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National Strength.
Local Action.

This project has demonstrated conformance with applicable codes and standards established by statute and University policy. Based on this determination, the following items are:
'APPROVED FOR CONSTRUCTION'
Michael Fisher
Campus Deputy Building Official
Humboldt State University
The California State University
Date: _____
Permit #: _____
(Other approvals as applicable)
SFM Approval: _____
D&A Access Approval: _____
Science Peer Review: _____
Mod & Pipe Review: _____

CALIFORNIA STATE FIRE MARSHAL APPROVED
Approval of this plan does not authorize or approve any construction or deviation from applicable regulations. Final approval is subject to field inspection. Set of approved plans shall be available on the project site at all times.
Reviewed by: _____
Date: _____



HUMBOLDT STATE UNIVERSITY

1 HARPST STREET
ARCATA, CA 95521

JOLLY GIANT COMMONS EMERGENCY GENERATOR

ISSUE	MARK	DATE	DESCRIPTION
		05/19/20	PROGRESS SET
		12/15/20	100% CD

SOBE PROJECT NO: 2000677
DATE: 12/15/20
DRAWN BY:
CHECKED BY:
APPROVED BY:

SHEET TITLE
GENERAL NOTES

SCALE: AS NOTED
THIS DRAWING IS 30" X 42" AT FULL SIZE

E-0.2
SHEET - OF -

GENERAL NOTES

- DO NOT COMBINE DIFFERENT SYSTEM VOLTAGES IN SAME CONDUIT (EG., 120/208V WITH 277/480V), UNLESS IS APPROVED BY UNIVERSITY OR SHOWN ON DRAWINGS.
- 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.
- CIRCUIT BREAKER TERMINALS IN SWITCHBOARDS AND LOAD CENTER SHALL BE UL LISTED AND APPROVED FOR USE WITH COPPER 75 DEGREE CELSIUS CONDUCTORS.
- 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 UNIVERSITY.
- 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.
- 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 REPAIR ANY DAMAGED SURFACES TO EQUAL OR BETTER THAN ORIGINAL CONDITIONS EXISTING AT THE START OF WORK.
- 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.
- ELECTRICAL METALLIC TUBING (EMT) IS ONLY ALLOWED IN INTERIOR LOCATION ABOVE EIGHT (8) FEET FROM FINISHED FLOOR AND WHEN ENTERING A PANEL FROM ABOVE.
- CONNECTIONS TO VIBRATING EQUIPMENT (MOTOR, TRANSFORMER ENCLOSURE, ETC.) AND SEISMIC SEPARATIONS SHALL BE PROVIDED WITH LIQUID-TIGHT FLEXIBLE STEEL CONDUIT WITH WATERIGHT CONNECTORS. MAXIMUM LENGTH OF CONDUIT SHALL BE SIX FEET, UNLESS OTHERWISE NOTED.
- 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.
- CONTRACTOR SHALL PROVIDE TERMINATIONS FOR ALL DATA/VOICE CABLES INDICATED AT OUTLET LOCATIONS INDICATED ON DRAWINGS. WHERE DATA/VOICE SYSTEMS ARE ALTERED, COMPLY WITH CSU TELECOMMUNICATION INFRASTRUCTURE PLANNING STANDARDS (TIPS) FOURTH EDITION, EFFECTIVE FEBRUARY 2014.
- CONTRACTOR SHALL PROVIDE AND INSTALL ACCESS PANELS IN NON-ACCESSIBLE CEILING 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.
- 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. CIRCUIT BREAKER SHALL BE RED IN COLOR.
- CONTROL CONDUIT FOR ENERGY/BUILDING MANAGEMENT SYSTEM (E/BMS) SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
- ROUTE CONDUIT PARALLEL AND PERPENDICULAR TO WALLS AND ADJACENT PIPING. ARRANGE CONDUIT TO MAINTAIN HEADROOM AND TO PRESENT A NEAT APPEARANCE.
- 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 UNIVERSITY.
- FOR SMALL AC MOTORS NOT HAVING BUILT-IN THERMAL OVERLOAD PROTECTION, PROVIDE MANUAL MOTOR STARTERS WITH OVERLOAD HEATER ELEMENTS SIZED TO PER MANUFACTURER'S RECOMMENDATION. FOR SMALL AC MOTORS WITH BUILT-IN THERMAL OVERLOAD PROTECTION, PROVIDE A HORSEPOWER RATED TOGGLE DISCONNECT SWITCH.
- 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.
- PROVIDE PERMANENT IDENTIFICATION (NAMEPLATES) FOR ALL ELECTRICAL PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, DISCONNECT SWITCHES, TRANSFORMERS, TERMINAL CABINETS, ETC.
- 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.
- ALL FINAL ELECTRICAL CONNECTIONS TO UNIVERSITY FURNISHED EQUIPMENT SHALL BE MADE BY THE ELECTRICAL CONTRACTOR.
- 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.
- 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).
- 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.
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHILE TRENCHING FOR NEW UTILITIES. THESE DRAWINGS HAVE BEEN COMPILED FROM RECORD DOCUMENTS, FIELD SURVEYS AND OTHER AVAILABLE INFORMATION. NOT ALL UTILITIES AND/OR OBSTRUCTIONS ARE SHOWN. CONTRACTOR SHALL VERIFY THE LOCATIONS OF UTILITIES PRIOR TO EXCAVATION, EITHER BY HAND EXCAVATION OR WITH THE ASSISTANCE OF AN UNDERGROUND UTILITY LOCATION SERVICE. CONTRACTOR TO FOLLOW PROCEDURES PER USA NORTH'S CALIFORNIA EXCAVATION MANUAL, AND CALL 811 (HTTP://USANORTH811.ORG) PRIOR TO ANY DIGGING. CONTRACTOR SHALL HIRE A LOCATING SERVICE AND COORDINATE WORK WITH THE UNIVERSITY.
- ASBESTOS-CEMENT PIPE (ACP)- ACP MAY BE PRESENT THROUGHOUT THE SITE. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES WHEN ACP IS ENCOUNTERED TO AVOID DISTURBING EXISTING INSTALLATIONS.
- ALL LANDSCAPING AND HARDSCAPING DAMAGED AS A RESULT OF UNDERGROUND WORK SHALL BE RESTORED TO AS-FOUND CONDITION. SAW CUTTING OF HARDSCAPE SHALL BE FROM SCOREMARK TO SCOREMARK. REPAIRS SHALL BE MADE WITH #4 DOWELS @ 12" O.C., 4-1/2" MIN. EMBED IN 6000 PSI EPOXY.
- PROVIDE OCCUPANT AND PEDESTRIAN ACCESS & EGRESS AT ALL TIMES. PROVIDE BARRICADES, WARNING SIGNS, TEMPORARY BRIDGES AND TEMPORARY PATH OF TRAVEL TO PUBLIC RIGHT-OF-WAY & CONSTRUCTION SIGNS AS REQUIRED TO FULFILL THIS REQUIREMENT.
- CONTRACTOR TO FOLLOW PROCEDURES PER USA NORTH'S CALIFORNIA EXCAVATION MANUAL, AND CALL 811 (HTTP://USANORTH811.ORG) PRIOR TO DIGGING. CONTRACTOR IS RESPONSIBLE TO PROVIDE PRIVATE SERVICE FOR LOCATION OF UNDERGROUND SERVICES. PROVIDE ACCESS REQUEST PRIOR TO DISRUPTION OF ANY SERVICE, OR ACCESS TO ANY SENSITIVE/OCCUPIED AREA.
- CONTRACTOR SHALL POTHOLE A MINIMUM OF 10 FEET IN ADVANCE OF TRENCHING/EXCAVATING ACTIVITIES TO LOCATE AND PROTECT EXISTING UTILITIES AND TO ALLOW FOR ANY ALTERATION OF DIRECTION OR ELEVATION OF TRENCHING. POTHOLING ACTIVITIES SHALL BE CONSIDERED A PORTION OF THE ACTIVE HEADING LENGTH.
- IRRIGATION LATERALS, PARKING LOT LIGHTING AND OTHER SYSTEMS NOT SHOWN. VERIFY CONNECTIONS PRIOR TO ANY EXCAVATION. REPAIR OR REPLACE IMMEDIATELY WHERE DAMAGED TO PROVIDE UNINTERRUPTED SERVICE. NOTIFY THE UNIVERSITY IMMEDIATELY OF ANY UTILITIES ENCOUNTERED THAT ARE NOT SHOWN ON THESE DRAWINGS. MAINTAIN ALL UTILITIES IN OPERATING CONDITION. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL CROSSINGS ON NEW UTILITIES WITH THAT OF EXISTING. NOTIFY THE UNIVERSITY IMMEDIATELY OF ANY DEVIATIONS OR DISCREPANCIES FROM THIS PLAN.
- CONTRACTOR TO SEAL ALL UNDERGROUND CORE DRILL PENETRATIONS PER ELECTRICAL DETAIL.
- FIRE ALARM SYSTEM DEVICES, CONDUITS, WIRES, AND JUNCTION BOXES TO BE INSTALLED OR REMOVED BY C-10 LICENSED CONTRACTOR ONLY.

DEMOLITION NOTES

- REMOVE EXISTING EQUIPMENT (NOT INCLUDING FIRE ALARM EQUIPMENT OR FIRE ALARM CONDUIT) 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.
- ALL ABANDONED EQUIPMENTS 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 UNIVERSITY.
- 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.
- 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.
- 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.
- ALL ELECTRICAL EQUIPMENT INCLUDING LIGHTS, RECEPTACLES, DATA, THAT ARE TO BE REMOVED, SHALL BE REMOVED COMPLETELY, INCLUDING CONDUIT AND WIRING BACK TO THE LAST DEVICE REMAINING IN SERVICE, OR SOURCE.
- EXISTING CIRCUITS WHICH ARE REMOVED AND NOT REUSED SHALL BE IDENTIFIED ON THE PANEL SCHEDULE AS "SPARE".
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE UNIVERSITY PRIOR TO REMOVAL OF EXISTING ELECTRICAL EQUIPMENT AND TURN OVER REMOVED EQUIPMENT THAT THE UNIVERSITY REQUESTS IN AN "AS-FOUND" CONDITION.
- 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.
- WHEN CALLED FOR, OR SCOPE OF WORK REQUIRES ELECTRICAL EQUIPMENT TO BE REMOVED, ALL CONDUIT, WIRE, BOXES, HANGERS SHALL BE REMOVED COMPLETELY ALL OPENINGS SHALL BE REPAIRED AND FIRE CAULKED PER APPLICABLE LISTED FIRE RATED ASSEMBLY. SEAL AND PAINT TO MATCH THE ADJACENT FINISH.

