CHABOT COLLEGE
CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

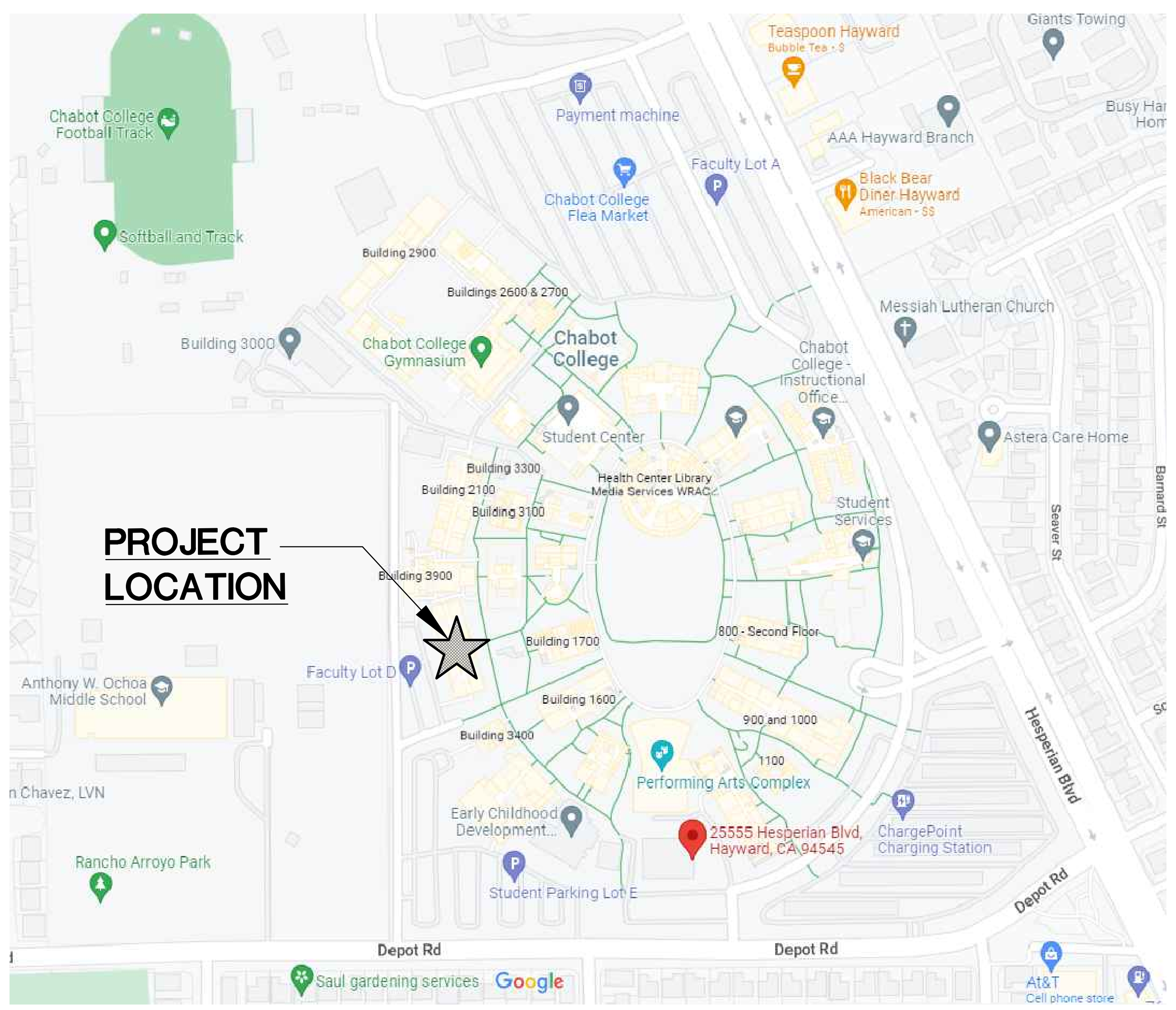
25555 HESPERIAN BOULEVARD BUILDING 1800
HAYWARD, CALIFORNIA 94545

BUILDING 1800 ELECTRICAL RE-FEED

DSA #01-120880

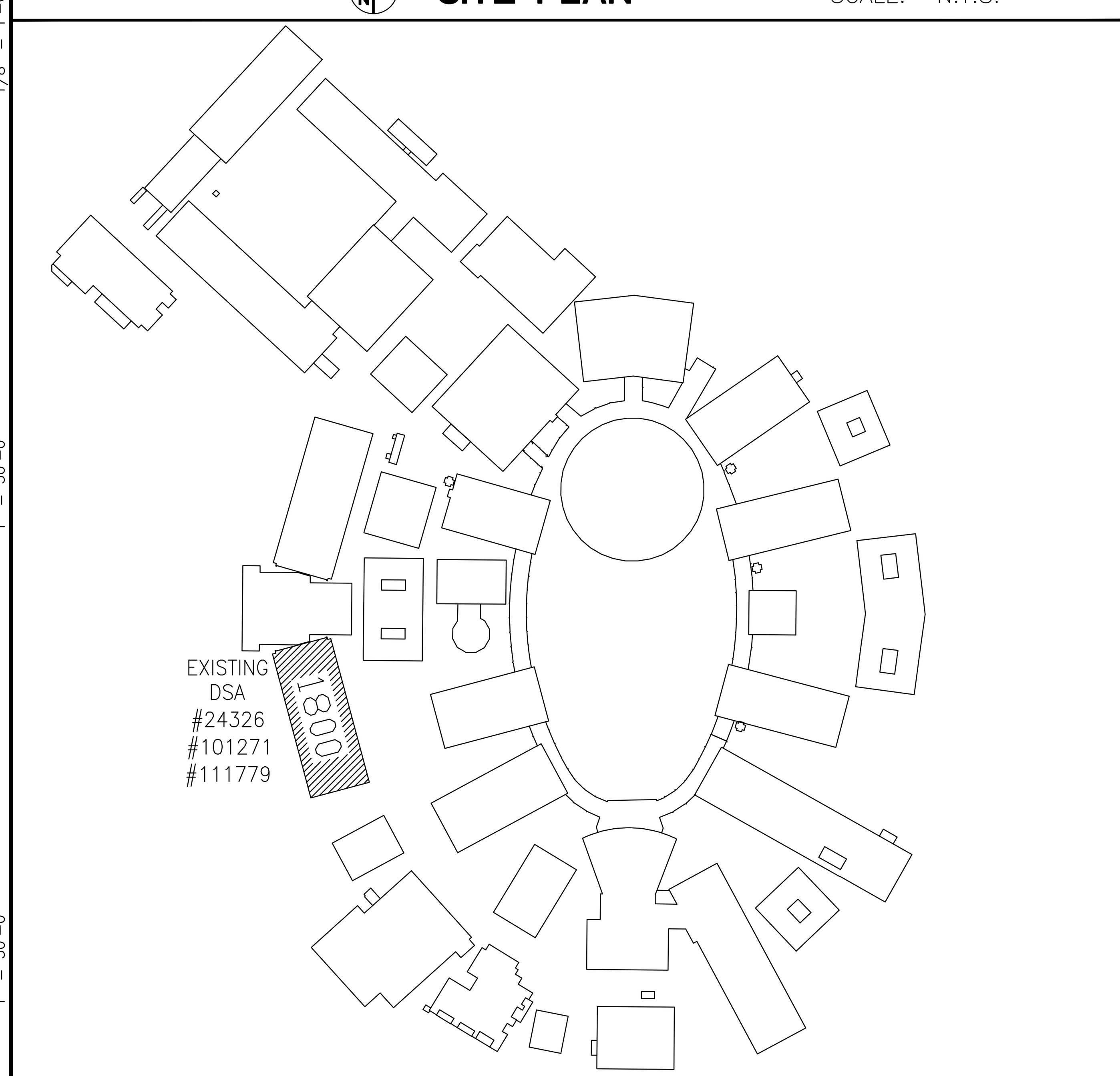
VICINITY MAP

SCALE: N.T.S.



SITE PLAN

SCALE: N.T.S.



SCHOOL EQUIPMENT ANCHORAGE

M/E/P 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 SECTION 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 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 CONNECTION 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 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 AND 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., OSHPD 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.

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

MP MD PP E — OPTION 1: DETAIL ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

DEFERRED APPROVAL

NONE

STATEMENT OF GENERAL CONFORMANCE

THESE DRAWINGS AND/OR SPECIFICATIONS AND/OR CALCULATIONS FOR THE ITEMS LISTED BELOW HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. THESE DOCUMENTS HAVE BEEN EXAMINED BY ME FOR DESIGN INTENT AND HAVE BEEN FOUND TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE-24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME.

THE LIST OF INDEX DRAWINGS HAVE BEEN COORDINATED WITH MY PLANS AND SPECIFICATIONS AND ARE ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT FOR WHICH I AM THE INDIVIDUAL DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE (OR FOR WHICH I HAVE BEEN DELEGATED RESPONSIBILITY FOR THIS PORTION OF THE WORK)

[signature]
Signature of the Architect/Engineer
Name, Title, Affliation

3-3-2022
Date

C19735
License Number

11-30-2023
Expiration Date

DSA ADMINISTRATIVE REQUIREMENTS

1. A COPY OF PARTS 1 THRU 6, TITLE 24, C.C.R. SHALL BE KEPT ON THE JOB SITE AT ALL TIMES.
2. ALL CONSTRUCTION CHANGE DOCUMENTS AND ADDENDA TO BE SIGNED BY THE ARCHITECT AND THE OWNER AND APPROVED BY DSA. CONSTRUCTION CHANGE DOCUMENTS ARE NOT VALID UNTIL APPROVED BY DSA PER SECTION 4-338, PART 1, TITLE 24.
3. ALL TESTS TO CONFORM TO THE REQUIREMENTS OF SECTION 4-335, PART 1, TITLE 24, AND APPROVED T & I SHEET.
4. TESTS OF MATERIAL SAND TESTING LABORATORY SHALL BE IN ACCORDANCE WITH SECTION 4-335 OF PART 1, TITLE 24, AND THE DISTRICT SHALL EMPLOY AND PAY THE LABORATORY. COSTS OF RE-TEST MAY BE BACK CHARGED TO THE CONTRACTOR.
5. DSA SHALL BE NOTIFIED AT THE START OF CONSTRUCTION AND PRIOR TO THE PLACEMENT OF CONCRETE PER SECTION 4-331, PART 1, TITLE 24.
6. INSPECTOR SHALL BE APPROVED BY DSA. INSPECTION SHALL BE IN ACCORDANICE WITH SECTION 4-333(B). THE DUTY OF THE INSPECTOR SHALL BE IN ACCORDANCE WITH SECTION 4-342, PART 1, TITLE 24. DSA PROJECT INSPECTOR SHALL BE CLASS 3 MINIMUM.
7. SUPERVISION OF CONSTRUCTION BY DSA SHAL BE IN ACCORDANCE WITH SECTION 4-334, PART 1, TITLE 24.
8. CONTRACTOR, INSPECTOR, ARCHITECT AND ENGINEERS SHALL SUBMIT VERIFIED REPORTS (FORM SSS-6) IN ACCORDANCE WITH SECTION 4-336 AND 4-343, PART 1, TITLE 24.
9. THE CONTRACTOR SHALL PERFORM HIS DUTIES IN ACCORDANCE WITH SECTION 4-343, PART 1, TITLE 24.
10. ALL WORK SHALL CONFORM TO 2019 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
11. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGED DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
12. 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.
13. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
14. 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).
15. 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.
16. LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).
17. MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED MECHANICAL ATT FOR PROJECTS SUBMITTED ON OR AFTER OCTOBER 1, 2021.
18. 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.
19. 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.
20. PROJECT INSPECTOR WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.
21. ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER/ARCHITECT OF RECORD OR THE OWNER'S AGENT.
22. FIRE SAFETY DURING CONSTRUCTION & DEMOLITION WILL BE ENFORCED IN ACCORDANCE WITH CBC & CFC CHAPTER 33.

BUILDING DATA

LOCATION: 25555 HESPERIAN BOULEVARD BUILDING 1800
APPLICANT: CHABOT COLLEGE CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT
NUMBER OF STORIES: 1
CONSTRUCTION TYPE: V-A
OCCUPANCY GROUPS: B2 FULLY SPRINKLERED
ROOF CLASSIFICATION: WOOD ROOF 1HR RATING, CLASS A ROOFING
USE: CLASSROOM AND ACCESSORY SPACES
AREA: 18,187 SF
TOTAL AREA: 18,187 S.F.

DRAWING INDEX (12 SHEETS)

SUMMARY OF WORK

THE SCOPE OF THIS ELECTRICAL PROJECT IS TO RE-FEED BUILDING 1800 DIRECTLY FROM SUBSTATION 'C'

1. FEED ELECTRICAL POWER FROM SUBSTATION 'C' TO BUILDING 1800.
2. DISCONNECT AND REMOVE ELECTRICAL POWER FROM BUILDING 2100 TO BUILDING 1800.
3. REPLACE ANY LANDSCAPING, IRRIGATION AND PAVING DUE TO ELECTRICAL TRENCHING AND EXCAVATION TO MATCH EXISTING CONDITIONS.

APPLICABLE CODES

UNLESS OTHERWISE INDICATED OR SPECIFIED, PERFORM THE WORK IN CONFORMANCE WITH THE LATEST EDITIONS OF ALL APPLICABLE REGULATORY REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

1. CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE (PART 1, TITLE 24): 2022
2. CALIFORNIA BUILDING CODE (PART 2, TITLE 24): 2021 IBC WITH 2022 CA AMENDMENTS
3. CALIFORNIA ELECTRICAL CODE (PART 3, TITLE 24): 2020 NEC WITH 2022 CA AMENDMENT
4. CALIFORNIA MECHANICAL CODE (PART 4, TITLE 24): 2021 UMC WITH 2022 CA AMENDMENTS
5. CALIFORNIA PLUMBING CODE (PART 5, TITLE 24) 2021 UPC WITH 2022 CA AMENDMENTS
6. CALIFORNIA ENERGY CODE (PART 6, TITLE 24): 2022
7. CALIFORNIA HISTORICAL BUILDING CODE, (PART 8, TITLE 24): 2022
8. CALIFORNIA FIRE CODE (PART 9, TITLE 24): 2021 IFC WITH 2022 CA AMENDMENTS
9. CALIFORNIA EXISTING BUILDING CODE (PART 10, TITLE 24): 2022 (2021 INTERNATIONAL EXISTING BUILDING CODE WITH 2022 CA AMENDMENTS)
10. CALIFORNIA GREEN BUILDING STANDARDS CODE OR CAL GREEN (PART 11, TITLE 24): 202
11. CALIFORNIA REFERENCED STANDARDS CODE (PART 12, TITLE 24): 2022
12. PUBLIC SAFETY (CCR TITLE 19), STATE FIRE MARSHAL: CURRENT REVISION
13. NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE, 2022 EDITION

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120880 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 6/6/2023

agency

SALASO'BRIEN
expect a difference
305 South 11th Street
San Jose, California 95112-2218
877.725.2755 | 877.925.1477 (f)
WWW.SALASOBRIEN.COM
National Strength. Local Action.

consultant

LICENSED ARCHITECT
JOSEPH EDWARD GONZALEZ
No. C19735
REN. 11-30-2023
STATE OF CALIFORNIA

stamp

CHABOT COLLEGE
CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

25555 HESPERIAN BOULEVARD
HAYWARD, CALIFORNIA 94545

UPDATE TO: BUILDING 1800 ELECTRICAL RE-FEED

DSA #01-120880

ISSUE

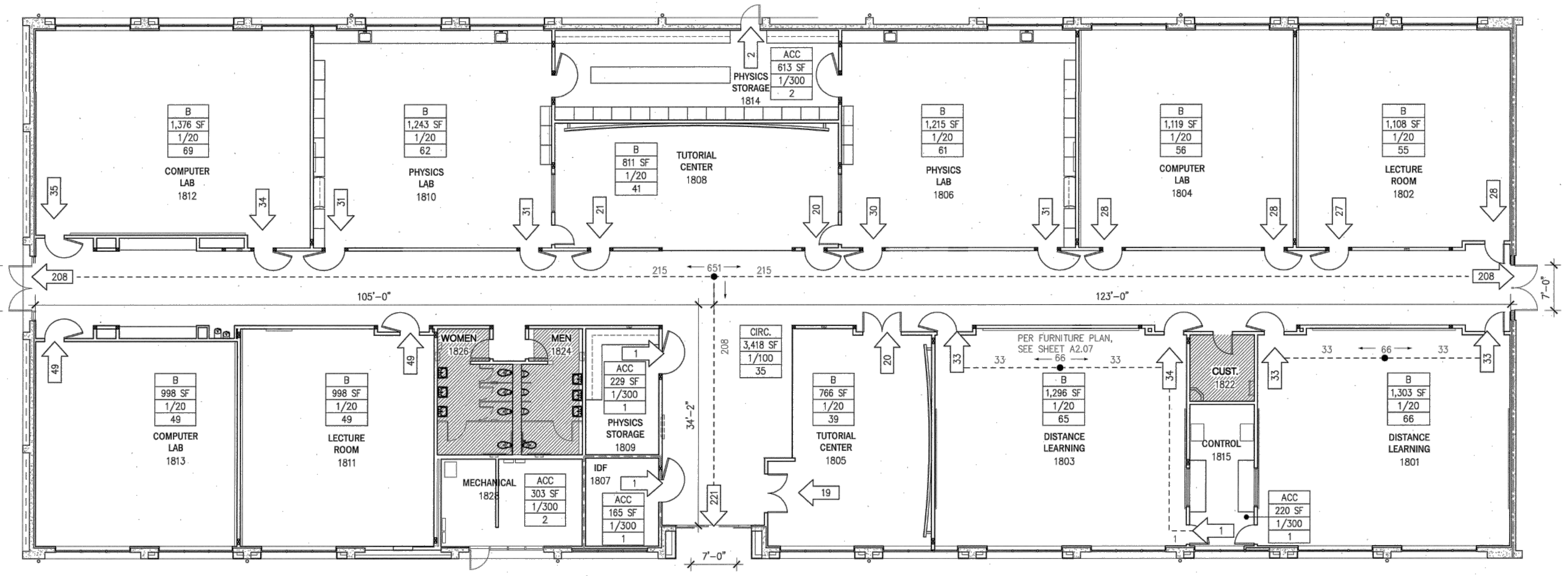
MARK	DATE	DESCRIPTION
	12/16/22	50%CD
	03/24/23	DSA SUBMITTAL
	05/26/23	DSA BACKCHECK

SOBE PROJECT NO:	2204789
DATE:	12/02/22
DRAWN BY:	ML
CHECKED BY:	JG
APPROVED BY:	

SHEET TITLE
COVER SHEET

SCALE: AS NOTED
THIS DRAWING IS 24" x 36" AT FULL SIZE

G-0.0
SHEET OF x



BLDG 1800 OCC. AND EXITING PLAN 3

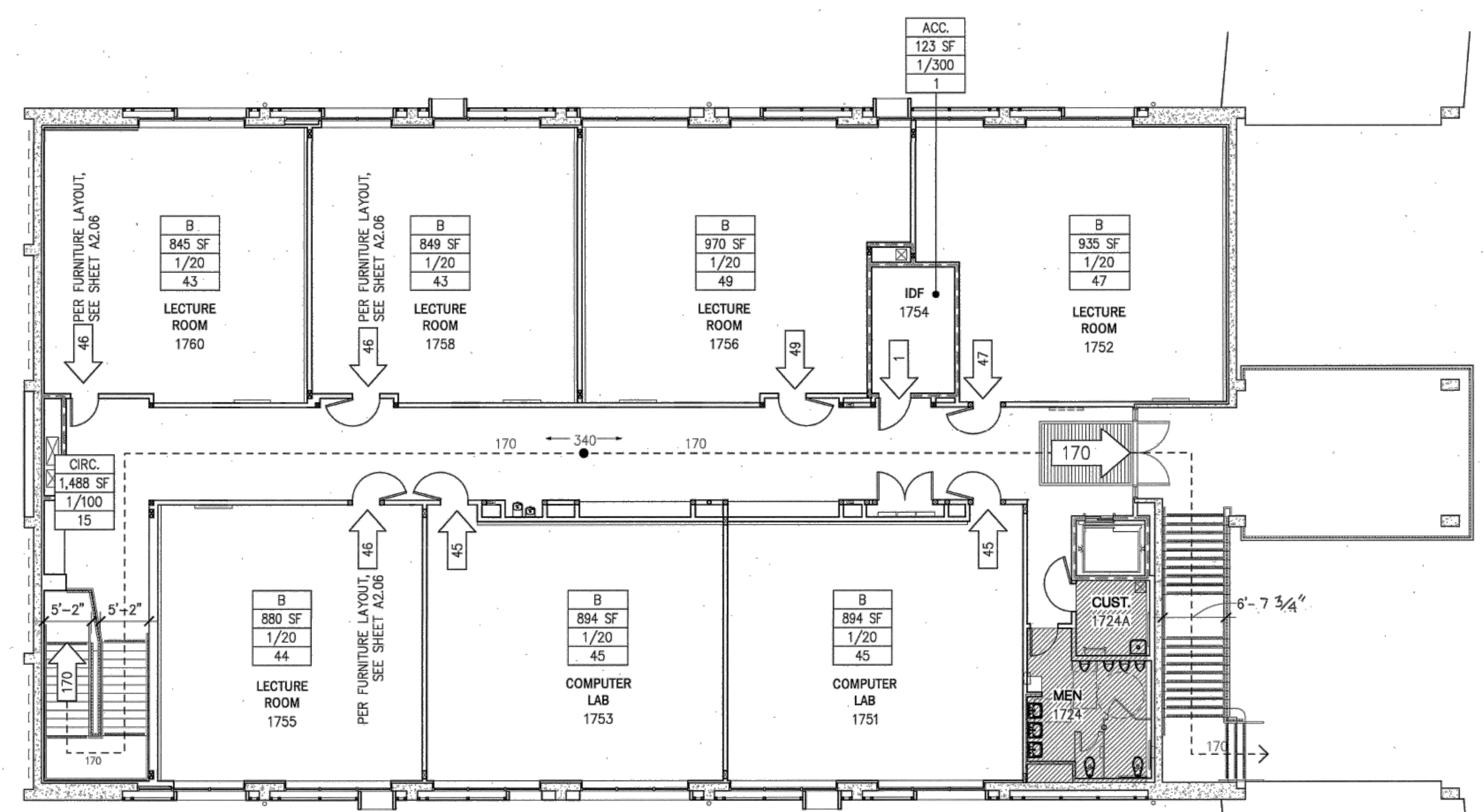
SCALE: 3/32"=1'-0"

BUILDING 3900

TYPE OF OCCUPANCY: B, H3, AND H7
TYPE OF CONSTRUCTION: TYPE II-N
BASIC AREA :: 12,000 S.F. PER TABLE 5-B
SPRINKLERING x 2
24,000 S.F. (MAX. AREA PER FLOOR)
MULTI-STORY x 2
48,000 S.F. (MAX. GROSS BUILDING AREA)
TOTAL BUILDING AREA: 31,241 S.F. (O.K. < 48,000 S.F.)

