



Date signed: 11/11/2025

S.B.S.C. - WATER HEATER REPLACEMENT

**2939 ELLIS ST
BERKELEY, CA 94703
BID SET - 03/06/2026**

CODE COMPLIANCE

PARTIAL LIST OF APPLICABLE CODES AS OF JANUARY 1, 2024

ALL WORK SHALL CONFORM TO 2022 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)

GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES

2022	CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24, C.C.R.
2022	CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, C.C.R. (2021 INTERNATIONAL BUILDING CODE AND 2019 CALIFORNIA AMENDMENTS)
2022	CALIFORNIA ELECTRIC CODE (CEC), PART 3, TITLE 24, C.C.R. (2020 NATIONAL ELECTRIC CODE AND 2022 CALIFORNIA AMENDMENTS)
2022	CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, C.C.R. (2021 IAPMO UNIFORM MECHANICAL CODE AND 2022 CALIFORNIA AMENDMENTS)
2022	CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, C.C.R. (2021 IAPMO UNIFORM PLUMBING CODE AND 2022 CALIFORNIA AMENDMENTS)
2022	CALIFORNIA ENERGY CODE (CENC), PART 6, TITLE 24, C.C.R.
2022	CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, C.C.R. (2021 INTERNATIONAL FIRE CODE AND 2022 CALIFORNIA AMENDMENTS)
2022	CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR (2021 INTERNATIONAL EXISTING BUILDING CODE AND 2022 CALIFORNIA AMENDMENTS)
2019	TITLE 19, C.C.R., REGULATIONS OF THE STATE FIRE MARSHAL
2022	CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24, C.C.R.
2022	CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24, C.C.R.
2019	ASME A17.1/CSA B44 SAFETY CODE FOR ELEVATORS AND ESCALATORS (PER 2022 CBC PART 2 CH 35) NOTE: CAL/OSHA ELEVATOR UNIT ENFORCES CCR TITLE 8 AND USES THE 2004 ASME A17.1 BY ADOPTION

PARTIAL LIST OF APPLICABLE STANDARDS

NFPA 13	SPRINKLER SYSTEMS (CA AMENDED)	2022 EDITION
NFPA 14	STANDPIPE & HOSE SYSTEMS, 2013 EDITION (CA AMENDED)	2016 EDITION
NFPA 24	PRIVATE FIRE SERVICE MAINS & APPURTANANCES (CA AMENDED)	2016 EDITION
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED)	2022 EDITION
NFPA 80	FIRE DOORS AND OTHER OPENING PROTECTIVES	2016 EDITION
NFPA 2001	CLEAN AGENT FIRE EXTINGUISHING SYSTEMS (CA AMENDED)	2015 EDITION
UL 464	AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES	2003 EDITION
UL 521	STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS	2005 EDITION

FOR A COMPLETE LIST OF APPLICABLE NFPA STANDARDS REFER TO 2022 CBC (SFM) CHAPTER 35 AND CALIFORNIA FIRE CODE CHAPTER 80

SEE CALIFORNIA BUILDING CODE CHAPTER 35 FOR STATE OF CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS.

PROJECT SUMMARY

THE PROPOSED PROJECT IS A LIMITED TO THE REPLACEMENT OF THE EXISTING, GAS-FIRED, DOMESTIC HOT WATER HEATER WITH TWO NEW, HEAT-PUMP WATER HEATERS LOCATED ON THE EXTERIOR OF THE BUILDING.

THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR PREPPING ALL AREAS FOR THE NEW SCOPE OF WORK INCLUDING PATCHING AND REPAIRING OF EXISTING CONDITIONS WHERE AFFECTED INCLUDING ANY AND ALL AREAS OF NEW DEMOLITION WORK.

THE WORK TO BE PERFORMED UNDER THIS CONTRACT INCLUDES THE FURNISHING OF ALL LABOR, MATERIALS, EQUIPMENT, TRANSPORTATION, SERVICES, PERMITS, TEMPORARY CONTROLS AND CONSTRUCTION FACILITIES, AND ALL GENERAL CONDITIONS, SEISMIC REQUIREMENTS, GENERAL REQUIREMENTS AND INCIDENTALS REQUIRED TO COMPLETE THE WORK ON THE PROJECT IN ITS ENTIRETY AS DESCRIBED IN THE CONTRACT DOCUMENTS.

DRAWING INDEX

G0.00	COVER SHEET
A2.01	SITE PLAN
A2.31	FIRST FLOOR PLAN
A2.32	SECOND FLOOR PLAN
A3.11	EXTERIOR ELEVATIONS
A3.31	SECTIONS AND DETAILS
A4.20	ENLARGED FLOOR PLANS
A7.41	EXTERIOR DETAILS
M1.10	TITLE 24 COMPLIANCE FORMS
P1.00	GENERAL NOTES
P2.00	PLUMBING DEMOLITION PLAN
P2.10	PLUMBING CONSTRUCTION PLAN
P3.00	SCHEDULES AND DIAGRAMS
P4.00	SCHEDULES AND SPECIFICATIONS
E0.00	GENERAL NOTES
E3.00	POWER PLAN
E6.00	SCHEDULES AND DETAILS

BUILDING INFORMATION

EXISTING BUILDING DATA (no expansion proposed):

LOT AREA = 21,625 SF

FIRST FLOOR = 10,485 SF
SECOND FLOOR = 6,445 SF

TOTAL CONDITIONED AREA - 16,930 SF

MIXED OCCUPANCY - A-3 and B

CONSTRUCTED IN 1977 AS A TYPE VA BUILDING =
- ALL INTERIOR PARTITIONS ARE ONE-HOUR RATED
- PROPERTY LINE WALL IS 2-HOUR WITH STEEL, FIRE-RATED WINDOWS WITH WIRE GLASS

FIRE SPRINKLERS - NONE

FIRE ALARM - INSTALLED IN 2012 CONFORMING TO NFPA 72, 2010 EDITION

ALLOWABLE HEIGHT AND AREA:
504.3 - HEIGHT - 50'-0"
504.4 - # OF STORIES - 2
506.2 - SQUARE FOOTAGE PER LEVEL - 11,500

NO CHANGES TO BUILDING OCCUPANCY, SQUARE FOOTAGE, OR BUILDING CONSTRUCTION TYPE IS PROPOSED

LOCAL STREET MAP



APPROVALS

PROJECT TITLE

**CITY OF BERKELEY, CA
S.B.S.C. - WATER
HEATER
REPLACEMENT**

2939 ELLIS ST
BERKELEY, CA 94703

BID SET

ISSUE DATE	03/06/2026
N&T JOB NUMBER	22221
REVISIONS	
DATE	DESCRIPTION
03/06/2026	BID SET

SHEET TITLE

COVER SHEET

SHEET NUMBER

GO.00

Electrical

Atium Engineering
3533 York Lnc
San Ramon, CA 94582
Tel: (913) 961-1658

MEP

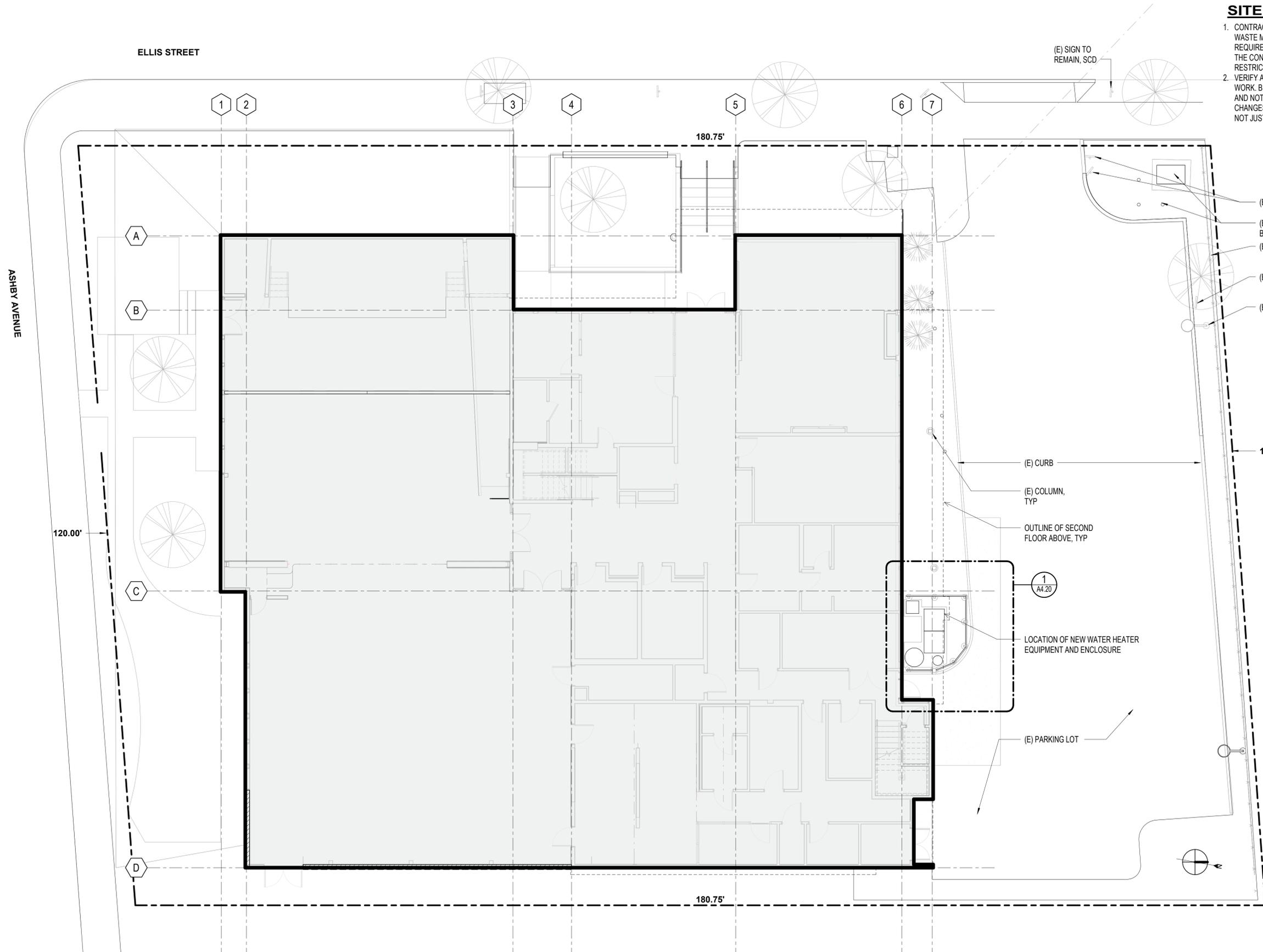
EPCE Inc
274 Devonshire Street
Vallejo CA 94591
Tel: (707) 980-4049

Architect

Noll & Tam Architects
729 Heinz Ave
Berkeley, CA 94710
Tel: 510.542.2200

Client

City of Berkeley
1947 Center St
Berkeley, CA 94704
Tel: (510) 981-2489



SITE PLAN NOTES

1. CONTRACTOR SHALL COMPLY WITH CITY OF BERKELEY'S WASTE MANAGEMENT STANDARDS AND STATE REQUIREMENTS. IN EVENT OF CONFLICTING STANDARDS, THE CONTRACTOR IS TO COMPLY WITH THE MORE RESTRICTIVE STANDARD.
2. VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK. BRING ANY DISCREPANCIES FROM THE DRAWINGS AND NOTES TO THE ARCHITECT IMMEDIATELY. MINOR CHANGES IN THE SCOPE OF THE DEMOLITION WORK SHALL NOT JUSTIFY ANY ADDITIONAL COST.

NOLL & TAM ARCHITECTS

729 Heinz Avenue
Berkeley, CA 94710
tel 510.542.2200
fax 510.542.2201



APPROVALS

PROJECT TITLE

**CITY OF BERKELEY, CA
S.B.S.C. - WATER
HEATER
REPLACEMENT**

2939 ELLIS ST
BERKELEY, CA 94703

PERMIT SET

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SHEET TITLE
SITE PLAN

SHEET NUMBER
A2.01

1 SITE PLAN-1ST FLOOR
A2.01 1/8" = 1'-0"

GENERAL NOTES

1. ALL FINISHES TO REMAIN UNLESS OTHERWISE NOTED. REFER TO FINISH PLANS AND SCHEDULE FOR EXTENT OF PAINT AND FINISH SCOPE.
2. NO WORK IS PROPOSED FOR THE SECOND FLOOR OR ROOF

NOLL & TAM ARCHITECTS

729 Heinz Avenue
Berkeley, CA 94710
tel 510.542.2200
fax 510.542.2201

SEAL



Date signed: 11/11/2025

APPROVALS

PROJECT TITLE

**CITY OF BERKELEY, CA
S.B.S.C. - WATER
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2939 ELLIS ST
BERKELEY, CA 94703

PERMIT SET

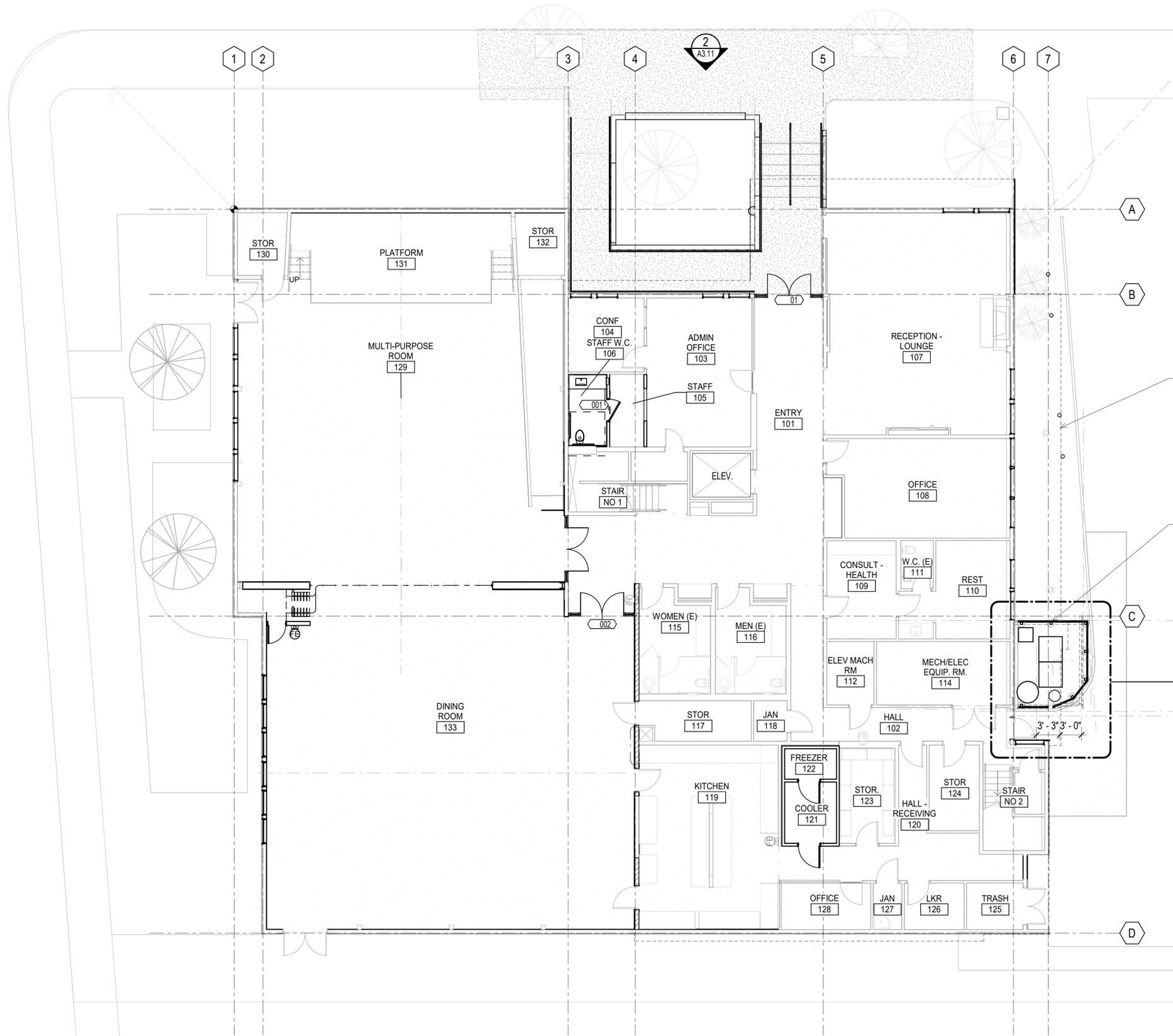
ISSUE DATE	11/7/2025
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DATE	DESCRIPTION
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SHEET TITLE

**FLOOR PLAN- 1ST
FLOOR**

SHEET NUMBER

A2.31



DASHED LINE INDICATES
EXTENT OF 2ND FLOOR,
ABOVE

SCOPE OF WORK LIMITED TO
DEMOLITION OF EXISTING, FAILED
EQUIPMENT IN ROOM #114 AND
CONSTRUCTION OF NEW
EQUIPMENT AND EQUIPMENT
ENCLOSURE