ELECTRICAL SERVICE SHUTDOWN NOTES

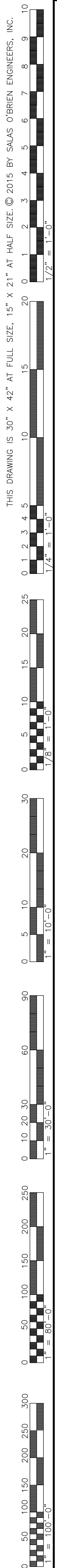
- INTERRUPTION OF THE ELECTRICAL SERVICE WILL AFFECT THE EMERGENCY BACKUP POWER OF SEVERAL BUILDINGS. CONTRACTOR SHALL COORDINATE SHUTDOWN AND RECONNECTION WITH THE UNIVERSITY PRIOR TO BEGINNING WORK. ALL ELECTRICAL CONNECTIONS REQUIRING AN OUTAGE SHALL BE MADE DURING AN APPROVED TIME PERIOD, AT THE CONVENIENCE OF THE UNIVERSITY. REFER TO SPECIAL CONDITIONS. NOTIFY UNIVERSITY AT LEAST 10 DAYS IN ADVANCE OF ANY PROPOSED POWER SHUTDOWN.
- CONDUCTORS FROM GENERATOR TO POINT OF CONNECTION SHALL BE RATED FOR OUTDOOR USE, 90°C TEMPERATURE RATING MINIMUM.
- VERIFY ALL POINTS OF TEMPORARY GENERATOR CONNECTION & MAKE ALLOWANCES FOR TEMPORARY MODIFICATIONS.
- PHASE ROTATION MAY BE REVERSED AT SOME LOCATIONS, VERIFY PHASE ROTATION AT POINT OF CONNECTION PRIOR TO SHUT DOWN OF NORMAL ELECTRICAL POWER IN ALL BUILDINGS IN THE SCOPE OF WORK.
- CONTRACTOR SHALL FURNISH AND INSTALL 3/4" X 10" CU GROUND ROD AND BOND TO GENERATOR HOUSING WITH #2 BARE COPPER CONDUCTOR. BOND CONDUCTOR TO GROUND ROD. REMOVE GROUND ROD AND PATCH SURFACE AFTER POWER IS RESTORED. TYPICAL FOR ALL GENERATORS.
- TURN ON ALL TEMPORARY GENERATORS PRIOR TO SHUTDOWN.
- CONTRACTOR IS RESPONSIBLE TO IMPLEMENT UNIVERSITY AND OSHA SAFETY STANDARDS APPLICABLE TO THIS PROJECT.
- PRIOR TO DISCONNECTION OF ELECTRICAL EQUIPMENT/CABLES, CONTRACTOR SHALL VERIFY OR TEST EQUIPMENT FOR FUNCTIONALITY. NOTIFY UNIVERSITY OF ABNORMALITIES.
- ALL TERMINATIONS SHALL BE TIGHTENED AND TORQUED PER MANUFACTURER RECOMMENDATIONS.
- TEMPORARY GENERATORS SHALL MEET HUMBOLDT COUNTY FUEL CONTAINMENT REQUIREMENTS.
- CONTRACTOR IS RESPONSIBLE FOR REFUELING OF GENERATORS FOR ENTIRE SHUTDOWN DURATION.
- ALLOW FOR MINIMUM 200 FEET LENGTH OF CABLE FOR TEMPORARY GENERATOR CONNECTION. CONTRACTOR SHALL COORDINATE GENERATOR LOCATIONS WITH UNIVERSITY.
- CONTRACTOR SHALL PROVIDE FIRE WATCH FOR THE ENTIRE DURATION OF THE SHUTDOWN IN ACCORDANCE WITH SFM REQUIREMENTS.
- TWO DAYS BEFORE THE SCHEDULED OUTAGE:
 - ALL RENTED TEMPORARY GENERATORS, CABLING, CONNECTION, SECONDARY CONTAINMENT, CABLE GUARDS AND RAMPS AND TEMPORARY FENCING ASSOCIATED WITH PORTABLE GENERATORS SHALL BE IN PLACE, FUELED AND TESTED. EQUIPMENT SHALL BE SECURED TO PREVENT THEFT. ALL TEMPORARY FENCING AND SECONDARY CONTAINMENT MUST MEET THE REQUIREMENTS OF THE STATE FIRE MARSHAL & HAZARDOUS MATERIALS PERMIT.
 - TEMPORARY GENERATOR CABLE PATHWAYS SHALL BE INSTALLED, IF REQUIRED.
 - LOCK-OUT/TAG-OUT DEVICES SHALL BE ON-HAND AND LOCATIONS IDENTIFIED (RETURN TO SERVICE & COORDINATE WITH UNIVERSITY TO RE-START SYSTEMS AFTER OUTAGE).
 - ALL HAZARDOUS MATERIALS PERMIT FOR ALL GENERATORS SHALL BE PAID FOR AND PROVIDED BY THE CONTRACTOR.
- CONTRACTOR RESPONSIBLE FOR SUBMITTING AND PAYING FOR ALL AIR QUALITY PERMITS REQUIRED BY AHJ.

CLEARANCES: CODE INTERPRETATION

- WORKING SPACE CLEARANCE PER CEC TABLE 110.26(a)(1) AND TABLE 110.34(A):
THE WORKING SPACE CLEARANCE OF ANY ELECTRICAL EQUIPMENT OVER 600 VOLTS IS PER TABLE. THIS REQUIREMENT APPLIES TO EQUIPMENT THAT REQUIRES EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED.

HAZMAT ABATEMENT

HAZMAT ABATEMENT:
NOTIFY UNIVERSITY IMMEDIATELY IF HAZARDOUS MATERIALS ARE FOUND DURING CONSTRUCTION. REFER TO SPECIFICATION SECTION 01 35 10 HAZARDOUS MATERIALS PROCEDURES.





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Mock Floor Review: _____

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GENERAL SHEET NOTES

- A. PREPARE A SPECIAL METHOD OF PROCEDURE AND COORDINATE THE SHUTDOWN OF ANY DEVICE WITH FACILITIES ENGINEERS. SHUTDOWN MUST BE SCHEDULED. PROVIDE TEMPORARY POWER AS NEEDED.
- B. BEFORE RUNNING ANY FEEDERS TO PANELS BEING RE-CIRCUITED CONFIRM FEEDER SIZE AND ARRANGEMENT (1PHASE, 3 PHASE, 3W, 4W). REPORT DISCREPANCIES TO ENGINEER PRIOR TO CHANGING FEEDERS CALLED FOR ON DRAWINGS.
- C. DEVICE SHOWN AS EXISTING SHALL REMAIN CONNECTED UNLESS OTHERWISE NOTED. WIRING DEVICES THAT MAY BE AFFECTED BY DEMOLITION AND NEW WORK SHALL BE RECONNECTED.
- D. PATCH WALL, ROOF PENETRATION, CEILING AND ANY OTHER OPENINGS LEFT BY DEMO'D EQUIPMENT/CONDUITS, ETC. MATCH ADJACENT CONSTRUCTION AND FINISH.
- E. FIRE SEAL ALL RATED PENETRATIONS.
- F. DISCONNECT TEMPORARY POWER AND EQUIPMENT AFTER ALL WORK IS DONE.
- G. CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE AND ESTIMATING THE WORK INVOLVED IN THE EQUIPMENT INSTALLATION PRIOR TO BIDDING. CAREFULLY INVESTIGATE AREA TO DETERMINE IF SPECIAL INSTALLATION PROVISIONS WILL BE NEEDED SUCH AS DISASSEMBLING OF EQUIPMENT, USE OF CRANES, ETC.
- H. BEFORE ORDERING EQUIPMENT, CONTRACTOR IS RESPONSIBLE FOR NOTIFYING EQUIPMENT MANUFACTURER IF DISASSEMBLY IS REQUIRED. WHEN ASSEMBLING EQUIPMENT IN THE FIELD, CONTRACTOR SHALL HIRE A MANUFACTURER'S REPRESENTATIVE/TECHNICIAN TO SUPERVISE THE ASSEMBLY OF THE EQUIPMENT. EQUIPMENT SHALL BE UL-LISTED AFTER IT HAS BEEN REASSEMBLED.
- I. CONTRACTOR SHALL HIRE THIRD PARTY LOCATING SERVICE TO LOCATE ALL EXISTING UTILITIES IN AREAS OF WORK PRIOR TO CONSTRUCTION.
- J. CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHILE TRENCHING FOR NEW UTILITIES. THESE DRAWINGS HAVE BEEN COMPILED FROM RECORD DOCUMENTS, FIELD SURVEYS AND OTHER AVAILABLE INFORMATION. NOT ALL UTILITIES AND/OR OBSTRUCTIONS ARE SHOWN. CONTRACTOR SHALL VERIFY THE LOCATIONS OF UTILITIES PRIOR TO EXCAVATION, EITHER BY HAND EXCAVATION OR WITH THE ASSISTANCE OF A CERTIFIED UNDERGROUND UTILITY LOCATION SERVICE.
- K. REFER TO SINGLE LINE DIAGRAM FOR CONDUIT SIZES, UON.

REFERENCE SHEET NOTES

- DEMO:**
1. REMOVE EXISTING 350KW COGEN UNIT POWER AND CONTROL WIRES SHALL BE REMOVED BACK TO SOURCE. ALL SURFACE MOUNTED CONDUITS SHALL BE REMOVED COMPLETELY AND UNDERGROUND CONDUIT SHALL BE CUT AND CAPPED FLUSH WITH FINISHED GRADE.
 2. DISCONNECT AND DEMOLISH EXISTING EQUIPMENT. REMOVE CONDUIT AND WIRES BACK TO SOURCE.
 3. EXISTING EQUIPMENT TO BE MODIFIED. REFER TO SINGLE LINE DIAGRAM.
 4. REPLACE EXISTING PANEL WITH NEW. PROTECT IN PLACE EXISTING BRANCH CIRCUITS FROM PANEL 'COGEN EM'.
 5. MECHANICAL EQUIPMENT TO BE DEMOLISHED OTHERS. REMOVE CONDUIT AND WIRES BACK TO SOURCE.
 6. EXISTING CONDUIT AND WIRES TO BE REUSED.
 7. EXISTING CONDUIT TO BE USED, REFER TO NEW WORK.
 8. EXISTING PARKING SPACE TO BE REMOVED. REMOVE STRIPING AND REPATCH PAVING IF NECESSARY.

