF VALVE IN DROP	-
	GATE VALVE	-
	BUTTERFLY VALVE	-
	GLOBE VALVE	-
	CHECK VALVE	-
	PLUG VALVE	-
	BALL VALVE	-
	BALANCE COCK	-
	REDUCER	-
	MANHOLE	MH
	FLOW LINE	FL
	UNION	-
	RELIEF VALVE	-
	BALANCING VALVE	-
	PRESSURE GAUGE	-
	THERMOMETER	-

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

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PLUMBING SITE PLAN
Drawing

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No.	Revision/Submission	Date

Revision

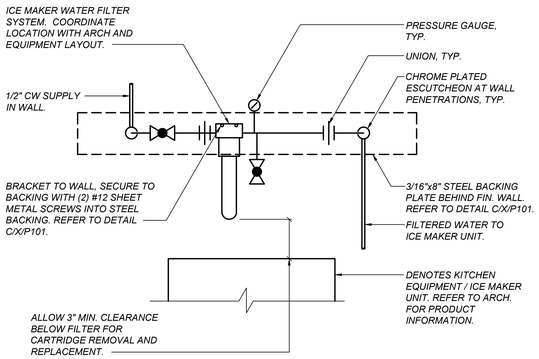
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Scale:	Drawn By: -	SD/P101
Project Number: 2470.1	Checked By: -	
Date: 12/10/24	Reviewed By: -	

A1
1" = 60'-0"

PLUMBING SITE PLAN

N

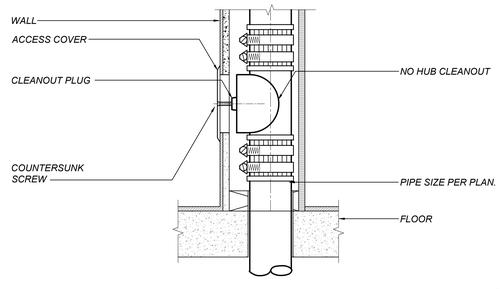
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ICE MAKER WATER FILTER SYSTEM DETAIL

H X/P101

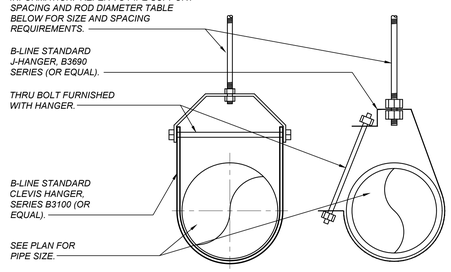
SCALE: NONE



WALL CLEANOUT

J X/P101

SCALE: NONE



PIPE SUPPORT SPACING AND ROD DIAMETER

Pressure Pipe:

Pipe Size (Inches)	Threaded Rod Size (Inches)	Copper (Feet)	Maximum Spacing* Between Supports (ft.) Sch. 40 steel
1/2"	3/8"	6	6
3/4"	3/8"	6	8
1"	3/8"	6	8
1-1/4"	3/8"	6	10
1-1/2"	3/8"	6	10
2"	3/8"	10	10
3"	1/2"	10	10
4"	1/2"	10	10

Notes:
*Based on straight lengths of pipe with couplings only. Provide additional supports for equipment, valves or other fittings. Seismic requirements may reduce maximum spacing.

Cast Iron Gravity Drain Pipe: Piping shall be supported at each length of pipe or fitting, but in no case at greater spacing than indicated above for pressure pipe.

General: Hangers shall be placed to support piping without strain on joints or fittings. Maximum spacing between supports shall be as specified above. Actual spacing requirements will depend on structural system. Vertical piping shall be supported with riser clamp at base and each floor. Cast Iron - Do not exceed 15 feet intervals, Copper - Do not exceed 10 feet intervals, Steel Pipe for water- Do not exceed 15 feet intervals, Steel pipe for gas - Do not exceed information in the above table. Support pipe within 12" of all changes in direction. Support individual pipes with pipe hanger.

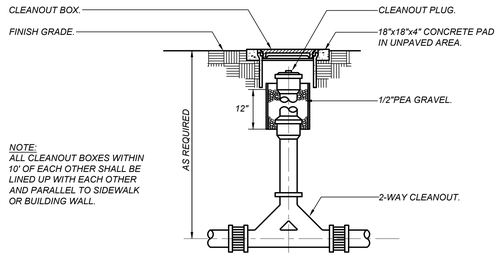
Refer to Specification 22 00 00, Part 2.1, C.1 "Products - Piping Materials - Miscellaneous Piping Items - Pipe Support" and Section 22 00 00, Part 3.1, "Execution - Piping Installation."

Refer to 2022 CPC Table 313.3 and Table 313.6 for additional hanger and support information.

PIPE HANGER DETAIL

K X/P101

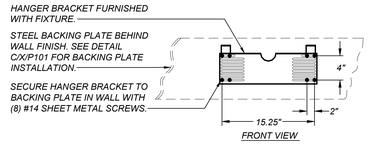
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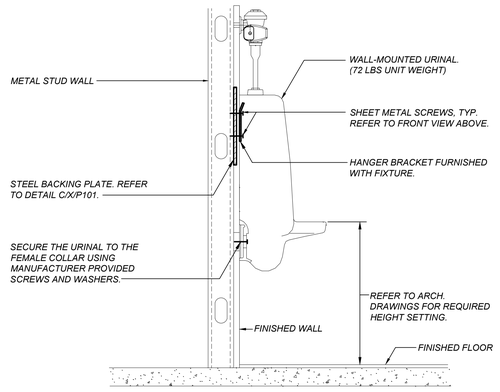


2-WAY SURFACE CLEANOUT DETAIL

E X/P101

SCALE: NONE

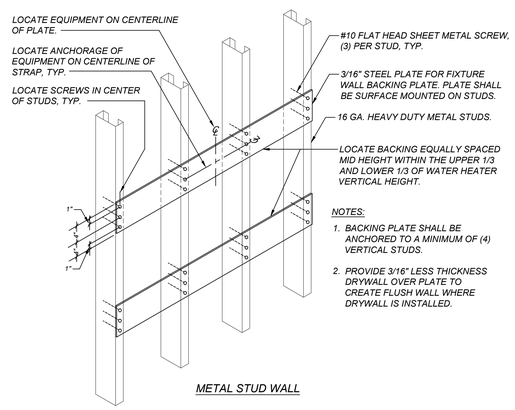




URINAL SUPPORT DETAIL

F X/P101

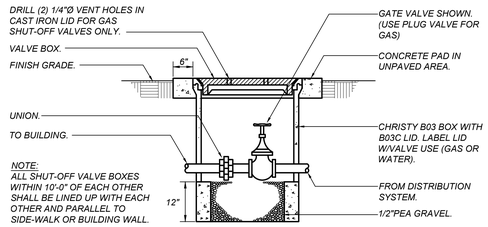
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WATER HEATER SUPPORT BACKING PLATE DETAIL

G X/P101

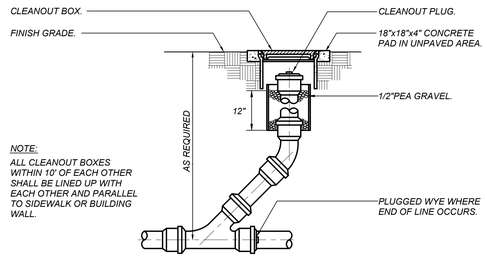
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SHUT-OFF VALVE IN BOX DETAIL

A X/P101

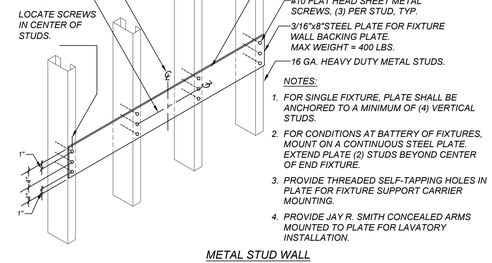
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CLEANOUT TO GRADE DETAIL

B X/P101

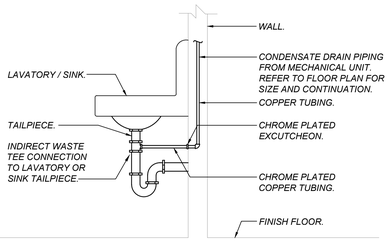
SCALE: NONE



FIXTURE SUPPORT BACKING PLATE DETAIL

C X/P101

SCALE: NONE



CONDENSATE TERMINATION TO TAILPIECE

D X/P101

SCALE: NONE

DSA File No.:
20-30

DSA Application No.:
02-123203

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Project

PLUMBING DETAILS

Drawing

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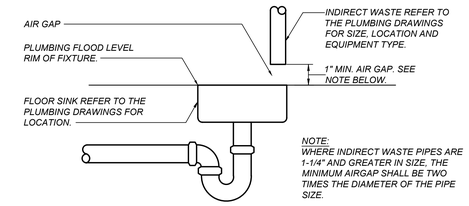
Architect

No.	Revision/Submission	Date

Revision

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Scale:	Drawn By: -	X/P101
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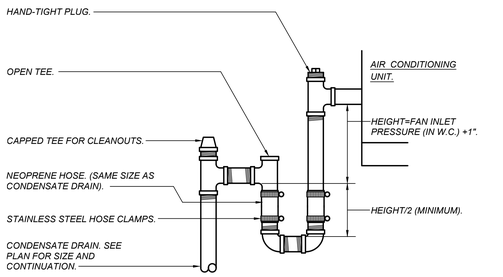
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INDIRECT WASTE AIR GAP DRAIN DETAIL

D X/P102

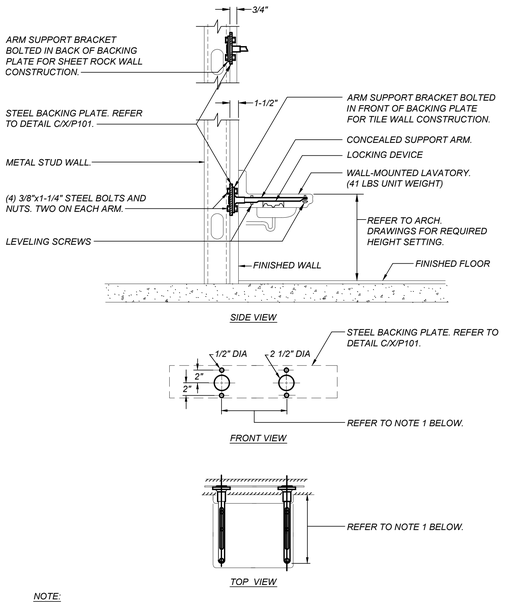
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CONDENSATE DRAIN CONNECTION DETAIL

E X/P102

SCALE: NONE



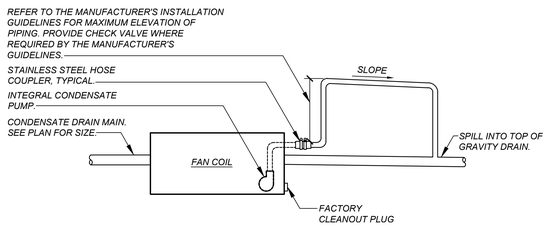
NOTE:

1. VERIFY ROUGHING-IN DIMENSIONS WITH BOTH THE CARRIER MANUFACTURER AND FIXTURE MANUFACTURER.

LAVATORY CONCEALED ARM SUPPORT DETAIL

F X/P102

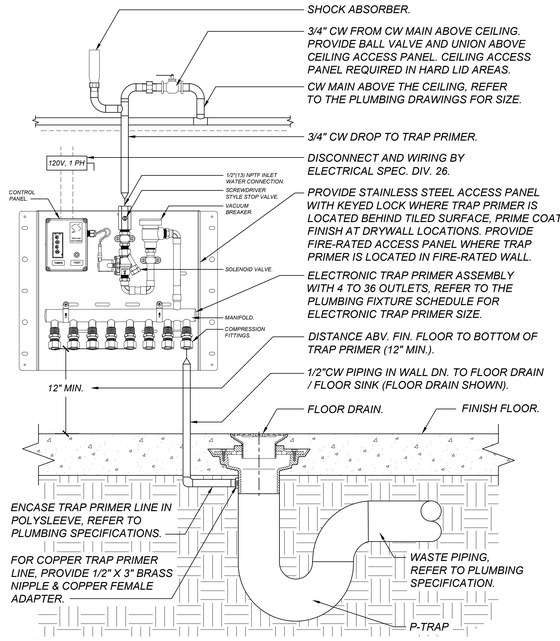
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IDU CONDENSATE CONNECTION DETAIL

G X/P102

SCALE: NONE

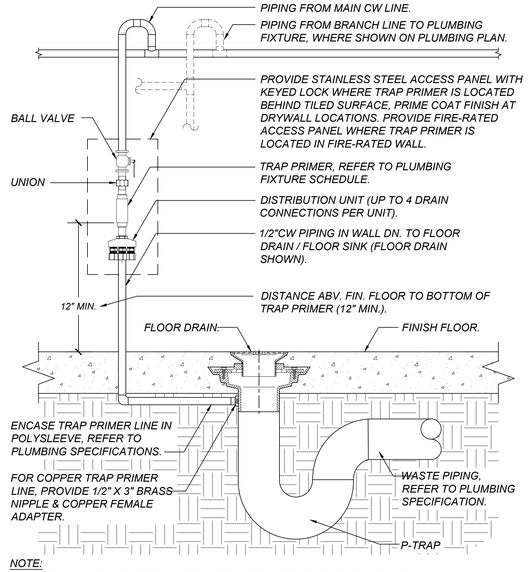


NOTE:
REFER TO MANUFACTURER'S INSTALLATION REQUIREMENTS FOR ELEVATION OF TRAP PRIMER VS. LENGTH OF RUN TO DRAINS. TRAP PRIMER ELEVATION TO BE INCREASED IN HEIGHT ABOVE FINISHED FLOOR FOR RUNS OVER 20'-0". REFER TO PLUMBING PLANS FOR SIZING.

ELECTRONIC TRAP PRIMER CONNECTION

B X/P102

SCALE: NONE

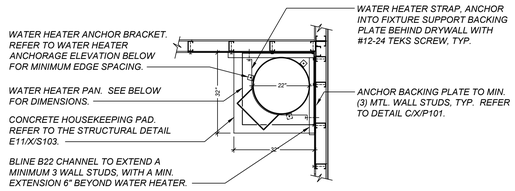


NOTE:
REFER TO MANUFACTURER'S INSTALLATION REQUIREMENTS FOR ELEVATION OF TRAP PRIMER VS. LENGTH OF RUN TO DRAINS. TRAP PRIMER ELEVATION TO BE INCREASED IN HEIGHT ABOVE FINISHED FLOOR FOR RUNS OVER 20'-0". REFER TO PLUMBING FOR SIZING.

TRAP PRIMER CONNECTION DETAIL

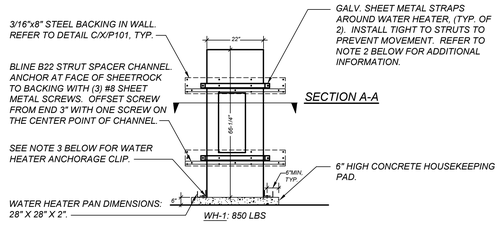
C X/P102

SCALE: NONE



SECTION A-A (WOOD STUD CONDITION)

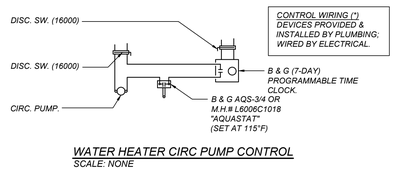
SCALE: NONE



WATER HEATER ANCHORAGE ELEV.

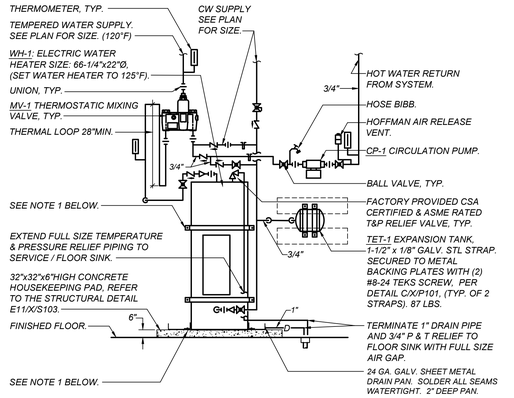
SCALE: NONE

NOTES:
1. MAINTAIN MINIMUM DISTANCE FROM ANCHOR BOLT TO SIDE EDGE OF HOUSEKEEPING PAD.
2. 18 GA.x2" WIDE GALV. STEEL STRAP AROUND WATER HEATER. SECURE BOTH ENDS TO METAL PLATE BACKING IN WALL WITH (2) #12 SELF-TAPPING SHEET METAL SCREWS, (TYP. OF 2 STRAPS). REFER TO DETAIL C/X/P101 FOR METAL PLATE BACKING IN WALL, TYPICAL. STRAPS SHALL BE LOCATED WITHIN THE UPPER AND LOWER 1/3 OF THE WATER HEATER. STRAPS SHALL BE INSTALLED DIRECTLY ABOVE B22 CHANNEL SPACER. PROVIDE STANDARD CUT WASHER AT STRAP SCREW.
3. 1-1/2"x1-1/2"x14GA X 0'-2" ANGLE CLIP. SECURE TO CONCRETE WITH 3/8"Ø HILTI KB-TZ2 ANCHOR W/ 2 1/2" NOMINAL EMBEDMENT PER ESR-4266 (TORQUE = 30 FT-LB) (TYP. OF 3 CLIPS @ 120° APART). PROVIDE 100% SILICONE AROUND PENETRATIONS. SEAL WATERTIGHT.



WATER HEATER CIRC PUMP CONTROL

SCALE: NONE



NOTE:
1. REFER TO DETAIL C/X/P101 FOR WATER HEATER SUPPORT BACKING PLATE DETAIL AND ANCHORAGE ELEVATION ABOVE FOR MORE INFORMATION.

WATER HEATER DETAIL

A X/P102

SCALE: NONE

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

LAWRENCE ENGINEERING GROUP
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Consultant

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

PLUMBING DETAILS
Drawing

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Architect

No.	Revision/Submission	Date

Revision

	Designed By: -	Copyright 2022 Darden Architects
Scale:	Drawn By: -	X/P102
Project Number: 2470.1	Checked By: -	
Date: 12/10/24	Reviewed By: -	

P/2020

29 August 2025 10:54 AM P:\2024\24133 MUSD ELOP\4-Drawings\5 PD\000 - Desmond\X\P101-P102 - PLUMBING DETAILS.dwg joshua sharp

DESIGN GENERAL NOTES

D. The layout drawings, with the review stamp, shall be kept on the jobsite to be used for installation of the support and bracing.
- The approved agency/inspector of record shall provide inspection in accordance with CBC Sections 1704 or 1704A/CAC Section 7-145.
- OSHPD field staff will review/inspect the installation in accordance with CAC Section 7-147.

E. A copy of the bracing system(s) installation guide/OPM manual shall be on the jobsite prior to starting the installation of hangers and/or braces.
- The approved agency/inspector shall maintain an approved copy of the OPM (obtained from the OSHPD website) in accordance with CAC Section 7-143 Item #4.

F. Components of two or more pre-approved bracing systems shall not be mixed.
- Only one pre-approved bracing system may be used for a run of pipe, duct, or raceway.
- Any substitution of a component of an OPM system shall require OSHPD review and approval.

Expansion Anchors:

1) All post installed concrete anchors shall meet requirements of 2013/2016 CBC Section 1616A.1.19 or 2019/2022 CBC Section 1617A.1.19, and be installed per their ICC ESR report.
2) The special inspector shall be on the jobsite continuously during anchor installation, unless otherwise noted in the ICC ESR.
3) Expansion anchors to be tested per the requirements specified in 2013 CBC Section 1913A.7 or 2016/2019/2022 CBC Section 1910A.5.

Definitions:

1) Snug tight - Tightness required to bring the connected plies into firm contact, and that the nuts could not be removed without the use of a wrench

DESIGN GENERAL NOTES

3) Verify that the structure to which the Mason West seismic brace is anchored meets the requirements of the applicable anchorage ICC ESR Report.

4) Verify that anchor edge distance and spacing meets the requirements of the applicable ICC ESR.

5) Verify that the installation is in conformance with the 2013 CBC and with details shown in the OPM. Testing of post installed anchors shall also be performed in accordance with 2013 CBC Section 1913A.7 or with 2016/2019/2022 CBC Section 1910A.5.

Layout Drawings:

A) Layout drawings of the supports, attachments, and bracing systems in accordance with the pre-approval shall be submitted to the Structural Engineer Of Record (SEOR)/Registered Design Professional (RDP) in responsible charge of the project for review to verify that the details are in conformance with the code requirements. The layout drawings shall, as a minimum, satisfy the requirements of ASCE 7 Section 13.6 (including Supplements # 1 & # 2) as modified by CBC 2013/2016 Section 1616A or CBC 2019/2022 Section 1617A.

1. The SEOR shall verify that the supporting structure is adequate for the forces imposed on it by the supports, attachments and braces installed in accordance with the pre-approval in addition to all other loads.
2. The SEOR shall forward the supports, attachments, and bracing drawings (including construction documents for supplementary framing, where required) to the RDP in responsible charge with a notation indicating that the drawings have been reviewed and are in general conformance with the pre-approval and the design of the project.
3. A review stamp shall be permitted to be used, by the SEOR, to indicate compliance with this requirement.
4. The Registered Design Professional (RDP), other than SEOR, may provide the review stamp for small projects at the discretion of OSHPD.

B) The SEOR shall design any supplementary framing that is needed to resist the loads, maintain stability and/or is required for installation of pre-approved system.
- The supplementary framing shall be submitted to OSHPD as part of original Construction Documents or as a Deferred Submittal Item. Deferred Submittal Items shall be listed on the cover page of the original Construction Documents.

C) The layout drawings, with the review stamp, shall be submitted to OSHPD, as part of original CDs or as Deferred Submittal Items in accordance with CAC Section 7-126 and CBC Section 107.3.4.1 for verification that:

1) Structure supporting the distribution system has adequate capacity;
2) Seismic design forces (F_p) are in accordance with the CBC; and
3) Verify that submittal is within the scope of OSHPD Preapproval of Manufacturer's Certification (OPM):
   a. Size of distribution system components
   b. Spacing of bracing and flex. joints, and
   c. Substrate for attachments

DESIGN GENERAL NOTES

Conditions of Use:
This OSHPD Pre-approval of Manufacturer's Certification (OPM) is based on the 2013 CBC. The Demand (design forces) for use with the OPM shall be based on the 2013 CBC.

This OPM is also applicable to the 2016 CBC without modification and the 2019/2022 CBC with modifications indicated on pages A1.5a, A10.3a, A10.6a, A20.5a and A20.6a in lieu of pages A1.5, A10.5, A10.6, A20.5 and A20.6, respectively. Note to be added to note 1 on sheets A1.0, A10.0, A20.0, and X9.0.

Maximum allowable S_{DS} for this OPM is limited to 2.5g.

These drawings are prepared for Mason West.

This pre-approval is for the seismic bracing of interior pipes, ducts, conduits and cable trays. It does not address other loads such as, but not limited to, those generated by thermal growth, pressure, fluid dynamics, pipe rupture, or movements of equipment to which brace components are attached. It does not address components that cross seismic separations of buildings. Nor does it address components (other than pipe risers) attached to portions of the structure or equipment that will experience relative seismic displacement. The range of component sizes and material included in the pre-approval are as follows

a) Pipes:
   i. Steel; Sch. 10 and larger - Sizes up to 30"
   ii. Copper; Type L and K - Sizes up to 8"
   iii. Cast Iron Pipe - Sizes 2" – 12"
b) Ducts:
   i. Galvanized Rectangular Duct; all sizes up to 120" wide
   ii. Galvanized Round Duct; 3" to 84"
c) Conduits/Cable Trays:
   i. Rigid Conduit - Sizes up to 6";
   ii. IMC Conduit - Sizes up to 4";
   iii. EMT Conduit - Sizes up to 4"
   iv. Cable trays – ladder type, all sizes
d) Fire Protection (or Sprinkler) Pipes:
   i. Steel; Sch. 10 (Sizes up to 8"), Sch. 40 (Sizes up to 12")

The substrates included in this pre-approval are as follows:
a) Concrete
b) Metal Decking
c) Steel
d) Wood

Registered Design Professional Responsibility:
The Registered Design Professional (RDP) is the engineer executing the design of the seismic bracing system. The RDP delivers the complete seismic bracing design to the Structural Engineer of Record (SEOR) for the OSHPD project. It is the responsibility of the Registered Design Professional in responsible charge to:

1) Verify that the nonstructural components or system is seismically qualified in accordance with the CBC, where necessary.

2) Verify that the proper Mason West brace system is selected to meet the seismic requirements of this OPM.

Water	Hanger & Brace Details (Refer to sheet X/P104)			Weight (PLF)	Spacing Information (Max. Feet)			Brace Anchor (at bracket)			Brace Angle	Hanger Anchor (no brace)		Seismic Anchorage Details
Pipe Size	*Transverse*	*Longitudinal*	*All-Direction*	W_p	*Hanger*	*Brace (Trans)*	*Brace (Long)*	*Trans (lbs.)*	*Long (lbs.)*	*Size (ATR)*	*Horizontal*	*Load to STR. (lbs.)*	*Size (ATR)*	
3"	C1.20	C1.21	C1.22	6.30	10	20	20	34	34	1/2	45	101	1/2	REFER TO SHEETS X/P103 THRU X/P105
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Pipe Material	*Structure*	$F_{P(ASD)}$	=	0.18	$F_{P(MAX)}$	=	0.83	I_P	=	1	R_P	=	6.0	
Copper - Type L	WOOD	$F_{PV(ASD)}$	=	0.07	$F_{P(MIN)}$	=	0.16	S_{DS}	=	0.517	A_P	=	2.5	

Vent	Hanger & Brace Details (Refer to sheet X/P104)			Weight (PLF)	Spacing Information (Max. Feet)			Brace Anchor (at bracket)			Brace Angle	Hanger Anchor (no brace)		Seismic Anchorage Details
Pipe Size	*Transverse*	*Longitudinal*	*All-Direction*	W_p	*Hanger*	*Brace (Trans)*	*Brace (Long)*	*Trans (lbs.)*	*Long (lbs.)*	*Size (ATR)*	*Horizontal*	*Load to STR. (lbs.)*	*Size (ATR)*	
3"	C1.20	C1.21	C1.22	5.20	8	20	20	28	24	1/2	45	72	1/2	REFER TO SHEETS X/P103 THRU X/P105
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Pipe Material	*Structure*	$F_{P(ASD)}$	=	########	$F_{P(MAX)}$	=	0.83	I_P	=	1	R_P	=	z	
Cast Iron	WOOD	$F_{PV(ASD)}$	=	0.07	$F_{P(MIN)}$	=	0.16	S_{DS}	=	0.517	A_P	=	1.0	

Piping on Trapeze

Max. Weight (lbs/ft)	Brace Direction			Forces	Spacing Information (Max. Feet)			Hanger Attachment Size - Max lbs.			Brace Attachment		Angle	Details
	Transverse	*Longitudinal*	*All-Direction*	$F_{P(ASD)}$	*Hanger*	*Transverse*	*Longitudinal*	*Transverse*	*Longitudinal*	*All-Direction*	*Size*	*Max. lbs.*	*(deg.)*	
10	F1.10	F1.11	F1.12	0.25g	10	30	60	3/8" - 175	3/8" - 175	3/8" - 350	1/2"	125 lbs	45	REFER TO SHEET X/P105
20	F1.10	F1.11	F1.12	$F_{PV(ASD)}$	10	30	60	3/8" - 350	3/8" - 350	3/8" - 700	1/2"	175 lbs	45	
30	F1.10	F1.11	F1.12	0.375g	10	30	60	3/8" - 575	3/8" - 575	3/8" - 1,000	1/2"	250 lbs	45	

SEISMIC BRACING NOTES:

1. FOR ALL PROJECT SPECIFIC PIPE HANGER SPACING REQUIREMENTS, REFER TO SPECIFICATION DIVISION 22, PART 3, 3.1.A.4.
2. REFER TO ASCE 7-16, TABLE 13.6-1 FOR A_P & R_P VALUES.
3. ALL CALCULATIONS ARE DETERMINED FROM 2022 MASON WEST OPM-0043.
4. CONSTRUCTION SHOULD NOT BEGIN UNTIL ALL APPROVALS ARE IN PLACE, INCLUDING APPROVAL OF THIS SEISMIC BRACING LAYOUT SUBMITTAL SUBMITTED BY THE CONTRACTOR, BY OWNER'S AGENTS, AND CONSULTANTS.
5. FOR COMBINED SYSTEM WEIGHTS ON A TRAPEZED SYSTEM, ADD THE W_P VALUES (LBS/FT) OF EACH SYSTEM TYPE. IF COMBINED WEIGHT IS GREATER THAN 5 LBS/FT, TRAPEZE WILL BE SEISMICALLY BRACED; REFER TO "PIPING ON TRAPEZE" TABLE ABOVE. MAXIMUM ALLOWABLE LOAD ON TRAPEZE SYSTEM IS 30 LBS/FT.
6. REFER TO THE STRUCTURAL SPECIFICATION SECTION 01 84 15, PART 3 - EXECUTION FOR MAXIMUM PIPE HANGER AND BRACE ALLOWABLE LOADS.
7. NO PIPE SUPPORTS OR BRACE ATTACHMENTS ARE ALLOWED TO ROOF DECK.

PIPING GENERAL NOTES (continued)

10) Seismic brace requirements for seismic accelerations ranging from 0.25 to 1.0g (ASD) are tabulated in Sections B1. Each schedule is designed to a specific seismic acceleration and provides maximum transverse, longitudinal and all-directional brace spacings based on operating weight per lineal foot of the pipe system. In addition, the schedules provide hanger rod and seismic brace connection options that meet the same criteria. For systems that require design for over 1.0g, the brace spacing is reduced (Refer to Page A10.6, note 3).

11) Multi-layer piping systems that share support rods must be braced independently from one another or as specifically engineered by the RDP. Layers supporting loads ≤ 10 lbs/ft need not be braced, provided that the load is accounted for in the nearest braced layer. Each section of threaded rod between trapezes and/or the building structure is subject to vertical stiffening requirements.

12) Vertical drops from suspended pipe systems to equipment (or flexible connectors where applicable) may be braced using the transverse and longitudinal braces in this manual. Note: Do not exceed ½ of the maximum brace spacing as measured from the seismic brace to the equipment or flexible connector when bracing vertical drops (Refer to Page A10.6, Note 4). The RDP shall be responsible for determining whether or not the full vertical drop, a seismic four support designed for the applicable loads is required. Design of this support shall account for seismic relative displacement between floors and may require a flexible connection between the floor support and the first seismic brace location above.

13) Any system which crosses a building separation or seismic joint must be designed to accommodate the seismic relative displacement per ASCE 7, Section 13.3.2, 13.3.2.1 and 13.3.2.2, or as specified by the engineer of record for approval by the enforcement agency.

Notes on Supports:

1) Where the seismic brace system incorporates the use of a threaded vertical hanger rod designed to carry gravity loads only, additional anchorage and/or stiffening may be required as detailed. General support of suspended pipe systems and equipment to carry gravity loads shall be determined by the engineer of record and/or mechanical code requirements. However, hanger rod connection details in this manual may be used as a guide for these supports. ASTM A307 threaded rods may be used in lieu of ASTM A36 threaded rods as called out in this manual. The use of "C-Clamps" designed to attach threaded rod to one side of a steel beam flange shall not be used unless they are provided with a restraining strap or hook to the opposite beam flange, equivalent to those specified in NFPA 13, Section 9.3.7 and approved by OSHPD.

2) Support rod capacity and its anchorage to the structure is an important part of a solid bracing system. Solid braces shall not be attached to existing systems or support rods designed for gravity loads unless they are checked for increased loads.

3) Threaded vertical hanger rods where seismic sway bracing is attached may require stiffening if the length of the rod exceeds the maximum unbraced rod length indicated on the kit installation detail in Sections C and F. However, if the calculated compression on the rod due to combined gravity, the vertical brace component of the bracing system as a result of F_p, and F_{PV} loads is less than or equal to zero, no rod stiffening is required, regardless of rod length. A vertical rod stiffener using a 1½"x1½"x12ga strut channel or steel angle cut to length may be attached to the threaded rod with a minimum of two Mason Ind. N.Y. Type UCC or SRC clamps is required, as detailed in Sections C and F. The contractor may substitute a break-off bolt set to a minimum of 10 ft-lbs (Ref. X3.0). Rod stiffening strut may be solid, slotted or punched. Ref. X7.0 and X7.1 for strut member data.

PIPING GENERAL NOTES (continued)

4) A complete description on how to use these guidelines is provided in Section A11. It includes specific examples for both using the enclosed details/charts and a layout procedure for bracing of suspended pipe systems.

Notes on Seismic Bracing:

1) These guidelines list installations which may be exempt from seismic bracing under the CBC. The RDP shall be responsible for determining whether to allow these exceptions, subject to approval by the SEOR and OSHPD.

2) Each straight run of a pipe system requires a minimum of two transverse braces (perpendicular to the run). Option: A longitudinal brace located at any point of the straight run on the opposite side of an elbow or tee may act as a transverse brace. Refer to the layout examples detailed in Section A12.)
   Note: For items 2) and 3) above, a short run of piping may not require seismic bracing if its tributary weight is less than the specified minimum weight. Values of this minimum weight may be installed directly horizontal (zero degrees) or between 30 and 60 degrees from the horizontal. However, this is limited depending on the capacity of the brace and method of connection to structure.

3) Seismic bracing may consist of solid bracing designed to accept loads in tension and compression or cable bracing designed to accept tension loads only. Each brace method requires a vertical hanger within close proximity of their connection to the distribution system. (Refer to the specific detail for limitations). The vertical hanger may or may not require stiffening or additional anchorage to the structure (Refer to Notes on Supports, Page A10.2)

4) Avoid mixing solid bracing with cable bracing in the same direction on any run of a distribution system unless specifically engineered and approved by the enforcement agency.

5) Avoid bracing a system to two different parts of a building which may act differently in response to an earthquake (i.e. separated by a seismic joint). In cases where this may occur, the pipe run must be designed to accept the seismic relative displacement.

6) Systems with significant thermal motion shall be designed on a case by case basis by a professional engineer familiar with seismic loading and thermal expansion.

7) Seismic brace details for suspended pipe systems include maximum allowable horizontal seismic load, F_p, at different brace angle ratios. The details include Mason Industries N.Y. seismic brace component size, aircraft cable or solid brace member size, acceptable hanger rod diameter(s) and hanger rod stiffening requirements. Trapeze hanger and brace assemblies for both hanger rods and seismic braces are tabulated and/or detailed in Sections B, T, M, and N, respectively.

PIPING GENERAL NOTES

1) This OSHPD Preapproval of Manufacturer's Certification (OPM) is based on the 2013 CBC. The demand (design forces) for use with this OPM shall be based on the 2013 CBC.

2) Per ASCE 7-10, Section 13.3.1, restraints and their anchorages must be capable of restraining horizontal, f_{p_i}, and vertical, F_{PV_i}, seismic accelerations as follows.

$$F_{p_i} = (0.7)\frac{0.4a_{p_i}S_{DS}W_{p_i}}{R_{p_i}/I_p}\left(1+2\frac{z}{h}\right) \quad \text{(ASD)} \quad \text{(ASCE 7-10 EQ 13.3-1)}$$

is not required to be taken greater than $(0.7)1.6S_{DS}I_pW_{p_i}$ (ASD) (ASCE 7-10 EQ 13.3-2)
shall not be taken less than $(0.7)0.3S_{DS}I_pW_{p_i}$ (ASD) (ASCE 7-10 EQ 13.3-3)

$$F_{PV_i} = (0.7)0.2S_{DS}W_{p_i} \quad \text{(ASD)}$$

Where:
S_{DS} = short period spectral acceleration - up to 2.5g. Value of S_{DS} indicated in the general notes of the structural drawing take precedence over those calculated per ASCE 7-10, 11.4.4.
W_{p_i} = component or (or tributary length of pipe) operating weight (lbs/ft).
I_p = component importance factor
= 1.5 for OSHPD 1 & 4 in accordance with 2013 CBC, Section 1616A.1.17 and for OSHPD 2 & 3, where required by ASCE 7, Section 13.1.3.
= 1.0 for OSHPD 2 & 3, when permitted by ASCE 7, Section 13.1.3.
a_{p_i} = component amplification factor (Ref. ASCE 7-10, Table 13.6-1)
= 1.0 for gravity, waste, vent and drain cast iron plumbing pipe.
= 2.5 for all other piping and tubing.
R_{p_i} = component response modification factor (Ref. ASCE 7-10, Table 13.6-1)
= 2.5 for gravity, waste, vent and drain cast iron plumbing pipe.
= 3.0 for piping and tubing constructed of low-deformability materials such as cast iron, glass, and non-ductile plastics.
= 4.5 for piping and tubing not in accordance with ASME B31, including in-line components, constructed of high- or limited-deformability materials, with joints made by threading, bonding, compression couplings, or grooved couplings.
= 6.0 for piping in accordance with ASME B31, including in-line components, constructed of high-deformability materials, with joints made by welding or brazing.
= 9.0 for piping and tubing not in accordance with ASME B31, including in-line components, constructed of high-deformability materials, with joints made by welding or brazing.
= 12.0 for piping in accordance with ASME B31, including in-line components with joints made by welding or brazing.
NOTE: Per ASCE 7-10, Section 10.4.1, do not use an Rp factor greater than 6.0 when calculating Fp and Fpv for design of the attachment.
z = height in structure of point of connection of component with respect to base (ft).
h = average roof height of structure with respect to base (ft).

3) For systems anchored to concrete only, the anchorage to concrete overstrength factor, Ω_0, must be applied. Sections M.A.N provide alternate allowable load tables with and without Ω_0 applied. For cases where Ω_0 is applicable, use the overstrength factor in Sections M & N as it is not necessary to apply this factor when calculating F_p and F_{PV}. Ω_0 is not applicable if a yielding steel element is considered in the load path. Refer to ACI 318-11 Appendix D, Section D.3.3.4.3 or ACI 318-14 Chapter 17, Section 17.2.3.4.3 for a list of qualifying conditions. The Registered Design Professional (RDP) shall use the allowable vertical loads under overstrength factor $\Omega_0 = 2.0$ unless the vertical support supplies with one of the qualifying conditions.

PIPING GENERAL NOTES FOR 2019/2022 CBC (continued)

SUMMARY OF PIPING SYSTEMS THAT ARE EXEMPT FROM DESIGN FOR SEISMIC FORCES AND SEISMIC RELATIVE DISPLACEMENTS (PER PAGE A10.5a, NOTE 1)
The following pipes (4.5 lbs/ft) without hazardous contents are exempt from seismic design:
a. ≤ 2" diameter vent, gas or empty SCH 40 steel pipe.
b. ≤ 1-1/2" diameter SCH 40 steel pipe.
c. ≤ 3" diameter vent, gas or empty copper pipe.
d. ≤ 2" diameter copper pipe.
e. ≤ 4" diameter cast iron storm drain pipe ≤ 3" diameter.
f. No-hub cast iron waste pipes ≤ 3" diameter.
g. Any other piping with an operating weight ≤ 5 lbs/ft.
h. Trapezed piping with combined operating weight ≤ 5 lbs/ft.
Notes:
1. Refer to system weights in the appendix
2. Hazardous - Including, but not limited to, medical gases, fuel oil, natural gas.
3. Non-hazardous - Including, but not limited to, medical vacuum, compressed air, water.

3) Steel and copper pipe shall be braced at the spacings tabulated in Section S. Brace spacings vary based on the value of to, pipe material), service (water filled or vapor) and pipe connection method. Longitudinal brace spacings shall not exceed 3 times the tabulated transverse brace spacings. For cases where multiple pipes with varying sizes/ spacings are supported on a trapeze, the smallest brace spacing shall govern. The seismic design engineer may design brace spacings for trapezed pipe based on combined pipe sections and/or by adding steel strengthening sections on a job by job basis subject to approval by the enforcement agency.

4) Cast iron pipe (no-hub) pipes brace spacings shall not exceed the spacings tabulated in Section S. No-hub couplings shall be manufactured in accordance with ASTM C1540, shall be certified in accordance with FM 1680 Class 1 and gravity hangers shall be spaced per the requirements of Table 313.3 of the 2019/2022 California Plumbing Code (CPC 2019/2022) for no-hub cast iron pipe.

Exception: Cast iron (no-hub) pipe joined by couplings not satisfying ASTM C1540 or not certified in accordance with FM 1680 Class 1 shall be designed on a project by project basis, and shall require project specific OSHPD approval.

5) Rigid grooved coupling listed for UL Standard 213 shall be permitted in horizontal run of pipe. Flexible grooved coupling listed for UL Standard 213 shall be permitted in vertical risers (to accommodate drift) and other locations (e.g. seismic separation, equipment nozzle, etc.) to accommodate small movement and/or rotation. Non-UL listed groove couplings shall not be used unless approved on project specific basis.

6) Seismic restraints for individually supported pipes shall be attached directly to the pipe using a Mason West, Inc. Type WPI, , welded pipe lug (Refer to page X8.4) for standard schedule or larger steel pipe or a Mason West, Inc. Type SPC seismic pipe clamp (Refer to page X8.3) for steel and cast iron pipe utilizing details in Section C. In addition, a Mason West, Inc. Type SDC strut steel clamp (Refer to page X8.0) for steel pipe or Type SCC strut copper clamp (Refer to page X8.1) or Type SCCI strut copper clamp with insulation (Refer to pages X8.6 - X8.8.0) for copper pipe may be used utilizing detail pages A10.0 - A10.2.

PIPING GENERAL NOTES FOR 2019/2022 CBC (continued)

10) Screw anchors shall be Powers Screw-Bolt+/Hangman+, Mason Ind. N.Y. SAST, or Hilti Kwik Bolt TZ2 (KB-TZ2) for minimum 3000 psi concrete slabs, beams, walls and concrete filled decks (sand light or normal weight) installed in accordance with ICC Reports ICC ESR 3889, 2713 or 3027, respectively. Testing shall be done in the presence of the special inspector and a report of the test results shall be submitted to the enforcement agency. If any anchors fail, test all previously untested anchors installed by the same trade until 20 consecutive anchors pass. Then resume the original test frequency. Screw anchors shall not be tested using a torque wrench. Screw anchors may be loosened a maximum of one full turn to facilitate the positioning of a tension test collar. Following the tension test, the anchor shall be re-torqued in accordance with the manufacturer's installation instructions. Refer to page A0.6 or A2.7 for test loads.

Notes on Suspended Piping: (Refer to Page A10.8 for Fire Protection Pipe Brace Requirements)

1) Per 2019/2022 CBC Sections 1604A.1.4 & 1617A.1.18 applicable only to OSHPD-1,2,4,5 and 1R designated projects, distributed piping systems weighing 5 lbs/ft or less are exempt from design for the seismic forces of ASCE 7-16 Section 13.3. For remaining piping systems, per 2019/2022 CBC Section 1617A1.26, design for the seismic forces and relative displacements shall not be required for piping systems where flexible connections or other assemblies are provided to accommodate the relative displacement between component and piping, where the piping system is positively attached to the structure, and where any of the following apply:
   a) Trapeze assemblies are supported by ¼" or ⅜" diameter rod hangers not exceeding 12" in length from the pipe support point to the connection at the supporting structure, do not support piping with lateral loads in excess of 100 lbs, and the piping is designed for a seismic force, F_p, not greater than 1.0 times the Seismic Design Category (I, II, or F where I_p is greater than 1.0 and the total weight supported by any single trapeze is 100 lbs or less; or
   b) Piping that has an R_P of 2.5 or greater is either supported by rod hangers and provisions are made to avoid impact with other structural or nonstructural components or to protect the piping in the event of such impact, or pipes with ½" to 1.0 nominal pipe size (1.050" to 1.315" o.d.) or smaller, where each hanger in the pipe run is 12" or less in length from the pipe support point to the connection at the supporting structure, and the total weight supported by any single hanger is 50 pounds or less. In addition, the following limitations on the size of piping shall be observed
      i. In structures assigned to Seismic Design Category D, E, or F where I_p is greater than 1.0, the nominal pipe size shall be 1" or less.
      ii. In structures assigned to Seismic Design Category D, E, or F where I_p = 1.0, the nominal pipe size shall be 2" or less.
   c) Pneumatic tube systems supported with trapeze assemblies using ¼" diameter rod hangers not exceeding 12" in length from the tube support point to the connection at the supporting structure and the total weight supported by any single trapeze is 100 lbs or less.
   d) Pneumatic tube systems supported by individual hangers ¼" or ⅜" in diameter, and each hanger in the run is 12" or less in length from the tube support point to the connection at the supporting structure, and the total weight supported by any single rod is 50 lbs or less.

2) Flexible connections in piping required in Note 1 above are not required where pipe is rigidly attached to the same floor or wall that provides vertical and lateral support for the equipment, or to a fixture. Flexible connections in piping are required at seismic separation joints and shall be detailed to accommodate the seismic relative displacements at connections.

PIPING GENERAL NOTES (continued)

Notes on Seismic Brace Attachment to Building Structure:

1) Attachment methods and hardware (connectors) used for seismic bracing attachment to the building structural element is the critical factor in the design of seismic sway-bracing. Lightweight structures may limit the maximum spacing between seismic braces. The structural engineer of record shall determine the maximum allowable seismic loads that may be imposed on the building structure.

2) Attachment to different types of structures are addressed in these guidelines. Attachment types include reinforced normal or sand lightweight concrete (flat slabs, slabs poured in steel decking, walls or columns), fully grouted reinforced concrete masonry, hollow steel decking, steel framing, timber framing, and metal stud wall framing. Attachments may be made with pre- or post-installed concrete anchors, machine bolts, self-drilling and self-tapping screws, lag bolts, nails or in cases of steel on steel connections, by arc-welding. Use of attachment methods not detailed in these guidelines must be engineered on an individual job basis subject to approval by the enforcement agency. The RDP in responsible charge of project shall verify that attachment details specified by the RDP are in accordance with the design criteria for the primary structure.

3) Expansion anchors shall be Hilti Kwik Bolt TZ2, Powers Power-Stud+ SD1, Mason Ind. N.Y. SAS(E) or Powers Power-Stud+ SD2 for minimum 3000 psi concrete slabs, beams, or walls and concrete filled decks (sand light or normal weight) installed in accordance with ICC Reports ICC ESR 4266, 2818, 3037 or 2502, respectively. Hilti Kwik Bolt TZ2 expansion anchors shall be used to resist static and transient seismic tension and shear loads in cracked and uncracked concrete having a minimum compressive strength, f'_c, of 3000 psi at the time of initial stress design only in accordance with ACI 318-2. SEOR shall verify that: (1) masonry is not cracked as defined in ICC-ES AC01 Section 2.3; calculation required to show masonry wall would not crack under the design earthquake loads under all service load conditions; wall has to remain elastic, (2) masonry wall shall be fully grouted in accordance with ESR-4561 Section 3.2, (3) condition of use requirements in accordance with ESR-4561 Section 5.0 is satisfied. When expansion anchors are used, 50 percent of alternate bolts in a group shall be tension tested or torque tested per 2013 CBC Section 1913A.7 or 2016/2019/2022 CBC Section 1910A.5. Testing shall be done in the presence of the special inspector and a report of the test results shall be submitted to the enforcement agency. If any anchors fail, test all previously untested anchors installed by the same trade until 20 consecutive anchors pass. Then resume the original test frequency. Refer to page A0.4 or A2.5 for test loads.

4) Concrete inserts shall be Hilti KCM-W/PD, Dewalt/Powers Wood Knocker/Wood Knocker II+, or Caddy CRLW for installation in normal or sand lightweight concrete slabs or Hilti KCM-MD-SPI/P, Dewalt/Powers Bang-In+ or DDI+, or Caddy CRLM for installation in normal or sand lightweight concrete filled metal decks installed in accordance with applicable ICC Reports ICC ESR-3145, 3457, 3958, or 3964.

5) All welded attachments shall be minimum 70ksi electrode welds. Minimum 60ksi electrode welds may be used for steel thicknesses that are 12 gauge or less.

6) Metal decks for expansion anchor attachments and inserts shall be minimum 20 gauge with either a maximum 3 inch flute and minimum 1-1/2 inch over all or a maximum 1-1/2 inch flute and minimum 2-1/4 inch cover. Refer to appropriate M2 and N2 pages for allowable deck anchor attachments. Concrete fill shall be minimum 3000 psi sand lightweight concrete. Note: Metal decks with minimum 3000 psi alone aggregate concrete fill may use the sand lightweight concrete deck charts.

7) Concrete attachments are based on specified anchor bolts or inserts. Substitution of alternate anchors must be approved by Mason West and the enforcement agency on a job by job basis.

8) When installing drilled-in anchors in existing non-prestressed reinforced concrete, use care and caution to avoid cutting or damaging reinforcing bars. When installing them in existing prestressed concrete, locate the prestressed tendons by using a non-destructive method and do not cut or damage the tendons during installation.

9) Attachments are provided for wide flange structural steel members, open web steel trusses as well as wood trusses, joists and beams in Section N3.11-13, N4.10-4.13.

PIPING GENERAL NOTES (continued)

4) Trapeze supports shall consist of 12 gauge single or double channel strut, steel angles or tube steel as tabulated in Sections B and T. For gravity only trapeze supports and trapeze supports where transverse seismic braces are installed, the acceptable size of the trapeze member is provided in the same sections. For trapeze supports where longitudinal seismic braces are installed, the acceptable size of the trapeze member is also provided. Trapeze members may be provided with round holes sized for hanger rods. Ref. X7.0 and X7.1 for strut member data. In all cases, for analysis purposes, the following information is required: a) seismic 'g' coefficient, b) pipe weight per foot and c) maximum span between threaded rod supports. The trapezes shall be supported by threaded rods, with nuts and washers as detailed in Section F and with rod stiffeners as required per Note 3.

5) Concrete overstength factor, Ω_0, is not required for hanger supports designed for gravity only or hanger supports at seismic cable brace locations where seismic forces do not exceed 20% of the total forces.

Notes on Seismic Cable Bracing:

1) Cables shall be prestretched galvanized 7x19 strand core aircraft cable, with no limit to their installed length. Cables meet the following specifications: MIL-DTL-83420M with Amendment 2, Type 1 non-jacketed cable.

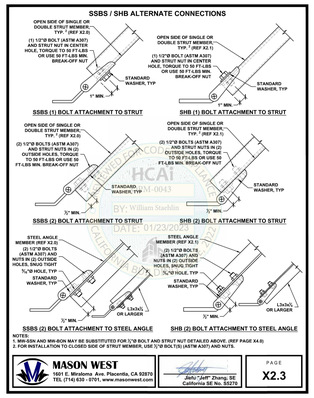
2) Cables shall be installed slightly slack, so as not to support gravity loads.

3) Cable shall connect the braced item to a building structural element. Cable shall have at each end a bracket to make the connections. The cable assembly, with connection brackets, shall be Mason Ind. N.Y. SCB or SCBH, refer to pages X1.0 & X3.1. Cable is held to end brackets with one or two bolts. Cable bolts shall be tightened to the torque values listed in the details or, at the case where break off nuts are provided, until the nut breaks off. Break off nuts are manufactured by Mason West, Inc. (Refer to page X4.0).

4) The Mason Ind. N.Y. SCBH component can be used for connection directly to the threaded vertical hanger rod used for supporting system gravity loads as detailed in Sections C and F.

5) The SCB bracket and cable (Ref. X1.0), SCBH bracket and cable (Ref. X1.1), UCC rod stiffener clam

SSBS / SHB ALTERNATE CONNECTIONS

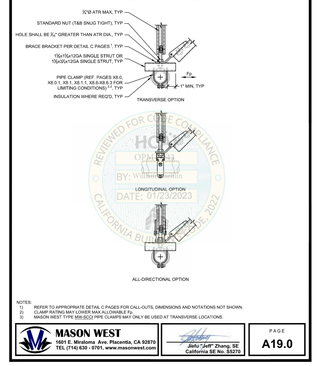


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PAGE X2.3

1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 746 of 792

ALTRERNATE CONNECTION DETAIL

SEISMIC SOLID BRACING PIPE CLAMP OPTION FOR INDIVIDUALLY SUSPENDED PIPING



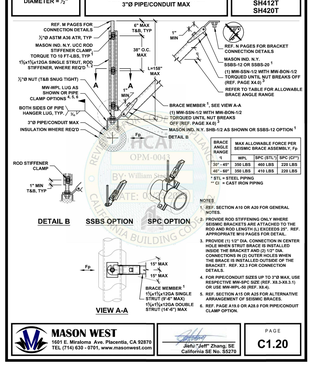
NOTES:
1. REFER TO APPROPRIATE DETAIL C PAGES FOR CALL-OUTS, DIMENSIONS AND NOTATIONS NOT SHOWN.
2. CLAMP RATING MAY LOWER MAX ALLOWABLE Fp.
3. MASON WEST TYPE MW-BCO PIPE CLAMPS MAY ONLY BE USED AT TRANSVERSE LOCATIONS.

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PAGE A19.0

1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 103 of 792

PIPE CLAMP DETAIL

HANGER ROD DIAMETER = 7/8"	PIPING/CONDUIT TRANSVERSE SEISMIC SOLID BRACING SYSTEM 3"Ø PIPE/CONDUIT MAX	KIT OPTIONS S12T S1220T SH412T SH420T



BRACE ANGLE RANGE	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp			
ϕ	WPL	SPC (ST) 1	SPC (CPT)
30° - 45°	350 LBS	460 LBS	220 LBS
45° - 60°	350 LBS	410 LBS	410 LBS

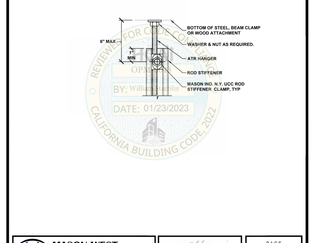
1 ST) = STEEL PIPING
CI) = CAST IRON PIPING

NOTES
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. PROVIDE (1) 1/2" DIA. CONNECTION IN CENTER HOLE WHEN STRUT BRACE IS INSTALLED INSIDE THE BRACKET AND (2) 1/2" DIA. CONNECTIONS IN (2) OUTER HOLES WHEN THE BRACE IS INSTALLED OUTSIDE OF THE BRACKET. REF. A2.3 FOR CONNECTION DETAILS.
4. FOR PIPE/CONDUIT SIZES UP TO 3"Ø MAX, USE RESPECTIVE MW-SPC SIZE (REF. X8.3-X8.3.1) OR USE MW-WPL-56 (REF. X8.4).
5. REF. SECTION A10 OR A20 FOR ALTERNATIVE ARRANGEMENT OF SEISMIC BRACES.
6. REF. PAGE A10.0 OR A20.0 FOR PIPE/CONDUIT CLAMP OPTION.