LEGEND

- PATH OF TRAVEL
- POINT OF EGRESS
- CUMULATIVE OCCUPANCY LOAD
- TOTAL OCCUPANCY LOAD AT EXIT
- B — USE PER CBC SECTION 304.1
- # SF — NET SQUARE FOOTAGE
- 1/50 — LOAD FACTOR PER CBC TABLE 1004.1.1
- LOAD — OCCUPANCY LOAD BASED ON CBC TABLE 1004.1.1
- ACCESSORY USE: NON-SIMULTANEOUS OR NOT USUALLY OCCUPIED SPACES
- 1 HOUR RATED CONSTRUCTION
- 2 HOUR RATED CONSTRUCTION



BLDG 1700 2ND FLOOR OCC. AND EXITING PLAN 2

SCALE: 3/32"=1'-0"

1. DETERMINE FRONTAGE INCREASE (CBC 506.2)
   A) DETERMINE W – WEIGHTED AVERAGE DISTANCE OF OPEN SPACE BETWEEN BUILDING 1800 AND OTHER BUILDINGS ON THE CAMPUS. (CBC 506.2.1)

   W = ((25*FRONTAGE BETWEEN 25' AND 30') + (30*FRONTAGE>30')) (FRONTAGE>30')

SEPARATION DISTANCE W	BUILDING PERIMETER
(FT)	(FT)
<20	84
>30	547
TOTAL	631

   W = (30 X 547) / 547
   = 30

   B) DETERMINE AREA INCREASE FACTOR DUE TO FRONTAGE

   If = [F/P – 0.25] x W/30

   F = 547 FEET, THE FRONTAGE FACING OPEN SPACE MORE THAN 20 FEET IN WIDTH

   P = 631 FEET, PERIMETER OF THE ENTIRE BUILDING

   W = 30 FEET (STEP A)

   If = [547/631 – 0.25] x 30 / 30 = 0.62

2. DETERMINE MAXIMUM ALLOWABLE AREA PER STORY (CBC 506.1)
   A) DETERMINE BASIC ALLOWABLE AREA PER STORY (TABLE 503)

   OCCUPANCY IN BUILDING 1800 IS GROUP B. PER CBC 506.4.1, THE ALLOWABLE AREA PER STORY SHALL BE BASED ON B. IN THIS CASE, ALLOWABLE AREA OF B, TYPE V-A, WILL BE USED.

   At = 18,000 SF

   B) DETERMINE MAXIMUM ALLOWABLE AREA PER STORY

   Aa = At + [At x If] + [At x Is]

   Aa = 18,000 + [18,000 x 0.62] = 29,160 SF

3. DETERMINE MAXIMUM BUILDING AREA (CBC 506.4.1)
   A) PER CBC 506.4.1, THE MAXIMUM TOTAL BUILDING AREA SHOULD NOT EXCEED THE FLOOR AREA MULTIPLIED BY 2.

   A(total) = Aa x 2 = 58,320 SF

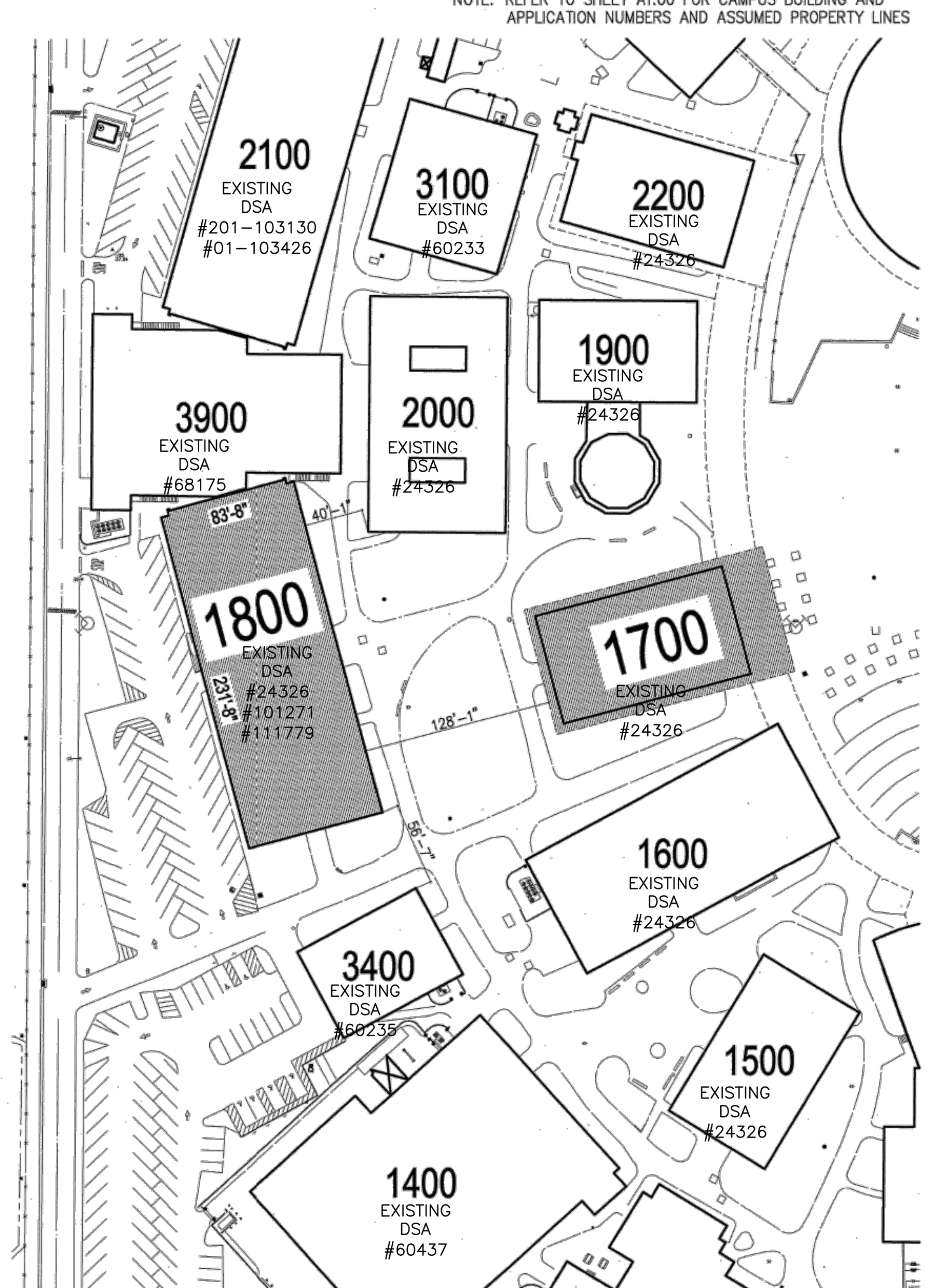
4. ACTUAL SIZE OF THE BUILDING 1800

   FLOOR AREA PER STORY = 18,187 SF OK < 29,160 SF

   BUILDING AREA = 18,187 SF OK < 58,320 SF

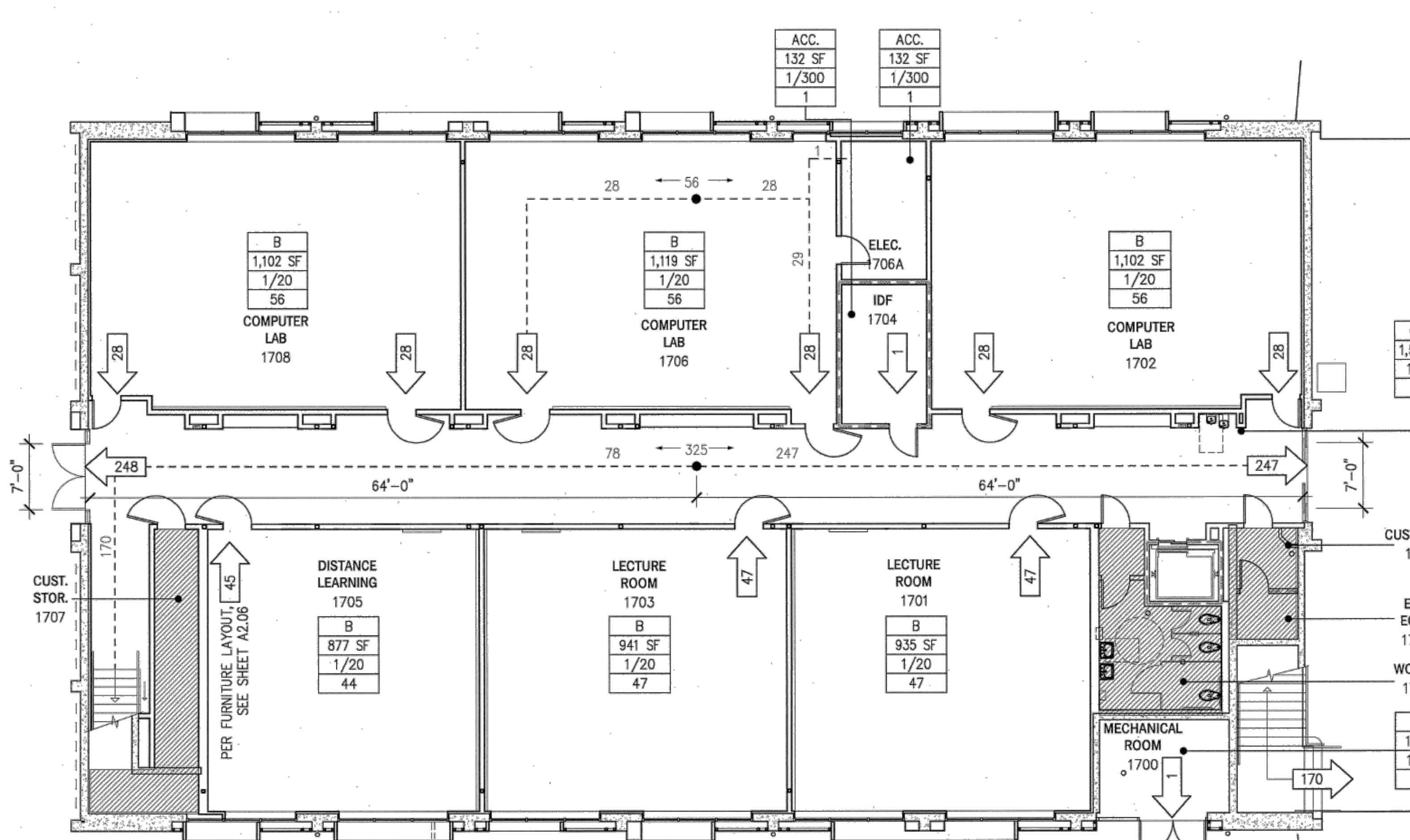
   PROPOSED BUILDING IS WITHIN THE ALLOWABLE AREA

NOTE: REFER TO SHEET A1.00 FOR CAMPUS BUILDING AND APPLICATION NUMBERS AND ASSUMED PROPERTY LINES



BUILDING 1800 AREA MODIFICATION CALCS 4

SCALE: 1"=80'-0"



BLDG 1700 1ST FLOOR OCC. AND EXITING PLAN 1

SCALE: 3/32"=1'-0"

CODE REVIEW SUMMARY

A. BUILDING AND OCCUPANCY CLASSIFICATION

THE SCOPE OF THIS PROJECT CONSISTS OF THE REMODEL OF BUILDINGS 1700 AND 1800 AT CHABOT COMMUNITY COLLEGE. THESE SPACES FUNCTION AS CAMPUS CLASSROOMS AND ACCESSORY SPACES, ALL OF WHICH ARE B OCCUPANCIES. BOTH BUILDINGS WILL BE FULLY SPRINKLERED.

304.1 GROUP B: BUSINESS GROUP B OCCUPANCY INCLUDES, AMONG OTHERS, THE USE OF A BUILDING OR STRUCTURE OR SHALL INCLUDE BUILDINGS, STRUCTURES, OR PORTIONS THEREOF, FOR OFFICE, PROFESSIONAL OR SERVICE-TYPE TRANSACTIONS, WHICH ARE NOT CLASSIFIED AS H OCCUPANCIES. B OCCUPANCIES SHALL INLCUDE EDUCATIONAL OCCUPANCIES FOR STUDENTS ABOVE THE 12TH GRADE.

508.3.1.2 ALLOWABLE AREA AND HEIGHT: THE ALLOWABLE AREA AND HEIGHT OF THE BUILDING PORTION THEREOF SHALL BE BASED ON THE ALLOWABLE AREA AND HEIGHT FOR THE MAIN OCCUPANCY (B) IN ACCORDANCE WITH SECTION 503.1.

B. TYPE OF CONSTRUCTION

602.5 TYPE V THE STRUCTURAL ELEMENTS OF THE BUILDINGS IN THIS SCOPE OF WORK ARE OF TYPE V CONSTRUCTION, WHERE EXTERIOR WALLS AND INTERIOR WALLS MAY BE OF ANY MATERIALS PERMITTED BY CODE.

C. LOCATION ON PROPERTY

SEE A1.01 SITE PLAN FOR LOCATIONS OF THE BUILDING AND CLEARANCES TO ALL PROPERTY LINES AND OTHER BUILDINGS.

CBC TABLE 602 FIRE RESISTANCE OF EXTERIOR WALLS BASED ON PROXIMITY TO PROPERTY LINES.

CBC TABLE 602

CONSTRUCTION TYPE	FIRE SEPARATION DISTANCE = X (FEET)	OCCUPANCY GROUP B
TYPE V – A	X < 5	1 HR
	5 < X < 10	1 HR
	10 < X < 30	1 HR
	X > 30	0 HR

CBC TABLE 704.8 MAXIMUM AREA OF EXTERIOR WALL OPENINGS BASED ON PROXIMITY TO FIRE SEPARATION DISTANCE.

CBC TABLE 704.8

CLASSIFICATION OF OPENING	FIRE SEPARATION DISTANCE = X (FEET)	% OF WALL OPENING PER STORY
UNPROTECTED	X < 5	NOT PERMITTED
	5 < X < 10	10%
	10 < X < 15	15%
	15 < X < 20	25%
	20 < X < 25	45%
	25 < X < 30	70%
	X > 30	NO LIMIT

D. FIRE RESISTANCE-RATED CONSTRUCTION

SEE CBC TABLE 601 FOR FIRE RESISTANCE RATING FOR BUILDING ELEMENTS.

CBC TABLE 601

BUILDING ELEMENT	TYPE V-A
STRUCTRUAL FRAME	1 HOUR
BEARING WALLS EXT.	1 HOUR
BEARING WALLS INT.	1 HOUR
NON-BEARING WALLS AND PARTITIONS EXT.	SEE TABLE 602
NON-BEARING WALLS AND PARTITIONS INT.	0 HOUR
FLOOR CONSTRUCTION INCLUDING SUPPORT BEAMS AND JOISTS	1 HOUR
ROOF CONSTRUCTION INCLUDING SUPPORT BEAMS AND JOISTS	1 HOUR

PER CBC TABLE 601, NOTE E, AN APPROVED AUTOMATIC SPRINKLER SYSTEM MAY BE SUBSTITUTED FOR 1-HOUR FIRE RESISTANCE-RATED CONSTRUCTION. THEREFORE THE STRUCTURAL FRAME, INTERIOR BEARING WALLS, FLOOR CONSTRUCTION, AND ROOF CONSTRUCTION ARE UNRATED. COMPLIANT WITH IR 9-1 (2.2), SEE FP0.1

THE EXCEPTION TO THIS IS THE NORTH ELEVATION OF BUILDING 1800 WHICH IS OF TWO HOUR CONSTRUCTION AS APPROVED IN DSA #68175 DUE TO THE PROXIMITY TO BUILDING 3900.

E. ALLOWABLE BUILDING HEIGHTS AND AREAS

SEE CBC TABLE 503 FOR BASIC ALLOWABLE BUILDING HEIGHTS AND BASIC ALLOWABLE FLOOR AREA FOR B OCCUPANCY AND TYPE V-A CONSTRUCTION.

CBC TABLE 503

OCCUPANCY GROUP TYPE	CONST. TYPE	BASIC ALLOWABLE STORIES/AREA/ HEIGHT	
B	TYPE V-A	3 / 18,000* / 50 FEET	*REFER TO AREA INCREASE ALLOWANCE FOR BUILDING 1800

ACTUAL PROJECT GROSS FIGURES:

	GROSS SF AREAS	BUILDING HEIGHTS (STORIES/HEIGHT)	CONCLUSION
BUILDING 1700	8,930+8,725 = 17,655	2 / 30 FEET	ACTUAL PROJECT<ALLOWABLE
BUILDING 1800	18,187	1 / 17 FEET	ACTUAL PROJECT<ALLOWABLE

F. CORRIDORS

CBC TABLE 1017.1 CORRIDOR FIRE RESISTANCE RATING FOR OCCUPANCIES B: THE BUILDINGS AT CHABOT THAT ARE IN THIS SCOPE OF WORK ARE SPRINKLERED. THEREFORE CORRIDORS ARE NOT REQUIRED TO BE 1-HR RATED.

CBC TABLE 1017.2 CORRIDORS WITH THE MINIMUM CORRIDOR WIDTH SHALL BE AS DETERMINED IN SECTION 1005.1, BUT NOT LESS THAN 44 INCHES.

G. MEANS OF EGRESS

OCCUPANT LOAD PER BUILDING

BUILDING	OCCUPANT LOAD	NUMBER OF EXITS REQ'D PER CBC TABLE 1019.1	NUMBER OF EXITS PROVIDED
BUILDING 1700	667	3	3
BUILDING 1800	627	3	3

CBC TABLE 1005.1 MINIMUM REQUIRED EGRESS WIDTH – W/ SPRINKLER SYSTEM

BUILDING	STAIRWAYS	DOORS
BUILDING 1700 (2ND FLOOR OCCUPANT LOAD=332)	332 X 0.2 = 67"	658 X 0.15 = 99"
BUILDING 1800	–	624 X 0.15 = 94"

* MINIMUM DOOR WIDTH = 32" CLEAR PER CBC 1008.1.1

** MINIMUM STAIR WIDTH = 44" PER CBC 1009.1

*** MINIMUM CORRIDOR WIDTH = 44" PER CBC 1017.2

CBC TABLE 1016.1 EXIT ACCESS TRAVEL DISTANCE

OCCUPANCY TYPE	W/O SPRINKLER SYSTEM (FEET)
B	200

CBC 1014.3 COMMON PATH OF EGRESS TRAVEL IN OCCUPANCIES OTHER THAN GROUPS H-1, H-2, AND H-3, THE COMMON PATH OF EGRESS TRAVEL SHALL NOT EXCEED 75 FEET.