- NEW:**
11. EXISTING 1" SPARE CONDUIT TO BE USED FOR BMS CONNECTION, REFER TO SITE PLAN.
 12. PROVIDE AND INSTALL NEW SUPPLEMENTAL GROUND ROD. BOND TO EXISTING GROUNDING SYSTEM, V.I.F.
 13. ROUTE 1" - (1) #12; (2) START LOOP, (4) E-STOP, (4) ANNUNCIATOR AND (1) PULL ROPE FOR FUTURE BMS CONNECTION.
 14. 400KW NATURAL GAS GENERATOR WITH LEVEL 2 ENCLOSURE, CUMMINS #C400NG OR APPROVED EQUAL. PROVIDE WITH 100A DISTRIBUTION PANEL, CIRCUIT BREAKER BOX, BATTERIES, RACKS, AND MODBUS CONTROL. COLOR SHALL BE ANSI GRAY 61. CONFIRM WITH OWNER.
 15. GFI RECEPTACLE WITH WEATHERPROOF, WHILE-IN-USE, METALLIC COVER. ROUTE 3/4" - (2) #10 + #10 GND FROM PANEL 'A'.
 16. SAW CUT ASPHALT FOR HOUSEKEEPING PAD. HOUSEKEEPING PAD SHALL BE 6 INCHES ABOVE ASPHALT WITH 1% MIN. DRAINAGE.
 17. 30KW NATURAL GAS GENERATOR WITH LEVEL 2 ENCLOSURE, CUMMINS #30NG OR APPROVED EQUAL. PROVIDE WITH DISTRIBUTION PANEL, CIRCUIT BREAKER BOX, BATTERIES, RACKS, AND MODBUS CONTROL. COLOR SHALL BE ANSI GRAY 61. CONFIRM WITH OWNER.
 18. ROUTE 1" - (6) #12; (2) START LOOP, (2) E-STOP, AND (2) ANNUNCIATOR AND (1) PULL ROPE FOR FUTURE BMS CONNECTION.
 19. INTERCEPT EXISTING 3" CONDUIT AND RE-ROUTE TO POWER PULLBOX HH-1. CONDUIT TO BE USED FOR NEW 30KW GENERATOR FEEDER.
 20. ROUTE NEW CONDUCTORS INSIDE OF EXISTING CONDUIT FOR NEW 30KW GENERATOR, REFER TO SINGLE LINE DIAGRAM FOR SIZES.

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**JOLLY GIANT COMMONS
EMERGENCY GENERATOR**

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		12/15/20	100% CD

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APPROVED BY:

SHEET TITLE
**JOLLY GIANT COMMONS
HOUSING COGEN
FLOOR PLAN**

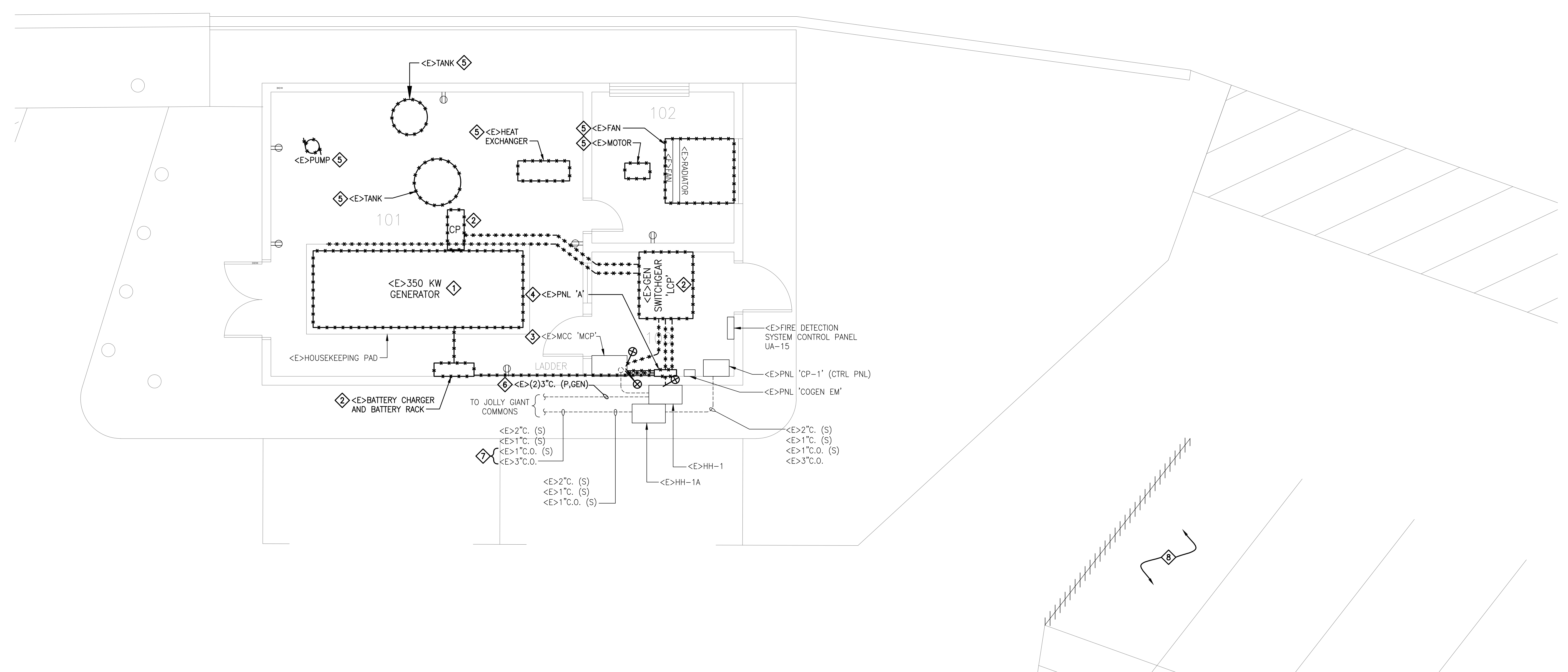
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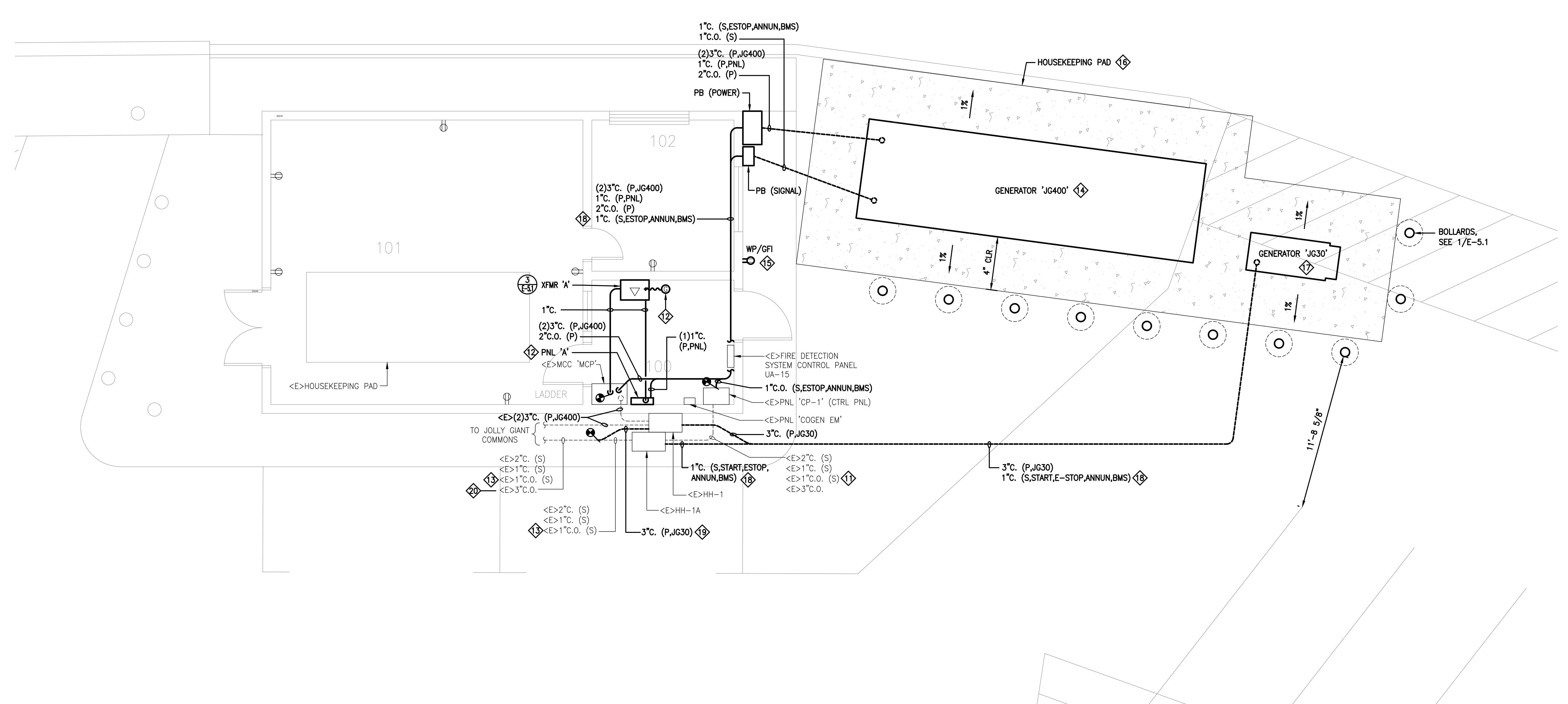
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2 HOUSING COGEN FLOOR PLAN - DEMO
SCALE: 1/4" = 1' - 0"