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PAGE C1.20

1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 230 of 792

HANGER INSTALLATION DETAILS WITH ROD STIFFENER FOR STEEL OR WOOD ATTACHMENTS

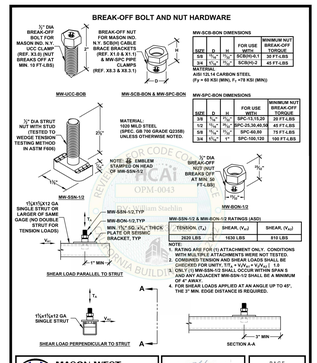


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PAGE M10.12

1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 588 of 792

ROD STIFFENER DETAIL

BREAK-OFF BOLT AND NUT HARDWARE



MW-BCS-BON DIMENSIONS

SIZE	D	H	FOR USE WITH	MINIMUM NUT BREAK-OFF TORQUE
3/8	1"	1"	SCB(H)-1	20 FT-LBS
1/2	1"	1"	SCB(H)-2	45 FT-LBS

MATERIAL:
A36 1/2-14 CARBON STEEL
(Fy = 60 KSI (MIN), F_t =75 KSI (MIN))

MW-SPC-BON DIMENSIONS

SIZE	D	H	FOR USE WITH	MINIMUM NUT BREAK-OFF TORQUE
3/8	1"	1"	SPC-15,25	20 FT-LBS
1/2	1"	1"	SPC-25,40,50	45 FT-LBS
5/8	1"	1"	SPC-60,80	75 FT-LBS
3/4	1"	1"	SPC-100,120	150 FT-LBS

MW-SSH-1/2 & MW-BON-1/2 RATINGS (ASD)

TENSION, (F_t)	SHEAR, (F_sx)	SHEAR, (F_sy)
3630 LBS	1630 LBS	810 LBS

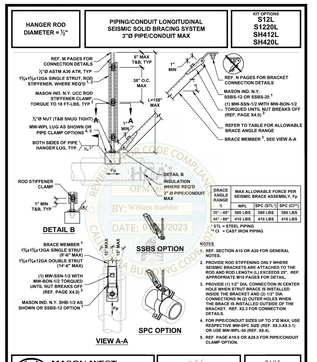
NOTES:
1. RATING ARE FOR (1) ATTACHMENT ONLY. CONDITIONS WITH MULTIPLE ATTACHMENTS WERE NOT TESTED.
2. COMBINED TENSION AND SHEAR LOADS SHALL BE CHECKED FOR UNITY: $(F_t/T_a) + (F_{sx}/F_{sa}) + (F_{sy}/F_{sa}) \leq 1.0$
3. ONLY (1) MW-SSH-1/2 SHALL OCCUR WITHIN SPAN B
4. FOR SHEAR LOADS APPLIED AT AN ANGLE UP TO 45°, THE 3" MIN. EDGE DISTANCE IS REQUIRED.

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PAGE X4.0

1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 750 of 792

BREAK OFF BOLT AND NUT DETAIL

HANGER ROD DIAMETER = 7/8"	PIPING/CONDUIT LONGITUDINAL SEISMIC SOLID BRACING SYSTEM 3"Ø PIPE/CONDUIT MAX	KIT OPTIONS S12L S1220L SH412L SH420L



BRACE ANGLE RANGE	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp		
ϕ	WPL	SPC (ST) 1	SPC (CPT)
30° - 45°	350 LBS	460 LBS	220 LBS
45° - 60°	350 LBS	410 LBS	410 LBS

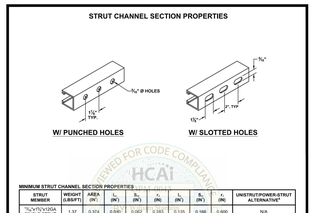
1 ST) = STEEL PIPING
CI) = CAST IRON PIPING

NOTES
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. PROVIDE (1) 1/2" DIA. CONNECTION IN CENTER HOLE WHEN STRUT BRACE IS INSTALLED INSIDE THE BRACKET AND (2) 1/2" DIA. CONNECTIONS IN (2) OUTER HOLES WHEN THE BRACE IS INSTALLED OUTSIDE OF THE BRACKET. REF. A2.3 FOR CONNECTION DETAILS.
4. FOR PIPE/CONDUIT SIZES UP TO 3"Ø MAX, USE RESPECTIVE MW-SPC SIZE (REF. X8.3-X8.3.1) OR USE MW-WPL-56 (REF. X8.4).
5. REF. SECTION A10 OR A20 FOR ALTERNATIVE ARRANGEMENT OF SEISMIC BRACES.
6. REF. PAGE A10.0 OR A20.0 FOR PIPE/CONDUIT CLAMP OPTION.

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PAGE C1.21

1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 231 of 792

STRUT CHANNEL SECTION PROPERTIES



MINIMUM STRUT CHANNEL SECTION PROPERTIES

STRUT MEMBER	WEIGHT (LB/FT)	AREA (IN²)	I_x (IN⁴)	r_x (IN)	I_y (IN⁴)	r_y (IN)	UNISTRUT/POWER-STRUT ALTERNATIVE*
1⅝"x1⅝"x12GA SINGLE STRUT	1.37	0.374	0.091	0.062	0.353	0.135	0.186	0.800	N/A
1⅝"x1⅝"x12GA DOUBLE STRUT	2.70	0.740	0.140	0.154	0.432	0.270	0.332	0.800	P4S2/PS 520 273
1⅝"x1⅝"x12GA SINGLE STRUT	1.69	0.164	0.185	0.195	0.575	0.233	0.257	0.855	N/A
1⅝"x1⅝"x12GA DOUBLE STRUT	3.78	1.088	2.016	0.570	0.575	0.466	0.574	0.855	P1000/PS 200 273
1⅝"x1⅝"x10GA SINGLE STRUT	3.65	0.844	1.675	0.631	1.102	0.422	0.529	0.696	N/A
1⅝"x1⅝"x10GA DOUBLE STRUT	4.10	1.768	6.064	1.856	1.653	0.859	1.067	0.696	P500/PS 100 2 73

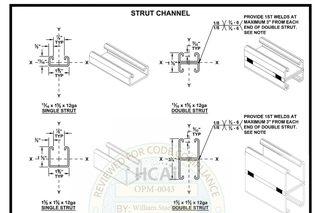
NOTES
1. STRUT MATERIAL TO BE MANUFACTURED OF COLD ROLLED MILD STEEL MEETING ASTM-A1011SS GRADE 33.
2. STRUT CHANNEL SECTION PROPERTIES ARE BASED ON THE MINIMUM MATERIAL THICKNESS PER ASTM A1011.
3. RATED LOADS AT BOLTED CONNECTIONS SHOWN IN OPM-0043 ARE NOT VALID AT SLOTTED HOLES IN STRUT CHANNEL. ALL BOLT HOLES SHALL BE STANDARD HOLES (BOLT DIA. + 1/16").
4. UNISTRUT P4S21, P1001, AND P500 OR POWER-STRUT PS 520 273, PS 200 273, AND PS 100 273 DOUBLE STRUT MEMBERS WITH FACTORY SPOT WELDING ARE ACCEPTABLE IN LIEU OF STITCH WELDING OF OUTER STRUT WALLS. CONTRACTOR SHALL SUBMIT MANUFACTURER'S CERTIFICATE OF COMPLIANCE STATING IS PROVIDED, SUBJECT TO REVIEW AND APPROVAL BY MASON WEST AND THE AUTHORITY HAVING JURISDICTION.

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PAGE X7.1

1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 755 of 792

STRUT CHANNEL DETAILS AND TABLES

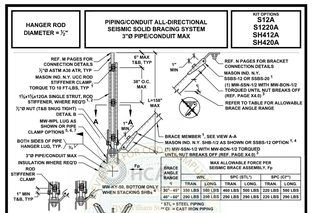
STRUT CHANNEL



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PAGE X7.0

1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 754 of 792

HANGER ROD DIAMETER = 7/8"	PIPING/CONDUIT ALL-DIRECTIONAL SEISMIC SOLID BRACING SYSTEM 3"Ø PIPE/CONDUIT MAX	KIT OPTIONS S12A S1220A SH412A SH420A



BRACE ANGLE RANGE	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp					
ϕ	WPL		SPC (ST) 1		SPC (CPT)	
		LONG.	TRAN.	LONG.	TRAN.	LONG.
30° - 45°	310 LBS	310 LBS	460 LBS	460 LBS	220 LBS	220 LBS
45° - 60°	290 LBS	290 LBS	410 LBS	410 LBS	220 LBS	290 LBS

1 ST) = STEEL PIPING
CI) = CAST IRON PIPING

NOTES
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. PROVIDE (1) 1/2" DIA. CONNECTION IN CENTER HOLE WHEN STRUT BRACE IS INSTALLED INSIDE THE BRACKET AND (2) 1/2" DIA. CONNECTIONS IN (2) OUTER HOLES WHEN THE BRACE IS INSTALLED OUTSIDE OF THE BRACKET. REF. A2.3 FOR CONNECTION DETAILS.
4. MW-KY-05 MUST BE USED ON TOP OF BOTTOM STRUT WHEN STACKING (2) SHB ON THE SAME ROD. REF A2.4.
5. FOR PIPE/CONDUIT SIZES UP TO 3"Ø MAX, USE RESPECTIVE MW-SPC SIZE (REF. X8.3-X8.3.1) OR USE MW-WPL-56 (REF. X8.4).
6. REF. SECTION A10 OR A20 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
7. REF. PAGE A10.0 OR A20.0 FOR PIPE/CONDUIT CLAMP OPTION.

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PAGE C1.22

1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 232 of 792

TRANSVERSE / LONGITUDINAL / ALL-DIRECTION BRACING DETAILS

DSA File No.: *20-30*

DSA Application No.: *02-123203*

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025
Agency Approval

LAWRENCE ENGINEERING GROUP
4910 E. Clinton Way, Suite 101 Fresno, CA 93727
(559) 431-0101 24133 FAX (559) 431-1362
Consultant

REGISTERED PROFESSIONAL ENGINEER RYAN W. LAWRENCE No. M34846 Exp. 6-30-26 MECHANICAL STATE OF CALIFORNIA

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

SEISMIC DETAILS
Drawing

darden architects
ARCHITECTURE PLANNING INTERIORS
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LICENSED ARCHITECT ANTONIO J. ALVAREZ No. C-29035 Exp. 10-31-26 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date

Revision

Designed By: -
Drawn By: -
Checked By: -
Reviewed By: -

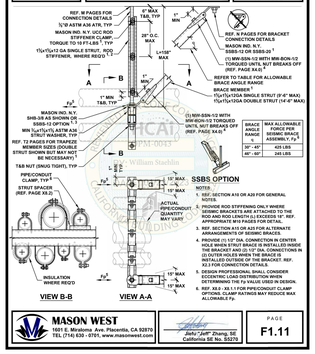
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Scale: No Scale
Project Number: 2470.1
Date: 12/10/24

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29 August 2025 10:55 AM P:\2024\(24133 MUSD ELOP\4-Drawings\5 P\000 – Desmond_VP1103–P105 – SEISMIC DETAILS.dwg joshua shorp

HANGER ROD DIAMETER = ¾"	PIPING/CONDUIT LONGITUDINAL TRAPEZE SEISMIC SOLID BRACING SYSTEM 30 PLF MAX	AT OPTION TS12L TS1220L TSH312L TSH320L



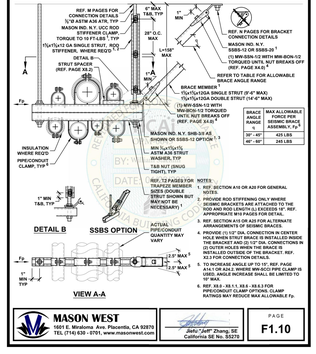
BRACE ANGLE RANGE °	MAX ALLOWABLE SEISMIC FORCE PER SEISMIC BRACE ASSEMBLY, F_p #
30° - 45°	420 LBS
46° - 60°	245 LBS

NOTES:
1. REF. SECTION A19 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE TRAPEZE MEMBER SIZE EXCEEDS 10" DEEP ROD AND ROD LENGTH (L) EXCEEDS 10". REF. APPROPRIATE M19 PAGES FOR DETAIL.
3. REF. SECTION A19 OR A20 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. PROVIDE (1) 13/32" DIA. CONNECTION IN CENTER HOLE WHEN STRUT BRACE IS INSTALLED INSIDE THE BRACKET AND (2) 13/32" DIA. CONNECTIONS IN (2) OUTER HOLES WHEN THE BRACE IS INSTALLED OUTSIDE OF THE BRACKET. REF. X3.3 FOR CONNECTION DETAILS.
5. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUES USED IN DESIGN.
6. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

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1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 392 of 792

HANGER ROD DIAMETER = ⅜"	PIPING/CONDUIT TRANSVERSE TRAPEZE SEISMIC SOLID BRACING SYSTEM 30 PLF MAX	AT OPTION TS12T TS1220T TSH312T TSH320T



BRACE ANGLE RANGE °	MAX ALLOWABLE SEISMIC FORCE PER SEISMIC BRACE ASSEMBLY, F_p #
30° - 45°	420 LBS
46° - 60°	245 LBS

NOTES:
1. REF. SECTION A19 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE TRAPEZE MEMBER SIZE EXCEEDS 10" DEEP ROD AND ROD LENGTH (L) EXCEEDS 10". REF. APPROPRIATE M19 PAGES FOR DETAIL.
3. REF. SECTION A19 OR A20 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. PROVIDE (1) 13/32" DIA. CONNECTION IN CENTER HOLE WHEN STRUT BRACE IS INSTALLED INSIDE THE BRACKET AND (2) 13/32" DIA. CONNECTIONS IN (2) OUTER HOLES WHEN THE BRACE IS INSTALLED OUTSIDE OF THE BRACKET. REF. X3.3 FOR CONNECTION DETAILS.
5. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUES USED IN DESIGN.
6. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

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1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 391 of 792

PIPING/CONDUIT ON TRAPEZE	SEISMIC SOLID BRACING INSTALLATION REQUIREMENTS	LATERAL FORCE Fp = 0.25g (ASD) VERTICAL FORCE Fpv = 0.375g (ASD)

Fp = 0.25g Fpv = 0.375g	SOLID (RIGID) BRACING FOR ANCHORAGE ANGLE BRACE SPACING - OPTION B1						
	INSTALLATION DETAILS 2						
PIPING/CONDUIT SUPPORT AT 10'-0" MAX	BRACE DIRECTION/SPACING		HANGER ATTACHMENT TYPE				
	TRANS.	LONG.	ALL-DIR.	TRANS./LONG.	ALL-DIR.	BRACE ATTACHMENT TYPE
	30 FT	60 FT	30 FT	BRACE LOCATION	BRACE LOCATION	
PIPING/CONDUIT WEIGHT (lbs/ft)	10	P1.10	P1.11	P1.12	360	360	60B
	20	P1.10	P1.11	P1.12	360	360	60B
	30	P1.10	P1.11	P1.12	360	360	60B
	40	P1.20	P1.21	P1.22	5U	509	30T
	50	P1.20	P1.21	P1.22	5U	509	30T
	60	P1.30	P1.31	P1.32	5U	509	30T
	70	P1.33	P1.34	P1.35	638	650	60U
	80	P1.33	P1.34	P1.35	638	650	60U
	90	P1.33	P1.34	P1.35	638	650	60U
	100	P1.40	P1.41	P1.42	638	650	60U
	150	P1.50	P1.51	P1.52	5U	509	30T
	200	P1.50	P1.51	P1.52	5U	509	30T
	250	P1.50	P1.51	P1.52	5U	509	30T
	300	P1.60	P1.61	P1.62	5U	509	30T
	350	P1.60	P1.61	P1.62	5U	509	30T
	400	P1.60	P1.61	P1.62	1003	1022	120T
	450	P1.60	P1.61	P1.62	1003	1022	120T

Fp = 0.25g Fpv = 0.375g	SOLID (RIGID) BRACING FOR ANCHORAGE ANGLE BRACE SPACING - OPTION B2						
	INSTALLATION DETAILS 2						
PIPING/CONDUIT SUPPORT AT 10'-0" MAX	BRACE DIRECTION/SPACING		HANGER ATTACHMENT TYPE				
	TRANS.	LONG.	ALL-DIR.	TRANS./LONG.	ALL-DIR.	BRACE ATTACHMENT TYPE	
	30 FT	60 FT	30 FT	BRACE LOCATION	BRACE LOCATION		
PIPING/CONDUIT WEIGHT (lbs/ft)	10	P1.10	P1.11	P1.12	360	360	60B
	20	P1.10	P1.11	P1.12	360	360	60B
	30	P1.10	P1.11	P1.12	360	360	60B
	40	P1.20	P1.21	P1.22	5U	509	30T
	50	P1.20	P1.21	P1.22	5U	509	30T
	60	P1.30	P1.31	P1.32	5U	509	30T
	70	P1.33	P1.34	P1.35	638	650	60U
	80	P1.33	P1.34	P1.35	638	650	60U
	90	P1.33	P1.34	P1.35	638	650	60U
	100	P1.40	P1.41	P1.42	638	650	60U
	150	P1.50	P1.51	P1.52	5U	509	30T
	200	P1.50	P1.51	P1.52	5U	509	30T
	250	P1.50	P1.51	P1.52	5U	509	30T
	300	P1.60	P1.61	P1.62	5U	509	30T
	350	P1.60	P1.61	P1.62	5U	509	30T
	400	P1.60	P1.61	P1.62	1003	1022	120T
	450	P1.60	P1.61	P1.62	1003	1022	120T

NOTES:
1. REFER TO TABLE ABOVE FOR TRAPEZE MEMBER SIZE DESIGNATIONS & ALLOWABLE MOMENT CAPACITIES.
2. STEEL ANGLE MAY BE USED IN PLACE OF CHANNEL STRUT. FOR 1¼"x¼"x12 GA SINGLE STRUT, USE L21a21x2. FOR 1¼"x¼"x10 GA SINGLE STRUT, USE L21a21x3. FOR 1¼"x¼"x12 GA SINGLE STRUT CONTRACTOR MAY USE 1¼"Lx1¼"Lx12GA DOUBLE STRUT AS A SUBSTITUTION.
3. TRAPEZE MEMBERS MAY BE PROVIDED WITH KNOCK HOLES. REFER TO X7.0 AND X7.1 FOR STRUT MEMBER DATA.
4. MAXIMUM SPAN OF TRAPEZE MEMBER IS MEASURED BETWEEN CENTER OF HANGER RODS.
5. CONTRACTOR MAY USE ANY TRAPEZE MEMBER SIZE LARGER THAN IS TABULATED. FOR EXAMPLE, IF TRAPEZE MEMBER SIZE "A" IS THE MINIMUM REQUIREMENT, THEN TRAPEZE MEMBER SIZE "B", "C", "D", "E", "F", "G", "H", "J", "K", "L", "M", "N", "P", "Q", "S" OR "T" MAY BE USED.
6. PIPING/CONDUIT WEIGHT IN CHARTS IS THE TOTAL COMBINED WEIGHT OF ALL SYSTEMS SUPPORTED BY THE TRAPEZE. TRAPEZE DESIGN BASED ON SUPPORT OF AT LEAST (2) PIPES AT 50% FILL AND (1) PIPE AT 100% FILL. IF ONLY ONE LARGE PIPE OR CONDUIT IS SUPPORTED AT MID SPAN, INCREASE THE PIPING/CONDUIT WEIGHT IN THE CHARTS BY 50% AND THEN USE THE TABLE TO SELECT THE TRAPEZE MEMBER.
7. INDIVIDUAL PIPING/CONDUIT MAY GOVERN MAXIMUM GRAVITY SUPPORT AND TRANSVERSE BRACE SPACING. REFER TO S1 AND S2 PAGES.

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1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 725 of 792

TRAPEZE BRACE REQUIREMENTS

BRACE ANCHOR SIZE DESIGNATION	DIAMETER (INCH)
30	⅜
50	½
63	⅝
75	¾
88	⅞
100	1
125	1¼

HORIZONTAL LOAD RATING DESIGNATION	MAXIMUM ALLOWABLE LOAD (LBS)
A	75
B	125
C	175
D	250
E	350
F	450
G	575
H	700
J	800
K	1000
L	1250
M	1600
N	2000
P	2500
Q	3500
R	5000
S	7500
T	11000

NOTES:
1. "H" SERIES PAGES ARE COMPRISED OF SEISMIC BRACE BRACKET ANCHORAGE CAPACITIES FOR VARIOUS TYPES OF ANCHORAGE CONDITIONS. EACH BRACE BRACKET ATTACHMENT TYPE IS DESIGNATED BY A SET OF TWO NUMBERS AND A LETTER. THE NUMBERS REPRESENTS THE BRACE MEMBERSHIP ANCHOR SIZE (FOUND IN THE BRACE ANCHOR SIZE TABLE) AND THE HORIZONTAL LOAD RATING (FOUND IN THE ALLOWABLE HORIZONTAL LOAD CAPACITY (FOUND IN THE HORIZONTAL LOAD RATING TABLE).

LEGEND (HANGER ATTACHMENT TYPE)
- DENOTES BRACE/ANCHOR SIZE
- DENOTES HORIZONTAL LOAD RATING

EXAMPLE: 63L REPRESENTS BRACE BRACKET ANCHOR SIZE OF ⅝"Ø WITH A MAXIMUM HORIZONTAL LOAD RATING OF 1,250 LBS.

2 - BRACE BRACKET ANCHORAGE ATTACHMENTS TO STRUCTURE MAY BE USED WITH ANY ONE (2) "H" SERIES PAGES. PROVIDED BRACE BRACKET ATTACHMENT SIZE IS APPROPRIATE FOR THE APPLICATION AND THE ALLOWABLE HORIZONTAL LOAD CAPACITY IS MET.

3 - STRUCTURAL ENGINEER OF RECORD TO VERIFY ADEQUACY OF THE STRUCTURE FOR THE TABULATED LOADS.

4 - NOT USED.

5 - WHEN CONCRETE ANCHORS ARE INSTALLED AT THE BOTTOM OF THE CONCRETE FILLED METAL DECK, MINIMUM END DISTANCE AND SPACING REQUIREMENTS ARE ALONG FLUTE LENGTH ONLY.

6 - SEE S7.2 AND X7.1 FOR STRUT MEMBER DATA.

7 - ALL CONCRETE FLAT SLABS, WALLS, AND BEAMS MUST HAVE A MINIMUM OF #4 BAR OR GREATER BETWEEN THE ANCHOR AND THE EDGE OF CONCRETE.

8 - ON PAGES N1.XX AND N2.XX, THE DESIGN PROFESSIONAL SHALL USE THE ALLOWABLE LATERAL LOADS UNDER OVERSTRENGTH FACTOR Ω0 =2.0 UNLESS THE LATERAL SUPPORT SYSTEM IS WITH OMEGA ZERO CONNECTIONS LISTED IN AD 319-16 CHAPTER 17, SECTION 17.2.6.1.

9 - POST-INSTALLED ANCHORS MAY BE INSTALLED A MINIMUM OF 3 BOLT DIAMETERS AWAY FROM GROUTED HOLES, AND A MINIMUM OF 1 X BOLT DIAMETERS FROM DRYPACK MORTAR FILLED HOLES. DRYPACK MORTAR SHALL HAVE A COMPRESSIVE STRENGTH EQUAL TO OR GREATER THAN THE CONCRETE IN WHICH IT IS SEISMIC USED.

10 - ALL THREAD RODS MUST BE MADE OF A36, A307 (GRADE A OR B), OF F1554 GR36 STEEL. ROD COUPLERS MUST CONFORM TO ASTM A108 STEEL, WITH A MINIMUM OF 52 KSI TENSILE STRENGTH. MINIMUM ENGAGEMENT IN ROD COUPLER MUST BE EQUAL TO THE ATR DIAMETER.

11 - PER CBC SECTION 1905A.1.9, CONCRETE COMPRESSIVE STRENGTH, f'c, SHALL BE LIMITED TO 4,000 PSI MAX, BUT MAY BE INCREASED SUBJECT TO OSHPD REVIEW AND APPROVAL ON A PROJECT BY PROJECT BASIS.

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1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 182 of 792

BRACING NOTES

BRACE BRACKET DESIGNATION, ATTACHMENT AND SECTION NOTES

BRACE ANCHOR SIZE DESIGNATION	DIAMETER (INCH)
30	⅜
50	½
63	⅝
75	¾
88	⅞
100	1
125	1¼

HORIZONTAL LOAD RATING DESIGNATION	MAXIMUM ALLOWABLE LOAD (LBS)
A	75
B	125
C	175
D	250
E	350
F	450
G	575
H	700
J	800
K	1000
L	1250
M	1600
N	2000
P	2500
Q	3500
R	5000
S	7500
T	11000

NOTES:
1 - "H" SERIES PAGES ARE COMPRISED OF SEISMIC BRACE BRACKET ANCHORAGE CAPACITIES FOR VARIOUS TYPES OF ANCHORAGE CONDITIONS. EACH BRACE BRACKET ATTACHMENT TYPE IS DESIGNATED BY A SET OF TWO NUMBERS AND A LETTER. THE NUMBERS REPRESENTS THE BRACE MEMBERSHIP ANCHOR SIZE (FOUND IN THE BRACE ANCHOR SIZE TABLE) AND THE HORIZONTAL LOAD RATING (FOUND IN THE HORIZONTAL LOAD RATING TABLE).

LEGEND (HANGER ATTACHMENT TYPE)
- DENOTES BRACE/ANCHOR SIZE
- DENOTES HORIZONTAL LOAD RATING

EXAMPLE: 63L REPRESENTS BRACE BRACKET ANCHOR SIZE OF ⅝"Ø WITH A MAXIMUM HORIZONTAL LOAD RATING OF 1,250 LBS.

2 - BRACE BRACKET ANCHORAGE ATTACHMENTS TO STRUCTURE MAY BE USED WITH ANY ONE (2) "H" SERIES PAGES. PROVIDED BRACE BRACKET ATTACHMENT SIZE IS APPROPRIATE FOR THE APPLICATION AND THE ALLOWABLE HORIZONTAL LOAD CAPACITY IS MET.

3 - STRUCTURAL ENGINEER OF RECORD TO VERIFY ADEQUACY OF THE STRUCTURE FROM LOADING IMPOSED BY VERTICAL HANGER ATTACHMENT.

4 - WHERE ROD STIFFENER IS REQUIRED, SEE M19.10.

5 - NOT USED.

6 - HANGER ROD MAY BE INSTALLED UP TO 6 DEGREES FROM PERPENDICULAR TO CONCRETE SURFACE.

7 - WHEN CONCRETE ANCHORS ARE INSTALLED AT THE BOTTOM OF THE CONCRETE FILLED METAL DECK, MINIMUM END DISTANCE AND SPACING REQUIREMENTS ARE ALONG FLUTE LENGTH ONLY.

8 - SEE X7.0 AND X7.1 FOR STRUT MEMBER DATA. FOR CONDITIONS WHERE HOLES THROUGH STRUT MEMBERS ARE REQ'D, HOLES SHALL BE PUNCHED AT THE FACTORY. FIELD PUNCHED STRUT OR FIELD DRILLED HOLES ARE NOT PERMITTED UNLESS SPECIFICALLY APPROVED BY THE ENGINEER OF RECORD AND STRUCTURAL ENGINEER OF RECORD.

9 - ALL THREAD RODS MUST BE MADE OF A36, A307 (GRADE A OR B), OF F1554 GR36 STEEL. ROD COUPLERS MUST CONFORM TO ASTM A108 STEEL, WITH A MINIMUM OF 52 KSI TENSILE STRENGTH. MINIMUM ENGAGEMENT IN ROD COUPLER MUST BE EQUAL TO THE ATR DIAMETER. ATR HANGER IS PERMITTED FOR COMPRESSION AND TORSION LOADING CONDITIONS ONLY. NO SHEAR LOADING.

10 - ALL CONCRETE FLAT SLABS, WALLS, AND BEAMS MUST HAVE A MINIMUM OF #4 BAR OR GREATER BETWEEN THE ANCHOR AND THE EDGE OF CONCRETE.

11 - DESIGN IS CONTROLLED BY SEISMIC FORCES. NON-SEISMIC FORCES SUCH AS GRAVITY ARE OUTSIDE THE SCOPE OF THIS OPM.

12 - POST-INSTALLED ANCHORS MAY BE INSTALLED A MINIMUM OF 3 BOLT DIAMETERS AWAY FROM ABANDONED HOLES, AND A MINIMUM OF 1.5 BOLT DIAMETERS AWAY FROM DRYPACK MORTAR FILLED HOLES. DRYPACK MORTAR SHALL HAVE A COMPRESSIVE STRENGTH EQUAL TO OR GREATER THAN THE CONCRETE IN WHICH IT IS SEISMIC USED.

13 - THE HANGER ROD AT SEISMIC BRACE LOCATIONS IS SUBJECTED TO GRAVITY LOADS AS WELL AS LATERAL AND VERTICAL SEISMIC LOADS AND HAS BEEN DESIGNED FOR SUCH COMBINED LOADING IN COMPLIANCE WITH THE CALIFORNIA BUILDING CODE, CALIFORNIA OSHPD AND STANDARD ENGINEERING, STEEL PRACTICES AND ARE NOT SUBJECT TO THE HANGER ROD DIAMETERS DESIGNED FOR GRAVITY LOADS ONLY. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AND STRUCTURAL ENGINEER OF RECORD, ETC. IN ORDER TO ENSURE THE DELIVERY OF SEISMIC BRACE COMPONENTS THAT MATCH FIELD DIRECTED HANGER ALLOWANCES FOR INDIVIDUAL PIPES AND TRAPEZED SYSTEMS AT SEISMIC BRACE LOCATIONS SHOULD ADHERE TO THE TABLES ABOVE.

14 - PER CBC SECTION 1905A.1.9, CONCRETE COMPRESSIVE STRENGTH, f'c, SHALL BE LIMITED TO 4,000 PSI MAX, BUT MAY BE INCREASED SUBJECT TO OSHPD REVIEW AND APPROVAL ON A PROJECT BY PROJECT BASIS.

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1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 589 of 792

BRACE BRACKET DESIGNATION, ATTACHMENT AND SECTION NOTES

HANGER DESIGNATION, ATTACHMENT AND SECTION NOTES

PIPE OR CONDUIT SIZE	HANGER ROD SIZE DESIGNATION	HANGER ROD SIZE DIAMETER (INCH)
UP TO 2"	38	⅜
2½" TO 4"	50	½
4" TO 6"	63	⅝
6" TO 18"	75	¾
14" TO 12"	88	⅞
14" TO 18"	100	1
20" TO 24"	125	1¼

DISTRIBUTION SYSTEM			HANGER ROD SIZE
PIPE/CONDUIT	DUCTWORK	CABLE TRAY	DESIGNATION	DIAMETER (INCH)
30 LB/FT	30 LB/FT	30 LB/FT	38	⅜
60 LB/FT	60 LB/FT	45 LB/FT	50	½
100 LB/FT	100 LB/FT	63 LB/FT	63	⅝
500 LB/FT			75	¾
500 LB/FT			100	1
500 LB/FT			125	1¼

LEGEND (HANGER ATTACHMENT TYPE)
- DENOTES ATR HANGER SIZE
- DENOTES VERTICAL LOAD RATING

VERTICAL LOAD RATING DESIGNATION	MAXIMUM ALLOWABLE LOAD (LBS)
A	75
B	125
C	175
D	250
E	350
F	450
G	575
H	700
J	800
K	1000
L	1250
M	1600
N	2000
P	2500
Q	3500
R	5000
S	7500
T	11000

NOTES:
1 - "N" SERIES PAGES ARE COMPRISED OF HANGER ANCHORAGE CAPACITIES FOR VARIOUS TYPES OF ANCHORAGE CONDITIONS AT VARIOUS TYPES OF STRUCTURE. EACH HANGER ATTACHMENT TYPE IS DESIGNATED BY A SET OF TWO NUMBERS AND A LETTER. THE NUMBERS REPRESENTS THE HANGER ROD SIZE (FOUND IN THE HANGER ROD SIZE TABLE) AND THE LETTER REPRESENTS THE MAXIMUM ALLOWABLE LOAD (FOUND IN THE VERTICAL LOAD RATING TABLE).
EXAMPLE: 38H REPRESENTS HANGER ROD SIZE OF ⅜"Ø WITH A MAXIMUM ALLOWABLE VERTICAL LOAD RATING OF 700 LBS.

2 - HANGER ANCHORAGE ATTACHMENTS TO STRUCTURE MAY BE USED WITH ANY ONE OF THE "N" SERIES PAGES. PROVIDED HANGER ATTACHMENT SIZE IS APPROPRIATE FOR THE APPLICATION AND THE ALLOWABLE VERTICAL LOAD CAPACITY IS MET.

3 - STRUCTURAL ENGINEER OF RECORD TO VERIFY ADEQUACY OF THE STRUCTURE FROM LOADING IMPOSED BY VERTICAL HANGER ATTACHMENT.

4 - WHERE ROD STIFFENER IS REQUIRED, SEE M19.10.

5 - NOT USED.

6 - HANGER ROD MAY BE INSTALLED UP TO 6 DEGREES FROM PERPENDICULAR TO CONCRETE SURFACE.

7 - WHEN CONCRETE ANCHORS ARE INSTALLED AT THE BOTTOM OF THE CONCRETE FILLED METAL DECK, MINIMUM END DISTANCE AND SPACING REQUIREMENTS ARE ALONG FLUTE LENGTH ONLY.

8 - SEE X7.0 AND X7.1 FOR STRUT MEMBER DATA. FOR CONDITIONS WHERE HOLES THROUGH STRUT MEMBERS ARE REQ'D, HOLES SHALL BE PUNCHED AT THE FACTORY. FIELD PUNCHED STRUT OR FIELD DRILLED HOLES ARE NOT PERMITTED UNLESS SPECIFICALLY APPROVED BY THE ENGINEER OF RECORD AND STRUCTURAL ENGINEER OF RECORD.

9 - ALL THREAD RODS MUST BE MADE OF A36, A307 (GRADE A OR B), OF F1554 GR36 STEEL. ROD COUPLERS MUST CONFORM TO ASTM A108 STEEL, WITH A MINIMUM OF 52 KSI TENSILE STRENGTH. MINIMUM ENGAGEMENT IN ROD COUPLER MUST BE EQUAL TO THE ATR DIAMETER. ATR HANGER IS PERMITTED FOR COMPRESSION AND TORSION LOADING CONDITIONS ONLY. NO SHEAR LOADING.

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13 - THE HANGER ROD AT SEISMIC BRACE LOCATIONS IS SUBJECTED TO GRAVITY LOADS AS WELL AS LATERAL AND VERTICAL SEISMIC LOADS AND HAS BEEN DESIGNED FOR SUCH COMBINED LOADING IN COMPLIANCE WITH THE CALIFORNIA BUILDING CODE, CALIFORNIA OSHPD AND STANDARD ENGINEERING, STEEL PRACTICES AND ARE NOT SUBJECT TO THE HANGER ROD DIAMETERS DESIGNED FOR GRAVITY LOADS ONLY. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AND STRUCTURAL ENGINEER OF RECORD, ETC. IN ORDER TO ENSURE THE DELIVERY OF SEISMIC BRACE COMPONENTS THAT MATCH FIELD DIRECTED HANGER ALLOWANCES FOR INDIVIDUAL PIPES AND TRAPEZED SYSTEMS AT SEISMIC BRACE LOCATIONS SHOULD ADHERE TO THE TABLES ABOVE.

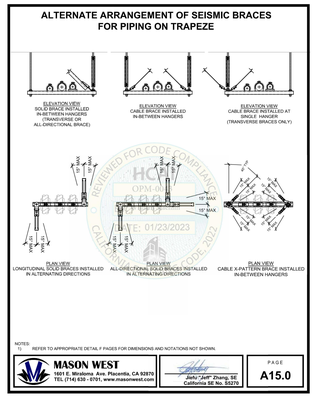
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1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 446 of 792

HANGER NOTES

ALTERNATE ARRANGEMENT OF SEISMIC BRACES FOR PIPING ON TRAPEZE

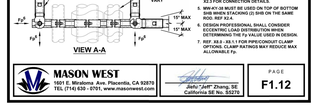


NOTES:
TI REFER TO APPROPRIATE DETAIL # PAGES FOR DIMENSIONS AND NOTATIONS NOT SHOWN.

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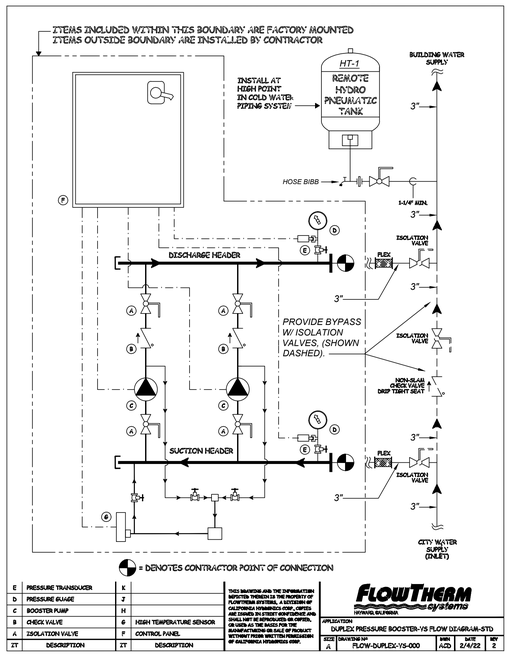
1/23/2023 OPM-0043: Reviewed for Code Compliance by William Staehlin 79 of 792

HANGER ROD DIAMETER = ⅜"	PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC SOLID BRACING SYSTEM 30 PLF MAX	AT OPTION TS12A TS1220A TSH312A TSH320A



BRACE ANGLE RANGE °	MAX ALLOWABLE SEISMIC FORCE PER SEISMIC BRACE ASSEMBLY, F_p #
30° - 45°	420 LBS
46° - 60°	245 LBS

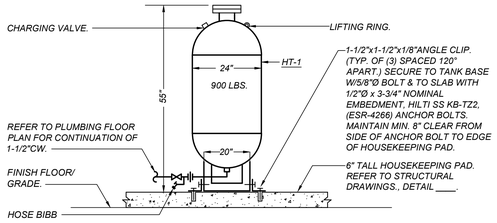
NO



DUPLEX BOOSTER PUMP FLOW DIAGRAM

B X/P106

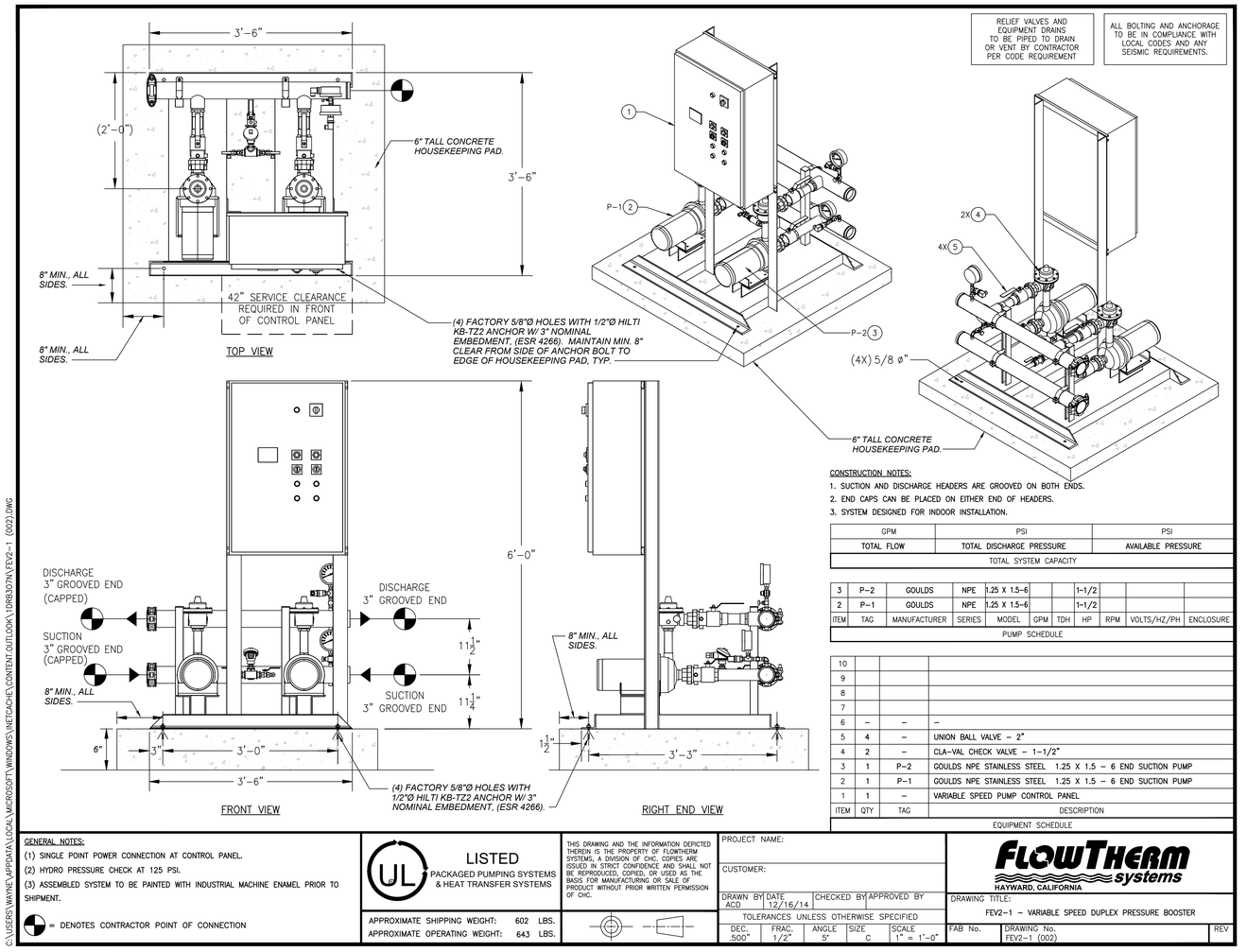
SCALE: NONE



HYDRO-PNEUMATIC TANK DETAIL

C X/P106

SCALE: NONE



CONSTRUCTION NOTES:

1. SUCTION AND DISCHARGE HEADERS ARE GROOVED ON BOTH ENDS.
2. END CAPS CAN BE PLACED ON EITHER END OF HEADERS.
3. SYSTEM DESIGNED FOR INDOOR INSTALLATION.

GPM	PSI	PSI
TOTAL FLOW	TOTAL DISCHARGE PRESSURE	AVAILABLE PRESSURE

TOTAL SYSTEM CAPACITY

ITEM	TAG	MANUFACTURER	SERIES	MODEL	GPM	TDH	HP	RPM	VOLTS/HZ/PH	ENCLOSURE
3	P-2	GOULDS	NPE	1.25 X 1.5-6			1-1/2			
2	P-1	GOULDS	NPE	1.25 X 1.5-6			1-1/2			

PUMP SCHEDULE

ITEM	QTY	TAG	DESCRIPTION
10			
9			
8			
7			
6	–	–	–
5	4	–	UNION BALL VALVE – 2"
4	2	–	CLA-VAL CHECK VALVE – 1-1/2"
3	1	P-2	GOULDS NPE STAINLESS STEEL 1.25 X 1.5 – 6 END SUCTION PUMP
2	1	P-1	GOULDS NPE STAINLESS STEEL 1.25 X 1.5 – 6 END SUCTION PUMP
1	1	–	VARIABLE SPEED PUMP CONTROL PANEL

EQUIPMENT SCHEDULE

DOMESTIC (DUPLEX) BOOSTER PUMP (BP-1) DETAIL

A X/P106

SCALE: NONE

GENERAL NOTES:

(1) SINGLE POINT POWER CONNECTION AT CONTROL PANEL.
(2) HYDRO PRESSURE CHECK AT 125 PSI.
(3) ASSEMBLED SYSTEM TO BE PAINTED WITH INDUSTRIAL MACHINE ENAMEL PRIOR TO SHIPMENT.

= DENOTES CONTRACTOR POINT OF CONNECTION

UL LISTED
PACKAGED PUMPING SYSTEMS & HEAT TRANSFER SYSTEMS

APPROXIMATE SHIPPING WEIGHT: 602 LBS.
APPROXIMATE OPERATING WEIGHT: 643 LBS.

THIS DRAWING AND THE INFORMATION DEPICTED THEREIN IS THE PROPERTY OF FLOWTHERM SYSTEMS, A DIVISION OF CHC. COPIES ARE ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED, COPIED, OR USED AS THE BASIS FOR MANUFACTURING OR SALE OF PRODUCT WITHOUT PRIOR WRITTEN PERMISSION OF CHC.

PROJECT NAME:
CUSTOMER:

DRAWN BY	DATE	CHECKED BY	APPROVED BY
ACD	12/16/14		

TOLERANCES UNLESS OTHERWISE SPECIFIED

DEC.	FRAC.	ANGLE	SIZE	SCALE
.500"	1/2"	5°	C	1" = 1'-0"

FLOWTHERM systems
HAYWARD, CALIFORNIA

DRAWING TITLE: FEV2-1 – VARIABLE SPEED DUPLEX PRESSURE BOOSTER

FAB No.	DRAWING No.	REV
	FEV2-1 (002)	

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DSA File No.: *20-30*

DSA Application No.: *02-123203*

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

LAWRENCE ENGINEERING GROUP
4113 E. Clinton Way, Suite 101 Fresno, CA 93727
(559) 431-0101 24133 FAX (559) 431-1362

LICENSED PROFESSIONAL ENGINEER JEAN W. LAWRENCE No. M34846 Exp. 6-30-26 MECHANICAL STATE OF CALIFORNIA

Consultant

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

Project

PLUMBING DETAILS

Drawing

darden architects
ARCHITECTURE PLANNING INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

LICENSED ARCHITECT ANTONIO J. PINTO No. C26235 Exp. 10-31-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

	Designed By: -	Copyright 2022 Darden Architects
Scale:	Drawn By: -	X/P106
Project Number: 2470.1	Checked By: -	
Date: 12/10/24	Reviewed By: -	

29 August 2025 10:55 AM P:\2024\24133 MUSD ELOP\4-Drawings\5 PLANS\000 – Desmond\XP106 – PLUMBING DETAILS.dwg joshua sharp

DOMESTIC WATER DEMAND AND SIZING

Project No.: 24133
Project: MUSD ELOP - Year 2
DESMOND (existing 4 and 3 inch)
Date: 06/24/25
Location:
Prepared By: VMc
File Name: WATER - DRAIN - SEPTIC SYSTEM CALCS - V1.5

LAWRENCE ENGINEERING GROUP

		Meter Size: 4"
System Type (1):	Predominantly Flushometer Valves	X
	Predominantly Flush Tanks	
	163.75 Water Fixture Units Equal	83 GPM
Misc. Added Flow - [DESCR.]	0.0 GPM	0 GPM
Misc. Added Flow - [DESCR.]	0.0 GPM	0 GPM
	Total Flow	83 GPM
Total distance from Water Meter to most remote Plumbing Fixture		100 Ft.
Total rise for Head Loss	4 Ft. x 0.43	1.7 PSI
PSI required for Water Closet (15 PSI)		25.0 PSI
PSI Flow Loss through Water Meter (1.5 PSI)		2.0 PSI
PSI Flow Loss through Backflow Preventer (10 - 12 PSI)		12.0 PSI
Line Loss between water meter and Bldg (2175 L/F):		16.0 PSI
Booster pump pressure:		15.0 PSI
Area Minimum PSI (w/ Booster Pump)	63.0 PSI	
Total Loss in PSI	56.7 PSI	
Total Remaining PSI available	6.3 PSI	
6.3 PSI available divided by	100 Total Feet x 100	6.3 PSI / 100'

PIPE SIZING TABLE

6" Pipe will deliver	x	GPM (2) for	x	F.V. Fixture Units	x	F.T. Fixture Units
4" Pipe will deliver	x	GPM (2) for	x	F.V. Fixture Units	x	F.T. Fixture Units
3" Pipe will deliver	140	GPM (2) for	450	F.V. Fixture Units	600	F.T. Fixture Units
2-1/2" Pipe will deliver	84	GPM (2) for	169	F.V. Fixture Units	299	F.T. Fixture Units
2" Pipe will deliver	58	GPM (2) for	71	F.V. Fixture Units	165	F.T. Fixture Units
1-1/2" Pipe will deliver	33	GPM (2) for	18	F.V. Fixture Units	60	F.T. Fixture Units
1-1/4" Pipe will deliver	23	GPM (2) for	6	F.V. Fixture Units	37	F.T. Fixture Units
1" Pipe will deliver	13	GPM (2) for		F.V. Fixture Units	16	F.T. Fixture Units
3/4" Pipe will deliver	5	GPM (2) for		F.V. Fixture Units	10	F.T. Fixture Units
1/2" Pipe will deliver	2	GPM (2) for		F.V. Fixture Units	2	F.T. Fixture Units

Notes:
(1) Mark an 'X' in the predominant system type.
(2) Based on 6 FPS maximum velocity [Iron Pipe]
F.V. is Flushometer Valve
F.T. is Flush Tank

BP-1	BOOSTER PUMP	-	-	2 1/2"	-	FLOWTHERM SYSTEMS FEV END SUCTION VARIABLE SPEED DUPLEX PRESSURE BOOSTER PUMP, MEETS ASHRAE STD 90.1-2010 W/O REMOTE SENSORS., 304 STAINLESS STEEL SUCTION AND DISCHARGE HEADERS AND STRUCTURAL STEEL FRAME/SKID, XYLEM END SUCTION PUMPS, SQUARE D ALTIVAR 212 VARIABLE FREQUENCY DRIVES, SUCTION AND DISCHARGE PRESSURE GAUGES, ISOLATION VALVES AND THERMAL RELIEF FOR EACH PUMP, (2) - GOULDE / G&L SERIES - NPE, 316 STAINLESS STEEL CLOSE-COUPLED END SUCTION PUMP, 1.5 H.P. PUMPS, 3500RPM, (2) 1 1/2" CHECK VALVE, (4) 2" BALL VALVES, AND 3" GROOVED SUCTION AND DISCHARGE HEADER ,UL 508 LISTED INDUSTRIAL AUTOLOGIC CONTROL PANEL WITH DISCONNECT - NEMA-3R RATED ENCLOSURE WITH DEAD FRONT, PRE-PROGRAMMED PLC, LCD. TOUCHSCREEN, DEDICATED VARIABLE FREQUENCY DRIVE FOR EACH PUMP. CIRCUIT BREAKERS, STATUS INDICATOR LIGHTS. COMPLETE SYSTEM WITH PUMPS, PIPING, CONTROL PANEL, AND SKID. PROVIDE 6" LONG BRAIDED STAINLESS STEEL FLEX CONNECTORS WITH FLANGED ENDS ON SUCTION AND DISCHARGE LINES, METRAFLEX SLPC OR EQUAL. PROVIDE WITH VIBRATION ISOLATOR PADS. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE SYSTEM START UP AND CHECK PRIOR TO PUMP BEING SET INTO OPERATION. PROVIDE FULL SIZE BYPASS PIPING. REFER TO DETAILS A/X/P106, B/X/P106, AND C/X/P106 FOR MORE INFORMATION AND REQUIREMENTS. THE ENTIRE BOOSTER PUMP ASSEMBLY SHALL BE UL LISTED AND MANUFACTURED IN A UL LISTED PLANT. THE PUMP ASSEMBLY SHALL BE LOCATED ON A COMMON STEEL SKID WITH AN ADJACENT HYDROPNEUMATIC TANK, REFER TO PLUMBING FIXTURE SCHEDULE HT-1, THIS SHEET. FLOW RATE: 85 GPM BOOST PRESSURE: 15 PSI DISCHARGE PRESSURE: 33 PSI OVERALL SIZE: 3'-6" W x 6'-0" H x 3'-6" L ELECTRICAL REQUIRED: (2) - 1.5 H.P. MOTORS, 480V/3Ø, FLA: 3.8 AMPS WEIGHT: 850 LBS
HT-1	HYDRO-PNEUMATIC EXPANSION TANK	-	-	1 1/2"	-	WESSELS COMPANY MODEL #FXA-300, 79 GALLON ASME RATED PRESSURE BOOSTER HYDRO PNEUMATIC EXPANSION TANK, NSF/ANSI-61 APPROVED WITH FDA APPROVED BLADDER FOR POTABLE WATER USE. PROVIDE ACCESSORY KIT. WEIGHT. = 900 LBS

PLUMBING FIXTURE AND EQUIPMENT SCHEDULE

MARK	FIXTURE	CONNECTION SIZES S or W	V	CW	HW	DESCRIPTION
FS-1	FLOOR SINK	3"	2"	1/2"	-	JAY R. SMITH #3160-12, (OR MIFAB OR ZURN EQUAL) 12"x12"x10"DEEP WITH ANCHOR FLANGE, DOME BOTTOM STRAINER & NICKEL BRONZE RIM WITH HALF GRATE. INSTALL FLUSH WITH FINISH FLOOR. COORDINATE EXACT LOCATION WITH ARCHITECT. PROVIDE TRAP PRIMER CONNECTION.
FS-2	FLOOR SINK	2"	1-1/2"	1/2"	-	JAY R. SMITH #3100-12, (OR MIFAB OR ZURN EQUAL) 8-1/2" x 8-1/2" x 6" DEEP WITH ANCHOR FLANGE, DOME BOTTOM STRAINER & NICKEL BRONZE RIM WITH HALF GRATE. INSTALL FLUSH WITH FINISH FLOOR. COORDINATE EXACT LOCATION WITH ARCHITECT. PROVIDE TRAP PRIMER CONNECTION.
SA-1	SHOCK ARRESTOR	-	-	3/4"	-	SIOUX CHIEF "HYDRA-RESTER" #652-B, SEAMLESS COPPER CHAMBER APPROVED FOR CONCEALED INSTALLATION. P.D.I. SYMBOL "B" FOR UP TO 32 FIXTURE UNITS. INSTALL IN UPWARD POSITION.
SA-2	SHOCK ARRESTOR	-	-	1"	-	SIOUX CHIEF "HYDRA-RESTER" #654-CS, SEAMLESS COPPER CHAMBER APPROVED FOR CONCEALED INSTALLATION. P.D.I. SYMBOL "C" FOR UP TO 60 FIXTURE UNITS. INSTALL IN UPWARD POSITION.
HB-1	HOSE BIBB	-	-	3/4"	-	WOODFORD #24P-PC (OR MIFAB EQUAL) OPTIONAL POLISHED CHROME WALL HOSE VALVE WITH LOCKSHIELD, NON-REMOVABLE VACUUM BREAKER, AND OPTIONAL LOOSE TEE KEY HANDLE. WITH MODEL 34HD.
HB-2	HOSE BIBB (OUTSIDE)	-	-	3/4"	-	WOODFORD #24P-BR (OR MIFAB EQUAL) ROUGH BRASS WALL HOSE VALVE WITH LOCKSHIELD. NON-REMOVABLE VACUUM BREAKER, AND OPTIONAL LOOSE TEE KEY HANDLE WITH MODEL 34HD.
HB-3	HOSE BIBB (ROOF)	-	-	3/4"	-	WOODFORD #Y24-BR (OR MIFAB EQUAL) ROUGH BRASS STANDPIPE HOSE VALVE WITH NON-REMOVABLE VACUUM BREAKER, & OPTIONAL LOOSE TEE KEY HANDLE WITH MODEL 34HD.
WF-1	WATER FILTER ICE MACHINE	-	-	1/2"	-	EVERPURE "INSURE-ICE SINGLE I2000" #EV9324-01 w/#EV9612-22. 0.5 MICRON CARTRIDGE. PROVIDE (2) ADDITIONAL CARTRIDGES, (1.67) GPM MAX. FLOW, 9,000 GALLONS RATED CAPACITY.WALL BRACKET. PROVIDE A STEEL SUPPORT PLATE FOR MOUNTING FIXTURE WALL BRACKET PER DETAIL C/X/P101. OVERALL DIMENSIONS: 29.5H x 8.04"W x 5.25"D. WEIGHT: 9LBS
TP-1	TRAP PRIMER	-	-	1/2"	-	PRECISION PLUMBING PRODUCTS #P1-500 FOR UP TO (4) DRAINS SERVED #DU-4 DISTRIBUTION UNIT, #D-1212SS-CL, 12"x12" STAINLESS STEEL ACCESS PANEL w/CYLINDER LOCK.
TP-2	ELECTRONIC TRAP PRIMER	-	-	3/4"	-	PRECISION PLUMBING PRODUCTS MODEL #PT-4 (OR MIFAB EQUAL) RECESSED CABINET WITH FLUSH MOUNTED ACCESS DOOR AND CYLINDER LOCK. PROVIDE STAINLESS STEEL DOOR IN AREAS WITH CERAMIC TILE WALL FINISH. TRAP PRIMER IS FACTORY ASSEMBLED AND PRE-PIPED WITH COPPER MANIFOLD, INLET BALL VALVE, ELECTRIC SOLENOID VALVE, TIMER, AND VACUUM BREAKER. ELECTRICAL REQUIRED: 120V / 1ø 2 AMPS, REFER TO DRAWINGS FOR NUMBER OF DRAINS SERVED.
WH-1	ELECTRIC WATER HEATER	-	-	3/4"	3/4"	A.O. SMITH #DSE-50A-15, (OR BRADFORD WHITE EQUAL) 22"x28"x66-3/16" HIGH; 50 GALLON STORAGE CAPACITY, 88 GPH RECOVERY RATE AT 70°F. TEMP. RISE, 3/4"P&T RELIEF VALVE. SET WATER HEATER TO 125°F, WITH TMV-1 SET TO 120°F. REFER TO DETAIL A/X/P102. ELECTRICAL: 15,000 WATTS, 480V/3Ø ELEMENT, FLA=18.0. OPERATING WEIGHT = 850 LBS.
TET-1	EXPANSION TANK	-	-	3/4"	-	AMTROL "THERM-X-TROL" #ST-12-C-DD, SIX GALLON ASME RATED EXPANSION TANK WITH INLINE CONNECTIONS AND WITH FDA APPROVED BLADDER FOR POTABLE WATER USE. WT. = 87 LBS.
CP-1	CIRCULATING PUMP	-	-	-	3/4"	B&G/XYLEM LEAD-FREE WET ROTOR CIRCULATOR #NBF-25, (OR GRUNDFOS OR TACO EQUAL), THREE SPEED IN-LINE CENTRIFUGAL PUMP WITH B&G/XYLEM FLANGED IPS CONNECTIONS WITH INTEGRAL BALL AND CHECK VALVES. FLANGE SIZE TO MATCH HWR PIPE SIZE. 125 WATTS, 2940 RPM, 2.30 FLA. XYLEM EM#TC-1 AND AQS-3/4" COMBINATION TIME CLOCK AND AQUASTAT. 120V/1Ø, 15 LBS
TMV-1	THERMOSTATIC MIXING VALVE	-	-	3/4"	3/4"	BRADLEY "NAVIGATOR" HL45 MODEL #S59-3045-C-H-P-SS CHROME PLATED HI/LO THERMOSTATIC MIXING VALVE. 1.5 GPM MINIMUM FLOW CAPACITY, 24 GPM FLOW AT 15 PSIG PRESSURE DROP. 3/4" INLETS AND 1" OUTLET. SET OUTLET TEMPERATURE TO 120°F.
EDF-1	ELECTRIC DRINKING FOUNTAIN	2"	2"	1/2"	-	ELKAY ezH2O "Bi-LEVEL" MODEL #VRCTLDDWSK, CBC ACCESS COMPLIANT, WALL-MOUNT, VANDAL RESISTANT, NON-FILTERED, NON-REFRIGERATED BOTTLE FILLING STATION AND BI-LEVEL COOLER, GREEN TICKER DISPLAY, STAINLESS DRINKING FOUNTAIN. ELECTRONIC BOTTLE FILLER BUTTON WITH MECHANICAL FRONT BUTTON ACTIVATION CONTROLS. PROVIDE STEEL SUPPORT PLATES FOR MOUNTING FIXTURE PER DETAIL F/P5.1. ELECTRICAL REQUIRED: 115V/1Ø, 1.0 FLA., 15 WATTS WEIGHT: 115 LBS