1
A3.11

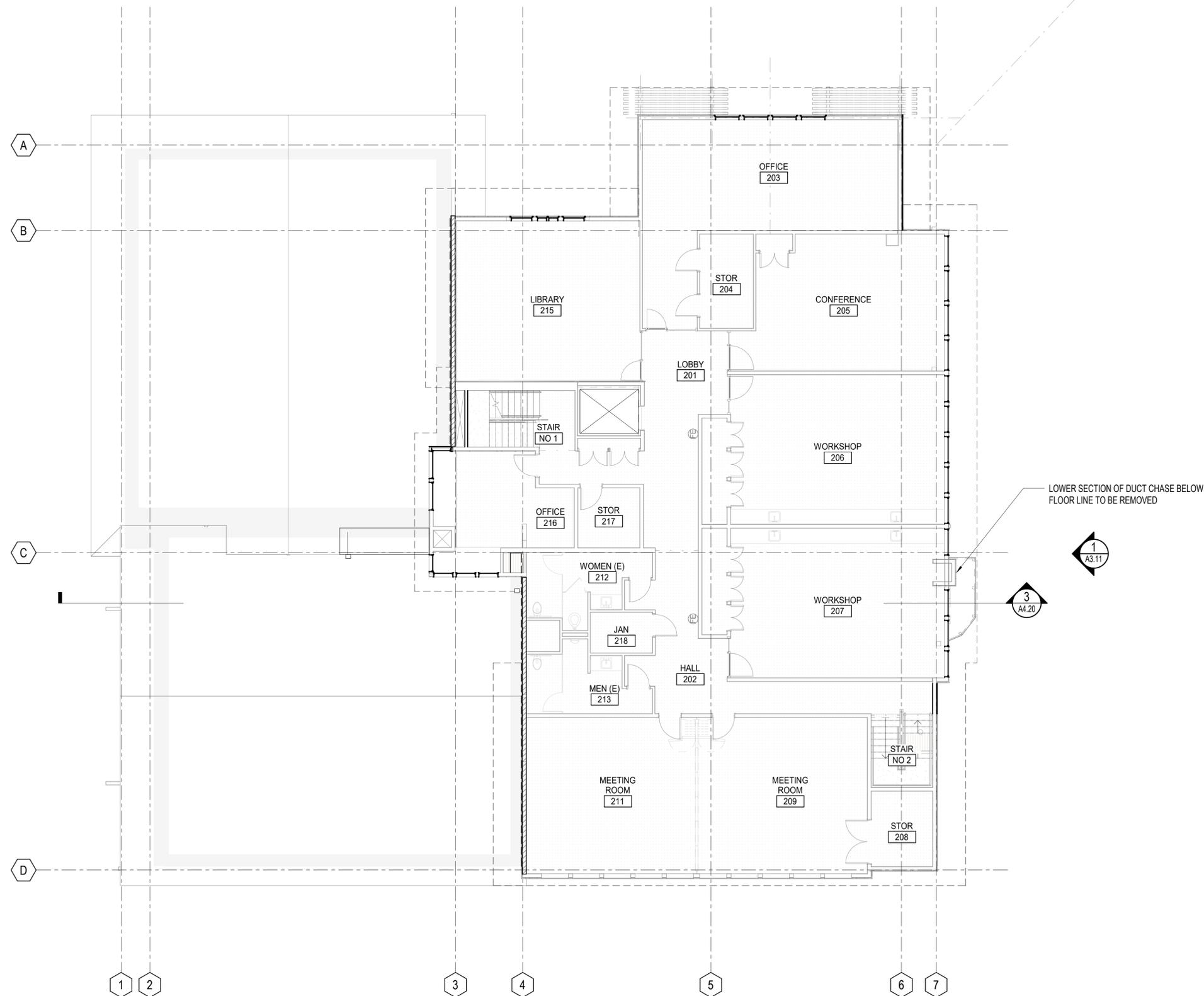
1
A4.20



1 01 - FLOOR PLAN
A2.31 1/8" = 1'-0"

GENERAL NOTES

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Berkeley, CA 94710
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APPROVALS

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DATE	DESCRIPTION
03/06/2026	BID SET

SHEET TITLE
**FLOOR PLAN- 2ND
FLOOR**

SHEET NUMBER

A2.32

11/14/2025 9:08:09 AM C:\Users\jtom_bell\Documents\Revit\Local\2025\027_Water Heaters_tom_bell.rvt

02 - FLOOR PLAN
A2.32 1/8" = 1'-0"

SEAL



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APPROVALS

PROJECT TITLE

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S.B.S.C. - WATER
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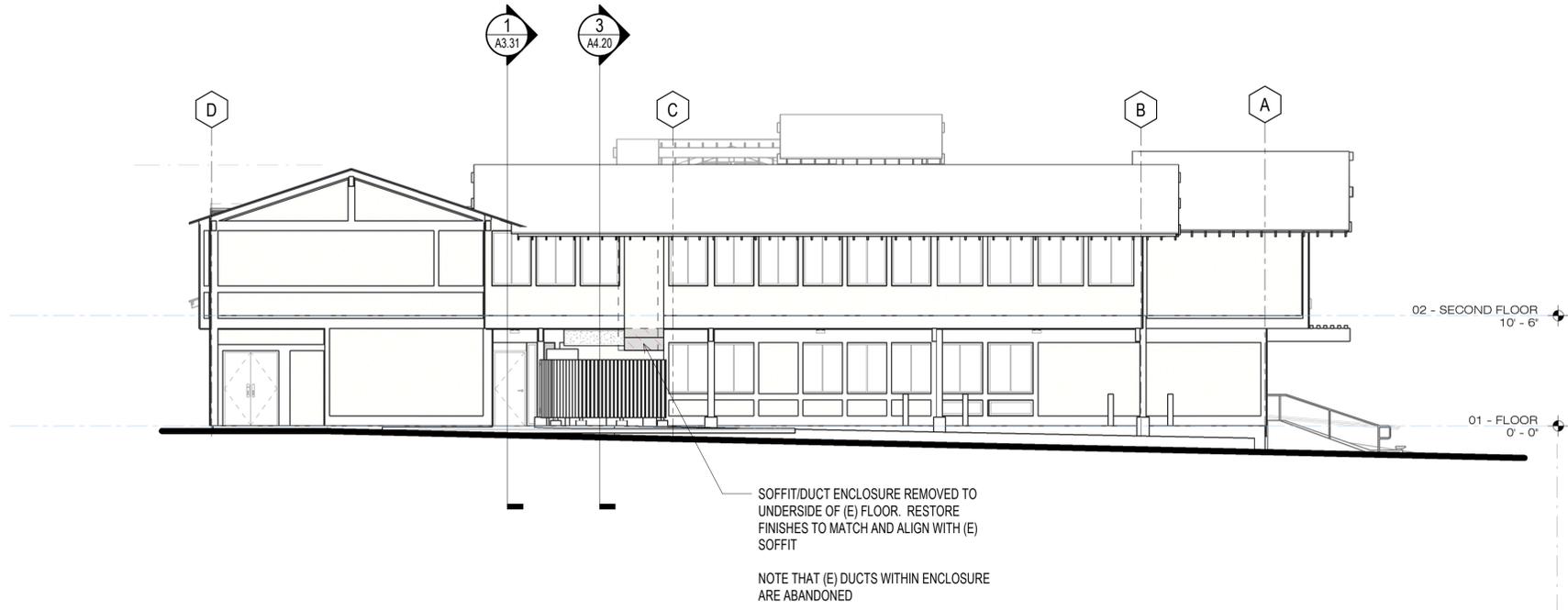
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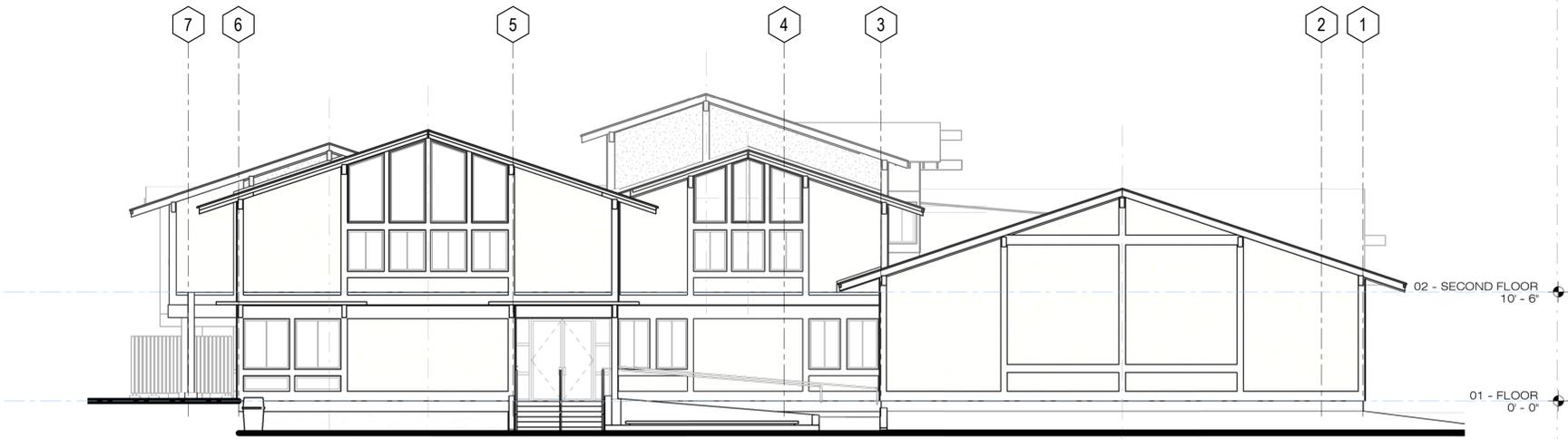
SHEET TITLE
EXTERIOR ELEVATIONS

SHEET NUMBER

A3.11



1 NORTH ELEVATION - FROM PARKING LOT
A3.11 1/8" = 1'-0"



2 WEST ELEVATION - FROM ELLIS STREET
A3.11 1/8" = 1'-0"



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APPROVALS

PROJECT TITLE

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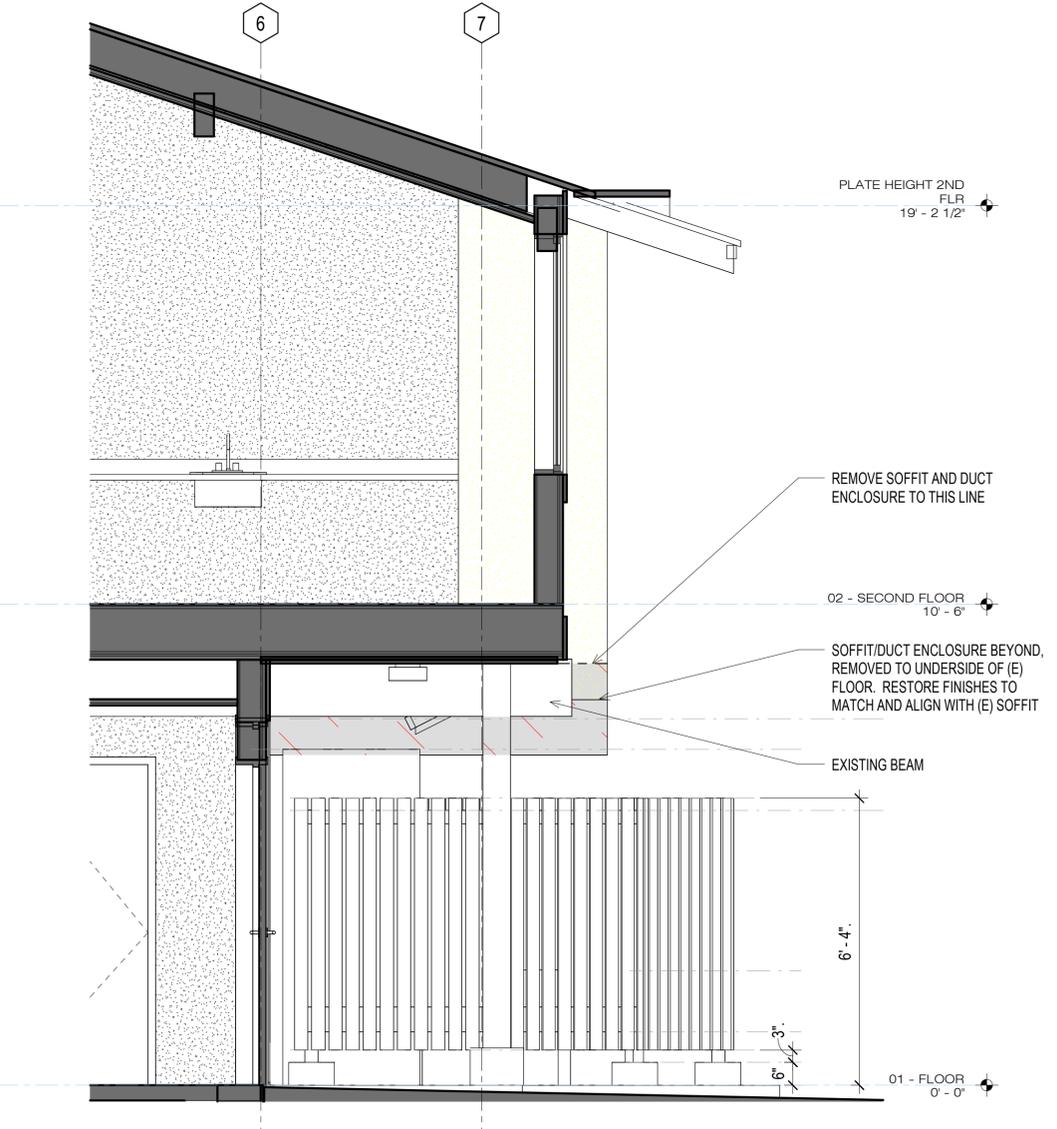
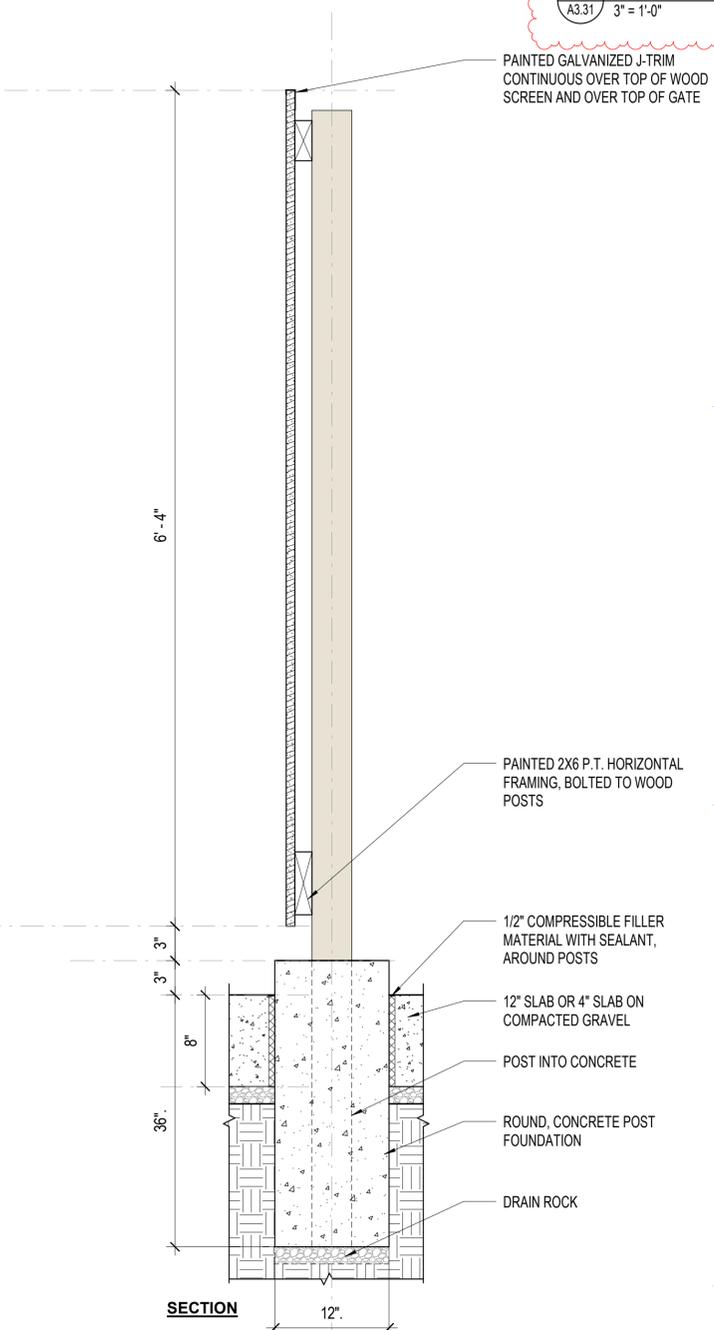
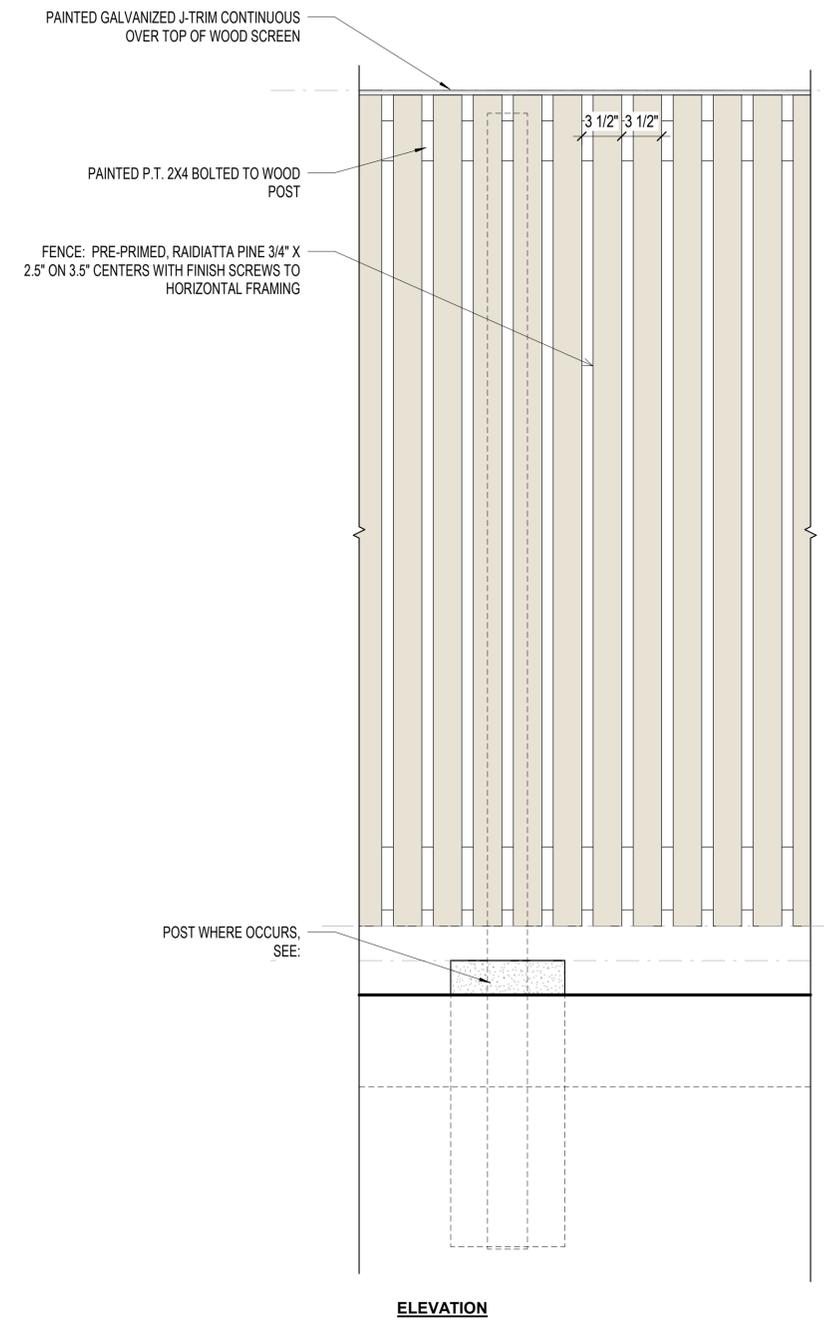
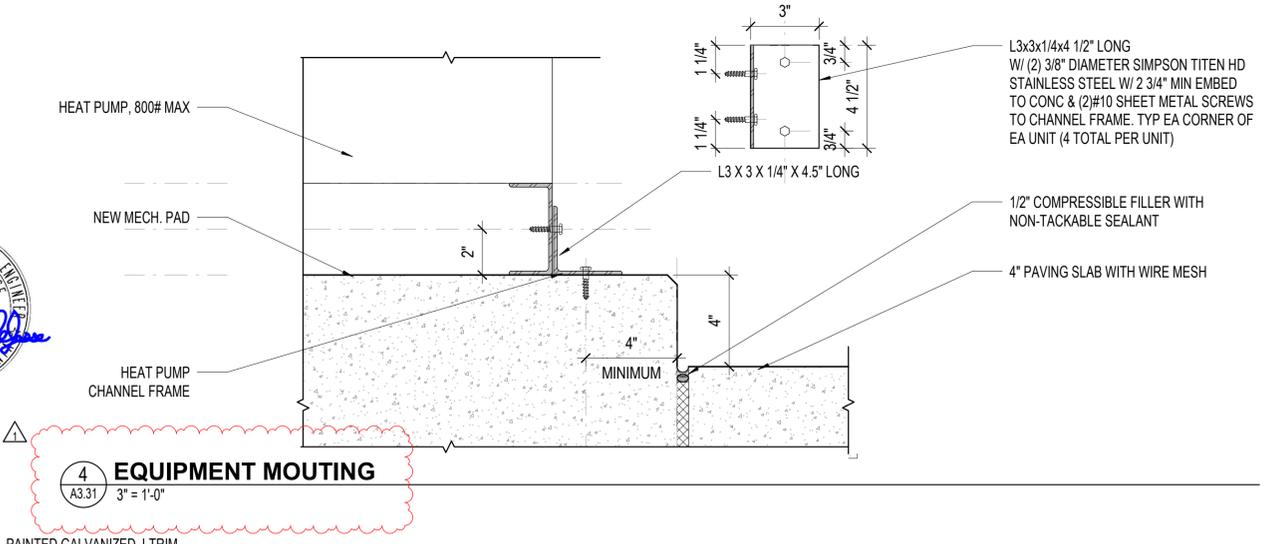
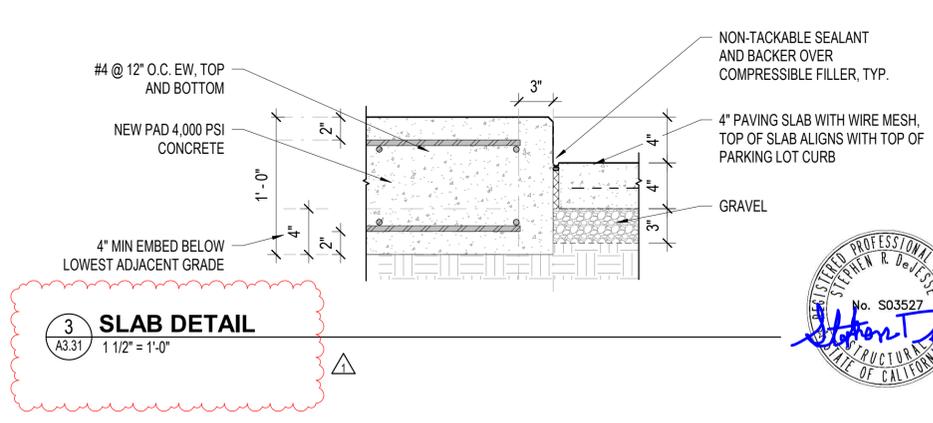
PERMIT SET