1 HOUSING COGEN FLOOR PLAN - NEW
SCALE: 1/4" = 1' - 0"



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GENERAL SHEET NOTES

- A. PREPARE A SPECIAL METHOD OF PROCEDURE AND COORDINATE THE SHUTDOWN OF ANY DEVICE WITH FACILITIES ENGINEERS. SHUTDOWN MUST BE SCHEDULED. PROVIDE TEMPORARY POWER AS NEEDED.
- B. BEFORE RUNNING ANY FEEDERS TO PANELS BEING RE-CIRCUITED CONFIRM FEEDER SIZE AND ARRANGEMENT (1PHASE, 3 PHASE, 3W, 4W). REPORT DISCREPANCIES TO ENGINEER PRIOR TO CHANGING FEEDERS CALLED FOR ON DRAWINGS.
- C. DEVICE SHOWN AS EXISTING SHALL REMAIN CONNECTED UNLESS OTHERWISE NOTED. WIRING DEVICES THAT MAY BE AFFECTED BY DEMOLITION AND NEW WORK SHALL BE RECONNECTED.
- D. PATCH WALL, ROOF PENETRATION, CEILING AND ANY OTHER OPENINGS LEFT BY DEMO'D EQUIPMENT/CONDUITS, ETC. MATCH ADJACENT CONSTRUCTION AND FINISH.
- E. FIRE SEAL ALL RATED PENETRATIONS.
- F. DISCONNECT TEMPORARY POWER AND EQUIPMENT AFTER ALL WORK IS DONE.
- G. CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE AND ESTIMATING THE WORK INVOLVED IN THE EQUIPMENT INSTALLATION PRIOR TO BIDDING. CAREFULLY INVESTIGATE AREA TO DETERMINE IF SPECIAL INSTALLATION PROVISIONS WILL BE NEEDED SUCH AS DISASSEMBLING OF EQUIPMENT, USE OF CRANES, ETC.
- H. BEFORE ORDERING EQUIPMENT, CONTRACTOR IS RESPONSIBLE FOR NOTIFYING EQUIPMENT MANUFACTURER IF DISASSEMBLY IS REQUIRED. WHEN ASSEMBLING EQUIPMENT IN THE FIELD, CONTRACTOR SHALL HIRE A MANUFACTURER'S REPRESENTATIVE/TECHNICIAN TO SUPERVISE THE ASSEMBLY OF THE EQUIPMENT. EQUIPMENT SHALL BE UL-LISTED AFTER IT HAS BEEN REASSEMBLED.
- I. CONTRACTOR SHALL HIRE THIRD PARTY LOCATING SERVICE TO LOCATE ALL EXISTING UTILITIES IN AREAS OF WORK PRIOR TO CONSTRUCTION.
- J. CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHILE TRENCHING FOR NEW UTILITIES. THESE DRAWINGS HAVE BEEN COMPILED FROM RECORD DOCUMENTS, FIELD SURVEYS AND OTHER AVAILABLE INFORMATION. NOT ALL UTILITIES AND/OR OBSTRUCTIONS ARE SHOWN. CONTRACTOR SHALL VERIFY THE LOCATIONS OF UTILITIES PRIOR TO EXCAVATION, EITHER BY HAND EXCAVATION OR WITH THE ASSISTANCE OF A CERTIFIED UNDERGROUND UTILITY LOCATION SERVICE.
- K. REFER TO SINGLE LINE DIAGRAM FOR CONDUIT SIZES, UON.

REFERENCE SHEET NOTES

- DEMO:**
1. REMOVE EXISTING 30KW COGEN UNIT POWER AND CONTROL WIRES SHALL BE REMOVED BACK TO SOURCE. ALL SURFACE MOUNTED CONDUITS SHALL BE REMOVED COMPLETELY AND UNDERGROUND CONDUIT SHALL BE CUT AND CAPPED FLUSH WITH FINISHED GRADE.
- NEW:**
10. ROUTE 1" C. - (10)#12: (2) START LOOP, (4) E-STOP, AND (4) ANNUNCIATOR AND (1) PULL ROPE FOR FUTURE BMS CONNECTION.
 11. INTERCEPT EXISTING 3" CONDUIT AND RE-ROUTE TO POWER PULLBOX HH-2. CONDUIT TO BE USED FOR NEW 30KW GENERATOR FEEDER.
 12. ROUTE NEW CONDUCTORS GND INSIDE OF EXISTING AND NEW CONDUIT FOR NEW 30KW GENERATOR. REFER TO SINGLE LINE DIAGRAM.
 13. PROVIDE AND INSTALL REMOTE E-STOP. IDENTIFY AND LABEL PER NFPA 110 REQUIREMENTS. ROUTE 1" C. - (2)#12 FROM GENERATOR CONTROL PANEL.
 14. PROVIDE AND INSTALL REMOTE ANNUNCIATOR. ANNUNCIATOR SHALL HAVE ALL OF THE REQUIRED VISUAL AND AUDIBLE INDICATORS AND SHUTDOWNS PER NFPA 110 TABLE 5.6.5.2.
 15. ATS EQUIPMENT PROVIDED AND INSTALLED BY OTHERS. ATS SHALL BE CUMMINS TRANSFER SWITCH-POWER COMMAND: 125 AMP, 3-POLE (MODEL OTC).

HUMBOLDT STATE UNIVERSITY

1 HARPST STREET
ARCATA, CA 95521

**JOLLY GIANT COMMONS
EMERGENCY GENERATOR**

MARK	DATE	DESCRIPTION
	05/19/20	PROGRESS SET
	12/15/20	100% CD

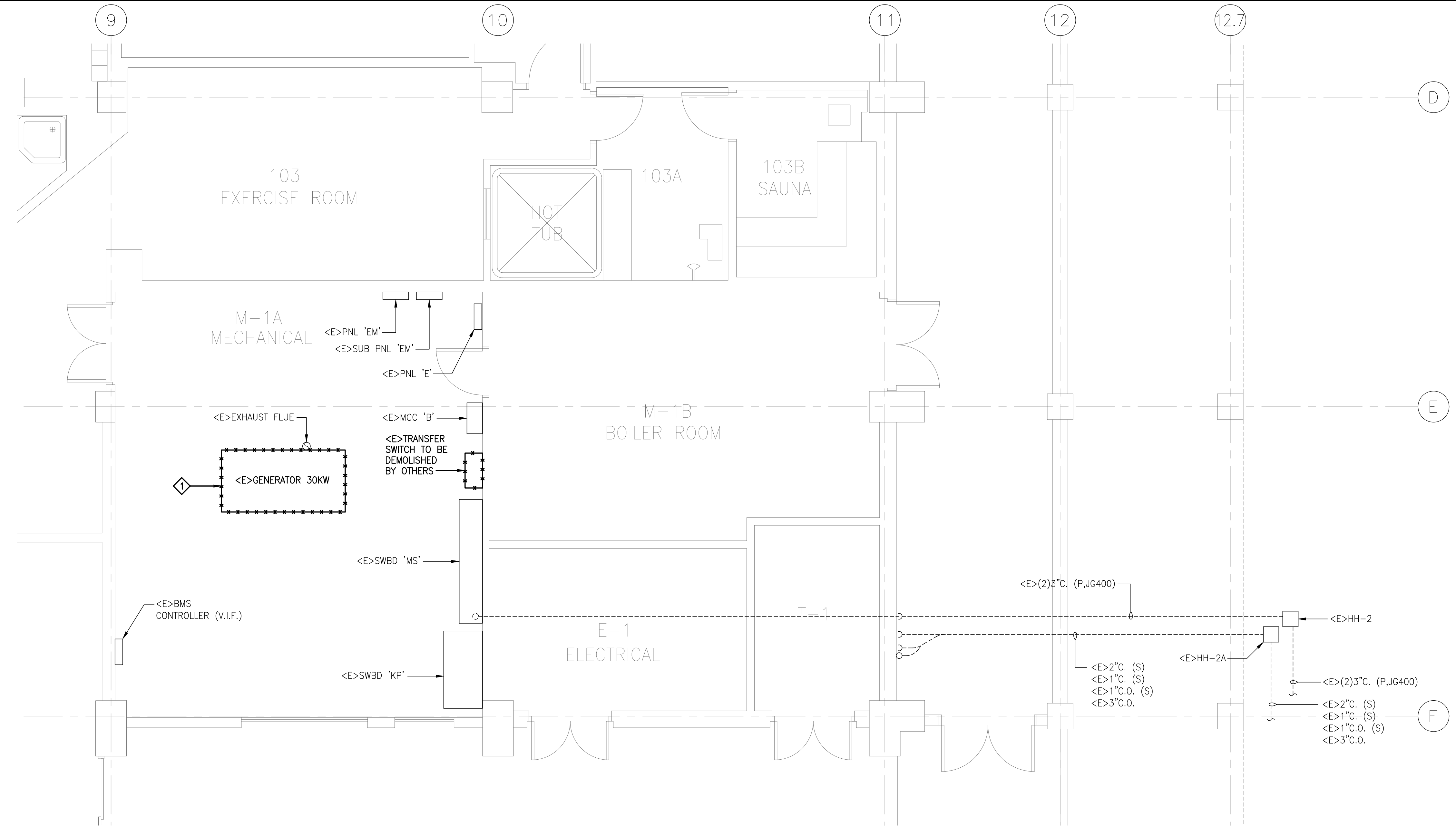
SOBE PROJECT NO:	2000677
DATE:	12/15/20
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	