PLUMBING FIXTURE AND EQUIPMENT SCHEDULE

MARK	FIXTURE	CONNECTION SIZES S or W	V	CW	HW	DESCRIPTION
WC-1	WATER CLOSET	4"	2"	1"	-	KOHLER "HIGHCLIFF ULTRA" #K-96057-SS ELONGATED BOWL, FLOOR MOUNT, TOP INLET SPUD, CBC ACCESS COMPLIANT, ANTI-MICROBIAL FINISH. ZURN #Z6200-HET-VC, (OR SLOAN EQUAL), METROFLUSH HIGH EFFICIENCY PISTON FLUSH VALVE WITH LEVER HANDLE AND VANDAL RESISTANT STOP CAP. (1.28 GALLONS/FLUSH). OLSONITE #95SSCT EXTRA HEAVY DUTY OPEN-FRONT WHITE SEAT WITH SELF-SUSTAINING STAINLESS STEEL CHECK HINGES. MOUNT FLUSH VALVE HANDLE ON WIDE SIDE OF STALL OR ROOM. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT.
WC-2	WATER CLOSET	4"	2"	1"	-	KOHLER "WELLCOMME ULTRA" #K-96053-SS ELONGATED BOWL, FLOOR MOUNT, STANDARD HEIGHT BOWL, TOP INLET SPUD, AND ANTI-MICROBIAL FINISH. ZURN #Z6200-HET-VC, (OR SLOAN EQUAL), METROFLUSH HIGH EFFICIENCY PISTON FLUSH VALVE WITH LEVER HANDLE AND VANDAL RESISTANT STOP CAP. (1.28 GALLONS/FLUSH), OLSONITE #95SSCT EXTRA HEAVY DUTY OPEN-FRONT WHITE SEAT WITH SELF-SUSTAINING STAINLESS STEEL CHECK HINGES.
U-1	URINAL	2"	2"	3/4"	-	KOHLER "DEXTER" #K-5452-ET-0, WALL MOUNT 0.125 GPF. WITH STAINLESS STEEL SECURED STRAINER.CBC ACCESS COMPLIANT, 0.125 GPF, WASHOUT STYLE. ZURN "AQUAVANTAGE" MODEL Z6003AV-ULF-VC (0.125 GPF), (OR SLOAN EQUAL), ULTRA LOW FLUSH VALVE WITH VANDAL RESISTANT STOP COVER. PROVIDE A STEEL SUPPORT PLATE FOR MOUNTING FIXTURE PER DETAIL C/X/P101. REFER TO URINAL MOUNTING DETAIL F/X/P101. REFER TO ARCH DWGS FOR ACCESSIBLE MOUNTING HEIGHT. PROVIDE 2" WCO ABOVE FLOOD RIM LEVEL OF FIXTURE.
L-1	LAVATORY	2"	2"	1/2"	-	KOHLER "KINGSTON" #K-2005, WALL-MOUNT, CBC ACCESS COMPLIANT, 21-1/4"x18-1/8", VIT. CHINA WITH 4" CENTER FAUCET HOLES. McGUIRE #155A GRID DRAIN, CHICAGO 3400-ABCP METERING FAUCET WITH (0.5 GPM) VANDAL PROOF PRESSURE COMPENSATING ECO-FLOW SPRAY OUTLET AND PUSH KNOB HANDLE. PROVIDE JAY R SMITH 723 CONCEALED ARM WALL CARRIER WITH A STEEL SUPPORT PLATE FOR MOUNTING FIXTURE PER DETAIL F/X/P102. ADJUST FAUCET RUN TIME TO 10 SECONDS. REFER TO ARCH DWGS FOR MOUNTING HEIGHT.
L-2	LAVATORY	2"	2"	1/2"	1/2"	KOHLER "KINGSTON" #K-2005, WALL-MOUNT, CBC ACCESS COMPLIANT, 21-1/4"x18-1/8", VIT. CHINA WITH 4" CENTER FAUCET HOLES., McGUIRE #155A GRID DRAIN,CHICAGO #3600-E2805AB DECK MOUNTED METERING FAUCET WITH (0.5 GPM) VANDAL PROOF PRESSURE COMPENSATING ECO-FLOW NON-AERATED LAMINAR SPRAY OUTLET AND PUSH KNOB HANDLE. PROVIDE JAY R SMITH 723 CONCEALED ARM WALL CARRIER WITH A STEEL SUPPORT PLATE FOR MOUNTING FIXTURE PER DETAIL C/X/P101. REFER TO LAVATORY CONCEALED ARM SUPPORT DETAIL F/X/P102. ADJUST FAUCET RUN TIME TO 10 SECONDS. LEONARD 170-LF-BP "ECO-MIX" THERMOSTATIC MIXING VALVE, LEAD FREE BODY. .25 GPM MINIMUM FLOW, 3/8" INLETS AND 3/8" OUTLET, ASSE 1070 COMPLIANT. MOUNT DIRECTLY BELOW SINK. PIPING FROM THE ANGLE STOPS TO THE THERMOSTATIC MIXING VALVE SHALL BE RIGID TUBING. SET HW TEMP FOR 110° F. REFER TO ARCH DWGS FOR MOUNTING HEIGHT.
S-1	THREE COMP. SINK	2" IW	-	1/2"	1/2"	JUST #NSFB-345-24RL-J, FREE STANDING, NSF CERTIFIED, TYPE 304 STAINLESS STEEL, TRIPLE COMPARTMENT SINK, (15"x24"x14" DEEP EACH BOWL SIZE), WITH 8" HIGH BACK SPLASH, AND 24" LONG LEFT AND RIGHT DRAIN BOARDS, CENTER DRAIN PLACEMENT, (3) "JUST" # J-35LAC-2 TWIST HANDLE DRAINS (2) " CHICAGO" #445-L9E35ABCP BACKSPLASH MOUNT FAUCETS WITH 9" SWING SPOUT AND 1.5 GPM FLOW OUTLET. (2) HOLES 8"O.C. CENTERED OVER PARTITIONS. OVERALL SINK LENGTH = 93".
S-2	HAND SINK	2"	2"	1/2"	1/2"	ADVANCE TABCO #7-PS-75 CBC ACCESS COMPLIANT, WALL HUNG, 18 GAUGE, TYPE 304 STAINLESS STEEL WASH SINK (20"x24") WITH 6"x14"x5" DEEP SINK BOWL SIZE, BACKSPLASH, AND WALL BRACKET, CHICAGO" #895-317E65VPXKAAB GOOSENECK FAUCET WITH 1.0 GPM VANDAL RESISTANT LAMINAR FLOW OUTLET AND LEVER HANDLES, "JUST" # J-115-FS GRID DRAIN WITH FLAT STRAINER, "LEONARD" #170-LF-BP-BRKT, POINT-OF-USE THERMOSTATIC MIXING VALVE WITH COLD WATER BYPASS AND WALL MOUNTING BRACKET. SET FAUCET SUPPLY TEMPERATURE TO 110°F. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT.
MS-1	MOP SINK	3"	2"	3/4"	3/4"	KOHLER "WHITBY" #K-6710, 28" x 28" FLOOR MOUNT, CORNER STYLE ENAMELED CAST IRON MOP SINK WITH #K-8940 RIM GUARD, #K-9146 GRID DRAIN, CHICAGO #897-CCP (OR T&S BRASS OR ZURN EQUAL) WALL MOUNTED POLISHED CHROME FAUCET WITH VACUUM BREAKERS, INTERGAL CHECK VALVES, STOPS, AND WALL BRACE. FLORESTONE #MR-370 60" HOSE WITH WALL BRACKET AND #MR-372 MOP HANGER. PROVIDE 3" W.C.O.
FD-1	FLOOR DRAIN	2"	1-1/2"	1/2"	-	JAY R. SMITH #2005Y-P050-HP (OR MIFAB OR ZURN EQUAL) DUCO CAST IRON BODY WITH 5" SQUARE NICKEL BRONZE STRAINER, NO-HUB OUTLET, TRAP PRIMER CONNECTION, AND HEELPROOF GRATE. REFER TO DETAILS C/X/P102 AND D/X/P102.

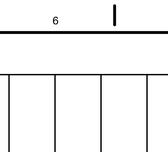
ELKAY SPECIFICATIONS

Elkay ezH2O Vandal-Resistant Bottle Filling Station & Bi-Level Cooler Non-Filtered Non-Refrigerated Stainless
Model VRCTLDDWSK

IMPORTANT!
INSTALLER PLEASE NOTE :
This water cooler has been designed and built to provide water to the user which has not been altered by materials in the cooler waterways. The grounding of electrical equipment such as telephone, computer, etc. to water lines is a common procedure. The grounding may be in the building but may also occur away from the building. This grounding can cause electrical feedback into a water cooler creating an electrolysis which creates a metallic taste or causes an increase in the metal content of the water. This condition is avoidable by installing the cooler using the proper materials as shown below.

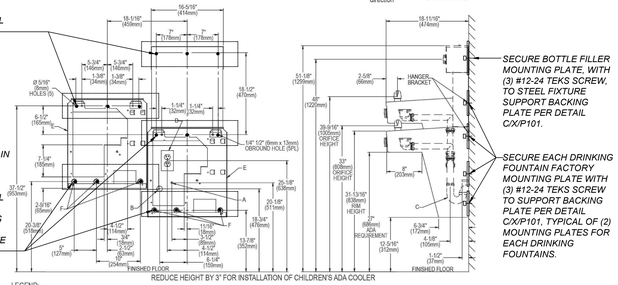
NOTICE
This water cooler must be connected to the water supply using a dielectric coupling. The cooler is furnished with a non-metallic strainer which meets this requirement. The drain trap which is provided by the installer should also be plastic to completely isolate the cooler from the building plumbing system.
Bottle filler unit on bracket attached to wall by 6 holes (as shown). Water and electrical will connect through pre-punched hole in basin.

OPERATION OF QUICK CONNECT FITTINGS



SECURE DRINKING FOUNTAIN AND FACTORY MOUNTING PLATES WITH (15) #12-24 TEKS SCREW TO SUPPORT BACKING PLATE PER DETAIL C/X/P101.

SECURE DRINKING FOUNTAIN AND FACTORY MOUNTING PLATES WITH (15) #12-24 TEKS SCREW TO SUPPORT BACKING PLATE PER DETAIL C/X/P101. (3) SCREWS PER PLATE, (2) BACKING PLATES PER DRINKING FOUNTAIN, ADDITIONAL BACKING PLATE FOR BOTTLE FILLET.



SECURE BOTTLE FILLER MOUNTING PLATE, WITH (3) #12-24 TEKS SCREW, TO STEEL FIXTURE SUPPORT BACKING PLATE PER DETAIL C/X/P101.

SECURE EACH DRINKING FOUNTAIN FACTORY MOUNTING PLATE WITH (3) #12-24 TEKS SCREW TO SUPPORT BACKING PLATE PER DETAIL C/X/P101. TYPICAL OF (2) MOUNTING PLATES FOR EACH DRINKING FOUNTAINS.

LEGEND:
A = Recommended Water Supply location. Shut-off Valve (not furnished) to accept 3/8" O.D. unplated copper tube. Up to 3" (76mm) maximum out from wall.
B = Recommended Waste Outlet location. To accommodate 1-1/2" nominal drain. Drain stub 2" (51mm) out from wall.
C = 1-1/2" Trap (not furnished).
D = Electrical Supply (3) Wire Recessed Box Duplex Outlet.
E = Insure proper ventilation by maintaining 6" (152mm) minimum clearance from cabinet louvers to wall.
F = 7/16" (11mm) Bolt Holes for fastening to wall.
Note : New Installations Must Use Ground Fault Circuit Interrupter (GFCI).

NOTE:
INFORMATION FOR SPECIFIC DRINKING FOUNTAIN MODEL NUMBER MAY VARY BASED ON ACCESSORIES SUCH AS REFRIGERATED, FILTERED, LEFT AND/OR RIGHT ORIENTATION. DETAIL SHOWN FOR MOUNTING PURPOSES ONLY. CONSULT MANUFACTURER'S INSTALLATION INSTRUCTION FOR MODEL SCHEDULED, DIMENSIONS, AND MOUNTING HEIGHT REQUIREMENTS. REFER TO ARCHITECTURAL ELEVATIONS FOR ACCESSIBILITY REQUIREMENTS.

In keeping with our policy of continuing product improvement, Elkay reserves the right to change product specifications without notice. Please visit elkay.com for the most current version of Elkay product specification sheets. This specification describes an Elkay product with design, quality, and functional benefits to the user. When making a comparison of other producers' offerings, be certain these features are not overlooked.

ELECTRIC DRINKING FOUNTAIN / BOTTLE FILLER DETAIL

SCALE: NONE

A / X/P201

DSA File No.: *20-30*
DSA Application No.: *02-123203*

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DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
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DATE: 09/11/2025
Agency Approval

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Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

PLUMBING SCHEDULES
Drawing

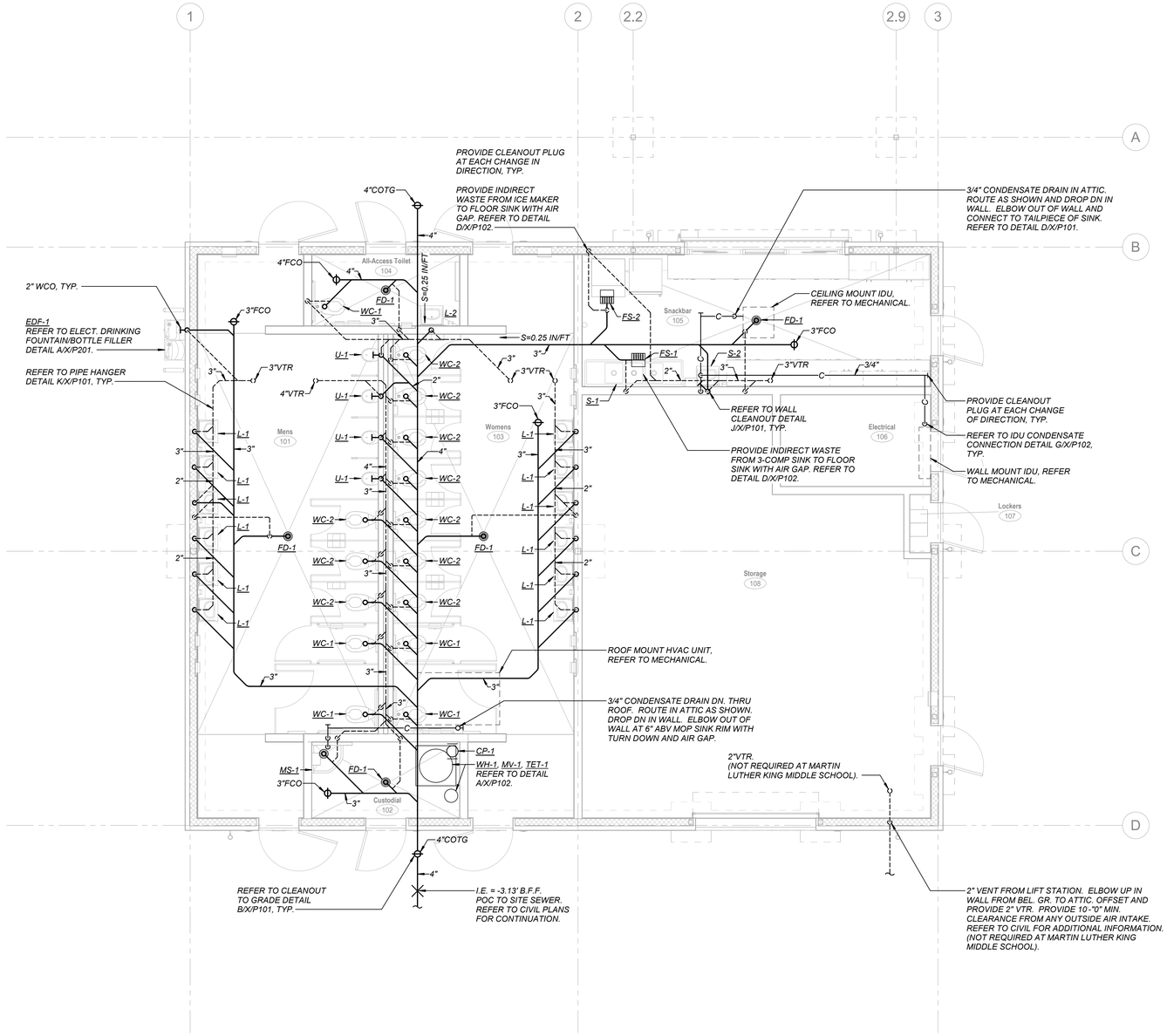
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No.	Revision/Submission	Date

Revision

	Designed By: -	Copyright 2022 Darden Architects
Scale:	Drawn By: -	X/P201
Project Number: 2470.1	Checked By: -	
Date: 12/10/24	Reviewed By: -	

29 August 2025 10:55 AM P:\2024\24133 MUSD ELOP\4-Drawings\5 PLANS - Desmond\X/P201 - PLUMBING SCHEDULES.dwg joshua sharp



DSA File No.:
20-30

DSA Application No.:
02-123203

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DATE: 09/11/2025

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General Notes

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Project

PLUMBING FLOOR PLAN

Drawing

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No.	Revision/Submission	Date

Revision

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Drawn By: Author
Checked Checker
Reviewed Approver

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Scale: 1/4" = 1'-0"
Project Number: 2470.2
Date: xx/xx/xx

S/P101

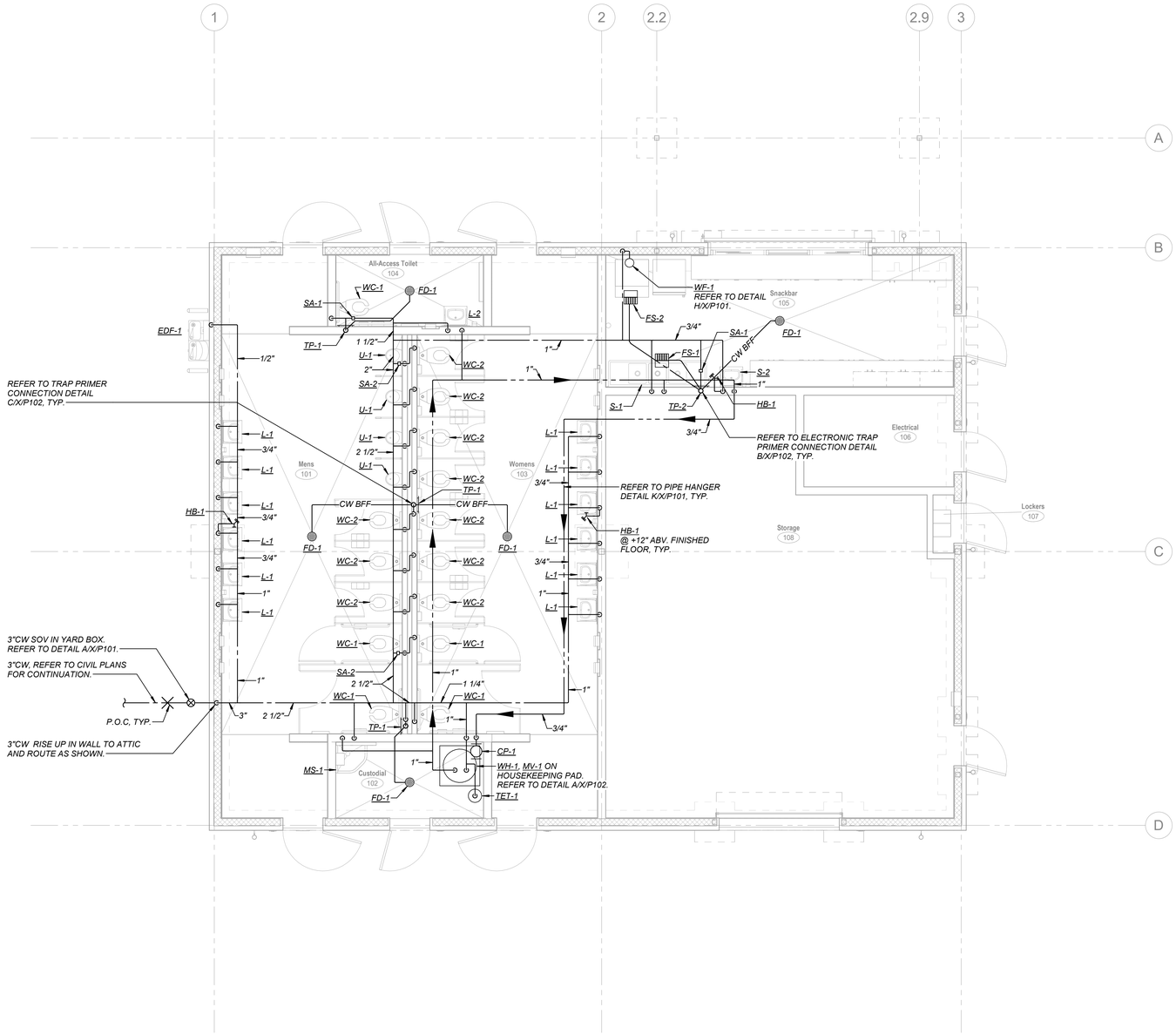
A1
1/4" = 1'-0"

PLUMBING FLOOR PLAN - SEWER, WASTE, VENT, AND CONDENSATE

Building Orientation on Site
Building View Orientation N

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Desmond MS



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Project

PLUMBING FLOOR PLAN

Drawing

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	Designed Designer	Copyright 2022 Darden Architects
Scale: 1/4" = 1'-0"	Drawn By: Author	S/P102
Project Number: 2470.2	Checked fChecker	
Date: xx/xx/xx	ReviewevApprover	

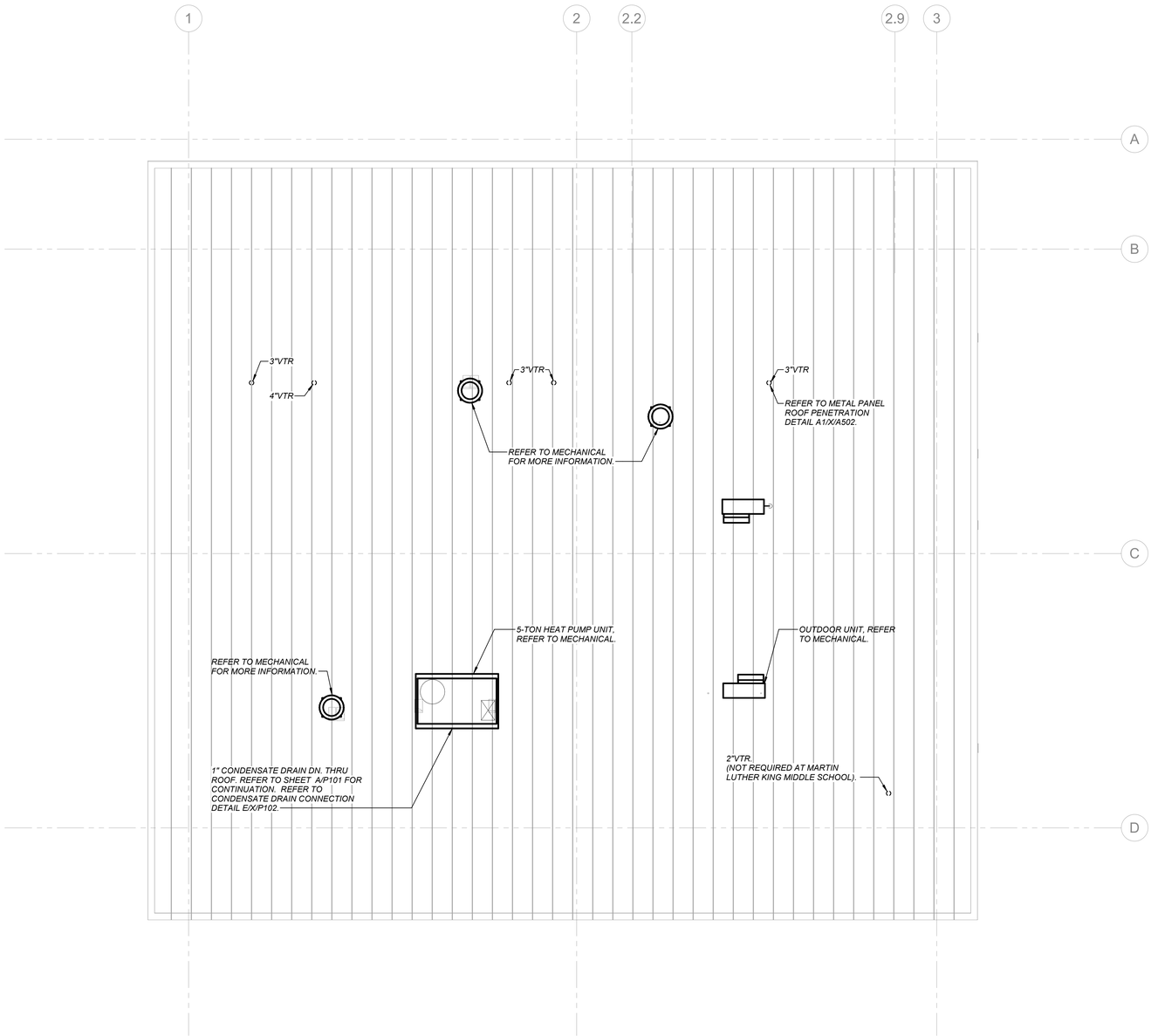
A1
1/4" = 1'-0"

PLUMBING FLOOR PLAN - DOMESTIC COLD WATER AND HOT WATER

Building Orientation on Site
Building View Orientation N

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Desmond MS



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20-30

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Project

PLUMBING ROOF PLAN

Drawing

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Revision

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Drawn By: Author
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Reviewed Approver

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Scale: 1/4" = 1'-0"
Project Number: 2470.2
Date: xx/xx/xx

S/P202

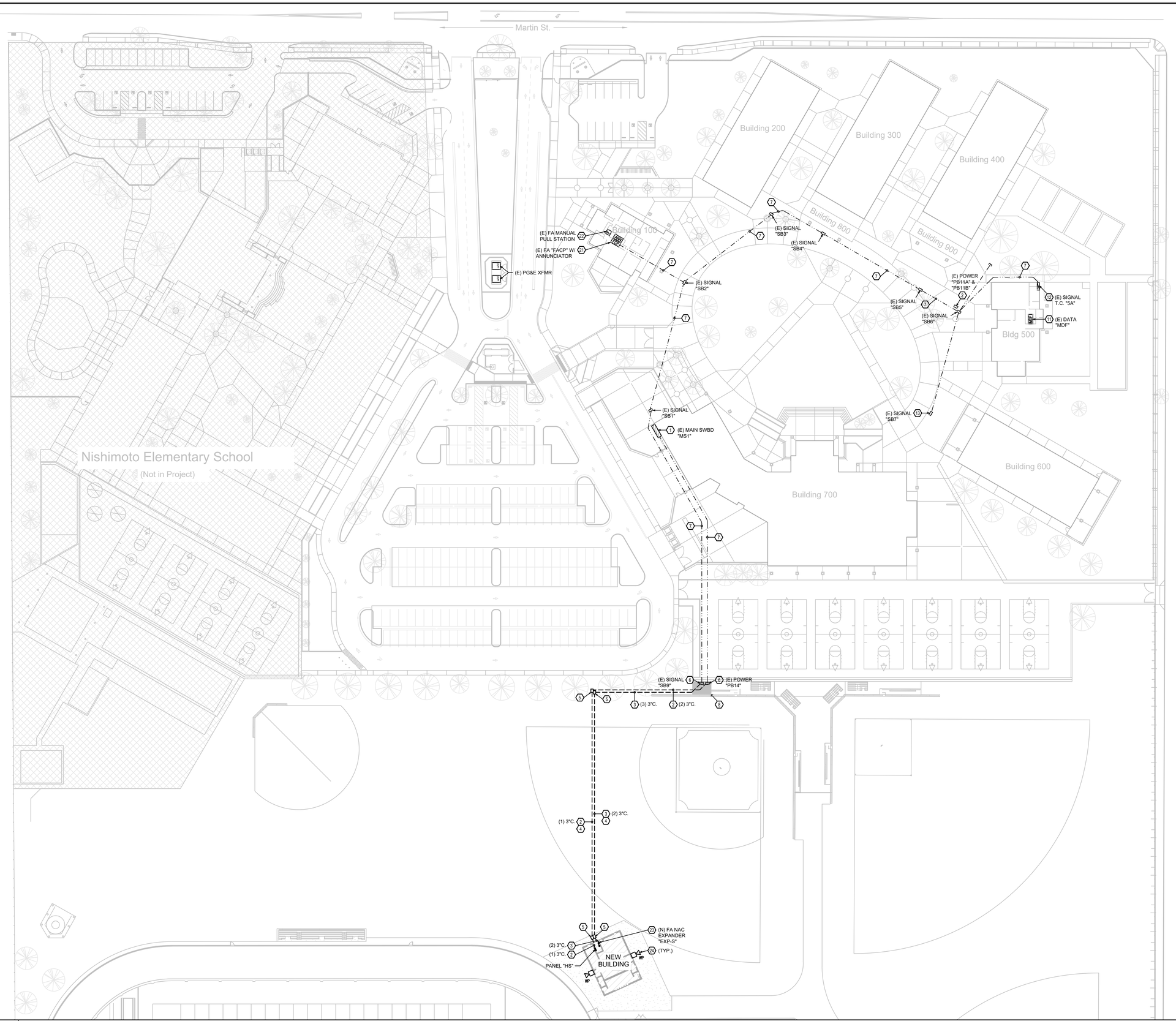
A1
1/4" = 1'-0"

PLUMBING ROOF PLAN

Building Orientation on Site
Building View Orientation

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Desmond MS



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KEY NOTES ⬡

1. EXISTING MAIN SWITCHBOARD. SEE POWER SINGLE LINE DIAGRAM L13/X/E301.
2. POWER CONDUITS - QUANTITIES AND SIZES SHOWN. PROVIDE FEEDERS AS PER L13/X/E301. PROVIDE PULL LINE IN SPARE CONDUITS.
3. ELECTRONIC SYSTEMS CONDUITS - QUANTITIES AND SIZES SHOWN. PROVIDE MAXCELL EDGE 4-CELL FABRIC INNERDUCT IN ALL CONDUITS. PROVIDE CABLING PER K13/X/E401.
4. DIRECTIONAL BORE THIS RUN.
5. B2436 VAULT PER M10/X/E102.
6. BRING NEW CONDUITS INTO EXISTING VAULT.
7. PULL CABLES HOME THRU EXISTING CONDUITS. DISCONNECT AND REMOVE REMOVE ANY EXISTING CABLING, ADD NEW CABLES, THEN PULL BACK AND RETERMINATE AS REQUIRED. REFER TO L13/X/E301 FOR POWER AND K13/X/E401 FOR ELECTRONIC SYSTEMS.
8. CUT AND REMOVE EXISTING AC PAVING THEN REPLACE TO MATCH AFTER INSTALLING CONDUITS.
21. EXISTING FIRE ALARM CONTROL PANEL WITH ANNUNCIATOR AT ADMIN BUILDING OFFICE AREA.
22. EXISTING FIRE ALARM MANUAL PULL STATION AT ADMIN BUILDING RECEPTION AREA.
23. NEW NAC EXPANDER PANEL. SEE FIRE ALARM SHEETS.
24. WEATHERPROOF EXTERIOR FIRE ALARM HORN LOCATION.

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LICENSED ARCHITECT REGISTERED PROFESSIONAL No. C-30235 Exp. 10-31-26 STATE OF CALIFORNIA

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

SITE DEVELOPMENT
OVERALL SITE ELECTRICAL PLAN
Drawing

No.	Revision/Submission	Date

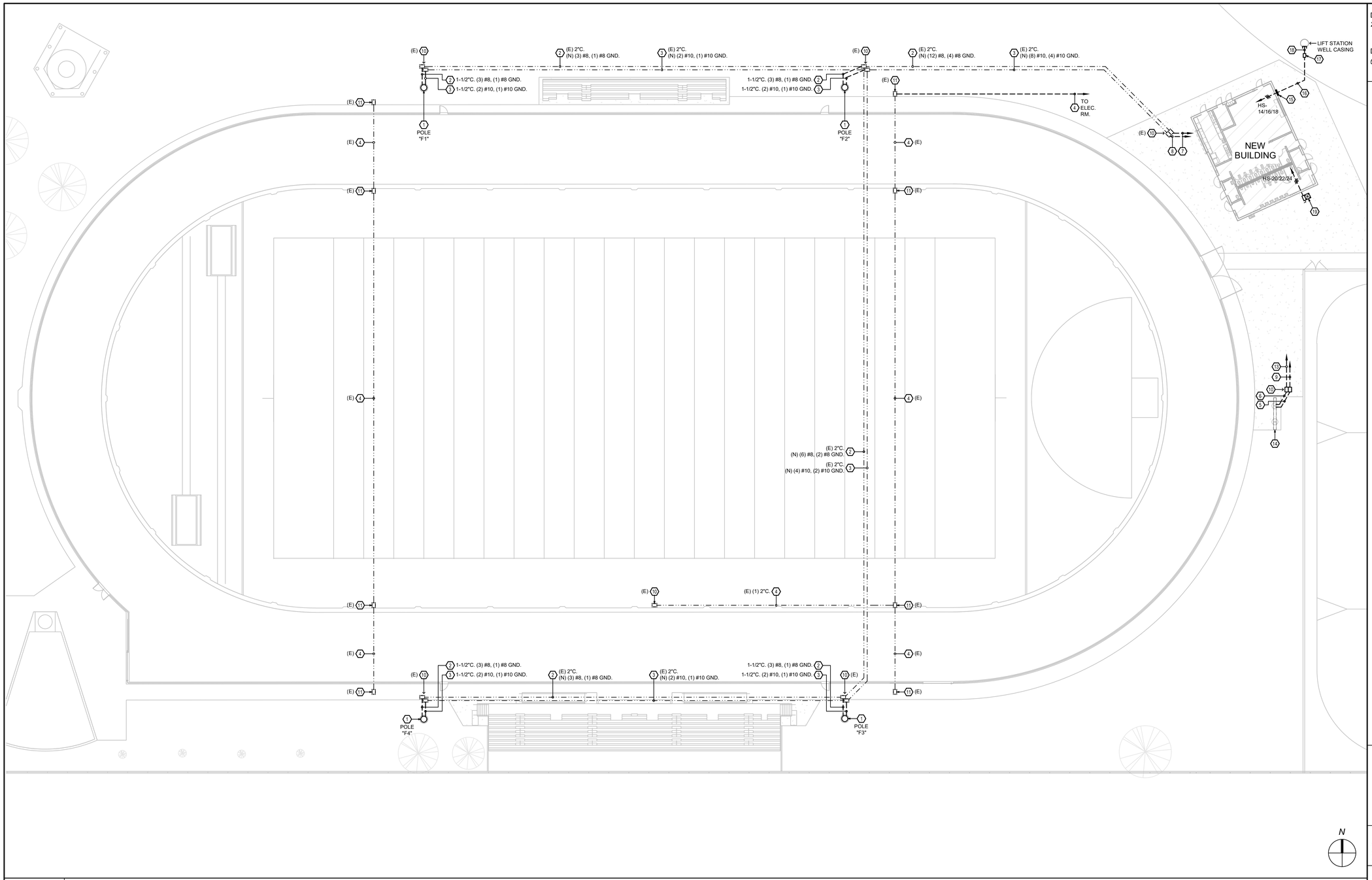
Revision

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Scale: As Indicated	Designed By: SD	SD/E101
Project Number: 2470.2	Drawn By: HDE	
Date: 8/29/2025	Checked By: SD	
	Reviewed By: SD	

A1 Overall Site Electrical Plan
Scale: 1" = 40'-0"

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D1 Site Electrical Plan

Scale: 1" = 20'-0"

DSA File No.: *20-30*

DSA Application No.: *02-123203*

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KEY NOTES

1. MUSCO POLE LOCATION. BRING CONDUITS INTO POLE THROUGH SLOT IN CAISSON. PULL IN CONDUCTORS AND CONNECT TO MUSCO DISTRIBUTION CABINETS. CONNECT ALL LIGHT SYSTEMS PER FACTORY DRAWINGS. REFER TO K5/X/E201 AND A7/X/E301.
2. NORMAL LIGHTING - QUANTITIES AND SIZES OF CONDUITS AND CONDUCTORS NOTED.
3. EMERGENCY LIGHTING - QUANTITIES AND SIZES OF CONDUITS AND CONDUCTORS NOTED.
4. (2) 2"C. SPARES WITH MULE TAPE.
5. 2"C. SCOREBOARD / BLEACHER POWER.
6. 2"C. SCOREBOARD ELECTRONICS.
7. HOMERUN TO MUSCO CMC WITH 2"C. (12) #8, (4) #8 GND. AND CONNECT.
8. HOMERUN TO MUSCO ALIC WITH 2"C. (8) #10, (4) #10 GND. AND CONNECT.
9. HOMERUN TO PANEL LS WITH 1-1/2"C. AND PANEL HS WITH 1-1/2"C.
10. B1324 VAULTS.
11. B1730 VAULT.
12. VERIFY LOCATION OF CONDUIT TERMINATIONS WITH BLEACHER VENDOR.
13. HOMERUN TO IDF WITH 2"C. FOR SCOREBOARD ELECTRONICS.
14. SCOREBOARD - SEE ARCHITECTURAL AND REFER TO DETAIL G14/X/E102. HOMERUN TO PANEL LS CIRCUIT LS-27 WITH (2) #10, (1) #10 GND. PROVIDE ON/OFF SWITCH IN CONCESSION - SEE S/E201.
15. LIFT STATION CONTROL PANEL AND WP FUSIBLE DISCONNECT SWITCH. INSTALL SENSORS AND MOTOR CABLES. SEE CIVIL DETAILS A,B/SD/X202 AND FACTORY DRAWINGS.
16. 2"C. WITH MOTOR AND SENSOR CABLING.
17. B1017 VAULT WITH EXTENSION AND BOLT-DOWN STEEL LID WITHIN 10 FT. OF THE CLASS I, DIV 1 BOUNDARY (WELL CASING). RISE GRS FROM WELL CASING AT INTERIOR AND PROVIDE EXPLOSION-PROOF CONDUIT SEAL. PASS CABLES FROM CONTROL PANEL TO WET WELL AND SEAL FIITING. REFER TO M10/X/E102 AND REFERENCE CEC 501.15(A)(4).
18. 2"C. CONTINUOUS GRS (WITHOUT UNION OR COUPLING) FROM VAULT TO WELL CASING. PROVIDE DUXSEAL AT CONDUIT OPENING AT WELL CASING AFTER INSTALLING CABLES. REFERENCE CEC 501.15(A)(4).
19. WATER BOOSTER PUMP SKID. PROVIDE WP FUSIBLE DISCONNECT SWITCH AND MAKE CONNECTION.

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LICENSED ARCHITECT DAVID J. AVILA No. C26235 Exp. 10-31-25 STATE OF CALIFORNIA

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

SITE DEVELOPMENT
SITE ELECTRICAL PLAN
Drawing

No.	Revision/Submission	Date

Revision

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Project Number: 2470.2	Checked By: SD	
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ELECTRICAL SYMBOLS

	SYMBOL	DESCRIPTION	NOTES
LIGHTING		POLE WITH POST TOP AREA LUMINAIRE	
		POLE WITH SINGLE AREA LUMINAIRE	
		POLE WITH DOUBLE AREA LUMINAIRES	
		LAY-IN LIGHT FIXTURE	
		SURFACE CEILING LIGHT	
		RECESSED DOWN LIGHT	
		WALL LIGHT	
		EXIT SIGN, CEILING	ARROWS INDICATE CHEVRON DIRECTIONS
		EXIT SIGN, WALL	ARROWS INDICATE CHEVRON DIRECTIONS
	(A)	FIXTURE TYPE "A"	REFER TO FIXTURE SCHEDULE
		FIXTURE W/ BATTERY BACKUP	PROVIDE UNSWITCHED HOT TO BATTERY PACK
	$	SWITCH AT +48" AFF TO TOP OF BOX	20A 277V QUIET TOGGLE
	Φ	WALL MOUNTED DUAL TECH OCCUPANCY SENSOR SWITCH, 0-10V DIMMING, AT +48" AFF TO TOP OF BOX	ROUGH IN WITH 1G BOX PER SWITCH W/ RING, 1"C. TO ACCESSIBLE ATTIC SPACE
	Φ_{EF}	WALL MOUNTED ULTRASONIC OCCUPANCY SENSOR SWITCH, W/ SEPARATE EXHAUST FAN RELAY, AT +48" AFF TO TOP OF BOX.	ROUGH IN WITH 1G BOX PER SWITCH W/ RING, 1"C. TO ACCESSIBLE ATTIC SPACE
	Ⓢ	DIGITAL WIRELESS ON/OFF SWITCH, AT +48" AFF TO TOP OF BOX. nLIGHT AIR SYSTEM.	ROUGH IN WITH 1G BOX & RING, 1"C. TO ACCESSIBLE ATTIC. CONSTANT 120-277V LIGHTING CIRCUIT
	Ⓓ	DIGITAL WIRELESS DIMMER SWITCH, AT +48" AFF TO TOP OF BOX. nLIGHT AIR SYSTEM.	ROUGH IN WITH 1G BOX & RING, 1"C. TO ACCESSIBLE ATTIC. CONSTANT 120-277V LIGHTING CIRCUIT
	$Ⓓ_{OS}$	DIGITAL WIRELESS DIMMER SWITCH W/ INTEGRAL OCCUPANCY SENSOR AND PHOTOSENSOR, AT +48" AFF TO TOP OF BOX. nLIGHT AIR SYSTEM.	ROUGH IN WITH 1G BOX & RING, 1"C. TO ACCESSIBLE ATTIC. CONSTANT 120-277V LIGHTING CIRCUIT
	OS	DIGITAL WIRELESS OCCUPANCY SENSOR W/ PHOTOSENSOR, CEILING MOUNTED. nLIGHT AIR SYSTEM.	REQUIRES 24VDC PACK.
	HOS	DIGITAL WIRELESS OCCUPANCY SENSOR W/ PHOTOSENSOR, WALL MOUNTED. nLIGHT AIR SYSTEM.	ROUGH IN WITH 1G BOX & RING, 1"C. TO ACCESSIBLE ATTIC. REQUIRES 24VDC PACK.
	GW	DIGITAL GATEWAY. nLIGHT AIR SYSTEM.	PROVIDE (1) GATEWAY AT EACH BUILDING AND CONNECT TO LAN. PROVIDE BOX/OUTLET AT GATEWAY LOCATION FOR POWER SUPPLY.
	PP	DIGITAL WIRELESS DIMMING POWER PACK, VERIFY 0-10V, 2- OR 3-WIRE, MLV, OR ELV BY FIXTURE. nLIGHT AIR SYSTEM.	MOUNT PACK TO J-BOX IN ACCESSIBLE ATTIC SPACE OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING.
	PP_E	DIGITAL WIRELESS DIMMING POWER PACK, W/ EMERGENCY CONTROL RELAY. nLIGHT AIR SYSTEM.	MOUNT PACK TO J-BOX IN ACCESSIBLE ATTIC SPACE OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING.
	RR	DIGITAL WIRELESS RECEPTACLE CONTROL RELAY CONTROLLED BY OCCUPANCY SENSOR. nLIGHT AIR SYSTEM.	MOUNT PACK TO J-BOX IN ACCESSIBLE ATTIC SPACE OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING. (1) RELAY PER CIRCUIT IN EACH CONTROLLED AREA.
		PRIMARY DAYLIGHT ZONE BOUNDARY	
		SECONDARY DAYLIGHT ZONE BOUNDARY	
POWER		SWITCHBOARD	REFER TO POWER SINGLE LINE DIAGRAM
		POWER PANEL	REFER TO PANEL SCHEDULE
		JUNCTION BOX	4-11/16" SQUARE BOX & COVER PLATE MIN.
		DISCONNECT SWITCH, FUSIBLE	REFER TO MECH. PLANS & SPECS.
		COMBINATION STARTER/DISCONNECT SWITCH	REFER TO MECH. PLANS & SPECS.
		MOTOR	REFER TO MECH. PLANS & SPECS.
		EXHAUST FAN, CEILING MOUNTED	REFER TO MECH. PLANS & SPECS.
		DUPLEX CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, NEMA GROUNDED TAMPER RESISTANT, LEVITON #TDR20-W
		QUADPLEX CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, NEMA GROUNDED TAMPER RESISTANT, LEVITON #TDR20-W
		GFI DUPLEX OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, NEMA GROUNDED TAMPER RESISTANT, LEVITON #X7899-W OR GFI CIRCUIT BREAKER WITH #TDR20-W RECEPTACLE. SEE PANEL SCHEDULE.
		WEATHERPROOF, GFI DUPLEX OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N. W/ WEATHERPROOF IN-USE TYPE COVER	20A SPEC. GRADE, NEMA GROUNDED TAMPER RESISTANT, LEVITON #X7899-W
		DUPLEX CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N. SPLIT-WIRED WITH UNSWITCHED AND SWITCHED BY OCCUPANCY SENSOR	20A SPEC. GRADE, NEMA GROUNDED TAMPER RESISTANT, LEVITON #TDR20-S1W CODE COMPLIANT MARKING REQUIRED
		QUADPLEX CONVENIENCE OUTLET, CONTROLLED AT +15" AFF TO BOTTOM OF BOX, U.O.N. ONE UNSWITCHED AND ONE SWITCHED BY OCCUPANCY SENSOR	20A SPEC. GRADE, NEMA GROUNDED TAMPER RESISTANT, LEVITON #TDR20-W AND LEVITON #TDR20-S2W CODE COMPLIANT MARKING REQUIRED
		SPECIAL EQUIPMENT OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	VERIFY REQ'TS W/ EQUIPMENT VENDOR TAMPER RESISTANT
		COPPER GROUND BUS BAR	3/4"C. WITH #6 GREEN GROUND WIRE TO G.E.C.
MISC.		FIRE/SMOKE DAMPER	PROVIDE 120V F.A. CIRCUIT TO DAMPER VIA DEDICATED F.A. RELAY
	B	SPRINKLER RISER BELL	PROVIDE 120V F.A. CIRCUIT
		WIREMOLD 5400 SURFACE WIREWAY	RISERS WHERE INDICATED ON DRAWINGS

	SYMBOL	DESCRIPTION	NOTES
GENERAL		EXISTING DEVICES	
		EXISTING CONDUIT/WIRING	
		WIRING IN CONDUIT, BELOW GRADE	1" CONDUIT MIN. SEE DETAIL 1/E-3.0.
		WIRING IN CONDUIT, IN WALL OR CEILING	3/4" CONDUIT MIN.; EMT CONCEALED AND ABV. 96" EXPOSED; GRS BELOW 96" EXPOSED
		INDICATES INVERTER CIRCUIT WIRING	EMERGENCY CIRCUIT AND NORMAL CIRCUIT WIRING SHALL NOT BE RUN IN THE SAME RACEWAY
	LV	LOW VOLTAGE WIRING IN ATTIC SPACE	TYPE PER EQUIPMENT MANUFACTURER
		CONDUIT RISER	3/4" CONDUIT MIN.
		FLEXIBLE CONDUIT	3/4" CONDUIT MIN.
		CONDUIT STUB AND CAP	3/4" CONDUIT MIN.
	3	CROSS HATCHES INDICATE NUMBER OF #12 AWG. CONDUCTORS IN CONDUIT, WHEN MORE THAN TWO. WIRE SIZE INDICATED ON PLANS WHEN OTHER THAN #12 AWG. PROVIDE GROUND PER CEC 250. PROVIDE DEDICATED NEUTRAL FOR EACH CIRCUIT.	3/4" CONDUIT MIN.
		CURVED CROSS HATCHES INDICATE #14 AWG PURPLE & GRAY CONDUCTORS FOR DIMMING CONTROL.	3/4" CONDUIT MIN.
	A-15	HOME RUN (TO PANEL "A", CIRCUIT "15")	3/4" CONDUIT MIN.
	(E)	"EXISTING"	
	(N)	"NEW"	
	U.O.N.	"UNLESS OTHERWISE NOTED"	
	WP	"WEATHERPROOF" / NEMA 3R	
	GFI	"GROUND FAULT INTERRUPTER"	
DATACOM		TERMINAL CABINET	
		DATA OUTLET (RJ-45 CAT6) WITH (2) JACKS AT +18" AFF, U.O.N. QTY. OF JACKS NOTED WHEN NOT (2)	4-11/16 SQ. BOX, 1G RING, MODULAR PLATE, AND 1"C. TO ACCESSIBLE ATTIC SPACE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE EACH END. SEE SPECIFICATIONS FOR ADDITIONAL REQUIRMENTS.
		(2) WAP DATA JACKS (RJ-45 CAT6A) MOUNTED IN ATTIC SPACE.	SEE DETAIL 1/E-4.0.
		WALL MOUNT VoIP OUTLET (RJ-45 CAT6) AT +45" AFF, U.O.N.	4-11/16 SQ. BOX, 1G RING, MODULAR PLATE, AND 3/4"C. TO ACCESSIBLE ATTIC SPACE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE EACH END. SEE SPECIFICATIONS FOR ADDITIONAL REQUIRMENTS.
	MDF	MAIN DISTRIBUTION FRAME	
	IDF	INTERMEDIATE DISTRIBUTION FRAME	
	TEL	TELEPHONE SYSTEM HEAD END EQUIPMENT	
	TT	TELEPHONE SYSTEM TERMINAL BLOCK	
PA/CLK		PUBLIC ADDRESS CEILING SPEAKER, RECESSED	VALCOM - MATCH EXISTING ON SITE. 18/2 SPEAKER CABLING.
		PUBLIC ADDRESS WALL SPEAKER, RECESSED	VALCOM - MATCH EXISTING ON SITE. 18/2 SPEAKER CABLING.
	WP	PUBLIC ADDRESS WP VANDAL SPEAKER, RECESSED	VALCOM - MATCH EXISTING ON SITE. 18/2 SPEAKER CABLING.
	SC	PUBLIC ADDRESS WALL SPEAKER & WIRELESS CLOCK , RECESSED MOUNT	VALCOM SPEAKER, PRIMEX CLOCK - MATCH EXISTING ON SITE. 18/2 SPEAKER CABLING.
		IP WIRELESS WALL CLOCK, 12" ANALOG	PRIMEX - MATCH EXISTING ON SITE.
	PA	P.A. SYSTEM HEAD END	
	PT	P.A. SYSTEM TERMINAL BLOCK	
AUDIO/VIDEO	PR	WALL PROJECTOR LOCATION SURGE PROTECTED QUAD POWER OUTLET, (1) DATA JACK, (1) HDMI JACK (VERIFY LOCATION PRIOR TO ROUGH-IN)	LOCAL JACKS CONCEALED BEHIND PROJECTOR HOUSING. INSTALL 2-GANG BOX W/ (2) 1-1/4"C. TO ACCESSIBLE ATTIC SPACE. PULL HDMI CABLE TO A/V INPUT JACK AND TERMINATE. PROVIDE HDMI EXTENDER AS REQUIRED. PULL DATA TO IDF.
	TS	TEACHER STATION AT +18" AFF (2) DATA JACKS, (1) HDMI JACK (VERIFY LOCATION PRIOR TO ROUGH-IN)	INSTALL 2-GANG BOX W/ (2) 1-1/4"C. TO ACCESSIBLE ATTIC SPACE. PULL HDMI CABLE TO A/V SOURCE. PULL DATA TO IDF.
	AV	AUDIO/VIDEO INPUT PLATE AT +18" AFF (1) HDMI JACK (VERIFY LOCATION PRIOR TO ROUGH-IN)	INSTALL 1-GANG BOX W/ (1) 1-1/4"C. TO ACCESSIBLE ATTIC SPACE. PULL HDMI CABLE TO A/V SOURCE.
	TV	SMART TV LOCATION (2) DATA JACKS, (1) GARVIN #72181-DTA W/ (1) MONSTER #JHIU0129 (VERIFY LOCATION PRIOR TO ROUGH-IN)	INSTALL 1-GANG BOX W/ (1) 1"C. TO ACCESSIBLE ATTIC SPACE FOR DATA. INSTALL 4-11/16" SQ x 3.3" DEEP BOX W/ (2) 2"C. KNOCKOUTS, 2-GANG RING, AND 2-GANG BRUSH WALL PLATE, W/ (1) 2"C. TO ACCESSIBLE ATTIC SPACE. PULL HDMI CABLE TO A/V SOURCE. PULL DATA TO IDF.
INTRUSION / SURVEILLANCE		INTRUSION DOOR/WINDOW CONTACT	PROVIDE 1/2"C TO ACCESSIBLE ATTIC SPACE
	M	INTRUSION PIR MOTION SENSOR AT CEILING	ROUGH IN WITH 1G BOX & 1/2"C. TO ACCESSIBLE ATTIC SPACE
	M	INTRUSION MOTION SENSOR AT WALL	ROUGH IN WITH 1G BOX & 1/2"C. TO ACCESSIBLE ATTIC SPACE
	GB	INTRUSION GLASS BREAK SENSOR AT CEILING	ROUGH IN WITH 1G BOX & 1/2"C. TO ACCESSIBLE ATTIC SPACE
	P	INTRUSION STAFF PANIC BUTTON	ROUGH IN WITH 1G BOX & 1/2"C. TO ACCESSIBLE ATTIC SPACE
	K	INTRUSION KEY PAD AT +48" AFF TO TOP OF BOX	ROUGH IN WITH 1G BOX & 1/2"C. TO ACCESSIBLE ATTIC SPACE
	4	INTRUSION 4-ZONE ADDRESSABLE MODULE IN ACCESSIBLE ATTIC SPACE	
	C	SURVEILLANCE (CCTV) CAMERA EXACT LOCATIONS DETERMINED IN FIELD PER OWNER C=CEILING MOUNTED	JUNCTION BOX WITH 1"C. TO ACCESSIBLE ATTIC SPACE. PROVIDE CAT6 CABLE TO EACH CAMERA. VERIFY REQUIREMENTS AND LOCATION PRIOR TO ROUGH-IN.
	VMS	SURVEILLANCE (CCTV) DVR	
	ISCM	INTRUSION SYSTEM MAIN PANEL	
	INT	INTRUSION SYSTEM TERMINAL BLOCK	

ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL MEET THE LATEST ADOPTED ADDITIONS OF THE CALIFORNIA CODE OF REGULATIONS, TITLE 24 AND ALL OTHER APPLICABLE REGULATIONS, WHICH INCLUDE:

CALIFORNIA BUILDING CODE	2022
CALIFORNIA ELECTRICAL CODE	2022
NON RESIDENTIAL CEC ENERGY STANDARDS	2022

2. NOTHING IN THE PLANS OR SPECIFICATIONS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
3. IT IS THE INTENTION OF THESE PLANS AND SPECIFICATIONS TO COVER EVERYTHING REQUIRED TO PROVIDE FOR COMPLETE AND OPERATIVE SYSTEMS. THE CONTRACTOR IS TO FURNISH LABOR, MATERIAL, TRANSPORTATION, EQUIPMENT, MISCELLANEOUS SERVICES, ETC. REQUIRED TO ACCOMPLISH THIS RESULT. ANYTHING WHICH MAY BE REASONABLY CONSTRUED AS A NECESSARY PART OF THE INSTALLATION IS TO BE INCLUDED, WHETHER OR NOT SPECIFICALLY SHOWN OR MENTIONED.
4. THE CONTRACTOR SHALL EXAMINE THE SITE AND EXISTING CONDITIONS AND MAKE ALLOWANCES IN THE BID FOR ANY CONDITIONS NOT SHOWN ON THE ELECTRICAL DOCUMENTS.
5. THE PLANS AND SPECIFICATIONS ARE INTENDED TO BE USED AS CONSTRUCTION GUIDELINES AND ARE NOT THE TOTAL INSTRUMENT OF CONTRACT DOCUMENTS. IT IS NOT THE INTENTION OF ANY CONSTRUCTION PLANS TO DIVIDE WORK AMONG DIFFERENT TRADES. VERIFY THE SCOPE OF WORK WITH THE ARCHITECT AND THE GENERAL CONTRACTOR.
6. ELECTRICAL ROUTING IS DIAGRAMMATIC ONLY. ACTUAL ROUTING & PHYSICAL CONDITIONS MAY VARY. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL ROUTING, CONNECTIONS, & PROVISION OF ALL APPURTENANCES NECESSARY FOR A COMPLETE & OPERATING SYSTEM.
7. ELECTRICAL EQUIPMENT SHALL HAVE AN APPROVED TESTING LABORATORY LABEL ATTACHED (UL, CSA ETC.) PER CEC 110.2.
8. PROVIDE LABELING AND DIRECTORIES FOR ALL SWITCHBOARDS AND PANELBOARDS PER CEC 408.4. REFER TO E1/X/E101 FOR LABELS.
9. ELECTRICAL EQUIPMENT SHALL HAVE A SHORT CIRCUIT CURRENT RATING CAPABLE OF WITHSTANDING THE AVAILABLE SHORT CIRCUIT CURRENT PER CEC 110.9.
10. PROVIDE MINIMUM 30" WIDE x 78" HIGH x 36" DEEP WORK CLEARANCES IN FRONT OF PANELS, SERVICE OR EQUIPMENT RATED AT 120/208V 3Ø 4W PER CEC 110.26.
11. ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUIT OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE MOUNTED BETWEEN 15" AFF AND 48" AFF AND SHALL COMPLY WITH CBC SECTION 11B-308. THE LOW REACH SHALL BE MEASURED TO THE BOTTOM OF THE OUTLET BOX AND THE HIGH REACH SHALL BE MEASURED TO THE TOP OF THE OUTLET BOX. IF THE REACH IS OBSTRUCTED (E.G. BY CASEWORK, COUNTERS, ETC.), RECEPTACLES SHALL BE LOCATED WITHIN THE REACH RANGES SPECIFIED IN CBC 11B-308.2.2 AND 11B-308.3.2.
12. CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF A ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES, OR COOLING, HEATING AND VENTILATING EQUIPMENT SHALL BE MOUNTED BETWEEN 15" AFF AND 48" AFF AND SHALL COMPLY WITH CBC SECTION 11B-308. THE LOW REACH SHALL BE MEASURED TO THE BOTTOM OF THE OUTLET BOX AND THE HIGH REACH SHALL BE MEASURED TO THE TOP OF THE OUTLET BOX. IF THE REACH IS OBSTRUCTED (E.G. BY CASEWORK, COUNTERS, ETC.), SWITCHES AND CONTROLS SHALL BE LOCATED WITHIN THE REACH RANGES SPECIFIED IN CBC 11B-308.2.2 AND 11B-308.3.2.
13. ALL WALL AND SURFACE MOUNTED FIXTURES PROTRUDING IN THE PATH OF TRAVEL (POT) OR COMMON PEDESTRIAN WAYS SHALL COMPLY WITH CBC 11B-307.2, OR SHALL BE MOUNTED LESS THAN 27" AFF OR GREATER THAN 80" AFF, OR SHALL BE PROVIDED WITH A BARRIER CONFORMING TO CBC 11B-307.4.
14. EMERGENCY EGRESS LIGHTING SHALL PROVIDE A MINIMUM LUMINANCE OF 1 FOOTCANDLE AT THE WALKING SURFACE FOR A MINIMUM OF 90 MINUTES.
15. FIRE ALARM EQUIPMENT SHALL BE SERVED BY DEDICATED FIRE ALARM BRANCH CIRCUITS PER NFPA 72 10.6.5.1.2. THE CIRCUIT NUMBER SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM EQUIPMENT PER NFPA 10.6.5.2.1. THE CIRCUIT BREAKER SHALL BE EQUIPPED WITH RED HANDLE AND LOCK-ON DEVICE, AND PERMANENTLY IDENTIFIED AS "FIRE ALARM CIRCUIT" PER NFPA 72 10.6.5.2.2, 10.6.5.2.3, 10.6.5.2.4, AND 10.6.5.4.
16. WIRING FOR 120/208V AND 277/480V SYSTEMS SHALL BE MIN. #12 AWG THHN/THWN COPPER.
17. FEEDERS SIZE #4 AND LARGER SHALL BE MEGGER TESTED. TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER.
18. COLORS/FINISHES/MATERIALS FOR ALL ELECTRICAL DEVICES, PLATES, LIGHT FIXTURES, ETC. SHALL BE CHOSEN BY THE ARCHITECT.
19. PROVIDE PERMANENT LOCK-OPEN DEVICES ON CIRCUIT BREAKERS SERVING ELECTRIC WATER HEATERS TO MEET THE REQUIREMENTS OF CEC 422.31.
20. CONTRACTOR SHALL EXTEND ALL SIGNAL AND FIRE ALARM SYSTEMS AS REQUIRED. MODIFY HEAD-IN EQUIPMENT TO ACCOMMODATE NEW DEVICES AS REQUIRED. VERIFY THE CONDITION AND EXPANDABILITY OF ALL HEAD-IN EQUIPMENT PRIOR TO BID AND MODIFY ACCORDINGLY.
21. CALL USA UNDERGROUND ALERT AND VERIFY WITH DISTRICT THE DESIRED ROUTING AND LOCATIONS OF UNDERGROUND CONDUITS AND STRUCTURES PRIOR TO TRENCHING.
22. EXISTING EQUIPMENT TO BE REMOVED AND/OR REPLACED SHALL BE DELIVERED TO THE DISTRICT MAINTENANCE DEPARTMENT OR DISPOSED OF, AT THE DISCRETION OF THE DISTRICT.
23. ALL CONDUITS UNDER CONCRETE OR ASPHALT WILL HAVE 24" MINIMUM COVER OF ROCK FREE NATIVE SOIL, METALLIC WARNING TAPE AT 12", AND NO ENCASEMENT REQUIRED. ALL CONDUITS THAT HAVE CONDUCTORS WITH A POTENTIAL OF 250 VOLT TO GROUND OR GREATER, THAT ARE NOT UNDER ASPHALT AND/OR CONCRETE SHALL REQUIRE 1,500 PSI CONCRETE ENCASEMENT, METALLIC WARNING TAPE AT 12", AND A MINIMUM COVER FROM TOP OF ENCASEMENT OF 24". ALL CONDUITS THAT HAVE CONDUCTORS WITH A POTENTIAL OF LESS THAN 250 VOLTS TO GROUND, THAT ARE NOT UNDER ASPHALT AND/OR CONCRETE WILL HAVE 30" MINIMUM COVER OF NATIVE SOIL, METALLIC WARNING TAPE AT 12" AND NO ENCASEMENT REQUIRED.
24. INSTALL GALVANIZED RIGID STEEL RISERS & ELBOWS WHERE THEY OCCUR. WRAP GALVANIZED RIGID STEEL BELOW GRADE. PVC SHALL NOT BE INSTALLED ABOVE GRADE.
25. CONDUIT INSTALLED ABOVE GRADE SHALL BE MIN. 3/4" TRADE SIZE. CONDUIT BELOW GRADE SHALL BE MIN. 1" TRADE SIZE.
26. PROVIDE (4) 1" CONDUIT STUBS FROM NEW ELECTRICAL PANEL TO ACCESSIBLE ATTIC SPACE FOR FUTURE USE.
27. CIRCUIT BREAKERS SERVING FIRE ALARM EQUIPMENT SHALL HAVE A RED HANDLE AND LOCK-ON DEVICE.
28. HOLES ARE NOT ALLOWED THROUGH TOP PLATES OF BEARING WALLS AND SHEAR WALLS.
29. INCLUDE FIRE STOP SYSTEMS REQUIRED FOR ALL WORK AFFECTED BY FIRE RATED ASSEMBLIES.
30. INCLUDE ALL WORK REQUIRED TO INVESTIGATE, DEMOLISH, & RECONNECT EXISTING ITEMS.

DSA File No.:
20-30

DSA Application No.:
02-123203

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DATE: 09/11/2025

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MEP COMPONENT ANCHORAGE NOTES

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA-APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G., HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS 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 IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING 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.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

MEP DISTRIBUTION SYSTEM BRACING NOTES FOR ELECTRICAL CONDUIT

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7 SECTION 13.3 AS DEFINED IN ASCE 7 SECTIONS 13.6.5, 13.6.6, 13.6.7, AND 13.6.8; AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

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

MP ☐ MD ☐ PP ☐ E ■ OPTION 1: PROJECT-SPECIFIC DESIGN.

MP ☐ MD ☐ PP ☐ E ☐ OPTION 2: DESIGN BASED ON OSHPD OPM, PART OF THE PROJECT SUBMITTAL.

MP ☐ MD ☐ PP ☐ E ☐ OPTION 3: DESIGN BASED ON OSHPD OPM, DEFERRED APPROVAL.

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Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

ELECTRICAL SYSTEMS
SYMBOLS AND NOTES
Drawing

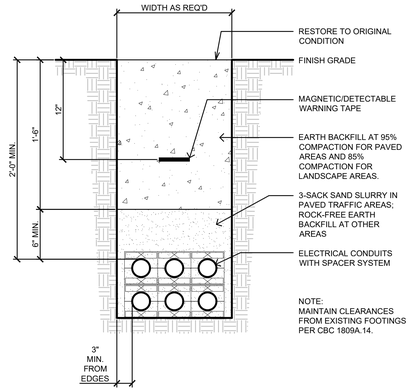
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Architect

No.	Revision/Submission	Date

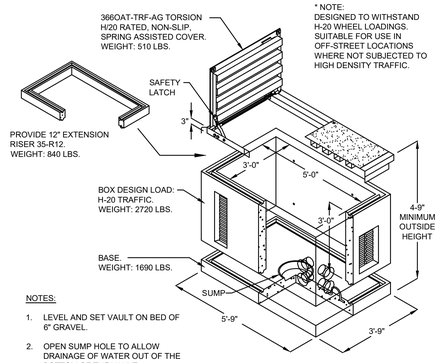
Revision

	Designed By: SD	Copyright 2025 Darden Architects
Scale: As Indicated	Drawn By: HDE	X/E101
Project Number: 2470.2	Checked By: SD	
Date: 8/29/2025	Reviewed By: SD	

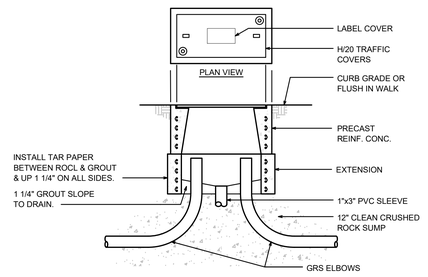
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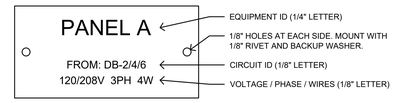
M1	Trench Detail
No Scale	



M6	3' X 5' Vault Detail
No Scale	

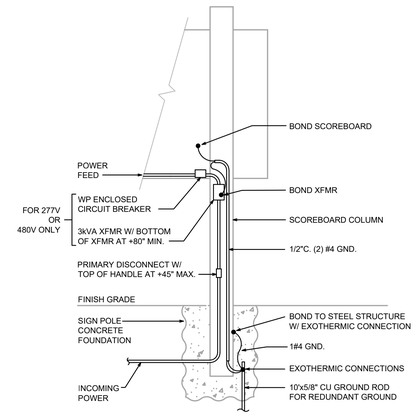


M10	Vault Detail (B1017 through B3048)
No Scale	



LABEL TYPE:	ENGRAVED 2 LAYER PHENOLIC (OR EQUAL)
LABEL SIZE:	3" W x 1-1/2" H
LABEL COLORS:	BLACK: 120/208/240V RED: 277/480V YELLOW: OVER 480V
TEXT COLOR:	WHITE (YELLOW TAGS SHALL BE BLACK TEXT)
EQUIPMENT ID:	SHALL BE AS IDENTIFIED ON THE PLANS BY THE EQUIPMENT SPECIFIER.
CIRCUIT ID:	SHALL BE THE CIRCUIT SOURCE SWITCHBOARD, PANEL, MCC, ETC.
VOLTAGE / PHASE / WIRES:	VOLTAGE SHALL BE THE COMPLETE VOLTAGE. PHASE SHALL BE EITHER 1PH OR 3PH. WIRES SHALL BE 2W, 3W, OR 4W.

M14	Electrical Equipment Labels
No Scale	



G14	Scoreboard Grounding Detail
No Scale	

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REGISTERED PROFESSIONAL ENGINEER C. SCOTT DAVIDSON ELECTRICAL STATE OF CALIFORNIA
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Project

ELECTRICAL SYSTEMS
DETAILS
Drawing

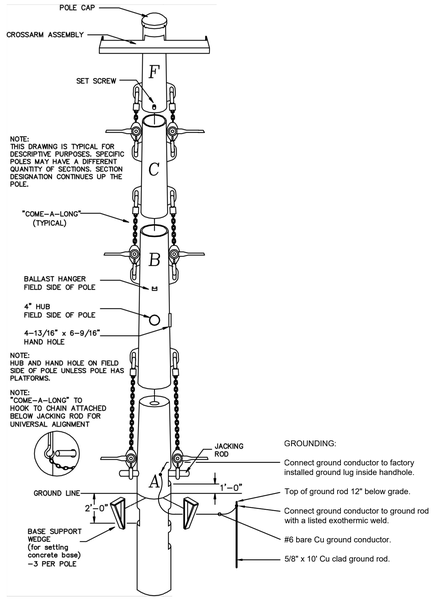
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No.	Revision/Submission	Date

Revision

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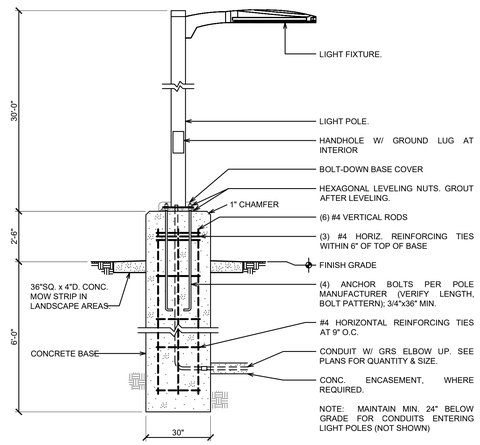


K5	Musco Pole Assembly and Grounding Detail
No Scale	

TYPE	MANUFACTURER	CATALOG NO.	SOURCE	WATTS	VOLTAGE	MOUNTING	DETAIL	REMARK
A	LITHONIA	EPANL 2X4 4800LM 80CRI 35K MIN1 EZT MVOLT NLTAIR2 RIO	LED	45.0	120-277	REC GRID	A14/X/E201	NLTAIR2
ASE	LITHONIA	EPANL 2X4 4800LM 80CRI 35K MIN1 EZT MVOLT E10WCP NLTAIR2 RES7	LED	45.0	120-277	REC GRID	A14/X/E201	NLTAIR2 / INTEGRAL OCC/DL SENSOR / EMERGENCY 90 MIN. BATTERY
B	LITHONIA	LDN6 35/25 L06 AR LSS TRW MVOLT EZ1 NLTAIR2	LED	28.3	120-277	REC GYP BD		NLTAIR2
C16E	PRUDENTIAL	BRO3 LIN FLSH LED35 PROG7w/ft R16 [COLOR] PFL SC UNV WM DM01 NLIGHT-AIR EMHE [1]	LED	112.0	120-277	SURFACE		NLTAIR2 / EMERGENCY 90 MIN. BATTERY
C28	PRUDENTIAL	BRO3 LIN FLSH LED35 PROG7w/ft R28 [COLOR] PFL SC UNV WM DM01 NLIGHT-AIR [1]	LED	196.0	120-277	SURFACE		NLTAIR2
D4E	LITHONIA	ZL1D L48 5000LM FST MVOLT 35K 80CRI E10W [COLOR] ZACVH M100	LED	41.0	120-277	PENDANT		
D8	LITHONIA	TZL1D L96 6000LM FST MVOLT 35K 80CRI [COLOR] ZACVH M100	LED	60.0	120-277	PENDANT		
D8S	LITHONIA	TZL1D L96 6000LM FST MVOLT 35K 80CRI [COLOR] ZACVH M100 NLTAIR2 RIO	LED	60.0	120-277	PENDANT		NLTAIR2 / INTEGRAL OCC/DL SENSOR
P1	LUMINAIRE	SWP610 MIN10 5W 40K MVOLT OP [COLOR]	LED	7.5	120-277	WALL		MOUNT HORIZ OVER DOOR
P2	LUMINAIRE	SWP1212 YWP MIN10 15W 40K MVOLT OP [COLOR]	LED	13.4	120-277	WALL		
P3	ECLIPSE	CM833 LED25 4K 80CRI UNV [COLOR] OPL D7A FUS	LED	25.0	120-277	REC CANOPY	N/A	FLUSH MOUNT BEHIND METALLIC SHEETING. WT. < 20 LBS.
p4	ECLIPSE	CM833 LED05 4K 80CRI UNV [COLOR] OPL D7A FUS	LED	5.0	120-277	REC CANOPY	N/A	FLUSH MOUNT BEHIND METALLIC SHEETING. WT. < 20 LBS.
LCP	ACUITY	ARP INTENC08 8FCR MVOLT HLK SM DTC	N/A	N/A	120-277	SURFACE	N/A	CONTROL PANEL WITH (8) CONFIGURABLE RELAYS.

NOTES: [1] MOUNT FIXTURE SO THE TOP OF THE FIXTURE HOUSING CONTACTS THE CEILING WITHOUT A GAP.
[COLOR] COLORS AND FINISHES TO BE SELECTED BY THE ARCHITECT'S OFFICE.

M9	Luminaire Schedule
No Scale	



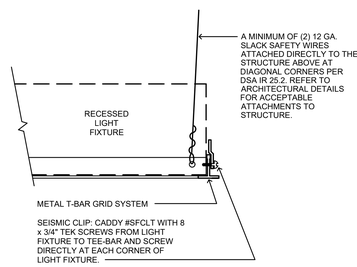
DSA REVIEW IS NOT REQUIRED FOR LIGHT POLES UP TO 35 FEET IN HEIGHT.

F9	Light Pole Detail (NOT PART OF THIS APPROVAL PER IR A-22 SECTION 2)
No Scale	

TYPE OF SPACE	MANUAL ON/OFF/OVERRIDE	DIMMING SWITCH	AUTOMATIC LIGHT DIMMING WHEN AVAILABLE	OCCUPANCY SENSOR ON	OCCUPANCY SENSOR ON TO 70%	OCCUPANCY SENSOR REDUCE TO 50% AFTER 10 MIN	OCCUPANCY SENSOR OFF AFTER 20 MIN	GATEWAY OPEN HOURS SCHEDULE ON	GATEWAY OPEN HOURS SCHEDULE OFF	GATEWAY SHADOWS SWITCHES DURING OPEN HOURS	COLOR TOUCHSCREEN WITH AT LEAST 4 SCENES	REMOTE ON/OFF CONTROL OR KEY SWITCH	CONTROLLED POWER RECEPTACLES	DEMAND RESPONSIVE CAPABLE	ASTRONOMIC TIMECLOCK ON/OFF	ASTRONOMIC TIMECLOCK DIMMING	ASTRONOMIC TIMECLOCK A/B RELAYS
ENTRY / LOBBY	X	X	X	X		X		X	X	X	X	X		X			
CORRIDOR	X		X	X		X		X	X	X							
OFFICE	X	X	X		X		X						X				
CLASSROOM	X	X	X		X		X										
CONFERENCE ROOM	X	X	X		X		X						X				
MULTI-PURPOSE	X	X	X		X		X				X						
GYMNASIUM	X	X	X		X		X				X						
CAFETERIA	X	X	X		X		X				X						
KITCHEN	X	X	X		X		X										
KITCHENETTES IN OFFICES	X	X	X		X		X										
COPY ROOMS	X	X	X		X		X					X					
LARGE RESTROOM				X		X	X				X						
STAIRWELLS				X	X		X	X									
STORAGE <100 S.F.	X						X										
ELECTRICAL ROOM	X																
OTHER	X	X	X		X		X										
BUILDING >10,000 S.F.															X		
BUILDING EXTERIOR																X	X
PEDESTRIAN WALKS																X	
PARKING LOT																X	X

F14	Lighting Control Matrix
No Scale	

HEAVY DUTY GRID SYSTEM			
LIGHT FIXTURE DIMENSION	WEIGHT	NO. OF HANGER WIRES	TYPE
< 24" x 48"	< 56 LBS	2	SLACK
> 24" x 48"	> 56 LBS	4	TAUT



A14	T-Bar Ceiling Recessed Fixture Mounting Detail
No Scale	

DSA File No.:
20-30

DSA Application No.:
02-123203

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LIGHTING GENERAL NOTES

1. THE CONTRACTOR SHALL INSTALL A COMPLETE AND OPERATIONAL LIGHTING SYSTEM FULLY CONFORMING WITH THE CALIFORNIA ENERGY COMMISSION'S TITLE 24 REQUIREMENTS.
2. THE SPECIFIED LIGHTING COMPONENTS ARE PARTS OF A DIGITAL, WIRELESS, PROGRAMMABLE SYSTEM BASED ON THE LITHONIA nLIGHT AIR PRODUCT LINE.
3. THE SYSTEM IS CONTROLLED AND PROGRAMMED THROUGH AN nLIGHT ECLYPSE GATEWAY LOCATED IN EACH BUILDING. THE GATEWAY REQUIRES A 120V OUTLET AND DATA OUTLET AT THE ELECTRONICS BACKBOARD. THE GATEWAY CONNECTS TO THE OWNER'S LAN WITH A CAT 6 CABLE.
4. EACH FIXTURE AND CONTROL DEVICE REQUIRES LINE VOLTAGE, UNSWITCHED POWER, AND HAS A BUILT-IN, WIRELESS CONNECTIVITY.
5. SOME FIXTURES SUCH AS DOWNLIGHTS AND SIGNAGE ARE WIRED TO AND CONTROLLED BY AN nLIGHT AIR POWER PACK WITH DIMMING CAPABILITY. POWER PACKS REQUIRE LINE VOLTAGE, UNSWITCHED POWER. VERIFY THE DIMMING PROTOCOL OF DIMMING FIXTURES AND ORDER THE APPROPRIATE POWER PACK.
6. WHEN AN EMERGENCY LIGHTING INVERTER IS USED, THE EMERGENCY FIXTURES AND EMERGENCY POWER PACKS REQUIRE BOTH A CONNECTION TO THE INVERTER CIRCUIT AND A LOCAL, NORMAL CIRCUIT. THEN, UPON LOSS OF THE NORMAL CIRCUIT, THE FIXTURE TURNS ON AND RAMPS UP TO 100% LIGHT OUTPUT.
7. THE PLANS GENERALLY SHOW THE LOCATION OF SWITCHES, SENSORS, CONTROL MODULES ETC. ACTUAL LOCATIONS AND INSTALLATION REQUIREMENTS SHALL BE COORDINATED WITH THE MANUFACTURER'S SHOP DRAWINGS.
8. LIGHTING FIXTURE COLORS, WHEN NOT SPECIFIED, SHALL BE SELECTED BY THE ARCHITECT'S OFFICE. DO NOT SUBMIT COLORS THAT HAVE NOT BEEN SELECTED OR APPROVED BY THE ARCHITECT.
9. THE CONTRACTOR SHALL FURNISH SYSTEM PROGRAMMING BY FACTORY PERSONNEL OR THE FACTORY'S APPROVED THIRD PARTY VENDOR TO ENSURE COMPLIANCE WITH THE REQUIREMENTS OF TITLE 24. THE CONTRACTOR SHALL NOT ATTEMPT PROGRAMMING UNLESS SPECIFICALLY AUTHORIZED BY THE FACTORY.
10. SUBMIT COMPLETE LIGHTING CONTROL SHOP DRAWINGS FURNISHED BY THE FACTORY TO THE ENGINEER FOR REVIEW.
11. A SUBSTITUTE LIGHTING FIXTURES AND CONTROLS PACKAGE FROM ANOTHER MANUFACTURER MAY BE ACCEPTABLE. THE SUBSTITUTE PACKAGE SHALL BE EQUAL OR GREATER IN ALL RESPECTS TO THE SPECIFIED PACKAGE. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL REQUIRED COMPONENTS, ADDITIONAL WIRING FOR DIMMING OPERATION OF LIGHT FIXTURES, AND ANYTHING ELSE NEEDED FOR A COMPLETE AND OPERATIONAL SYSTEM. A SUBSTITUTE PACKAGE SHALL IN NO WAY INCUR COSTS TO THE OWNER. SUBMIT SUBSTITUTE PACKAGE, INCLUDING SHOP DRAWINGS, TO ENGINEER FOR REVIEW AND APPROVAL. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY RESULT IN REJECTION OF SUBSTITUTE COMPONENTS.
12. CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED LIGHTING CONTROLS AFTER INSTALLATION AND BEFORE PROJECT COMPLETION.
13. LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN ("ATT"). A LISTING OF CERTIFIED ATTs CAN BE FOUND AT HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ ACCEPTANCE. THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDING OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/INSTALLATION OF THE LIGHTING SYSTEM CONFORMS AND PASSES THE REQUIRED ACCEPTANCE CRITERIA.

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Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

LIGHTING SYSTEMS
DETAILS, NOTES, AND FIXTURE SCHEDULE
Drawing

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LICENSED ARCHITECT GREGORY J. ZATTIS No. C26235 Exp. 10-31-26 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date

Revision

	Designed By: SD	Copyright 2025 Darden Architects
Scale: As Indicated	Drawn By: HDE	X/E201
Project Number: 2470.2	Checked By: SD	
Date: 8/29/2025	Reviewed By: SD	

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PANEL "HS" SCHEDULE

277/480V 3Φ 4W 42kAIC — INDOOR / SURFACE

CKT. NO.	DESCRIPTION	BREAKER AMPS	BREAKER POLE(S)	VA	Φ	VA	BREAKER AMPS	BREAKER POLE(S)	DESCRIPTION	CKT. NO.
1	LIGHTS - SNACK BAR, ELEC, STORAGE	15	1	521	A	9500	40	3	HEAT PUMP HP-1	2
3	LIGHTS - RESTROOMS, CUSTODIAN	15	1	831	B	9500	--	--	-----	4
5	LIGHTS - EXTERIOR & LIGHTING CONTROL PANEL	15	1	153	C	9500	--	--	-----	6
7	SPACE ONLY				A	5000	25	3	WATER HEATER WH-1	8
9	FIELD LIGHTING POLE P1 (MUSCO)	30	3	2884	B	5000	--	--	-----	10
11	-----	--	--	2884	C	5000	--	--	-----	12
13	-----	--	--	2884	A	4215	20	3	LIFT STATION	14
15	FIELD LIGHTING POLE P22 (MUSCO)	30	3	2884	B	4215	--	--	-----	16
17	-----	--	--	2884	C	4215	--	--	-----	18
19	-----	--	--	2884	A	1700	20	3	WATER BOOSTER PUMP	20
21	FIELD LIGHTING POLE P3 (MUSCO)	30	3	2884	B	1700	--	--	-----	22
23	-----	--	--	2884	C	1700	--	--	-----	24
25	-----	--	--	2884	A				SPACE ONLY	26
27	FIELD LIGHTING POLE P4 (MUSCO)	30	3	2884	B				SPACE ONLY	28
29	-----	--	--	2884	C				SPACE ONLY	30
31	-----	--	--	2884	A				SPACE ONLY	32
33	FIELD EMERGENCY LIGHTING (MUSCO)	20	2	3000	B				SPACE ONLY	34
35	-----	--	--	3000	C				SPACE ONLY	36
37	SURGE PROTECTIVE DEVICE	--	--		A	12205	70	3	XFMR "TLA" / PANEL "LA"	38
39	-----	--	--		B	12915	--	--	-----	40
41	-----	--	--		C	12990	--	--	-----	42

LOAD SUMMARY: Φ A 37209 VA; Φ B 41229 VA; Φ C 40626 VA
CONNECTED LOAD: 119.1 kVA
MAX CURRENT: 149 A

BUSING: 225 AMPS CU
MAIN: 225 AMPS

PANEL "LS" SCHEDULE

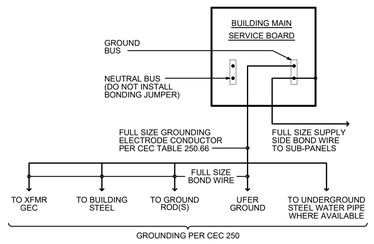
120/208V 3Φ 4W 10kAIC — INDOOR / SURFACE

CKT. NO.	DESCRIPTION	BREAKER AMPS	BREAKER POLE(S)	VA	Φ	VA	BREAKER AMPS	BREAKER POLE(S)	DESCRIPTION	CKT. NO.
1	OUTLETS - SNACKBAR BACK COUNTER	20	1	1000	A	180	20	1	OUTLET - LOCKERS	2
3	OUTLETS - SNACKBAR BACK COUNTER	20	1	1000	B	540	20	1	OUTLETS - STORAGE	4
5	OUTLETS - SNACKBAR BACK COUNTER	20	1	1000	C	540	20	1	OUTLETS - STORAGE	6
7	OUTLETS, TRAP PRIMER TP-1 - S.B. BACK CNTR	20	1	1000	A	540	20	1	OUTLETS - STORAGE	8
9	ICE MACHINE OUTLET - SNACKBAR	20	2	1500	B	750	15	2	ROLL-UP DOOR - STORAGE	10
11	-----	--	--	1500	C	750	--	--	-----	12
13	REFRIGERATOR OUTLET - SNACKBAR	20	1	1000	A	2400	20	1	HAND DRYER - ALL ACCESS RESTROOM	14
15	OUTLETS - SNACKBAR SERVING COUNTER	20	1	500	B	360	20	1	OUTLETS - RESTROOMS	16
17	OUTLETS - SNACKBAR SERVING COUNTER	20	1	500	C	360	20	1	OUTLET, CIRC. PUMP, EXH. FAN - CUSTODIAN	18
19	OUTLETS - SNACKBAR SERVING COUNTER	20	1	500	A	485	20	1	OUTLETS - RESTROOMS	20
21	OUTLETS - SNACKBAR SERVING	20	1	360	B	2400	20	1	HAND DRYER - MEN'S RESTROOM	22
23	INDOOR/OUTDOOR UNIT IDU/ODU-1	25	2	1540	C	2400	20	1	HAND DRYER - MEN'S RESTROOM	24
25	-----	--	--	1540	A	2400	20	1	HAND DRYER - MEN'S RESTROOM	26
27	SCOREBOARD	20	1	360	B	2400	20	1	HAND DRYER - MEN'S RESTROOM	28
29	MUSCO CONTROL CIRCUIT	15	1	250	C	2400	20	1	HAND DRYER - WOMEN'S RESTROOM	30
31	FIRE ALARM CIRCUIT - ELECTRICAL RM [1]	20	1	600	A	2400	20	1	HAND DRYER - WOMEN'S RESTROOM	32
33	OUTLETS - ELECTRICAL RM	20	1	360	B	2400	20	1	HAND DRYER - WOMEN'S RESTROOM	34
35	OUTLETS - ELECTRICAL RM	20	1	360	C	2400	20	1	HAND DRYER - WOMEN'S RESTROOM	36
37	OUTLETS - ELECTRICAL RM	20	1	360	A		20	1	SPARE	38
39	OUTLETS - ELECTRICAL RM	20	1	1000	B		20	1	SPARE	40
41	OUTLETS - ELECTRICAL RM	20	1	360	C		20	1	SPARE	42
43	OUTLETS - ELECTRICAL RM	20	1	360	A		20	1	SPARE	44
45	INDOOR/OUTDOOR UNIT IDU/ODU-2	30	2	1570	B		20	1	SPARE	46
47	-----	--	--	1570	C		20	1	SPARE	48
49	EXHAUST FAN EF-1 & SUPPLY FAN SF-1	15	1	800	A				SPACE ONLY	50
51	EXHAUST FAN EF-2	20	1	1175	B				SPACE ONLY	52
53	OUTLET - ROOF	15	1	180	C				SPACE ONLY	54

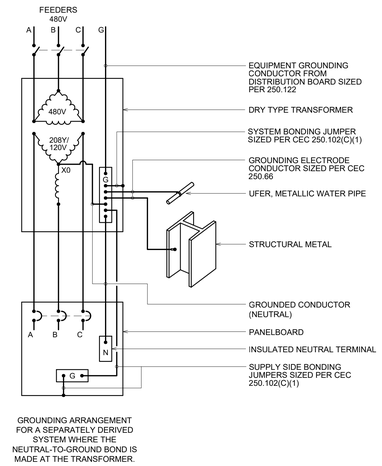
LOAD SUMMARY: Φ A 12205 VA; Φ B 12915 VA; Φ C 12990 VA
CONNECTED LOAD: 38.1 kVA
MAX CURRENT: 108 A

BUSING: 200 AMPS CU
MAIN: 175 AMPS
NOTES: [1] PROVIDE RED LOCK-ON DEVICE.

H1	Panel Schedules
No Scale	

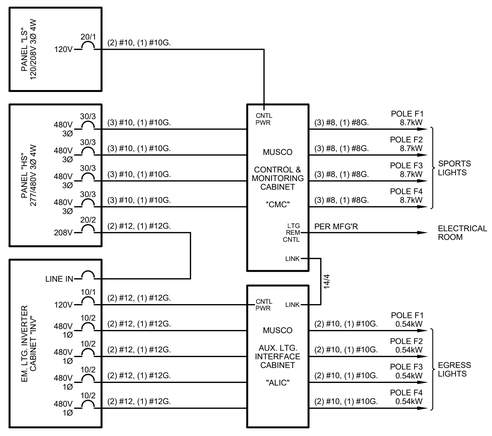


N7	Service Panel Grounding Detail
No Scale	

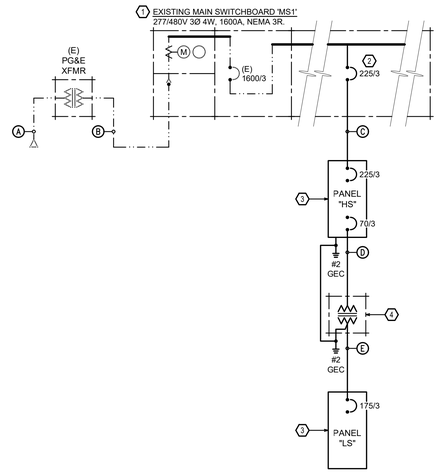


GROUNDING ARRANGEMENT FOR A SEPARATELY DERIVED SYSTEM WHERE THE NEUTRAL-TO-GROUND BOND IS MADE AT THE TRANSFORMER.

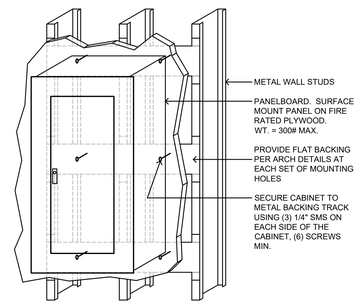
F7	Transformer Grounding Detail
No Scale	



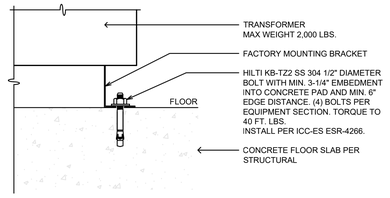
A7	Musco Lighting Wiring Diagram
No Scale	



L13	Power Single Line Diagram
No Scale	



F13	Electrical Panel Mounting Detail
No Scale	



A13	Transformer and Inverter Pad Mounting Detail
No Scale	

DSA File No.: *20-30*

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KEYNOTES ⬡

1. EXISTING MAIN SWITCHBOARD TO REMAIN.
2. PROVIDE NEW BREAKER AND MOUNTING HARDWARE.
3. MOUNT PANELBOARD PER F13/X/E301. GROUND PER N7/X/E301.
4. TRANSFORMER "T-LA":
   HAMMOND 3G3A0045KB0AB
   480/208/120V 3Ø 4W, 45kVA, AL, 80°C RISE.
   DIMENSIONS: 23.3"W x 23.8"D x 28.8"H; WEIGHT: 405 LBS.
   PAD MOUNT PER A13/X/E301. GROUND PER F7/X/E301.

FEEDERS ○

A. EXISTING PG&E PRIMARY 4"C. AND CONDUCTORS.
B. EXISTING PG&E SECONDARY (7) 5"C. AND CONDUCTORS.
C. 3"C. (4) 250KCMIL, (1) #3 GND.
D. 1"C. (3) #4, (1) #8 GND.
E. 2"C. (4) 2/0, (1) #4 SSBJ.

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REGISTERED PROFESSIONAL ENGINEER C. SCOTT DAVIDSON E17850 ELECTRICAL STATE OF CALIFORNIA

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Madera, CA 93637
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POWER SYSTEMS
SINGLE LINE DIAGRAM AND DETAILS
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LICENSED ARCHITECT ROBERTO J. ANAYA No. C28235 REN. 10-31-25 STATE OF CALIFORNIA
Architect

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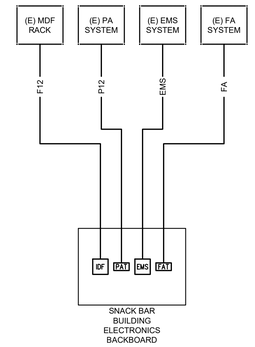
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Project Number: 2470.2	Checked By: SD	
Date: 8/29/2025	Reviewed By: SD	

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SYSTEMS CABLE SCHEDULE

LOCAL AREA NETWORK		
F12	12-STR SM FIBER OPTIC CABLE	(MDF - IDF)
PUBLIC ADDRESS		
P12	12-PR CAT 6 OSP	(PA - 66 BLOCK)
P25	25-PR CAT 6 OSP	(PA - 66 BLOCK)
ENERGY MANAGEMENT SYSTEM		
EMS	EMS LOOP CABLE	(EMS SYSTEM - TC)
FIRE ALARM		
FA	REFER TO FIRE ALARM DRAWINGS	



K13 — Electronic Systems Cabling Single Line Diagram

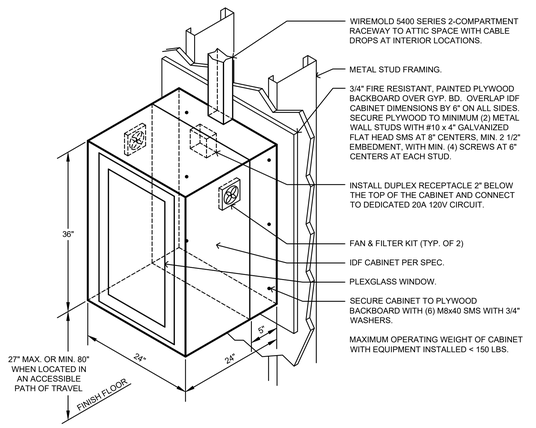
No Scale

DETAIL KEY NOTES ⬡

1. GROUNDING WIRE TO CONNECTED DEVICES PER CEC 654.15.
2. MDF: TMGB CPI PART NUMBER 40153-012; 4"W x 12"L x 1/4" THICK.
   IDF: TGB CPI PART NUMBER 13622-012; 2"W x 12"L x 1/4" THICK.
3. LOW VOLTAGE SYSTEMS BACKBOARD.
4. #2 TINNED BARE COPPER GROUNDING WIRE TO GROUND RING. SEE TOWER DRAWINGS FOR ACCEPTABLE CONNECTIONS.
5. GROUND CLAMP W/ #12 COPPER BOND TO BUS.
6. 1" CONDUIT TO BUILDING GROUNDING ELECTRODE CONDUCTOR SYSTEM PER CEC 250.

F13 — Telecom Main Grounding Bus (TMGB) Installation Detail

No Scale



A13 — IDF Cabinet Mounting Detail

No Scale

DSA File No.: *20-30*

DSA Application No.: *02-123203*

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LOW VOLTAGE SCOPE OF WORK

1. THE CONTRACTOR SHALL PROVIDE A COMPLETE AND OPERATIONAL DATA AND VoIP COMMUNICATIONS LOCAL AREA NETWORK (LAN), INCLUDING CONNECTION TO THE EXISTING MAIN DATA FRAME, SINGLEMODE FIBER OPTIC CABLING, INTERMEDIATE DATA FRAMES IN NEW BUILDINGS, COPPER CAT6 AND CAT6A CABLING, LABELING, LADDER RACKING, CABLE MANAGEMENT, TERMINATION OF ALL CABLES, PATCH PANELS AND CABLES, COMMUNICATIONS GROUND BUS BAR AND GROUND CONNECTION, UNINTERRUPTABLE POWER SUPPLIES, DATA AND COMMUNICATION OUTLETS, WIRELESS ACCESS POINT OUTLETS, AND TESTING AND REPORTS FOR ALL INSTALLED CABLES. NETWORK ELECTRONICS SUCH AS GATEWAYS AND SWITCHES, AND PATCH CABLES SHALL BE FURNISHED BY THE OWNER AND INSTALLED BY THE CONTRACTOR. DELIVER REPORTS TO OWNER.
2. THE CONTRACTOR SHALL PROVIDE A COMPLETE AND OPERATIONAL PUBLIC ADDRESS AND CLOCK SYSTEM, INCLUDING SPEAKERS, CLOCKS, HOUSINGS, VANDAL RESISTANT SPEAKERS, CROSS-CONNECT WITH THE MASTER PA SYSTEM, SITE DISTRIBUTION CABLING, SPEAKER CABLING, LABELING, PROGRAMMING, TESTING, AND REPORTS.
3. THE CONTRACTOR SHALL PROVIDE A COMPLETE AND OPERATIONAL, TOTAL COVERAGE, FIRE ALARM SYSTEM WITH EMERGENCY VOICE/ALARM COMMUNICATIONS, TO INCLUDE CONTROL PANELS, POWER SUPPLIES, AMPLIFIERS, SMOKE AND HEAT DETECTION DEVICES, ADDRESSABLE INPUT AND OUTPUT MODULES, SPEAKER STROBES, SPEAKERS, STROBES, CONNECTION TO THE MASTER FIRE ALARM PANEL WITH 6-STRAND SINGLE MODE FIBER OPTIC CABLING AND AUDIO CABLING, LOCAL COPPER CABLING, LABELING, PROGRAMMING, TESTING, AND REPORTS. DELIVER REPORTS TO OWNER FOR REVIEW.
4. LOW VOLTAGE CABLING SHALL BE INSTALLED IN EMT CONDUIT IN AREAS EXPOSED TO VIEW. CABLING MAY BE RUN ON J-HOOKS IN ACCESSIBLE, CONCEALED ATTIC SPACES.

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Architect

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ELECTRONIC SYSTEMS
SINGLE LINE DIAGRAM AND DETAILS
Drawing

No.	Revision/Submission	Date

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Scale: As Indicated	Drawn By: HDE	X/E401
Project Number: 2470.2	Checked By: SD	
Date: 8/29/2025	Reviewed By: SD	

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FIRE ALARM GENERAL NOTES

1. FIRE ALARM SYSTEM: ADDRESSABLE, CLASS B, AUTOMATIC.
2. ALL WORK SHALL CONFORM TO THE 2022 EDITION OF NFPA 72, AND THE 2022 EDITION OF CBC, CEC, AND CFC.
3. INSTALLATION OF THE FIRE ALARM SYSTEM (FAS) SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATIONS, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAS BEEN APPROVED BY DSA.
4. UPON COMPLETION OF THE INSTALLATION OF THE FIRE ALARM SYSTEM, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF A DSA PROJECT INSPECTOR. (THE LOCAL FIRE AUTHORITY MAY WITNESS THE TEST).
5. A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR THE INSTALLATION.
6. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF THE PROJECT.
7. DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
8. ALL PENETRATIONS THROUGH RATED ASSEMBLIES REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITH A PENETRATION FIRE STOP SYSTEM AS IDENTIFIED IN CBC CHAPTER 7, UL, OR OTHER LAB TESTING CRITERIA. APPROVED TYPE OF MATERIALS SHALL BE IDENTIFIED WITHIN THE SPECIFICATION WITHIN THE FIRE ALARM SECTION.
9. MICROPHONE ASSOCIATED WITH EMERGENCY VOICE ALARM COMMUNICATION SYSTEMS (EVAC) SHALL BE ACCESSIBLE FOR USE, INSTALLED IN COMPLIANCE WITH CBC SECTIONS 11B-305 AND 11B-308.
10. WALL MOUNTED VISUAL NOTIFICATION DEVICES SHALL HAVE THEIR ENTIRE LENS WITHIN AT 80" MINIMUM AND 96" MAXIMUM FROM FINISHED FLOOR.
11. WALL MOUNTED AUDIBLE NOTIFICATION DEVICES SHALL HAVE THEIR TOPS MOUNTED AT 90" MINIMUM AND 100" MAXIMUM FROM FINISHED FLOOR AND NO CLOSER THAN 6" TO A HORIZONTAL STRUCTURE.
12. AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (dBA) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY SPACE WITHIN A BUILDING THAT MAY BE OCCUPIED AND BE INTELLIGIBLE.
13. AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN, PRIOR TO "EVAC" ANNOUNCEMENT. THE CARBON MONOXIDE SIGNAL SHALL SOUND A FOUR-PULSE TEMPORAL PATTERN PER NFPA 72, 18.4.3.2.
14. THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
15. VISUAL DEVICES SHALL NOT EXCEED 2 FLASHES PER SECOND AND SHALL NOT BE SLOWER THAN 1 FLASH PER SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. VISUAL DEVICES WITHIN 55' FROM EACH OTHER SHALL BE SYNCHRONIZED.
16. UNDERGROUND AND EXTERIOR CONDUITS SHALL HAVE WATERTIGHT FITTINGS AND WIRE APPROVED FOR WET LOCATIONS.
17. ALL FIRE ALARM WIRING SHALL BE FLP OR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN.
18. PER CEC STANDARDS, ALL WIRING SHALL BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE WIRE. ANY CONNECTION SHALL BE BY LUG CONNECTION AT A DEVICE OR AT A FATC TERMINAL BLOCK ONLY. ALL BOXES TO BE SIZED PER CEC.
19. SMOKE DETECTORS SHALL NOT BE CLOSER THAN 12" FROM FIRE SPRINKLERS NOR 36" FROM SUPPLY AIR DIFFUSERS. IN AREA OF CONSTRUCTION OR POSSIBLE DAMAGE/CONTAMINATION, NEWLY INSTALLED FIRE ALARM DEVICES SHALL BE COVERED UNTIL THAT AREA IS READY TO BE TURNED OVER TO THE OWNER.
20. ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT, SURFACE RACEWAY, OR OPEN RUN ABOVE CEILINGS, UNDER FLOORS, AND IN WALLS IN A NEAT AND PROTECTED MANNER AS INDICATED ON DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS. OWNER STANDARDS MAY BE MORE STRINGENT.
21. FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS' SPECIFICATIONS. ANY SINGLE DEVICE SHALL NOT EXCEED THE WEIGHT OF 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.
22. A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM THE COMMON USE AREA PANEL AND SHALL HAVE NO OTHER OUTLETS. THE BREAKER SHALL HAVE A LOCKING DEVICE WITH RED MARKING PER NFPA 72, SECTION 10.6.5.4 AND 10.6.5.2.3 TO BLOCK THE HANDLE IN THE "ON" POSITION. THE CIRCUIT BREAKER SHALL BE LABELED "FIRE ALARM CIRCUIT CONTROL". CIRCUIT ID TO BE LABELED AT THE FIRE PANEL/EXTENDERS.
23. THE INSTALLING CONTRACTOR SHALL PROVIDE A RECORD OF COMPLETION IN COMPLIANCE WITH NFPA 72, SECTION 7.5.6.
24. CONTROL PANELS AND REMOTE ANNUNCIATORS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48".
25. THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC 901.6.2.
26. SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL TEST. FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION IN ACCORDANCE WITH NFPA 72. THE SUPERVISING STATIONS SHALL BE LISTED AS EITHER UUFX (CENTRAL STATION) OR UUUS (REMOTE AND PROPRIETARY) BY UNDERWRITERS LABORATORY (UL) OR SHALL COMPLY WITH THE REQUIREMENTS OF STANDARD FM 3011. A COPY OF ALL DEVICES REPORTED TO THE CENTRAL STATION SHALL BE PROVIDED TO THE OWNER'S ELECTRONICS DEPARTMENT.
27. OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS.
28. ALL WIRING IS SHOWN DIAGRAMMATICALLY. SUBJECT TO DSA APPROVAL, CONTRACTOR MAY VARY SEQUENCE OF CIRCUITRY; HOWEVER, ALL CIRCUITS SHALL BE CONTINUOUS AND SUPERVISED.
29. ALL CONNECTIONS SHALL BE PROPERLY LABELED BY CONDUCTOR AND SHALL HAVE STA-KON LUG CONNECTORS. PANDUIT TAG (TIE WRAP) SEPARATELY.
30. FIRE ALARM TERMINAL CABINETS SHALL HAVE SUFFICIENT SPACE, TERMINAL BOARDS AND SCREW TERMINAL CONNECTORS TO ALLOW CONNECTION OF ALL CONDUCTORS SHOWN. PROVIDE BARRIER TO SEPARATE FIRE ALARM SYSTEM WHEN TERMINAL CABINET IS SHARED WITH NON-FIRE ALARM SYSTEMS. CONTRACTOR SHALL BE REQUIRED TO SUBMIT WITH HIS OTHER SHOP DRAWINGS DETAILED DRAWINGS OF HIS PROPOSED CONNECTIONS AT EACH FIRE ALARM TERMINAL CABINET PRIOR TO COMMENCING ANY WORK.
31. ALL NAC CIRCUIT CONDUCTORS SHALL BE #12 AWG, STRANDED (19 STRANDS OR LESS) COPPER, UNLESS OTHERWISE NOTED.
32. SET END-OF-LINE RESISTORS IN DISTRIBUTION TERMINAL CABINETS.
33. BATTERIES SHALL BE STAMPED WITH DATE OF MANUFACTURE.
34. INSTALLATION OF FAS EQUIPMENT SHALL BE BY AN AUTHORIZED ENGINEERED SYSTEM DISTRIBUTOR FOR THE EQUIPMENT SPECIFIED BY THE MANUFACTURER FOR SALES, SERVICE, INSTALLATION AND MAINTENANCE. PROVIDE CERTIFICATIONS WITH EQUIPMENT SUBMITTALS. SUBMITTALS BY FIRMS NOT FULFILLING THIS REQUIREMENT WILL BE AUTOMATICALLY REJECTED.
35. THE FAS INSTALLER SHALL BE NICET LEVEL 2 CERTIFIED.
36. THE FAS INSTALLER SHALL PROVIDE ALL FACTORY WARRANTIES TO THE OWNER AT THE CLOSE UP OF THE PROJECT.
37. THE FAS INSTALLER SHALL PROVIDE WRITTEN CERTIFICATION USING NFPA 72 INSPECTION AND TESTING FORMS AND SHALL CERTIFY THAT THE INSTALLATION, TESTING, AND OPERATION CONFORM IN ALL RESPECTS TO THE REQUIREMENTS AS SET FORTH IN TITLE 19 OF THE CALIFORNIA CODE OF REGULATIONS AND PART 3, ARTICLE 760 OF TITLE 24 OF THE C.C.R. AND C.B.C. SECTION 907. THE CONTRACTOR SHALL SUBMIT THE COMPLETED FAS CERTIFICATION AND DESCRIPTION FORM TO DIVISION OF STATE ARCHITECT.
38. INCLUDE ALL DEMOLITION OF EXISTING FIRE ALARM SYSTEM WHETHER SPECIFICALLY SHOWN OR NOT. REMOVE ALL CABLING & UNUSED EXPOSED RACEWAY & OUTLETS. BLANK OFF ALL UNUSED WALL & HARD CEILING OUTLETS. REMOVE ALL UNUSED OUTLETS IN TEE-BAR CEILING & REPLACE ACOUSTIC TILES. RETURN ALL DEVICES, APPLIANCES, & CONTROL PANELS TO OWNER IF REQUESTED BY OWNER DURING CONSTRUCTION.
39. WHEN FIRE ALARM WORK WILL DISABLE PORTIONS OF THE EXISTING FAS, PROVIDE ALL REQUIRED OVERTIME AND FIRE WATCH IN SCOPE OF WORK.
40. WHERE FIRE ALARM DEVICES ARE BEING INSTALLED IN OTHERWISE INACCESSIBLE AREAS, PROVIDE AN ALLOWANCE FOR THE INSTALLATION OF ACCESS PANELS AND ALL WORK ASSOCIATED WITH THE INSTALLATION. THE CONTRACTOR SHALL CUT ALL THE OPENINGS. THE SIZE OF THE ACCESS PANEL SHALL BE DETERMINED BY THE MAN ACCESS REQUIREMENTS. PROVIDE PAINT GRADE ACCESS DOORS AND PAINT TO MATCH THE COLOR & SHEEN OF THE EXISTING CEILING.
41. FIRE ALARM SYSTEM INSPECTION, TESTING, AND MAINTENANCE SHALL COMPLY WITH NFPA 72, CHAPTER 14.
42. PROVIDE FIRE ALARM RECORD DOCUMENTS CABINET NFPA 72, 7.7.2

- EVERY NEW FIRE ALARM SYSTEM SHALL PROVIDE A DOCUMENTATION CABINET, INSTALLED AT THE SYSTEM CONTROL PANEL OR OTHER APPROVED LOCATION.
- THE DOCUMENTATION CABINET SHALL BE PROMINENTLY LABELED, "FIRE ALARM SYSTEM RECORD DOCUMENTS".
- ALL RECORD AND TESTING DOCUMENTATION SHALL BE STORED IN THE CABINET.
- CONTENTS SHALL BE ACCESSIBLE BY AUTHORIZED PERSONNEL ONLY.
- WHERE CABINET IS INSTALLED IN A LOCATION OTHER THAN THE SYSTEM CONTROL UNIT, ITS LOCATION SHALL BE IDENTIFIED AT THE SYSTEM CONTROL UNIT.