PER EXCEPTION 1, THE LENGTH OF A COMMON PATH OF EGRESS TRAVEL SHALL NOT BE MORE THAN 100 FEET WITH THE USE OF AN AUTOMATIC SPRINKLER SYSTEM.

CBC 1014.2 EGRESS THROUGH INTERVENING SPACES. EGRESS FROM A ROOM OR SPACE SHALL NOT PASS THROUGH ADJOINING AND INTERVENING ROOMS OR AREAS EXCEPT WHERE SUCH ADJOINING ROOMS, OR AREAS ARE ACCESSORY TO THE AREA SERVED, ARE NOT A HIGH HAZARD OCCUPANCY AND PROVIDE A DISCERNABLE PATH OF EGRESS TO AN EXIT.

CBC 1007.1 ACCESSIBLE MEANS OF EGRESS

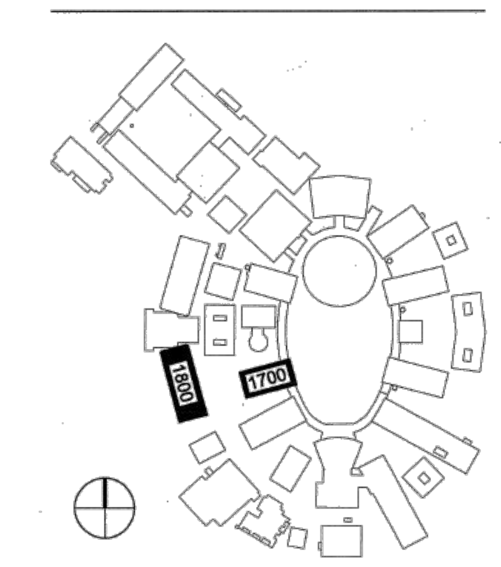
ACCESSIBLE SPACES SHALL BE PROVIDED WITH NOT LESS THAN ONE ACCESSIBLE MEANS OF EGRESS. WHERE MORE THAN ONE MEANS OF EGRESS IS RQUIRED BY SECTIONS 1015.1 OR 1019.1 FROM ANY ACCESSIBLE SPACE, EACH ACCESSIBLE PORTION OF THE SPACE SHALL BE SERVED BY ACCESSIBLE MEANS OF EGRESS IN AT LEAST THE SAME NUMBER AS RQUIRED BY SECTION 1015.1 OR 1019.1.

Steinberg Architects

CHABOT COLLEGE
CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

ARCHITECT
Steinberg Architects
60 Pierce Avenue
San Jose, California

CONSULTANT DISCIPLINE



CHABOT-LAS POSITAS CCD
CHABOT COLLEGE

MATH/SCIENCE MODERNIZATION PROJECT

(40.62.116)

Hayward, California

CODE SHEET

PROJECT #: 09112
DATE: APRIL 26, 2010
SCALE: 1/16"=1'-0"

A0.01

FOR REFERENCE ONLY

IDENTIFICATION STAMP
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CHABOT COLLEGE
CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

25555 HESPERIAN BOULEVARD
HAYWARD, CALIFORNIA 94545

UPDATE TO: BUILDING 1800 ELECTRICAL RE-FEED

DSA #01-120880

ISSUE		
MARK	DATE	DESCRIPTION
	12/16/22	50%CD
	03/24/23	DSA SUBMITTAL
	05/26/23	DSA BACKCHECK

SOBE PROJECT NO:	2204789
DATE:	12/02/22
DRAWN BY:	ML
CHECKED BY:	JG
APPROVED BY:	

SHEET TITLE

CODE SHEET

SCALE: AS NOTED

THIS DRAWING IS 24" x 36" AT FULL SIZE

G-0.1

SHEET OF x

K:\drawings\Chabot-Las Positas Community College\2204789 Chabot CC Electrical Re-Feed Bldg 1800 RFP\2204789G-0.1.dwg 5/26/2023 12:54 PM Rick Padua

1/2" = 1'-0"
1/4" = 1'-0"
1/8" = 1'-0"
1" = 30'-0"
1" = 50'-0"

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE TO OBTAIN A COMPLETE SET OF CONTRACT DOCUMENTS, ADDENDA, DRAWINGS, AND SPECIFICATIONS. PRIOR TO SUBMITTING PROPOSAL, CONTRACTOR SHALL EXAMINE ARCHITECTURAL, STRUCTURAL AND MECHANICAL CONSTRUCTION DRAWINGS AND SPECIFICATIONS AND SHALL HAVE VISITED THE CONSTRUCTION SITE. HE/SHE SHALL BE FAMILIAR WITH THE EXISTING CONDITIONS UNDER WHICH HE/SHE WILL HAVE TO OPERATE AND WHICH WILL IN ANY WAY AFFECT THE WORK UNDER THIS CONTRACT. NO SUBSEQUENT ALLOWANCE WILL BE MADE IN THIS CONNECTION IN BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON HIS/HER PART. DETERMINE THE SEQUENCE OF CONSTRUCTION THROUGHOUT THE PROJECT, INCLUDING TEMPORARY FACILITIES AND CONNECTIONS REQUIRED FOR THE DURATION OF THE PROJECT.
2. ALL TEMPORARY CONNECTIONS SHALL BE CONSIDERED PART OF THIS CONTRACT AND NO EXTRA CHARGES WILL BE ALLOWED. THIS SHALL INCLUDE MINOR ITEMS OF MATERIAL OR EQUIPMENT NECESSARY TO MEET THE REQUIREMENTS AND INTENT OF THE PROJECT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONS AND PROPERTY AND SHALL PROVIDE INSURANCE COVERAGE AS NECESSARY FOR LIABILITY, PERSONAL, AND PROPERTY DAMAGE, TO FULLY PROTECT THE OWNER, ARCHITECT, AND ENGINEER FROM ANY AND ALL CLAIMS RESULTING FROM THIS WORK.
4. THE CONTRACTOR SHALL PROVIDE TO THE ARCHITECT A CONSTRUCTION SCHEDULE OF ALL ELECTRICAL WORK. THE CONSTRUCTION SCHEDULE SHALL IDENTIFY ALL SIGNIFICANT MILESTONES WITH COMPLETION DATES.
5. THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS AT THE PROJECT SITE INDICATING ALL MODIFICATIONS TO ELECTRICAL SYSTEMS. THE CONTRACTOR SHALL, AT THE CONCLUSION OF THE PROJECT, PROVIDE A SET OF REPRODUCIBLE (AUTOCAD), ACCURATE AND NEAT "AS-BUILT" DRAWINGS ACCEPTABLE TO THE ARCHITECT.
6. THESE DRAWINGS DO NOT REPRESENT THE EXACT LOCATIONS, SIZES OR EXTENT OF UTILITIES ON SITE. CONTRACTOR SHALL TAKE STANDARD PRECAUTIONS FOR WORK IN EXISTING FACILITIES.
7. EXISTING ELECTRICAL WIRING WHICH WILL NOT BE MADE OBSOLETE AND WHICH WILL BE DISTURBED DUE TO CONSTRUCTION CHANGES REQUIRED BY THIS CONTRACT SHALL BE RESTORED TO OPERATING CONDITION, AS REQUIRED AND/OR DIRECTED. WHERE REQUIRED, SHOWN AND/OR DIRECTED, OUTLETS AND CONDUIT RUNS SHALL BE RELOCATED. IN SOME CASES IT MAY BE NECESSARY TO EXTEND CONDUITS AND PULL IN NEW WIRING OR INSTALL JUNCTION BOXES AND SPLICE IN NEW WIRING OR REPLACE OLD WIRING WITH NEW.
8. CERTAIN REMODELING OF ELECTRICAL FACILITIES WILL BE REQUIRED IN THE EXISTING BUILDING. EXISTING CONDUIT RUNS ARE GENERALLY NOT SHOWN, ALTHOUGH A FULL ATTEMPT HAS BEEN MADE TO SHOW SOME EXISTING CONDITIONS, OF WHICH INFORMATION HAS BEEN TAKEN FROM EXISTING RECORD DRAWINGS AND/OR LIMITED FIELD INVESTIGATIONS. THE DRAWINGS SHOWING LOCATION OF EXISTING EQUIPMENT, OUTLETS, FIXTURES, ETC., ARE APPROXIMATE ONLY (CONTRACTOR TO FIELD VERIFY).
9. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY AND SHALL BE INSTALLED AS PER LISTING OR LABELING (IE. MAXIMUM FUSE SIZE MEANS FUSE PROTECTION IS REQUIRED).
10. ALL ELECTRICAL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
    a. AMERICAN STANDARD ASSOCIATION (ASA)
    b. AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
    c. AMERICAN SOCIETY OF TESTING MATERIALS (ASTM)
    d. CALIFORNIA CODE OF REGULATIONS TITLE 24 (CCR)
    e. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
    f. INSULATED POWER CABLE ENGINEERS ASSOCIATIONS (IPCEA)
    g. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATIONS (NEMA)
    h. NATIONAL FIRE PROTECTION AGENCY (NFPA)
    i. ALL LOCAL CODE HAVING JURISDICTION
11. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, AND INCIDENTAL COSTS NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK, INCLUDING ALL CHARGES BY STATE, COUNTY AND LOCAL GOVERNMENTAL AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR THE ELECTRICAL UTILITY SYSTEM SHUT-DOWNS AND START-UP. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION REQUIRED WITH OTHER AGENCIES AND UTILITY COMPANIES.
12. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL CROSSINGS ON NEW UTILITIES WITH THAT OF EXISTING ON SITE AND IN ADJACENT PROPERTIES. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS OR DISCREPANCIES FROM THIS PLAN.
13. CONTRACTOR SHALL COORDINATE HIS/HER WORK WITH OTHER TRADE ON SITE. ANY COST TO PERFORM WORK TO ACCOMPLISH SAID COORDINATION WHICH DIFFERS FROM THE WORK AS SHOWN ON THE DRAWINGS SHALL BE INCURRED BY THE CONTRACTOR. ANY DISCREPANCIES, AMBIGUITIES OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING BID TIME FOR CLARIFICATIONS. ANY SUCH CONFLICTS NOT CLARIFIED PRIOR TO BID SHALL BE SUBJECT TO THE INTERPRETATION OF THE ARCHITECT/ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
14. COORDINATE WITH OTHER TRADES AS TO THE EXACT LOCATION OF THEIR RESPECTIVE EQUIPMENT. PROVIDE POWER AND CONNECTION TO MOTORS AND EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS AS INDICATED ON ELECTRICAL DRAWINGS AND DRAWINGS OF OTHER TRADES. CONTRACTOR SHALL REVIEW DRAWINGS OF OTHER TRADES FOR CONTROL DIAGRAMS, SIZE AND LOCATION OF EQUIPMENT. DISCONNECT SWITCHES, STARTERS, AND CONDUITS FOR CONTROL WIRING FOR MECHANICAL AND PLUMBING EQUIPMENT SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING MANUFACTURER'S SHOP DRAWINGS PRIOR TO ROUGHING IN ALL CONDUITS TO THIS EQUIPMENT.
15. BEFORE ROUGH-IN, VERIFY ALL MOUNTING HEIGHTS AND EXACT LOCATIONS FOR ALL EQUIPMENT, ELECTRICAL CONNECTIONS, STUB-UPS, RECEPTACLES, OUTLETS, CONDUIT RUNS, ETC. WITH ARCHITECT AND OWNER. PLACE DEVICES LOCATED ABOVE COUNTERS, SHELVING, ETC. AND IN BATHROOMS SO AS NOT TO CONFLICT WITH EDGES OF WAINSCOTING, COUNTER SPLASH, SHELVING, ETC. ARCHITECTURAL DRAWINGS SHALL GOVERN. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATIONS OF ELECTRICAL DEVICES
16. MOUNTING HEIGHTS OF ALL CONTROL DEVICES TO BE USED BY OCCUPANT OF THE ROOM OR AREA SHALL BE MOUNTED AT THE FOLLOWING HEIGHTS:
    RECEPTACLES OUTLETS : +18" (TO BOTTOM OF OUTLETS)
    TELEPHONE/TV/DATA OUTLETS : +18" (TO BOTTOM OF OUTLETS)
    LIGHT SWITCHES : +44" (TO HIGHEST OPERABLE PART)
    OUTLETS ABOVE COUNTER : +12" ABOVE COUNTER (TO BOTTOM OF OUTLETS)
    MOUNTING HEIGHTS OF ALL DEVICES AND EQUIPMENT ARE FROM FINISHED FLOOR TO LOCATION OF DEVICE AS NOTED. EQUIPMENT INSTALLED IN LOCATIONS NOT APPROVED BY THE ARCHITECT SHALL BE RELOCATED AS DIRECTED BY THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
17. COORDINATE ALL OUTLET BOX INSTALLATION WITH ARCHITECTURAL WALL FINISH SCHEDULES. SPACE BETWEEN FACEPLATE AND DEVICE BOX SHALL NOT EXCEED 1/8".
18. FOR RENOVATION WORK, THE CONTRACTOR SHALL CONCEAL ALL WORK WHERE POSSIBLE. ALL EXPOSED RACEWAY AND BOXES IN OCCUPIED AREAS OR ON EXTERIOR WALLS SHALL BE PAINTED TO MATCH ADJACENT FINISHES.
19. THE CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE FOR THE PROPER RESTORATION OF ALL EXISTING SURFACES REQUIRING PATCHING, PLASTERING, PAINTING AND/OR OTHER REPAIR DUE TO THE INSTALLATION OF ELECTRICAL WORK UNDER THE TERMS OF THIS SPECIFICATION. CLOSE ALL OPENINGS, REPAIR ALL SURFACES, ETC., AS REQUIRED.
20. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS AND CEILINGS. FURNISH AND INSTALL FIRE RATED BACKBOXES AS REQUIRED, MAINTAINING FIRE RATING OF CEILING OR WALLS WHERE RECESSED ELECTRIC EQUIPMENT SUCH AS LIGHT FIXTURES, SWITCHES, RECEPTACLES, PANEL, ETC. ARE INSTALLED IN RATED WALL OR CEILINGS. PENETRATIONS OF FIRE RATED WALLS, CEILINGS, OR FLOORS SHALL COMPLY WITH UBC CHAPTER 7 REQUIREMENTS. CONDUIT PENETRATIONS THAT ARE NOT STUBBED-OUT INSIDE THE WALL SHALL MEET F AND T RATING. ALL FIRE PROOFING METHOD SHALL BE UL APPROVED.
21. ALL EXTERIOR EQUIPMENT SHALL BE NEMA 3R RATED. ALL WALL PENETRATIONS TO EXTERIOR WALLS SHALL BE SEALED WATER TIGHT.
22. PULLING TAPES: ALL RACEWAY WITHOUT CABLE OR WIRE SHALL BE INSTALLED WITH A MINIMUM 1100 LBS. STRENGTH TEST POLYESTER PULLING TAPE. PULLING TAPES SHALL BE DETECTABLE MULE-TAPE WITH SEQUENTIAL FOOTAGE MARKING.
23. RUN NO MORE THAN 3 CURRENT CARRYING CONDUCTORS IN ANY WIREWAY UNLESS DE-RATING IS APPROVED BY ENGINEER OR SHOWN ON DRAWINGS.
24. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER, #12 AWG MINIMUM, RATED FOR 600V, THHN/THWN, 75 DEGREE CELSIUS. CONDUCTORS #12 AWG AND SMALLER SHALL BE SOLID. CONDUCTOR #10 AWG AND LARGER SHALL BE STRANDED. SYSTEM VOLTAGE SHALL BE IDENTIFIED AS TO VOLTAGE AND PHASE CONNECTIONS BY MEANS OF COLOR IMPREGNATED INSULATION OR APPROVED COLORED MARKING TAPE.
25. WHERE MULTI-HOMERUNS ARE INDICATED ON DRAWINGS INDICATING THE SAME CIRCUIT NUMBER, PROVIDE A JUNCTION BOX ABOVE THE ACCESSIBLE CEILING AND ROUTE ONE SET OF WIRES TO THE CIRCUIT BREAKER.
26. REFER TO THE SINGLE LINE DIAGRAM FOR THE CONDUIT AND CONDUCTOR SIZES HOMERUN TO ELECTRICAL PANELS. CONDUIT RUNS MAY NOT BE SHOWN ON DRAWINGS, BUT ARE PART OF THIS CONTRACT.
27. ALL CONDUIT RUNS INCLUDING STRAIGHT FEEDER AND BRANCH CIRCUIT SHALL BE PROVIDED WITH SUFFICIENT PULL BOXES OR JUNCTION BOXES TO LIMIT THE MAXIMUM LENGTH OF ANY SINGLE CABLE PULL TO 100 FEET. PULL BOXES SHALL BE SIZED PER CODE OR AS INDICATED ON DRAWINGS. LOCATIONS SHALL BE DETERMINED IN THE FIELD OR AS INDICATED ON THE DRAWINGS.
28. FINAL CONNECTIONS TO ALL EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIAL AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
29. DO NOT COMBINE DIFFERENT SYSTEM VOLTAGES IN SAME CONDUIT (EG., 120/208V VS. 277/480V), UNLESS IS APPROVED BY ENGINEER OR SHOWN ON DRAWINGS.
30. ELECTRICAL SYSTEMS SHALL BE INSTALLED FOR FINAL INSPECTIONS. PROVIDE NEUTRAL TEST AND PROOF OF TORQUE DURING FINAL INSPECTION FOR ALL UNITS. FINAL TERMINATIONS OF CONDUCTORS TO ELECTRICAL EQUIPMENT AND DEVICES SHALL BE TORQUE WRENCH TIGHTENED TO THE MANUFACTURER'S RECOMMENDED SPECIFICATION, NO EXCEPTION.
31. CIRCUIT BREAKER TERMINALS IN SWITCHBOARDS AND LOAD CENTER SHALL BE UL LISTED AND APPROVED FOR USE COPPER 75 DEGREE CELSIUS CONDUCTORS.
32. SIZES OF BREAKERS, SWITCHES, FUSES AND FEEDERS ARE BASED ON DESIGNED EQUIPMENT SIZES. THESE SIZES SHALL BE ADJUSTED TO SATISFY REQUIREMENTS OF ACTUAL INSTALLED OR SUBSTITUTE EQUIPMENT. UP SIZING OR DOWNSIZING OF FEEDERS SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE OWNER.
33. AS REQUIRED ALL OVERSIZED FEEDERS THAT WERE ADJUSTED IN SIZE TO COMPENSATE FOR VOLTAGE DROP SHALL BE PROVIDED WITH ADAPTER LUGS OR SPLICE BOX. ADAPTER LUGS SHALL BE PROVIDED IF SIZE IS AVAILABLE. OTHERWISE PROVIDE CABLE SPLICES IN THE SPLICE BOX TO REDUCE CABLES TO THE MAXIMUM SIZE THAT THE BREAKER LUGS CAN ACCOMMODATE.
34. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAW-CUTTING, TRENCHING, BACKFILLING, COMPACTION AND PATCHING OF CONCRETE AND ASPHALT AS REQUIRED TO COMPLETE WORK. USE EXTREME CAUTION WHEN TRENCHING NEAR EXISTING UNDERGROUND UTILITY LINE. CONTRACTOR SHALL PROVIDE ALL REQUIRED CUTTING, PATCHING, PAINTING, AND REPAIRS NECESSARY TO RESTORE DAMAGED SURFACES TO EQUAL OR BETTER THAN ORIGINAL CONDITIONS EXISTING AT THE START OF WORK.
35. ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST HORIZONTAL FORCE ACTING IN ANY DIRECTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF ASCE.
36. RIGID GALVANIZED STEEL CONDUIT SHALL BE USED FOR ALL EXTERIOR APPLICATIONS, ALL CONDUITS LARGER THAN 2" TRADE DIAMETER, AND ALL INDOOR CONDUITS BELOW EIGHT (8) FEET FROM FINISHED FLOOR.
37. ELECTRICAL METALLIC TUBING (EMT) IS ONLY ALLOWED IN INTERIOR LOCATION ABOVE EIGHT (8) FEET FROM FINISHED FLOOR AND WHEN ENTERING A PANEL FROM ABOVE.
38. CONNECTIONS TO VIBRATING EQUIPMENT (MOTOR, TRANSFORMER ENCLOSURE, ETC.) AND SEISMIC SEPARATIONS SHALL BE PROVIDED WITH LIQUID-TIGHT FLEXIBLE STEEL CONDUIT WITH WATERTIGHT CONNECTORS. MAXIMUM LENGTH OF CONDUIT SHALL BE SIX FEET, UNLESS OTHERWISE NOTED.
39. POLYVINYL CHLORIDE (PVC) SCHEDULE 40 MAY BE INSTALLED BENEATH SLAB AND UNDERGROUND INSTALLATION. INSTALL PVC COATED RIGID STEEL CONDUIT FOR TRANSITION FROM UNDERGROUND TO ABOVE GRADE INSTALLATION.
40. CONTRACTOR SHALL PROVIDE TERMINATIONS FOR ALL DATA/VOICE CABLES INDICATED AT OUTLET LOCATIONS INDICATED ON DRAWINGS.
41. CONTRACTOR SHALL PROVIDE AND INSTALL ACCESS PANELS IN NON-ACCESSIBLE CEILINGS WHERE REQUIRED TO ACCESS ELECTRICAL EQUIPMENT IN CEILING SPACE. ACCESS DOORS SHALL HAVE FIRE RATING EQUAL TO THE CEILING ASSEMBLY IN WHICH THEY ARE INSTALLED.
42. ALL FIRE LIFE SAFETY EQUIPMENT, SUCH AS FIRE ALARM CONTROL PANEL AND REMOTE POWER SUPPLIES SHALL BE PROVIDED WITH DEDICATED CIRCUITS. IDENTIFY CIRCUIT DESIGNATION AND PROVIDE PERMANENT LABELING, "FIRE ALARM CIRCUIT" ON ELECTRICAL PANEL. PROVIDE LOCKABLE CIRCUIT BREAKER.
43. CONTROL CONDUIT FOR ENERGY/BUILDING MANAGEMENT SYSTEM (E/BMS) SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
44. ROUTE CONDUIT PARALLEL AND PERPENDICULAR TO WALLS AND ADJACENT PIPING. ARRANGE CONDUIT TO MAINTAIN HEADROOM AND TO PRESENT A NEAT APPEARANCE.
45. WHEN A DISCREPANCY IN QUANTITY OR SIZE OF CONDUIT, WIRE, EQUIPMENT, CIRCUIT BREAKERS, ETC., ARISES ON THE DRAWINGS OR SPECIFICATIONS, CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL REQUIRED BY THE MOST STRINGENT CONDITIONS NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS TO PROVIDE A COMPLETE AND OPERABLE SYSTEM, OR AS DIRECTED BY ENGINEER.
46. FOR SMALL AC MOTORS NOT HAVING BUILT-IN THERMAL OVERLOAD PROTECTION, PROVIDE MANUAL MOTOR STARTERS WITH OVERLOAD HEATER ELEMENTS SIZED PER MANUFACTURER'S RECOMMENDATION. FOR SMALL AC MOTORS WITH BUILT-IN THERMAL OVERLOAD PROTECTION, PROVIDE A HORSEPOWER RATED TOGGLE DISCONNECT SWITCH.
47. DISCONNECT SAFETY SWITCHES SHALL BE HEAVY DUTY AND BE RATED FOR THE NUMBER OF POLES, VOLTAGE, CURRENT AND HORSEPOWER RATING AS REQUIRED. PROVIDE FUSE PROTECTION BASED ON THE MOTOR NAMEPLATE RATINGS.
48. PROVIDE PERMANENT IDENTIFICATIONS (NAMEPLATES) FOR ALL ELECTRICAL PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, DISCONNECT SWITCHES, TRANSFORMERS, TERMINAL CABINETS, ETC.
49. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO VERIFY TYPE OF CEILING SYSTEMS AND TO FURNISH APPROVED LIGHTING FIXTURES OF THE TYPE REQUIRED FOR MOUNTING IN SUBJECT CEILING. PROVIDE ALL NECESSARY MOUNTING KIT/HARDWARE TO PROVIDE A COMPLETE WORKING LIGHTING SYSTEM.
50. ALL FINAL ELECTRICAL CONNECTIONS TO OWNER FURNISHED EQUIPMENT SHALL BE MADE BY THE ELECTRICAL CONTRACTOR.
51. ALL SPLICES AND TERMINALS SHALL BE COMPRESSION TYPE, OF SEAMLESS PURE COPPER, TIN PLATED, LONG BARREL, INSPECTION WINDOW, TERMINALS WITH TWO-HOLE PAD (WITH NEMA DRILLING). CLEAN ALL SURFACES AND INSTALL WITH OXIDE INHIBITING COMPOUND BURNDY PENETROX-E OR EQUAL. APPLY COMPOUND BETWEEN BUS BAR AND LUG PAD AND BETWEEN CONDUCTOR AND LUG BARREL. INSTALL COMPRESSION CONNECTORS WITH A FULLY CIRCUMFERENTIAL COMPRESSION DIE BURNDY HYPRESS OR EQUAL.
52. LABEL ALL CONDUIT WHERE IT BEGINS, AND WHERE IT TERMINATES INTO A BOX, PANEL, DEVICE, LOAD, OR DISCONNECT. CONDUIT SHALL BE LABELED EVERY 30 FEET OR LESS. CONDUIT SHALL BE LABELED WHERE IT PENETRATES ANY WALL OR FLOOR. LABEL SHALL BE PERMANENT PRINTED LABELS (DESCRIBING SOURCE, CIRCUIT, AND LOAD) LEGIBLE FROM FLOOR WHERE POSSIBLE (STANDING POSITION).
53. CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT OR INSTALLATION METHODS.
54. PROVIDE ARC-FLASH HAZARD WARNING LABELS ON ALL EFFECTED ELECTRICAL EQUIPMENT, INCLUDING SWITCHBOARDS, PANEL BOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES, AND MOTOR CONTROL CENTERS. MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS. LABEL SHALL BE FACTORY PRE-PRINTED OR MACHINE-PRINTED SELF-ADHESIVE VINYL MATERIAL; UV, CHEMICAL, WATER, HEAT AND ABRASION RESISTANT; PRODUCED USING MATERIALS RECOGNIZED BY UL 969. MINIMUM SIZE: 3.5 BY 5 INCHES.