SHEET TITLE
**JOLLY GIANT COMMONS
PARTIAL FIRST FLOOR
PLAN**

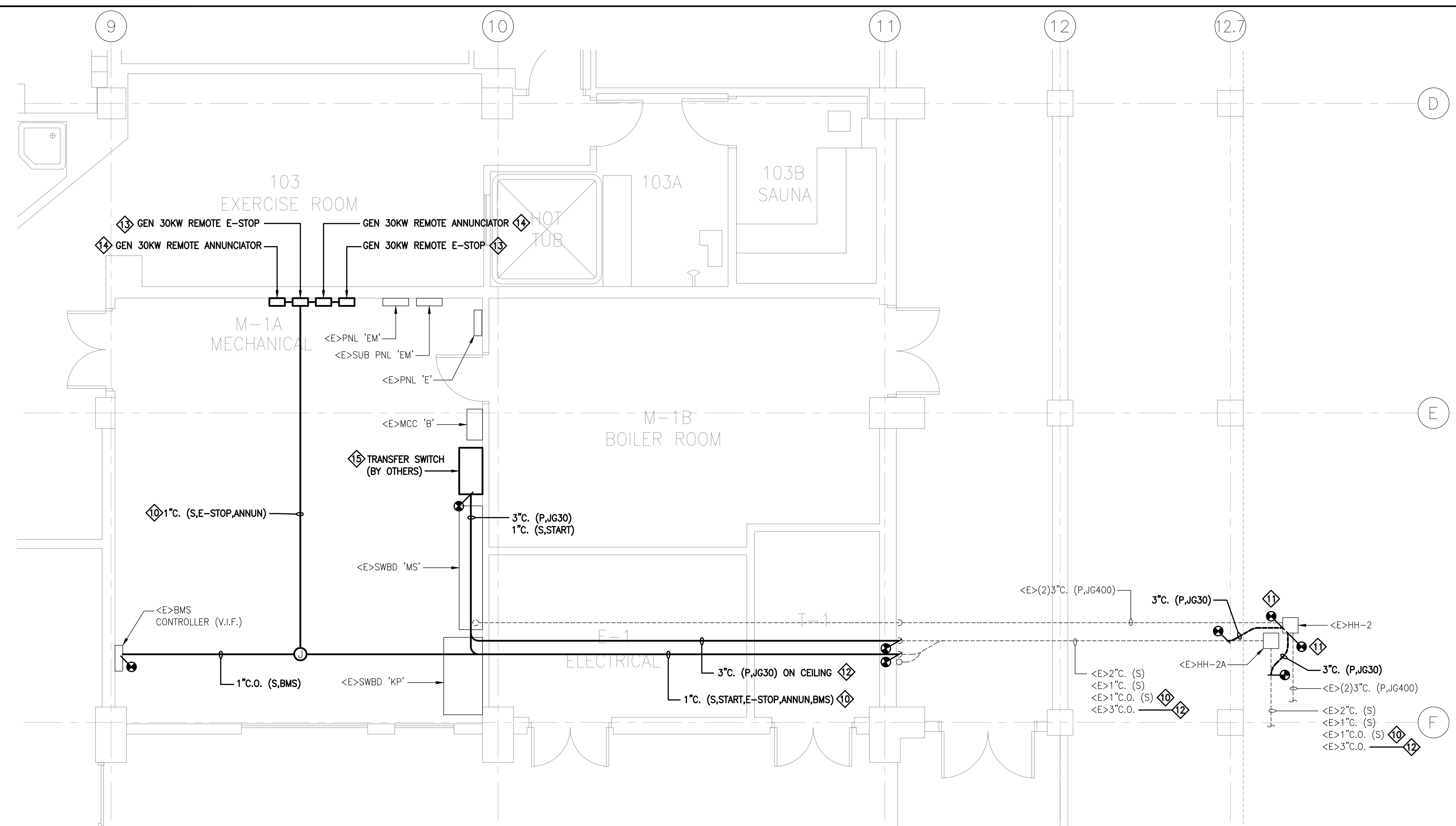
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THIS DRAWING IS 30" X 42" AT FULL SIZE

E-4.2

SHEET - OF -



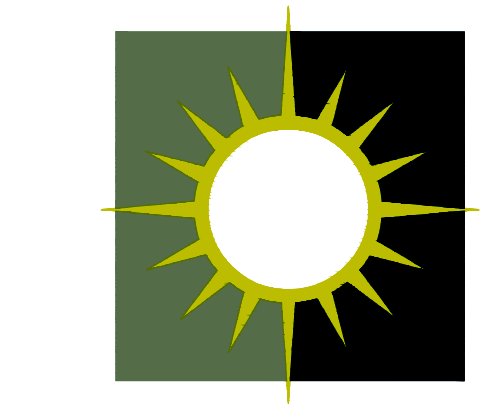
2 PARTIAL FIRST FLOOR PLAN - DEMO
SCALE: 1/4" = 1' - 0"



1 PARTIAL FIRST FLOOR PLAN - NEW
SCALE: 1/4" = 1' - 0"

THIS DRAWING IS 30" X 42" AT FULL SIZE. 15" X 21" AT HALF SIZE. © 2015 BY SALAS O'BRIEN ENGINEERS, INC.

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National Strength.
Local Action.

This project has demonstrated conformance with applicable codes and standards established by state and University policy. Based on this determination, the following are:

'APPROVED FOR CONSTRUCTION'

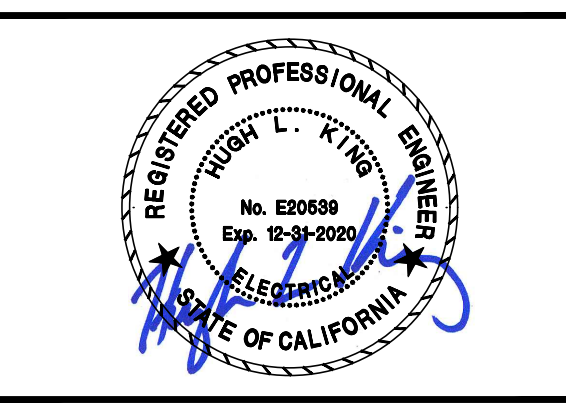
Michael Fisher
Campus Deputy Building Official
Humboldt State University
The California State University

Date: _____
Permit #: _____
(Other approvals as applicable)
SFM Approval: _____
DIA Access Approval: _____
Science Fair Review: _____
Mock Pipe Review: _____

CALIFORNIA STATE FIRE MARSHAL
APPROVED

Approval of this plan does not authorize or approve any construction or deviation from applicable regulations. Final approval is subject to field inspection. Set of approved plans shall be available on the project site at all times.

Reviewed by: _____
Date: _____



HUMBOLDT STATE UNIVERSITY

1 HARPST STREET
ARCATA, CA 95521

JOLLY GIANT COMMONS EMERGENCY GENERATOR

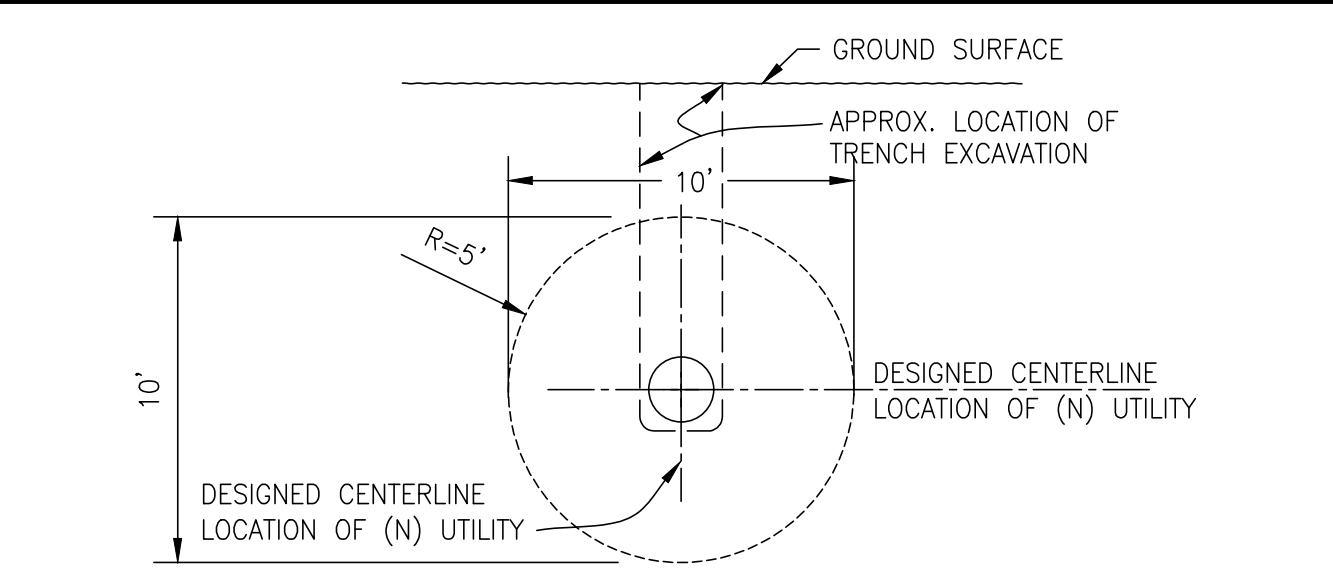
ISSUE	MARK	DATE	DESCRIPTION
		05/19/20	PROGRESS SET
		12/15/20	100% CD

SOBE PROJECT NO: 2000677
DATE: 12/15/20
DRAWN BY:
CHECKED BY:
APPROVED BY:

SHEET TITLE
ELECTRICAL DETAILS

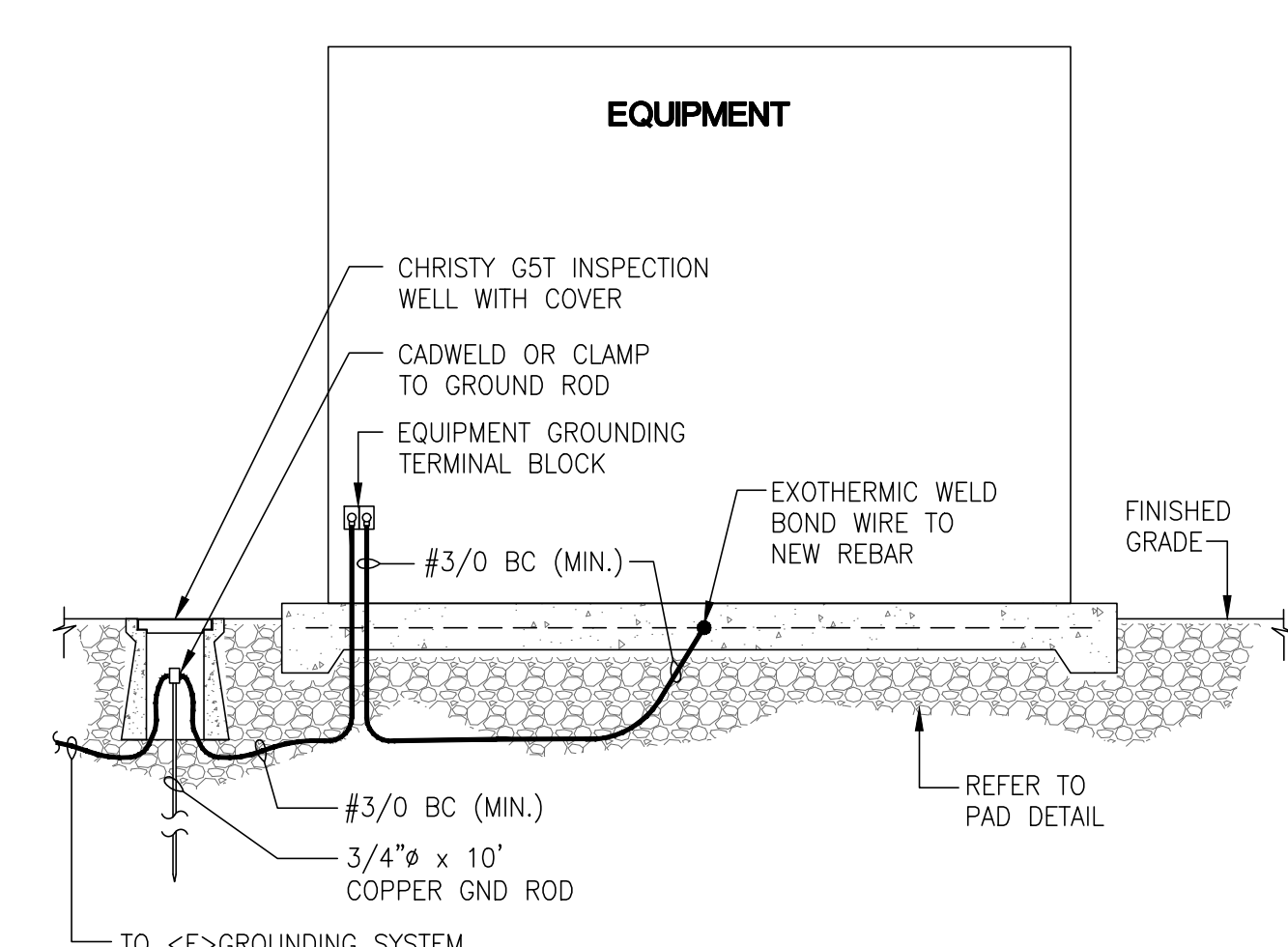
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E-5.1
SHEET - OF -