PROVIDE SYSTEM DOCUMENTS AS APPLICABLE:

- RECORD DRAWINGS/AS-BUILTS
- EQUIPMENT CUT SHEETS & CA SFM LISTINGS
- ALTERNATIVE MEANS AND METHODS
- PERFORMANCE BASED DESIGN DOCUMENTATION (NFPA 72, 7.3.7)
- SYSTEM RECORD OF COMPLETION & ANY SUPPLEMENTAL INSPECTION AND TESTING DOCUMENTATION (NFPA 72, 7.8.2)
- EMERGENCY RESPONSE PLAN (NFPA 72, 7.3.8)
- EVALUATION DOCUMENTATION (NFPA 72, 7.3.9)
- RISK ANALYSIS DOCUMENTATION (NFPA 72, 7.3.6)
- SOFTWARE & FIRMWARE CONTROL DOCUMENTATION (NFPA 72, 23.2.2)

FIRE ALARM CABLING INSTALLATION NOTES

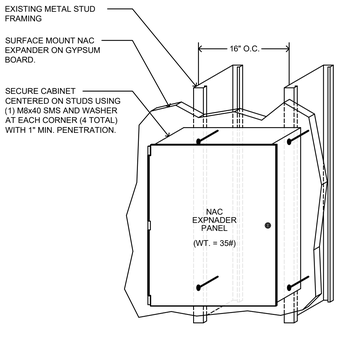
1. FIRE ALARM CABLING SHALL BE INSTALLED IN A RACEWAY SYSTEM, EXCEPT AS NOTED BELOW.
2. WHEREVER A HARD LID CEILING SYSTEM IS PRESENT, THE FIRE ALARM CABLING SHALL BE INSTALLED IN CONDUIT IN THE ATTIC SPACE ABOVE THE CEILING.
3. FA FIBER OPTIC NETWORK CABLING SHALL BE RUN DIRECTLY FROM FCP NODE TO FCP NODE (NOT PATCHED IN FROM MDF/IDF) IN A STYLE 7 CONFIGURATION WITH ARMORED, 6-STR SINGLEMODE FIBER OPTIC CABLE. PROVIDE A 1 1/2" CONDUIT STUB FROM THE TOP OF EACH CONTROL PANEL TO THE HORIZONTAL LADDER RACK ABOVE FOR BRINGING THE FO CABLE INTO THE CABINET. TERMINATE ALL STRANDS SUCH THAT THEY ARE READY TO USE.

FIRE ALARM SYMBOL SCHEDULE

SYMBOL	DESCRIPTION	EQUIPMENT	CSFM
FCP	(E) FIRE ALARM CONTROL PANEL	GAMEWELL-FCI E3 SERIES	
ANN	(E) ANNUNCIATOR		
PS	(E) MANUAL PULL STATION		
EXP	NAC EXPANDER	GAMEWELL-FCI #HPF24S8	7315-1657:0102
	SMOKE DETECTOR, PHOTOELECTRIC DETECTOR BASE	GAMEWELL-FCI #ASD-PL3 GAMEWELL-FCI #B300-6	7272-1703:0501 7300-1653:0109
	CEILING HEAT DETECTOR, 135°F DETECTOR BASE	GAMEWELL-FCI #ATD-L3 GAMEWELL-FCI #B300-6	7270-1703:0502 7300-1653:0109
AL	ATTIC HEAT DETECTOR, 190°F DETECTOR BASE	GAMEWELL-FCI #ATD-L3H GAMEWELL-FCI #B300-6	7270-1703:0502 7300-1653:0109
MM	MONITOR MODULE	GAMEWELL-FCI #AMM-2F	7300-1703:0102
RM	RELAY MODULE	GAMEWELL-FCI #AOM-2SF	7300-1703:0102
	VISIBLE NAC DEVICE, WALL MT'D (CANDELA INDICATED ON PLANS)	EATON/WHEELOCK #ELSTR	7135-0785:0504
	HORN/VISIBLE NAC DEVICE, WALL MT'D (CANDELA INDICATED ON PLANS)	EATON/WHEELOCK #ELHSR	7135-0785:0504
WP	EXTERIOR HORN, W.P., WALL MT'D	EATON/WHEELOCK #AH-24WP-R #WBB-R (BACKBOX)	7125-0785:0131

FIRE ALARM CABLE SCHEDULE

SYMBOL	NAME	DESCRIPTION
A	SIGNALING LINE CIRCUIT (SLC) CABLE WEST PENN #D990	16/2 TWISTED PAIR, STRANDED, LOW CAPACITANCE FA POWER LIMITED, RISER CABLE (FPLR)
AW	SIGNALING LINE CIRCUIT (SLC) CABLE, OSP WEST PENN #AQC225	16/2 TWISTED PAIR, STRANDED, AQUASEAL FA POWER LIMITED CABLE (FPL)
B	NOTIFICATION APPLIANCE CKT (NAC) CABLE WEST PENN #998S	12/2 TWISTED PAIR, STRANDED FA POWER LIMITED, RISER CABLE (FPLR)
BW	NOTIFICATION APPLIANCE CKT (NAC) CABLE, OSP WEST PENN #AQ227	12/2 TWISTED PAIR, STRANDED, AQUASEAL FA POWER LIMITED CABLE (FPL)
C	EM. VOICE/ALARM COMM. (EV/AC) CABLE WEST PENN #HF995	18/2 SHIELDED TWISTED PAIR, STRANDED FA POWER LIMITED CABLE (FPL)
CW	EM. VOICE/ALARM COMM. (EV/AC) CABLE, OSP WEST PENN #AQC295	16/2 SHIELDED TWISTED PAIR, STRANDED, AQUASEAL FA POWER LIMITED CABLE (FPL)
D	INITIATING DEVICE CIRCUIT (IDC) CABLE WEST PENN #994S	14/2 TWISTED PAIR, STRANDED FA POWER LIMITED, RISER CABLE (FPLR)
DW	INITIATING DEVICE CKT (IDC) CABLE, OSP WEST PENN #AQC226	14/2 TWISTED PAIR, STRANDED, AQUASEAL FA POWER LIMITED CABLE (FPL)



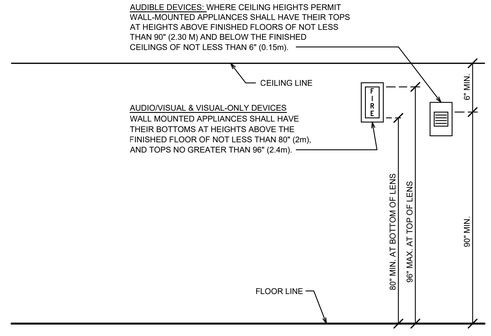
SURFACE MOUNT

THIS DETAIL APPLIES TO EITHER NEW OR EXISTING WALL CONSTRUCTION. CABINET SHALL BE CENTERED OVER EXISTING STUD FRAMING. WHERE THIS IS NOT POSSIBLE, METALLIC HORIZONTAL BRACING SHALL BE ATTACHED ACROSS (3) WALL STUDS AND LINED UP WITH TOP AND BOTTOM OF CABINET; BACKING PLATE 6" x 16GA. BETWEEN CABINET AND GYP. BD. WITH (2) SIMPSON SDS25412 SCREW AT EACH STUD.

A10	NAC Expander Mounting Detail	A13	Fire Alarm Wall Mounted Devices Elevation
No Scale		No Scale	

INITIATION CONDITION / ACTION	SMOKE, HEAT DETECTOR	POWER LOSS, SHORT CIRCUIT, GROUND FAULT
ANNUNCIATE TROUBLE		●
ANNUNCIATE ALARM	●	
ANNUNCIATE SUPERVISORY	●	
INITIATE VISUAL NOTIFICATION APPLICANCES	●	
TRANSMIT TO CENTRAL STATION	●	●

E13	Fire Alarm Sequence of Operations Matrix		
No Scale			



DSA File No.: *20-30*

DSA Application No.: *02-123203*

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

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E17850 REGISTERED PROFESSIONAL ENGINEER C. SCOTT DAVIDSON ELECTRICAL STATE OF CALIFORNIA
Consultant

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

FIRE ALARM SYSTEM
SYMBOLS, NOTES, AND DETAILS
Drawing

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ARCHITECTURE PLANNING INTERIORS
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6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051
LICENSED ARCHITECT GREGORY J. POTTER No. C26235 REN. 10-31-25 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date

Revision

		Designed By: SD	Copyright 2025 Darden Architects
Scale: As Indicated		Drawn By: HDE	X/E501
Project Number: 2470.2		Checked By: SD	
Date: 8/29/2025		Reviewed By: SD	

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BATTERY CALCULATION

NAC Expander 'EXP-S'

POWER REQUIREMENTS

	CURRENT [A] SUPERVISORY	ALARM
Panel Overhead	0.091	0.145
NAC Circuits	-	0.380
TOTALS	0.091	0.525

BATTERY CAPACITY

SUPERVISORY POWER (24 HOURS)	= 24 Hr * 0.091A	=	2.184 AHr
ALARM POWER (15 MINUTES)	= 0.25 Hr * 0.525A	=	0.131 AHr
	TOTAL POWER REQUIREMENT	=	2.315 AHr
	MINIMUM BATTERY CAPACITY (includes 25% safety factor)	=	7 AHr

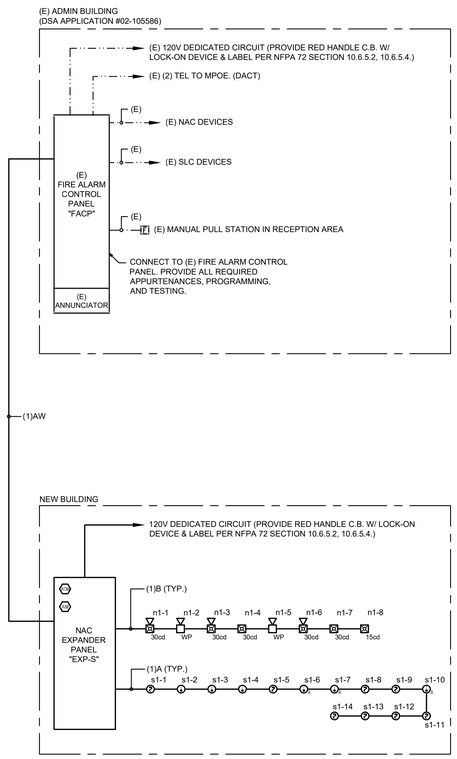
VOLTAGE DROP CALCULATION

NAC Circuit 'n1'

VD = Voltage Drop [V]
I = Current [A] (0.38A)
K = 12.9 (Copper Constant)
L = Distance to Load [ft.] (253')
CM = Circular Mils (#12 AWG = 6530)
V = Voltage [V] (24VDC)

$$VD = \frac{K * I * 2L}{CM} = \frac{12.9 * 0.38 * 2 * 253'}{6530} = 0.380\ V$$

$$VD\% = \frac{VD}{24} = 1.6\%$$



A1	Fire Alarm System Calculations	A10	Fire Alarm System Single Line Diagram
No Scale		No Scale	

DSA File No.:
20-30

DSA Application No.:
02-123203

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DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
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SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

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Consultant

REGISTERED PROFESSIONAL ENGINEER C. SCOTT DAVIDSON E17850 ELECTRICAL STATE OF CALIFORNIA

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

FIRE ALARM SYSTEM
SINGLE LINE DIAGRAM AND CALCULATIONS
Drawing

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LICENSED ARCHITECT GREGORY J. ZATTI No. C-30235 Exp. 10-31-26 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date

Revision

	Designed By: SD	Copyright 2025 Darden Architects
Scale: As Indicated	Drawn By: HDE	X/E502
Project Number: 2470.2	Checked By: SD	
Date: 8/29/2025	Reviewed By: SD	

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STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.			
Project Name:	Desmond MS - ELOP Year Two	**Report Page:**	**(Page 1 of 8)**
Project Address:	26490 Martin St.	**Date Prepared:**	3/24/2025

A. GENERAL INFORMATION

01	Project Location (city)	Madera	04	Total Conditioned Floor Area (ft²)	1,594
02	Climate Zone	13	05	Total Unconditioned Floor Area (ft²)	806
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

● Support Areas ● All Other Occupancies

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6 / 170.2(e) or 141.0(b)2 / 180.2(b)4 for alterations.

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☒ New Lighting System	Area Category Method	1594	Area Category Method	806
☐ New Lighting System - Parking Garage				
Total Area of Work (ft²)	1594		806	

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Desmond MS - ELOP Year Two	**Report Page:**	**(Page 2 of 8)**
		Date Prepared:	3/24/2025

C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 / 170.2(e)	Allowed Lighting Power per 140.6(b) / 170.2(e) (Watts)						Adjusted Lighting Power per 140.6(a) / 170.2(e) (Watts)				Compliance Results
	01	02	03	04		05	06	07		08	09
	Complete Building 140.6(c)1	Area Category 140.6(c)2 / 170.2(e)4	Area Category Additional 140.6(c)2G / 170.2(e)4Av (+)	Tailored 140.6(c)3 / 170.2(e)4B (+)	=	**Total Allowed** (Watts)	Total Designed (Watts)	Adjustments PAF Lighting Control Credits 140.6(a)2 / 170.2(e)1B (-)	=	**Total Adjusted** (Watts) *Includes Adjustments	**05 must be >= 08 140.6 / 170.2(e)**
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)			
Conditioned		1,063.5	0		=	1,064	1,052	0	=	1052	COMPLIES
Unconditioned		322.4	0		=	322	300	0	=	300	COMPLIES
Controls Compliance (See Table H for Details)											COMPLIES
Rated Power Reduction Compliance (See Table Q for Details)											

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Generated Date/Time:
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Report Version: 2022.0.000
Schema Version: rev 20220101
Documentation Software: EnergyPro
Compliance ID: EnergyPro-7514-0325-1416
Report Generated: 2025-03-24 15:26:20

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Desmond MS - ELOP Year Two	**Report Page:**	**(Page 3 of 8)**
		Date Prepared:	3/24/2025

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3 / 170.2(e)2C	Design Watts	Field Inspector	
									Pass	Fail
A/ASE	45w Recessed LED	No	NA	45	Mfr. Spec	5	No	225	☐	☐
B	28.3w Recessed LED	No	NA	28.3	Mfr. Spec	6	No	169.8	☐	☐
C16E	112w Surface Mounted LED	No	NA	112	Mfr. Spec	2	No	224	☐	☐
C28	196w Surface Mounted LED	No	NA	196	Mfr. Spec	2	No	392	☐	☐
D4E	41w Pendant	No	NA	41	Mfr. Spec	1	No	41	☐	☐
							Total Designed Watts: CONDITIONED SPACES	1,052		

Designed Wattage: Unconditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3 / 170.2(e)2C	Design Watts	Field Inspector	
									Pass	Fail
D8/D8S	60w Pendant	No	NA	60	Mfr. Spec	5	No	300	☐	☐
							Total Designed Watts: UNCONDITIONED SPACES	300		

[1]FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)4B / 170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.

[2]Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

Generated Date/Time:
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Report Version: 2022.0.000
Schema Version: rev 20220101
Documentation Software: EnergyPro
Compliance ID: EnergyPro-7514-0325-1416
Report Generated: 2025-03-24 15:26:20

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Desmond MS - ELOP Year Two	**Report Page:**	**(Page 4 of 8)**
		Date Prepared:	3/24/2025

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
		Field Inspector	
		Pass	Fail
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C	☐	☐
NA < 4,000W subject to multilevel	See Area/Space Level Controls		

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Manual Area Controls 130.1(a) / 160.5(b)4A	Multi-Level Controls 130.1(b) / 160.5(b)4B	Shut-Off Controls 130.1(c) // 160.5(b)4C	Primary/Sky lit Daylighting 130.1(d) / 160.5(b)4D	Secondary Daylighting 130.1(d) / 160.5(b)4D	Interlocked Systems 140.6(a)1/ 170.2(e)2A	Field Inspector	
								Pass	Fail
Whole Building	All Other Space Types	Readily Accessible	Dimmer	Occupancy Sensor	NA: Rm < 24sf Glazing	NA: Rm < 24sf Glazing	No	☐	☐
							13		
							Plan Sheet Showing Daylit Zones:		
							S/E101		

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per 140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per 140.6(c) or adjustments per 140.6(a) are being used .

Conditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
Restrooms	Restroom	0.65	1,233	801.4	No	No

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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Report Version: 2022.0.000
Schema Version: rev 20220101
Documentation Software: EnergyPro
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STATE OF CALIFORNIA
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CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Desmond MS - ELOP Year Two	**Report Page:**	**(Page 5 of 8)**
		Date Prepared:	3/24/2025

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Custodial	All Other Space Types	0.4	73	29.2	No	No
Electrical	Electrical Mechancial Telephone Room	0.4	74	29.6	No	No
Snackbar	Kitchen/ Food Preparation	0.95	214	203.3	No	No
		TOTALS:	1,594	1,063.5	See Tables J, or P for detail	

Unconditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
Storage	All Other Space Types	0.4	806	322.4	No	No
		TOTALS:	806	322.4	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATIVE /SPECIAL EFFECTS

This section does not apply to this project.

Generated Date/Time:
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Report Version: 2022.0.000
Schema Version: rev 20220101
Documentation Software: EnergyPro
Compliance ID: EnergyPro-7514-0325-1416
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STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Desmond MS - ELOP Year Two	**Report Page:**	**(Page 6 of 8)**
		Date Prepared:	3/24/2025

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FOR-ONE ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

Generated Date/Time:
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Report Version: 2022.0.000
Schema Version: rev 20220101
Documentation Software: EnergyPro
Compliance ID: EnergyPro-7514-0325-1416
Report Generated: 2025-03-24 15:26:20

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Desmond MS - ELOP Year Two	**Report Page:**	**(Page 7 of 8)**
		Date Prepared:	3/24/2025

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Whole Building;

Generated Date/Time:
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Report Version: 2022.0.000
Schema Version: rev 20220101
Documentation Software: EnergyPro
Compliance ID: EnergyPro-7514-0325-1416
Report Generated: 2025-03-24 15:26:20

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Desmond MS - ELOP Year Two	**Report Page:**	**(Page 8 of 8)**
Project Address:	26490 Martin St.	**Date Prepared:**	3/24/2025

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: C. Scott Davidson	Documentation Author Signature: C. Scott Davidson
Company: Hardin-Davidson Engineering	Signature Date: 2025-03-24
Address: 356 Pollasky Ave., Suite 200	CEA/ HERS Certification Identification (if applicable): E17850
City/State/Zip: Clovis CA 93612	Phone: 559-323-4995

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: C. Scott Davidson	Responsible Designer Signature: C. Scott Davidson
Company: Hardin-Davidson Engineering	Date Signed: 2025-03-24
Address: 356 Pollasky Ave., Suite 200	License: E17850
City/State/Zip: Clovis CA 93612	Phone: 559-323-4995

Generated Date/Time:
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Report Version: 2022.0.000
Schema Version: rev 20220101
Documentation Software: EnergyPro
Compliance ID: EnergyPro-7514-0325-1416
Report Generated: 2025-03-24 15:26:20

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

Hardin-Davidson Engineering
356 Pollasky Ave., Suite 200, Clovis, CA 93612
559.323.4995 • www.hardin-davidson.com
Consultant

REGISTERED PROFESSIONAL ENGINEER C. SCOTT DAVIDSON E17850 ELECTRICAL STATE OF CALIFORNIA

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

ENERGY COMPLIANCE
TITLE 24 COMPLIANCE FORMS - INDOOR LIGHTING
Drawing

darden architects
ARCHITECTURE
PLANNING
INTERIORS
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Architect

LICENSED ARCHITECT ROBERTO J. AVALOS No. C30235 Exp. 10-31-25 STATE OF CALIFORNIA

No.	Revision/Submission	Date

Revision

	Designed By: SD	Copyright 2025 Darden Architects
Scale: As Indicated	Drawn By: HDE	*X/E601*
Project Number: 2470.2	Checked By: SD	
Date: 8/29/2025	Reviewed By: SD	

8/29/2025 5:17:17 PM
Z:\Clients\Darden Architects\25020 - Madera USD ELOP Desmond MS\CAD Files\25020 - Electrical 02 Backcheck.dwg

STATE OF CALIFORNIA
Outdoor Lighting CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Desmond MS - ELOP Year Two	Report Page:	(Page 1 of 7)
Project Address: 26490 Martin St.	Date Prepared:	3/24/2025

This document is used to demonstrate compliance with requirements in 110.9, 130.0, 130.2, 140.7, and 141.0(b)2L for outdoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e)6, 180.1(a) and 180.2(b)4Bv for outdoor lighting scopes using the prescriptive path for multifamily and mixed-use occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	Madera	04	Total Illuminated Hardscape Area (ft²)	3920
02	Climate Zone	13			
03	Outdoor Lighting Zone per Title 24 Part 1 10.114 or as designated by Authority Having Jurisdiction (AHJ):				
☐	LZ-0: Very Low - Undeveloped Parkland	☒ LZ-2: Moderate - Urban Clusters	☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval		
☐	LZ-1: Low - Rural Areas	☐ LZ-3: Moderately High - Urban Areas			
05	Occupancy Types within Project				

● Support Areas ● All Other Occupancies

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv for alterations.

My Project Consists of:

01	02		
☒	New Lighting System	Must Comply with Allowances from 140.7 / 170.2(e)6	
☐	Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)?	○ Yes ○ No

03	04	05
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered	Calculation Method
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%		

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.

STATE OF CALIFORNIA
Outdoor Lighting CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Desmond MS - ELOP Year Two	Report Page:	(Page 2 of 7)
	Date Prepared:	3/24/2025

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through N. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv												Compliance Results		
01		02		03		04		05	OR	06	=	07	≥	08	09
General Hardscape Allowance 140.7(d)1 / 170.2(e)6 (See Table I)	+	Per Application 140.7(d)2 / 170.2(e)6 (See Table J)	+	Sales Frontage 140.7(d)2 (See Table K)	+	Ornamental 140.7(d)2 / 170.2(e)6 (See Table L)	+	Per Specific Area 140.7(d)2 / 170.2(e)6 (See Table M)		Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv (See Table N)		**Total Allowed** (Watts)		**Total Actual** (Watts)	**07 must be >= 08**
323	+	---	+	---	+	---	+	---	OR	---	=	323	≥	153	COMPLIES
Shielding Compliance (See Table G for Details)															N/A
Controls Compliance (See Table H for Details)															COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Outdoor Lighting CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Desmond MS - ELOP Year Two	Report Page:	(Page 3 of 7)
	Date Prepared:	3/24/2025

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per 141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 2]	How is Wattage determined	Total Number Luminaires[2]	Luminaire Status[3]	Excluded per 140.7(a) / 170.2(e)6A	Design Watts	Cutoff Req. > 6,200 initial lumen output 130.2(b) / 160.5(c)[4]	Field Inspector	
										Pass	Fail
P1	7.5w Wall Mounted LED	☐ Linear	7.5	Mfr. Spec	6	New	☐	45	NA: < 6200 lumens	☐	☐
P2	13.4w Wall Mounted LED	☐ Linear	13.4	Mfr. Spec	1	New	☐	13.4	NA: < 6200 lumens	☐	☐
P3	25w Recessed LED	☐ Linear	25	Mfr. Spec	3	New	☐	75	NA: < 6200 lumens	☐	☐
P4	5w Recessed LED	☐ Linear	5	Mfr. Spec	4	New	☐	20	NA: < 6200 lumens	☐	☐
							Total Design Watts:	153			

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to 130.2(b)

[1] FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b)
[2] For linear luminaires, wattage should be indicated as W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.
[3] Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.
[4] Compliance with mandatory shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b)/ 160.5(c)

STATE OF CALIFORNIA
Outdoor Lighting CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Desmond MS - ELOP Year Two	Report Page:	(Page 4 of 7)
	Date Prepared:	3/24/2025

G. SHIELDING REQUIREMENTS (BUG)

This section does not apply to this project.

H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
Outdoor lighting for nonresidential buildings, parking garages and common service areas in multifamily buildings must be documented separately from outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit

Mandatory Controls for Nonresidential Occupancies, Parking Garages & Common Areas in Multifamily Buildings

01	02	03	04	05	
Area Description	Shut-Off 130.2(c)1 / 160.5(c)	Auto-Schedule 130.2(c)2 / 160.5(c)	Motion Sensor 130.2(c)3 / 160.5(c)	Field Inspector	
				Pass	Fail
Exterior Lighting	Astronomical Timer	Provided	Provided	☐	☐

[1] FOOTNOTE: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.
[2] Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.
[3] Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are excepted from ii and iii.

STATE OF CALIFORNIA
Outdoor Lighting CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Desmond MS - ELOP Year Two	Report Page:	(Page 5 of 7)
	Date Prepared:	3/24/2025

I. LIGHTING POWER ALLOWANCE (per 140.7 / 170.2(e))

This table includes areas using allowance calculations per 140.7 / 170.2(e). General Hardscape Allowance is per Table 140.7-A/Table 170.2-R while "Use it or lose it" Allowances are per Table 140.7-B /Table 170.2-S. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.
Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

	01				
		"Use it or lose it" Allowance (select all that apply) (select all that apply)			
	☒ General Hardscape Allowance Table I (below)	☐ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☐ Per Specific Area Table M

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A for Nonresidential & Hotel/Motel

02	03	04	05	06	07	08	09
Area Description	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			Total General AWA + LWA (Watts)
	Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	
Exterior Lighting	3920	0.019	74.5	321	0.2	48.2	123
				Initial Wattage Allowance for Entire Site (Watts):			200
				Instances of Initial Wattage Allowance (LZ 0 only)[1]			
				Total General Hardscape Allowance (Watts):			323

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

STATE OF CALIFORNIA
Outdoor Lighting CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Desmond MS - ELOP Year Two	Report Page:	(Page 6 of 7)
	Date Prepared:	3/24/2025

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTO-E - Must be submitted for all buildings

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	Exterior Lighting;

STATE OF CALIFORNIA
Outdoor Lighting CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Desmond MS - ELOP Year Two	Report Page:	(Page 7 of 7)
Project Address: 26490 Martin St.	Date Prepared:	3/24/2025

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: C. Scott Davidson	Documentation Author Signature: C. Scott Davidson
Company: Hardin-Davidson Engineering	Signature Date: 2025-03-24
Address: 356 Pollasky Ave., Suite 200	CEA/ HERS Certification Identification (if applicable): E17850
City/State/Zip: Clovis CA 93612	Phone: 559-323-4995

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: C. Scott Davidson	Responsible Designer Signature: C. Scott Davidson
Company: Hardin-Davidson Engineering	Date Signed: 2025-03-24
Address: 356 Pollasky Ave., Suite 200	License: E17850
City/State/Zip: Clovis CA 93612	Phone: 559-323-4995

DSA File No.: *20-30*

DSA Application No.: *02-123203*

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

Hardin-Davidson Engineering
356 Pollasky Ave., Suite 200, Clovis, CA 93612
559.323.4995 • www.hardin-davidson.com
Consultant

REGISTERED PROFESSIONAL ENGINEER C. SCOTT DAVIDSON E17850 ELECTRICAL STATE OF CALIFORNIA

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

ENERGY COMPLIANCE
TITLE 24 COMPLIANCE FORMS - OUTDOOR LIGHTING
Drawing

darden architects
ARCHITECTURE PLANNING INTERIORS
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6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051
LICENSED ARCHITECT ANTONIO J. ALVAREZ No. C36235 Exp. 10-31-25 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date

Revision

Designed By: SD
Drawn By: HDE
Checked By: SD
Reviewed By: SD

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Scale: As Indicated
Project Number: 2470.2
Date: 8/29/2025

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8/29/2025 5:17:21 PM
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STATE OF CALIFORNIA
Solar And Battery CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SAB-E
This document is used to demonstrate compliance with prescriptive PV and battery requirements in 140.10/ 170.2 for nonresidential, multifamily and mixed-use buildings and prescriptive solar thermal requirements in 170.2(d)3C for multifamily and hotel/ motel occupancies. When PV/battery/solar thermal requirements don't apply or are traded using the performance approach, this document demonstrates compliance with mandatory solar readiness requirements in 110.10/ 160.8 for newly constructed buildings which are either multifamily ten stories or fewer, hotel/motel ten stories or fewer or all other nonresidential buildings three stories or fewer. It is also used to demonstrate compliance with solar readiness in 110.10/ 160.8 for additions to nonresidential, multifamily or hotel/motel building types which add more than 2,000 ft² of roof area. Alterations, or additions of less than 2,000 ft² of roof area, are not required to comply with solar readiness, solar PV and battery requirements and do not need to complete this document.	
Project Name: Desmond MS - ELOP Year Two	**Report Page:** (Page 1 of 5)
Project Address: 26490 Martin St.	**Date Prepared:** 3/24/2025

A. GENERAL INFORMATION

01	Project Location (city)	Madera	04	Building Occupancies	All Other OccupanciesSupport Areas
02	Climate Zone	13	05	Construction Type	New construction w/ roof <=533 ft²
03	Conditioned Floor Area (ft²)	1594	06	Number of Stories	Bldg <= 3 stories

B. PROJECT SCOPE

The compliance path the project is using to comply per 110.10(b)1B/ 140.10/ 170.2(g and h) is indicated below.

Compliance with Solar Photovoltaic (PV) and Battery Requirements in 140.10/ 170.2(g and h)

01		
☐	Provided PV system and battery storage sized per 140.10/ 170.2 (g and h)	The project has included an installed PV system and battery storage system per requirements in 140.10/ 170.2(g and h) as documented in Table J.
☐	Exception to PV and Battery: Not enough Solar Access Roof Area	The total of all available Solar Access Roof Area(s) of the project site is less than three percent of the conditioned floor area as documented in Table J.
☒	Exception to PV and Battery: Required PV < 4kW	The required PV system size is less than 4 kW dc as documented in Table J..
☐	Exception to PV and Battery: No contiguous Solar Access Roof Area	The Solar Access Roof Area(s) of the project site contains less than 80 contiguous square feet as documented in Table J.
☐	Exception to PV and Battery: Can't meet snow load	The project has a roof design where the enforcement authority has verified it is not possible for the PV system, including panels, modules, components, supports, and attachments to the roof structure, to meet ASCE 7-16 Chapter 7, Snow Loads.
☐	Exception to PV and Battery: Multi-tenant without VNEM or Community Solar	The project is a multi-tenant building in an area where a load serving entity does not provide either a Virtual Net Metering (VNEM) or community solar program.
☐	The prescriptive PV/battery requirement has been traded off using the performance compliance approach as documented on the PRF Certificate of Compliance form.	

STATE OF CALIFORNIA
Solar And Battery CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SAB-E
Project Name: Desmond MS - ELOP Year Two	**Report Page:** (Page 2 of 5)
	Date Prepared: 3/24/2025

Compliance with Solar Thermal Water Heating Requirements in 170.2(d)3C (Multifamiliy and hotel/ motel occupancies only)

01	
☐	The project includes a hotel/motel or multifamily occupancy with a gas or propane central water-heating system (serves 2+ dwelling units) and includes a permanently installed domestic solar water-heating system to comply with 170.2(d)3C and Reference Residential Appendix RA4, as documented in Table H. Compliance meets Exception 2 to solar ready requirements in 110.10(b).

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance or see the applicable Table referenced below.

Allocated Solar Zone				Installed PV System				Installed SWH System				Smart Tstat and Alternative EE Measure		Compliance Results
01		02		03		04		05		06		07	08	
Required Minimum Area (ft²)	<=	Designated Area (ft²)	OR	Required Minimum DC Power Rating (Watts)	<=	Designed DC Power Rating (Watts)	OR	Required Minimum Solar Savings Fraction	<=	Designed/Rated Solar Savings Fraction	OR	JA5 Compliant Thermostat Specified?	Alternative Energy Efficiency Measure	COMPLIES
(See Table F)				(See Tables G or J)				(See Table H)				(See Table I)		
	<=		OR	0	<=	0	OR		<=		OR			
Location in construction documents showing the location for inverters and metering equipment and a pathway for the routing of conduit/ plumbing to the electrical service/ water heating system per §110.10(c).														
Battery storage system design meets the minimum requirements in Joint Appendix JA12 and the minimum energy (kWh)/ power (kW) capacity per Table J.														COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table is includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Solar And Battery CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SAB-E
Project Name: Desmond MS - ELOP Year Two	**Report Page:** (Page 3 of 5)
	Date Prepared: 3/24/2025

F. ALLOCATED SOLAR ZONE

This section does not apply to this project.

G. PERMANENTLY INSTALLED SOLAR PV FOR SOLAR READY EXCEPTION

This section does not apply to this project.

H. PERMANENTLY INSTALLED SOLAR HOT WATER SYSTEMS

This section does not apply to this project.

I. SMART THERMOSTATS AND ALTERNATIVE EFFICIENCY MEASURE FOR SOLAR READY EXCEPTION

This section does not apply to this project.

STATE OF CALIFORNIA
Solar And Battery CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SAB-E
Project Name: Desmond MS - ELOP Year Two	**Report Page:** (Page 4 of 5)
	Date Prepared: 3/24/2025

J. PHOTOVOLTAIC (PV) AND BATTERY SYSTEMS

This table documents compliance with prescriptive photovoltaic and battery system requirements in 140.10/ 170.2(g and h). Unless the project meets one of the listed exceptions, or trades-off PV in an energy model using performance path, 140.10/ 170.2(g and h) requires installed photovoltaic and battery systems for newly constructed buildings. The installed PV systems must meet the minimum requirements in Joint Appendix 11.

Photovoltaic (PV) System

01	02	03	04	05	06	07	08
Occupancy	Conditioned Floor Area (ft²)	Area of New Roof[1] (ft²)	Roof Area < 70% Solar Access[2] (ft²)	Plansheet or Document showing Solar Access Calculations	Occupied Roof Area[3] (ft²)	Solar Access Roof Area (SARA) (ft²)	Min Size of PV System Required (kWdc)
					Total Min Size PV System Required for all Spaces (kWdc):		
					Total Size PV System in Design (kWdc):		

[1]*FOOTNOTES: Includes the area of the building's roof space capable of structurally supporting a PV system and the area of all roof space on covered parking areas, carports, and all other newly constructed structures on the site that are compatible with supporting a PV system per Title 24, Part 2 Section 1511.2.*
[2]*Solar access must be determined using CEC approved solar access calculation tools found at https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/solar-assessment-tools.*
[3]*As specified by CBC Section 503.1.4.*

K. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included Table E. Additional Remarks and ExceptionalConditionMessageCCSABE += UserChangedSelectionInCI. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-SAB-01-E - Must be submitted for all buildings that must comply with solar readiness or PV/Battery requirements.

L. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

STATE OF CALIFORNIA
Solar And Battery CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SAB-E
Project Name: Desmond MS - ELOP Year Two	**Report Page:** (Page 5 of 5)
Project Address: 26490 Martin St.	**Date Prepared:** 3/24/2025

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: C. Scott Davidson	Documentation Author Signature: C. Scott Davidson
Company: Hardin-Davidson Engineering	Signature Date: 2025-03-24
Address: 356 Pollasky Ave., Suite 200	CEA/ HERS Certification Identification (if applicable): E17850
City/State/Zip: Clovis CA 93612	Phone: 559-323-4995

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Darden Architects	Responsible Designer Signature: C. Scott Davidson
Company: Darden Architects	Date Signed: 2025-03-24
Address: 6790 N. West Ave.	License: E17850
City/State/Zip: Fresno CA 93711	Phone: 559-448-8051

DSA File No.: *20-30*

DSA Application No.: *02-123203*

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

Hardin-Davidson Engineering
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559.323.4995 • www.hardin-davidson.com
Consultant

REGISTERED PROFESSIONAL ENGINEER C. SCOTT DAVIDSON E17850 ELECTRICAL STATE OF CALIFORNIA

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

ENERGY COMPLIANCE
TITLE 24 COMPLIANCE FORMS - SOLAR AND BATTERY
Drawing

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LICENSED ARCHITECT ANTONIO J. POLICE No. C26235 Exp. 10-31-25 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date

Revision

Designed By: SD
Drawn By: HDE
Checked By: SD
Reviewed By: SD

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Scale: As Indicated
Project Number: 2470.2
Date: 8/29/2025

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STATE OF CALIFORNIA
Electrical Power Distribution CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name: Desmond MS - ELOP Year Two	Report Page:	(Page 1 of 6)
Project Address: 26490 Martin St.	Date Prepared:	3/24/2025

This document is used to demonstrate compliance with mandatory requirements in 130.5, for electrical systems in newly constructed nonresidential and hotel/motel occupancies and 160.6 and 160.9 for electrical systems in newly constructed multifamily occupancies. Additions and alterations to electrical service systems in nonresidential and hotel/motel occupancies will also use this document to demonstrate compliance per 141.0(a) or 141.0(b)2P for alterations. For multifamily addition or alterations compliance will be documented per 180.1(a) or 180.2 (b)4Bvii

A. GENERAL INFORMATION

01	Project Location (city)	Madera	02	Climate Zone	13
			03	Occupancy Types Within Project:	All Other OccupanciesSupport Areas

B. PROJECT SCOPE

This table includes electrical systems that are within the scope of the permit application.

01	02	03	04	05	06	07
Electrical Service Designation/ Description	Scope of Work[1]	Rating[2] (kVA)	Utility Provided Metering System Exception to 130.5(a)/ 160.6(a)[3]	System subject to CA Elec Code Article 517 Exception to 130.5(a)and (b)	Demand Response Controls	Provides power to dwelling units/common living areas only in multifamily occupancy
HS	New electrical service equipment and meter	125	☐	☐	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a demand response signal. Sections 120.2/ 160.3, 130.1/ 160.5, and 130.3/ 160.5, and mechanical, indoor lighting, and sign lighting Certificate of Compliance documents will indicate when demand response controls are required.	☐

[1] FOOTNOTES: Adding only new feeders and branch circuits triggers Voltage Drop 130.5(c)/160.6(c), no other requirements from 130.5/160.6 are required.
[2] If common use areas in a multifamily are submetered, rating is for submeter size serving common use areas.
[3] Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.

STATE OF CALIFORNIA
Electrical Power Distribution CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name: Desmond MS - ELOP Year Two	Report Page:	(Page 2 of 6)
	Date Prepared:	3/24/2025

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through J. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

01		02		03		04	05	06
Service Electrical Metering 130.5(a)/ 160.6(a) (See Table F)	AND	Separation for Monitoring 130.5(b)/ 160.6(b) (See Table G)	AND	Voltage Drop 130.5(c)/ 160.6(c) (See Table H)	AND	Controlled Receptacles 130.5(d)/ 160.6(d) (See Table I)	Electric Ready 160.9 (See Table J)	**Compliance Results**
Yes	AND	Yes	AND	Yes	AND	Yes		COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. SERVICE ELECTRICAL METERING

This table includes new or replacement electrical service systems OR equipment to demonstrate compliance with 130.5(a) / 160.6(a). For multifamily occupancies, submetered systems that provide power to common use areas must meet the following metering requirements. Submetered systems providing power to dwelling units do not.

01	02	03				04	05	
		Required Metering Capabilities per Table 130.5-A					Field Inspector	
Electrical Service Designation/ Description	Rating[1] (kVA)	Instantaneous Demand (kW)	Historical Peak Demand (kW)	Tracking kWh for user-defined period	kWh per rate period	Location of Requirements in Construction Documents	Pass	Fail
HS	125	☒	☐	☒	☐	X/E301	☐	☐

[1] FOOTNOTES: If common use areas in a multifamily are submetered, rating is for submeter size serving common use areas.

STATE OF CALIFORNIA
Electrical Power Distribution CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name: Desmond MS - ELOP Year Two	Report Page:	(Page 3 of 6)
	Date Prepared:	3/24/2025

G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING

This table includes entirely new or complete replacement electrical power distribution systems to demonstrate compliance with 130.5(b)/ 160.6(b). Any load types that are not included in the service do not need to be shown. For multifamily occupancies, submetered systems that provide power to dwelling units do not need to meet these separation requirements and therefore load types on those submetered systems also do not need to be shown.

01	02	03	04	05	
Load Type per Table 130.5-B[1]	Minimum Required Separation of Load per Table 130.5-B	Compliance Method[2]	Location of Requirements in Construction Documents	Field Inspector	
				Pass	Fail
HS					
Lighting including exit, egress and exterior	All lighting in aggregate	Method 1: Switchboards, motor control centers, or panelboard loads disaggregated for each load type	X/E301	☐	☐
Plug Loads and appliances less than 25kVA	All plug loads in aggregate Groups of plug loads exceeding 25 kVA connected load in an area less than 5000 sf	Method 1: Switchboards, motor control centers, or panelboard loads disaggregated for each load type	X/E301	☐	☐
HVAC systems and components	All HVAC in aggregate	Method 1: Switchboards, motor control centers, or panelboard loads disaggregated for each load type	X/E301	☐	☐
Other non-HVAC loads and appliances greater than or equal to 25kVA	All loads in aggregate	Method 1: Switchboards, motor control centers, or panelboard loads disaggregated for each load type	X/E301	☐	☐

STATE OF CALIFORNIA
Electrical Power Distribution CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name: Desmond MS - ELOP Year Two	Report Page:	(Page 4 of 6)
	Date Prepared:	3/24/2025

G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING

This table includes entirely new or complete replacement electrical power distribution systems to demonstrate compliance with 130.5(b)/ 160.6(b). Any load types that are not included in the service do not need to be shown. For multifamily occupancies, submetered systems that provide power to dwelling units do not need to meet these separation requirements and therefore load types on those submetered systems also do not need to be shown.

01	02	03	04	05	
Load Type per Table 130.5-B[1]	Minimum Required Separation of Load per Table 130.5-B	Compliance Method[2]	Location of Requirements in Construction Documents	Field Inspector	
				Pass	Fail

** NOTES: If "Other*" is selected under Compliance Method above, please indicate how compliance has been achieved in the space provided below.*

[1] FOOTNOTES: For each separate load type, up to 10% of the connected load may be of any type.
[2] Method 1: Switchboards/ motor control centers/ panelboard loads disaggregated for each load type.
Method 2: Switchboards/ motor control centers/ panelboard supply other distribution equipment with loads disaggregated for each load type.
Method 3: Branch circuits serve load types individually and provisions for adding future branch circuit monitoring.
Method 4: Complete metering system measures and reports loads by type.
See Chapter 8 of the Nonresidential Compliance Manual for more detail on Compliance Methods.

H. VOLTAGE DROP

This table includes entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to demonstrate compliance with 130.5(c)/ 160.6(c). For alterations, only the altered circuits must demonstrate compliance per 141.0(b)2Pii/ 180.2(b)4Bviic.

01	02		03	04	05	
Electrical Service Designation/Description	Combined Voltage Drop on Installed Feeder/Branch Circuit Conductors Compliance Method		Location of Voltage Drop Calculations[1]	Sheet Number for Voltage Drop Calculations in Construction Documents	Field Inspector	
					Pass	Fail
HS	☒ Voltage drop less than 5%	☐ Permitted by CA Elec Code (Exception to 130.5(c))*	Contractor Responsible	E-Sheets	☐	☐

** NOTES: If "Permitted by CA Elec Code *" is selected under Compliance Method above, please indicate where the exception applies in the space provided below.*

[1] FOOTNOTES: Voltage drop calculations may be attached to the permit application outside the construction documents if allowed by the Authority Having Jurisdiction. Select "attached" if applicable. If calculations will be the responsibility of the installing contractor, select "Contractor Responsible".

I. CIRCUIT CONTROLS FOR 120-VOLT RECEPTACLES AND CONTROLLED RECEPTACLES

This table includes entirely new or complete replacement electrical power distribution systems to demonstrate compliance with 130.5(d)/ 160.6(d).. Both controlled and uncontrolled receptacles must be provided in office areas, lobbies, conference rooms, kitchen areas in office spaces, copy rooms and hotel/motel guest rooms.

STATE OF CALIFORNIA
Electrical Power Distribution CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name: Desmond MS - ELOP Year Two	Report Page:	(Page 5 of 6)
	Date Prepared:	3/24/2025

I. CIRCUIT CONTROLS FOR 120-VOLT RECEPTACLES AND CONTROLLED RECEPTACLES

01	02	03	04	05	06	07	
Room name or Description	Location/ Type of Controlled Receptacles[1]	Shut-Off Controls	Demand Responsive Controls	Permanent Durable Marking Will be Used	Location of Requirements in Construction Documents	Field Inspector	
						Pass	Fail
Not Required	Split-wired receptacle	Occupancy Sensor	NA: Building does not require demand responsive lighting controls per 110.12(c)	☒		☐	☐

** NOTES: If "Other*" is selected under Shut-Off Controls above, please indicate how compliance has been achieved in the space provided below.*

[1] FOOTNOTES: Receptacles dedicated to refrigerators and water dispensers in kitchens, located a minimum of 6ft above the floor specifically for clocks, network copiers, fax machines, A/V and data equipment other than personal computers in copy rooms, circuits rated more than 20 Amps, or connected to a UPS that are intended to be in continuous use and are marked to differentiate them from other receptacles or circuits are excepted from the requirements. .

J. ELECTRIC READY BUILDINGS

This section does not apply to this project.

K. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-ELC-E - Must be submitted for all buildings

STATE OF CALIFORNIA
Electrical Power Distribution CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name: Desmond MS - ELOP Year Two	Report Page:	(Page 6 of 6)
Project Address: 26490 Martin St.	Date Prepared:	3/24/2025

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: C. Scott Davidson	Documentation Author Signature: C. Scott Davidson
Company: Hardin-Davidson Engineering	Signature Date: 2025-03-24
Address: 356 Pollasky Ave., Suite 200	CEA/ HERS Certification Identification (if applicable): E17850
City/State/Zip: Clovis CA 93612	Phone: 559-323-4995

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: C. Scott Davidson	Responsible Designer Signature: C. Scott Davidson
Company: Hardin-Davidson Engineering	Date Signed: 2025-03-24
Address: 356 Pollasky Ave., Suite 200	License: E17850
City/State/Zip: Clovis CA 93612	Phone: 559-323-4995

DSA File No.: *20-30*

DSA Application No.: *02-123203*

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

Hardin-Davidson Engineering
356 Pollasky Ave., Suite 200, Clovis, CA 93612
559.323.4995 • www.hardin-davidson.com
Consultant

REGISTERED PROFESSIONAL ENGINEER C. SCOTT DAVIDSON E17850 ELECTRICAL STATE OF CALIFORNIA

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

ENERGY COMPLIANCE
TITLE 24 COMPLIANCE FORMS - ELECT. POWER DISTRIBUTION
Drawing

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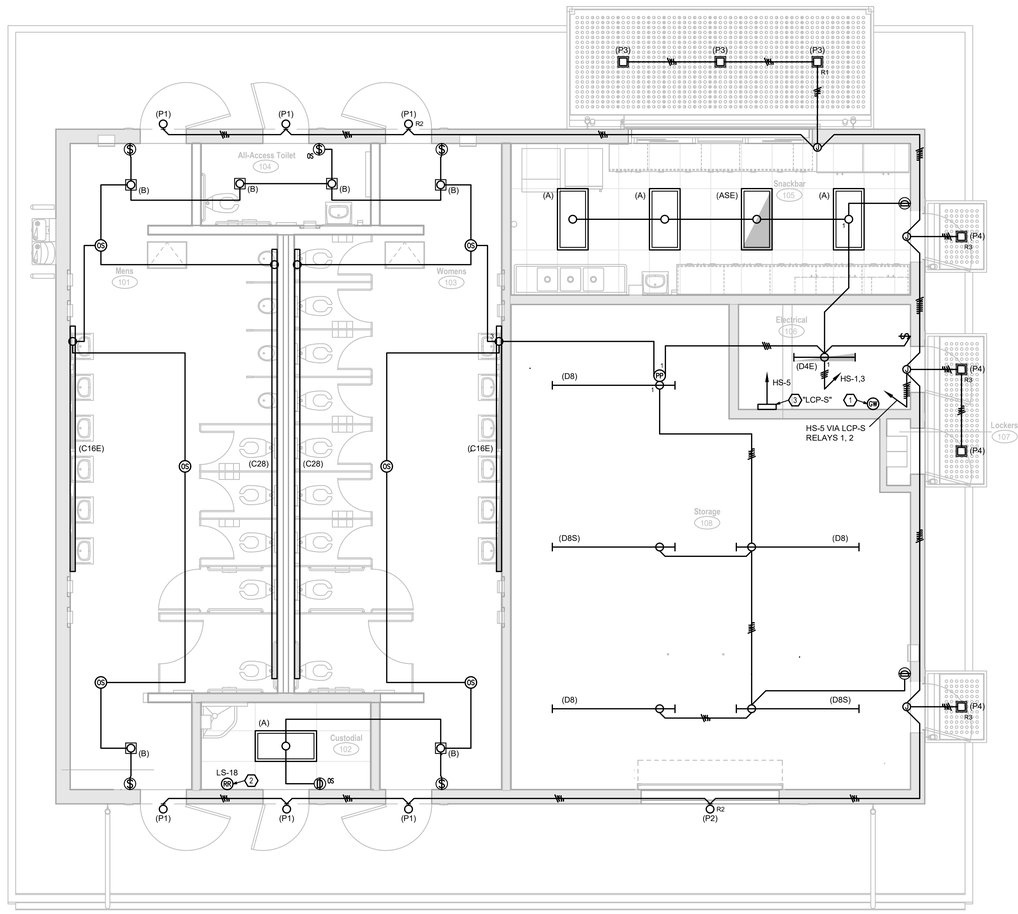
LICENSED ARCHITECT GREGORY J. ZATLO No. C26235 Exp. 10-31-26 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date

Revision

	Designed By: SD	Copyright 2025 Darden Architects
Scale: As Indicated	Drawn By: HDE	*X/E604*
Project Number: 2470.2	Checked By: SD	
Date: 8/29/2025	Reviewed By: SD	

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N

E8 — Lighting Plan

Scale: 1/4" = 1'-0"

DSA File No.: *20-30*

DSA Application No.: *02-123203*

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

KEY NOTES ⎔

1. PROVIDE nLIGHT ECLYPSE GATEWAY. CONNECT POWER, PATCH INTO IDF, AND PROGRAM LIGHTING CONTROL SYSTEM.
2. CONNECT RELAY PACK TO LOCAL OUTLET CIRCUIT AND EXHAUST FAN. PROGRAM TO RUN WITH LIGHT IN THIS ROOM AND TIMEOUT DELAY.
3. ACUITY ARP-INTENC08-NLT-4FCR-MVOLT-HLK-SM-DTC LIGHTING CONTROL PANEL.

Hardin-Davidson Engineering
356 Pollasky Ave., Suite 200, Clovis, CA 93612
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REGISTERED PROFESSIONAL ENGINEER — C. SCOTT DAVIDSON — E17850 — ELECTRICAL — STATE OF CALIFORNIA

Consultant

Desmond MS - ELOP Year Two
Madera Unified School District
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Project

BUILDING S
LIGHTING PLAN

Drawing

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LICENSED ARCHITECT — GREGORIO J. PONCE — No. C26235 — R.E. 10-31-25 — STATE OF CALIFORNIA

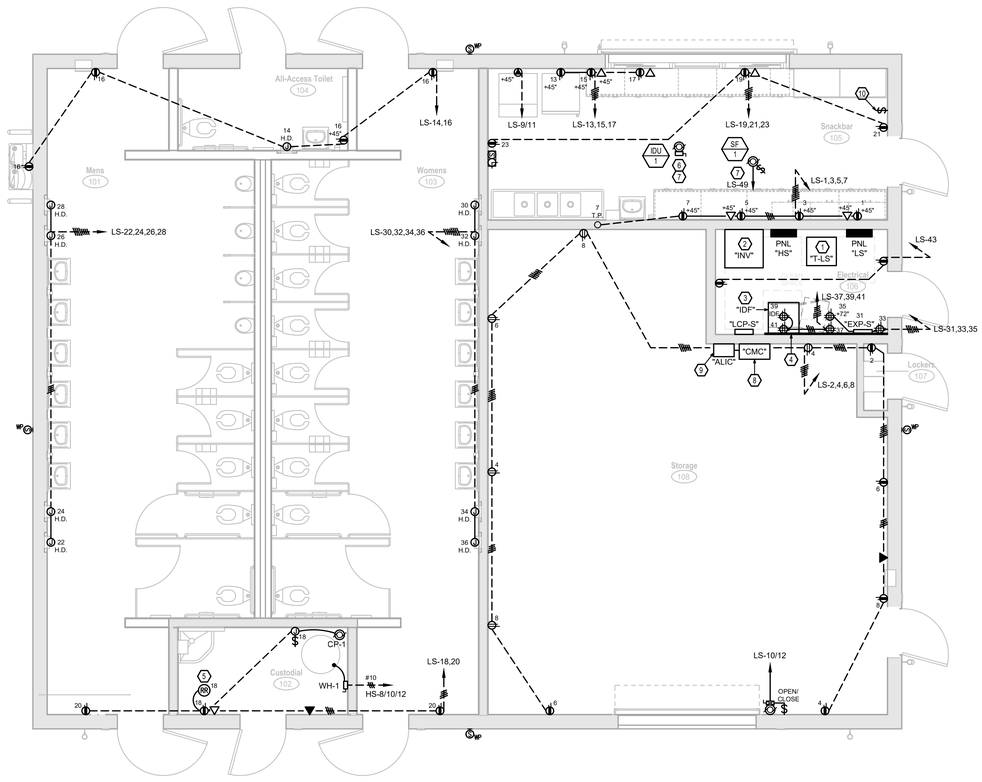
Architect

No.	Revision/Submission	Date

Revision

	Designed By: SD	Copyright 2025 Darden Architects
Scale: As Indicated	Drawn By: HDE	S/E101
Project Number: 2470.2	Checked By: SD	
Date: 8/29/2025	Reviewed By: SD	

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E8 | Power and Systems Plan

Scale: 1/4" = 1'-0"

DSA File No.:
20-30

DSA Application No.:
02-123203

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DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

KEY NOTES ⬡

1. TRANSFORMER "T-LA":
   SEE KEYNOTE 4, SHEET X/E301 FOR DESCRIPTION.
   PAD MOUNT TO CONCRETE FLOOR PER A13/X/E301.
2. EMERGENCY LIGHTING INVERTER WITH 90 MINUTE RUNTIME:
   IEP GLX-4kW-480-480-AN1002-BN1602-Z-WARRANTY
   480V 1Ø IN, 480V 1Ø OUT, 4kVA OUTPUT, (2) 10A 1-POLE N.O. CB, (2) 16A 2-POLE N.O. CB, 10A 1-POLE OCB.
   DIMENSIONS: 30"W x 30"D x 72"H. WEIGHT: 1,200 LBS.
   PAD MOUNT PER A13/X/E104.
3. IDF CABINET. PROVIDE QUAD OUTLET AT CABINET INTERIOR. MOUNT TO WALL PER A14/X/E401.
4. 1" THICK, FIRE-RESISTANT PLYWOOD BACKBOARD, 96"W x 96"H, SET BOTTOM 6" ABOVE FLOOR. PROVIDE TMGB PER DETAIL F14/X/E401.
5. CONNECT RECEPTACLE RELAY PACK TO ROOF EXHAUST FAN.
6. CONNECT IDU POWER TO ROOFTOP ODU PER MANUFACTURER.
7. PROVIDE CONTROL PER MECH PLANS.
8. MUSCO CONTROL AND MONITORING CABINET "CMC". SEE A7/X/E301. MOUNT CABINET PET F13/X/E301. WT. = 140 LBS.
9. MUSCO AUXILIARY LIGHTING INTERFACE CABINET. SEE A7/X/E301. MOUNT CABINET PET F13/X/E301. WT. = 25 LBS.
10. SCOREBOARD ON/OFF SWITCH. PROVIDE 3/4"C. TO PANEL AL AND RUN SCOREBOARD CIRCUIT THROUGH THIS SWITCH. PROVIDE LABEL READING "SCOREBOARD SWITCH".