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1	01/09/2026 Plan Check
	03/06/2026 BID SET

SHEET TITLE
**BUILDING SECTION and
DETAILS**

SHEET NUMBER

A3.31



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PROJECT TITLE

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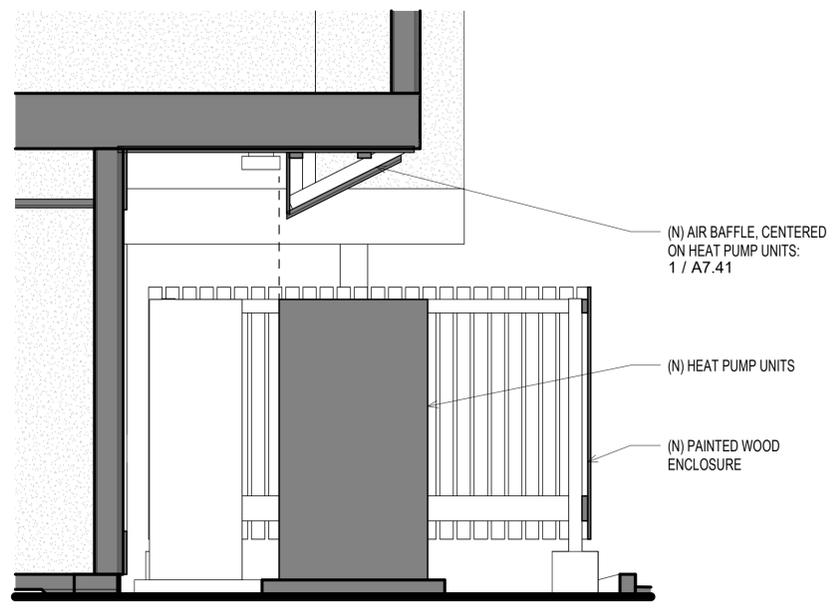
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REVISIONS	
1	01/09/2026 Plan Check
	03/06/2026 BID SET

SHEET TITLE
ENLARGED PLANS

SHEET NUMBER

A4.20

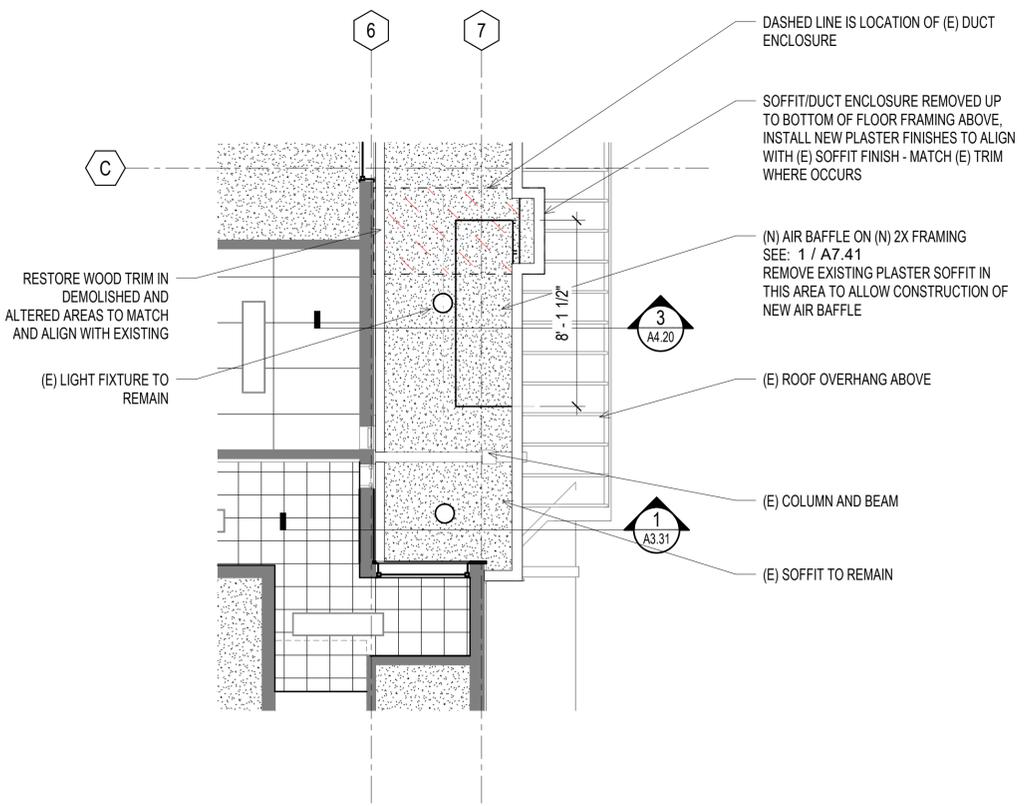
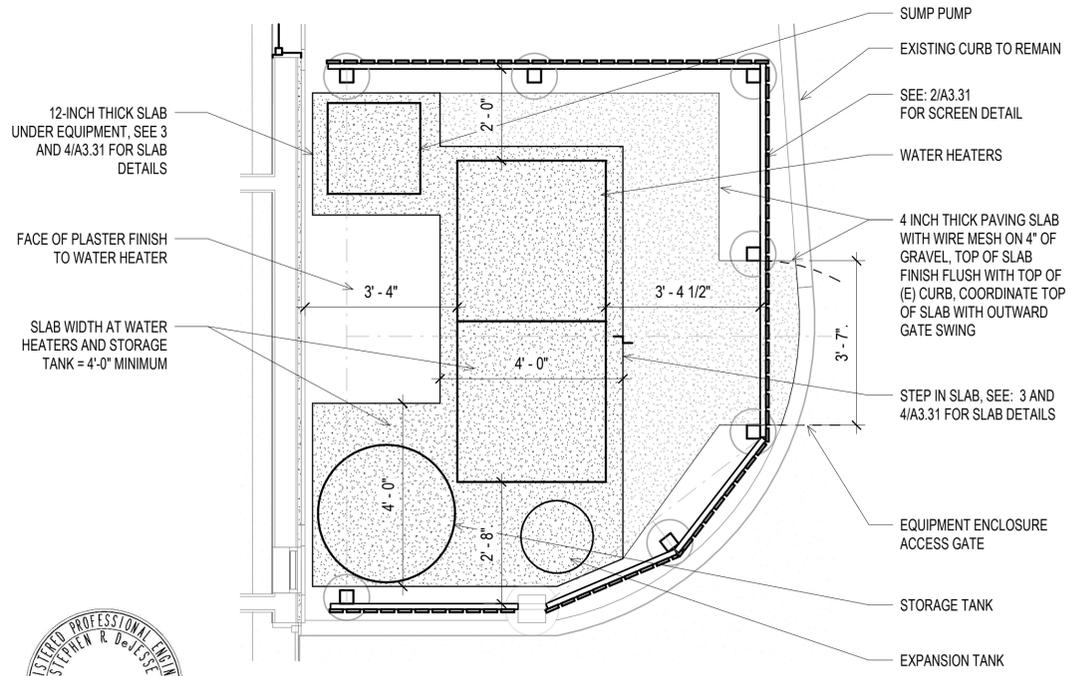


3 N - S BUILDING SECTION @ BAFFLE
A4.20 1/2" = 1'-0"

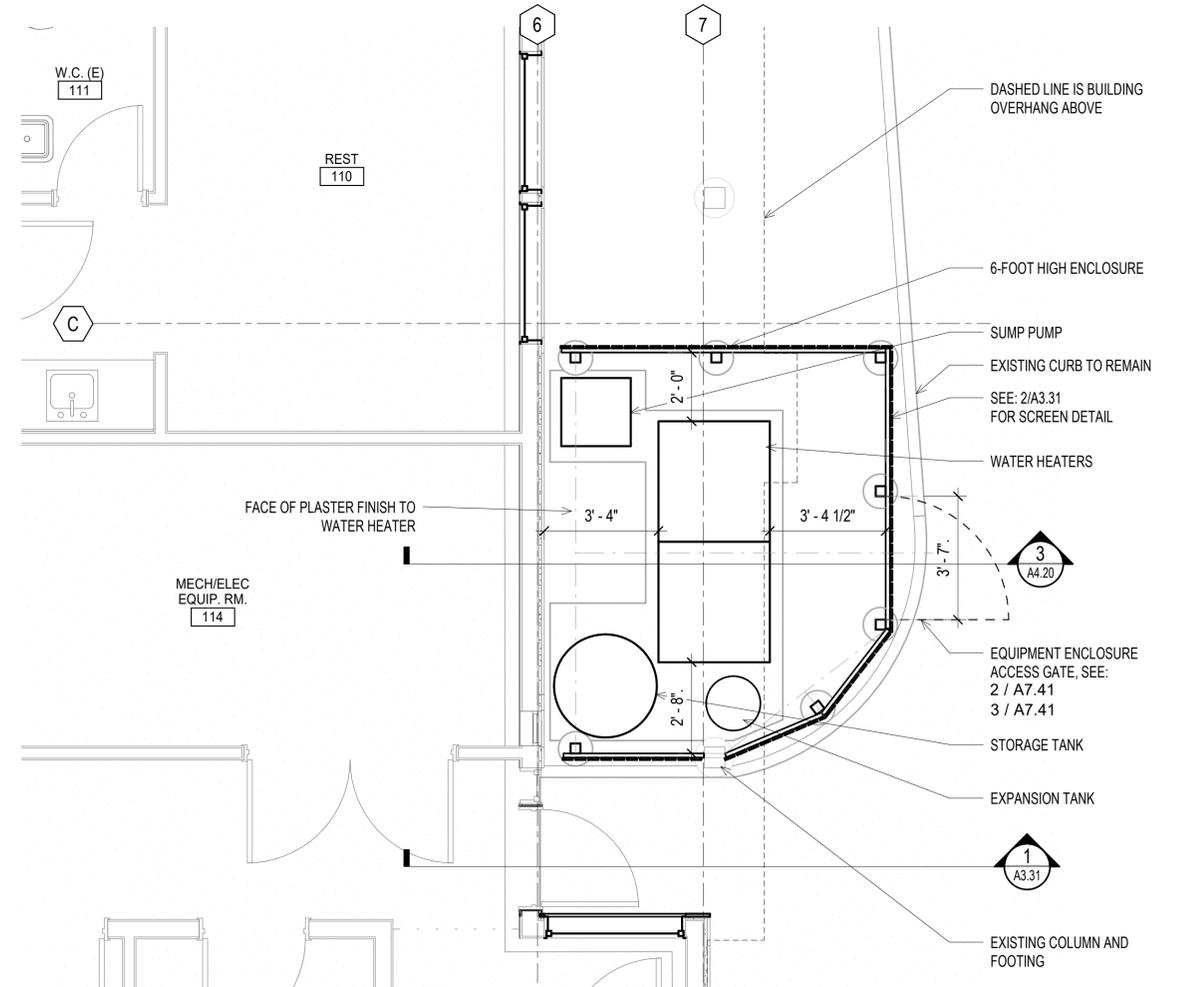
CONCRETE NOTES FOR SLAB

- ALL CONCRETE SHALL BE REINFORCED UNLESS NOTED "NOT REINFORCED".
- SEE THE CALIFORNIA BUILDING CODE FOR THE REQUIREMENTS IN THE PRODUCTION, TESTING AND INSTALLATION OF CONCRETE.
- REINFORCEMENT SHALL BE PER ASTM A615, GRADE 60 WITH BAR MARKS LEGIBLY ROLLED INTO THE SURFACE INDICATING SIZE, TYPE OF STEEL, AND YIELD STRENGTH DESIGNATION.
- CONCRETE SHALL TEST NOT LESS THAN 4,000 PSI AT 28 DAYS. MAXIMUM AGGREGATE SIZE = 1 INCH.
- PORTLAND CEMENT SHALL BE PROPORTIONED IN ACCORDANCE WITH ASTM C94, TYPE I OR II.
- REINFORCEMENT, ANCHOR BOLTS, PIPE SLEEVES, AND OTHER INSERTS SHALL BE POSITIVELY SECURED IN PLACE BEFORE CONCRETE IS POURED. "WET-SETTING" WILL NOT BE ALLOWED.
- BAR COVERAGE TO FACE OF BAR, EXCEPT AS OTHERWISE SHOWN, SHALL BE:
 - 3" WHERE CONCRETE IS POURED AGAINST EARTH OR AGAINST GROUND CONTACT
 - 2" FOR BARS LARGER THAN #5, WHERE CONCRETE SURFACES ARE EXPOSED TO EARTH OR TO WEATHER AFTER REMOVAL OF FORMS.
 - 1-1/2" FOR #5 BARS OR SMALLER, WHERE CONCRETE SURFACES ARE EXPOSED TO EARTH OR TO WEATHER AFTER REMOVAL OF FORMS
- HOLES FOR GROUTED ANCHORS SHALL BE DRILLED WITH ROTARY HAMMER OR OTHER SUITABLE METHODS TO ENSURE EXISTING REINFORCEMENT IS NOT DAMAGED. HOLE DIAMETER SHALL BE 1/8" GREATER THAN ANCHOR ROD DIAMETER, UNLESS OTHERWISE NOTED. GROUT SHALL BE NON-SHRINK EPOXY. LOCATE EXISTING REINFORCING BARS PRIOR TO DRILLING HOLES. DO NOT DAMAGE EXISTING REINFORCING. METHOD OF LOCATING EXISTING REINFORCING BARS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. ALL MIS-DRILLED OR UNACCEPTABLE HOLES SHALL BE GROUTED SOLID.