DEMOLITION NOTES

1. REMOVE EXISTING EQUIPMENT IN CONFLICT WITH NEW CONDITIONS. REMOVE ALL WIRE NOT IN SERVICE AND FROM ABANDONED RACEWAYS. PROTECT EXISTING CIRCUITING PASSING THROUGH DEMOLITION AREAS. EXTEND AND/OR RELOCATE AS NECESSARY.
2. ALL ABANDONED EQUIPMENT INCLUDING LIGHT, RECEPTACLES, DATA, FIRE ALARM, ETC., SHALL BE COVERED WITH BLANK METAL PLATES AND PAINTED TO MATCH THE ADJACENT FINISH OF SURROUNDING WALLS OR CEILING TO THE SATISFACTION OF THE ARCHITECT/OWNER.
3. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL EQUIPMENT AFFECTED BY THE PROJECT. THIS INCLUDES REROUTING OR THE EXTENSION OF EXISTING CONDUIT AND FEEDER WHERE NECESSARY TO MAINTAIN OPERATIONAL OF ANY EXISTING EQUIPMENT.
4. CIRCUIT NUMBERS AND CONDUIT HOMERUNS SHOWN ON THESE DRAWINGS WERE TAKEN FROM EXISTING RECORD DRAWINGS. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO VERIFY EXISTING CIRCUITING AND CONDUIT HOMERUNS. ADJUST CIRCUIT NUMBERS ACCORDING TO THE ACTUAL CONDITIONS.
5. WHERE EXISTING CONDUIT IS TO BE ABANDONED OR DEMOLISHED, THE CONDUIT SHALL BE REMOVED IF IT IS EXPOSED, IN A CRAWL SPACE OR IN AN ACCESSIBLE CEILING. ABANDONED OR DEMOLISHED CONDUIT FEEDS UP THROUGH THE FLOOR SHALL BE CUT OFF AND PLUGGED FLUSH WITH THE FLOOR.
6. ALL ELECTRICAL EQUIPMENT INCLUDING LIGHT, RECEPTACLE, DATA, FIRE ALARM, ETC., THAT ARE TO BE REMOVED, SHALL BE REMOVED COMPLETELY, INCLUDING CONDUIT AND WIRING BACK TO THE LAST DEVICE REMAINING IN SERVICE, OR SOURCE.
7. EXISTING CIRCUITS WHICH ARE REMOVED AND NOT REUSED SHALL BE IDENTIFIED ON THE PANEL SCHEDULE AS "SPARE".
8. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO REMOVAL OF EXISTING ELECTRICAL EQUIPMENT AND TURN OVER REMOVED EQUIPMENT THAT THE OWNER REQUESTS IN AN "AS-FOUND" CONDITION.
9. ALL DEMOLITION WORK SHOWN, IF ANY, WAS PREPARED FOR THE CONVENIENCE OF THE CONTRACTOR. NO REPRESENTATION HAS BEEN MADE THAT ALL ITEMS THAT MAY REQUIRE DEMOLITION HAVE BEEN SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE SITE AND THE CONTRACT DOCUMENTS AND TO PERFORM ALL DEMOLITION AND RECONSTRUCTION WHICH MAY BE REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.
10. WHEN CALLED FOR, OR SCOPE OF WORK REQUIRES ELECTRICAL EQUIPMENT TO BE REMOVED, ALL CONDUIT, WIRE, BOXES, HANGERS, ETC. SHALL BE REMOVED COMPLETELY. ALL OPENINGS SHALL BE PATCHED, SEALED AND PAINTED TO MATCH THE ADJACENT FINISH.

SYMBOLS

- EXTENT OF DEMOLITION
- NEW TO EXISTING CONNECTION
- WORK ITEM (ELECTRICAL)
- DETAIL DESIGNATION (1 / M-1) — DETAIL NUMBER; DRAWING NUMBER (IF BLANK, SAME SHEET)
- EQUIPMENT DESIGNATION (CT / 1) — EQUIPMENT TYPE; EQUIPMENT NUMBER
- SECTION DESIGNATION (1 / M-1) — SECTION NUMBER; DRAWING NUMBER (IF BLANK, SAME SHEET)
- EXISTING CONDUIT
- NEW CONDUIT
- CONDUIT TO BE DEMOLISHED
- PANEL BOARD/TERMINAL CABINET – FLUSH/SURFACE MOUNTED
- BRANCH CIRCUIT WIRING IN CONDUIT CONCEALED IN CEILING SPACE OR WHERE POSSIBLE, EXPOSED ON ROOF OR BUILDING EXTERIOR.
- BRANCH CIRCUIT WIRING IN CONDUIT CONCEALED UNDER FLOOR, UNDERGROUND OR WHERE POSSIBLE.
- BRANCH CIRCUIT HOME RUN TO PANEL. CONCEALED IN CEILING SPACE OR WHERE POSSIBLE. * PANEL BOARD & CIRCUIT #
- EXISTING DEVICES, CONDUITS, WIRES, ETC TO REMAIN
- NEW (BOLD) DEVICES, CONDUITS, WIRES, ETC.
- CONDUIT UP
- CONDUIT DOWN
- DUPLEX RECEPTACLE 20A, 165V, 3WG, NEMA 5-20R – CEILING/FLOOR MOUNTED
- D — DEDICATED RECEPTACLE
- WALL-MOUNTED DUPLEX RECEPTACLE 20A, 125V, 3WG, NEMA 5-20R, +18"AFF
- WALL-MOUNTED DUPLEX RECEPTACLE MOUNTED 6" ABOVE COUNTER. 20A, 125V, 3WG, NEMA 5-20R
- GFI — GROUND FAULT INTERRUPTER-WALL-MOUNTED DOUBLE DUPLEX RECEPTACLE MOUNTED 6" ABOVE COUNTER. 20A, 125V, 3WG, (2) NEMA 5-20R
- WALL-MOUNTED DOUBLE DUPLEX RECEPTACLE 20A, 125V, 3WG, (2) NEMA 5-20R, +18"AFF
- HALF-SWITCHED CONTROLLED RECEPTACLE
- SPECIAL RECEPTACLE (TYPE AND CONFIGURATION AS REQUIRED)
- JUNCTION BOX – CEILING/FLOOR/ROOF/WALL MOUNTED
- (1) RJ-11 VOICE OUTLET W/FACEPLATE
- NON-FUSED DISCONNECT SWITCH, WALL MOUNTED, +54"AFF.
- FUSED DISCONNECT SWITCH, WALL MOUNTED, +54"AFF.
- FUSED DISCONNECT SWITCH, WALL MOUNTED, +54"AFF.
- COMBINATION MOTOR STARTER FUSED DISCONNECT SWITCH, WALL MOUNTED, +54"AFF.
- $ — SINGLE POLE TOGGLE SWITCH, WALL MOUNTED, +44" AFF.

ABBREVIATIONS

&	AND
@	AT
AFF	ABOVE FINISHED FLOOR
A OR AMP	AMPERES
AIC	AMPERE INTERRUPTING CAPACITY
AL, ALUM	ALUMINUM
APPROX	APPROXIMATE
AUX	AUXILIARY
AWG	AMERICAN WIRE GAGE
BAS	BUILDING AUTOMATION SYSTEM
BC	BARE COPPER
BDF	BUILDING DISTRIBUTION FRAME
BKR	BREAKER
BLDG	BUILDING
BLTS	BUILDING LIGHTS
C	CONDUIT
CAB	CABINET
CAM	CAMERA
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
CLR	CLEARANCE
CLTS	CANOPY LIGHTS
CMS	COMBINATION MOTOR STARTER
C.O.	CONDUIT ONLY W/PULLROPE
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CTRL	CONTROL
D	DEDICATED
DP	DISTRIBUTION PANEL
DN	DOWN
EA	EACH
EF	EXHAUST FAN
EHH	ELECTRIC HANDHOLE
ELEC	ELECTRICAL
EM	EMERGENCY; ON EMERGENCY POWER SUPPLY/PANEL
EMH	ELECTRIC MANHOLE
EMS	ENERGY MANAGEMENT SYSTEM
EMT	ELECTRICAL METALLIC TUBING
EQUIP	EQUIPMENT
<E>	EXISTING
<ERR>	EXISTING TO REMAIN AND RECONNECTED
EST	ESTIMATED
EV	ELECTRIC VEHICLE
EX	EXAMPLE
<F>	FUTURE
FDR	FEEDER
FIC	FUEL ISLAND CONTROL
FLA	FULL LOAD AMPS
FLC	FULL LOAD CURRENT
FT, '	FEET
GEN	GENERATOR
GFI	GROUND FAULT CIRCUIT-INTERRUPTER
GND	GROUND
HCLTS	HAZMAT CANOPY LIGHTS
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
HT	HEIGHT
HV	HIGH VOLTAGE
HZ	HERTZ
", IN	INCHES
JB, J	JUNCTION BOX
Kcmil	THOUSAND CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KW	KILOWATT
L	LENGTH
LTG	LIGHTING
LTS	PERIMETER LIGHTS
LV	LOW VOLTAGE
MAX	MAXIMUM
MCP	MOTOR CIRCUIT PROTECTOR
MDF	MAIN DISTRIBUTION FRAME
MIN	MINIMUM
MSB	MAIN SWITCHBOARD
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
<N>	**NEW (BOLD)**
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION
NO	NUMBER
N.T.S.	NOT TO SCALE
P	POWER
P#	LIGHT POLE NUMBER
PB	PULLBOX
PPB	POWER PULLBOX
PF	POWER FACTOR
PH OR ø	PHASE
PLTS	PARKING LOT LIGHTS
PNL	PANEL
PNLA	PANEL 'A' FEEDER
PPMH	PRIMARY POWER MANHOLE/ PULLBOX OR VAULT
PV	PHOTOVOLTAIC
PWR	POWER
<R>	REMOVE
<RRN>	REMOVE & REPLACE W/ <N>
REC	RECEPTACLE
S	SIGNAL
SEC	SECONDARY
SF	SQUARE FEET
SH, SHT	SHEET
SLTS	SITE LIGHTS
SPEC	SPECIFICATIONS
SPB	SIGNAL PULLBOX
STD	STANDARD
SVC	ELECTRIC SERVICE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR OR SWG	SWITCHGEAR
SSW	MV SELECTOR SWITCH
TYP	TYPICAL
TX, XFMR	TRANSFORMER
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLT-AMPERE
VFD	VARIABLE FREQUENCY DRIVE
W	WATT
WP	WEATHERPROOF

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REGISTERED PROFESSIONAL ENGINEER
JEFFRY GOSAL
No. E18084
ELECTRICAL
STATE OF CALIFORNIA

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CHABOT COLLEGE CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

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UPDATE TO: BUILDING 1800 ELECTRICAL RE-FEED

DSA #01-120880

ISSUE

MARK	DATE	DESCRIPTION
	12/16/22	50%CD
	03/24/23	DSA SUBMITTAL
	05/26/23	DSA BACKCHECK

SOBE PROJECT NO:	2204789
DATE:	12/02/22
DRAWN BY:	ML
CHECKED BY:	JG
APPROVED BY:	

SHEET TITLE

ELECTRICAL GENERAL NOTES, SYMBOLS & ABBREVIATIONS

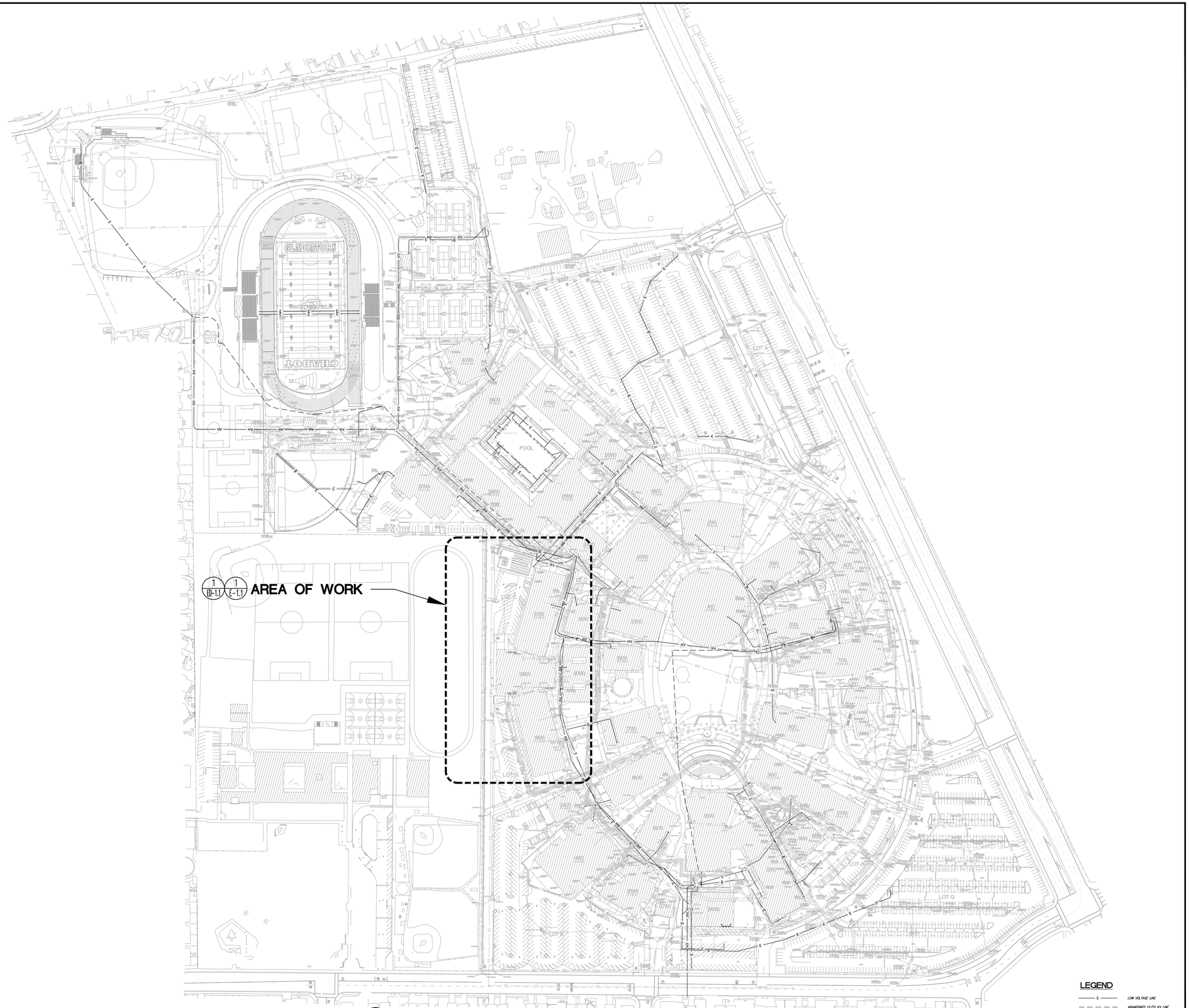
SCALE: AS NOTED
THIS DRAWING IS 24" x 36" AT FULL SIZE

E-0.0

SHEET OF x

THIS DRAWING IS 24" X 36" AT FULL SIZE, 12" X 18" AT HALF SIZE.