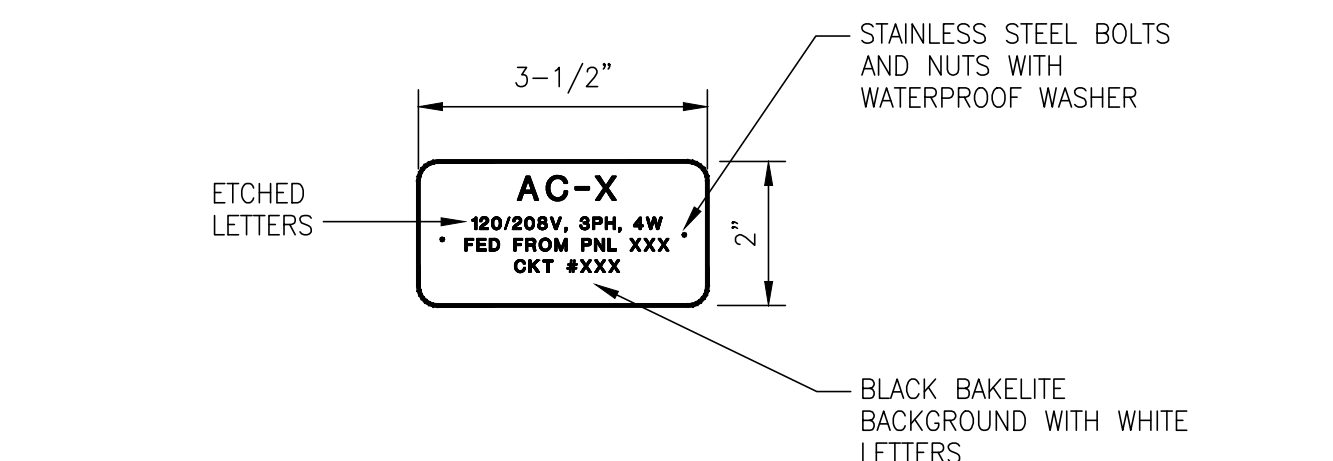


- NOTES:
- ANY FIELD ADJUSTMENTS TO THE PROPOSED LOCATION OF (N) UTILITIES WITHIN A 5 FOOT RADIUS OF THE DESIGN CENTERLINE LOCATION SHALL BE DONE AT NO ADDITIONAL EXPENSE TO THE OWNER. ALL PROPOSED ADJUSTMENTS SHALL BE SUBJECT TO PRIOR APPROVAL OF THE OWNER. SHOULD THE OWNER AGREE THAT IT IS NECESSARY TO ADJUST THE DESIGN LOCATION OF THE (N) UTILITY TO A POSITION OUTSIDE THE ABOVE 5 FOOT RADIUS, SUCH ADJUSTMENT SHALL BE SUBJECT TO REVIEW AS AN ITEM OF EXTRA EXPENSE OR CREDIT.
 - IF IT IS NECESSARY TO RELOCATE (E) UTILITIES IN ORDER TO ALLOW THE (N) UTILITY TO BE RELOCATED TO A POSITION OUTSIDE THE ABOVE 5 FOOT RADIUS, THEN SUCH RELOCATION OF (E) UTILITIES SHALL BE PAID FOR AS AN ITEM OF EXTRA EXPENSE BY THE CONTRACTOR. ANY SUCH RELOCATION SHALL BE SUBJECT TO PRIOR APPROVAL OF THE OWNER.
 - IN AREAS WHERE SHORING IS NOT REQUIRED AS PER SPECIFICATIONS, THE MAXIMUM DEPTH OF TRENCHING TO AVOID OBSTACLES WITHOUT ADDITIONAL COST SHALL BE 5' BELOW GRADE. IN AREAS WHERE SHORING IS REQUIRED TO MEET DESIGN GRADE, THE LINE MAY BE ADJUSTED AN ADDITIONAL 5' BELOW THAT SHOWN WITH NO INCREASE IN COST.

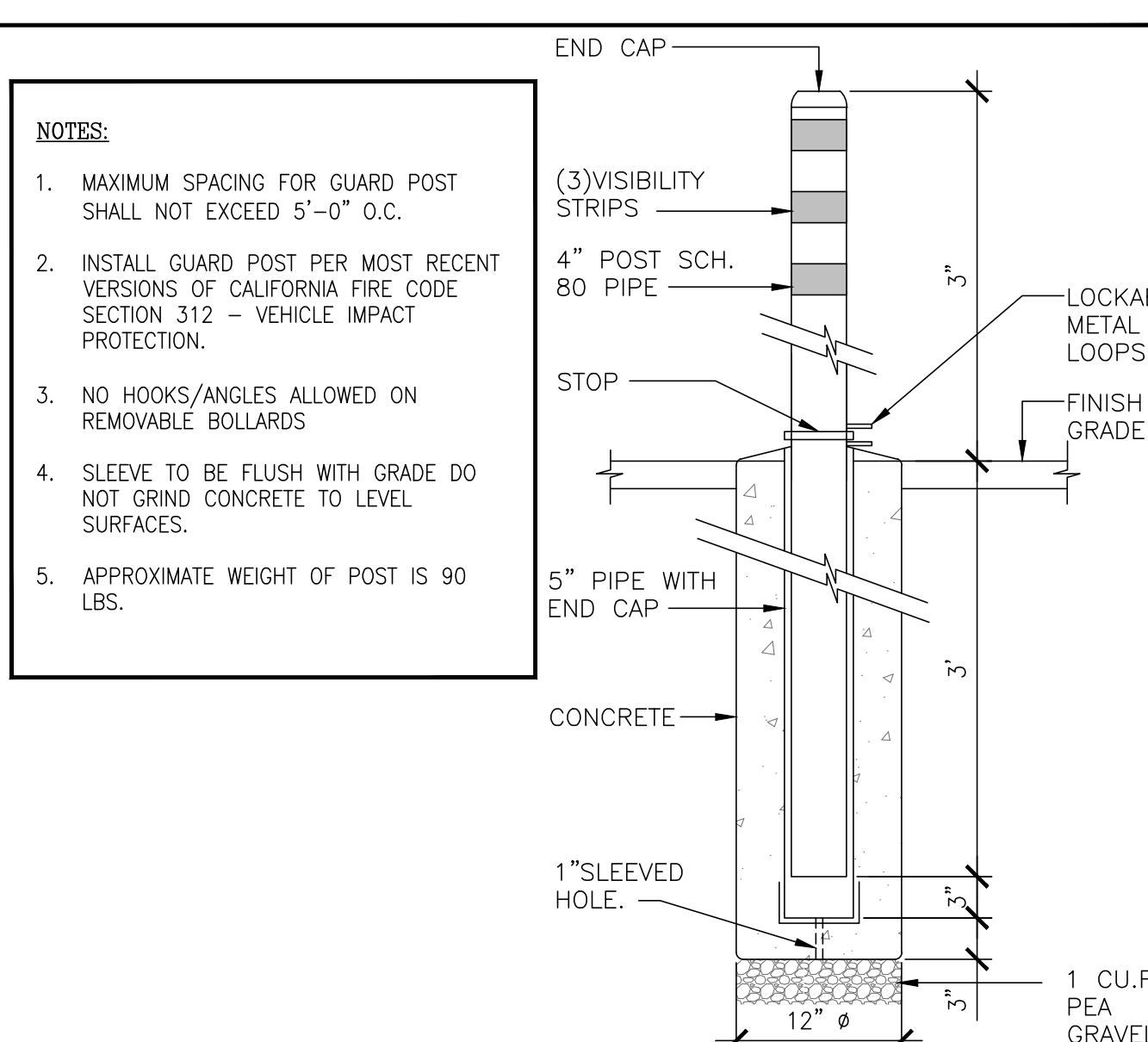
4 UTILITY ADJUSTMENT CRITERIA
SCALE: N.T.S.