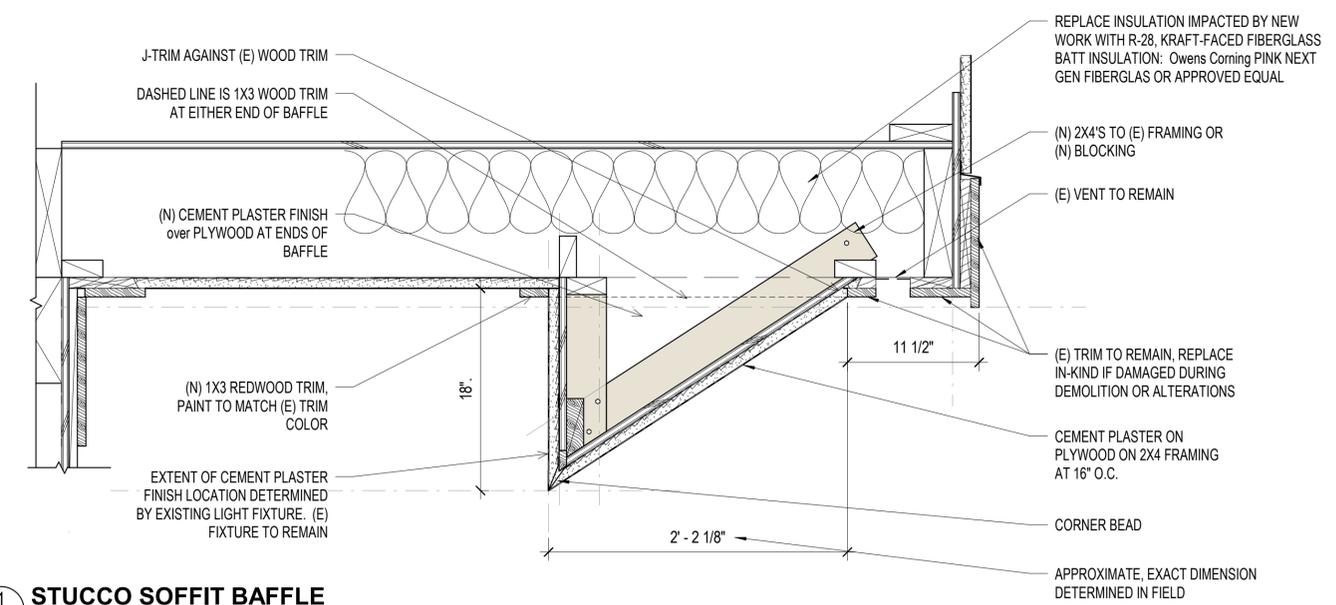
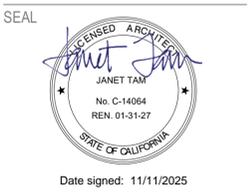
4 ENLARGED SLAB PLAN
A4.20 1/2" = 1'-0"



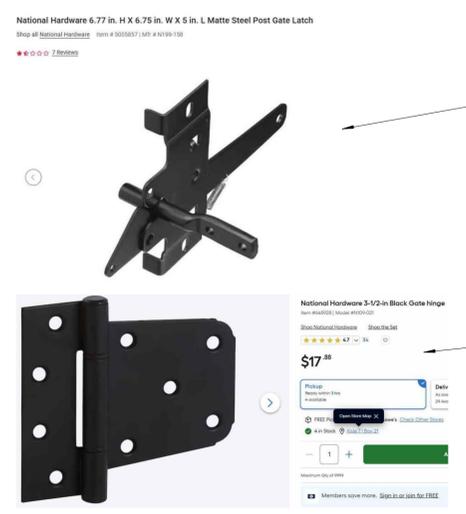
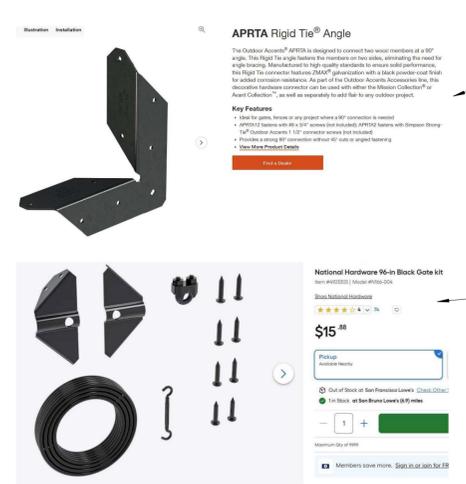
2 R.C.P. - AT WATER HEATER ENCLOSURE
A4.20 1/4" = 1'-0"



1 ENLARGED WATER HEATER ENCLOSURE
A4.20 3/8" = 1'-0"



1 STUCCO SOFFIT BAFFLE
A7.41 1 1/2" = 1'-0"



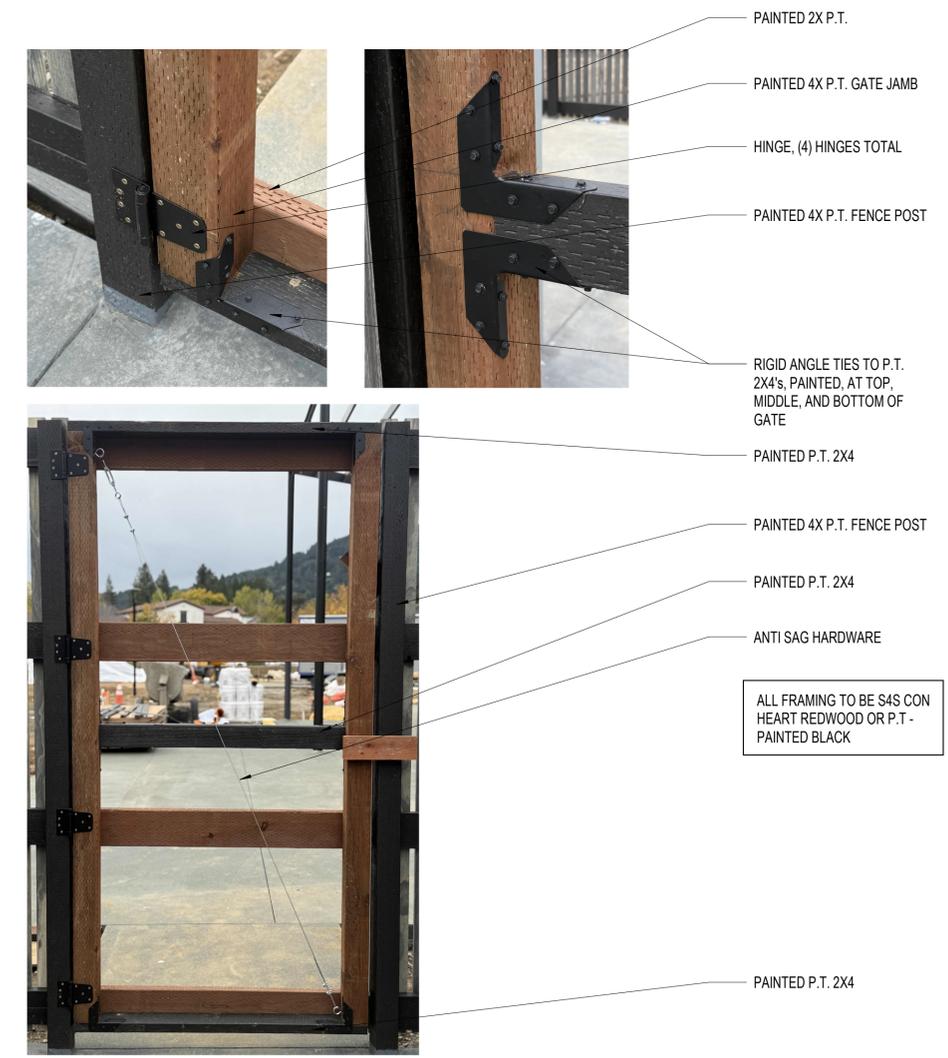
3 GATE HARDWARE
A7.41 1 1/2" = 1'-0"

RIGID ANGLE TIES TO P.T. 2X4's

ANTI SAG HARDWARE

GATE LATCH

GATE HINGES



2 GATE DETAILS
A7.41 1 1/2" = 1'-0"

APPROVALS

PROJECT TITLE

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S.B.S.C. - WATER
HEATER
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BERKELEY, CA 94703

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SHEET TITLE
EXTERIOR DETAILS

SHEET NUMBER

A7.41

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: SBSC Water Heater Replacement Report Page: (Page 1 of 5)
 Project Address: Date Prepared: 2025-11-12 12:10:58-05:00

A. GENERAL INFORMATION

01	Project Location (city)	Berkeley	02	Climate Zone	3
03 Occupancy Types Within Project (select all that apply):					
<input type="checkbox"/> 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 140.5/170.2(d) and 141.0(a)/180.1, or 141.0(b)(2)/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	My project consists of (check all that apply):	02	System Type 1,2	03	System Components
<input type="checkbox"/> New system (DHW system being installed for the first time)					
<input checked="" type="checkbox"/> System Alteration (Equipment, distribution or controls)					
<input type="checkbox"/> Equipment <input type="checkbox"/> Distribution <input type="checkbox"/> Controls					
<input checked="" type="checkbox"/> Central System (serving nonresidential spaces) <input type="checkbox"/> Equipment <input type="checkbox"/> Distribution <input type="checkbox"/> Controls					

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	COMPLIES
Yes			

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: Energy Code Ace
 Report Version: 2022.0.000 Compliance ID: 345339-1125-0003
 Schema Version: rev 20220101 Report Generated: 2025-11-12 19:11:01

STATE OF CALIFORNIA
Domestic Water Heating System
 CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-PLB-E
 Project Name: SBSC Water Heater Replacement Report Page: (Page 4 of 5)
 Project Address: Date Prepared: 2025-11-12 12:10:58-05:00

I. 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

NRCC-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.

Generated Date/Time: Documentation Software: Energy Code Ace
 Report Version: 2022.0.000 Compliance ID: 345339-1125-0003
 Schema Version: rev 20220101 Report Generated: 2025-11-12 19:11:01

STATE OF CALIFORNIA
Domestic Water Heating System
 CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-PLB-E
 Project Name: SBSC Water Heater Replacement Report Page: (Page 2 of 5)
 Project Address: Date Prepared: 2025-11-12 12:10:58-05:00

E. ADDITIONAL REMARKS

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

Generated Date/Time: Documentation Software: Energy Code Ace
 Report Version: 2022.0.000 Compliance ID: 345339-1125-0003
 Schema Version: rev 20220101 Report Generated: 2025-11-12 19:11:01

STATE OF CALIFORNIA
Domestic Water Heating System
 CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-PLB-E
 Project Name: SBSC Water Heater Replacement Report Page: (Page 5 of 5)
 Project Address: Date Prepared: 2025-11-12 12:10:58-05:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: EDGARDO PADILLA
 Company: Eddie Padilla Consulting Engineers Inc.
 Address: 274 Devonshire Street
 City/State/Zip: Vallejo CA 94591

Documentation Author Signature: [Signature]
 Signature Date: 11/14/25
 CEAT/HERS Certification Identification (if applicable):
 Phone: (707) 980-4049

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

- The information provided on this Certificate of Compliance is true and correct.
- 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).
- 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.
- 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.
- 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 be 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 by the permit applicant to the building owner at occupancy.

Responsible Designer Name: Edgardo F. Padilla
 Company: Eddie Padilla Consulting Engineers Inc.
 Address: 274 Devonshire Street
 City/State/Zip: Vallejo CA 94591

Responsible Designer Signature: [Signature]
 Date Signed: 11/14/25
 License: M27070
 Phone: (707) 980-4049

Generated Date/Time: Documentation Software: Energy Code Ace
 Report Version: 2022.0.000 Compliance ID: 345339-1125-0003
 Schema Version: rev 20220101 Report Generated: 2025-11-12 19:11:01

STATE OF CALIFORNIA
Domestic Water Heating System
 CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-PLB-E
 Project Name: SBSC Water Heater Replacement Report Page: (Page 3 of 5)
 Project Address: Date Prepared: 2025-11-12 12:10:58-05:00

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	Exception to 140.5(c)/170.2(d)3	Exceptions Do Not Apply	Gas Service Water Heating System >= 1MMBtu/h	Capacity-weighted Average Efficiency %					
SBSC Water Heater Replacement			<input type="checkbox"/>						
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
HPWH-1	NEEA Individual Heat Pump Water Heater								
HPWH-2	NEEA Individual Heat Pump Water Heater								

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.

FOOTNOTE: Compliant equipment may be found in the Modernized Appliance Efficiency Database System (MAEDBS) on the Energy Commission website: <https://caecertappliances.energy.ca.gov/Pages/Search/AdvancedSearch.aspx>

Water Heating Equipment All Occupancies

	Yes	No	Not Applicable	Requirement
18	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unfired storage tank insulation shall have Internal + External >=R-16 OR External >=R-3.5. Label required per 110.3(c)3
19	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	New state buildings 60% of energy for service water heating from site solar energy or recovered energy per 110.3(c)5
20	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Isolation valves for instantaneous water heater with input rating >= 6.8 kBtUH or 2 kW has been specified per 110.3(c)6
21	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	School buildings < 25,000 ft ² 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.

Generated Date/Time: Documentation Software: Energy Code Ace
 Report Version: 2022.0.000 Compliance ID: 345339-1125-0003
 Schema Version: rev 20220101 Report Generated: 2025-11-12 19:11:01

NOLL & TAM ARCHITECTS

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APPROVALS

PROJECT TITLE

CITY OF BERKELEY, CA S.B.S.C. - WATER HEATER REPLACEMENT

2939 ELLIS ST
 BERKELEY, CA 94703

BID SET

ISSUE DATE: 11/14/2025

N&T JOB NUMBER: 22221

REVISIONS	DATE	DESCRIPTION
03/06/2026		BID SET

DRAWN BY: EPCE CHECKED BY: EP
 SHEET TITLE

TITLE 24 COMPLIANCE FORMS

SHEET NUMBER

M1.10

PLUMBING LEGEND

SYMBOLS	ABBR	SERVICE
		EQUIPMENT IDENTIFICATION
		DETAIL OR SECTION SHEET NUMBER
		NORTH ARROW (REFERENCE)
		POINT OF CONNECTION (POC) OR EXTENT OF WORK
		POINT OF DEMOLITION
		KEYED NOTE
		FIRE SPRINKLER HEAD
	FP	FLEXIBLE CONNECTION
		(E) PIPE TO BE REMAIN
		(E) PIPE TO BE REMOVED
	(N)	NEW
	(E)	EXISTING
	API/AD	ACCESS PANEL/ACCESS DOOR
	UP	ALL SERVICES
	DN	ALL SERVICES
	VR-VTR	VENT RISE - VENT THRU ROOF
		DIRECTION OF FLOW
	SW	SANITARY OR WASTE
	SD	STORM DRAIN
	FS	FIRE SPRINKLER
	CW	COLD WATER
	HW	HOT WATER
	HWR	HOT WATER RETURN
	V	VENT
	G	GAS
	CD	CONDENSATE DRAIN
	FCO	FLOOR CLEANOUT
		3-WAY CONTROL VALVE
		2-WAY CONTROL VALVE
	BC	BALANCING COCK
		BALANCING VALVE
		BALL VALVE
	BV	BUTTERFLY VALVE
	PRV	PRESSURE REDUCING VALVE
	TCV	TEMPERATURE CONTROL VALVE
	GV	GATE VALVE
	GLV	GLOBE VALVE
	CKV	CHECK VALVE
		STRAINER
	AVA	AIR VENT VALVE-AUTOMATIC
	AVM	AIR VENT VALVE-MANUAL
	PGA	PRESSURE GAUGE
	U	UNION CONNECTION
	PP	PETE'S PLUG
	TP	FLOOR DRAIN TRAP PRIMER
	TH	THERMOMETER
	T	THERMOSTAT
		TEMPERATURE GAUGE
		TEMPERATURE SENSOR
		FLOW SWITCH/SENSOR
		PRESSURE SENSOR/TRANSMITTER
		MAGNETIC STARTER
	DI	DIGITAL INPUT
	DO	DIGITAL OUTPUT
	AI	ANALOG INPUT
	AO	ANALOG OUTPUT
		ELECTRICAL CONTROL WIRING
		PNEUMATIC CONTROL

ABBREVIATIONS

ACU	AIR CONDITIONING UNIT
AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
BHP	BRAKE HORSEPOWER/BOILER HORSEPOWER
BOP	BOTTOM OF PIPE
CFF	CAP FOR FUTURE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CTE	CONNECT TO EXISTING
DN	DOWN
(D)	DISPOSE
(E)	EXISTING
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
F	FIRE SPRINKLER
FC	FLEXIBLE CONNECTION
FPM	FEET PER MINUTE
FSD	FIRE SMOKE DETECTOR
HTR	HEATER
HW	HOT WATER
180KHW	180 KITCHEN HOT WATER
HWR	RECIRCULATING HOT WATER
MFR	MANUFACTURER
(N)	NEW
NC	NORMALLY CLOSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NO	NORMALLY OPEN
PG	PRESSURE GAUGE
PLBG	PLUMBING
POC	POINT OF CONNECTION
PSI	POUND PER SQUARE INCH
PSIG	POUND PER SQUARE INCH GAUGE
(R)	RELOCATED
RF	RETURN FAN
(R)	RELOCATE
RIO	ROUGH IN ONLY
RPM	REVOLUTION PER MINUTE
(S)	SALVAGE TO BE RE-INSTALLED
SF	SUPPLY FAN
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
TH	THERMOMETER
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VTR	VENT THRU ROOF
WPD	WATER PRESSURE DROP
WP	WEATHER OR WATER PROOF
WT	WEIGHT

GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST APPLICABLE LOCAL AND STATE CODES AND REGULATIONS:
 - CALIFORNIA BUILDING CODE 2022
 - CALIFORNIA MECHANICAL CODE 2022
 - CALIFORNIA PLUMBING CODE 2022
 - CALIFORNIA FIRE CODE 2022
 - CALIFORNIA ELECTRICAL CODE 2022
- ALL PIPING SHOWN ON PLANS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED TO DETERMINE EXACT LOCATION. CERTAIN VERTICAL AND HORIZONTAL DIMENSIONS ARE SHOWN IN DUCTS AND PIPES TO INDICATE THEIR GENERAL POSITION IN RELATIONSHIP TO THE SYSTEMS WITHIN THE SPACE AVAILABLE FOR SYSTEM INSTALLATION. PROVIDE ADDITIONAL PIPING OFFSETS AS REQUIRED, AND TO COORDINATE WITH INSTALLATION REQUIREMENTS OF OTHER SYSTEMS AT NO ADDITIONAL COST TO THE OWNER. ALL DIMENSIONS ARE IN INCHES OR OTHERWISE NOTED.
- WHERE EXISTING CONSTRUCTION IS CUT, DAMAGED, OR REMODELED, PATCH WITH MATERIALS TO MATCH IN KIND, QUALITY, AND PERFORMANCE.
- CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR SAFETY OF ALL PERSONS IN OR ABOUT THE CONSTRUCTION SITE, IN ACCORDANCE WITH APPLICABLE LAWS AND CODES. GUARD ALL HAZARDS IN ACCORDANCE WITH THE SAFETY PROVISIONS OF THE LATEST MANUAL OF ACCIDENT PREVENTION PUBLISHED BY THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA AND CAL-OSHA.
- REFER TO SMACNA SEISMIC GUIDELINES AND STANDARDS FOR PIPE SUPPORT AND EQUIPMENT SEISMIC BRACINGS.
- COORDINATE WORK WITH THE OWNER AND ALL OTHER TRADES.
- SEAL AIR TIGHT ALL PIPE PENETRATIONS THROUGH WALL. SEALANT SHALL BE 3M BRAND PRODUCTS OR APPROVED EQUAL. BRACE ALL PIPES AND EQUIPMENT TO WITHSTAND FORCES AS REQUIRED BY THE STATE AND LOCAL CODES.
- PROTECT THE PUBLIC FROM INJURY DURING PROGRESS OF WORK BY POSTING WARNING SIGNS, GUARD LIGHTS AND BARRICADES.
- THE CONTRACTOR SHALL PROVIDE DUST BARRIER PLASTIC COVERS, SCREEN AND TENTING AT ALL TIMES TO CONTAIN DUST AND DEBRIS WITHIN THE DESIGNATED WORK AREA. LOCATING AND INSTALLATION OF DUST PROTECTION COVERS AND TENTING TO BE APPROVED BY THE OWNER PRIOR TO INSTALLING. CONTRACTOR SHALL CLEAN WORK AREA AND REMOVE DEBRIS AT THE END OF EACH WORKING DAY. DISPOSAL OF DEBRIS AND EXCESS MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COVER TO PROTECT ALL DUCTWORK OPENINGS, DIFFUSERS AND REGISTERS, RETURN AIR INLETS ABOVE THE CEILING WITHIN THE CONSTRUCTION AREA FROM DUST AND OTHER AIR CONTAMINANTS. IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION, USE RETURN AIR FILTERS WITH A MERV OF 8. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY AS APPLICABLE."
- THE EXISTING MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE MAINTAINED IN OPERATION DURING THE DEMOLITION AND INSTALLATION OF NEW WORK. WHEN A SYSTEM SHUTDOWN IS NECESSARY, OBTAIN A WRITTEN APPROVAL FROM THE OWNER MINIMUM 10 WORKING DAYS PRIOR TO SHUTTING DOWN OF ANY MECHANICAL ELECTRICAL SYSTEMS. IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION, USE RETURN AIR FILTERS WITH A MERV OF 8. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY AS APPLICABLE
- VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS. VERIFY DIMENSIONS OF OWNER FURNISHED EQUIPMENT TO ENSURE PROPER COORDINATION WITH CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES FOUND. NO ALLOWANCE SHALL BE MADE FOR ANY EXPENSE TO WHICH THE CONTRACTOR MAY INCUR DUE TO FAILURE OR NEGLIGENCE ON HIS PART TO MAKE SUCH VERIFICATION.
- ANY ERRORS, OMISSIONS OR CONFLICTS FOUND IN THE VARIOUS PARTS OF THE CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER AND OWNER BEFORE PROCEEDING WITH THE WORK.
- CUTTING OR PENETRATIONS THROUGH EXISTING CONCRETE WALL, FLOOR OR ROOF SHALL BE VERIFIED FOR STRUCTURAL REINFORCEMENTS. X-RAY ARE REQUIRED TO LOCATE EXISTING REINFORCING BARS PRIOR TO CONCRETE CORE DRILLING OR CUTTING. OBTAIN STRUCTURAL ENGINEER'S WRITTEN APPROVAL PRIOR TO CORE DRILLING AND CUTTING. DRILLING INTO REINFORCING BAR IS PROHIBITED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTION OF WORK AT HIS OWN EXPENSE FOR WORK INSTALLED IN CONFLICT WITH CONSTRUCTION DOCUMENTS.
- CONTRACTOR SHALL LEAVE PREMISES AND ALL AFFECTED AREAS CLEAN AND IN ORDERLY MANNER READY FOR MOVE-IN OR FACILITY OPERATION.
- PROVIDE ADEQUATE CLEARANCE AND ACCESS TO EQUIPMENT FOR SERVICE AND MAINTENANCE. EQUIPMENT CLEARANCES SHALL MEET THE REQUIREMENT OF THE MANUFACTURER AND APPLICABLE BUILDING CODES.
- EXPLORATORY WORK TO SEARCH FOR PIPING, PLUMBING OR DUCT FOR CONNECTIONS TO EXISTING BUILDING SYSTEM INCLUDING POINT OF CONNECTIONS UNDER FLOOR SLAB, IN WALLS AND CEILING SHALL BE INCLUDED AT NO COST TO THE OWNER. CUTTING, PATCHING AND RESTORATION OF FLOORS, WALLS, CEILING AND FINISH SHALL BE INCLUDED IN THIS WORK AT NO COST TO THE OWNER. RESTORATION OF WALL OR FLOOR FINISH SHALL MATCH EXISTING.
- ALL PLUMBING PIPING MATERIAL, PLUMBING FIXTURE, VALVE, FITTINGS AND ACCESSORIES SHALL BE 'LEAD-FREE' IN ACCORDANCE WITH CALIFORNIA REGULATION AB1953. PROVIDE SUBMITTAL FROM MANUFACTURER'S FOR COMPLIANCE.
- THE EXISTING MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE MAINTAINED IN OPERATION DURING THE DEMOLITION AND INSTALLATION OF NEW WORK. WHEN A SYSTEM SHUTDOWN IS NECESSARY, OBTAIN A WRITTEN APPROVAL FROM THE OWNER PRIOR TO SHUTTING DOWN OF ANY MECHANICAL AND ELECTRICAL SYSTEMS.
- CLEANOUTS FOR SANITARY SEWER BRANCH SERVING WATER CLOSET SHALL BE INSTALLED ABOVE THE RIM OF BOWL.
- ALL PIPE PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS SHALL PROVIDED WITH APPROVED 3M FIRE STOPPING. REFER FOR ARCHITECTURAL DRAWINGS FOR DETAILS.
- CONTRACTOR TO REVIEW SCOPE OF ALTERATION TO THE PLUMBING SYSTEM WITH UCB CAMPUS FIELD INSPECTOR PRIOR TO INSTALLATION FOR DIRECTION ON SIZING, ROUGH-IN AND TESTING REQUIREMENTS.

SCOPE OF WORK

GENERAL: THIS SCOPE OF WORK IS AN OUTLINE OF WORK INVOLVE FOR THIS PROJECT AND IS NOT INTENDED TO DESCRIBE THE COMPLETE SCOPE OF WORK. THE DETAILED REQUIREMENTS ARE INDICATED ON EACH DRAWING AND SPECIFICATION SECTION.

- REMOVE AND DISPOSE EXISTING HOT WATER STORAGE TANK AND ASSOCIATED PIPING, SUPPORTS AND ANCHORS LOCATED IN THE MECHANICAL ROOM. MAINTAIN THE OPERATION OF HOT WATER SYSTEM UNTIL THE NEW WATER HEATER IS INSTALLED, INSPECTED AND COMMISSIONED FOR OPERATION.
- REMOVE AND DISPOSE EXISTING GAS WATER HEATER LOCATED IN THE MECHANICAL ROOM ASSOCIATED PLUMBING, EQUIPMENT SUPPORT AND ANCHORS. MAINTAIN THE OPERATION OF HOT WATER SYSTEM UNTIL THE NEW WATER HEATER IS INSTALLED, INSPECTED AND COMMISSIONED FOR OPERATION.
- PROVIDE NEW HEAT PUMP HOT WATER HEATERS SYSTEM. EXTEND EXISTING PLUMBING UTILITIES AS REQUIRED. HEAT PUMP WATER HEATING SYSTEM SHALL INCLUDE A STORAGE TANK, PIPING FOR HOT AND COLD WATER AND DRAIN, EXPANSION TANK, MIXING VALVE, SUMP PUMP IN A PIT, RECIRCULATING PUMP, CONTROLS, CONCRETE PAD, SEISMIC SUPPORTS AND ANCHORS. TEST AND COMMISSION THE OPERATION OF THE HOT WATER HEATER. SUBMIT A WRITTEN REPORT. PROVIDE DATA FOR HOT WATER TEMPERATURE FROM THE WATER HEATER, AMBIENT TEMPERATURE, WATER INLET AND OUTLET PRESSURE, WATER FLOW THROUGH THE WATER HEATER IN GPM, OUTLET WATER TEMPERATURE ON HEAT MODE, AMPERE DRAW FROM THE WATER HEATER. PERFORM TEST AND COMMISSIONING TO THE SATISFACTION OF THE CITY. PROVIDE TRAINING FOR THE OPERATION OF THE HOT WATER HEATING SYSTEM.
- PRESSURE TEST ALL PLUMBING PER CPC 2022.
- FLUSH AND DISINFECT ALL WATER PIPING AND EQUIPMENT PER CPC 2022 AND AS SPECIFIED.
- PROVIDE SEISMIC VALVE DOWNSTREAM OF THE EXISTING GAS METER.

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APPROVALS

PROJECT TITLE

CITY OF BERKELEY, CA S.B.S.C. - WATER HEATER REPLACEMENT

2939 ELLIS ST
BERKELEY, CA 94703

BID SET

ISSUE DATE 02/03/2026

N&T JOB NUMBER 22221

REVISIONS

DATE	DESCRIPTION
02/02/26	BID SET

DRAWN BY EPCE CHECKED BY EP
SHEET TITLE

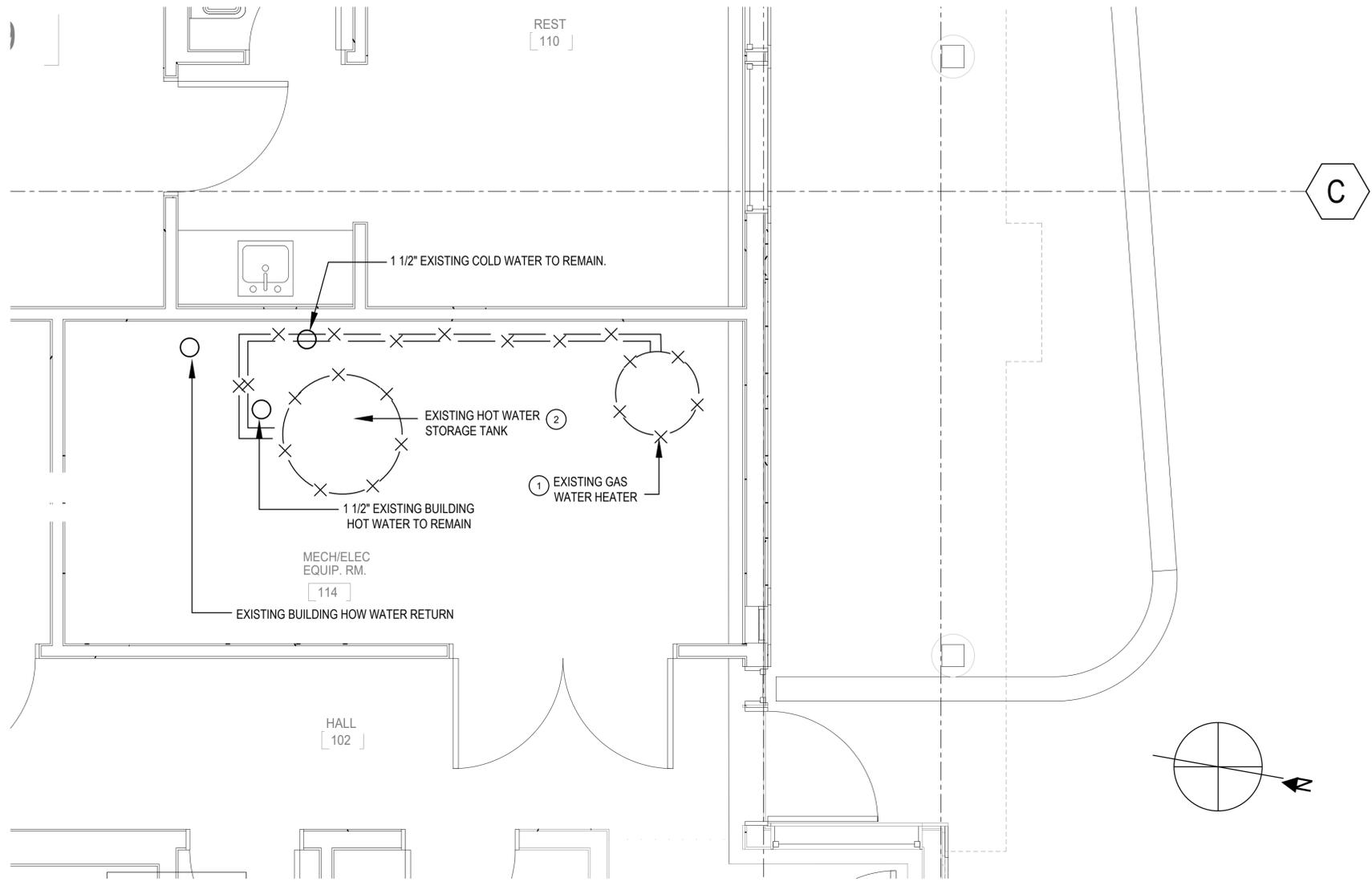
PLUMBING LEGEND SYMBOLS, ABBV. GENERAL NOTES & SCOPE OF WORK

SHEET NUMBER

P1.00

DRAWING INDEX

- P1.00 PLUMBING LEGEND, SYMBOLS, ABBREVIATIONS, GENERAL NOTES & SCOPE OF WORK
- P1.10 TITLE 24 COMPLIANCE FORMS
- P2.00 PLUMBING DEMOLITION PLAN AND GAS METER PLAN
- P2.10 PLUMBING CONSTRUCTION PLANS
- P3.00 PLUMBING EQUIPMENT SCHEDULE, SYSTEM DIAGRAM AND DETAILS



GENERAL NOTES:

1. INSTALL NEW HEAT PUMP WATER HEATERS AND ASSOCIATED STORAGE TANK AND CONTROL. NEW HEAT PUMP WATER HEATER SYSTEM SHALL BE TESTED, COMMISSIONED PRIOR TO REMOVAL OF EXISTING WATER HEATER AND WATER STORAGE TANK.

DEMOLITION NOTES

1. REMOVE AND DISPOSE EXISTING WATER HEATER BOILER AND ASSOCIATED PIPING AND INSULATION, RECIRCULATION PUMP, CONTROLS WIRING, SUPPORTS AND ANCHORS. REMOVE AND DISPOSE ASSOCIATED GAS PIPING. CAP AT SOURCE WITH SHUTOFF VALVE. REMOVE AND DISPOSE ASSOCIATED POWER SUPPLY AND DISCONNECT INCLUDING CONDUIT AND WIRING TO THE ELECTRICAL PANEL.
2. REMOVE AND DISPOSE EXISTING HOT WATER TANK AND ASSOCIATED PIPING AND INSULATION, SUPPORTS AND ANCHORS.

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APPROVALS

PROJECT TITLE

**CITY OF BERKELEY, CA
S.B.S.C. - WATER
HEATER
REPLACEMENT**

2939 ELLIS ST
BERKELEY, CA 94703

BID SET

ISSUE DATE	02/03/2026
N&T JOB NUMBER	22221
REVISIONS	
DATE	DESCRIPTION
02/02/26	BID SET

DRAWN BY **EPCE** CHECKED BY **EP**
SHEET TITLE

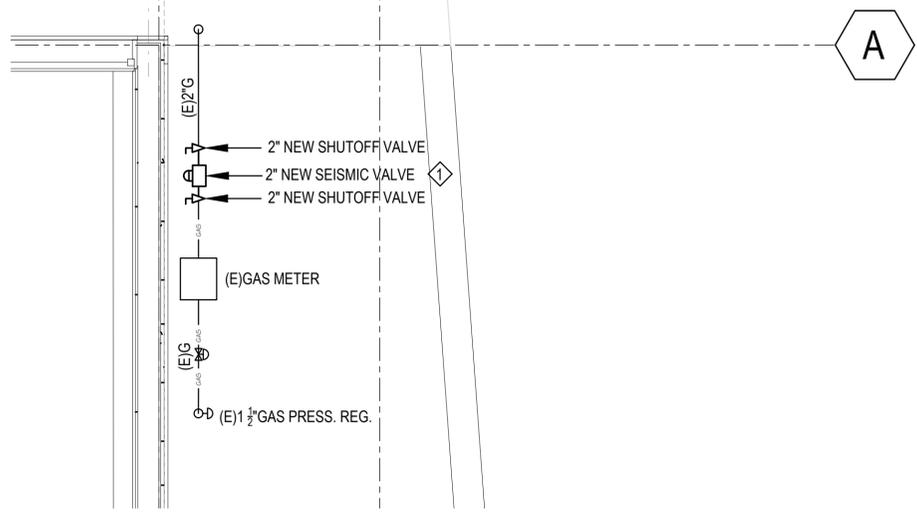
**PLUMBING
DEMOLITION PLAN
AND GAS METER PLAN**

SHEET NUMBER

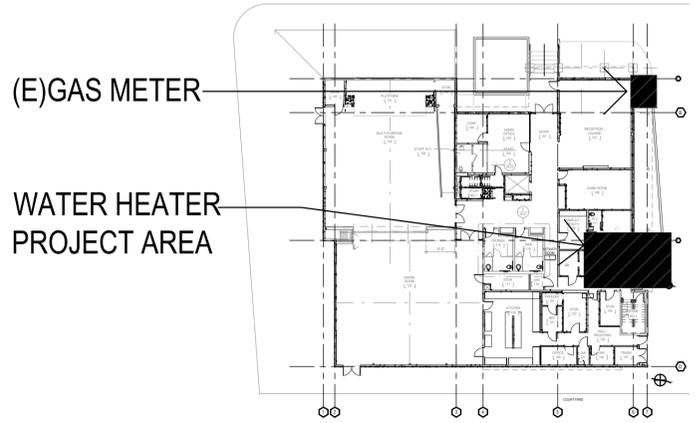
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PLUMBING NEW CONSTRUCTION KEYED NOTES:

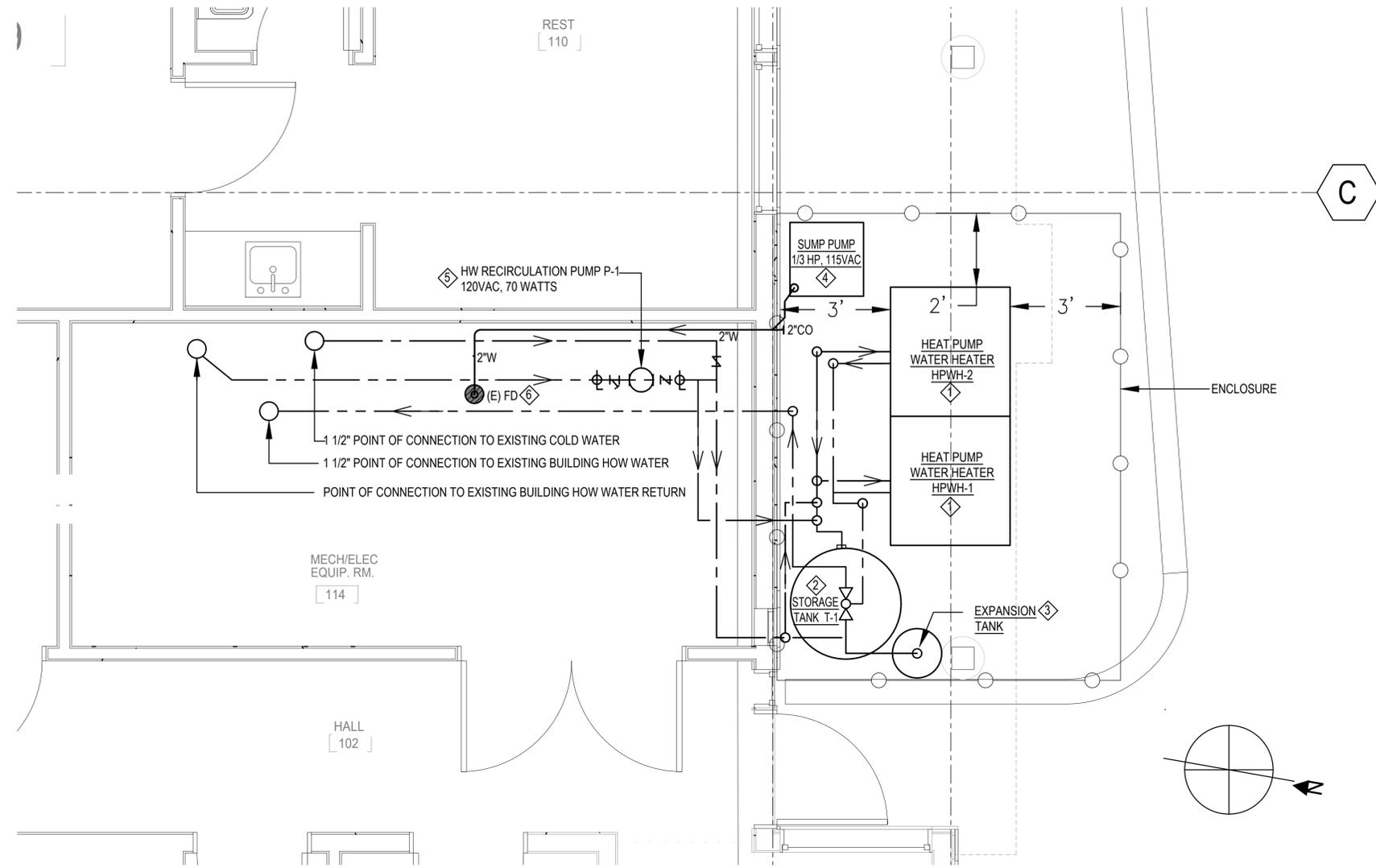
1. PROVIDE NEW 2" SEISMIC VALVE. INSTALL AND TEST PER MANUFACTURER'S INSTRUCTION. OBTAIN APPROVAL FROM CITY INSPECTION. SEISMIC VALVE SHALL BE SEISMIC PACIFIC PRODUCT MODEL 314(60), HORIZONTAL FLOW. SEISMIC VALVE SHALL MEET CALIFORNIA STANDARDS FOR EARTHQUAKE ACTUATED AUTOMATIC GAS SHUT OFF SYSTEM STANDARD NO. 12-12-1, ANSI Z21.21, 2012 AND ASCE 25-06 STANDARDS. PROVIDE SHUTOFF VALVES UPSTREAM AND DOWNSTREAM OF THE SEISMIC VALVE.