1/2" = 1'-0" | 1/4" = 1'-0" | 1/8" = 1'-0" | 1" = 30'-0" | 1" = 50'-0"



1 SITE PLAN
SCALE: 1/128"=1'-0"

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ELECTRICAL SITE PLAN

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1 PARTIAL SITE PLAN - DEMO

SCALE: 1/32" = 1' - 0"

0 32' 64'

N

GENERAL SHEET NOTES

A. DEVICES SHOWN BEING DEMOLISHED SHALL BE DISCONNECTED AND REMOVED. REMOVE ALL CONDUIT AND WIRES BACK TO SOURCE UNLESS OTHERWISE NOTED. PATCH WALL AND SURFACE OVER REMOVED DEVICES.

B. WIRING DEVICES SHOWN AS EXISTING TO REMAIN CONNECTED AND SHALL BE PROTECTED DURING CONSTRUCTION. CONTRACTOR SHALL RECONNECT ALL DEVICES AFFECTED BY WORK AND RESTORE TO ORIGINAL CONDITION.

C. PATCH AND PAINT WALL, CEILING AND ANY OTHER OPENINGS LEFT BY DEMOLISHED EQUIPMENT/CONDUITS, ETC. MATCH ADJACENT CONSTRUCTION AND FINISH.

D. DEMOLISHED CONDUIT AND WIRING TO BE REMOVED BACK TO SOURCE.

E. THE SCOPE OF THE DEMOLITION SHALL INCLUDE ALL LABOR TO PROPERLY AND SAFELY DESPOSE OF DEMOLISHED EXISTING EQUIPMENT. VERIFY EXACT SCOPE PRIOR TO COMMENCING WORK. REFER TO DEMO PLAN FOR SPECIFIC AREAS NOT IN SCOPE.

F. PROVIDE FENCING AND WAY FINDING SIGNAGE AS REQUIRED.

REFERENCE SHEET NOTES

1. DISCONNECT AND REMOVE EXISTING CONDUITS AND WIRES BACK TO SOURCE. CAP AND STUB UNDERGROUND CONDUITS IN PLACE. RETURN CONDUCTORS BACK TO DISTRICT.

2. EXISTING GROUND ROD THOUGH EXISTING CONDUIT. REMOVED GROUND ROD AND REPAIR CONDUITS. INSTALL NEW GROUND ROD SEE NEW WORK.

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JEFFRY SOSA
No. E18084
ELECTRICAL
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ELECTRICAL
PARTIAL SITE PLAN - DEMO

SCALE: AS NOTED

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SHEET OF x

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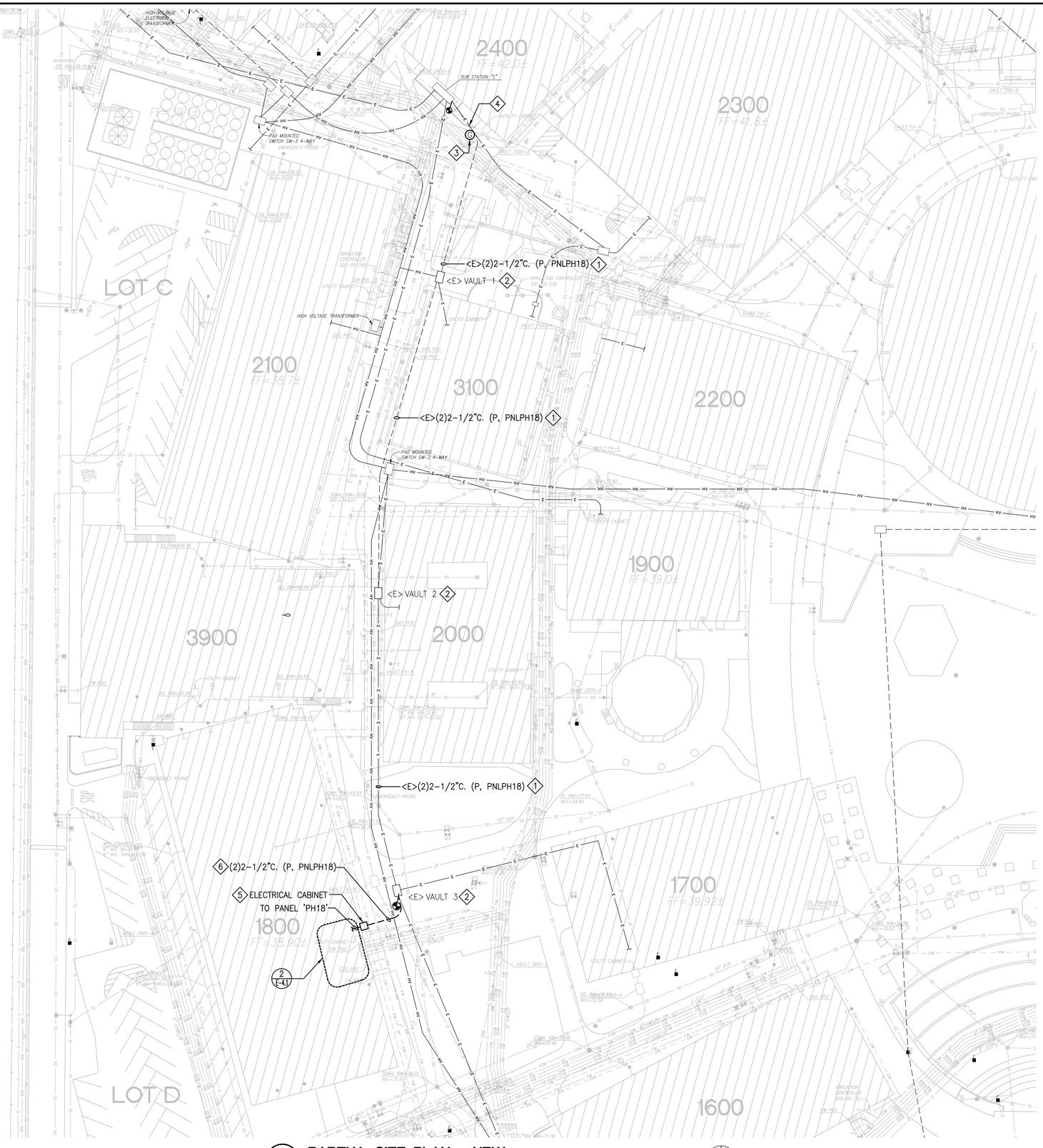

1 PARTIAL SITE PLAN - NEW

SCALE: 1/32" = 1' - 0"

0 32' 64'

N

GENERAL SHEET NOTES

A. CONTRACTOR RESPONSIBLE FOR MAINTAINING CONECTIVITY TO ALL EXISTING SYSTEM AFFECTED BY NEW WORK, INCLUDING INTERCEPTING AND EXTENDING EXISTING CIRCUITS AS NEEDED. CONTRACTOR RESPONSIBLE FOR TERMINATIONS AND RETESTING OF SYSTEMS.

B. REFER TO SINGLE LINE DIAGRAM FOR CONDUIT AND WIRE SIZES.

C. DEVICE LOCATION SHOW IS DIAGRAMMATIC, FIELD VERIFY EXACT LOCATION AND COUNT, ADJUST LOCATION +/- 10' AT NO ADDITIONAL COST.

D. FIRE SEAL ALL RATED PENETRATIONS.

E. CONTRACTOR SHALL BE RESPONSIBLE FOR RETURNING ANY SURFACE DISTURBED BY CONSTRUCTION TO THE CONDITION AND FINISH OF THE ADJACENT SURFACES.

F. PROVIDE FENCING AND WAY FINDING SIGNAGE AS REQUIRED.

REFERENCE SHEET NOTES

1. PROVIDE AND INSTALL NEW FEEDER CONDUCTORS INTO EACH EXISTING UNDERGROUND CONDUITS (2 SETS TOTAL). EXTEND EXISTING CONDUITS TO SUBSTATION 'C' AS NECESSARY. FIELD VERIFY EXISTING CONDUIT LOCATION.
2. EXISTING VAULT TO BE REMAIN. REFER DETAIL VAULT DETAIL 6/E-5.1.
3. INSTALL NEW GROUND ROD IN NEW U/G BOX. INTERCEPT AND EXTEND EXISTING CONDUIT AND WIRING TO NEW LOCATION. TEST GROUNDING RESISTANCE TO OBTAIN 25 OHM MAX. PROVIDE ADDITIONAL GROUND RODS AS NECESSARY. REFER TO DETAILS. VERIFY LOCATION ON SITE.
4. FIELD VERIFY EXISTING SPARE CONDUITS CONDITION. INTERCEPT AND EXTEND EXISTING SPARE CONDUITS. REPAIR BROKER CONDUITS AS NECESSARY.
5. PROVIDE AND INSTALL ELECTRICAL NEMA 3R ENCLOSURE HOFFMAN CABINET WITH CIRCLE AW, COOPER B-LINE. CABINET SIZE 35"W x 26"D x 120"H.
6. NEW CONDUITS AND CONDUCTORS. REFER TO SINGLE LINE DIAGRAM.

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JEFFRY BOYL
No. E18084
ELECTRICAL
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ELECTRICAL
PARTIAL SITE PLAN - NEW

SCALE: AS NOTED
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E-1.1

SHEET OF x

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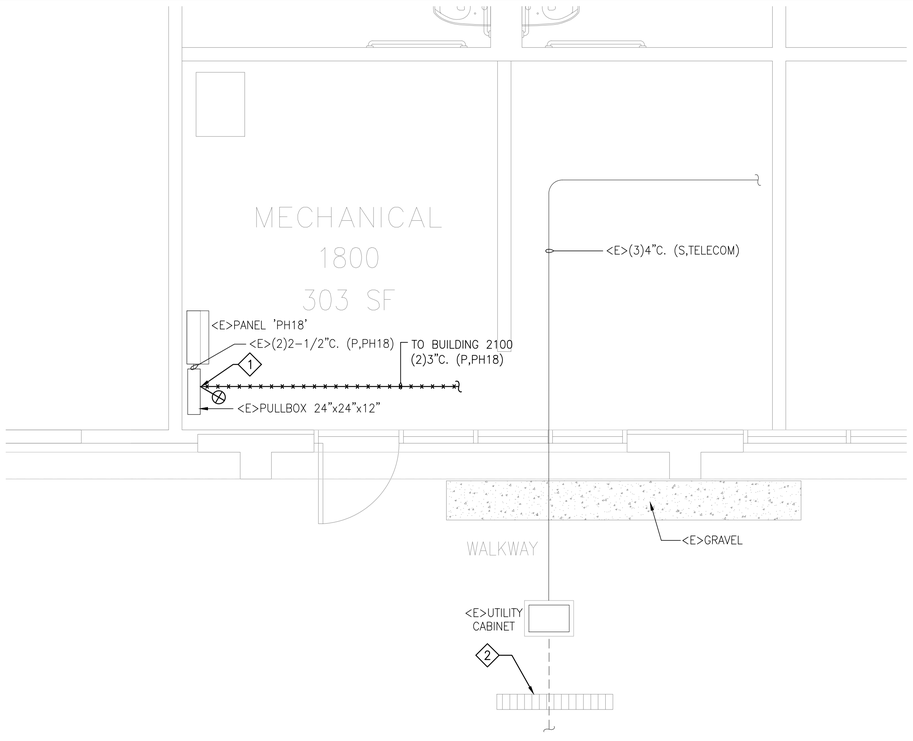
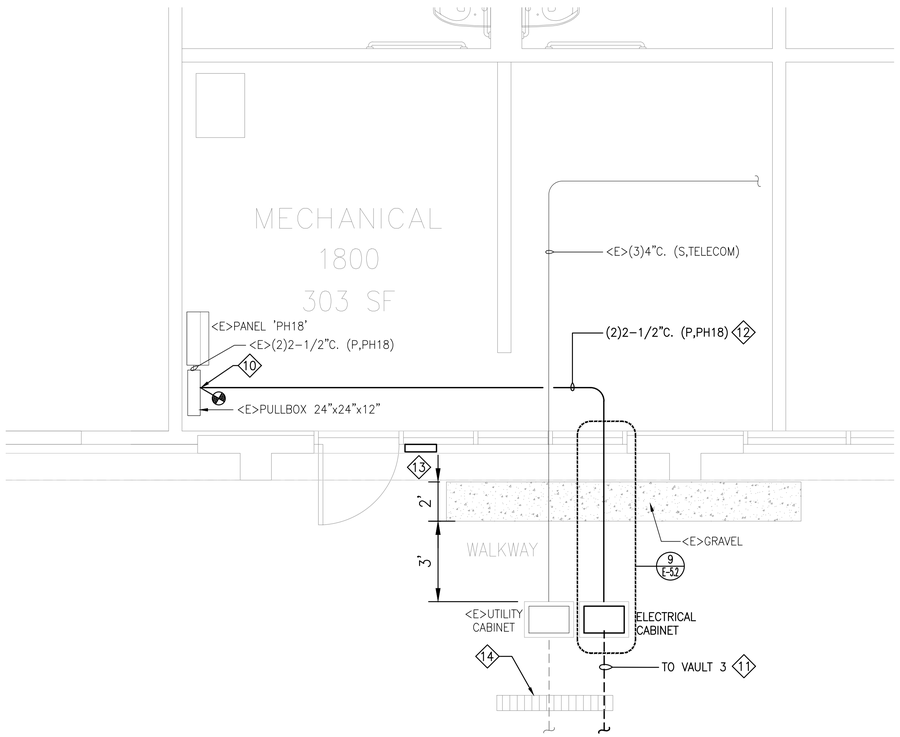


1 PARTIAL FLOOR PLAN - DEMO

SCALE: 1/32" = 1' - 0"



2 PARTIAL FLOOR PLAN - NEW

SCALE: 1/32" = 1' - 0"

GENERAL SHEET NOTES

A. CONTRACTOR RESPONSIBLE FOR MAINTAINING CONECTIVITY TO ALL EXISTING SYSTEM AFFECTED BY NEW WORK, INCLUDING INTERCEPTING AND EXTENDING EXISTING CIRCUITS AS NEEDED. CONTRACTOR RESPONSIBLE FOR TERMINATIONS AND RETESTING OF SYSTEMS.

B. REFER TO SINGLE LINE DIAGRAM FOR CONDUIT AND WIRE SIZES.

C. DEVICE LOCATION SHOW IS DIAGRAMMATIC, FIELD VERIFY EXACT LOCATION AND COUNT, ADJUST LOCATION +/- 10' AT NO ADDITIONAL COST.

D. FIRE SEAL ALL RATED PENETRATIONS.

E. CONTRACTOR SHALL BE RESPONSIBLE FOR RETURNING ANY SURFACE DISTURBED BY CONSTRUCTION TO THE CONDITION AND FINISH OF THE ADJACENT SURFACES.

F. CONDUIT ROUTING AND EQUIPMENT PLACEMENT SHOWN IS DIAGRAMMATIC. VERIFY EQUIPMENT PLACEMENT AND CONDUIT ROUTING BASED ON APPROVED EQUIPMENT AND SITE CONDITIONS PRIOR TO COMMENCING WORK. MAKE NECESSARY ADJUSTMENTS TO LAYOUT.

G. MAINTAIN FIRE RATING OF ALL PENETRATIONS USING UL LISTED FIRE RATED CAULKING AND ASSEMBLIES, WHEN TRANSITIONING BETWEEN WALLS, FLOORS AND FIRE RATED AREAS.

H. ALL PENETRATIONS THROUGH CONCRETE STRUCTURES SHALL BE CORE DRILLED, SCAN PENETRATION LOCATIONS TO LOCATE EMBEDDED STRUCTURES PRIOR TO CORE DRILLING.

I. MAINTAIN ALL CODE REQUIRED CLEARANCES AROUND EQUIPMENT.

J. FINAL TERMINATIONS OF CONDUCTORS TO ELECTRICAL EQUIPMENT AND DEVICES SHALL BE TORQUE WRENCH TIGHTENED TO THE MANUFACTURER'S RECOMMENDED SPECIFICATION, NO EXCEPTION. PROVIDE NEUTRAL TEST AND PROOF OF TORQUE DURING FINAL INSPECTION FOR ALL UNITS.

K. PROVIDE FENCING AND WAY FINDING SIGNAGE AS REQUIRED.

REFERENCE SHEET NOTES

DEMO:

1. DISCONNECT AND REMOVE EXISTING CONDUITS AND WIRES BACK TO SOURCE. CAP AND STUB UNDERGROUND CONDUITS IN PLACE. RETURN CONDUCTORS BACK TO DISTRICT.
2. REMOVE EXISTING BIKE RACK TO BE REUSED FOR NEW WORK PLAN.

NEW:

10. RECONNECT FEEDER CONDUITS AND CONDUCTORS TO EXISTING PULLBOX TO CONTINUE FEED TO PANEL 'PH18'.
11. UNDERGROUND CONDUITS.
12. ABOVE GRADE CONDUITS (84" MIN. CLEAR HEIGHT). SECURE CONDUITS TO CEILING / WALLS, FIRST 2 FT AND EVERY 4 FT AFTER.
13. PROVIDE TACTILE ROOM ID SIGNAGE PER CAMPUS STANDARD.
14. RE-INSTALL EXISTING BIKE RACKS IN FRONT OF THE CABINET TO FACILITATE CONSTRUCTION.

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ELECTRICAL PARTIAL FLOOR PLAN

SCALE: AS NOTED
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E-4.1

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0 1 2 3 4 5 10 15 20 — 1/4" = 1'-0"

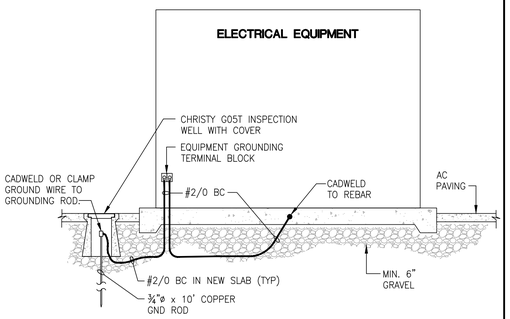
0 5 10 15 20 25 — 1/8" = 1'-0"

0 10 20 30 60 90 — 1" = 30'-0"

0 50 100 150 — 1" = 50'-0"

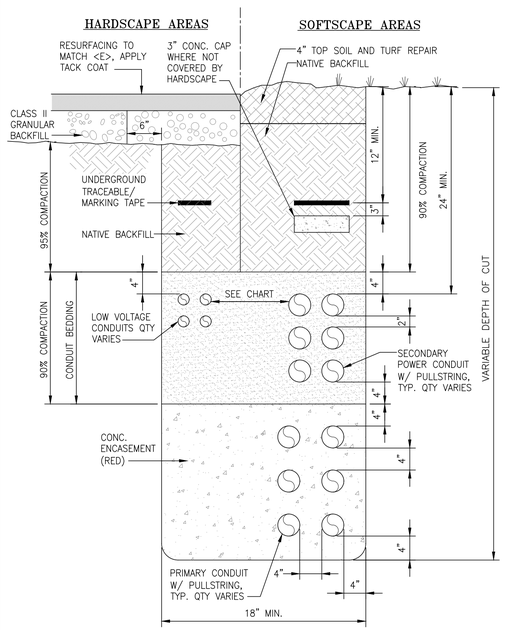
10 NOT USED

SCALE: N.T.S.



8 EQUIPMENT GROUNDING SECTION

SCALE: N.T.S.



MINIMUM CLEARANCE REQUIREMENTS (INCHES)

	PC	SC	G	TEL	TV	LV	W
PRIMARY CONDUIT (601V–22KV) (PC)	–	6	36	36	36	36	36
SECONDARY POWER CONDUIT (0–600V) (SC)	6	–	12	12	12	12	36
GAS (G)	36	12	–	12	12	12	36
TELEPHONE (TEL)	36	12	12	–	2	2	36
CATV (TV)	36	12	12	2	–	2	36
OTHER LOW VOLTAGE (LV)	36	12	12	2	2	–	36
WET UTILITIES (W)	36	36	36	36	36	36	–

NOTES:

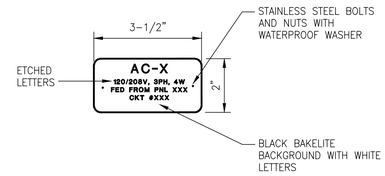
1. UTILITY OWNED AND END–USER CONDUITS AND TRENCH SHALL NOT BE COMBINED.
2. PROVIDE 12" SEPARATION WHEN CROSSING "WET" UTILITIES.
3. SEE DETAIL 1/E–5.3 FOR SEPARATION FROM EXISTING BUILDING

5 CONDUIT TRENCHING 0-600V & 601V-22KV

SCALE: N.T.S.