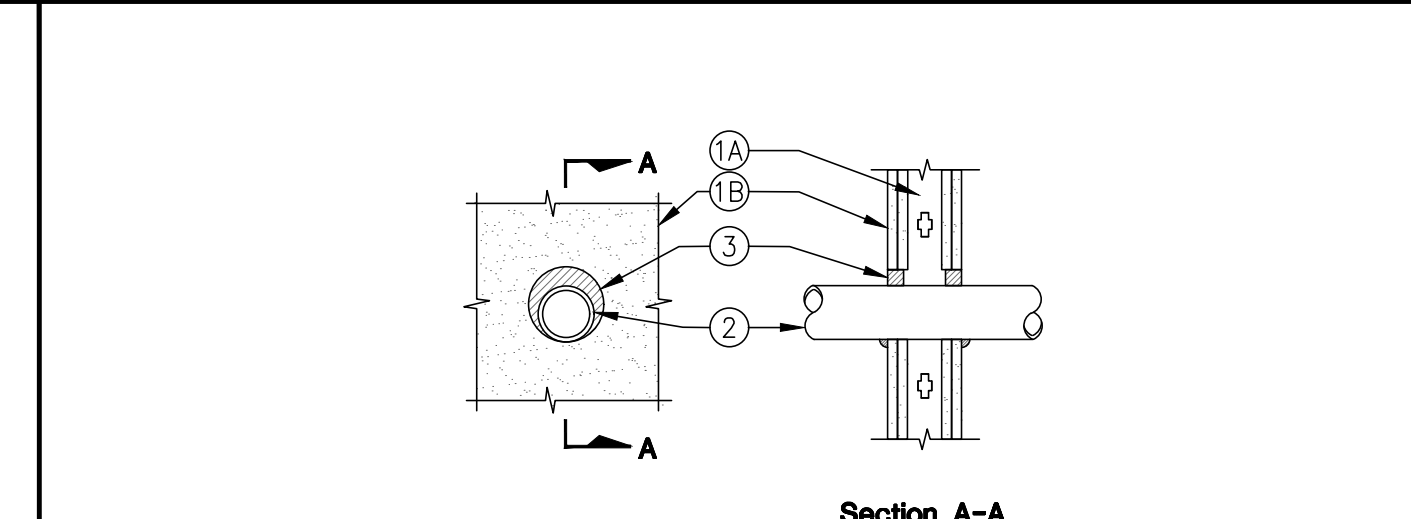
3 EQUIPMENT GROUNDING SECTION ON NEW PAD
SCALE: N.T.S.



2 ELECTRICAL EQUIPMENT LABELING
SCALE: N.T.S.



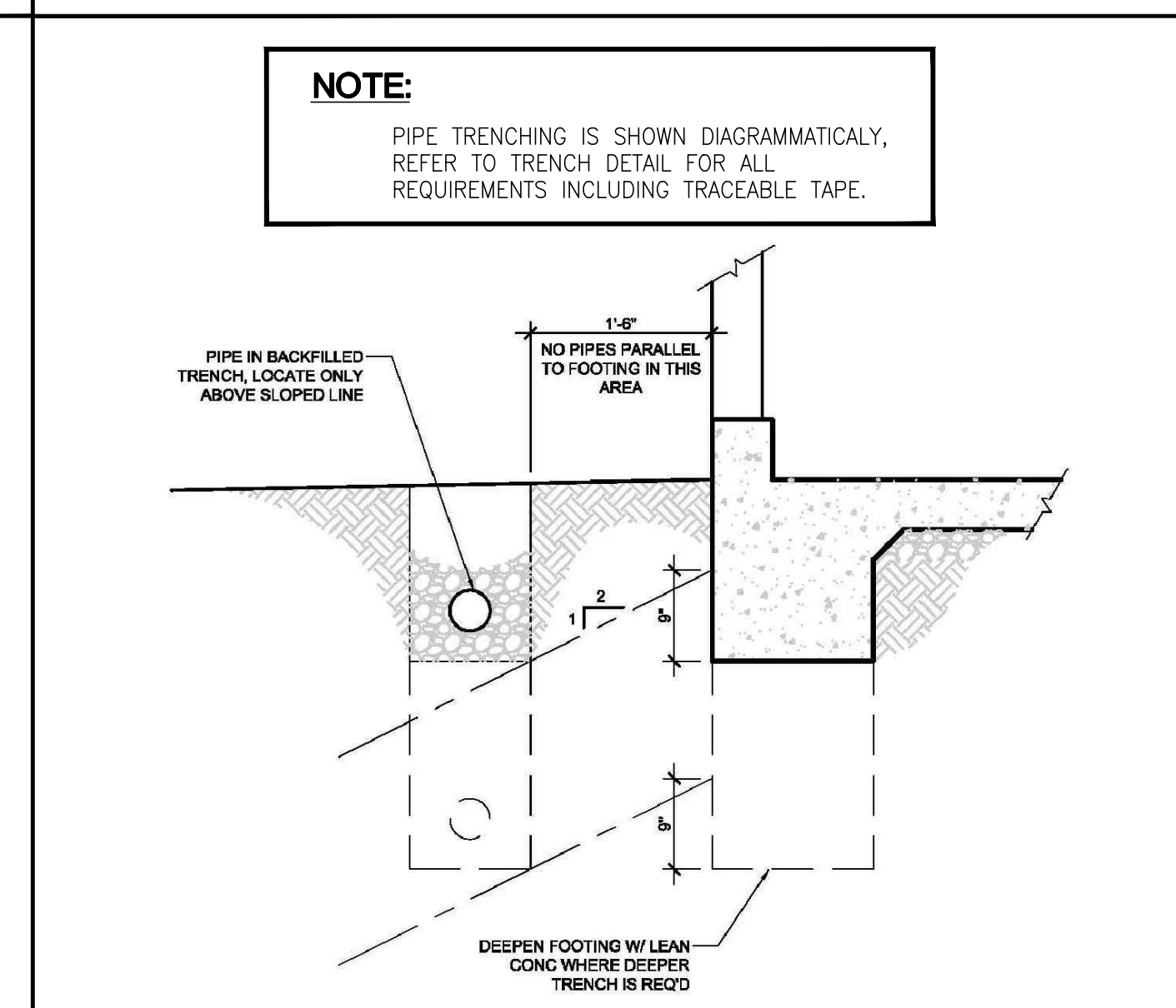
1 BOLLARD DETAIL
SCALE: 1" = 1' - 0"



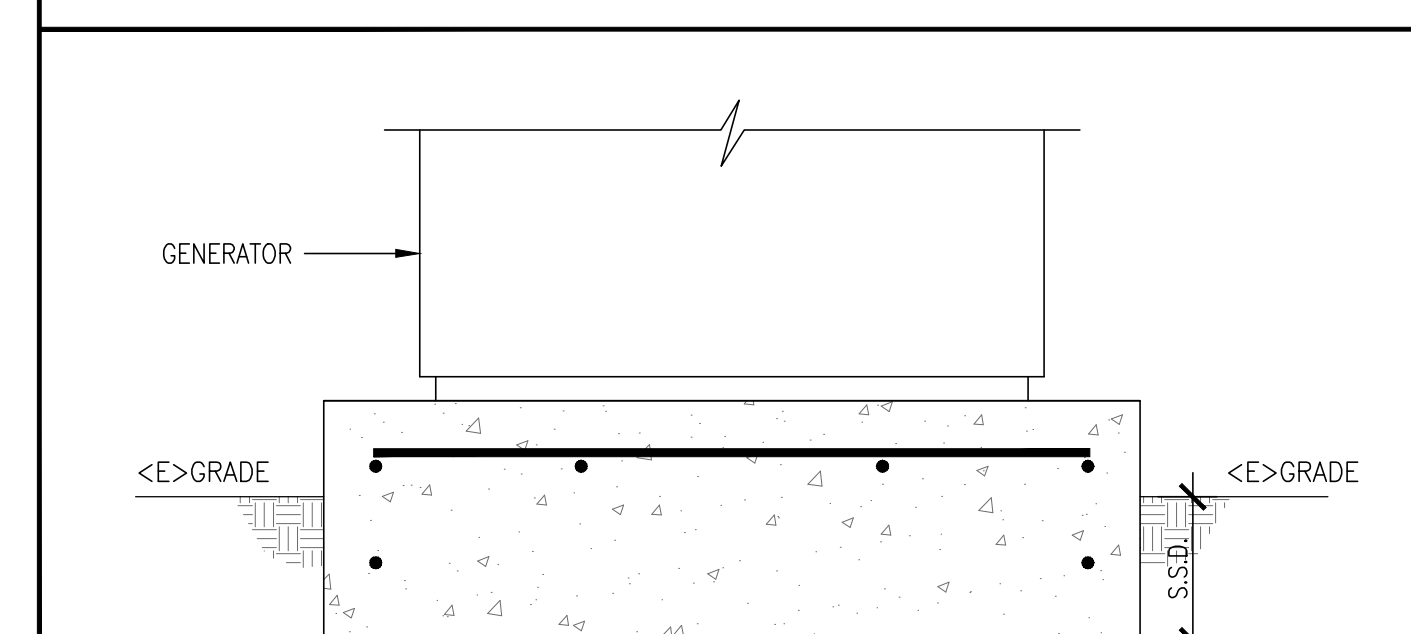
5 HOUSEKEEPING PAD ON EXISTING GRADE
SCALE: N.T.S.

- NOTES:
- SEE STRUCTURAL DRAWINGS FOR ANCHORAGE REBAR, BACKFILL AND ADDITIONAL REQUIREMENTS.
 - CONTRACTOR SHALL ADJUST PAD DIMENSIONS AND CLEARANCES OF THE EQUIPMENT WITH RESPECT TO ACTUAL EQUIPMENT SUPPLIED.