2 GAS METER PIPING PLAN (AT NORTHWEST CORNER OF THE BLDG.)
scale: 1/2" = 1'-0"



1 KEY PLAN
scale: N.T.S.



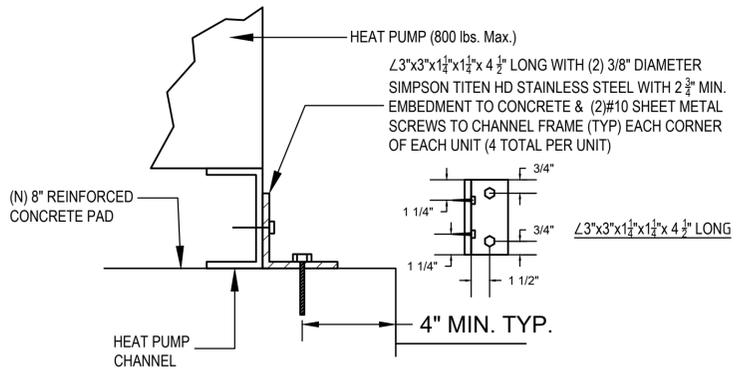
1 PLUMBING CONSTRUCTION PLAN
 scale: 1/2" = 1'-0"

GENERAL NOTES:

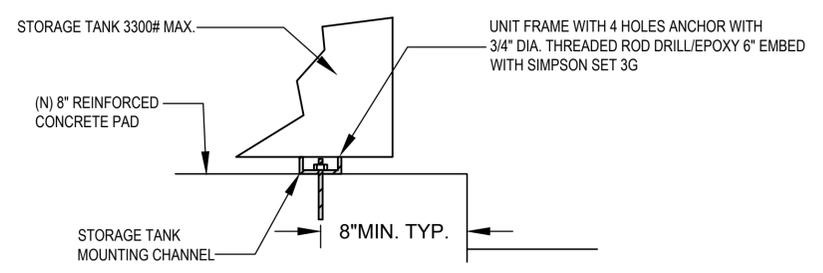
- CONTRACTOR SHALL DETERMINE THE FINAL LOCATION OF THE EQUIPMENT AND PIPING. LOCATE EQUIPMENT, DUCTS AND PIPING TO CLEAR BUILDING STRUCTURE, EXISTING ELECTRICAL, PIPING AND OTHER OBSTRUCTIONS IN THE CEILING CAVITY. COORDINATE INSTALLATION WITH ARCHITECTURAL DRAWINGS. PROVIDE ADEQUATE ACCESS TO FILTERS, MOTORS AND VALVES.

PLUMBING NEW CONSTRUCTION KEYED NOTES:

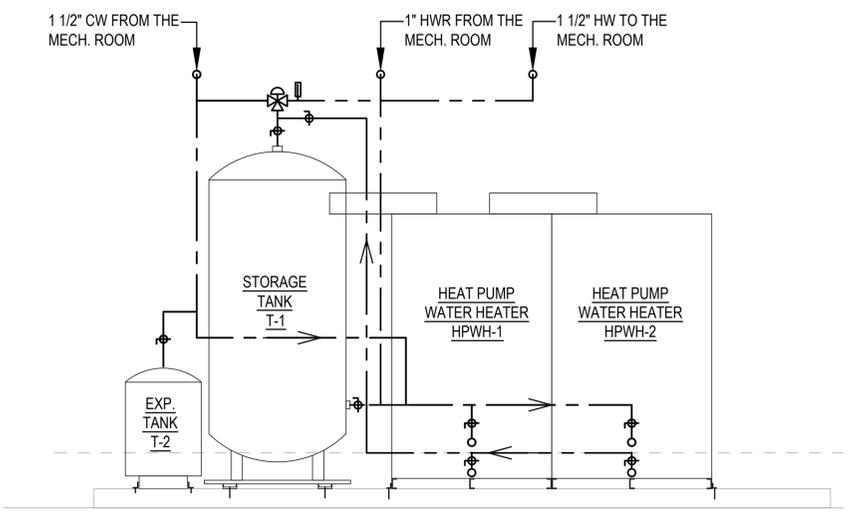
- PROVIDE (2) TWO HEAT PUMP WATER HEATER (HPWH) AND ASSOCIATED PLUMBING FOR HOT WATER AND COLD WATER, DRAIN, ISOLATION VALVES, PRESSURE RELIEF VALVES, DRAIN, SEISMIC BRACE, SUPPORTS AND ANCHORS. PROVIDE ELECTRICAL POWER, POWER DISCONNECT. REFER TO P3.00 FOR EQUIPMENT SCHEDULE, PIPING DIAGRAM AND DETAILED REQUIREMENTS.
- PROVIDE NEW 250 GAL. HOT WATER STORAGE TANK AND ASSOCIATED PLUMBING FOR HOT WATER AND COLD WATER, DRAIN, ISOLATION VALVES, PRESSURE RELIEF VALVE, MIXING VALVE, DRAIN, SEISMIC BRACE, SUPPORTS AND ANCHORS.
- PROVIDE FLOOR MOUNTED EXPANSION TANK AND ASSOCIATED PLUMBING FOR COLD WATER, DRAIN, ISOLATION VALVES, SUPPORTS AND ANCHORS.
- PROVIDE 24"x24"x24" DEEP SUMP PIT AND PUMP FOR HEAT PUMP WATER HEATER AND STORAGE TANK. PROVIDE PUMP DISCHARGE PIPING TO EXISTING FLOOR DRAIN IN THE MECHANICAL ROOM. VERIFY EXISTING EXACT FLOOR DRAIN LOCATION. PROVIDE 3/4" THICK HINGED CHECKERED PAINTED STEEL COVER WITH RECESS LIFT HANDLE RING.
- PROVIDE HOT WATER RECIRCULATING PUMP AND ASSOCIATED PIPING, POWER SUPPLY, DISCONNECT SWITCH, CONTROLS, SUPPORTS AND ANCHORS.
- REPLACE EXISTING FLOOR DRAIN WITH FLOOR SINK WITH HALF-GRATE. ROUTE DRAIN FROM THE HEAT PUMP HOT WATER HEATER TO THIS FLOOR SINK. FLOOR SINK SHALL BE FLOOR SINK FS-1: JOSAM SERIES 49340A SQUARE CAST IRON 8" SUPER-FLO-SEPTOR FLOOR SINK WITH ACID RESISTING INTERIOR, DOUBLE DRAINAGE FLANGE WITH WEEPHOLES, BOTTOM OUTLET, ALUMINUM INTERNAL DOME STRAINER AND CAST IRON NON-TRAFFIC, ACID-RESISTING, ANTI-TILTING HALF GRATE. SEE DETAIL 1 ON P3.00.



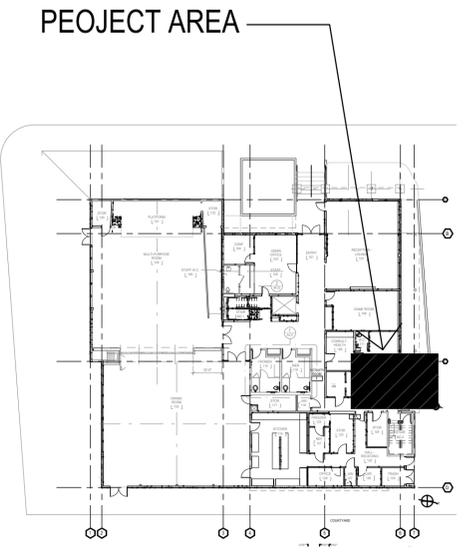
3 HEAT PUMP ANCHORAGE DETAIL
 scale: N.T.S.



4 STORAGE TANK ANCHORAGE DETAIL
 scale: N.T.S.



A PLUMBING BACK WALL ELEVATION
 scale: 1/2" = 1'-0" (WITH WATER HEATER AND TANK IN FRONT)



2 KEY PLAN
 scale: N.T.S.

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APPROVALS

PROJECT TITLE

**CITY OF BERKELEY, CA
 S.B.S.C. - WATER
 HEATER
 REPLACEMENT**

2939 ELLIS ST
 BERKELEY, CA 94703

BID SET

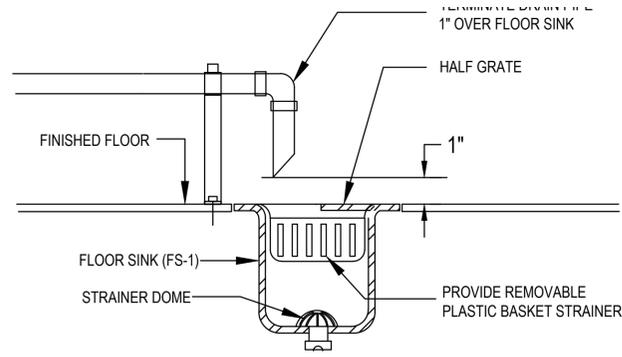
ISSUE DATE	02/03/2026
N&T JOB NUMBER	22221
REVISIONS	
DATE	DESCRIPTION
02/02/26	BID SET

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 SHEET TITLE

**PLUMBING
 CONSTRUCTION
 PLANS**

SHEET NUMBER

P2.10



1 INDIRECT DRAIN TERMINATION DETAIL IN MECH. ROOM 114
scale: N.T.S. (THIS APPLIES TO SUMP PUMP DRAIN)

HPWH X HEAT PUMP WATER HEATER SCHEDULE

UNIT NO.	LOCATION	MFR MODEL NO.	VOLTS	PHASE	MCA AMPS	RLA AMPS	MOCSP AMPS	PERFORMANCE			PIPING CONNECTIONS			PHYSICAL DIMENSIONS				REMARKS		
								HEATING CAPACITY BTU/H·HR	REFRIGERANT LBS R-513A	CONDENSER AIRFLOW CFM	COMPRESSOR TYPE	COLD WATER	HOT WATER	DRAIN	WIDTH INCHES	HEIGHT INCHES	LENGTH INCHES		OPER. WEIGHT POUNDS	SOUND LEVEL dB(A)
HPWH-1	OUTDOOR	AO SMITH AHPA 140	480	3	43.75	35	45	136,181	14	5,102	SCROLL	1 1/2"	1 1/2"	1" HOSE END	41 5/8"	71 3/4"	38 1/2"	800	64	
HPWH-2	OUTDOOR	AO SMITH AHPA 140	480	3	43.75	35	45	136,181	14	5,102	SCROLL	1 1/2"	1 1/2"	1" HOSE END	41 5/8"	71 3/4"	38 1/2"	800	64	

PROVIDE ALL OF THE FOLLOWING REQUIREMENTS:
 ① WATER HEATER SHALL HAVE A MAXIMUM HOT TEMPERATURE SETPOINT OF 160°F. ADJUSTBLE.
 ② WATER HEATER SHALL BE EQUIPPED WITH VARIABLE SPEED PUMP AND ASSOCIATED PRE-WIRED CONTROLS AND INTERLOCKS.
 ③ WATER HEATER SHALL BE EQUIPPED WITH ELECTRONIC EXPANSION VALVE AND REVERSING VALVE.
 ④ WATER HEATER SHALL BE BUILT FOR OUTDOOR INSTALLATION.
 ⑤ WATER HEATER SHALL BE EQUIPPED WITH CONTROL PANEL, DDC CONTROLS TOUCH SCREEN CONTROL, CASCADE SEEQUENCER, FAULT LOGGING, MODBUS TCP, ALARM CONTACT.
 ⑥ PROVIDE 250 GALLON AO SMITH STORAGE TANK, ASME RATED AT 150 PSI WORKING PRESSURE, MODEL TJB 250A.

NOLL & TAM
ARCHITECTS

729 Heinz Avenue
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SEAL



EDDIE PADILLA
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274 Devonshire Street
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(707) 980-4049

APPROVALS

PROJECT TITLE

**CITY OF BERKELEY, CA
S.B.S.C. - WATER
HEATER
REPLACEMENT**

2939 ELLIS ST
BERKELEY, CA 94703

BID SET

ISSUE DATE	02/03/2026
N&T JOB NUMBER	22221
REVISIONS	
DATE	DESCRIPTION
02/02/26	BID SET

DRAWN BY **EPCE** CHECKED BY **EP**

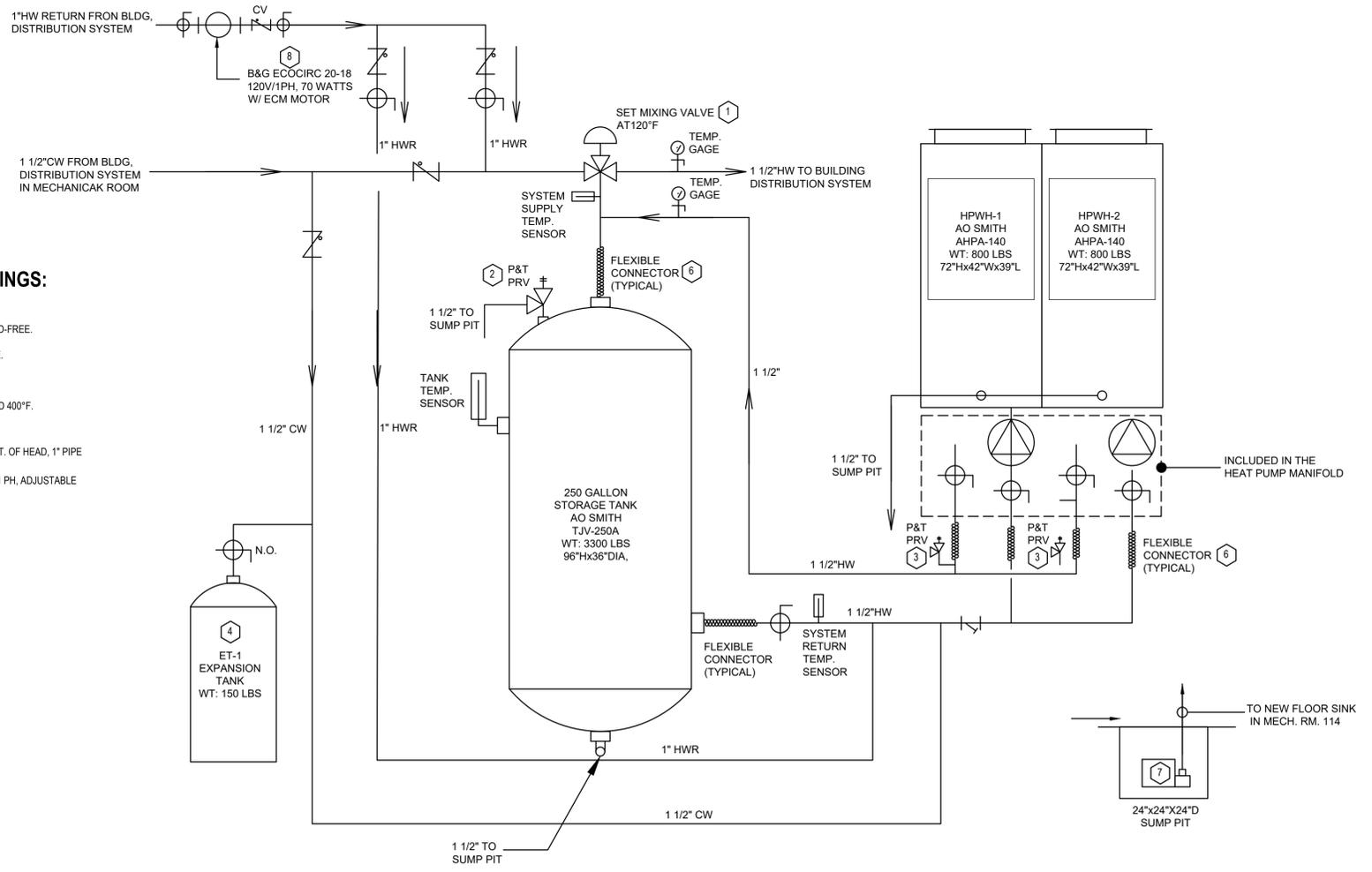
**PLUMBING SCHEDULE
WATER HEATER
PIPING DIAGRAM**

SHEET NUMBER

P3.00

SPECIFICATION FOR MISCELLANEOUS EQUIPMENT, VALVES AND FITTINGS:

- ① THERMOSTATIC MIXING VALVE: 1 1/2" WATTS MODEL LFN170M3 SET AT 120°F, LEAD-FREE.
- ② HOT WATER STORAGE TANK PRESSURE AND TEMPERATURE RELIEF VALVE: WATTS MODEL LFL100XL 1 1/2" INLET, 1 1/2" OUTLET, LEAD-FREE.
- ③ HEAT PUMP WATER HEATER PRESSURE AND TEMPERATURE RELIEF VALVE: WATTS MODEL LFL100XL 1" INLET, 1" OUTLET, LEAD-FREE.
- ④ BELL AND GOSSETT EXPANSION TANT: ASME RATED, LEAD-FREE MODEL PTA-30V, 10 GALLON ACCEPTANCE VOLUME, DIAPHRAGM TYPE.
- ⑤ ALL SHUTOFF BALL VALVES SHALL BE WATTS SERIESLFB6001, LEAD-FREE STAINLESS STEEL BALL AND STEM RATED FOR 150 PSI AND 400°F.
- ⑥ ALL EQUIPMENT PIPE CONNECTORS SHALL BE METRAFLEX MODEL SFLXTU (SUPERFLEX), LEAD-FREE.
- ⑦ SUMP PIT DRAIN PUMP: LITTLE GIANT 6-CIA-RFS, 1/3-HP, 115V/SINGLE PHASE, WITH BUILT-IN FLOAT TO ENABLE PUMP, 20 GPM @ 26 FT. OF HEAD, 1" PIPE CONNECTION. TURNS ON AT 7" OF WATER AND OFF AT 2.5" OF WATER.
- ⑧ HOT WATER RECIRCULATING PUMP: BELL AND GOSSETT ECOCIRC 20-18 10 GPM AT 12 FT PUMP HEAD, 70 WATTS ECM MOTOR, 115V/1 PH, ADJUSTABLE SPEED.