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POWER AND SYSTEMS PLAN
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Architect

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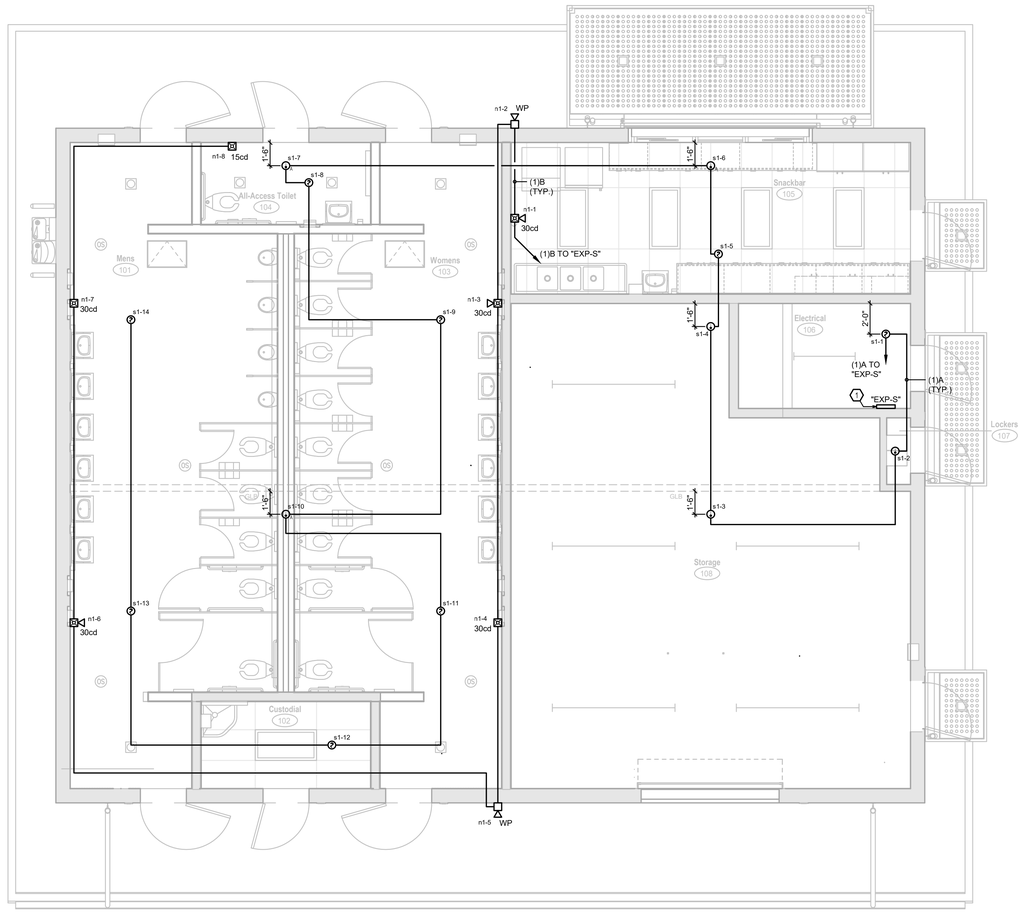
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Date: 8/29/2025	Reviewed By: SD	

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NOTES:

1. THE CONCEALED SPACES IN ROOF OVERHANGS DO NOT REQUIRE FIRE DETECTION AS THE CEILING IS ATTACHED DIRECTLY TO THE UNDERSIDE OF THE SUPPORTING BEAMS.
2. CUSTODIAL 102 AND STORAGE ROOM 108 UTILIZE HEAT DETECTORS IN LIEU OF SMOKE DETECTORS AS PER DSA GL-2 SECTION 1.2.7 (a).
3. THIS BUILDING UTILIZES AUDIBLE HORN NOTIFICATION IN LIEU OF EVACS AS PER DSA IR 9-1 SECTION 2.3.1 (2nd AND 3rd BULLET POINTS).



N

E8 — Fire Alarm Plan

Scale: 1/4" = 1'-0"

DSA File No.: *20-30*

DSA Application No.: *02-123203*

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KEY NOTES ⬡

1. FIRE ALARM NAC EXPANDER PANEL. MOUNT PER DETAIL A10/E501. CONNECT FA PER FIRE ALARM SINGLE LINE DIAGRAM X/E502.

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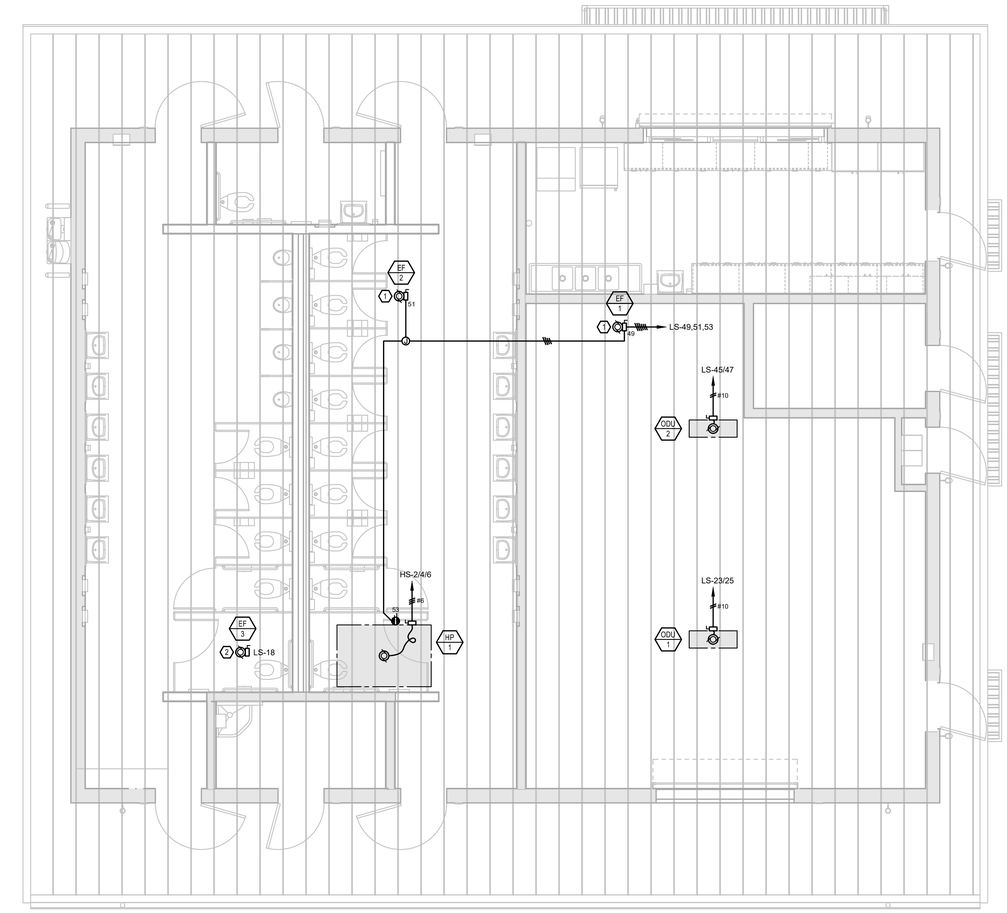
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Architect

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N

E8

Roof Electrical Plan

Scale: 1/4" = 1'-0"

DSA File No.:
20-30

DSA Application No.:
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GENERAL NOTES

1. UNDER NO CIRCUMSTANCE SHALL HORIZONTAL RUNS OF CONDUIT BE INSTALLED ON TOP OF THE ROOF. ALL CONDUITS SHALL BE RUN BELOW THE ROOF SURFACE. PENETRATE ROOF NEAR EQUIPMENT SERVED.

KEY NOTES ⬡

1. INTERFACE EXHAUST FAN WITH MECHANICAL CONTROLS SHOWN ON MECH PLANS.
2. CONNECT TO RECEPTACLE RELAY PACK ON CIRCUIT SHOWN. SEE POWER AND LIGHTING PLANS.

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BUILDING S
ROOF ELECTRICAL PLAN
Drawing

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Project Number: 2470.2	Checked By: SD	
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MADERA UNIFIED SCHOOL DISTRICT
DESMOND MS - HOME
MADERA, CALIFORNIA

GENERAL REQUIREMENTS:

1. CONFLICTS: NOTES AND DETAILS ON THE DRAWINGS TAKE PRECEDENCE OVER THE GENERAL NOTES AND TYPICAL DETAILS IN CASE OF CONFLICT.
2. CODES: ALL MATERIALS AND WORK SHALL CONFORM TO THE REQUIREMENTS OF THE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2, 2022 CALIFORNIA BUILDING CODE (CBC) & 2017 ICC 300.
3. SIMILAR WORK: WHERE CONSTRUCTION DETAILS ARE NOT SHOWN OR NOTED FOR ANY PART OF THE WORK, SUCH DETAILS SHALL BE THE SAME AS FOR SIMILAR WORK SHOWN ON THE DRAWINGS.
4. EXCAVATIONS: OWNER TO LOCATE AND PROTECT UNDERGROUND OR CONCEALED CONDUIT, PLUMBING OR OTHER UTILITIES WHERE NEW WORK IS BEING PERFORMED.

DESIGN CRITERIA

1. DEAD LOADS:
   BLEACHERS (INCLUDES GIRDERS)..... 10 PSF
2. LIVE LOADS:
   LIVE LOAD..... 100 PSF
   SEATS..... 120 PLF
   FOOTBOARDS..... 100 PSF
   SWAY (PERPENDICULAR)..... 10 PLF
   SWAY (PARALLEL)..... 24 PLF
   GUARDRAILS AND HANDRAILS*..... 50 PLF
   * OR A 200 POUND CONCENTRATED LOAD APPLIED TO RAIL AT ANY POINT IN ANY DIRECTION.
   TREADS..... 300 POUND CONCENTRATED LOAD ON AN AREA OF 4 SQUARE INCHES
   PRESS BOX:
   DEAD LOADS
   FLOOR..... 15 PSF
   ROOF..... 15 PSF
   LIVE LOADS
   FLOOR/ROOF..... 100 PSF

COLD FORMED MEMBERS (PRESS BOX):

MATERIALS:

STEEL PROPERTIES			
TUBE	4" SQUARE X 11 GA. TUBE	A500 GRADE B	Fy = 46ksi, MIN.
DIAGONAL ANGLE	L2 X 2 X 3/16"	A572 / A529	Fy = 50ksi, MIN.
KELLY PAN ANGLE	L2 X 2 X 3/16"	A572 / A529	Fy = 50ksi, MIN.
BEAM	4" X 14 GA.	A1011 / A653	Fy = 50ksi, MIN.
FLAT STRAP	4" X 14 GA.	A1011 / A653	Fy = 50ksi, MIN.
ROOF PLATE	1/2SQ. OR 1/8"	A709 / A653 / A786	Fy = 50ksi, MIN.

1. CODES AND FABRICATION: STEEL STUD MANUFACTURER'S ASSOCIATION ICC ESR 3064P OR APPROVED EQUAL.
2. COLD FORMED SHAPES SHALL BE LAMSED TO A THICKNESS OF 11 GAGE OR THINNER.

ALUMINUM:

1. MATERIALS: ALUMINUM
   SHAPES..... ALLOY 6061-T6 OR 6005-T5 (Fy = 30 KSI)
   PLANKING..... ALLOY 6063-T6 (Fy = 23 KSI)
2. DESIMILAR MATERIALS: WHERE ALUMINUM SURFACES ARE IN CONTACT WITH STEEL, THE STEEL SHALL BE GALVANIZED.
3. MILL FINISHED ALUMINUM WILL BECOME DISCOLORED DUE TO OXIDATION WHICH IS A NATURAL PHENOMENON & SHOULD BE EXPECTED.
4. ANODIZED ALUMINUM HANDRAIL IS 1 1/4" PIPE SIZE.
5. ALUMINUM TO CONFORM TO 2020 ALUMINUM DESIGN MANUAL.
6. WELDING: ALL WELDING SHALL BE IN CONFORMANCE WITH AWS A5.10. WELDS ARE ALL AROUND WITH TYPE E6XX-6 FILLER METAL, O.N.O.

STRUCTURAL STEEL:

1. CODES: AISC SPECIFICATION FOR STRUCTURAL STEEL FOR BUILDINGS: MANUAL OF STEEL CONSTRUCTION (15TH EDITION). STRUCTURAL WELDING CODE AWS D1.1 AND AWS D1.4. PIPES SHALL BE IDENTIFIED WITH MILL IDENTIFICATION IN ACCORDANCE WITH ASTM A-53 AND TUBE SHAPES IN ACCORDANCE WITH ASTM A-500.
2. IDENTIFICATION: ROLLED STRUCTURAL STEEL SHAPES SHALL BE IDENTIFIED WITH MILL IDENTIFICATION MARKS IN CONFORMANCE WITH ASTM A6.
3. MATERIALS:
   STRUCTURAL SHAPES
   WIDE FLANGE..... ASTM A992/A572, Fy = Gr. 50 (Fy = 50 KSI MIN.), UNO
   CHANNELS AND ANGLES..... ASTM A529, Fy = Gr. 50 (Fy = 50 KSI MIN.), UNO
   SWAYBRDS..... ASTM A529, Fy = Gr. 50 (Fy = 50 KSI MIN.), UNO
   HSS SHAPES (TUBE COLUMNS)..... ASTM A 500 GRADE B - 46 KSI
   PLATES 2" THICK OR LESS..... ASTM A36 Gr. 36 (Fy = 36 KSI MIN.), UNO
   PLATES GREATER THAN 2" THICK..... ASTM A572 Gr. 50 (Fy = 50 KSI MIN.), UNO
   BOLTS..... ASTM A 307, A325N TYPICAL U.N.O (HOT DIP GALVANIZED)
   NUTS..... HEAVY HEX (HOT DIP GALVANIZED)
   NON-SHRINK GROUT..... ASTM C-1107 5,000 PSI (NON-METALLIC)
   ANCHOR BOLTS..... ASTM F1554 Gr. 55 (Fy=55 KSI Min.)
   (HOT DIP GALVANIZED)
4. WELDING: ALL WELDING SHALL BE IN CONFORMANCE WITH AWS D1.1. WELDS ARE ALL AROUND WITH TYPE E6XX-6 WIRE MIG O.N.O.
5. ALL STEEL SHALL BE HOT DIP GALVANIZED TO CURRENT A.S.T.M., A-123.
6. ALL FIELD CONNECTIONS ARE NON-SLIP CRITICAL U.N.O. ALL CONNECTIONS ARE DESIGNED TO UTILIZE A307 BOLTS. IT IS ACCEPTABLE TO USE A325N BOLTS IN LIEU OF THE A307 BOLTS WITHOUT NEEDING THE TESTS AND SPECIAL INSPECTIONS FOR HIGH STRENGTH BOLTS. THE INSTALLATION OF THESE BOLTS ARE TO BE TIGHTENED A SNUG TIGHT CONDITION AS SPECIFIED BY AISC. BOLT HOLES IN STANDARD CONNECTIONS SHALL BE STANDARD WITH 1/16" OVER SIZING FROM BOLT DIAMETER AND 1/8" OVERSIZED FOR ANCHORAGE LOCATIONS.
7. SWAYROD THREADS SHALL BE PINGED WITH A HAMMER TO ELIMINATE REMOVAL OF NUT, AFTER FINAL TIGHTENING.

OWNER/REPRESENTATIVE/ARCHITECTURAL REVIEW

PLEASE REVIEW THE DRAWINGS FOR COMPLIANCE WITH YOUR REQUIREMENTS AND NOTE ANY CORRECTIONS OR COMMENTS ON THE DRAWINGS.

☐ APPROVED — SIGNATURE
☐ APPROVED AS NOTED — TITLE
☐ REVISE AND RE-SUBMIT — DATE

AWS CWF CERTIFIED WELDING FABRICATOR

AISC CERTIFIED FABRICATOR

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GRANDSTANDS • BLEACHERS • STADIUMS

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801 Fifth Street.
Phone: 940/549-0733 Fax: 940/549-1365

Established 1946

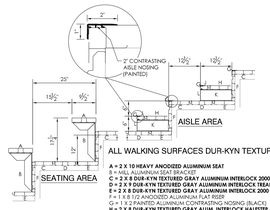
SHEET TITLE	PAGE #
COVER PAGE	B1 OF 7
HOME	
SECTION VIEW	B2 OF 7
SIGHT LINES	B3 OF 7
SEATING & FOOTING LAYOUT	B4 OF 7
EXIT CALCULATIONS	B5 OF 7
VISITOR	
SIDE VIEW - 5 ROW NON-ELEVATED	B6 OF 7
PLAN VIEW - 5 ROW NON-ELEVATED	B7 OF 7

GENERAL INFORMATION					SEAT
	RISE	TREAD	ROWS	LENGTH	COUNT
HOME	12"	25"	9	145'-6"	740
VISITOR	12"	26"	5	94'-6"	253

6/10/25 - REVISION 1

DATE: 11/27/24
JOB # 24SD272
MADERA UNIFIED SCHOOL DISTRICT
DESMOND MS - HOME
MADERA, CALIFORNIA
REF:

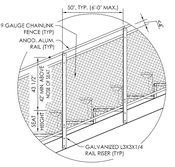
SHEET B1 | OF 7



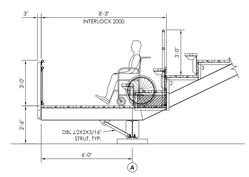
ALL WALKING SURFACES DUR-KYN TEXTURED GRAY

A = 2 X 10 HEAVY ANODIZED ALUMINUM SEAT
B = MILL ALUMINUM SEAT BRACKET
C = 2 X 8 DUR-KYN TEXTURED GRAY ALUMINUM INTERLOCK 2000 TREAD + NOSE
D = 2 X 9 DUR-KYN TEXTURED GRAY ALUMINUM INTERLOCK TREAD - DECK
E = 2 X 8 DUR-KYN TEXTURED GRAY ALUMINUM INTERLOCK 2000 TREAD - HEEL
F = 1 X 8 1/2 ANODIZED ALUMINUM FLAT RISER
G = 1 X 3 ANODIZED ALUMINUM CONTRASTING NOSING BRACKET
H = 2 X 8 DUR-KYN TEXTURED GRAY ALUM. INTERLOCK HALFSTEP - DECK
J = 2 X 4 DUR-KYN TEXTURED GRAY ALUM. INTERLOCK HALFSTEP - NOSE W/ RISER
K = 4 1/2" WALL ALUMINUM HALFSTEP BRACKET
L = 4 1/2" ANODIZED ALUMINUM INTERLOCK STEP RISER

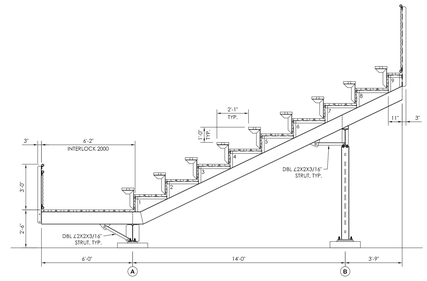
PLANK ARRANGEMENT
NOT TO SCALE — 12" X 25"



TYPICAL SIDE RAILING
SCALE:1/2"=1'-0"



SECTION VIEW @ WHEELCHAIR AREA
SCALE:1/2"=1'-0"



SECTION VIEW
SCALE:1/2"=1'-0"

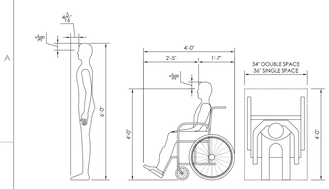
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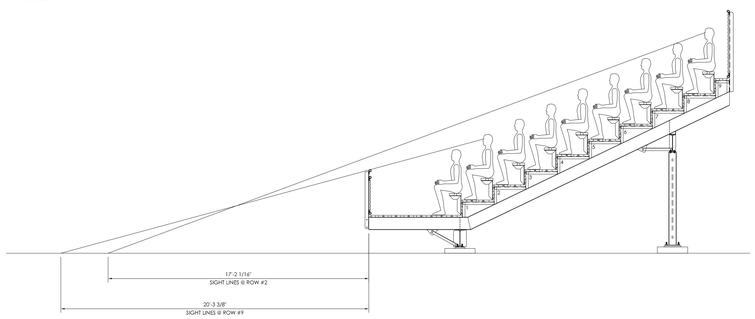
SECTION VIEW - HOME
12" RISE X 25" TREAD / 145'-6" (9 ROWS)
MADERA UNIFIED SCHOOL DISTRICT
DESMOND MS - HOME
MADERA, CALIFORNIA

NO.	DATE	DESCRIPTION
1	6/10/25	REVISION 1

11/27/24 | TDW | DMC
#24sd272
SHEET B2 | OF 7



SIGHT LINE PARAMETERS
NOT TO SCALE



SIGHT LINES
SCALE:1/2"=1'-0"

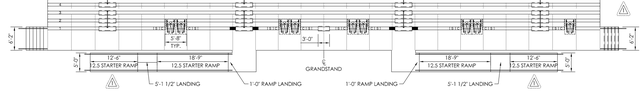
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SIGHT LINES - HOME
12" RISE X 25" TREAD / 145'-6" (9 ROWS)
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MADERA, CALIFORNIA

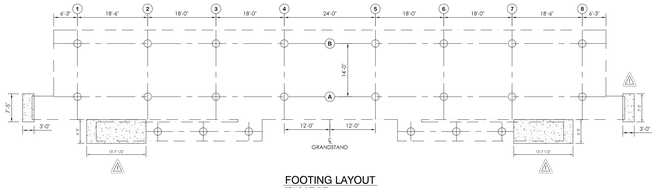
NO.	DATE	DESCRIPTION
1	6/10/25	REVISION 1

11/27/24 | TDW | DMC
#24sd272
SHEET B3 | OF 7



SEATING LAYOUT
SCALE: 1/8"=1'-0"

SEAT COUNT - HOME	
18" BENCH SEATS	709
34" WHEELCHAIR SPACES	9
18" COMPANION SEATS (C)	9
18" SEMI-AMBULANT SEATS (S)	9
18" ABLE SEATS	4
TOTAL SEAT COUNT	**740**



FOOTING LAYOUT
SCALE: 1/8"=1'-0"

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SEATING & FOOTING LAYOUT
12" RISE X 25" TREAD / 145'-6" (9 ROWS)
MADERA UNIFIED SCHOOL DISTRICT
DESMOND MS - HOME
MADERA, CALIFORNIA

NO.	DATE	DESCRIPTION
1	6/10/25	REVISION 1

11/27/24 | TDW | DMC
#24sd272
SHEET B4 | OF 7

Note: Design and Engineering of Bleachers exceeding 5 rows are **Deferred Approval** items, to be submitted to DSA for Review and Approval.

A1	OUTDOOR BLEACHERS, 9-Rows, Basis of Design

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

Bleachers - Design and Submittals

MANUFACTURER TO PROVIDE COMPLETE DRAWINGS, SPECIFICATIONS, AND CALCULATIONS STAMPED AND SIGNED BY A CALIFORNIA LICENSED STRUCTURAL ENGINEER.

General Requirements

Submittals shall include all components necessary for a complete and functional system, Bleacher manufacture to provide, engineer, and install all footing, thickened slabs, etc as required to support the bleachers.

Deferred Approval

1. The Contractor Shall Be Responsible For The Preparation and Submittal Of The Deferred Approval Items To The Division Of The State Architect (DSA) For Review and Approval Prior To The Installation. The Submittal Shall Comply With The Requirements Of Specification 013300: Submittal Procedures.
2. Fabrication and Installation of Deferred Approval items shall not be started until Contractor's drawing, specifications, and engineering calculations for the actual systems(s) to be installed have been reviewed by the Architect and/or the Structural Engineer, and approved by the DSA.
3. Contractor shall provide 6 week notice prior to submitting Deferred Approval to register submittal with DSA.
5. A California licensed architect or California registered engineer stamps and signs the plans and specifications for the deferred submittal item. The architect or engineer in general responsible charge of the design of the project shall submit the plans and specifications for the deferred submittal item to DSA, with notation indicating that the deferred submittal documents have been found to be in general conformance with the design of the building.
6. Bleachers shall conform to the requirements of ICC 300-17 and the Division of the State Architect's Interpretation of Regulations IR 16-5 (2022 CBC)

Inspections

1. Refer to Sheet X/S101 as Applicable

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

BLEACHERS 9-ROWS
Drawing

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ARCHITECTURE
PLANNING
INTERIORS
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LICENSED ARCHITECT — GREGORY J. AUSTIN — No. C26235 — Exp. 10-31-25 — STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

	Designed Designer	Copyright 2022 Darden Architects
Scale: 1/8" = 1'-0"	Drawn By: Author	
Project Number: 2470.2	Checked fChecker	BL/001
Date: 06/30/25	Reviewed Approver	

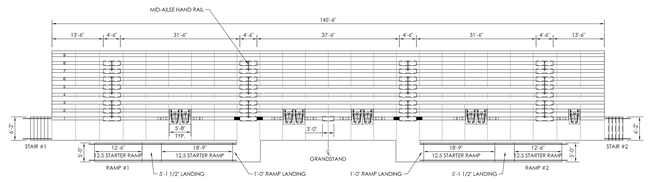
9/1/2025 2:24:29 PM
C:\Users\Bens\Documents\2470_2-ELOP_Yr2_Desmond_bens_darden.rvt

EXIT WIDTH CALCULATIONS:
STAIRS #1 & #2 @ 6'-2" = 12'-4"
12'-4" TOTAL STAIR EXIT WIDTH

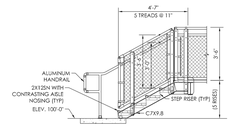
RAMPS #1 & #2 @ 5'-0" = 10'-0"
10'-0" TOTAL RAMP EXIT WIDTH

STAIR EXIT CAPACITY:
12'-2" X 150 PEOPLE PER FOOT = 1849 STAIR EXIT CAPACITY FURNISHED

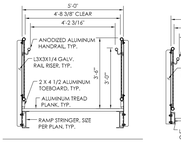
RAMP EXIT CAPACITY:
10'-0" X 200 PEOPLE PER FOOT = 2000 RAMP EXIT CAPACITY FURNISHED
3849 TOTAL EXIT CAPACITY
(ACTUAL CAPACITY 740)



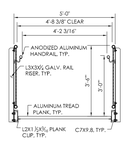
SEATING LAYOUT
SCALE:3/16"=1'-0"



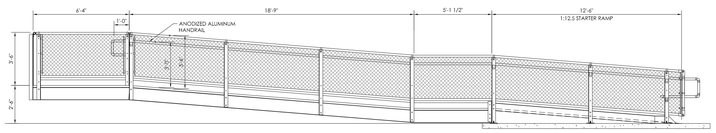
EXIT STAIRS
NOT TO SCALE



RAMP SECTION DETAIL
NOT TO SCALE



EXIT STEP SECTION
NOT TO SCALE



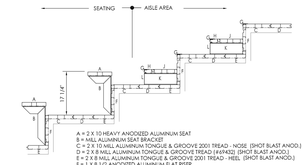
1:12.5 RAMP
SCALE:1/2"=1'-0"

Note: Design and Engineering of Bleachers exceeding 5 rows are **Deferred Approval** items, to be submitted to DSA for Review and Approval.

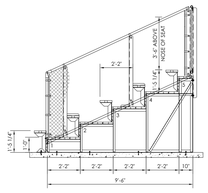
J1	OUTDOOR BLEACHERS, 9-Rows, Basis of Design
	See Also A1-BL/001

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Southern BLEACHER COMPANY
PO Box 1766, Graham, Texas 76450
Phone: 940-549-2100 Fax: 940-549-1340
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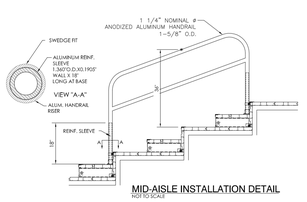
EXIT CALCULATIONS
TOTAL # OF ROWS: 9 ROWS (145'-0" @ ROWS)
MADERA UNIFIED SCHOOL DISTRICT
DESMOND MS - HOME
MADERA, CALIFORNIA
SEC CONTRACT NO. 24-047
11/27/24 TDW DAC
DSA FILE NO. 20-30
#24sd272
B5 7
22" X 34" (11 X 17 WITH 50% REDUCTION)



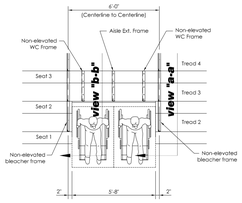
PLANK ARRANGEMENT
SCALE: 1" = 1'-0" 12" X 26"

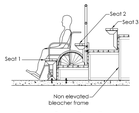


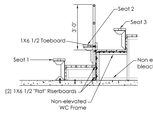
5 ROW NON-ELEVATED
SCALE:1/2"=1'-0"



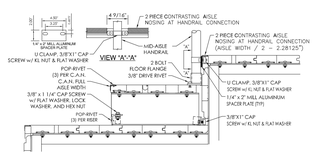
MID-AISLE INSTALLATION DETAIL
NOT TO SCALE



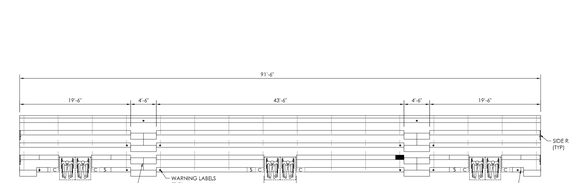




TONGUE & GROOVE 2001 NON-ELEVATED WHEELCHAIR AREA DETAIL
SCALE:NONE



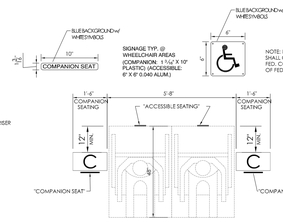
TONGUE & GROOVE 2001 HALF STEP & HANDRAIL ATTACHMENT DETAIL
NOT TO SCALE



SEATING LAYOUT
SCALE:3/16"=1'-0"

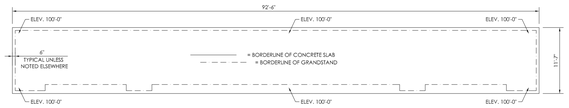
241 TOTAL NET 18" SEATS
6 TOTAL NET 33" WHEELCHAIR SPACES
6 TOTAL NET 18" COMPANION SEATS
253 TOTAL SEATING CAPACITY

■ DESIGNATED AISLE SEAT

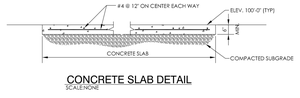


WHEELCAIR AREA DETAIL
NOT TO SCALE

NOTE: 1. CONCRETE SLAB DIMENSIONS LISTED ARE MINIMUM REQUIREMENTS FOR ANGLE FRAME BLEACHER SUBSTRUCTURE INSTALLATION. NOTE THAT ADDITIONAL CONCRETE MUST BE ADDED FOR WHEELCHAIR ACCESS. ALL CONCRETE WORK IS BY OTHERS & NOT BY BLEACHER MANUFACTURER.
2. CONCRETE SLAB ON GRADE TO BE LEVEL. BLEACHERS ARE DESIGNED FOR INSTALLATION ON UNIFORM, LEVEL SURFACE.



CONCRETE LAYOUT
SCALE:3/16"=1'-0"



CONCRETE SLAB DETAIL
SCALE:NONE

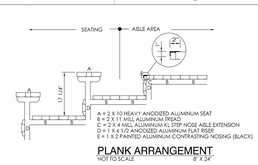
ANGLE FRAME UNITS MUST BE ANCHORED TO RESIST WIND LOADS, AS PRESCRIBED BY BUILDING CODE.

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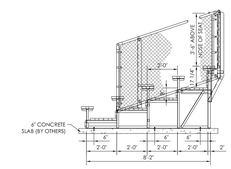
PLAN VIEW - 5 ROW NON-ELEVATED
12" RISE X 26" TREAD / 21" (5 ROWS)
MADERA UNIFIED SCHOOL DISTRICT
DESMOND MS - HOME
MADERA, CALIFORNIA
SEC CONTRACT NO. 24-047
11/27/24 TDW DAC
DSA FILE NO. 20-30
#24sd272
B7 7
22" X 34" (11 X 17 WITH 50% REDUCTION)

Note: The 5-Row Bleachers are Not Part of the DSA SS/FLS Approval per DSA IR A-22 Section 2 (Item A11).

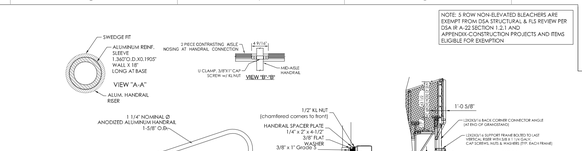
A1	OUTDOOR BLEACHERS, 5-Rows, Basis of Design

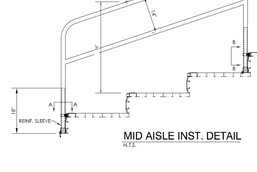


PLANK ARRANGEMENT
NOT TO SCALE

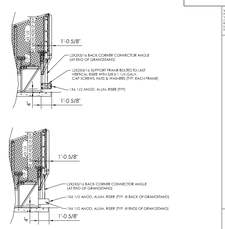


SIDE VIEW: 5 ROW NON-ELEVATED
SCALE:1/2"=1'-0"

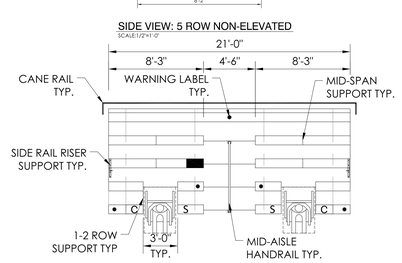




MID AISLE INST. DETAIL
NTS.



CANE DETECTION DETAIL @ BACK OF GRANDSTAND
SCALE:NONE

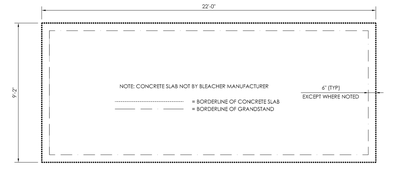


(4) UNITS REQUIRED
SEATING LAYOUT
SCALE:1/2"=1'-0"

44 TOTAL NET 18" SEATS
2 TOTAL 18" COMPANION SEATS
2 TOTAL NET 33" WHEELCHAIR SPACES
48 TOTAL SEATING CAPACITY

■ DESIGNATED AISLE SEAT

NOTE:
1. CONCRETE SLAB DIMENSIONS LISTED ARE MINIMUM REQUIREMENTS FOR ANGLE FRAME BLEACHER INSTALLATION
2. CONCRETE SLAB ON GRADE TO BE LEVEL. BLEACHERS ARE DESIGNED FOR INSTALLATION ON UNIFORM, LEVEL SURFACE



CONCRETE LAYOUT
SCALE:3/16"=1'-0"

ANGLE FRAME UNITS MUST BE ANCHORED TO RESIST WIND LOADS, AS PRESCRIBED BY BUILDING CODE.

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Phone: 940-549-2100 Fax: 940-549-1340
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SIDE VIEW / SEATING & CONCRETE SLAB LAYOUT
(4) UNITS @ 8' RISE X 24" TREAD / 21' (5 ROWS)
MADERA UNIFIED SCHOOL DISTRICT
DESMOND MS - HOME
MADERA, CALIFORNIA
SEC CONTRACT NO. 24-047
11/27/24 TDW DAC
DSA FILE NO. 20-30
#24sd272
B8 8
22" X 34" (11 X 17 WITH 50% REDUCTION)

DSA File No.:
20-30

DSA Application No.:
02-123203

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Agency Approval

Bleachers - Design and Submittals

MANUFACTURER TO PROVIDE COMPLETE DRAWINGS, SPECIFICATIONS, AND CALCULATIONS STAMPED AND SIGNED BY A CALIFORNIA LICENSED STRUCTURAL ENGINEER.

General Requirements

Submittals shall include all components necessary for a complete and functional system, Bleacher manufacture to provide, engineer, and install all footing, thickened slabs, etc as required to support the bleachers.

Deferred Approval

1. The Contractor Shall Be Responsible For The Preparation and Submittal Of The Deferred Approval Items To The Division Of The State Architect (DSA) For Review and Approval Prior To The Installation. The Submittal Shall Comply With The Requirements Of Specification 013300: Submittal Procedures.
2. Fabrication and Installation of Deferred Approval items shall not be started until Contractor's drawing, specifications, and engineering calculations for the actual systems(s) to be installed have been reviewed by the Architect and/or the Structural Engineer, and approved by the DSA.
3. Contractor shall provide 6 week notice prior to submitting Deferred Approval to register submittal with DSA.
5. A California licensed architect or California registered engineer stamps and signs the plans and specifications for the deferred submittal item. The architect or engineer in general responsible charge of the design of the project shall submit the plans and specifications for the deferred submittal item to DSA, with notation indicating that the deferred submittal documents have been found to be in general conformance with the design of the building.
6. Bleachers shall conform to the requirements of ICC 300-17 and the Division of the State Architect's Interpretation of Regulations IR 16-5 (2022 CBC)

Inspections

1. Refer to Sheet X/S101 as Applicable

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637
Project

BLEACHERS 5-ROWS
Drawing

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LICENSED ARCHITECT GUSTAVO J. AVILA No. C-30235 Exp. 10-31-26 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

	Designed Designer	Copyright 2022 Darden Architects
Scale: 1/8" = 1'-0"	Drawn By: Author	BL/002
Project Number: 2470.2	Checked tChecker	
Date: 06/30/25	ReviewedApprover	

9/1/2025 2:24:31 PM
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GENERAL NOTES:

APPLICABLE BUILDING CODE

All construction and workmanship shall conform to the 2022 California Building Code, California Code of Regulations – Title 24, Parts 1 & 2.

This pole and foundation standard has been designed for lateral loads on the completed structure as follows:

Wind Design Data:
- Vult = 94 MPH (Exposure C); Vasd = 73 MPH (Exposure C)
- Risk Category = II
- See Pole Foundation Schedule for maximum pole wind forces.

Seismic Design Data:
- Ie = 1.0
- Risk Category = II (Self Supporting Poles)
- Ss = 0.580
- S1 = 0.230
- Site Class = D
- Sms = 0.517
- Sms = 0.492 (Includes 50% increase per ASCE 7–16 11.4.8, Supplement 3)
- Seismic Design Category = D
- Basic Seismic–Force–Resisting System = Non–Building Structure, not similar to buildings
- Cs = 0.120 (STRENGTH LEVEL)
- R = 1.5
- Ω = 1.5
- Analysis Procedure = Equivalent Lateral Force Procedure
- See Pole Foundation Schedule for maximum pole seismic forces.

GENERAL CONSTRUCTION

These notes shall be used in conjunction with the plans and any discrepancies shall be brought to the attention of the Registered Design Professional (RDP) in Responsible Charge.

Contractor must check all dimensions, clearances and job conditions before starting work. The RDP in Responsible Charge shall be notified immediately of any discrepancies or possible deficiencies.

The drawings and specifications represent the finished structure. All bracing, temporary supports, shoring, etc., is the sole responsibility of the Contractor. Observation visits to the job site by the RDP in Responsible Charge do not include inspection of construction procedures. The Contractor is solely responsible for all construction methods and for safety conditions at the worksite. These visits by RDP in Responsible Charge shall not be construed as continuous and detailed inspections.

Design, material, equipment, and products other than those described below or indicated on the drawings may be considered for use, provided prior approval is obtained from the School District, the RDP in Responsible Charge, and DSA.

All changes to the approved plans after a contract for construction has been awarded, affecting structural, access or life–safety portions of the project, shall be made by means of construction change documents (CCD) approved by DSA, as required by Section 4–338, Part 1, Title 24, CCR. All CCD shall be prepared and signed by the RDP in general Responsible Charge.

Substitutions shall be considered as a CCD and shall be approved by DSA prior to fabrication or use.

A Class 1 or Class 2 Project Inspector employed by the School District (Owner) and approved by DSA shall provide continuous inspection of the work, the duties of the Inspector are defined in Section 4–342, Part 1, Title 24, CCR.

All Tests And Inspections shall be performed by an Independent lab employed by the School District and approved by DSA.

Reference pole location on the Architectural, Structural, and/or Electrical drawings for actual pole placement and site location. Pole shall be located 5'–0" min. from adjacent structures below 50'–0" A.G.L., unless noted otherwise.

LIGHT POLE FOUNDATIONS

Reference geotechnical report prepared by Salem Engineering Group, INC., Dated February 12, 2025; Project No. 1–224–1068A.

Allowable Vertical soil Capacity – 120 PSF (Downward Skin Friction) for 6 FT embedment depth, 185 PSF (Downward Skin Friction) for 10 FT embedment depth, 110 PSF (Uplift Skin Friction).

Allowable Lateral Bearing capacity: 250 PSF/FT to maximum 2,500 PSF (Values may be doubled for isolated piers spaced more than 3.0 x diameter and increased ⅓ for wind and seismic loading.

A representative of Salem Engineering Group, INC. should be available at the time of the foundation installation to verify the soil design parameters and to provide assistance if any problems arise in foundation installation.

The Contractor must familiarize himself with the complete geotechnical report, and borings and contact the above firm to understand the soil conditions and the possibility of ground water pumping and excavation stabilization or bracing during the foundation installation and placement of concrete.

Soil formations that will require special design considerations or excavation procedures may exist. Pole foundations may need to be reanalyzed according to the soil conditions that exist.

If any discrepancies or inconsistencies arise, notify the RDP in Responsible Charge of such discrepancies.

All piers and concrete must bear on and against firm undisturbed soil as determined by the Geotechnical Engineer.

Place plywood collar around perimeter at the top of foundation excavation to prevent soil from entering pier.

All excavations must be free of loose soil, and debris prior to foundation installation and placement of concrete. Casing or drilling slurry may be required if caving occurs. Review and approval of the Geotechnical Engineer and DSA is required.

All excavations must be free of water or concrete shall be placed by the Tremie Method in accordance with ACI standard 336. Concrete placed by the Tremie Method shall have a minimum ultimate strength of 1,000 PSI greater than required under "Concrete Cast–In–Place" and a maximum slump of 8".

CONCRETE (CAST–IN–PLACE)

Concrete pier foundations with steel reinforcement shall attain a minimum ultimate compressive strength at 28 day test of 3,000 psi. Batch plant inspection not required.

All concrete shall attain a minimum strength of 2,500 psi prior to steel pole erection.

Use Type II/V Portland cement or as directed by the Geotechnical Engineer.

Portland Cement ASTM C–150.

Aggregate ASTM C–33. 1" maximum aggregate size. ⅜" max agg. size not permitted at reinforced piers.

Mix in conformance with ASTM C–94, ACI 318 SECTIONS 19.3 and 26.4.

Place concrete immediately after completion of excavation and inspection by the Geotechnical Engineer and the DSA Inspector. Under no circumstances shall piers be allowed to remain open for more than 12 hours without the approval of the Geotechnical Engineer. Excavations shall be covered and protected until filled with concrete.

Concrete shall be placed in one continuous operation (no construction joint) with special equipment to assure a maximum freefall of 5 ft and to prevent concrete from striking the sides of the excavation. Freefall of concrete is unacceptable through water or drilling slurry.

Vibrate concrete full depth, except for concrete with slump greater than 6", then vibrate only upper 10'–0". Concrete placed under water shall have a slump of 6"–8".

STEEL POLE

Steel pole sections conform to the California Code of Regulations T.24, Part 2, Chapter 22A.

All steel conforms to referenced ASTM specifications. (See Pole Data Table for each pole type).

All weldment conforms with AWS D1.1–15 specification for GMAW fillet utilizing E70S–X filler metal or SAW fillet utilizing F7XX–EXXX or F8XX–EXXX filler metal.
GMAW procedure conforms to AWS A5.18.
SAW procedure conforms to AWS A5.23.

Longitudinal seam welds for pole sections shall have 60% minimum penetration; Except longitudinal seam welds on the female section of telescopic field splices shall be full penetration groove welds for a length equal to the minimum splice length plus 6 inches. See drawing number MD1 for seam weld details.

Pole sections hot dipped galvanized to ASTM A123 latest standards.

All miscellaneous structural steel items conform to AISC 360–16.

Steel pole sections shall be assembled in the field by attaching two 1.5 ton "come alongs" to jacking ears, using full effort on each simultaneously, to ensure minimum overlaps as indicated on the "MS" sheet(s) and detail G/MD1.

PRECAST BASE

The precast concrete base conforms to California Code of Regulations, T.24, part 2, Chapter 19A and to Building Code Requirements for Reinforced Concrete, ACI 318–19. Precast bases are an ICC approved product under ESR–3765.

See detail "A" on "MS" sheet(s) for material strengths and specifications.

TESTING AND INSPECTION

Testing and inspection in accordance with Title 24, Part 1 & Part 2 & project DSA 103 form.

EXCAVATIONS & FOUNDATIONS:
Inspection of cast–in–place deep foundations – 1705A.8 & Table 1705A.8

CONCRETE MATERIALS: 1903A.1
Portland cement – 1910A.1
Concrete aggregates – 1903A.5
Reinforcing bars – 1910A.2 & DSA IR 17–10
Prestressing steel and anchorages – 1910A.3

CONCRETE QUALITY:
Proportions of concrete – Reference ACI 318 Section 26.4.3.1 Through 26.4.4.1.
Strength tests of concrete – 1905A.1.17 and ACI 318 Section 26.12 & 26.5.3.2.

CONCRETE INSPECTION: 1705A.3 & Table 1705A.3
Job site – Reference ACI 318 Section 26.5.1,26.5.2.1(a) & (b),26.6.1.2(d), 26.11.1.1(a).
Batch Plant Inspection Not Required – 1705A.3.3.2
Prestressed concrete – 1704A.2.5, 1705A.3.4

STEEL MATERIALS:
Structural steel – 2202A.1 & 2205A.1
Cold formed steel – 2210A.1
Identification – 2202A.1
High strength bolt identification – table 1705A.2.1 & DSA IR 17–9

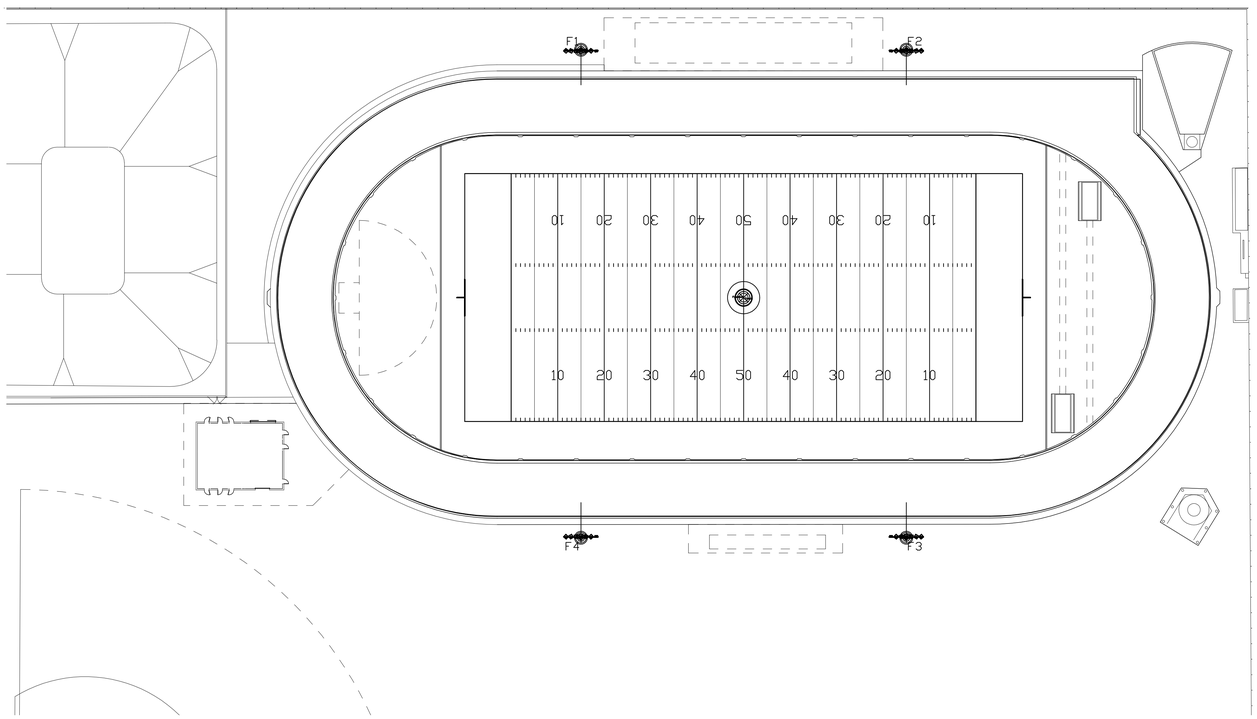
STEEL QUALITY:
Tests of structural steel & cold formed steel – 2202A.1
Tests of high strength bolts, nuts, & washers – 2213A.1 & DSA IR 17–8

STRUCTURAL STEEL INSPECTIONS: Table 1705A.2.1
Shop fabrication inspection – 1704A2.5
Welding – 1705A.2.5, DSA IR 17–3 and AWS D1.1.
High strength bolt installation – Table 1705A.2.1 & DSA IR 17–9
(Including Skidmore–Wilhelm bolt tension pre–installation verification testing)
(NOTE: ALL WELDING SHALL BE CONTINUOUSLY INSPECTED BY AN AWS CWI CERTIFIED INSPECTOR APPROVED BY DSA)

These plans are for construction approval. An application number and approval of these drawings by the Division of The State Architect of California must be secured to build from these plans.

INDEX OF SHEETS

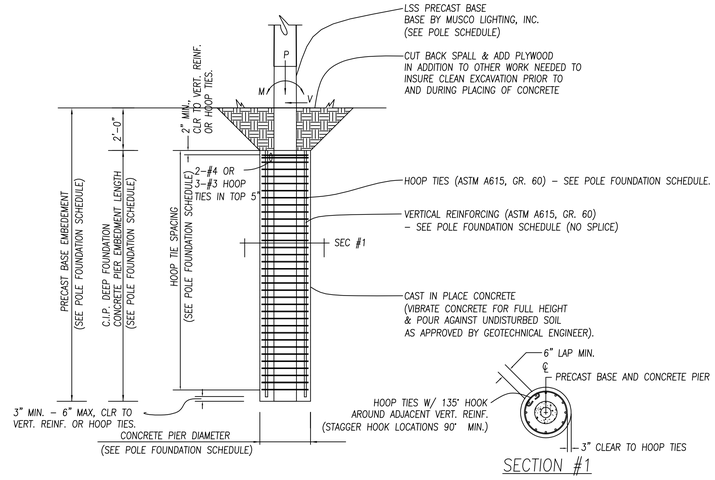
MT1	NOTES, FOUNDATION DETAIL
MS1	80A POLE DETAILS
MD1	ATTACHMENT DETAILS
MD2	ATTACHMENT DETAILS
MD3	ATTACHMENT DETAILS



POLE ORIENTATION PLAN
N.T.S.

NOTE: THIS PLAN IS A PICTORAL REPRESENTATION OF THE SITE LAYOUT. REFERENCE APPROPRIATE ARCHITECTURAL SITE PLAN FOR ALL NECESSARY INFORMATION.

NORTH



A REINFORCED FOUNDATION DETAIL
N.T.S. DSA–A2–CASFND_A

POLE FOUNDATION SCHEDULE

POLE TYPE–# OF FIXTURES (MAX) (LSS=LIGHT STRUCTURE)	MARK (SEE POLE ORIENTATION PLAN)	WIND OR SEISMIC (SEISMIC FORCE INCLUDES OVERSTRENGTH FACTOR=1.5)	ASD LEVEL FORCES (MAX)			C.I.P. DEEP FOUNDATION				PRECAST BASE
			MOMENT (M) FT–LBS*	SHEAR (V) LBS	VERTICAL (P) LBS**	DIAMETER INCHES	EMBEDMENT FEET (SEE NOTE BELOW)	VERTICAL REINFORCING (ASTM A615, GR 60)	HOOP TIE SIZE & SPACING (ASTM A615, GR 60)	EMBEDMENT FEET
LSS80A–7	F1, F2, F3, F4	SEISMIC	28,200	481	3,822	36"	12'–0"	8–#8	#4 @ 6" O.C. TOP 9'–0" & #4 @ 12" O.C. BELOW	14'–0"
		WIND	84,100	1,580	2,442					

*Moment (M) computed below grade at Shear (V) = 0.
**Vertical (P) load includes steel pole, light fixtures, and attachments. Vertical (P) load for wind is the dressed pole weight for erection purposes. Vertical (P) load for seismic also includes weight of precast base above groundline. Reference Detail "A" on MS Sheet(s) for precast base weight.
Note:
Final Embedment to be determined in the field by the Geotechnical Engineer of Record

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Exp. 6–30–25

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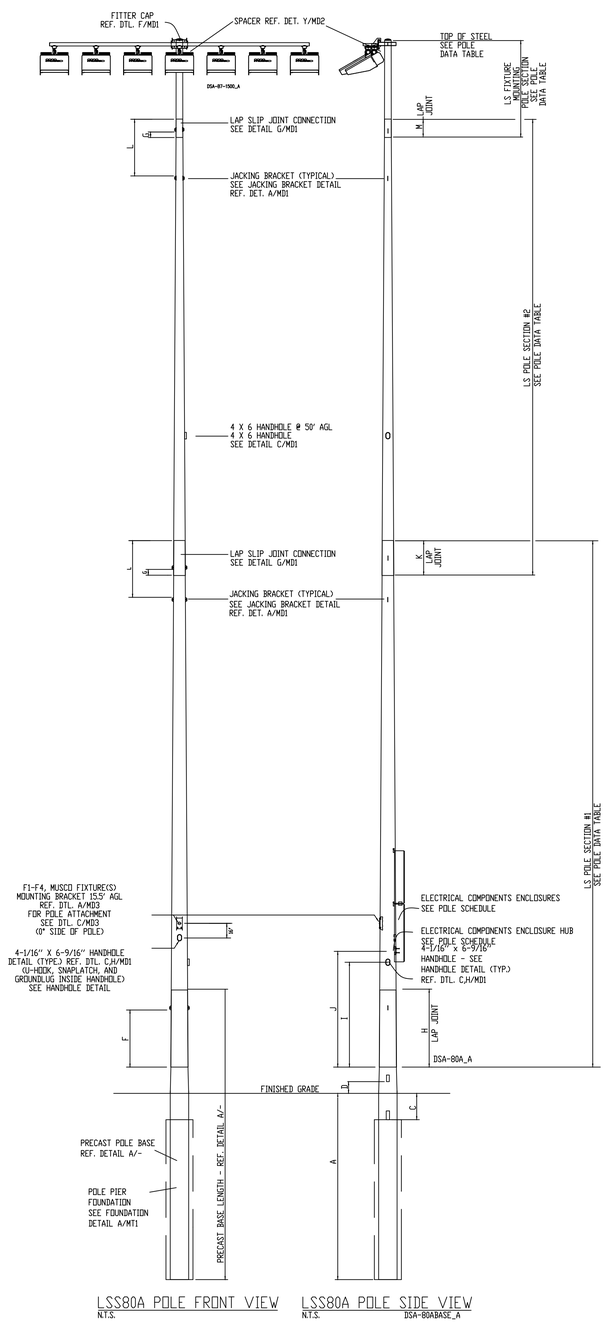
musco Lighting

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DRAWING TITLE: NOTES, FOUNDATION DETAIL
SCALE: SEE PLAN
REVISIONS:
REFERENCE:

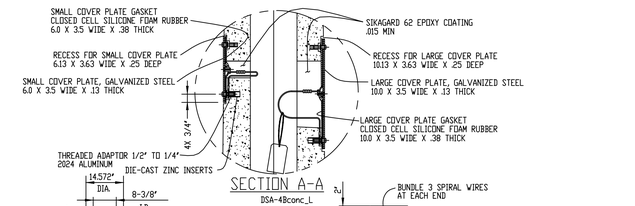
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DRAWING NO. MT1
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DSA–TITLE1_E

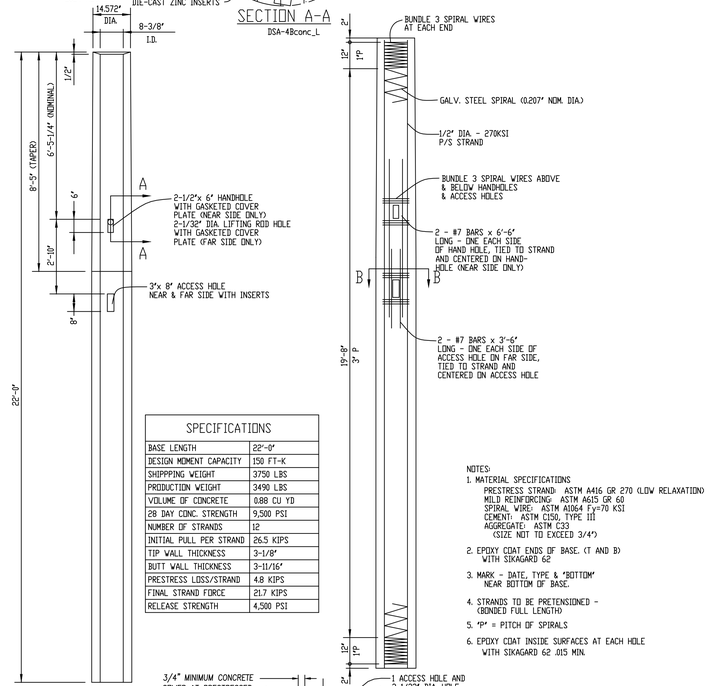


LSS80A POLE FRONT VIEW
N.T.S.