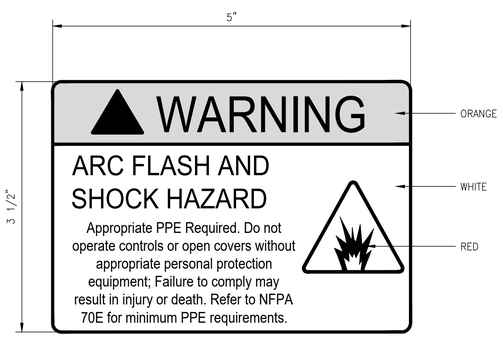
NOTE:

A. EQUIPMENT LABELING APPLIES TO MEDIUM VOLTAGE SWITCHES, LOW VOLTAGE SWITCHBOARDS



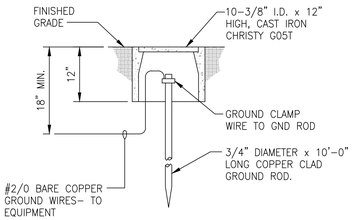
3 ELECTRICAL EQUIPMENT LABELING

SCALE: N.T.S.



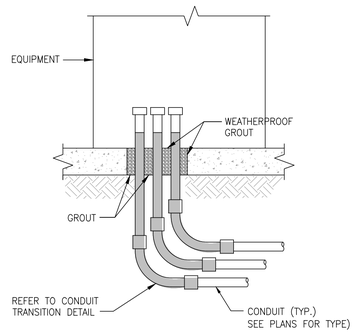
2 ARC FLASH WARNING DETAIL

SCALE: N.T.S.



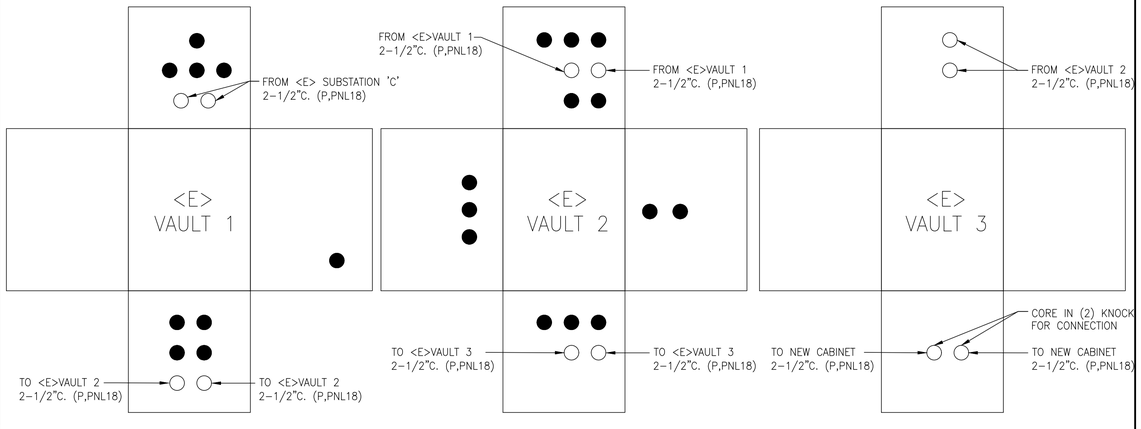
9 GROUNDING DETAIL

SCALE: N.T.S.



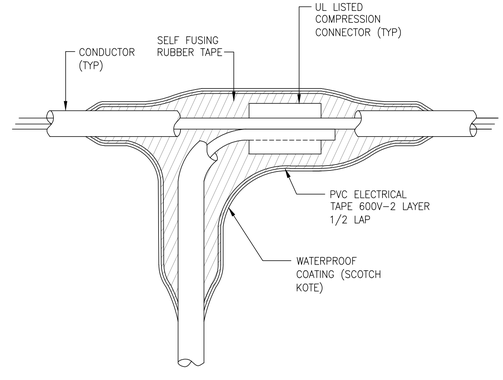
7 CONDUIT TRANSITION AT LOAD CENTERS

SCALE: N.T.S.



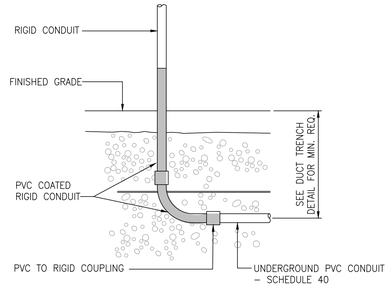
6 EXISTING VAULT DETAIL

SCALE: N.T.S.



4 TYPICAL T-TAP SPLICE

SCALE: N.T.S.



1 CONDUIT TRANSITION FOR PVC CONDUIT

SCALE: N.T.S.

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ELECTRICAL DETAILS

SCALE: AS NOTED

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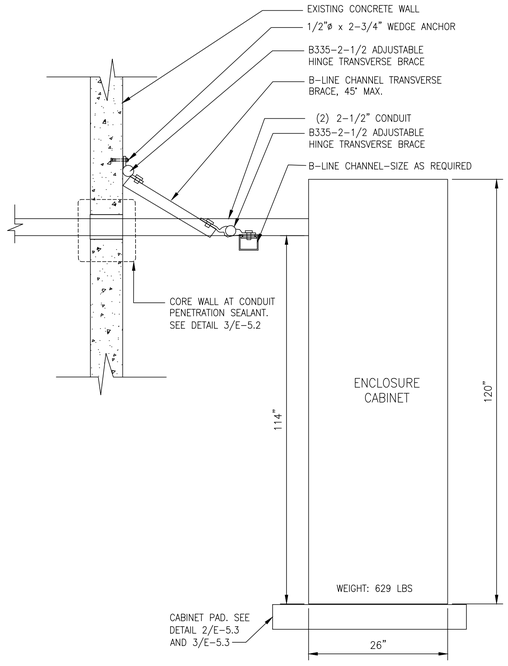
0 5 10 15 20 25 — 1/8" = 1'-0"

0 10 20 30 90 — 1" = 30'-0"

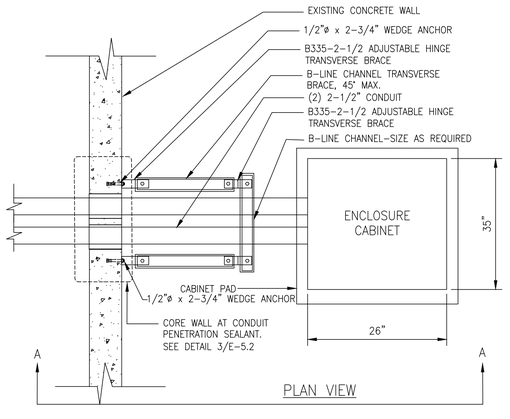
0 50 100 150 — 1" = 50'-0"

NOTE:

1. SCAN CONCRETE WALL FOR REBAR PRIOR TO CORING.
2. CABINET SHALL BE NEMA 3R, LOCKABLE.
3. PROVIDE LABELING ON EXTERIOR CABINET TO IDENTIFY ELECTRICAL HAZARD.



SIDE VIEW A-A



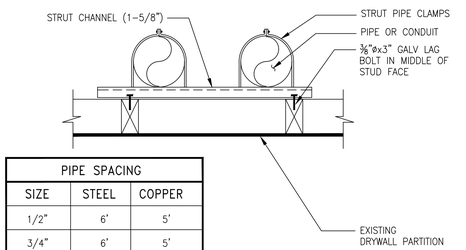
PLAN VIEW

9 CONDUIT SUPPORT AND PENETRATION

SCALE: N.T.S.

8 NOT USED

SCALE: N.T.S.



PIPE SPACING		
SIZE	STEEL	COPPER
1/2"	6'	5'
3/4"	6'	5'
1"	7'	6'
1-1/4"	7'	7'
1-1/2"	9'	8'
2"	10'	8'
2-1/2"	10'	9'
3"	10'	10'

NOTE:

RUN ALL PIPING AND CONDUIT ON THE SAME SUPPORT. COORDINATE WITH OTHER TRADES

7 CONDUIT SUPPORT DETAIL

SCALE: N.T.S.

TABLE I: RECOMMENDED ASPHALT/CONCRETE PAVEMENT SECTIONS				
TRAFFIC CONDITION	ASPHALT PAVEMENT (INCHES)	CONCRETE PAVEMENT (INCHES)	CLASS 2 AGGREGATE BASE (INCHES)	TOTAL THICKNESS (INCHES)
PEDESTRIAN/LIGHT TRUCK (T.I. = 4.5)	3.0 –	– 4.0	8.0 6.0	11.0 10.0

NOTE:

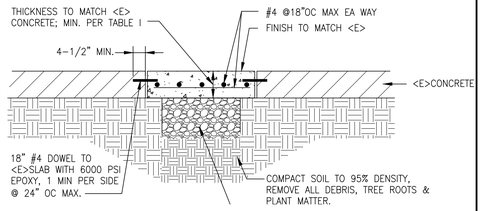
HOLES RESULTING FROM THE REMOVAL OF UNDERGROUND OBSTRUCTIONS (SUCH AS OLD CONCRETE FOOTINGS, ABANDONED UTILITIES OR TREE ROOT BULBS) THAT EXTEND BELOW THE PLANNED FINISHED GRADE SHOULD BE CLEARED OF LOOSE SOIL AND DEBRIS, AND BACKFILLED WITH SUITABLE MATERIAL COMPACTED TO AT LEAST 90 PERCENT RELATIVE COMPACTION AS DETERMINED BY ASTM TEST DESIGNATION D1557 EXCEPT THE UPPER SIX INCHES SHOULD BE AT LEAST 95 PERCENT RELATIVE COMPACTION IN TRAFFIC AREAS.

6 MIN. PAVEMENT SECTIONS TABLE & NOTE

SCALE: N.T.S.

NOTES:

1. COORDINATE TRENCHING WITH MECHANICAL & ELECTRICAL
2. 2% MAX SLOPE CROSS SLOPE AT PATH OF TRAVEL AND 5% MAX RUNNING SLOPE ALONG PATH OF TRAVEL
3. DO NOT GRIND CONCRETE TO LEVEL SURFACES.
4. SEE TABLE 1 & NOTE ON 6/E-5.2.

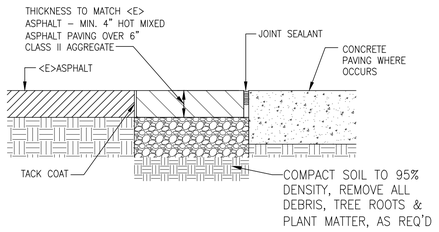


5 CONCRETE PATCH DETAIL

SCALE: N.T.S.

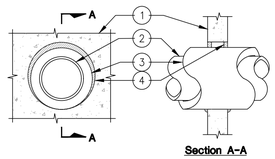
NOTES:

1. PATCH, REPAIR, REBUILD MUST MATCH EXISTING BUILT UP. MUST REBUILD TRENCH TO MATCH EXISTING BASE/SPECIFICATION. SEE TABLE 1 ON 6/E-5.2.
2. CONTRACTOR PROVIDE SUBMITTAL FOR ASPHALT DESIGN MIX. COMPACTION TEST RESULTS.



4 ASHPALT PATCH DETAIL

SCALE: N.T.S.



Section A-A

System No. W-J-5031
F Rating - 1, 2, 3 & 4 Hr (See Item 1)
T Rating - 1, 2 & 3 Hr

(1) Wall Assembly – Min 4-7/8, 6-1/8, 7-3/8 or 8-5/8 in. thick lightweight or normal weight (100–150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 17–3/4 in.

See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.

(2) Through Penetrants – One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
A. Steel Pipe – Nom 12 in. diam (or smaller) Schedule ST 40 (or heavier) steel pipe.
B. Iron Pipe – Nom 12 in. diam (or smaller) cast or ductile iron pipe.
C. Conduit – Nom 4 in. diam (or smaller) steel electrical metallic tubing.
D. Conduit – Nom 6 in. diam (or smaller) steel conduit.
E. Copper Tubing – Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
F. Copper Pipe – Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
When penetrants larger than 6 in. are used, wall assembly shall not be more than 2 hour fire rated.

(3) Pipe Covering* – Max 2 in. thick hollow cylindrical heavy density (min 3.5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space between the insulated pipe and the edge of the through opening shall be min 0 in. (point contact) to max 1 in.

See Pipe and Equipment Covering – Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

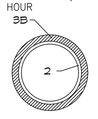
(4) Fill, Void or Cavity Material* – Sealant – Min 5/8 in. thickness of fill material for 1 hr rated wall assemblies and 1 in. thickness of fill material for 2, 3 or 4 hr rated wall assemblies, respectively, applied within the annulus, flush with both surfaces of wall. At the point contact location between pipe covering and wall, a min. 1/2 in. diam bead of fill material shall be applied at the concrete/pipe covering interface on both surfaces of wall. Passive Fire Protection Partners** – 4800DW

* Bearing the UL Classification Marking
** Formerly Firestop Systems Inc.

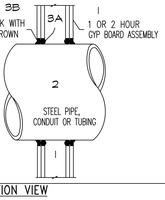
3 PIPE THROUGH CONCRETE WALL

SCALE: N.T.S.

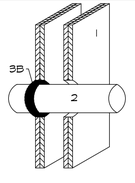
SYSTEM NO. W-L 1030
(FORMERLY SYSTEM NO. 471)
F RATINGS 1 AND 2 HR (SEE ITEM 1)
T RATING 0 HOUR



A PLAN VIEW



B SECTION VIEW



C ISOMETRIC VIEW

D UL SYSTEM No. W-L-1030 DESCRIPTION REQUIREMENT

1 WALL ASSEMBLY–THE 1 OR 2 HR RATED GYPSUM WALLBOARD/STUD ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND TO THE MANNER SPECIFIED TO THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRED RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS–WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NORM. 2 BY 4 INCH LUMBER SPACED 16 IN. OC. STEEL STUDS TO BE MIN 2-1/2 IN WIDE AND SPACED MAX. 24 IN OC.

B. WALLBOARD, GYPSUM* – 5/8 IN THICK, 4 FT WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM. OF OPENING IS 5 IN.

2 THROUGH PENETRANTS–ONE METALLIC PIPE, CONDUIT OR TUBING TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUIT OR TUBING MAY BE USED:

A. STEEL PIPE–NOM. 6 IN DIAM. (OR SMALLER) SCHEDULE 5 (OR NEWER) STEEL PIPE.

B. CONDUIT–NOM. 4 IN DIAM. (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR RIGID STEEL CONDUIT.

3 FIRESTOP SYSTEM–THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:

A. PACKING MATERIAL–(OPTIONAL)–NOM. 1/2 IN. DIAM. POLYURETHANE BACKER AND FRICTION FITTED INTO THE OPENING. PACKING MATERIAL TO BE RECESSED FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

B. FILL, VELD OR CAVITY MATERIAL*–CAULK– FOR 2 HR FIRE–RATED ASSEMBLIES, MIN. 5/8 IN THICKNESS OF FILL MATERIAL APPLIED WITHIN ONNULUS ON BOTH SURFACES OF WALL. ADDITIONAL FILL MATERIAL TO BE INSTALLED SUCH THAT A MIN. 3/8 IN CROWN IS FORMED AROUND THE PENETRATING ITEM AND LAPPING 1 IN BEYOND THE PERIPHERY OF THE OPENING.

NELSON FIRESTOP PRODUCTS–TYPE CLK N/S (NON-SAG) CAULK OR LBS SEALANT.

*BEARING THE UL CLASSIFICATION MARKING

1 UL THROUGH PENETRATION FIRESTOP SYSTEM W-L 1030 - CONDUIT THROUGH GYPSUM WALLBOARD F=1-2, T=0

SCALE: N.T.S.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120880 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 6/6/2023

agency

SALAS O'BRIEN
expect a difference
305 South 11th Street
San Jose, California 95112-2218
877.725.2755 | 877.925.1477 (f)
WWW.SALASOBRIEN.COM
National **Strength.**
Local **Action.**

consultant

REGISTERED PROFESSIONAL ENGINEER JEFFRY SODA No. E18084 ELECTRICAL STATE OF CALIFORNIA

stamp

CHABOT COLLEGE CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

25555 HESPERIAN BOULEVARD HAYWARD, CALIFORNIA 94545

UPDATE TO: BUILDING 1800 ELECTRICAL RE-FEED

DSA #01-120880

ISSUE		
MARK	DATE	DESCRIPTION
	12/16/22	50%CD
	03/24/23	DSA SUBMITTAL
	05/26/23	DSA BACKCHECK

SOBE PROJECT NO:	2204789
DATE:	12/02/22
DRAWN BY:	ML
CHECKED BY:	JG
APPROVED BY:	JG

SHEET TITLE

ELECTRICAL DETAILS

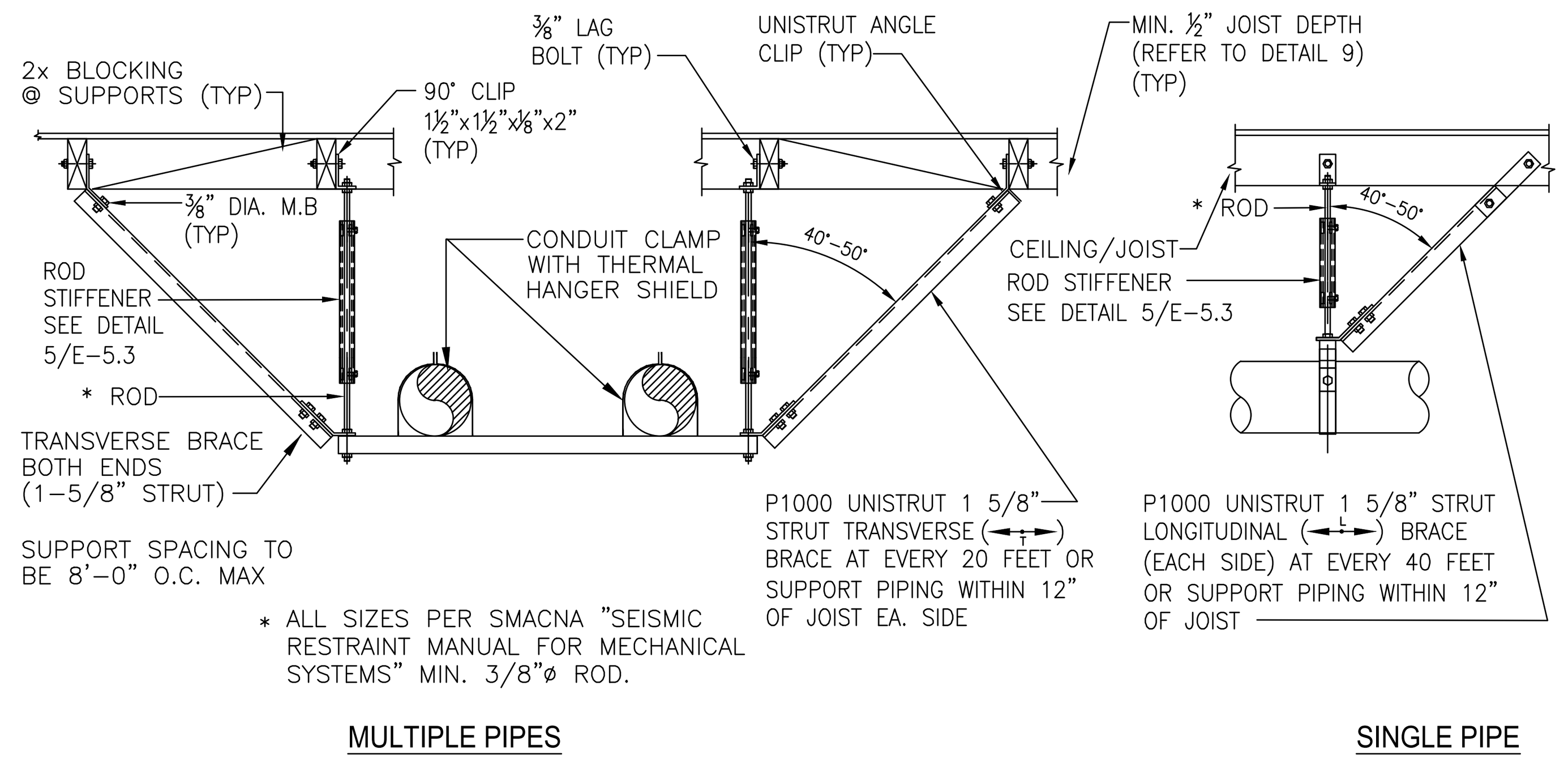
SCALE: AS NOTED

THIS DRAWING IS 24" x 36" AT FULL SIZE

E-5.2

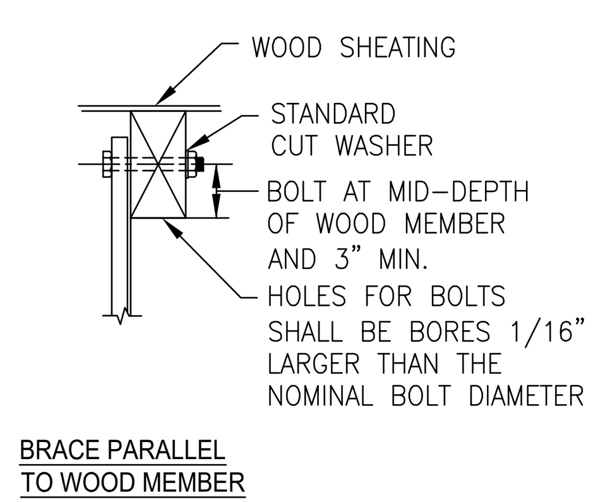
SHEET OF x

K:\drawings\Chabot-Las Positas Community College\2204789 Chabot CC Electrical Re-Feed Bldg 1800 RFP\2204789E-5.2.dwg 5/26/2023 12:56 PM Rick Padua



4 NOT USED

SCALE: N.T.S.