2 HEAT PUMP WATER HEATER PIPING DETAIL
scale: N.T.S.

FILE LOCATION: G:\Shared drives\01_PROJECTS\Noll and Tam_26\2326.09 - South Berkeley Senior Center\05_Drawings\01_DWG\Water Heater\2326.09 - E000 - General Information.dwg
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ABBREVIATIONS			
A	AMPERE	EMT	ELECTRICAL METALLIC TUBING
ABV	ABOVE	EOL	END OF LINE RESISTOR
AF	AMPERE FRAME, AMPERE FUSE	EQP	EQUIPMENT
AFF	ABOVE FINISHED FLOOR	FA	FIRE ALARM
AIC	AMPERE INTERRUPTING CAPACITY	FACP	FIRE ALARM CONTROL PANEL
ARCH	ARCHITECTURAL	(F)	FUTURE
AS	AMPERE SWITCH	FIN	FINISH
AT	AMPERE TRIP	FLR	FLOOR
ATS	AUTOMATIC TRANSFER SWITCH	G, GND	GROUND
BKR	BREAKER	GRC	GALVANIZED RIGID CONDUIT
BLDG	BUILDING	HGT	HEIGHT
C	CONDUIT	HP	HORSEPOWER
CATV	CABLE TELEVISION	IC	INTERCOM
CB	CIRCUIT BREAKER	IDF	INTERMEDIATE DISTRIBUTION FRAME
CBG	CALIFORNIA BUILDING CODE	IMC	INTERMEDIATE METAL CONDUIT
CD	CANDELA	INFO	INFORMATION
CEC	CALIFORNIA ELECTRICAL CODE	JB	JUNCTION BOX
CFC	CALIFORNIA FIRE CODE	KAIC	KILOAMPERE INTERRUPTING CAPACITY
CKT	CIRCUIT	KV	KILOVOLT
CL	CENTER LINE	KVA	KILOVOLT AMPERE
CLG	CEILING	KW	KILOWATT
CO	CONDUIT ONLY	LTG	LIGHTING
COMM	COMMUNICATIONS	LV	LOW VOLTAGE
CSFM	CALIFORNIA STATE FIRE MARSHALL	MAX	MAXIMUM
CTR	CENTER	KCMIL	THOUSAND CIRCULAR MILS
(D)	DEMOLISH	MDF	MAIN DISTRIBUTION FRAME
DET	DETAIL	MECH	MECHANICAL
DIM	DIMENSION	MH	MANHOLE
DIST	DISTRIBUTION	MIN	MINIMUM
DP	DISTRIBUTION PANEL	MTD	MOUNTED
DWG	DRAWING	MTG	MOUNTING
(E)	EXISTING	NC	NORMALLY CLOSED
ELEC	ELECTRICAL	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
EM	EMERGENCY		
NIC	NOT IN CONTRACT		
NIEC	NOT IN ELECTRICAL CONTRACT		
NO	NORMALLY OPEN		
NTS	NOT TO SCALE		
NUM, #	NUMBER		
OC	ON CENTER		
P	POLE		
PA	PUBLIC ADDRESS		
PB	PULL BOX		
PF	POWER FACTOR		
PH	PHASE		
PNL	PANEL		
PVC	POLYVINYL CHLORIDE		
(R)	EXISTING TO BE RELOCATED		
REQD	REQUIRED		
REQT(S)	REQUIREMENT(S)		
RM	ROOM		
RSC	RIGID STEEL CONDUIT		
SAD	SEE ARCHITECTURAL DOCUMENTS		
SHT	SHEET		
SPD	SURGE PROTECTIVE DEVICE		
STC	SIGNAL TERMINAL CABINET		
SW	SWITCH		
SWBD	SWITCHBOARD		
T24	CALIFORNIA ENERGY CODE		
TC	TERMINAL CABINET		
TEL	TELEPHONE		
TYP	TYPICAL		
UON	UNLESS OTHERWISE NOTED		
V	VOLT		
W	WATT, WIRE		
WP	WEATHERPROOF		
XFMR	TRANSFORMER		

POWER DISTRIBUTION SYMBOLS (PLANS)	
	PANELBOARD - FLUSH MOUNTED.
	PANELBOARD - SURFACE MOUNTED.
	EQUIPMENT WITH MOTOR
	FUSED DISCONNECT SWITCH
	MOTOR RATED SWITCH
	EQUIPMENT TAG - SEE EQUIPMENT SCHEDULE "CH" = EQUIPMENT TYPE "2" = UNIQUE IDENTIFIER

NEW VS. EXISTING	
	(N) CONDUIT - CONCEALED IN WALLS OR CEILING.
	(E) CONDUIT - CONCEALED IN WALLS OR CEILING.
	(E) CONDUIT - TO BE REMOVED.
	(N) DEVICE OR EQUIP (EXAMPLE)
	(E) DEVICE OR EQUIP (EXAMPLE)
	(E) DEVICE OR EQUIP TO BE REMOVED (EXAMPLE)

WIRING, CONDUIT, AND RACEWAY SYMBOLS	
	CONDUIT - CONCEALED IN WALLS OR CEILING.
	CONDUIT - EXPOSED.
	CONDUIT - UNDERGROUND / DIRECT BURIAL.
	CONDUIT - FLEX WITH CONNECTION.
	CONDUIT - STUB UP.
	CONDUIT - STUB DOWN.
	CONDUIT - CAPPED.
	CONDUIT - CONTINUATION.
	IN-GRADE PULL BOX. SINGLE LINE = NON-TRAFFIC RATED. DOUBLE LINE = TRAFFIC RATED. "Y" = UNIQUE BOX IDENTIFIER. "X" = SYSTEM: P = POWER C = COMMUNICATIONS F = FIRE ALARM L = LIGHTING E = EV CHARGER

RECEPTACLE AND POWER SYMBOLS					
POKE THRU	FLR	WALL	CLG	AT HGT	
					SIMPLEX RECEPTACLES
					DUPLEX RECEPTACLES
					QUADRUPLX RECEPTACLES
					GFCI DUPLEX RECEPTACLES
					GFCI QUADRUPLX RECEPTACLES
					JUNCTION BOX

TYPICAL RECEPTACLE NOMENCLATURE

R1-3 } "R1" DENOTES PANEL NAME
 R1-3 } "3" DENOTES CIRCUIT NUMBER
 R1-3 } "Y" DENOTES MOUNTING HEIGHT (IF APPLICABLE)

- NOTES
- WALL MOUNTED DEVICES SHALL BE MOUNTED AT 18" AFF TO BOTTOM OF DEVICE, UON.
 - WALL MOUNTED DEVICES SHOWN AT A DEFINED HEIGHT SHALL BE MOUNTED WITH THE BOTTOM AT 1" ABOVE COUNTER BACKSPASH, UON.
 - LOCATIONS WITH OPEN FORWARD APPROACH: +44" AFF MAX
 - LOCATIONS WITH PARALLEL APPROACH: +46" AFF MAX
 - SIZE JUNCTION BOXES AS REQD PER CODE. TAPE AND TAG WIRES COORDINATE WITH EQUIPMENT AND PROVIDE FLEX CONDUIT AND/OR RECEPTACLES AS REQUIRED TO CONNECT EQUIPMENT.

GENERAL SYMBOLS	
	PLAN OR DETAIL DESIGNATION "3" DENOTES DETAIL OR PLAN NUMBER "E2.1" DENOTES SHEET NUMBER. "." DENOTES SAME SHEET.
	SECTION OR ELEVATION DESIGNATION "2" DENOTES SECTION OR ELEVATION NUMBER "E1.0" DENOTES SHEET NUMBER. "." DENOTES SAME SHEET.
	SHEET NOTE TAG - SEE APPLICABLE NOTE ON SAME SHEET
	FEEDER SCHEDULE TAG, SEE APPLICABLE SCHEDULE
	CONDUIT SCHEDULE TAG, SEE APPLICABLE SCHEDULE

- ### OWNERSHIP OF INSTRUMENTS OF SERVICE
- ALL REPORTS, DRAWINGS, SPECIFICATIONS, COMPUTER FILES, FIELD DATA, NOTES AND OTHER DOCUMENTS AND INSTRUMENTS PREPARED BY THE CONSULTANT AS INSTRUMENTS OF SERVICE SHALL REMAIN THE PROPERTY OF THE CONSULTANT. THE CONSULTANT SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT THERE TO.
 - THE CLIENT ACKNOWLEDGES THE CONSULTANT'S CONSTRUCTION DOCUMENTS, INCLUDING ELECTRONIC FILES, AS INSTRUMENTS OF PROFESSIONAL SERVICE. NEVERTHELESS, THE FINAL CONSTRUCTION DOCUMENTS PREPARED UNDER THIS AGREEMENT SHALL BECOME THE PROPERTY OF THE CLIENT UPON COMPLETION OF THE SERVICES AND PAYMENT IN FULL OF ALL MONIES DUE TO THE CONSULTANT. THE CLIENT SHALL NOT REUSE OR MAKE ANY MODIFICATION TO THE CONSTRUCTION DOCUMENTS WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF THE CONSULTANT. THE CLIENT AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS THE CONSULTANT, ITS OFFICERS, DIRECTORS, EMPLOYEES AND SUBCONSULTANTS (COLLECTIVELY, CONSULTANT) AGAINST ANY DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEY'S FEES AND DEFENSE COSTS, ARISING FROM OR ALLEGEDLY ARISING FROM OR IN ANY WAY CONNECTED WITH THE UNAUTHORIZED REUSE OR MODIFICATION OF THE CONSTRUCTION DOCUMENTS BY THE CLIENT OR ANY PERSON OR ENTITY THAT ACQUIRES OR OBTAINS THE CONSTRUCTION DOCUMENTS FROM OR THROUGH THE CLIENT WITHOUT THE WRITTEN AUTHORIZATION OF THE CONSULTANT.

- ### CODES AND STANDARDS
- 2022 CALIFORNIA BUILDING CODE (CBC), VOLUMES #1 AND #2 (PART 2, TITLE 24, CCR).
 - 2022 CALIFORNIA ELECTRICAL CODE (PART 3, TITLE 24, CCR).
 - 2022 CALIFORNIA MECHANICAL CODE (CMC) (PART 4, TITLE 24, CCR).
 - 2022 CALIFORNIA PLUMBING CODE (CPC) (PART 5, TITLE 24, CCR).
 - 2022 CALIFORNIA ENERGY CODE (PART 6, TITLE 24, CCR).
 - 2022 CALIFORNIA FIRE CODE (CFC) (PART 9, TITLE 24, CCR).
 - 2022 CALIFORNIA GREEN CODE (PART 11, TITLE 24, CCR).
 - 2022 CALIFORNIA REFERENCED STANDARDS CODE (PART 12, TITLE 24, CCR).
 - 2022 NFPA 72 NATIONAL FIRE ALARM CODE.
 - 2015 NFPA 720 STANDARDS FOR CARBON MONOXIDE DETECTION AND WARNING.
 - 2022 NFPA 13 STANDARDS FOR FIRE SPRINKLER SYSTEMS.
 - ADA STANDARDS FOR ACCESSIBLE DESIGN: ADA ACCESSIBILITY GUIDELINES (ADAAG) 28, PART 36 APPENDIX A.
 - ADA STANDARDS FOR ACCESSIBLE DESIGN - CODE OF REGULATIONS (INCLUDING AMENDMENTS).

DRAWING INDEX

E000	GENERAL INFORMATION
E300	POWER PLANS
E600	DIAGRAMS, SCHEDULES, AND DETAILS

- ### GENERAL NOTES
- THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO BIDDING AND ALLOW FOR ALL FIELD CONDITIONS. OBTAIN CONTRACT DOCUMENTS FOR ALL OTHER TRADES AND BE RESPONSIBLE FOR ALL ELECTRICAL WORK NOTED AND CALLED OUT ON THE CONTRACT DOCUMENTS. COORDINATE ELECTRICAL WORK WITH ALL OTHER TRADES ON PROJECT. COORDINATE ALL CONDUIT RUNS, ELECTRICAL EQUIPMENT AND PANEL LOCATIONS WITH ALL OTHER WORK TO AVOID CONFLICTS.
 - COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS. MATERIALS AND EQUIPMENT SHALL BE U.L. AND CALIFORNIA STATE FIRE MARSHAL (CSFM) LISTED AND LABELED FOR THE APPLICATION.
 - BEFORE BEGINNING CONSTRUCTION, PROVIDE TO THE ARCHITECT A CONSTRUCTION SCHEDULE OF ELECTRICAL WORK. THE CONSTRUCTION SCHEDULE SHALL IDENTIFY ALL SIGNIFICANT MILESTONES WITH COMPLETION DATES.
 - OBTAIN AND PAY FOR ALL PERMITS, LICENSES AND INSPECTION FEES REQUIRED BY THIS CONTRACT WORK, UNLESS OTHERWISE NOTED.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONS AND PROPERTY AND SHALL PROVIDE INSURANCE COVERAGE AS NECESSARY FOR LIABILITY, PERSONAL, PROPERTY DAMAGE, TO FULLY PROTECT THE OWNER, ARCHITECT AND ENGINEER FROM ANY AND ALL CLAIMS RESULTING FROM THIS WORK.
 - MAINTAIN RECORD DRAWINGS AT THE PROJECT SITE INDICATING ALL MODIFICATIONS TO ELECTRICAL SYSTEMS. AT THE CONCLUSION OF THE PROJECT, PROVIDE ACCURATE "AS-BUILT" DRAWINGS ACCEPTABLE TO THE ARCHITECT.
 - ALL MATERIALS PROVIDED FOR THE PROJECT SHALL BE NEW, UNLESS OTHERWISE NOTED. PROVIDE ALL INCIDENTAL MATERIALS REQUIRED FOR A COMPLETE INSTALLATION.
 - ALL ELECTRICAL EQUIPMENT INSTALLED OUTDOORS SHALL BE WEATHERPROOF. EXTERIOR CONDUIT RUNS INTO BUILDINGS SHALL BE INSTALLED WITH FLASHING, CAULKED AND SEALED. CONDUITS FOR EXTERIOR ELECTRICAL DEVICES SHALL BE RUN INSIDE BUILDING, UNLESS OTHERWISE NOTED. UNDERGROUND AND EXTERIOR CONDUIT SHALL HAVE WATER TIGHT FITTINGS.
 - ALL CONDUITS SHALL BE A MINIMUM 3/4," UNLESS OTHERWISE NOTED. POWER AND LIGHTING BRANCH CIRCUITS SHALL HAVE A MINIMUM TWO (2) #12 AWG AND ONE (1) #12 AWG GROUND TYPE THWN/THHN. ALL POWER AND FIRE ALARM WIRING SHALL BE RUN IN CONDUIT. THE USE OF ROMEX (NMC) OR BX (AC) CABLE IS NOT PERMITTED. PROVIDE ALL WIRES AND WIRE SIZES REQUIRED BY LATEST CODES.
 - ALL WIRE SIZING SHOWN ON THE CONSTRUCTION DOCUMENTS UTILIZES ASSUMED ROUTING AND CIRCUIT LENGTHS TO DETERMINE VOLTAGE DROP. CONTRACTOR SHALL VERIFY ALL CIRCUIT LENGTHS WITH ACTUAL FIELD CONDITIONS AND SHALL PROVIDE INCREASED WIRE AND CONDUIT SIZES AS REQUIRED TO LIMIT FEEDERS TO A MAXIMUM OF 2% VOLTAGE DROP AND BRANCH CIRCUITRY TO A MAXIMUM OF 3% VOLTAGE DROP.
 - ALL POWER CIRCUITS SHALL HAVE A DEDICATED NEUTRAL. SHARED NEUTRALS WITH TIE-BARS AT THE BREAKERS IN THE PANEL SHALL NOT BE ALLOWED.
 - CONDUITS SHALL NOT BE USED AS A GROUND PATH. ALL CONDUITS SHALL CONTAIN A GROUNDING CONDUCTOR, SIZED PER NEC/CEC REQUIREMENTS.
 - NOTE THAT BRANCH CIRCUIT WIRING IS NOT SHOWN. CIRCUIT NUMBERS ARE SHOWN ADJACENT TO ALL OUTLETS/FIXTURES/DEVICES. PROVIDE ALL BRANCH CIRCUIT WIRING BASED ON CIRCUIT NUMBERS SHOWN TO COMPLETE THE WIRING SYSTEM.
 - PROVIDE A PULL CORD IN EVERY EMPTY CONDUIT FOR USE IN FUTURE CONSTRUCTION. LABEL EACH END OF THE CONDUIT WITH TYPED, PERMANENT LABEL, TO IDENTIFY WHERE THE OPPOSING END TERMINATES.
 - ALL EQUIPMENT VOLTAGES AND AMPACITY IS BASED ON THE INFORMATION PROVIDED BY OTHER DISCIPLINES AS PART OF THE CONTRACT DOCUMENTS. VERIFY ALL VOLTAGES AND AMPACITIES OF EQUIPMENT WITH GENERAL AND OTHER SUB-CONTRACTORS PRIOR TO ROUGH-IN AND PROVIDE PROVISIONS FOR CORRECT BREAKER, WIRING, AND CONDUIT SIZES BASED ON ACTUAL EQUIPMENT TO BE USED FOR THE PROJECT.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE LOCATING ALL EXISTING UNDERGROUND SYSTEMS IN THE AREA OF UNDER GROUND WORK. REPAIR ALL DAMAGED SYSTEMS TO OWNERS SATISFACTION. MAINTAIN EXTREME CARE DURING TRENCHING AS EXISTING SYSTEMS ARE KNOWN TO EXIST IN THE AREA. THE DRAWINGS AND SPECIFICATIONS ARE FOR THE ASSISTANCE AND GUIDANCE OF THE CONTRACTOR. EXACT LOCATIONS, DISTANCES AND ELEVATIONS WILL BE GOVERNED BY ACTUAL CONDITIONS. COORDINATE THE CONTRACT DOCUMENTS AND FIELD CONDITIONS TO DETERMINE EXACT ROUTING AND FINAL TERMINATIONS FOR ALL WORK.
 - CONDUIT AND WIRING ARE SHOWN ON THESE PLANS DIAGRAMMATICALLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD TO SUIT SITE CONDITIONS.
 - PLANS SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION PRIOR TO BEGINNING WORK. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO PURCHASE.
 - SUFFICIENT ACCESS AND WORKING SPACE SHALL BE PROVIDED AND MAINTAINED ABOUT ALL ELECTRIC EQUIPMENT TO PERMIT READY AND SAFE OPERATION AND MAINTENANCE OF SUCH EQUIPMENT PER CEC ARTICLE 110-26.
 - ALL CONTROLS, SWITCHES, AND ELECTRICAL RECEPTACLE OUTLETS SHALL BE NOT MORE THAN +48" AFF TO TOP OF THE OUTLET BOX, NOR LESS THAN +15" AFF TO BOTTOM OF OUTLET BOX PER CBC 11B-308.1.