LSS80A POLE SIDE VIEW
N.T.S. DSA-B0ABASE_A



SECTION A-A
DSA-48conc_L



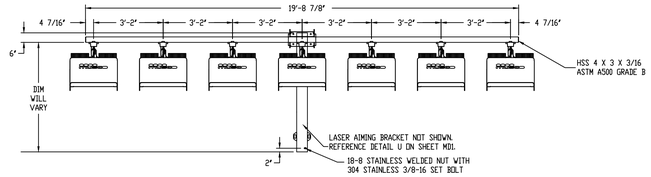
PLAN SECTION B-B

SPECIFICATIONS	
BASE LENGTH	22'-0"
DESIGN MOMENT CAPACITY	150 FT-K
SHIPPPING WEIGHT	3750 LBS
PRODUCTION WEIGHT	3490 LBS
VOLUME OF CONCRETE	0.88 CU YD
28 DAY CONC. STRENGTH	9,500 PSI
NUMBER OF STRANDS	12
INITIAL PULL PER STRAND	26.5 KIPS
TIP WALL THICKNESS	3-1/8"
BUTT WALL THICKNESS	3-11/16"
PRESTRESS LOSS/STRAND	4.8 KIPS
FINAL STRAND FORCE	21.7 KIPS
RELEASE STRENGTH	4,500 PSI

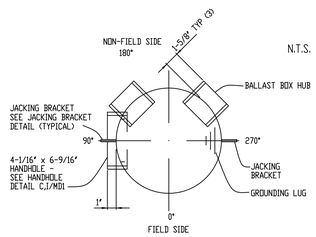
NOTES:
1. MATERIAL SPECIFICATIONS
   PRESTRESS STRAND: ASTM A416 GR 270 (LOW RELAXATION)
   MILD REINFORCING: ASTM A615 GR 60
   SPIRAL WIRE: ASTM A1064 Fy=70 KSI
   CEMENT: ASTM C150, TYPE III
   AGGREGATE: ASTM C33
   (SIZE NOT TO EXCEED 3/4")
2. EPOXY COAT ENDS OF BASE. (T AND B)
   WITH SIKAGARD 62
3. MARK - DATE, TYPE & "BOTTOM"
   NEAR BOTTOM OF BASE.
4. STRANDS TO BE PRETENSIONED -
   (BONDED FULL LENGTH)
5. "P" = PITCH OF SPIRALS
6. EPOXY COAT INSIDE SURFACES AT EACH HOLE
   WITH SIKAGARD 62 .015 MIN.

A TYPE 4B PRECAST BASE DETAIL
N.T.S. DSA-48conc_L

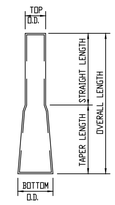
NOTATION	DIMENSION LSS80A
A	14'-0"
C	2'-0" NOM.
D	1'-0" NOM.
F	4'-4" NOM.
G	1'-6"
H	5'-10 1/4" NOM. 5'-3 3/4" MIN.
I	7'-7 1/2" NOM.
J	8'-9 1/2" NOM.
K	3'-5 5/8" NOM. 2'-1 1/4" MIN.
L	4'-7" NOM.
M	1'-10" NOM. 1'-2" MIN.



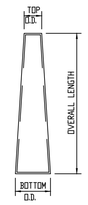
B 7 FIXTURE CONFIGURATION
N.T.S. DSA-B7C-1500_A



POLE ORIENTATION
N.T.S.



FIXTURE MOUNTING
POLE SECTION



TOP/MIDDLE/BOTTOM
POLE SECTION

1. CONTAINS COMBINED EPA OF LIGHT FIXTURES, CROSS ARM AND MISCELLANEOUS FIXTURE MOUNTING APPARATUS.

FIXTURE WEIGHT 71.4 LBS. THIS INCLUDES THE WEIGHT OF FIXTURE, CROSS ARM & MISC. MOUNTING APPARATUS. ELECTRICAL BALLAST BOX WEIGHT 20 LBS PER FIXTURE SERVICED.

POLE SCHEDULE						
SITE LOCATION	POLE MARK	REFERENCE LOCATION	POLE TYPE	FIXTURE CONFIGURATION	TOTAL EPA[1]	BALLAST BOX REQUIREMENTS
SEE SITE PLAN (BY OTHERS)	F1, F2, F3, F4	SEE POLE ORIENTATION PLAN	LSS80A	7 - SEE DETAIL B/MS1	21.07	SEE DETAIL SL/MD1

DSA-POLESCHE_C

POLE DATA TABLE										
POLE TYPE	PIECE MARK	MAX NUMBER OF X-Arms	POLE SECTION	TOP O.D. (INCHES)	BTM. O.D. (INCHES)	OVERALL LENGTH	STRAIGHT LENGTH	TAPER LENGTH	THICKNESS (INCHES)	TOP OF STEEL NOMINAL	ASTM REFERENCE
LSS80A	LS-2005	1	FIXTURE MOUNTING	5.500"	6.115"	5'-3"	3'-5"	1'-10"	.120	80'-6"	A513 (Fy=38ksi)
	MP-4TDSA		#2	5.600"	10.940"	38'-1 3/4"	-----	38'-1 3/4"	.179	-----	A595A (Fy=55 ksi) or A572, Gr 55 or 65
	MP-5BT-D		#1	10.096"	15.750"	40'-4 5/8"	-----	40'-4 5/8"	.179	-----	A595A (Fy=55 ksi) or A572, Gr 55 or 65
	MP-4BDSA		PRECAST BASE	FOR PRECAST MEMBER PROPERTIES SEE PRECAST BASE DETAIL A/-						

DSA-B0ADT_J

DSA-B0_A

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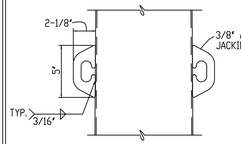
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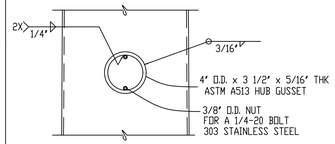
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REVISIONS
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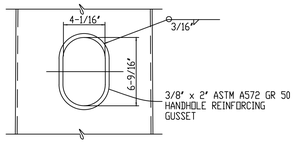
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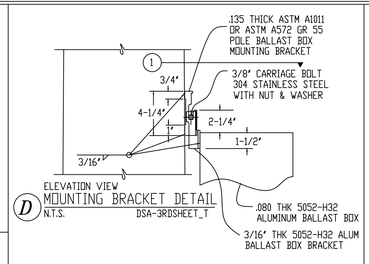
A JACKING BRACKET DETAIL
N.T.S. DSA-3RDSHEET_T



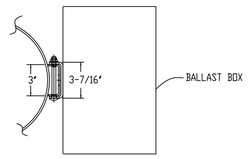
B HUB DETAIL
N.T.S. DSA-3RDSHEET_T



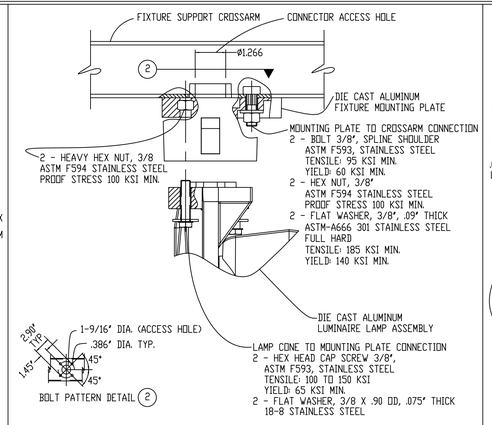
C HANDHOLE SLEEVE DETAIL
N.T.S. DSA-3RDSHEET_T



ELEVATION VIEW
D MOUNTING BRACKET DETAIL
N.T.S. DSA-3RDSHEET_T

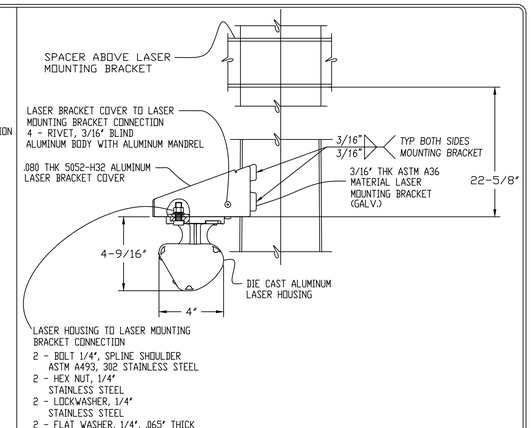


PLAN VIEW 1

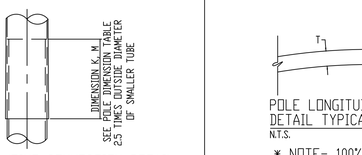


BOLT PATTERN DETAIL 2

E LUMINAIRE ATTACHMENT DETAIL
N.T.S. DSA-3RDSHEET_T



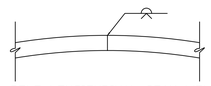
U LASER AIMING BRACKET
N.T.S. DSA-3RDSHEET_T



G SLIP JOINT CONNECTION DETAIL
N.T.S. DSA-LAP

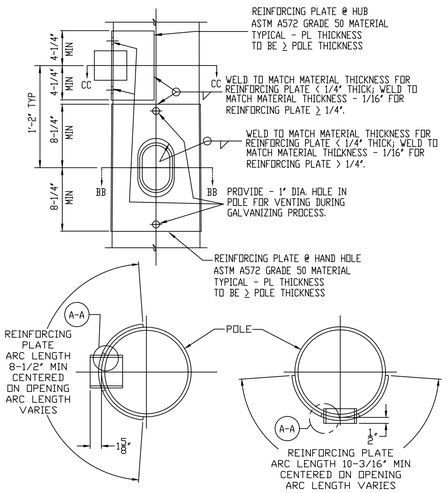


POLE LONGITUDINAL SEAM WELD
DETAIL TYPICAL CONDITION *
N.T.S. DSA-3RDSHEET_T



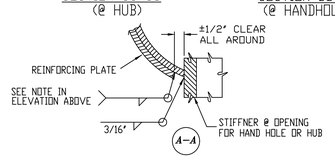
POLE LONGITUDINAL SEAM WELD DETAIL
AT LAP SPLICES (FEMALE END) *
N.T.S. DSA-3RDSHEET_T

* NOTE- 100% PENETRATION SEAM WELDS MAY BE PROVIDED FULL LENGTH OF POLE SHAFTS PROVIDED WPS'S ARE QUALIFIED BY TEST.

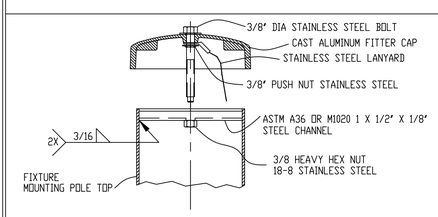


SECTION CC-CC
(@ HUB)

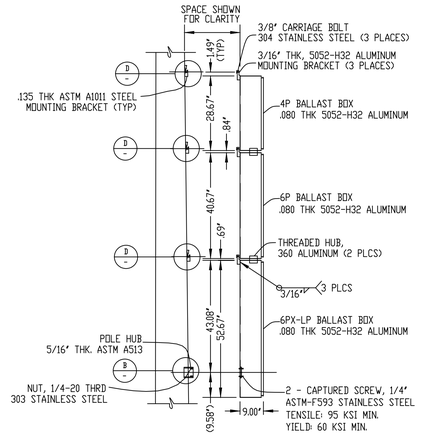
SECTION BB-BB
(@ HANDHOLE)



H HANDHOLE/HUB REINFORCING GUSSET
N.T.S.



F FITTER CAP DETAIL
N.T.S. DSA-3RDSHEET_T

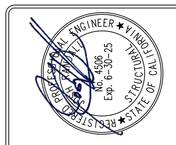


4P/6P/6PX-LP
SL BALLAST BOX CONNECTION DETAIL
N.T.S. STRU-4P6P6PXLP_E

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SCALE: SEE PLAN
REVISIONS
REFERENCE:

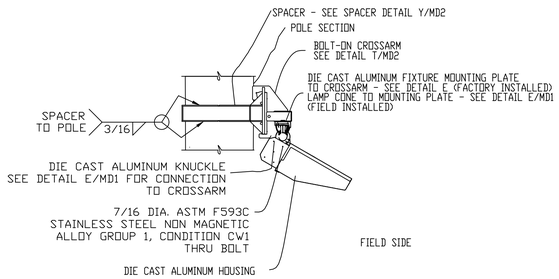
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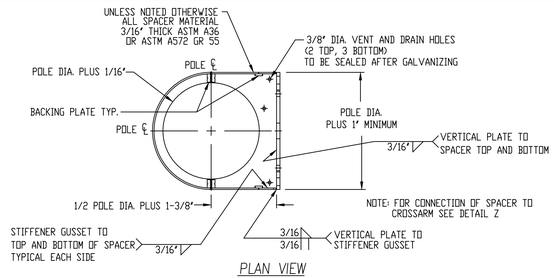
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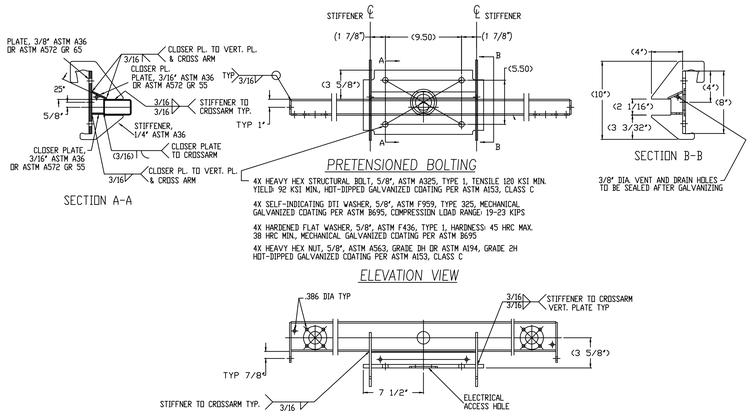
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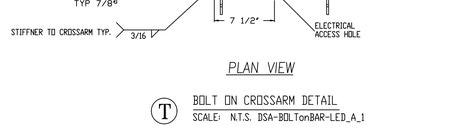


Z LIGHT FIXTURE (TYPICAL)
SCALE: N.T.S.
DSA-150D-BOLTON_A



Y SPACER DETAIL
SCALE: N.T.S. DSA-BOLTON_L





T BOLT ON CROSSARM DETAIL
SCALE: N.T.S. DSA-BOLTonBAR-LED_A_1

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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

Desmond Middle School
FIELD LIGHTING
Madera, CA

REGISTERED PROFESSIONAL ENGINEER
VINOD K. JAIN
No. 45061
Exp. 6-30-25
STRUCTURAL
STATE OF CALIFORNIA

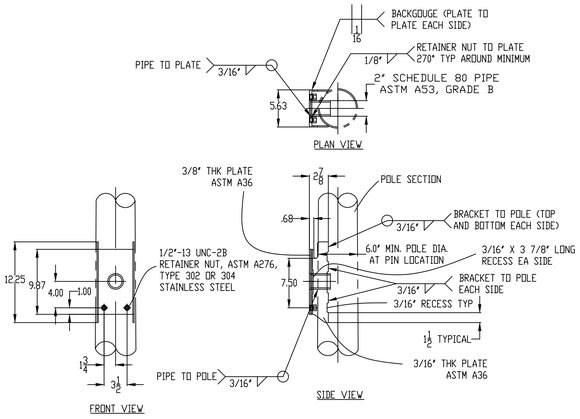
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RTM JOB NO.: 463.675

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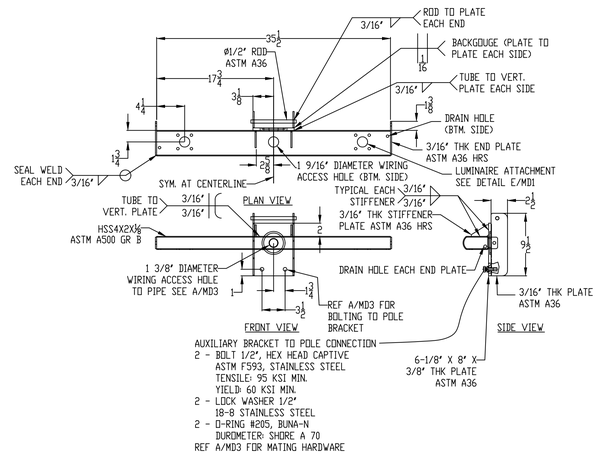
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SCALE: SEE PLAN
REVISIONS:
REFERENCE:

PROJECT NO. 243782
DATE: 03/18/2025
DRAWN BY: W.Isiminger
DRAWING NO. MD2
4 OF 5

STRU-MDZ



A BRACKET DETAIL
N.T.S. DSA-Brk-Dtl-L_A



C 2P AUXILIARY MOUNTING BRACKET
N.T.S. DSA-2P FIXTURE MOUNT_F

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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

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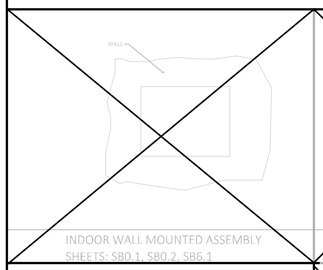
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SCALE: SEE PLAN
REVISIONS
REFERENCES

PROJECT NO. 243782
DATE: 03/18/2025
DRAWN BY: W.Isiminger
DRAWING NO. MD3
5 OF 5

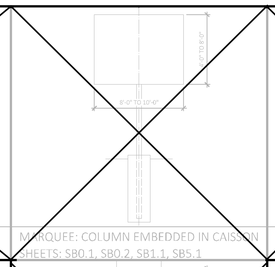
STRU-MD1

NEVCO

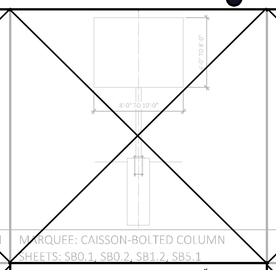
DSA P.C. 04-122317



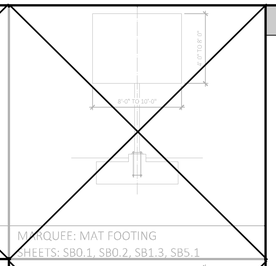
INDOOR WALL MOUNTED ASSEMBLY
SHEETS: SB0.1, SB0.2, SB6.1



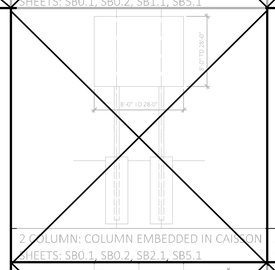
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SHEETS: SB0.1, SB0.2, SB1.1, SB5.1



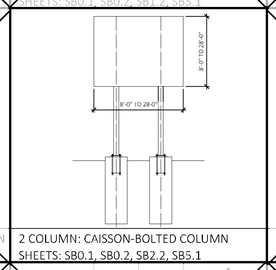
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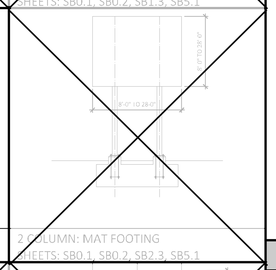
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SHEETS: SB0.1, SB0.2, SB1.3, SB5.1



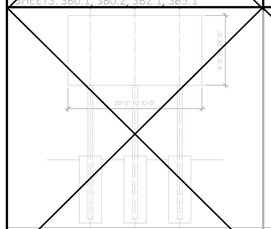
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SHEETS: SB0.1, SB0.2, SB2.1, SB5.1



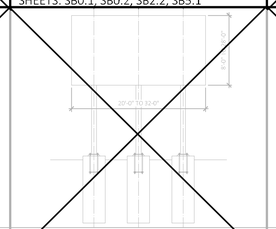
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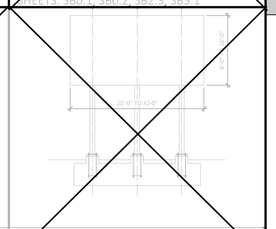
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SHEETS: SB0.1, SB0.2, SB2.3, SB5.1



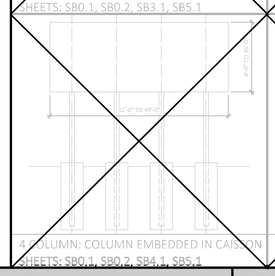
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SHEETS: SB0.1, SB0.2, SB3.1, SB5.1



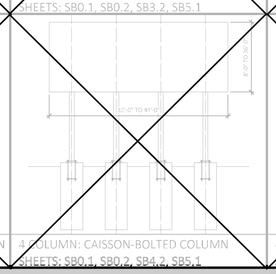
3 COLUMN: CAISSON-BOLTED COLUMN
SHEETS: SB0.1, SB0.2, SB3.2, SB5.1



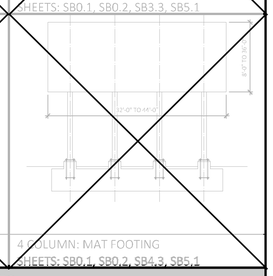
3 COLUMN: MAT FOOTING
SHEETS: SB0.1, SB0.2, SB3.3, SB5.1



4 COLUMN: COLUMN EMBEDDED IN CAISSON
SHEETS: SB0.1, SB0.2, SB4.1, SB5.1



4 COLUMN: CAISSON-BOLTED COLUMN
SHEETS: SB0.1, SB0.2, SB4.2, SB5.1



4 COLUMN: MAT FOOTING
SHEETS: SB0.1, SB0.2, SB4.3, SB5.1

SCOREBOARD ASSEMBLY WORKSHEET (TABLE A, C & D) INSTRUCTIONS

STEP 1: DETERMINE DESIRED SCOREBOARD ASSEMBLY. FILL OUT SCOREBOARD ASSEMBLY TABLE (TABLE A BELOW). PROVIDE NEVCO PART NUMBERS, PART HEIGHT, PART WIDTH, AND PART WEIGHTS.

STEP 2: DETERMINE TOTAL ASSEMBLY HEIGHT, WIDTH, AND WEIGHT, TABLE A

STEP 3: BASED ON TOTAL ASSEMBLY WIDTH, DETERMINE THE NUMBER OF REQUIRED COLUMNS.
SEE SHEETS SB1.X FOR 1 COLUMN ASSEMBLY OPTIONS
SB2.X FOR 2 COLUMN ASSEMBLY OPTIONS
SB3.X FOR 3 COLUMN ASSEMBLY OPTIONS
SB4.X FOR 4 COLUMN ASSEMBLY OPTIONS
SB6.1 FOR WALL MOUNTED ASSEMBLY OPTIONS (SKIP STEPS 4, 5, & 7)

STEP 4: PICK FOUNDATION TYPE (CAISSON WITH EMBEDDED COLUMN, CAISSON WITH BOLTED COLUMN, OR MAT FOOTING) . MARK APPLICABLE SHEET ON SHEET INDEX, SB0.1

STEP 5: MARK APPLICABLE CHECK BOX FOR SCOREBAORD SIZE ON DETAIL 'A' OF SELECTED COLUMN/FOUNDATION OPTION (SHEETS SB1.X, SB2.X, SB3.X OR SB4.X)

STEP 6: FILL IN SITE SPECIFIC SEISMIC AND WIND VALUES TABLE C ON SB0.1.

STEP 7: FILL IN SITE SPECIFIC FLOOD ZONE AS REQUIRED, TABLE D ON SB0.1

STEP 8: VERIFY ALL APPLICABLE SHEETS ARE MARKED ON SHEET INDEX, SB0.1. INCLUDE ONLY MARKED SHEETS AS PART OF DSA SUBMITTAL

SITE SPECIFIC SUBMITTAL REQUIREMENTS

SEE DSA POLICY PL 07-02 FOR ADDITIONAL INSTRUCTIONS REGARDING USE AND APPLICATION OF THIS PRE-CHECK DOCUMENT. ALL SITE SPECIFIC SUBMITTALS SHALL INCLUDE:

1. COMPLETED DSA 1 APPLICATION, DSA3, DSA 103, AND FILING FEE AND COPY OF THE PRE-CHECK DOCUMENT WITH APPLICABLE DESIGN OPTION MARKED ON THE MARQUEE, TWO COLUMN, THREE COLUMN, FOUR COLUMN, OR WALL ASSEMBLY SCHEDULES.
2. SITE PLAN OF FACILITY IDENTIFYING ALL STRUCTURES BY DSA APPLICATION NUMBER. LOCATION OF SCOREBOARD SHALL BE IDENTIFIED. ELECTRICAL PANEL SERVING THE SCOREBOARD SHALL BE LOCATED AND IDENTIFIED.
3. WHERE WIRELESS CONTROLLERS ARE NOT SPECIFIED, AN ACCESSIBLE PATH OF TRAVEL AND ACCESSIBLE SEATING FOR THE SCOREBOARD OPERATOR SHALL BE IDENTIFIED AND PROVIDED.
4. PROVIDE AN ELEVATION OF PROPOSED SCOREBOARD IDENTIFYING ALL INSTALLED DISPLAY COMPONENTS, SIGNAGE, TRUSSES, AND ADDITIONAL COMPONENTS IN THE PRE-CHECK DOCUMENT. ALL ELEMENT WEIGHTS SHALL BE SPECIFIED.
5. THE APPLICABLE SHEETS SHALL BE IDENTIFIED BY MARKING APPROPRIATE CHECK BOX ON THIS SHEET.
6. THE APPLICABLE CONFIGURATION SHALL BE IDENTIFIED BY MARKING APPROPRIATE CHECK BOX ON THE 'A' DETAILS ON THE APPLICABLE SHEET.
7. PROVIDE CUT SHEETS OF THE BOARDS, BOXES, AND EQUIPMENT TO BE MOUNTED ON THE STRUCTURE. CUT SHEETS SHALL INCLUDE WEIGHTS AND DIMENSIONS
8. SITE SPECIFIC SEISMIC DESIGN CRITERIA SHALL BE PROVIDED IN THE DRAWINGS.
9. SITE SPECIFIC BASIC DESIGN WINDSPEED AND SITE EXPOSURE SHALL BE PROVIDED ON THE DRAWINGS, SEE TABLE C.
10. STEEL COATING SPECIFICATIONS FOR WEATHER PROTECTION IF DIFFERENT THAN NOTED ON SB0.3
11. A GEOHAZARD REPORT IS NOT REQUIRED PER IR A-4.13. IF A SCOREBOARD IS LOCATED IN A FLOOD ZONE OTHER THAN ZONE X, A LETTER STAMPED AND SIGNED BY A GEOTECHNICAL ENGINEER IS REQUIRED VALIDATING THE ALLOWABLE SOIL VALUES, PROVIDE INFORMATION IN TABLE D.
12. PROVIDE A SITE SPECIFIC DESIGN FOR STRUCTURES THAT DO NOT MEET THE MINIMUM SETBACK REQUIREMENTS.
13. PROVIDE A SITE SPECIFIC DESIGN FOR STRUCTURES LOCATED IN AN AREA WITH LIQUEFIABLE SOIL OR SITE CLASS F.
14. FOR WALL MOUNTED ASSEMBLIES (SB6.1), STRUCTURAL ANALYSIS AND JUSTIFICATION THAT THE WALL FRAMING IS CAPABLE OF SUPPORTING THE ASSEMBLY FOR VERTICAL AND LATERAL LOADS.

CHECK ALL THAT APPLY	SHEET INDEX	
■ (REQ'D)	SB0.1	COVER SHEET
■ (REQ'D)	SB0.2	STRUCTURAL NOTES
■	SB0.3	~~EXAMPLE~~ DSA 103 - TESTING AND INSPECTIONS
☐	SB1.1	MARQUEE CAISSON - EMBEDDED
☐	SB1.2	MARQUEE CAISSON - BOLTED
☐	SB1.3	MARQUEE MAT FOOTING
☐	SB2.1	TWO COLUMN CAISSON - EMBEDDED
●	SB2.2	TWO COLUMN CAISSON - BOLTED
☐	SB2.3	TWO COLUMN MAT FOOTING
☐	SB3.1	THREE COLUMN CAISSON - EMBEDDED
☐	SB3.2	THREE COLUMN CAISSON - BOLTED
☐	SB3.3	THREE COLUMN MAT FOOTING
☐	SB4.1	FOUR COLUMN CAISSON - EMBEDDED
☐	SB4.2	FOUR COLUMN CAISSON - BOLTED
☐	SB4.3	FOUR COLUMN MAT FOOTING
●	SB5.1	ATTACHMENT DETAILS
●	SB5.2	OPTIONAL SCOREBOARD FEATURE ATTACHMENT DETAILS
☐	SB5.3	DECORATIVE ALUMINUM TRUSS ATTACHMENT DETAILS
☐	SB5.4	DECORATIVE ALUMINUM TRUSS ATTACHMENT DETAILS & 10mm VIDEO BOARD
☐	SB6.1	INDOOR WALL MOUNTED SCOREBOARD

CODE INFORMATION

2022 CALIFORNIA BUILDING STANDARDS CODE (TITLE 24, CCR):

2022 ADMINISTRATIVE CODE, PART 1, TITLE 24 CODE OF REGULATIONS (CCR)
2022 CALIFORNIA BUILDING CODE VOLUMES 1 &2, PART 2, TITLE 24 CCR
2022 CALIFORNIA ELECTRICAL CODE, PART 3, TITLE 24 CCR
2022 CALIFORNIA MECHANICAL CODE, PART 4, TITLE 24 CCR
2022 CALIFORNIA PLUMBING CODE, PART 5, TITLE 24 CCR
2022 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 CCR
2022 CALIFORNIA FIRE CODE, PART 9, TITLE 24 CCR
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24 CCR
2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR

REFERENCED CODE SECTIONS FOR APPLICABLE STANDARDS:
2022 CALIFORNIA BUILDING CODE, CHAPTER 35
2022 CALIFORNIA FIRE CODE, CHAPTER 80

GENERAL NOTES AND MATERIAL SPECIFICATIONS

GENERAL REQUIREMENTS

1. THE ARCHITECT OR PROFESSIONAL ENGINEER IN GENERAL RESPONSIBLE CHARGE SHALL SIGN AND SEAL ALL DRAWINGS AND SPECIFICATIONS PER TITLE 24, PART 1, SECTIONS 4-316(E) AND 4-317 (H).
2. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA, OR CONSTRUCTION CHANGE DOCUMENTS APPROVED BY THE DIVISION OF THE STATE ARCHITECT (DSA), AS REQUIRED BY TITLE 24, PART 1, SECTION 4-338.
3. THE DISTRICT SHALL EMPLOY A CLASS 2 PROJECT INSPECTOR WHEN OVERALL STRUCTURE HEIGHT IS 35 FEET OR GREATER, OTHERWISE A CLASS 3 PROJECT INSPECTOR MAY BE USED. THE PROJECT INSPECTOR SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK , AND SHALL SUBMIT VERIFIED REPORTS ON A DSA-6 FORM. THE DUTIES OF THE PROJECT INSPECTION ARE DEFINED IN TITLE 24, PART 1, SECTION 4-342.
4. ALL SCOREBOARD CONTROLS SHALL BE FULLY ACCESSIBLE VIA WIRELESS CONTROL OR COMPLETE DESIGN SHALL BE DEMONSTRATED IN THE SITE-SPECIFIC APPLICATION.
5. ALL ASSEMBLIES SHALL HAVE ELECTRICAL DISCONNECT PER CEC 600.6 AND BE ELECTRICALLY GROUNDED PER CEC 600.7, SEE DETAIL B/SB5.1
6. IN FLOOD ZONES, LOCATION OF ELECTRICAL ELEMENTS SHALL CONFORM TO ASCE 24, SECTION 7.2 PER DSA PR-14-01 SECTION 1.2.1.
7. SEE PAGE, SB0.2, FOR ALL MATERIAL SPECIFICATIONS AND NOTES.
8. PROJECT DESIGN PROFESSIONAL OF RECORD IS RESPONSIBLE FOR PREPARATION OF THE PROJECT SPECIFIC DSA 103 AND IS RESPONSIBLE FOR ALL SHOP DRAWING AND SUBMITTAL REVIEWS. SEE SB0.3 FOR EXAMPLE DSA 103

TABLE C - SITE SPECIFIC SEISMIC AND WIND VALUES

EARTHQUAKE DESIGN DATA	MAXIMUM		SITE SPECIFIC
Mapped Spectral Response Accelerations (Maximum)	S_M= 3.73 g S_1= 1.0 g	≥	S_S= 0.580 g S_1= 0.230 g
Site Class	D		D
Spectral Response Coefficients (Maximum)	S_{MS}= 2.49 g S_{M1}= 1.0 g	≥	S_{MS}=0.517 g S_{M1}=0.492 g
Wind Design Data	**Value**		**Value**
Design Wind Speed (3-sec gust), V_{ULT}	100 mph	≥	94 mph
Exposure Category	C		C

TABLE D - SITE FLOOD ZONE

THIS SECTION NOT REQUIRED IF SITE IS IN FLOOD ZONE X

Geotechnical Engineer:

Letter Dated:

TABLE B - STRUCTURAL DESIGN VALUES

All values reported are unfactored and strength level, unless noted otherwise

Gravity Design Data	Value
Dead Loads:	
Sign Dead Load	PER SCHEDULE
Snow Loads:	
Ground Snow Load, P_g (Maximum)	30 psf
Deflection Criteria:	
Sign, Wind Load	H/240

Wind Design Data	Value
Design Wind Speed (3-sec gust), V_{ULT}	100 mph
Design Wind Speed (3-sec gust), V_{ASD}	77 mph
Risk Category	II
Exposure Category	C
Applicable Internal Pressure Coefficient	± 0.18
Design Wind Pressure(s) for Components & Cladding (Not specifically designed by the Registered Design Professional, and to be modified by applicable factors per ASCE 7)	q_z=21.8xK_z psf K_zVARIES

Earthquake Design Data	Value
Risk Category	II
Importance Factor, I_e	1.0
Mapped Spectral Response Accelerations (Maximum)	S_S= 3.73 g S_1= 1.0 g
Site Class	A through E
Spectral Response Coefficients (Maximum)	S_{MS}= 2.49 g S_{M1}= 1.0 g
Seismic Design Category	E
Analysis Procedure Used	Equivalent Lateral Force Procedure (ASCE 7, 12.8)
Basic Seismic-Force Resisting System	Non-Building Structure, ASCE 7-16 Chapter 15
Response Modification Factor, Signs and Billboards Table 15.4-2	R= 3.0
Seismic Response Coefficient	C_H= 0.83
Design Base Shear	$V = C_S w_D$

Flood Design
When the scoreboard is located in a flood zone other than Zone X, a letter stamped and signed from a Geotechnical Engineer is needed to validate allowable soil values specified in the PC are still applicable.

Geotechnical Design Data	Value
Geotechnical Design Based on: 2022 California Building Code, Chapter 18A, Table 1806.A.2 (Class 5 Material)	
Allowable Soil Bearing Pressure (DL + LL)	1,500 psf
Design Passive Pressure, P_p (Tabular value has been increased per CBC Section 1806A.3.4 for pier design)	100 pcf
Design Skin Friction, f_s	100 psf

TABLE A - SCOREBOARD ASSEMBLY WORKSHEET (1)

Nevco Part No.or Description	Part Height [ft.]	Part Width [ft]	Part Weight [lb]
3658	5'8"	16'0"	260
Arched ADO 16-3	3'0"	16'0"	106
ADO 16-2	2'0"	16'0"	70
Total			

TOTAL ASSEMBLY DIMENSIONS & WEIGHT (2)

Total Assembly Height =	10 ft. 8 in.		
Total Assembly Width =	16 ft. 0 in.		
Total Assembly Weight =	436 lbs.		
Distance from Finish Grade to Bottom of Sign =	9 ft. 4 in.	Total Height = Total Assembly Height + Distance from Finish Grade to Bottom of Sign =	20 ft. 0 in.

SCOREBOARD ASSEMBLY FOOTNOTES

1. Verify part number, dimensions, and weight with Nevco
2. See Step 3 of Scoreboard Assembly Worksheet Instructions

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

SSG
structural engineers

REGISTERED PROFESSIONAL ENGINEER
DANIEL E. PARKER
No. 5405
STRUCTURAL
STATE OF CALIFORNIA
PC SEQR SEAL
DATE SIGNED 08.09.2023

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THANK YOU FOR YOUR INTEREST IN NEVCO SCOREBOARD PRODUCTS.

NEVCO
301 East Harris Avenue, Greenville, Illinois 62246
Phone: (618) 664-0360
www.nevco.com

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-122317 PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑ CG ☐
DATE: 09/20/2023

DSA STAMP

PRE-CHECK (PC) DOCUMENT
CODE: 2022

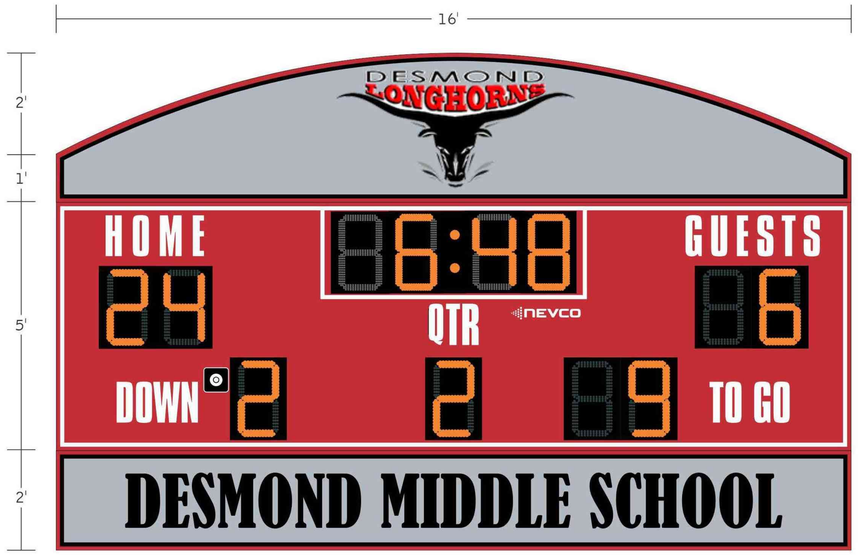
A separate project application for construction is required.

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

COVER SHEET

SHEET INFORMATION

DATE	08.09.2023
DRAWN	JMK
CHECKED	MEP
SSG JOB #	S23109
SHEET	SB0.1



Basis of Design Elevation Mock-up

Graphics are being finalized, to be provided by Owner

STRUCTURAL NOTES

GENERAL NOTES

1. The following notes, typical details and schedules shall apply to all phases of this project unless otherwise shown or noted.
2. Specific notes and details shall take precedence over general notes and typical details.
3. All materials and workmanship shall conform to the minimum standards of the 2022 edition Title 24 of the California Building Code (CBC) and such other regulating agencies exercising authority over any portion of the work. The contractor shall have a current copy of the CBC on the job site.
4. The "Contract or Construction Documents" shall consist of these notes, details, schedules, plans, and drawings.
5. All specifications, including but not limited to materials and products, shall be those put forth in the "Contract or Construction Documents". No substitutions shall be permitted to be used or assumed to be used in the bidding or construction process without written approval by the Structural Engineer of Record.
6. The contractor shall examine the "Contract or Construction Documents" and shall notify the Architect or Structural Engineer of Record of any discrepancies he may find before proceeding with the work.
7. All information on existing conditions shown on drawings are based on best present knowledge available, but without guarantee of accuracy. The Contractor shall verify and be responsible for all dimensions and conditions at the site and shall notify the Architect or Structural Engineer of Record of any discrepancies between actual site conditions and information shown on or in the "Contract or Construction Documents" before proceeding with work.
8. The Contractor shall immediately notify the Architect or Structural Engineer of Record of any condition which in his opinion might endanger the stability of the structure or cause distress of the structure.
9. All work shall conform to the best practice prevailing in the various trades comprising work. The Contractor shall be responsible for coordinating the work of all trades.
10. These "Contract or Construction Documents" 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.
11. Inspection and approval for fabricator's shops used for fabrication of structural load bearing members, components, materials or assemblies shall conform to CBC Section 1704A.2.5.
    A. Labeling (as required or specified) shall be provided in accordance with CBC Section 1703A.5.
    B. Evaluation and follow-up inspection services (as required or specified), shall conform to CBC Section 1705A.6.
12. The Contractor shall provide temporary bracing and shoring for all structural members as required for structural stability of the structure during all phases of construction.
13. The Contractor shall take all steps necessary to ensure proper alignment of the structure after the installation of all structural and finish materials. This shall include any necessary preloading of the structure to determine final position of the completed work.
14. Observation visits to the project site by field representatives of Architect and/or Structural Engineer of Record (support services) shall not include inspections of safety or protective measures, nor construction procedures, techniques or methods. Any support services performed by Architect or Structural Engineer of Record during any phase of construction, shall be distinguished from continuous and detailed inspection services (as required by any regulating governmental agency, e.g. the Authority Having Jurisdiction) provided by others. these support services, whether of material or work, are performed solely for the purpose of assisting in quality control and in achieving conformance with contract documents, but do not guarantee Contractor's performance and shall not be construed as supervision of construction.
15. These notes, details, drawings and specifications (Contract or Construction Documents) do not carry necessary provisions for construction safety. These documents and all phases of construction hereby contemplated are to be governed, at all times, by applicable provisions of the current California Occupational Safety and Health Act.
16. Where any conflict occurs between the requirements of federal, state and local laws, codes, ordinances, rules and regulations, the most stringent shall govern.
17. Written dimensions shall have precedence over scaled dimensions.
18. Drawings (notes, schedules, details and plans) shall have precedence over Structural Calculations.
19. In the event that certain features of the construction are not fully shown on the drawings or called for in the General Notes or Specifications, then their construction shall be of the same character as for similar conditions that are shown or called for.
20. ASTM designation and all standards refer to the latest amendments.
21. These structural "Contract or Construction Documents" shall not be modified without prior written approval of the Structural Engineer of Record.
22. Only structural working drawings approved by the Division of the State Architecture permitted to be used for construction on this project. All other drawings or documents are obsolete and are not permitted on the job site, nor shall they be used for any construction purposes. Contractors using unapproved drawings or documents are solely responsible for all work not performed in accordance with the "approved" drawings.
23. A Division of the State Architect certified project inspector employed by the District (Owner) and approved by the Division of the State Architect shall provide continuous inspection of the work. The duties of the inspector are defined in Section 4-342, Part 1, Title 24 California Code of Regulations.

FOUNDATION NOTES

1. Basis: See Structural Design Values Chart, Sheet S80.1 Table B
2. Unexpected soil conditions: Allowable values and foundation design are based upon the minimum values provided in Table 1806A.2 of the 2022 California Building Code. See S80.1 for values
3. Excavate to required depths and dimensions (as indicated in drawings), cut square and smooth with firm level bottoms. Care shall be taken not to over-excavate foundation at lower elevation and prevent disturbing of soils around higher elevation.
4. Footings shall be poured in neat excavations, without side forms whenever possible.
5. Carry all foundations to required depths into compacted fill or natural soil (as per Structural Plans and Details).
6. All foundation excavations shall be inspected and approved by the Inspector of Record or Geotechnical Engineer prior to forming and placement of reinforcing or concrete.
7. Foundations shall not be poured until all required reinforcing steel, sleeves, inserts, conduits, pipes, etc. and formwork is properly placed and inspected by the Authority having Jurisdiction.
8. The sides and bottoms of excavations which are to have concrete contact must be moistened several times just prior to pouring upon them.
9. De-water footings, as required, to maintain dry working conditions.

REINFORCING STEEL

1. All reinforcing steel shall be deformed intermediate grade bars conforming to ASTM A615, Grade 60 (f_y = 60 ksi) unless noted otherwise.
2. Reinforcing steel shall not be welded, unless specifically noted otherwise.
3. To hold reinforcing bars in their true position and prevent displacement, standard tie and anchorage devices must be provided. Placing of reinforcement shall conform to ACI 318-19 Section 26.6.2.
4. Shop drawings for fabrication of any reinforcing steel shall be approved by Contractor and submitted to Project Specific Architect or Project Specific Structural Engineer of Record, for their review, prior to fabrication.
5. Refer to typical details for minimum splice length and minimum radius of bend of reinforcing steel.
6. All reinforcing steel splices shall be staggered 24", unless specifically noted or detailed otherwise.
7. All reinforcing bar bends shall be made cold.
8. Fabrication, erection and placement of reinforcing steel shall conform to Concrete Reinforcing Steel Institute of Standard Practice.
9. Reinforcing steel shall be clean of rust, grease or other material likely to impair bond.

CONCRETE

1. All concrete shall have a minimum ultimate compressive strength (f'_c) as outlined below at 28 days. All concrete shall be regular weight (unless specifically noted otherwise).
    A. Concrete for footings: 4,500 psi w/c = 0.45 max.
2. Maximum Fly Ash content shall be 15%, by weight, of total cementitious materials and shall conform to ASTM C618.
3. All concrete work shall comply with CBC Chapter 19A and ACI 318-19 and latest edition of ACI Manual of Concrete Practice.
4. Special Inspection (as required or specified) shall conform to CBC Chapter 17A.
5. Cement shall be portland cement Type V and shall conform to ASTM C150.
6. Aggregates shall conform to ASTM C33, provide aggregates from a single source.
7. Water shall conform to ASTM C94 and be potable.
8. Where not specifically detailed, the minimum concrete cover on reinforcing steel shall be:
    A. Concrete cast against and permanently exposed to earth or weather: 3"
10. All reinforcing steel, anchor bolts, dowels, inserts and any other hardware to be set in concrete shall be well secured in position prior to pouring of concrete.
11. Vibrate all concrete as it is placed, with a mechanical vibrator operated by experienced personnel. The vibrator shall be used to consolidate the concrete, not transport it. Reinforcing and forms shall not be vibrated.
12. Formwork design and removal shall conform to ACI 318-19 Section 26.11. Remove forms in accordance with the following minimum schedule:
    A. Side forms of footings: Minimum 48 hours
    B. Column and pier forms: 72 hours & 70% of design strength
15. Concrete shall not free fall more than six feet. Use tremie, pump or other approved methods.
16. Concrete shall be maintained in a moist condition for a minimum of 5 days after placement.
17. The Contractor may use concrete admixtures as a construction means and methods to execute "Contract or Construction Documents". Use of admixture is solely the responsibility of the Contractor.
18. Mix designs shall be prepared by an approved testing laboratory, signed by a licensed engineer and shall be submitted to the Project Specific Design Professional of Record for approval. SSG is not responsible for review or approval of site specific concrete mix design.
19. Only one grade of concrete shall be allowed on project site at any one time
20. Concrete strength shall be verified by standard cylinder tests (in accordance with CBC Section 1905A.1.16) made by an approved testing laboratory.
21. Concrete placed when the air temperature has fallen to, or is expected to fall below 40° shall conform to ACI 318-19 Section 26.5.4, and ACI 306R-16.
22. Concrete placed during hot weather shall conform to ACI 318-19 Section 26.5.5, and ACI 305R-14.
23. Conduits and sleeves placed within structural concrete shall not be tied directly to structural reinforcement.
    A. 1" concrete cover shall be maintained around all reinforcement.
24. No stakes shall be permitted within the footing section.
25. Concrete shall reach minimum 75% design strength or cure for 3 days minimum prior to installation of steel columns and scoreboard components.

DRILLED CAISSON/PIER AND GRADE BEAM NOTES

1. Excavations for drilled caissons/pier shall be performed in compliance with local grading codes and ordinances as well as CBC Chapters 18A and 33A.
2. Provide Special Inspection in accordance with CBC Section 1705A.8 and Table 1705A.8.
3. Excavations for all drilled caissons/piers shall be approved by the Project Geotechnical Engineer or Project Special Inspector prior to placing of concrete.
4. Reinforcement for drilled caissons/pier shall be approved by the Structural Engineer of Record prior to placing in caisson/pier excavation.
5. De-water caisson/pier footings and building excavation as required to maintain dry working conditions.
6. Caisson/piers are to be poured within 24 hours after completion of drilling operation. Shoring requirements shall be determined by contractor. Contractor shall be provide fall protection and safety barriers at and near the drilled hole as required by OSHA and the Authority Having Jurisdiction.
7. The Contractor shall be responsible for all shoring, bracing, etc. necessary to support cut and/or fill banks, and existing structures during excavation, and the forming and placement of concrete.
8. Bottom of caissons/piers shall be thoroughly cleaned prior to placement of concrete.

STRUCTURAL STEEL AND WELDING

1. All structural steel construction shall conform to AISC 360-16 and AISC 341-16.
    A. Fabrication of all structural steel shall be done in the shop of an approved fabricator. Inspection and approval for fabricator's shops used for fabrication of structural load bearing members, components, materials or assemblies shall conform to CBC Section 1704A.2.5.
2. All structural steel shall conform to the following specifications:
    A. Angles, channels, plates, bars, rounds, and other miscellaneous shapes: Shall conform to ASTM A36 and shall have a minimum yield stress (F_y) of 36 ksi.
    B. Wide-flange shapes: Shall conform to ASTM A992 and shall have a minimum yield stress (F_y) of 50 ksi.
    C. Structural tubes: Shall be ASTM A500, Grade C, and shall have a min. yield stress (F_y) of 50ksi.
3. All structural steel fasteners shall conform to the following specifications:
    A. Bolts shall conform to ASTM A307
    B. Anchor Bolts shall conform to ASTM F1554, Grade as noted in drawings
    C. Carbon steel nuts shall conform to ASTM A563
    D. Stainless steel nuts shall conform to ASTM F594
    E. Washers shall conform to ASTM F436
4. Special Inspection shall be provided for all structural steel and welding, in accordance with CBC Chapter 17A.
5. All structural steel shall be fabricated, erected and welded in accordance with AISC Specifications for Structural Steel Buildings (AISC 360-16) and Code of Standard Practice for Steel Buildings and Bridges (AISC 303-16).
6. All welding shall be done by qualified and certified welders.
7. Shop drawings for the fabrication of any structural steel shall be approved by the Contractor and submitted to Project Specific Architect or Project Specific Structural Engineer of Record for their review, prior to fabrication.
8. No holes other than those specifically detailed shall be allowed through structural steel members. Burning of holes is not permitted.
9. All welding shall conform to 'AWS D1.1' specifications for welding. (E-70XX Electrodes).
10. Where fillet weld size is not indicated, use 'AWS' minimum size based on the thickness of the thinner part being welded, as specified in AISC Specifications for Structural Steel Buildings (AISC 360-10), Section J2.2.
11. All butt welds to be complete joint penetration, unless specifically noted otherwise.
12. Welder qualification requirements, welding procedure and welding electrodes for all structural steel (except structural sheet steel, see steel decking) shall conform to CBC Sections 1705A.2.1 and 2204A.1.
13. Provide 3" minimum concrete cover around all structural steel below grade.
14. Structural steel embedded into concrete shall be uncoated.
15. Structural steel shall be hot-dip galvanized (minimum ASTM A123 or A153 Class D) or painted with zinc-rich primer, undercoat, and finish coat; or equivalent paint system.
16. All exposed steel fasteners, including cast-in-place anchor bolts/rods, shall be stainless steel (Type 304 minimum), hot-dip galvanized (ASTM A153, Class D minimum or ASTM F2329), or protected with corrosion-preventive coating that demonstrated no more than 2% of red rust in minimum 1,000 hours of exposure in salt spray test per ASTM B117. Zinc plated fasteners do not comply with this requirement.

ABBREVIATIONS

A.B.	Anchor Bolt
ABV.	Above
ACI	American Concrete Institute
ADJ.	Adjacent
AHJ	Division of the State Architect
AISC	American Institute of Steel Construction
AOR	Architect of Record
APPROX.	Approximate(ly)
ASCE	American Society of Civil Engineers
ARCH.	Architect, Architecture
ASTM	American Society of Testing and Materials
ATR	All Thread Rod
AWS	American Welding Society
B.O.	Bottom of _____
BOT.	Bottom
b/t	Between
CAC	California Administrative Code
CBC	California Building Code
CIP	Cast-in-place
CJP	Complete Joint Penetration
℄	Centerline
CLR.	Clear
COL.	Column
CONC.	Concrete
CONN.	Connection
CONST.	Construction
CONT.	Continue, Continuous
Ø	Diameter
DBL.	Double
DET.	Detail
DL	Dead Load
DSA	Division of State Architect
DWGS.	Drawings
EA.	Each
E.F.	Each Face
ELEC.	Electric, Electrical
ELEV.	Elevation
EMBED.	Embedded, Embedment
EOR	Engineer of Record
EQ.	Equal
EQUIP.	Equipment
E.S.	Each Side
E.W.	Each Way
EXT.	Exterior
FAB.	Fabricated
FDN.	Foundation
F.G.	Finish Grade
F.O.	Face of _____
FRMG.	Framing
FT.	Foot,Feet
FTG.	Footing
GA.	Gauge
GALV.	Galvanized
GEOR	Geotechnical Engineer of Record
HORIZ.	Horizontal
HSS	Hollow Steel Section
HT.	Height
ICC	International Building Code
ICC	International Code Council
ID	Inside Diameter
IN	Inch, Inches
INT.	Interior
ksi	Kips per Square Inch
LL	Live Load
MAX.	Maximum
MB	Machine Bolt
MFR.	Manufactured, Manufacturer
MIN.	Minimum
MPH	Miles per Hour
N/R	Not Required
N.T.S.	Not to Scale
o.c.	On Center
o/	Over
OD	Outside Diameter
PEN.	Penetration
PL	Plate
PJP	Partial Joint Penetration
psi	Pounds per Square Inch
PSF	Pounds per Square Foot
REBAR	Reinforcing Bar
REINF.	Reinforcement
REQ'D	Required
S.F.	Square Feet
SHT.	Sheet
SIM.	Similar
SMS	Sheet Metal Screw
SQ.	Square
STAGG'D	Staggered
STD.	Standard
STL	Steel
SEOR	Structural Engineer of Record
T&B	Top and bottom
THR'D	Threaded
T.O.	Top of _____
TYP.	Typical
U.N.O.	Unless Noted Otherwise
VERT.	Vertical
VIF	Verify in Field
w/	With
w/c	Water/Cement Ratio
WSS	Welded Steel Stud
WT.	Weight

POST INSTALLED ANCHOR & TESTING

1. All post-installed anchors are to be tension tested with the exception that torque testing is allowed if the anchors are specifically designed as torque controlled
2. Test quantity of post-installed anchors as noted below:

Application	Quantity
Non-structural (Equipment Anchorage, etc.)	50%
Structural	100%

3. Apply proof test loads to anchors without removing the nut if possible. If not, remove nut and install a threaded coupler to the same tightness of the original nut using a torque wrench and apply load.
4. All tests shall be performed in the presence of the inspector.
5. Reaction loads from test fixtures may be applied close to the anchor being tested, provided the anchor is not restrained from withdrawing or restricted from a concrete shear cone type failure mechanism.
6. Test equipment is to be calibrated by an approved testing laboratory in accordance with standard recognized procedures.
7. The following criteria apply for the acceptance of installed anchors:
    A. Hydraulic ram method: anchors tested with a hydraulic jack or spring loaded devices shall maintain the test load for a minimum of 15 seconds and shall exhibit no discernable movement during the tension test, e.g. as evidenced by loosening of the washer under the nut.
    B. Torque wrench method: anchors tested with a calibrated torque wrench must attain the manufacturer recommended torque within ½ turn of the nut.
    Exceptions:
    - Wedge or sleeve type: one-quarter turn of the nut from 3/8" sleeve anchor only.
    - Threaded type: one-quarter turn of the screw after initial seating of the screw head.
8. If any anchor fails testing, test all anchors of the same type not previously tested until twenty consecutive anchors pass, then resume the initial test frequency. If the anchors are used for the support and bracing of non-structural components (pipe, duct or conduit), the twenty shall be only those anchors installed by the same trade.
9. Test loads per ICC ESR, IAPMO, OR UES report
10. When installing drilled-in anchors and/or powder driven pins in existing non-prestressed reinforced concrete, use care and caution to avoid cutting or damaging the existing reinforcing bars. When installing them into existing prestressed concrete (pre- or post-tensioned) locate the prestressed tendons by using a non-destructive method prior to installation. Exercise extreme care and caution to avoid cutting or damaging the tendons during installation. Maintain a minimum clearance of one inch between the reinforcement and the drilled-in anchor and/or pin.