9 CONDUITS SUPPORT CLEVIS TO WOOD FRAME

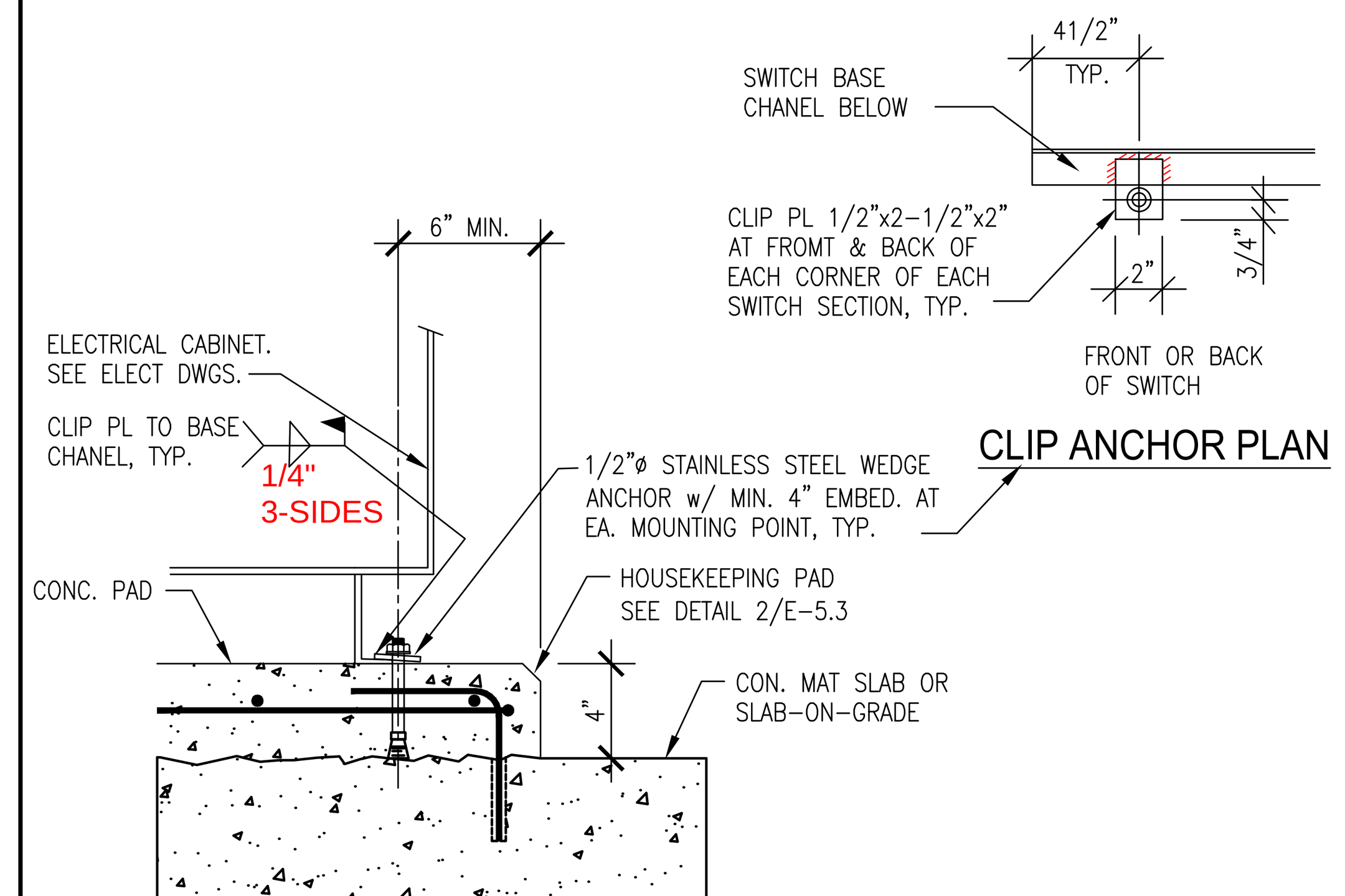
SCALE: N.T.S.

NOTES:

1. B335-2 (B-LINE) ADJUSTABLE HINGES FOR LONGITUDINAL BRACES MAY BE ATTACHED ON EITHER SIDE ADJACENT TO THE ALL THREAD ROD, OR ATTACHED TO THE ALL THREAD ROD ITSELF.
2. B335-2 (B-LINE) ADJUSTABLE HINGES FOR TRANSVERSE BRACES MAY BE ATTACHED TO THE ALL THREAD ROD.
3. TWO B335-2 (B-LINE) ADJUSTABLE HINGES MAY BE ATTACHED TO THE STRUT TRAPEZE USING THE SAME BOLT OR ALL THREAD ROD.
4. IT IS NOT NECESSARY TO INSTALL BOTH TRANSVERSE BRACES AND LONGITUDINAL BRACES ON THE SAME TRAPEZE SUPPORT. EITHER SET OF BRACES MAY BE REMOVED TO FORM A LONGITUDINAL BRACE ONLY OR A TRANSVERSE BRACE ONLY IF DESIRED.
5. LONGITUDINAL BRACES, WHEN NEEDED, MUST BE INSTALLED AT BOTH ENDS OF TRAPEZE.
6. THE EQUIPMENT SHOWN ON THIS TRAPEZE SUPPORT IS GENERIC IN NATURE. ANY NUMBER OF PIPES, CONDUITS, DUCTWORK OR CABLE TRAY MAY BE SUPPORTED FOLLOWING THE SYSTEM WEIGHT AND SUPPORT SPANS LISTED IN B-LINE SEISMIC RESTRAINTS CATALOG.
7. DETERMINE LENGTH OF TRAPEZE, MAKING SURE SUFFICIENT LENGTH IS ADDED TO ATTACH THE ALL THREAD ROD AND BRACING ATTACHMENTS.

7 CONDUITS SUPPORT DETAIL

SCALE: N.T.S.



3 ELECTRICAL CABINET ANCHORAGE

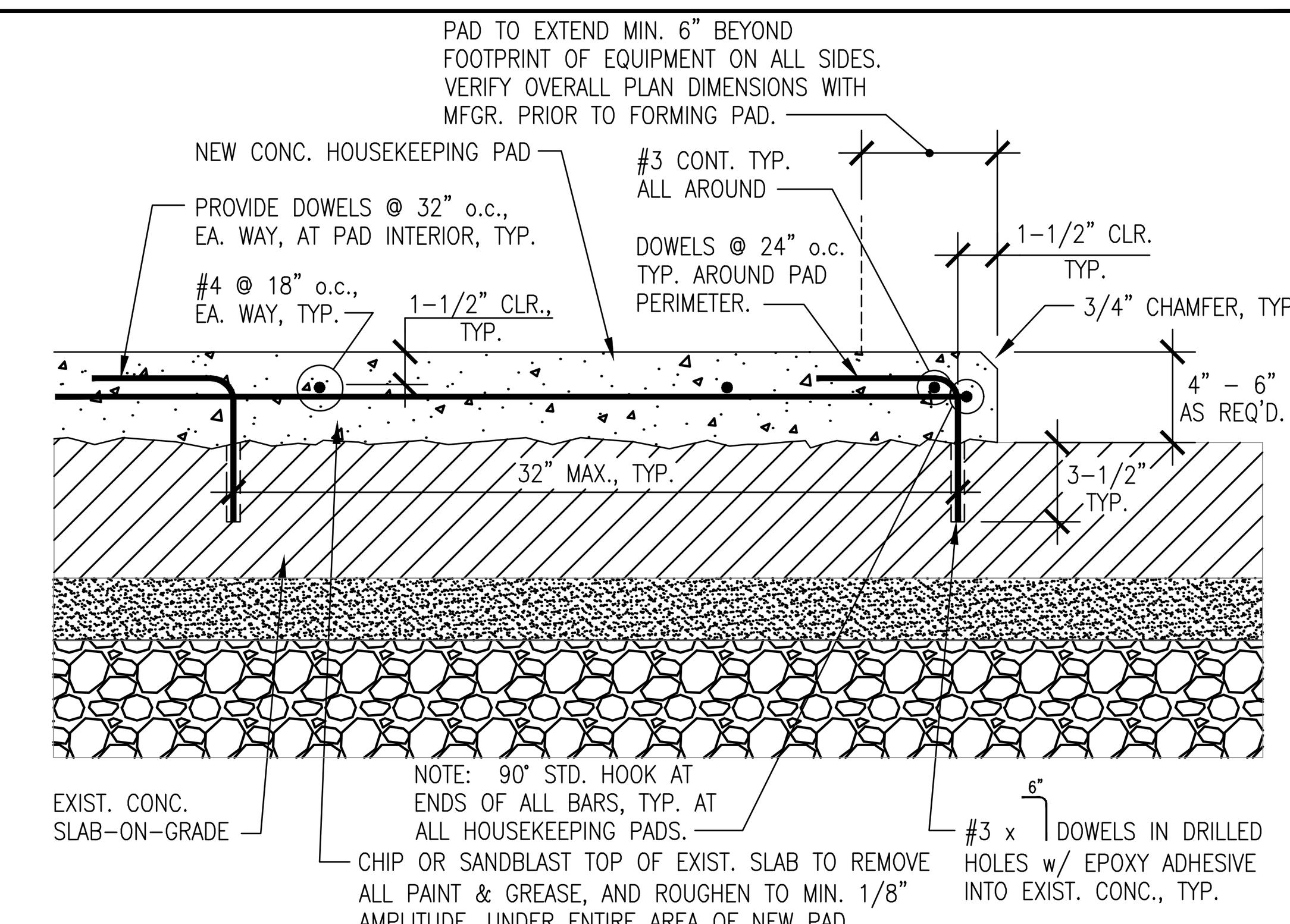
SCALE: N.T.S.

8 NOT USED

SCALE: N.T.S.

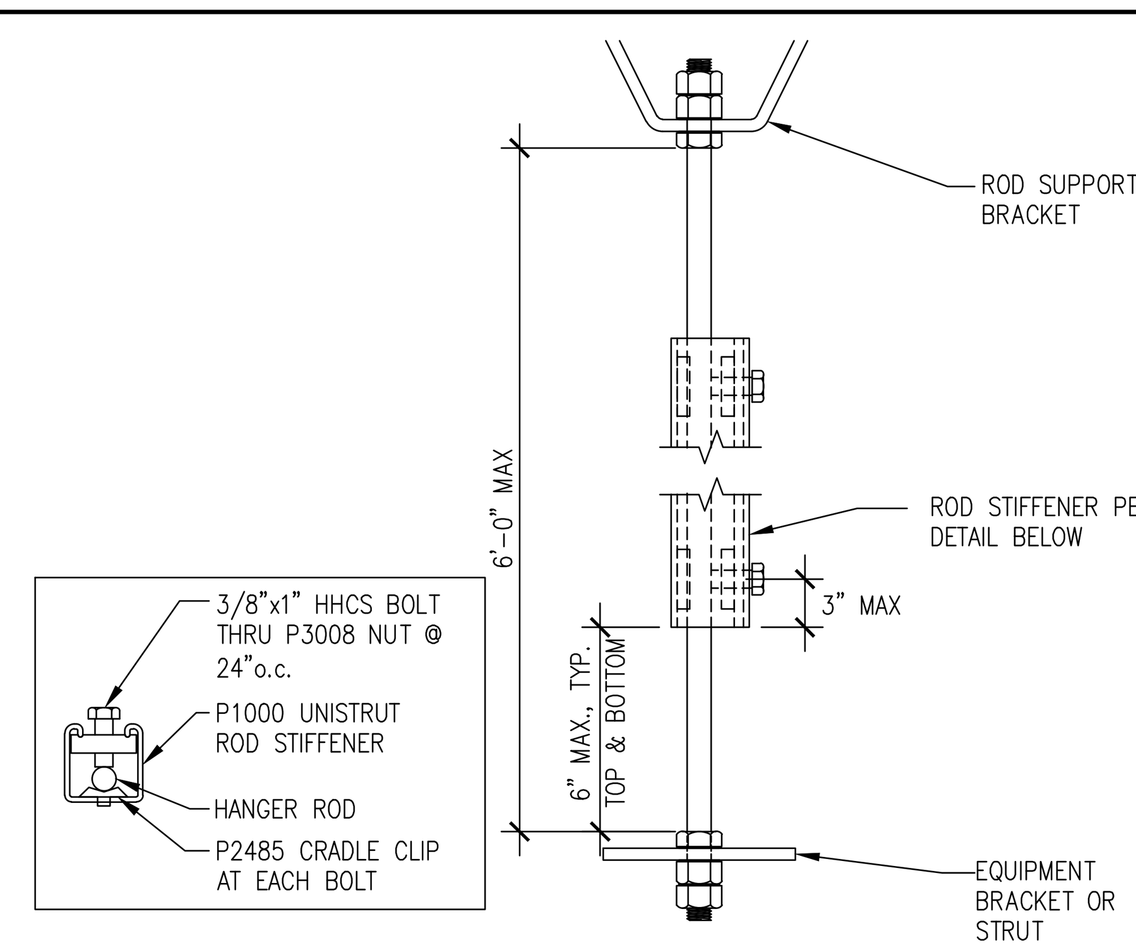
6 NOT USED

SCALE: N.T.S.



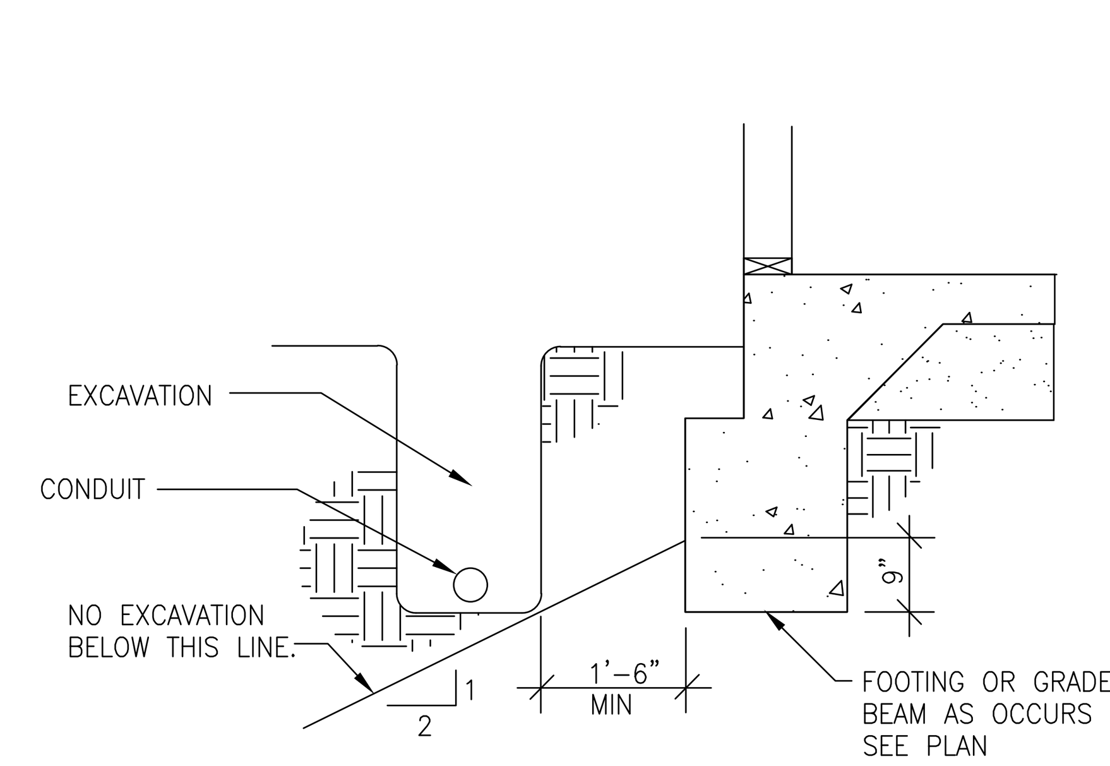
2 TYP. CONC. HOUSEKEEPING PAD DOWELING

SCALE: N.T.S.



5 COMPRESSION STRUT

SCALE: N.T.S.



1 TYP. CONDUITS PARALLEL TO FOOTING

SCALE: N.T.S.

POST-INSTALLED ANCHORS or DOWELS

EXPANSION ANCHORS:

1. EXPANSION ANCHORS SHALL BE WEDGE TYPE ANCHORS ONLY AND SHALL HAVE ICC-ES APPROVAL, INCLUDING APPROVAL FOR RESISTANCE TO SEISMIC AND WIND LOADS, PASSING ICC-ES CRITERIA AC193 (CONCRETE). USE ONE OF THE FOLLOWING ICC-ES APPROVED SYSTEMS:
   CONCRETE:
   A) HILTI KWIK-BOLT ~~TZ (ESR-1917)~~, TZ-2 (ESR-4266)
   B) SIMPSON STRONG-BOLT 2 ANCHORS (ESR-3037).
   C) ITW RED HEAD TRUBOLT + WEDGE ANCHORS (ESR-2427),
   D) POWERS POWER-STUD+ SD2 ANCHORS (ESR-2502)
   OTHER ANCHORS MAY BE USED ONLY WHEN ICC-ES REPORT FOR SUCH IS SUBMITTED TO AND APPROVED BY ENGINEER.
2. TEST 100% OF ANCHORS EXCEPT AS NOTED. TEST 10% OF SOLE PLATE ANCHOR BOLTS (EXCEPT HOLDOWNS) AND 50% OR ALTERNATE ANCHORS FOR EQUIPMENT ANCHORAGE AND IN NON-STRUCTURAL APPLICATIONS. PULL-TEST ANCHORS IN TENSION WITH CALIBRATED HYDRAULIC RAM TO VALUES SPECIFIED BELOW.
3. INSTALL ONLY WHERE SPECIFIED ON DRAWINGS OR AS DIRECTED BY ENGINEER. DO NOT USE EXPANSION ANCHORS IN LIEU OF CAST-IN-PLACE ANCHOR BOLTS WITHOUT APPROVAL OF ENGINEER.
4. INSTALL PER MANUFACTURER'S INSTRUCTIONS ONLY INTO CURED CONCRETE OF MIN. 28 DAY AGE.
5. ANCHORS SHALL HAVE EMBEDMENT NOT LESS THAN EIGHT (8) ANCHOR DIAMETERS, OR AS OTHERWISE SPECIFIED IN DETAILS. TORQUE ANCHORS DURING INSTALLATION TO THE VALUES SPECIFIED IN MANUFACTURER'S ICC-ES REPORT. PULL-TEST LOAD VALUES SPECIFIED BELOW ARE BASED ON TWO (2) TIMES THE MAXIMUN ALLOWABLE TENSION LOADS AS PROVIDED IN THE ICC-ES REPORT FOR HILTI KWIK-BOLT TZ (ESR-1917) IN CONCRETE, AS PER DSA IR 19-1. ANY PROPOSED SUBSTITUTION OF MANUFACTURER SHALL BE SUBMITTED IN WRITING TO STRUCTURAL ENGINEER FOR REVIEW PRIOR TO INSTALLATION TO DETERMINE REQUIRED TEST LOADS.