NOLL & TAM ARCHITECTS

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APPROVALS

PROJECT TITLE
CITY OF BERKELEY, CA S.B.S.C. - WATER HEATER

2939 ELLIS ST
 BERKELEY, CA 94703

BID SET

ISSUE DATE	11/07/2025	
N&T JOB NUMBER	22221	
REVISIONS	DATE	DESCRIPTION
	11.07.25	ISSUED FOR PERMIT
	03/06/2026	BID SET

SHEET TITLE
GENERAL INFORMATION

SHEET NUMBER
E000

FILE LOCATION: G:\Shared drives\01_PROJECTS\Noll and Tam_26\2326.09 - South Berkeley Senior Center\05_Drawings\01_DWGs Water Heater\2326.09 - E000 - General Information.dwg
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 12/9/2024 9:34:23 AM Autodesk Docs://South Berkeley Senior Center/SBSC.rvt

GENERAL NOTES

- A. CIRCUIT ALL DEVICES ON THIS SHEET TO (E) PANELBOARD AND CIRCUIT OF (E) DEVICE BEING REMOVED, UNLESS OTHERWISE NOTED.
- B. SEE ARCHITECTURAL / PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
- C. DISCONNECT SWITCHES SHALL BE LOCATED WITHIN LINE-OF-SIGHT OF EQUIPMENT AND PROVIDE MIN 3 FT FRONT CLEARANCES.

SHEET NOTES

- 1. PROVIDE POWER CONNECTION FOR WATER HEATER. INSTALL PER MANUFACTURER'S INSTRUCTIONS. SEE SINGLE LINE DIAGRAM ON SHEET E6.00 FOR ADDITIONAL INFORMATION.
- 2. PROVIDE CONVENIENCE DUPLEX RECEPTACLE AND POWER CONNECTION FOR SUMP PUMP (1/3HP). CONNECT RECEPTACLE AND SUMP PUMP TO NEAREST AVAILABLE 120V 20A/1P SPARE CKT.

NOLL & TAM ARCHITECTS

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SEAL

APPROVALS

PROJECT TITLE

**CITY OF BERKELEY, CA
 S.B.S.C. - WATER
 HEATER**

2939 ELLIS ST
 BERKELEY, CA 94703

BID SET

ISSUE DATE 11/07/2025

N&T JOB NUMBER 22221

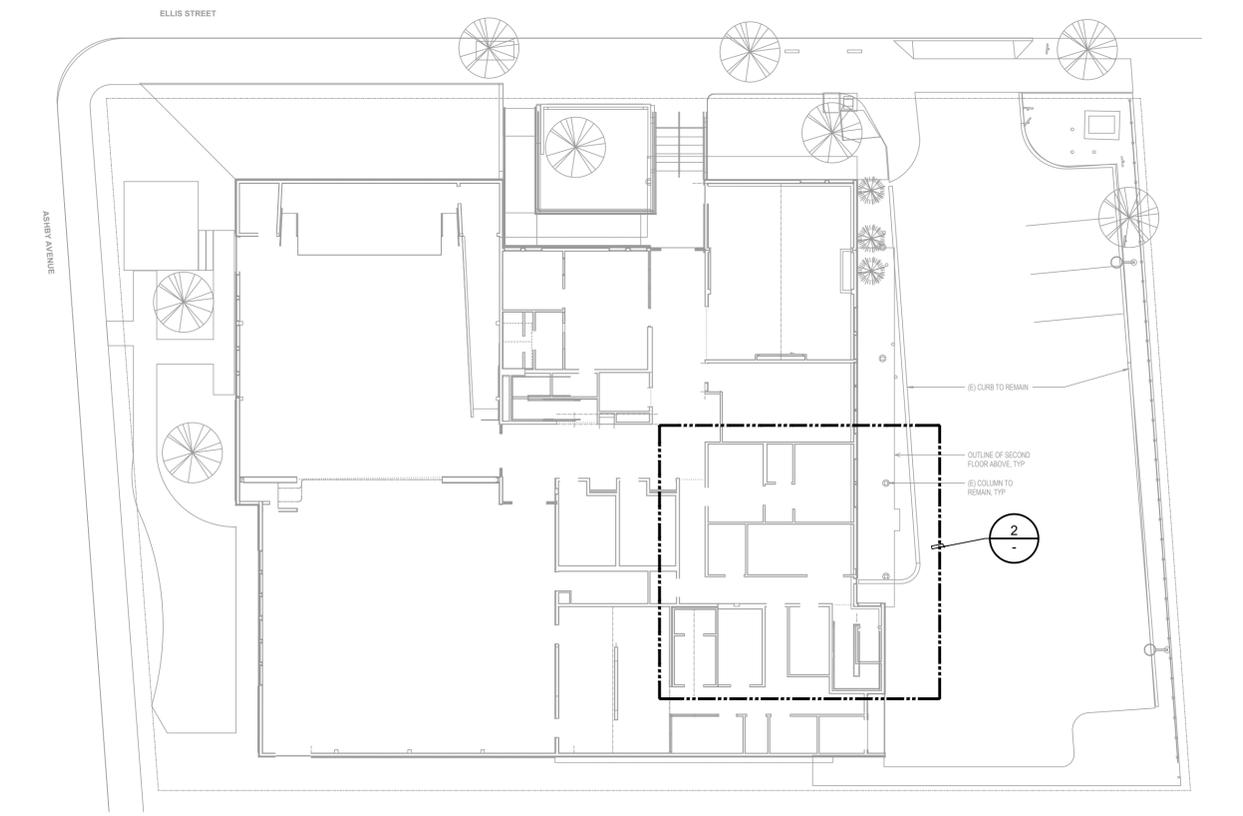
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2	03/06/2026	BID SET

SHEET TITLE

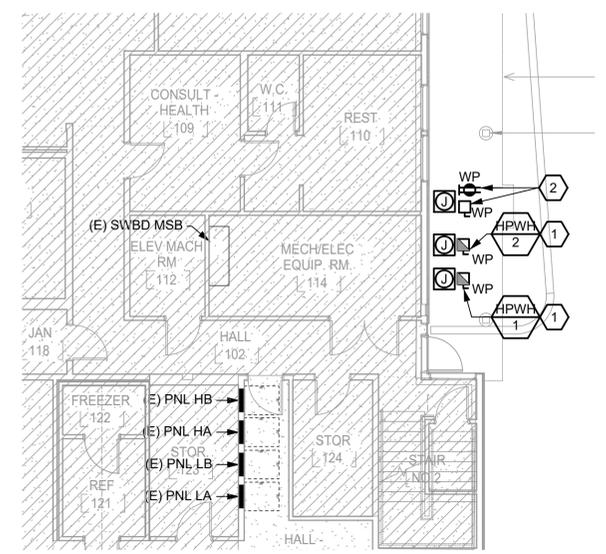
**POWER PLANS,
 DIAGRAMS, AND
 SCHEDULES**

SHEET NUMBER

E300



1 SITE PLAN
 1/16" = 1'-0"



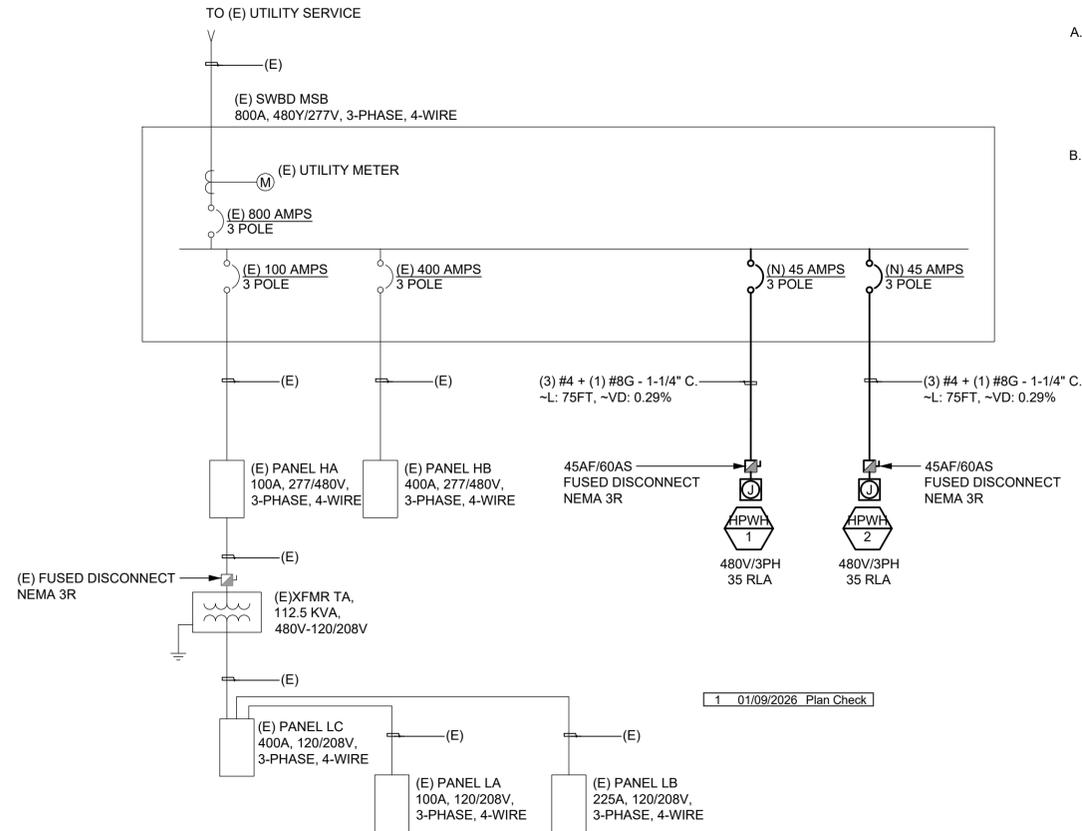
2 ENLARGED POWER PLAN
 1/8" = 1'-0"

VOLTAGE DROP LIMITATIONS											
SUMMARY OF MAXIMUM FEEDER AND BRANCH CIRCUIT LENGTHS											
WIRE (AWG)	CIRCUIT AMPS (A)	MAXIMUM FEEDER LENGTH (F)					MAXIMUM BRANCH CIRCUIT LENGTH (F)				
		120V	208V	240V	277V	480V	120V	208V	240V	277V	480V
14	12	39	67	78	90	156	58	101	117	135	233
12	16	46	80	93	107	185	69	120	139	160	278
10	24	48	83	96	111	192	72	125	144	166	288
8	32	57	99	115	132	229	86	149	172	199	344
6	40	73	127	146	169	293	110	190	220	253	439
4	52	89	154	178	206	356	134	232	267	309	535
2	72	103	178	206	237	412	154	267	309	356	617
0	96	123	212	245	283	490	184	319	368	424	735
00	108	137	238	274	317	549	206	357	412	475	823
0000	144	163	283	327	377	654	245	425	490	566	980
250	164	170	294	340	392	679	255	441	509	588	1019
300	184	181	314	362	418	725	272	471	543	627	1087
350	200	195	338	390	450	779	292	506	584	675	1169
500	248	224	388	448	517	896	336	582	672	776	1344

SUMMARY OF VOLT DROP LIMITS			
CIRCUIT VOLTS (V)	2% VOLTAGE DROP (V)	3% VOLTAGE DROP (V)	5% VOLTAGE DROP (V)
120	2.4	3.6	6.0
208	4.2	6.2	10.4
240	4.8	7.2	12.0
277	5.5	8.3	13.9
480	9.6	14.4	24.0

NOTES:

- TABLE ABOVE IS FOR COPPER WIRING ONLY.
- IF FIELD CONDITIONS RESULT IN WIRE SIZES NOTED ABOVE EXCEEDING THE LENGTHS NOTED ABOVE, CONTRACTOR SHALL INCREASE WIRE AND CONDUIT SIZE AS REQUIRED TO MEET VOLTAGE DROP REQUIREMENTS.
- FEEDERS SHALL BE LIMITED TO A MAXIMUM OF 2% VOLTAGE DROP.
- BRANCH CIRCUITS SHALL BE LIMITED TO A MAXIMUM OF 3% VOLTAGE DROP.
- TOTAL VOLTAGE DROP FOR ELECTRICAL DISTRIBUTION SYSTEM (FEEDER + BRANCH CIRCUIT) SHALL BE LIMITED TO A MAXIMUM OF 5% VOLTAGE DROP.



GENERAL NOTES

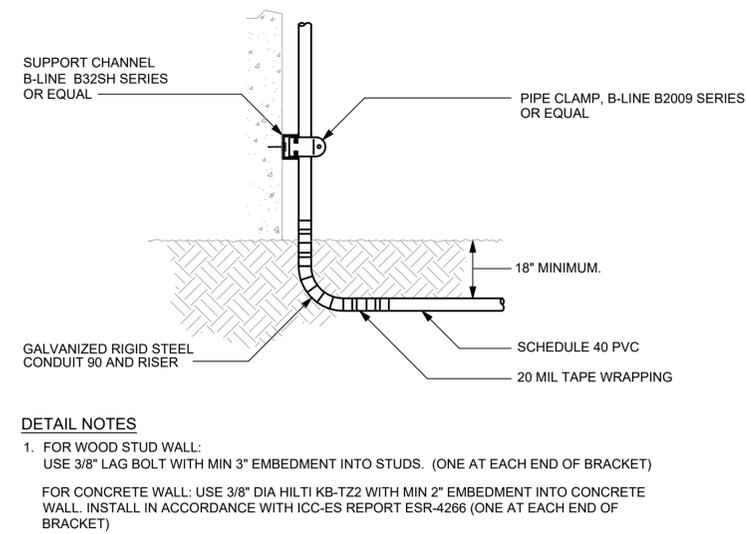
- POINTS OF CONNECTION FOR WATER HEATERS SHOWN AT (E)MSB. EXISTING PANEL HB CAN ALSO BE USED FOR POINTS FOR CONNECTION. FIELD VERIFY TO CONFIRM AVAILABLE SPACE AT (E)MSB AND (E)HB PRIOR TO COMMENCEMENT OF WORK. VOLTAGE DROP CALCULATIONS SHOWN ON SINGLE LINE DIAGRAM ARE APPLICABLE FOR POINTS OF CONNECTION AT EITHER (E)MSB OR (E)HB.
- SWITCHBOARD NAME PLATE DATED 1978. RECORD DRAWINGS AND NAME PLATE DO NOT INDICATE AIC RATING. FIELD VERIFY AND PROVIDE AIC LABEL AT SWITCHBOARD NAME PLATE. COORDINATE WITH THE BUILDING INSPECTOR IN THE FIELD.

MSB LOAD VERIFICATION TABLE	
MSB CAPACITY:	665.11 KW
EXISTING PEAK LOAD:	30.08 KW
EXISTING PEAK LOAD X 125%: (NEC/CEC 220.87)	37.60 KW
NEW LOAD X 125% DEMAND:	72.75 KW
EXISTING + NEW:	110.35 KW
REMAINING AVAILABLE CAPACITY:	554.76 KW

NOTE:
EXISTING PEAK LOAD BASED ON UTILITY METERED DATA OVER A ONE YEAR PERIOD

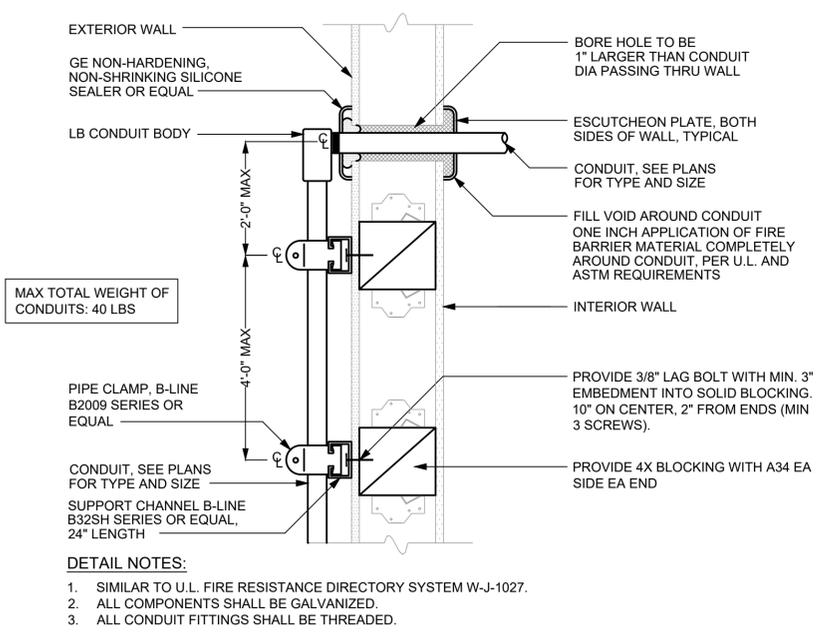
1 SINGLE LINE DIAGRAM

NOT TO SCALE



2 UNDERGROUND CONDUIT RISER

NOT TO SCALE



3 LB BODY THROUGH EXTERIOR WALL

NOT TO SCALE

NOLL & TAM ARCHITECTS

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APPROVALS

1 01/09/2026 Plan Check

1 01/09/2026 Plan Check

PROJECT TITLE

CITY OF BERKELEY, CA S.B.S.C. - WATER HEATER

2939 ELLIS ST
BERKELEY, CA 94703

BID SET

ISSUE DATE 11/07/2025
N&T JOB NUMBER 22221

REVISIONS	DATE	DESCRIPTION
1	11.07.25	ISSUED FOR PERMIT
1	01/09/2026	Plan Check
	03/06/2026	BID SET

SHEET TITLE
DIAGRAMS, SCHEDULES, AND DETAILS

SHEET NUMBER

E600

FILE LOCATION: G:\Shared drives\01_PROJECTS\Noll and Tam_26\2326.09 - South Berkeley Senior Center\05_Drawings\01_DWGs Water Heater\2326.09 - E000 - General Information.dwg
LAST SAVED ON: 1/06/26 at 10:09pm, PLOTTED ON: 1/07/26 at 12:22pm
12/9/2024 9:34:29 AM Autodesk Docs://South Berkeley Senior Center/SBSC.rvt