ANCHOR TORQUE TEST VALUES

Anchor Diameter	CONCRETE		MASONRY	
	HILTI KB TZ 2	SIMPSON STRONG BOLT 2	HILTI KB TZ 2	SIMPSON STRONG BOLT 2
	ESR-4266	ESR-3037	ESR-4561	ER-240
½"	30 ft-lb	30 ft-lb	15 ft-lb	20 ft-lb
⅝"	50 ft-lb	60 ft-lb	25 ft-lb	35 ft-lb
¾"	40 ft-lb	90 ft-lb	30 ft-lb	55 ft-lb
⅞"	110 ft-lb	150 ft-lb	50 ft-lb	100 ft-lb

If the manufacturer's recommended installation torque is less than the test torque noted in the table, the manufacturer's recommended installation torque should be used in lieu of the tabulated values.

See manufacturer's ESR report for Maximum Impact Wrench Torque Rating.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

SSG
structural engineers

REGISTERED PROFESSIONAL ENGINEER
MICHAEL E. PARSON
No. S405
STRUCTURAL
STATE OF CALIFORNIA
EXPIRES: 08.09.2023

PC SEOR SEAL

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APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-122317 PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐ CG ☐
DATE: 09/20/2023

DSA STAMP

PRE-CHECK (PC) DOCUMENT
CODE: 2022

A separate project application for construction is required.

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

STRUCTURAL NOTES & SPECIAL INSPECTIONS

SHEET INFORMATION

DATE	08.09.2023
DRAWN	JMK
CHECKED	MEP
SSG JOB #	S23109
SHEET	SB0.2

EXAMPLE DSA 103 - TESTING AND INSPECTIONS

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2022 CBC

Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

2022 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 (2022 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 Periodic – Indicates that a periodic special inspection is required Test – Indicates that a test is required	GE (Geotechnical Engineer) – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative. LOR (Laboratory of Record) – 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. PI (Project Inspector) – Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA. SI (Special Inspection) – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13
Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	c. Verify in-situ concrete strength prior to stressing of post-tensioning tendons.	Periodic	SI	Table 1705A.3 Item 13; Special inspector to verify specified concrete strength test prior to stressing.
☐	d. Inspect application of post-tensioning or prestressing force and grouting of bonded prestressing tendons.	Continuous	SI	1705A.3.4, Table 1705A.3 Item 9; ACI 318-14 Section 26.13

C5. PRECAST CONCRETE (IN ADDITION TO SECTION C1):

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a. Inspect fabrication of precast concrete members.	Continuous	SI	ACI 318-19 Section 26.13.
☐	b. Inspect erection of precast concrete members.	Periodic	SI*	Table 1705A.3 Item 10; * May be performed by PI when specifically approved by DSA.
☐	c. For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category D, E or F, inspect such connections and reinforcement in the field for: 1. Installation of the embedded parts 2. Completion of the continuity of reinforcement across joints. 3. Completion of connections in the field.	Continuous	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5
☐	d. Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5.	Periodic	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (MASONRY), 2022 CBC

1705A.4; TMS 602-16, Tables 3 and 4.
Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	b. Test post-installed anchors.	Test	LOR	1705A.4, 1910A.5. (See Appendix (end of this form) for exemptions.)

M4. OTHER MASONRY:

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a.			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINIUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8
Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

	Test or Special Inspection	Type	Performed By	Code References and Notes

S/A8. SPRAYED FIRE-RESISTANT MATERIALS:

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a. Examine structural steel surface conditions, inspect application, take samples, measure thickness and verify compliance of all aspects of application with DSA-approved documents.	Periodic	SI	1705A.15; 1705A.1; 1705A.2; 1705A.3; 1705A.4.
☐	b. Test density.	Test	LOR	1705A.15.1; 1705A.15.3; ASTM E736
☐	c. Bond strength adhesion/cohesion.	Test	LOR	1705A.15.1; 1705A.15.4; ASTM E605

S/A9. 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.

S/A10. STORAGE RACK SYSTEMS:

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a. Materials used, to verify compliance with one or more of the material test reports in accordance with the approved construction documents.	Periodic	SI	Table 1705A.13.7
☐	b. Fabricated storage rack elements.	Periodic	SI	1704A.2.5; Table 1705A.13.7

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS(SIGNATURE), 2022 CBC

Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

Name of Architect or Engineer in general responsible charge:

Name of Structural Engineer (When structural design has been delegated):

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 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8
Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

Geotechnical Reports: Project does NOT have and does NOT require a geotechnical report

S1. GENERAL:

	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Verify that: • Site has been prepared properly prior to placement of concrete and that the proper materials are used. • Foundation excavations are extended to proper depth and have reached proper material. • Materials below footings are adequate to achieve the design bearing capacity.	See Notes	PI	Refer to specific Items identified in the Appendix listing exemptions for limitations. Placement of controlled fill exceeding 12" depth under foundations is not permitted without a geotechnical report.

S2. SOIL COMPACTION AND FILL:

	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	Continuous	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific Items identified in the Appendix listing exemptions for limitations.
☑	b. Compaction testing.	Test	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific Items identified in the Appendix listing exemptions for limitations.

S3. DRIVEN DEEP FOUNDATIONS (PILES):

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a. Verify pile materials, sizes and lengths comply with the requirements.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
☐	b. Determine capacities of test piles and conduct additional load tests as required.	Test	LOR*	* Under the supervision of the geotechnical engineer.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13
Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

C4. SHOTCRETE (IN ADDITION TO SECTION C1):

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a. Inspect reinforcement placement for proper application techniques.	Continuous	SI	1705A.3.9; Table 1705A.3 Item 7; 1908A.1; 1908A.2; 1908A.3. See ACI 506.2-13 Section 3.4; ACI 506R-16.
☐	b. Sample and test shotcrete (f'c).	Test	LOR	1908A.2, 1705A.3.9

C5. POST-INSTALLED ANCHORS:

	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Inspect installation of post-installed anchors	See Notes	SI*	1617A.1.19, Table 1705A.3 Item 4a (Continuous) & 4b (Periodic), 1705A.3 (See Appendix (end of this form) for exemptions); ACI 318-14 Sections 17.8 & 26.13.* May be performed by the project inspector when specifically approved by DSA.
☑	b. Test post-installed anchors.	Test	LOR	1910A.5, (See Appendix (end of this form) for exemptions.)

C6. OTHER CONCRETE:

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a.			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINIUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8
Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

S/A1. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES

	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Verify identification of all materials and: - Mill certificates indicate material properties that comply with requirements. - Material sizes, types and grades comply with requirements.	Periodic	*	Table 1705A.2.1 Item 3a-3c; 2202A.1; AISI S100-20 Section A3.1 & A3.2, AISI S240-20 Section A3 & A5, AISI S220-20 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.
☑	b. Test unidentified materials	Test	LOR	2202A.1.
☐	c. Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3.
☑	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).
☐	e. Buckling restrained braces.	Test	LOR	Testing and special inspections in accordance with IR 22-4.

S/A2. HIGH-STRENGTH BOLTS:

	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 N5.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.
☐	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.
☐	c. Bearing-type ("snug tight") connections.	Periodic	SI	Table 1705A.2.1 Item 2a; 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.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINIUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8
Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

S/A3. WELDING:

	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Verify weld filler material identification markings per AWS designation listed on the DSA-approved documents and the WPS.	Periodic	SI	1705A.2.5, 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 17-5.
☑	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.

S/A4. SHOP WELDING (IN ADDITION TO SECTION S/A3):

	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.1–4; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-5.
☑	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 17-5.
☐	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 2, 1903A.8; AWS D1.4; DSA IR 17-3.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (OTHER), 2022 CBC

Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

X1. OTHER:

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a. Load test for identified product(s):	Test	LOR	1709A.2, 1709A.3. Testing is not required for: 1) a product with a valid evaluation service report per DSA IR A-5, or 2) a product that can be justified by structural calculation.
☐	b. Installation torque for non-HS bolts	Continuous	SI*	Applicable to communication towers identified as Essential Service Facility Projects (ESFP). Calibrated wrench use required, verified by SI during installation. DSA Policy PL 18-01: Communication Towers, Poles and Buildings Utilized by State Agencies for Essential Services Communications."EXCEPTION: Non-ESFP may use PI without need for notification to DSA.
☐	c.			

DSA 103-22: LIST OF REQUIRED VERIFIED REPORTS, CBC 2022

Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

1. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291
2. Post-Installed Anchors: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292
3. Shop Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292
4. Field Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8
Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	c. Inspect driving operations and maintain complete and accurate records for each pile.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
☐	d. Verify locations of piles and their plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and record any pile damage.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
☐	e. Steel piles.	Provide tests and inspections per STEEL section below.		
☐	f. Concrete piles and concrete filled piles.	Provide tests and inspections per CONCRETE section below.		
☐	g. For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	*	*	* As defined on drawings or specifications.

S4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):

	Test or Special Inspection	Type	Performed By	Code References and Note
☒	a. Inspect drilling operations and maintain complete and accurate records for each pier.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific Items identified in the Appendix listing exemptions for limitations.
☒	b. Verify pier locations, diameters, plumbness and lengths.Record concrete or grout volumes.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific Items identified in the Appendix listing exemptions for limitations.
☒	c. Concrete piers.	Provide tests and inspections per CONCRETE section below.		

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (MASONRY), 2022 CBC

1705A.4; TMS 602-16, Tables 3 and 4.
Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

M1. STRUCTURAL MASONRY: (f'm =

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a. Mill certificate indicates compliance with requirements for reinforcement, anchors, ties, fasteners and metal accessories. See Item C1(b) for identification, sampling and testing of reinforcing steel.	Periodic	SI*	2103A.4; TMS 602-16 Article 1.5B.2 & 2.4. * To be performed by qualified LOR representative. Applicable testing by LOR. See IR 17-10 for unidentified reinforcing steel.
☐	b. Producer's certificate of compliance for masonry units, mortar and grout materials.	Test	LOR	1705A.4; 2103A.2; 2103A.3; 2103A.5; TMS 602-16 Articles 1.5B.2.2.1, 2.2, 2.6A and 2.6B, and Table 4 footnote 3.
☐	c. Test masonry (f'm).	Test	LOR	1705A.4, For Unit Strengths: 2105A.3; TMS 602-16 Articles 1.4B.2, 1.5B.1 & 1.5B.2, For Prism (required when f'm > 2000 psi):2105A.2; TMS 602-16 Articles 1.4B.3, 1.4B.4, 1.5B.1 & 1.5B.2.
☐	d. Verify proportions or properties of site-prepared, premixed or preblended mortar.	Periodic	SI	TMS 602-16, Table 3 (row 5), Table 4 Item 1a. DSA PR 20-01.
☐	e. Verify proportions or properties of site-prepared, premixed or preblended grout.	Periodic	SI	TMS 602-16, Table 3 (row 5), Table 4 Item 2d.
☐	f. Batch plant inspection:	See Notes	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 IR 17-13. (See Appendix (end of this form) for exemptions.)
☐	g. Test core-drilled samples.	Test	LOR	2105A.4. (See Appendix (end of this form) for exemptions.)
☐	h. Inspect preparation of prisms.	Continuous	SI	TMS 602-16 Articles 1.4.B.3 & 1.4.B.4 & Table 4 Item 4.
☐	i. Verify size, location and condition of all dowels, construction supporting masonry, etc.	Periodic	SI	

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (MASONRY), 2022 CBC

1705A.4; TMS 602-16, Tables 3 and 4.
Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	j. Verify size, grade and type of reinforcement, connectors, and anchor bolts. Verify size and location of structural members.	Periodic	SI	TMS 602-16 Table 4, Items 1c & 3c.
☐	k. Inspect placement of reinforcement, anchor bolts, and connectors.	Continuous	SI	TMS 602-16 Table 4 Item 2c.
☐	l. Placement, consolidation, and reconsolidation of grout.	Continuous	SI	TMS 602-16 Table 4 Item 3h.
☐	m. Inspect placement of masonry units and construction of mortar joints.	Periodic	SI	TMS 602-16 Table 4 Item 3b.
☐	n. Verify preparation, construction and protection of masonry during cold weather (temperature below 40° F) or hot weather (temperature above 90° F).	Periodic	SI*	TMS 602-16 Table 4 Item 3f. * May be performed by the project inspector when specifically approved by DSA.
☐	o. Inspect type, size and location of anchors and all other items to be embedded in masonry including other details of anchorage of masonry to structural members, frames and other construction.	Continuous	SI	TMS 602-16 Table 4 Item 3d.
☐	p. Inspect grout space, including mortar protrusions, prior to placement of grout.	Continuous	SI	TMS 602-16 Table 4 Item 2a.
☐	q. Welding of reinforcing steel.	TMS 602-16 Table 4 Item 3e. Provide special inspection per STEEL, Category S/A4(d) & (e) and/or S/A5(g) & (h) below.		

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINIUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8
Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

S/A5. FIELD WELDING (IN ADDITION TO SECTION S/A3):

	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.1–4; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-5.
☒	b. Inspect single-pass fillet welds ≤ 5/16".	Periodic	SI	Table 1705A.2.1 Item 5a.5; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-5.
☐	c. Inspect end-welded studs (ASTM A-108) installation (including bend test).	Periodic	SI	
☐	d. Inspect floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Item 5a.6; AISC 360-16 (AISC 341-16 as applicable); AWS D1.3; DSA IR 17-5.
☐	e. Inspect welding of structural cold-formed steel.	Periodic	SI*	1705A.2.5; AWS D1.3; DSA IR 17-3. The quality control provisions of AISI S240-20 Chapter D shall also apply. * May be performed by the project inspector when specifically approved by DSA.
☐	f. Inspect welding of stairs and railing systems.	Periodic	SI*	1705A.2.1; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3. * May be performed by the project inspector when specifically approved by DSA.
☐	g. Verification of reinforcing steel weldability.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
☐	h. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b; 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

Exempt items given in DSA IR A-22 or the 2019 CBC (including DSA amendments) and those items identified below with a check mark by the design professional are NOT subject to DSA requirements for the structural tests / special inspections noted. Items marked as exempt shall be identified on the approved construction documents. The project inspector shall verify all construction complies with the approved construction documents.

SOILS:

☐	1. Deep foundations acting as a cantilever footing with a design based on minimum allowable pressures per CBC Table 1806A.2 and without a geotechnical report for the following cases: A) free standing sign or scoreboard, B) call or antenna towers and poles less than 35' 0" tall (e.g., lighting poles, flag poles, poles supporting open mesh fences, etc.), C) single-story structure with dead load less than 5 psf (e.g., open fabric shade structure), or D) covered walkway structure with an apex height less than 10'-0" above adjacent grade.
☐	2. Shallow foundations, etc. are exempt from special inspections and testing by a Geotechnical Engineer for the following cases: A) buildings without a geotechnical report and meeting the exception Item #1 criteria in CBC Section 1803A.2 supported by native soil (any excavation depth) or fill soil (not exceeding 12" depth per CBC Section 1804A.6), B) soil scarification/recompaction not exceeding 12" depth, C) native or fill soil supporting exterior non-structural flatwork (e.g., sidewalks, site concrete ramps, site stairs, parking lots, driveways, etc.), D) unpaved landscaping and playground areas, or E) utility trench backfill.

CONCRETE/MASONRY:

☐	1. Post-installed anchors for the following: A) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment - see Item 7 for "Welding" in the Appendix below) given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) or B) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding" in the Appendix below
☐	2. Concrete batch plant inspection is not required for items given in CBC Section 1705A.3.3.2 subject to the requirements and limitations in that section.
☐	3. Non-bearing non-shear masonry walls may be exempt from certain DSA masonry testing and special inspection items as allowed per DSA IR 21-1. Refer to construction documents for specific exemptions accordingly for each applicable wall condition.
☐	4. Epoxy shear dowels in site flatwork and/or other non-structural concrete.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13
Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

C1. CAST-IN-PLACE CONCRETE

	Test or Special Inspection	Type	Performed By	Code References and Notes
☑	a. Verify use of required design mix.	Periodic	SI	Table 1705A.3 Item 5, 1910A.1.
☑	b. Identify, sample, and test reinforcing steel.	Test	LOR	1910A.2; ACI 318-19 Ch.20 and Section 26.6.1.2; DSA IR 17-10. (See Appendix (end of this form) 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 4; ACI 318-19 Section 26.5 & 26.12.
☑	d. Test concrete (f'c).	Test	LOR	1905A.1.17; ACI 318-19 Section 26.12.
☒	e. Batch plant inspection:	See Notes	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 IR 17-13. (See Appendix (end of this form) for exemptions.)
☐	f. Welding of reinforcing steel.	Provide special inspection per STEEL, Category S/A4(d) & (e) and/or S/A5(g) & (h) below.		

C2. PRESTRESSED / POST-TENSIONED CONCRETE (IN ADDITION TO SECTION C1):

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	a. Sample and test prestressing tendons and anchorages.	Test	LOR	1705A.3.4, 1910A.3
☐	b. Inspect placement of prestressing tendons.	Periodic	SI	1705A.3.4, Table 1705A.3 Items 1 & 9.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (MASONRY), 2022 CBC

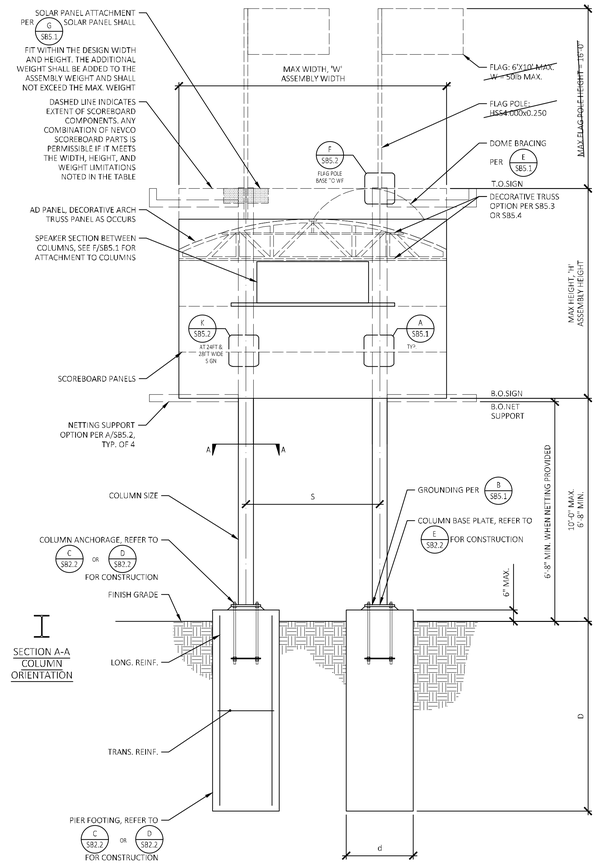
1705A.4; TMS 602-16, Tables 3 and 4.
Application Number: 04-122317 | School Name: Nevco Scoreboards PC | School District: Nevco Scoreboards PC
DSA File Number: | Increment Number: | Date Created: 2023-05-23 08:35:36

M2. VENEER OR GLASS BLOCK PARTITION

TWO COLUMN ASSEMBLY

ASSEMBLY CRITERIA						PIER FOOTING CRITERIA (2)				BASE PLATE				ANCHOR RODS				
ASSEMBLY WIDTH, W	CHECK OPTION THIS APPLICATION	MAX. WEIGHT	ASSEMBLY HEIGHT, H	COLUMN SPACING, S	COLUMN SIZE	COLUMN SIZE W/O FLAG	PIER DIAMETER, d	DEPTH, D	LONG. REINF.	TRANS. REINF. (1)	THICKNESS, t	WIDTH, B	LENGTH, L	WELD	QUANTITY & DIAMETER	GRADE	EDGE DISTANCE, X	GROUT HEIGHT	EMBED
8'-0"		1,170 lbs.	≤ 8'-0"	6'-0"	W8x24	W8x24	36"Ø	7'-6"	8 - #6	#4 @ 4½" o.c.	1"	20"	20"	⅜	(4) - 1"Ø	F1554 - GR.36	2½"	2"	48"
		1,540 lbs.	≤ 12'-0"	6'-0"	W10x33	W10x33	36"Ø	8'-0"	8 - #6	#4 @ 4½" o.c.	1"	20"	20"	⅜	(4) - 1"Ø	F1554 - GR.36	2½"	2"	48"
		1,540 lbs.	≤ 8'-0"	6'-0"	W12x40	W12x40	36"Ø	9'-0"	8 - #6	#4 @ 4½" o.c.	1"	20"	20"	⅜	(4) - 1"Ø	F1554 - GR.36	2½"	2"	48"
		1,910 lbs.	≤ 16'-0"	6'-0"	W14x61	W14x61	42"Ø	9'-0"	8 - #8	#4 @ 6" o.c.	1"	20"	20"	⅜	(4) - 1"Ø	F1554 - GR.36	2½"	2"	48"
9'-0"		870 lbs.	≤ 8'-0"	8'-0"	W8x24	W8x24	36"Ø	7'-3"	8 - #6	#4 @ 4½" o.c.	1"	20"	20"	⅜	(4) - 1"Ø	F1554 - GR.36	2½"	2"	48"
		1,300 lbs.	≤ 12'-0"	8'-0"	W10x33	W10x33	36"Ø	8'-3"	8 - #6	#4 @ 4½" o.c.	1"	20"	20"	⅜	(4) - 1"Ø	F1554 - GR.36	2½"	2"	48"
		1,730 lbs.	≤ 16'-0"	8'-0"	W12x45	W12x40	36"Ø	9'-3"	8 - #6	#4 @ 4½" o.c.	1"	20"	20"	⅜	(4) - 1"Ø	F1554 - GR.36	2½"	2"	48"
		2,160 lbs.	≤ 20'-0"	8'-0"	W14x61	W14x61	42"Ø	10'-3"	8 - #8	#4 @ 4½" o.c.	1"	24"	24"	⅜	(4) - 1"Ø	F1554 - GR.55	2½"	2"	64"
10'-0"		960 lbs.	≤ 8'-0"	8'-0"	W8x24	W8x24	36"Ø	7'-6"	Not Used		1"	20"	20"	⅜	(4) - 1"Ø	F1554 - GR.36	2½"	2"	48"
		1,440 lbs.	≤ 12'-0"	8'-0"	W10x33	W10x33	36"Ø	8'-6"			1"	20"	20"	⅜	(4) - 1"Ø	F1554 - GR.36	2½"	2"	48"
		1,920 lbs.	≤ 16'-0"	8'-0"	W14x48	W14x48	42"Ø	9'-6"			1"	20"	20"	⅜	(4) - 1"Ø	F1554 - GR.36	2½"	2"	48"
		2,400 lbs.	≤ 20'-0"	8'-0"	W14x61	W14x61	48"Ø	9'-9"			1½"	24"	24"	⅜	(4) - 1"Ø	F1554 - GR.105	2½"	2"	64"
12'-0"		1,160 lbs.	≤ 8'-0"	8'-0"	W10x30	W10x30	36"Ø	8'-0"			1"	20"	20"	⅜	(4) - 1"Ø	F1554 - GR.36	2½"	2"	48"
		1,730 lbs.	≤ 12'-0"	8'-0"	W14x43	W14x43	42"Ø	9'-3"			1½"	24"	24"	⅜	(4) - 1"Ø	F1554 - GR.55	2½"	2"	48"
		2,310 lbs.	≤ 16'-0"	8'-0"	W14x61	W14x53	42"Ø	10'-3"			1½"	24"	24"	⅜	(6) - 1"Ø	F1554 - GR.55	2½"	2"	64"
		2,880 lbs.	≤ 20'-0"	8'-0"	W14x61	W14x61	48"Ø	10'-3"			1½"	24"	24"	⅜	(6) - 1"Ø	F1554 - GR.55	2½"	2"	64"
		1,540 lbs.	≤ 8'-0"	8'-0"	W10x33	W10x33	36"Ø	8'-0"			1"	20"	20"	⅜	(4) - 1"Ø	F1554 - GR.36	2½"	2"	48"
16'-0"	XXXXXXXXXXXX	2,310 lbs.	≤ 12'-0"	8'-0"	W16x40	W12x40	36"Ø	10'-3"	8 - #6	#4 @ 4½" o.c.	1½"	24"	24"	⅜	(6) - 1"Ø	F1554 - GR.55	2½"	2"	48"
		3,080 lbs.	≤ 16'-0"	8'-0"	W16x50	W14x61	48"Ø	12'-0"	8 - #8	#4 @ 6" o.c.	1½"	24"	24"	½	(6) - 1"Ø	F1554 - GR.55	2½"	2"	64"
		3,840 lbs.	≤ 20'-0"	8'-0"	W16x67	W16x67	48"Ø	12'-0"	12 - #8	#4 @ 6" o.c.	1½"	24"	24"	½	(6) - 1"Ø	F1554 - GR.105	2½"	2"	64"
		1,730 lbs.	≤ 8'-0"	10'-0"	W12x35	W12x35	36"Ø	9'-0"	8 - #6	#4 @ 4½" o.c.	1½"	20"	20"	⅜	(4) - 1"Ø	F1554 - GR.36	2½"	2"	48"
18'-0"		2,600 lbs.	≤ 12'-0"	10'-0"	W14x48	W14x43	42"Ø	10'-0"	8 - #8	#4 @ 6" o.c.	1½"	24"	24"	⅜	(4) - 1"Ø	F1554 - GR.55	2½"	2"	64"
		3,460 lbs.	≤ 16'-0"	10'-0"	W14x61	W14x61	48"Ø	10'-9"	8 - #8	#4 @ 6" o.c.	1½"	24"	24"	½	(6) - 1"Ø	F1554 - GR.55	2½"	2"	64"
		4,320 lbs.	≤ 20'-0"	10'-0"	W16x77	W16x67	48"Ø	13'-0"	12 - #8	#4 @ 6" o.c.	1½"	24"	24"	½	(6) - 1"Ø	F1554 - GR.55	3"	2"	64"
		2,310 lbs.	≤ 8'-0"	14'-0"	W14x43	W14x43	36"Ø	9'-9"	8 - #6	#4 @ 4½" o.c.	1½"	24"	24"	⅜	(4) - 1"Ø	F1554 - GR.55	2½"	2"	48"
		3,460 lbs.	≤ 12'-0"	14'-0"	W14x61	W14x61	36"Ø	11'-3"			1½"	24"	24"	⅜	(6) - 1"Ø	F1554 - GR.55	2½"	2"	64"
		4,610 lbs.	≤ 16'-0"	14'-0"	W16x67	W16x67	48"Ø	11'-3"			1½"	24"	30"	⅜	(4) - 1"Ø	F1554 - GR.105	3"	2"	64"
24'-0"		5,760 lbs.	≤ 20'-0"	14'-0"	W18x86	W18x86	48"Ø	13'-3"	Not Used		1½"	24"	30"	⅜	(6) - 1"Ø	F1554 - GR.55	3"	2"	64"
		6,920 lbs.	≤ 24'-0"	14'-0"	W18x119	W18x119	48"Ø	13'-3"			2"	24"	30"	C/P	(6) - 1"Ø	F1554 - GR.105	3"	2"	64"
		8,070 lbs.	≤ 28'-0"	14'-0"	W18x158	W18x143	54"Ø	16'-0"	12 - #8	#4 @ 6" o.c.	2½"	24"	36"	C/P	(6) - 1"Ø	F1554 - GR.105	4"	2"	64"
28'-0"		2,690 lbs.	≤ 8'-0"	14'-0"	W14x43	W14x43	42"Ø	10'-0"	8 - #7	#4 @ 4½" o.c.	1½"	24"	24"	⅜	(4) - 1"Ø	F1554 - GR.55	2½"	2"	64"
		4,040 lbs.	≤ 12'-0"	14'-0"	W14x61	W14x61	48"Ø	11'-3"	8 - #8	#4 @ 6" o.c.	1½"	24"	30"	⅜	(6) - 1"Ø	F1554 - GR.55	3"	2"	64"
		5,380 lbs.	≤ 16'-0"	14'-0"	W16x77	W16x67	48"Ø	12'-9"	12 - #8	#4 @ 6" o.c.	2"	24"	30"	⅜	(6) - 1"Ø	F1554 - GR.55	3"	2"	64"
		6,720 lbs.	≤ 20'-0"	14'-0"	W18x97	W18x97	48"Ø	14'-3"	12 - #8	#4 @ 6" o.c.	2"	24"	30"	C/P	(6) - 1"Ø	F1554 - GR.55	3"	2"	64"
		8,070 lbs.	≤ 24'-0"	14'-0"	W18x143	W18x143	54"Ø	15'-0"	12 - #8	#4 @ 6" o.c.	2½"	24"	36"	C/P	(6) - 1"Ø	F1554 - GR.105	4"	2"	64"
		9,410 lbs.	≤ 28'-0"	14'-0"	W18x175	W18x175	54"Ø	16'-0"	12 - #8	#4 @ 6" o.c.	3"	24"	36"	C/P	(6) - 1"Ø	F1554 - GR.105	4"	2"	64"

NOTES: (#)
1. CONTRACTOR OPTION TO PROVIDE TIES OR SPIRAL REINFORCING. SEE C/SB2.2 FOR TIE OPTION, SEE D/SB2.2 FOR SPIRAL OPTION
2. CONTRACTOR IS RESPONSIBLE FOR CASING PIERS AND DRILLING SEQUENCING TO PROTECT PIER EXCAVATION



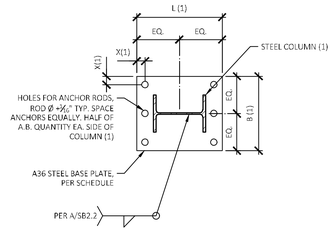
SECTION A-A
COLUMN ORIENTATION

ELEVATION

Note: Flags not included in the design for this project.

TWO COLUMN SCOREBOARD INSTALLATION
N.T.S.

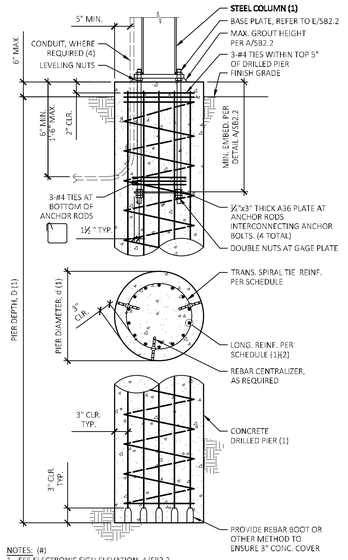
A



NOTES: (#)
1. SEE SCOREBOARD ELEVATION, A/SB2.2

BASE PLATE
N.T.S.

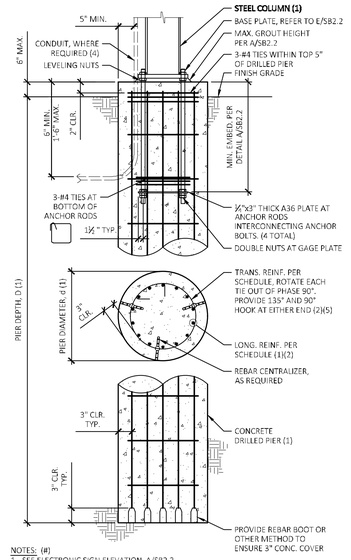
E



NOTES: (#)
1. SEE ELECTRONIC SIGN ELEVATION, A/SB2.2
2. SEE DETAILS B/SB2.2 FOR REINFORCEMENT TIE REQUIREMENTS
3. DO NOT SPLICE REINFORCEMENT.
4. LOCATION OF CONDUIT APPROACH SHOWN GRAPHICALLY ONLY FOR REFERENCE, VERIFY ACTUAL CONDITIONS IN FIELD. (2)-2" NOMINAL CONDUIT MAX. SPACE CONDUIT 6"o.c. MIN.
5. TIE SHALL OVERLAP ITSELF A MINIMUM OF 6" AND HOOK AT VERTICAL BARS. MAXIMUM OF THREE VERTICAL BAR SPACINGS BETWEEN HOOKS

CONCRETE DRILLED PIER
N.T.S.

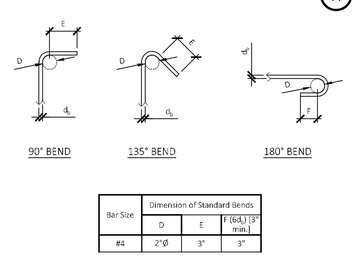
D



NOTES: (#)
1. SEE ELECTRONIC SIGN ELEVATION, A/SB2.2
2. SEE DETAILS B/SB2.2 FOR REINFORCEMENT TIE REQUIREMENTS
3. DO NOT SPLICE REINFORCEMENT.
4. LOCATION OF CONDUIT APPROACH SHOWN GRAPHICALLY ONLY FOR REFERENCE, VERIFY ACTUAL CONDITIONS IN FIELD. (2)-2" NOMINAL CONDUIT MAX. SPACE CONDUIT 6"o.c. MIN.
5. TIE SHALL OVERLAP ITSELF A MINIMUM OF 6" AND HOOK AT VERTICAL BARS. MAXIMUM OF THREE VERTICAL BAR SPACINGS BETWEEN HOOKS

CONCRETE DRILLED PIER
N.T.S.

C



Bar Size	Dimension of Standard Bends		
	D	E	F ($6d_b$) 3" min.)
#4	2"Ø	3"	3"

TIE AND STIRRUP BENDS
N.T.S.

B

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

SSG structural engineers

REGISTERED PROFESSIONAL ENGINEER DANIEL E. PARKIN No. 5405 STRUCTURAL STATE OF CALIFORNIA
DATE SIGNED: 08.09.2023
PC SIGN SEAL

THESE DRAWINGS, NOTES AND DETAILS ARE INSTRUMENTS OF SERVICE AND ARE THE PROPERTY OF SSG STRUCTURAL ENGINEERS, LLP. ALL DRAWINGS, INFORMATION, SPECIFICATIONS, IDEAS, DESIGNS AND ARRANGEMENTS REPRESENTED WITHIN THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF THE ENGINEER. NO PART THEREOF SHALL BE COPIED, DISCLOSED TO OTHERS OR USED IN CONNECTION WITH ANY WORK OR PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH THEY HAVE BEEN PREPARED AND DEVELOPED WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ENGINEER. COPYRIGHT 2023.
THANK YOU FOR YOUR INTEREST IN NEVCO SCOREBOARD PRODUCTS.

nevco
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DIV. OF THE STATE ARCHITECT
APP: 04-122317 - PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐ CG ☐
DATE: 09/20/2023

DSA STAMP

PRE-CHECK (PC) DOCUMENT
CODE: 2022

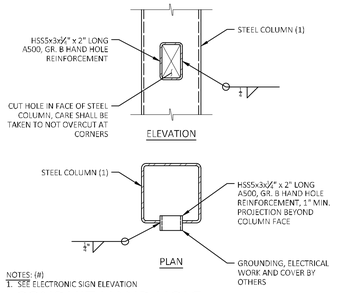
A separate project application for construction is required.

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

TWO COLUMN CAISSON - BOLTED

SHEET INFORMATION

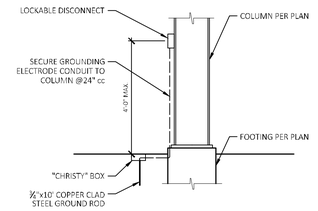
DATE	08.09.2023
DRAWN	JMK
CHECKED	MEP
SSG JOB #	S23109
SHEET	SB2.2



NOTES: (#)
1. SEE ELECTRONIC SIGN ELEVATION

CONDUIT HAND HOLE

N.T.S. (H)

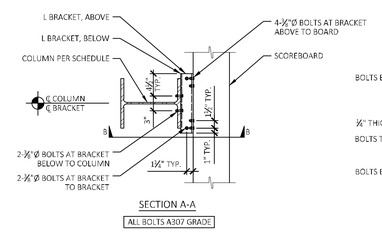


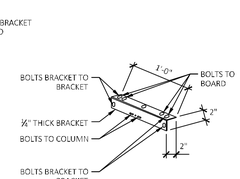
ALL DISPLAYS MUST BE GROUNDED WITH NO MORE THAN 10 OHMS GROUND RESISTANCE

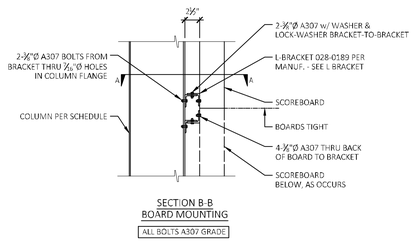
NOTES:
1. ALTERNATE: IT IS PERMISSIBLE TO UTILIZE THE UFER GROUNDING METHOD. DETAILS FOR UFER GROUNDING SHALL BE INCLUDED AS PART OF THE SITE SPECIFIC SUBMITTAL.

GROUNDING DETAIL

N.T.S. (B)

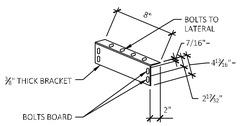


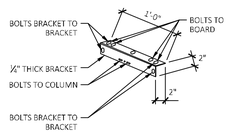


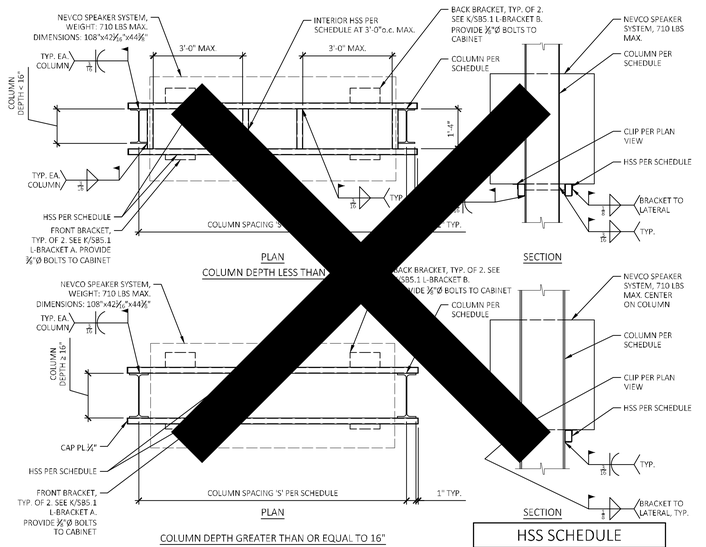


SCOREBOARD PART ATTACHMENTS

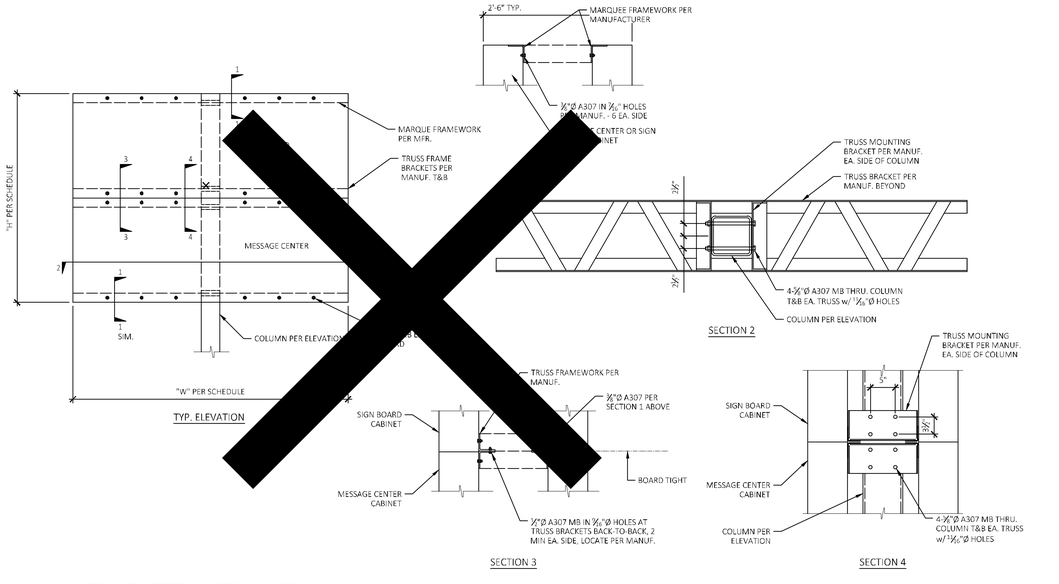
N.T.S. (A)





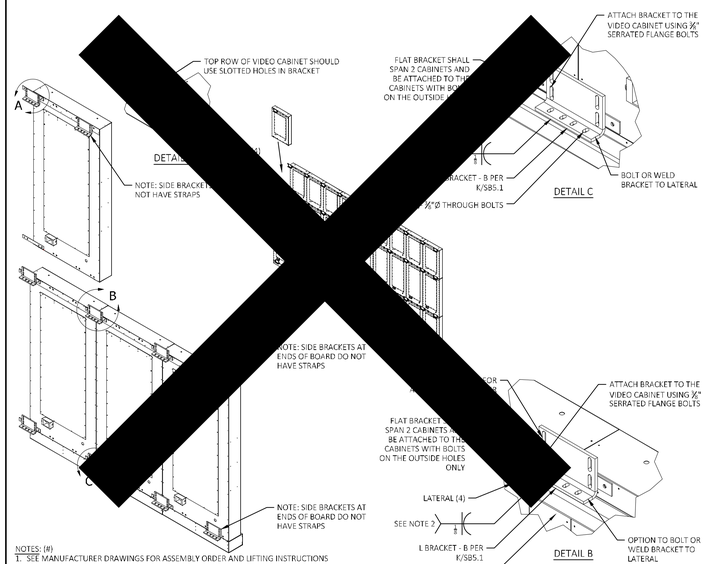


HSS SCHEDULE	
COLUMN SPACING, S	HSS SIZE
10'-0"	HSS4x3x5/16 LLV
12'-0"	HSS4x3x5/16 LLV
14'-0"	HSS4x3x¼ LLV



L BRACKETS

N.T.S. (K)



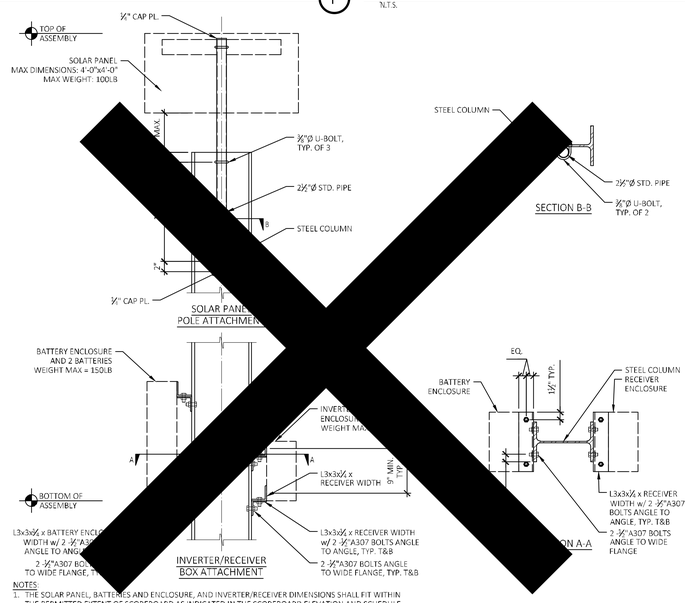
NOTES: (#)
1. SEE MANUFACTURER DRAWINGS FOR ASSEMBLY ORDER AND LIFTING INSTRUCTIONS
2. OPTION TO ATTACH CLIP TO LATERAL WITH WELD OR BOLTS
3. PROVIDE FILLET WELD WHERE LATERAL WIDTH EXCEEDS BRACKET WIDTH
4. TYPICAL VIDEO BOARD LATERAL IS HSS3X3X¼, SEE K/SB5.2 FOR ATTACHMENT TO COLUMN. SEE B/SB6.1 FOR INDOOR WALL ATTACHMENT.
5. MAX TRIBUTARY AREA TO L-BRACKET SHALL NOT EXCEED 20 S.F.

VIDEO BOARD BRACKET ATTACHMENT

N.T.S. (J)

SPEAKER ATTACHMENT

N.T.S. (F)



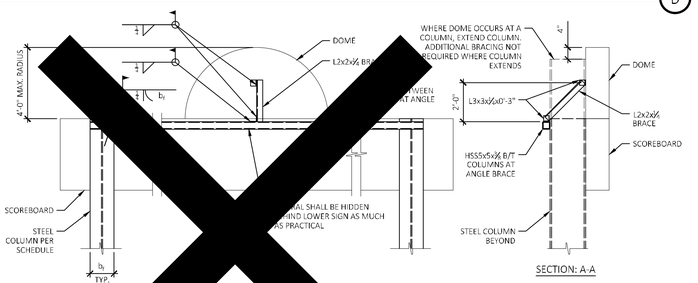
NOTES:
1. THE SOLAR PANEL, BATTERIES AND ENCLOSURE, AND INVERTER/RECEIVER DIMENSIONS SHALL FIT WITHIN THE PERMITTED EXTENT OF SCOREBOARD AS INDICATED IN THE SCOREBOARD ELEVATION AND SCHEDULE.
2. THE SOLAR PANEL, BATTERIES AND ENCLOSURE, AND INVERTER/RECEIVER WEIGHT ALONG WITH ALL OTHER SCOREBOARD COMPONENTS SHALL NOT EXCEED THE WEIGHT INDICATED IN THE SCOREBOARD SCHEDULE.

SOLAR PANEL/BATTERY/ INVERTER/RECEIVER ATTACHMENT

N.T.S. (G)

MARQUEE CENTER INSTALLATION

N.T.S. (D)



NOTES: (#)
1. SEE SCOREBOARD ELEVATION AND

DOME BRAC

N.T.S. (E)

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

SSG structural engineers

REGISTERED PROFESSIONAL ENGINEER
MICHAEL E. PARSON
No. 5405
STRUCTURAL
STATE OF CALIFORNIA
EXPIRES: 08.09.2023

PC DEOH SEAL

nevco
301 East Harris Avenue, Greenville, Illinois 62246
Phone: (618) 664-0360
www.nevco.com

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-122317 - PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐ CG ☐
DATE: 09/20/2023

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CODE: 2022

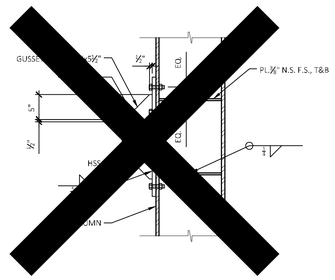
A separate project application for construction is required.

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

ATTACHMENT DETAILS

SHEET INFORMATION

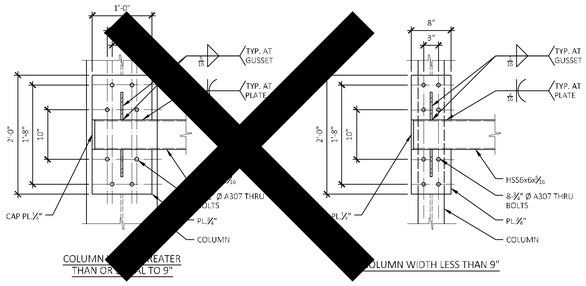
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DRAWN:	JMK
CHECKED:	MEP
SSG JOB #	S23109
SHEET	SB5.1



NET MOUNT PLATE

N.T.S.

(E)



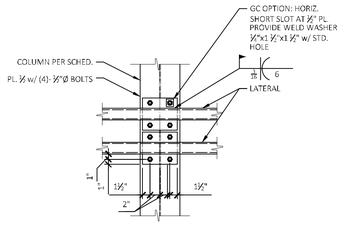
COLUMN [illegible] GREATER THAN OR EQUAL TO 9"

COLUMN WIDTH LESS THAN 9"

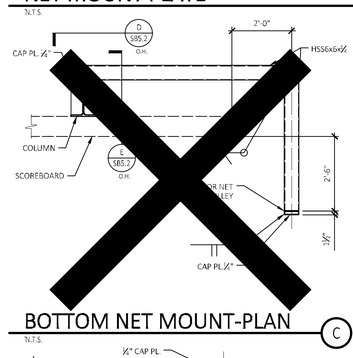
NET MOUNT PLATE

N.T.S.

(D)



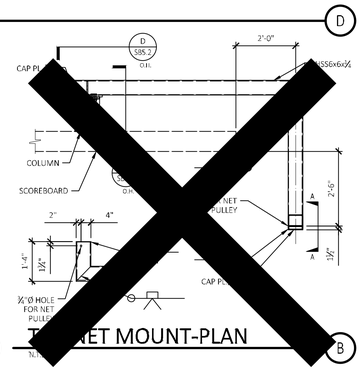
ELEVATION: OPTION C&D-BOLTED LATERAL



BOTTOM NET MOUNT-PLAN

N.T.S.

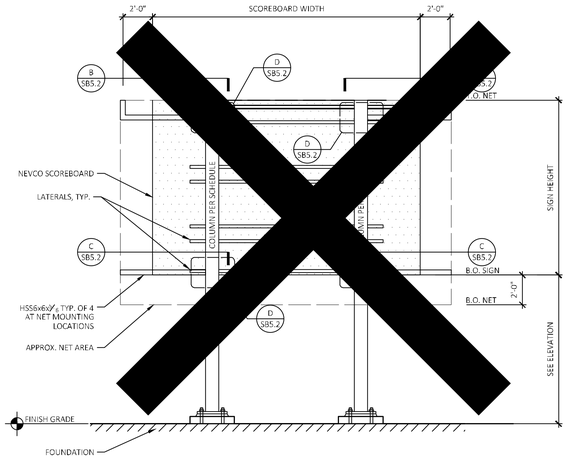
(C)



T[illegible] NET MOUNT-PLAN

N.T.S.

(B)



NOTES:
1. ELEVATION SHOWN WITH TWO COLUMNS FOR GRAPHICAL PURPOSES. NET SUPPORT DETAILS APPLICABLE TO TWO, THREE, AND FOUR COLUMN ASSEMBLIES

SCOREBOARD NETTING SUPPORTS

N.T.S.

(A)

OPTION C: LATERAL BOLTED/CLIP BOLTED

OPTION D: LATERAL BOLTED/CLIP WELDED

OPTION A: LATERAL WELDED/CLIP BOLTED

OPTION B: LATERAL WELDED/CLIP WELDED

LATERAL/BOARD ATTACHMENT

N.T.S.

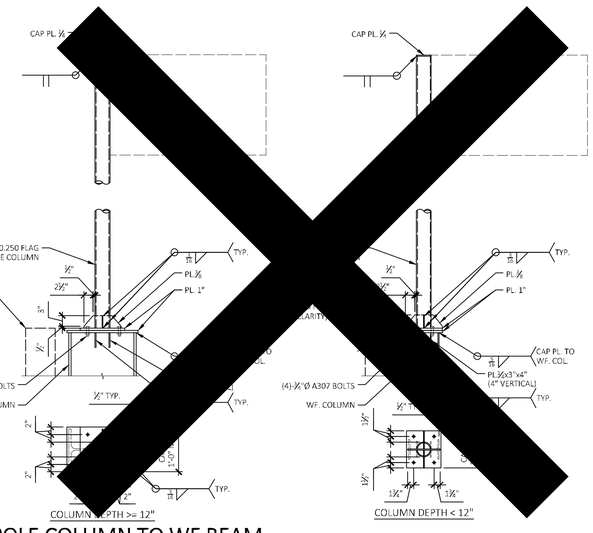
(K)

NOTES:
1. THE SOLAR PANEL, BATTERIES AND ENCLOSURE, AND INVERTER/RECEIVER DIMENSIONS SHALL FIT WITHIN THE PERMITTED EXTENT OF SIGN AS INDICATED IN THE MARQUEE ELEVATION AND SCHEDULE.
2. THE SOLAR PANEL, BATTERIES AND ENCLOSURE, AND INVERTER/RECEIVER WEIGHT ALONG WITH ALL OTHER SIGN COMPONENTS SHALL NOT EXCEED THE WEIGHT INDICATED IN THE MARQUEE SCHEDULE.

SOLAR PANEL/BATTERY/ INVERTER/RECEIVER ATTACHMENT

N.T.S.

(H)



FLAG POLE COLUMN TO WF BEAM

N.T.S.

(F)

CAISSON BOTTOM OF SLOPE

CAISSON MID-SLOPE

CAISSON TOP OF SLOPE

MAT FOOTING

NOTES:
1. REFERENCE FINISH GRADE FOR DETERMINATION OF MAXIMUM SCOREBOARD HEIGHT.
2. SEE TYPICAL SCOREBOARD INSTALLATION DETAIL FOR MAXIMUM ASSEMBLY HEIGHT AND CLEARANCE TO BOTTOM OF SCOREBOARD.

DISTANCE TO SLOPE

N.T.S.

(J)

NOTES: (#)
1. LA5H050 CLAMP WITH ROCKING WASHER - INSTALL PER

ALTERNATE BOARD A[illegible]CHMENT

N.T.S.

(G)

5:\2023\23109\03 PRODUCTION\03 DRAWINGS\S23109 - DET - SB5.2.DWG

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-123203 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/11/2025

SSG structural engineers

REGISTERED PROFESSIONAL ENGINEER
DANIEL E. PARKER
No. S405
STRUCTURAL
STATE OF CALIFORNIA

DATE SIGNED: 08.09.2023

PC DSOH SEAL

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THANK YOU FOR YOUR INTEREST IN NEVCO SCOREBOARD PRODUCTS.

nevco
301 East Harris Avenue, Greenville, Illinois 62246
Phone: (618) 664-0360
www.nevco.com

Desmond MS - ELOP Year Two
Madera Unified School District
Madera, CA 93637

OPTIONAL SCOREBOARD FEATURE ATTACHMENT DETAILS

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-122317 PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑ CG ☐
DATE: 09/20/2023

DSA STAMP

PRE-CHECK (PC) DOCUMENT
CODE: 2022

A separate project application for construction is required.

SHEET INFORMATION

DATE	08.09.2023
DRAWN	JMK
CHECKED	MEP
SSG JOB #	S23109
SHEET	SB5.2