ANCHOR DIA.	MINIMUM (8Ø) EMBEDMENT (IN.)	MASONRY TEST LOAD (LBS.)	CONCRETE TEST LOAD (LBS.)
3/8"	3	2270	1252
1/2"	4	4840	1448
5/8"	5	5670	1988
3/4"	6	8550	2632

6. PRIOR TO DRILLING HOLES FOR ANY EXPANSION ANCHORS INTO NEW OR EXISTING CONCRETE, ALL REINFORCING BARS IN AREA OF NEW ANCHORAGE HOLES SHALL BE LOCATED WITH PACHOMETER OR OTHER SUITABLE DEVICE AND CLEARLY MARKED IN THE FIELD. NEW EXPANSION ANCHORS SHALL BE INSTALLED NOT LESS THAN 1" CLEAR FROM REINFORCING. WHERE REINFORCING BARD CANNOT BE LOCATED, ARE SHALL BE TAKEN WHILE DRILLING HOLES SO THAT REINFORCING BARS ARE NOT CUT OR DAMAGED AND HOLES SHALL BE REPAIRED & RELOCATED AS REQUIRES. RECOMMEND USING DRILLS WITH GROUND FAULT INTERRUPTERS (GFI)

CHEMICAL ADHESVE ANCHORS:

1. ALL THREADED RODS AND REBAR DOWELS INSTALLED IN HARDENED CONCRETE WITH "EPOXY" OR "ADHESIVE" SHALL BE A TWO-PART NOZZLE-MIXED ICC-ES APPROVED EPOXY SYSTEM, PASSING ICC-ES CRITERIA AC308 (CONCRETE). USE ONE OF THE FOLLOWING ICC-ES APPROVED SYSTEMS:
   CONCRETE:
   A) HILTI "HIT-RE" SYSTEM WITH 500-SD ADHESIVE (ESR-2322),
   B) SIMPSON "SET-XP EPOXY ADHESIVE ANCHOR" SYSTEM (ESR-2508).
   C) POWERS "PE1000"+ ADHESIVE ANCHOR SYSTEM (ESR-2583)
   OTHER ANCHORS MAY BE USED ONLY WHEN ICC-ES REPORT FOR SUCH IS SUBMITTED TO AND APPROVED BY ENGINEER.
2. "ADHESIVE" ANCHORS SHALL BE INSTALLED ONLY WHERE SPECIFIED ON DRAWINGS, AND SHALL NOT BE USED IN LIEU OF CAST-IN-PLACE ANCHOR BOLTS WITHOUT APPROVAL
3. ANCHORS SHALL BE INSTALLED ONLY IN CURED CONCRETE OF 28 DAY AGE OR MORE.
4. HOLES SHALL BE DRILLED 1/8" TO 1/4" LARGER IN DIAMETER THAN ROD OR BAR OUTER DIAMETER, AS SPECIFIED IN ICC-ES REPORT.
5. BARS/RODS SHALL HAVE EMBEDMENT NOT LESS THAN TEN (10) NOMINAL BAR/ROD DIAMETERS, OR AS OTHERWISE SPECIFIED IN DETAILS.
6. INSTALL USING MANUFACTURER'S EQUIPMENT, PER MANUFACTURER'S RECOMMENDATIONS. INSTALLER SHALL HAVE ON SITE A COPY OF MANUFACTURER'S INSTALLATION INSTRUCTIONS.
7. PRIOR TO DRILLING HOLES FOR ANY ADHESIVE ANCHORS INTO NEW OR EXISTING CONCRETE, ALL REINFORCING BARS IN AREA OF NEW ANCHORAGE HOLES SHALL BE LOCATED WITH PACHOMETER OR OTHER SUITABLE DEVICE AND CLEARLY MARKED IN THE FIELD. NEW ADHESIVE ANCHORS SHALL BE INSTALLED NOT LESS THAN 1" CLEAR FROM REINFORCING. WHERE REINFORCING BARD CANNOT BE LOCATED, ARE SHALL BE TAKEN WHILE DRILLING HOLES SO THAT REINFORCING BARS ARE NOT CUT OR DAMAGED AND HOLES SHALL BE REPAIRED & RELOCATED AS REQUIRES. RECOMMEND USING DRILLS WITH GROUND FAULT INTERRUPTERS (GFI)
8. ALL RODS AND BARS INSTALLED WITH EPOXY SHALL HAVE CONTINUOUS SPECIAL INSPECTION. TESTING REQUIREMENTS WILL BE ON A CASE-BY-CASE BASIS, SUBJECT TO APPROVAL BY DSA. WHERE TESTING REQUIRED, PULL-TEST ANCHORS IN TENSION WITH CALIBRATED HYDRAULIC RAM TO VALUES SPECIFIED FOR EXPANSION ANCHORS ABOVE.

CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO 2022 ACI STANDARD 318 AND ASTM C94, SPECIFICATION FOR READY-MIX CONCRETE. CEMENT SHALL BE PORTLAND CEMENT TYPE II. CALCIUM CHLORIDE SHALL NOT BE USED. CONCRETE MIX DESIGNS SHALL BE SUBMITTED TO AND APPROVED BY TESTING AGENCY PRIOR TO ORDERING CONCRETE.
2. CONCRETE MIX PROPERTIES SHALL BE AS FOLLOWS:
   A) SLABS-ON-GRADE:
   28-DAY COMP. STRENGTH: 3000 PSI
   MAX. AGGREGATE SIZE: 3/4"
   MAX. SLUMP: 4"
   DENSITY: 150 PCF

   B) NON-STRUCTURAL CONCRETE WALKS ON GRADE:
   28-DAY COMP. STRENGTH: 2500 PSI
   MAX. AGGREGATE SIZE: 3/4"
   MAX. SLUMP: 5"
   DENSITY: 150 PCF
3. STEEL REINFORCING BARS SHALL CONFORM TO ASTM A615-40 FOR #4 AND SMALLER BARS, ASTM A615-60 FOR #5 AND LARGER BARS. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
4. REINFORCING STEEL SHALL BE CONTINUOUS WHERE POSSIBLE. SPLICE WITH CONTACT LAP-SPLICES. STAGGER ALL SPLICES. SPLICE LENGTHS SHALL BE 57 BAR-DIAMETERS MINIMUM. WELDED WIRE FABRIC SHALL BE LAPPED TWO (2) FULL SQUARES, BUT NOT LESS THAN 12".
5. EXTEND HORIZONTAL BARS IN FOUNDATIONS INTO INTERSECTING FOUNDATIONS WITH BEND AND 30 BAR DIAMETER EXTENSION. BUT NOT LESS THAN 24" EXTENSION.
6. WELDING OF REINFORCING SHALL NOT BE ALLOWED.
7. MAINTAIN THE FOLLOWING MINIMUM CONCRETE COVER FOR REBAR:
   WHERE CONC. IS PLACED AGAINST EARTH = 3"
   WHERE CONCRETE IS FORMED AND EXPOSED TO EARTH OR WEATHER = 2"
   WHERE CONCRETE IS NOT EXPOSED TO EARTH OR WEATHER = 1-1/2"
   SLABS ON GRADE = 3/4"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120880 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 6/6/2023

agency

SALASO'BRIEN
| expect a difference |
305 South 11th Street
San Jose, California 95112-2218
877.725.2755 | 877.925.1477 (f)
WWW.SALASOBRIEN.COM
National Strength.
Local Action.

consultant

REGISTERED PROFESSIONAL ENGINEER
JEFFRY GOBAL
No. E18084
ELECTRICAL
STATE OF CALIFORNIA

stamp

CHABOT COLLEGE
CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

25555 HESPERIAN BOULEVARD
HAYWARD, CALIFORNIA 94545

UPDATE TO: BUILDING 1800 ELECTRICAL RE-FEED

DSA #01-120880

ISSUE

MARK	DATE	DESCRIPTION
	12/16/22	50%CD
	03/24/23	DSA SUBMITTAL
	05/26/23	DSA BACKCHECK

SOBE PROJECT NO:	2204789
DATE:	12/02/22
DRAWN BY:	ML
CHECKED BY:	JG
APPROVED BY:	JG

SHEET TITLE

ELECTRICAL DETAILS

SCALE: AS NOTED

THIS DRAWING IS 24" x 36" AT FULL SIZE

E-5.3

SHEET OF x

LOAD CALCULATION

EXISTING SUBSTATION 'C' 2000A, 277/480V, 3P, 4W		
A. LOADS (SUBSTATION 'C')		
EXISTING SUBSTATION 'C' (Measurement data + 125% Per NEC)	=	496 KVA
Sub-Total Existing Load	=	**495.7 KVA**
B. LOADS (BUILDING 1800)		
EXISTING PANEL 'PH18' 400A, 277/480V, 3P, 4W (Measurement + 125 Per NEC)	=	79 KVA
Sub-Total New Load	=	**78.6 KVA**
Total Load (A+B)	=	**574.3 KVA**
Total Service Amps (A&B)	=	**1,596 A**
2000A 100% Main Breaker Rating	**=**	**2,000 A**

VOLTAGE DROP CALCULATION

VOLTAGE DROP CALCULATIONS - 3-PHASE SOURCE PF: 0.85

				Conductor Size (AWG)	Amps per wire	Length (Feet)	Impedance (at 0.85 PF) per 1000 ft	Voltage Drop L-L	Voltage Drop L-N	% Voltage Drop 480V	% Voltage Drop 277V	% Voltage Drop 208V	% Voltage Drop 120V	Total %VD From Source
1800 BUILDING														
1	<E>SUBSTATION 'C' (480V) (2 SET)	TO	<E> PANEL ' PH18'	4/0	180	750	0.037	8.571	4.955	1.79%				1.79%

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120880 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 6/6/2023

agency

SALASO'BRIEN
expect a difference
305 South 11th Street
San Jose, California 95112-2218
877.725.2755 | 877.925.1477 (f)
WWW.SALASOBRIEN.COM
National Strength.
Local Action.

consultant

REGISTERED PROFESSIONAL ENGINEER
JEFFREY GOYAL
No. E18084
ELECTRICAL
STATE OF CALIFORNIA

stamp

CHABOT COLLEGE
CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

25555 HESPERIAN BOULEVARD
HAYWARD, CALIFORNIA 94545

UPDATE TO: BUILDING 1800 ELECTRICAL RE-FEED

DSA #01-120880

ISSUE		
MARK	DATE	DESCRIPTION
	12/16/22	50%CD
	03/24/23	DSA SUBMITTAL
	05/26/23	DSA BACKCHECK

SOBE PROJECT NO:	2204789
DATE:	12/02/22
DRAWN BY:	ML
CHECKED BY:	JG
APPROVED BY:	

SHEET TITLE

ELECTRICAL SCHEDULES

SCALE: AS NOTED

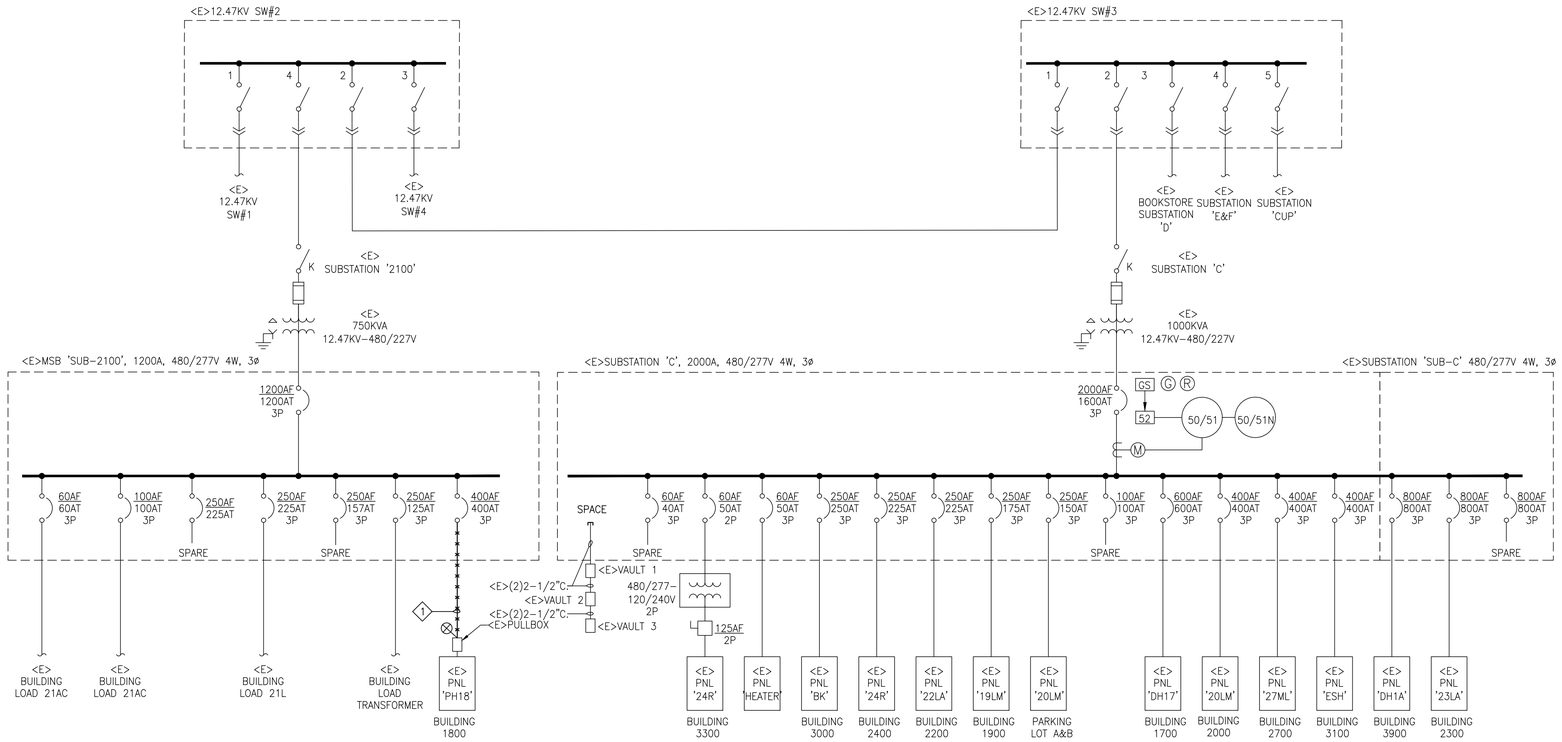
THIS DRAWING IS 24" x 36" AT FULL SIZE

E-6.1

SHEET OF x

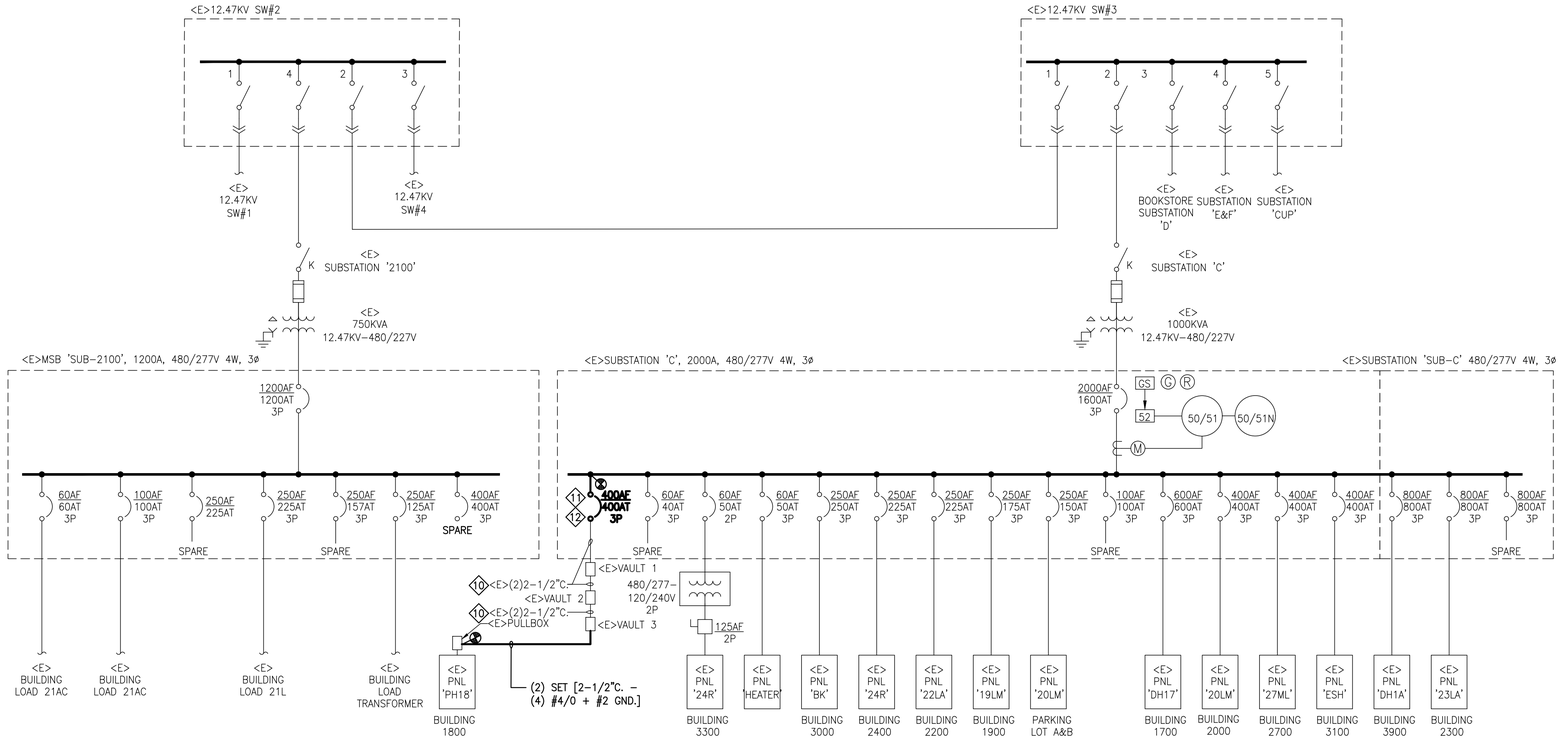
1/2" = 1'-0"
1/4" = 1'-0"
1/8" = 1'-0"
1" = 30'-0"
1" = 50'-0"

THIS DRAWING IS 24" X 36" AT FULL SIZE, 12" X 18" AT HALF SIZE.



1 SINGLE LINE DIAGRAM - DEMO

SCALE: SCHEMATIC



2 SINGLE LINE DIAGRAM - NEW

SCALE: SCHEMATIC

GENERAL SHEET NOTES

A. CONDUIT ROUTING AND EQUIPMENT PLACEMENT SHOWN IS DIAGRAMMATIC. VERIFY EQUIPMENT PLACEMENT AND CONDUIT ROUTING BASED ON APPROVED EQUIPMENT AND SITE CONDITIONS PRIOR TO COMMENCING WORK. MAKE NECESSARY ADJUSTMENTS TO LAYOUT.

B. MAINTAIN FIRE RATING OF ALL PENETRATIONS USING UL LISTED FIRE RATED CAULKING AND ASSEMBLIES, WHEN TRANSITIONING BETWEEN WALLS, FLOORS AND FIRE RATED AREAS.

C. ALL PENETRATIONS THROUGH CONCRETE STRUCTURES SHALL BE CORE DRILLED, SCAN PENETRATION LOCATIONS TO LOCATE EMBEDDED STRUCTURES PRIOR TO CORE DRILLING.

D. MAINTAIN ALL CODE REQUIRED CLEARANCES AROUND EQUIPMENT.

E. FINAL TERMINATIONS OF CONDUCTORS TO ELECTRICAL EQUIPMENT AND DEVICES SHALL BE TORQUE WRENCH TIGHTENED TO THE MANUFACTURER'S RECOMMENDED SPECIFICATION, NO EXCEPTION. PROVIDE NEUTRAL TEST AND PROOF OF TORQUE DURING FINAL INSPECTION FOR ALL UNITS.

F. AS REQUIRED ALL OVERSIZED FEEDERS THAT WERE ADJUSTED IN SIZE TO COMPENSATE FOR VOLTAGE DROP SHALL BE PROVIDED WITH ADAPTER LUGS OR SPLICE BOX. ADAPTER LUGS SHALL BE PROVIDED IF SIZE IS AVAILABLE. OTHERWISE PROVIDE CABLE SPLICES IN THE SPLICE BOX TO REDUCE CABLES TO THE MAXIMUM SIZE THAT THE BREAKER LUGS CAN ACCOMMODATE.

REFERENCE SHEET NOTES

DEMO:

1. DISCONNECT AND REMOVE EXISTING CONDUITS AND WIRES BACK TO SOURCE. CAP AND STUB UNDERGROUND CONDUITS IN PLACE. RETURN CONDUCTORS BACK TO DISTRICT. TURN OFF AND LABEL CIRCUIT BREAKER AS SPARE.

NEW:

10. ROUTE (4)#4/0 + #2 GND. INSIDE EACH OF EXISTING CONDUIT.

11. PROVIDE NEW CIRCUIT BREAKER IN EXISTING SPACE AS SHOWN. PROVIDE ALL MOUNTING HARDWARE AS REQUIRED TO ALLOW INSTALLATION OF NEW CIRCUIT BREAKER. MATCH AIC RATTING OF PANELBOARD.

12. REMOVE EXISTING CIRCUIT BREAKER COVER PLATE, PROVIDE NEW COVER PLATE AS REQUIRED TO ALLOW INSTALLATION OF NEW CIRCUIT BREAKER. PROVIDE ALL MOUNTING HARDWARE FOR A SUITABLE INSTALLATION.

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ELECTRICAL SINGLE LINE DIAGRAM

SCALE: AS NOTED

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E-7.1

SHEET OF x

K:\drawings\Chabot-Las Positas Community College\2204789 Chabot CC Electrical Re-Feed Bldg 1800 RFP\2204789E-7.1.dwg 5/26/2023 12:57 PM Rick Padua