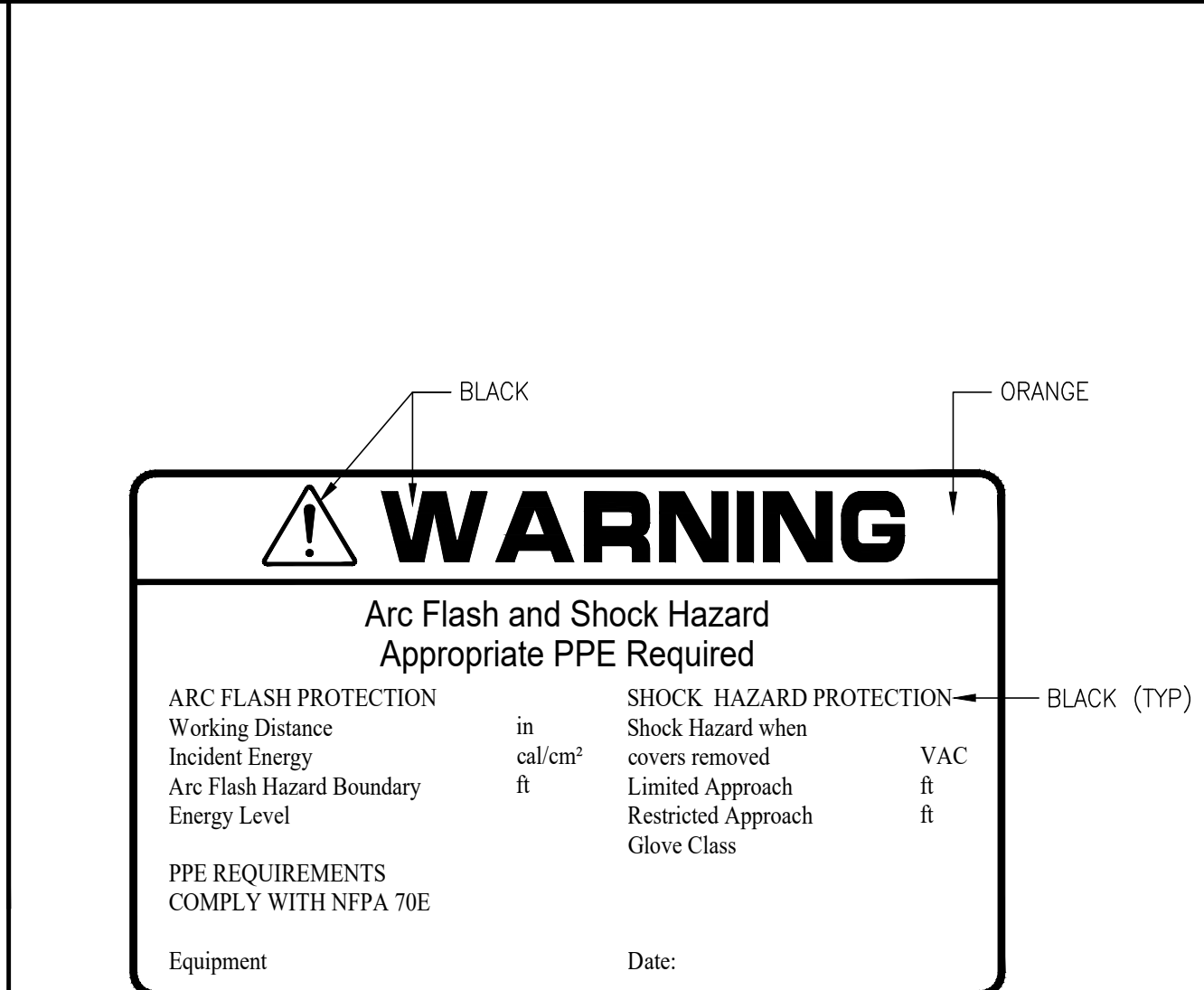
7 CONDUIT PENETRATION THROUGH WALL
SCALE: N.T.S.



6 TRENCH ADJACENT TO FOOTING
SCALE: N.T.S.



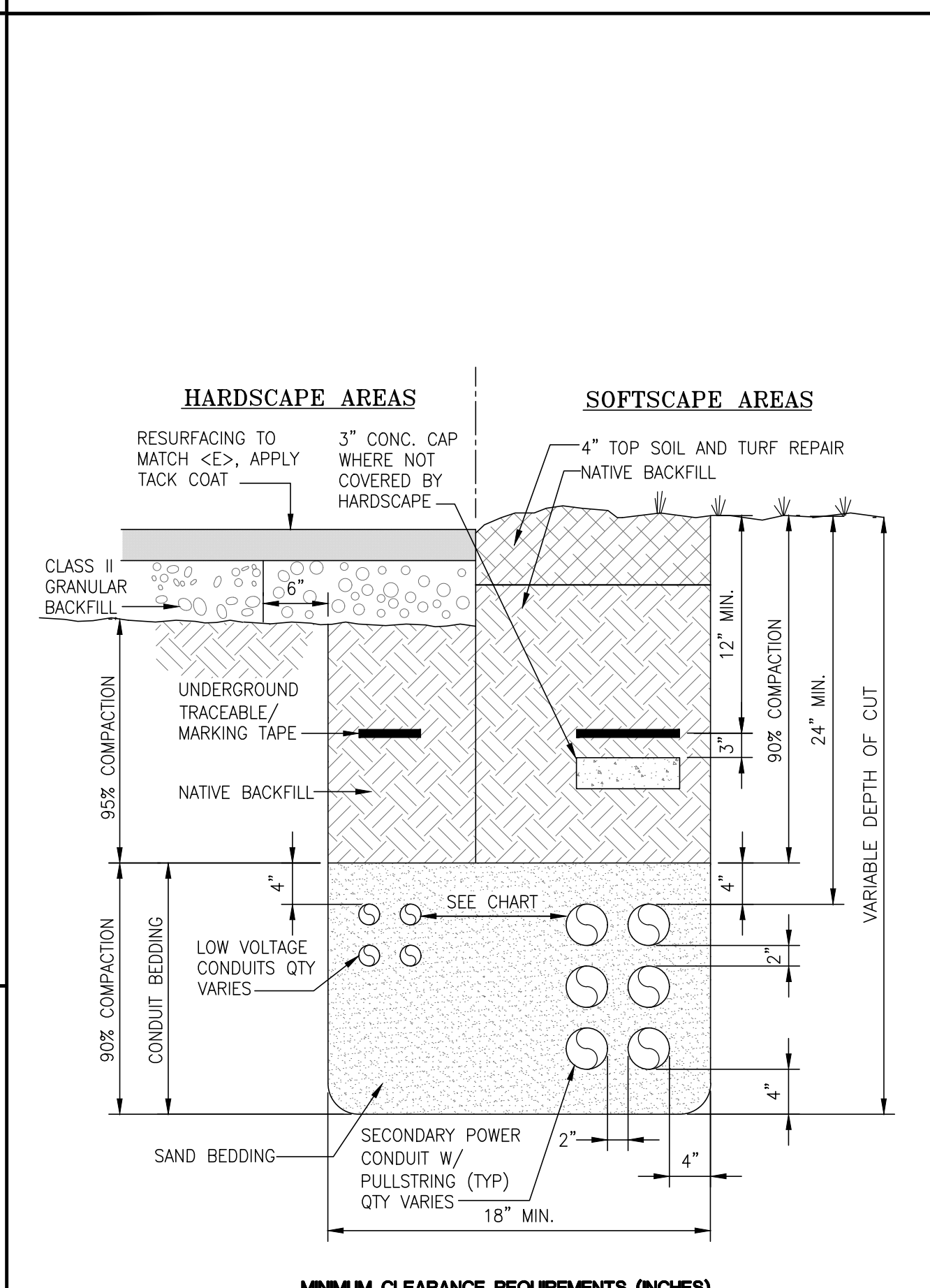
8 CONDUIT TRENCHING DETAIL BELOW 600V
SCALE: N.T.S.



10 ARC FLASH WARNING LABEL
SCALE: N.T.S.



9 SHOCK HAZARD WARNING LABEL
SCALE: N.T.S.



12 CONDUIT TRANSITION DETAIL
SCALE: N.T.S.

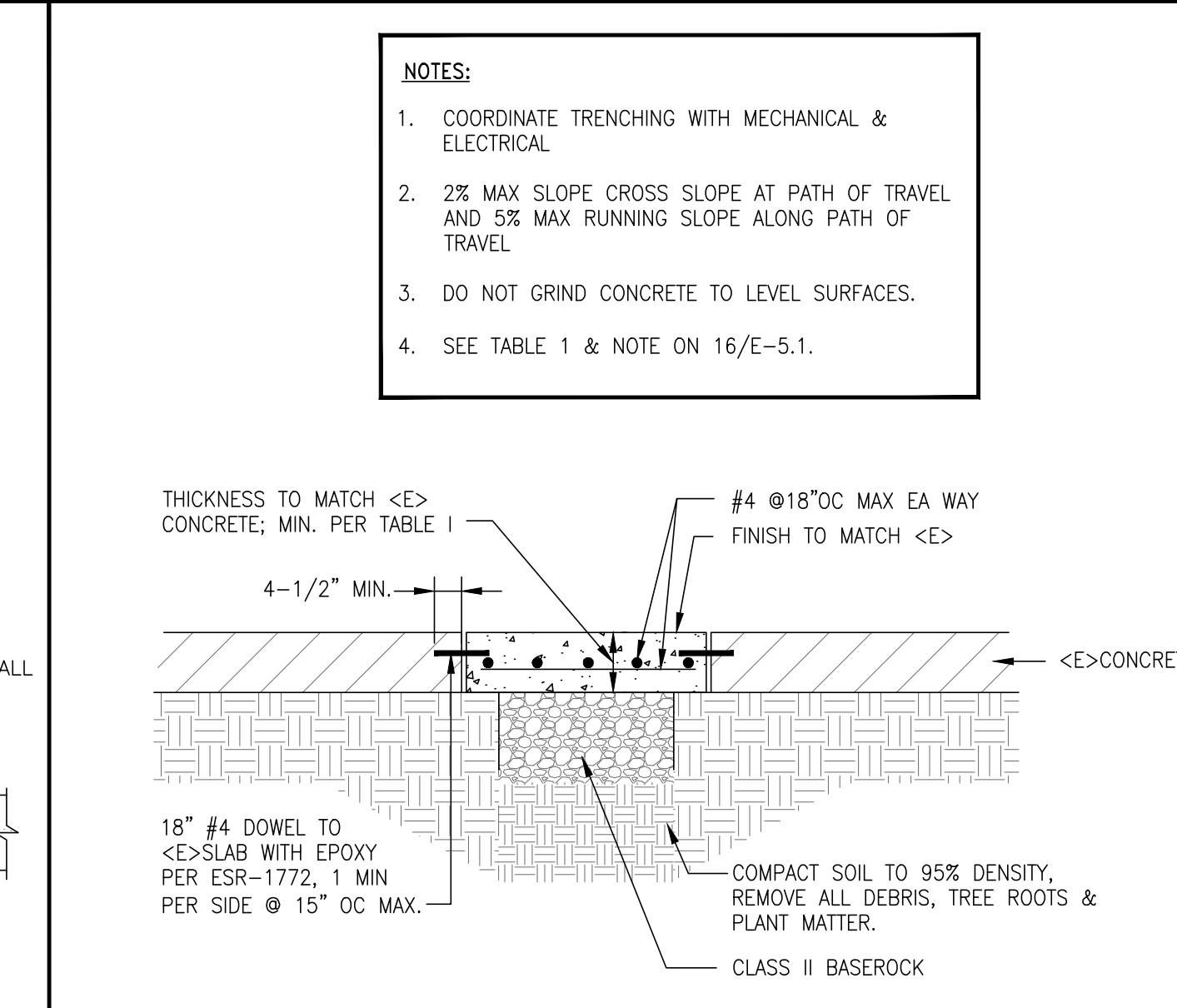
MINIMUM CLEARANCE REQUIREMENTS (INCHES)

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

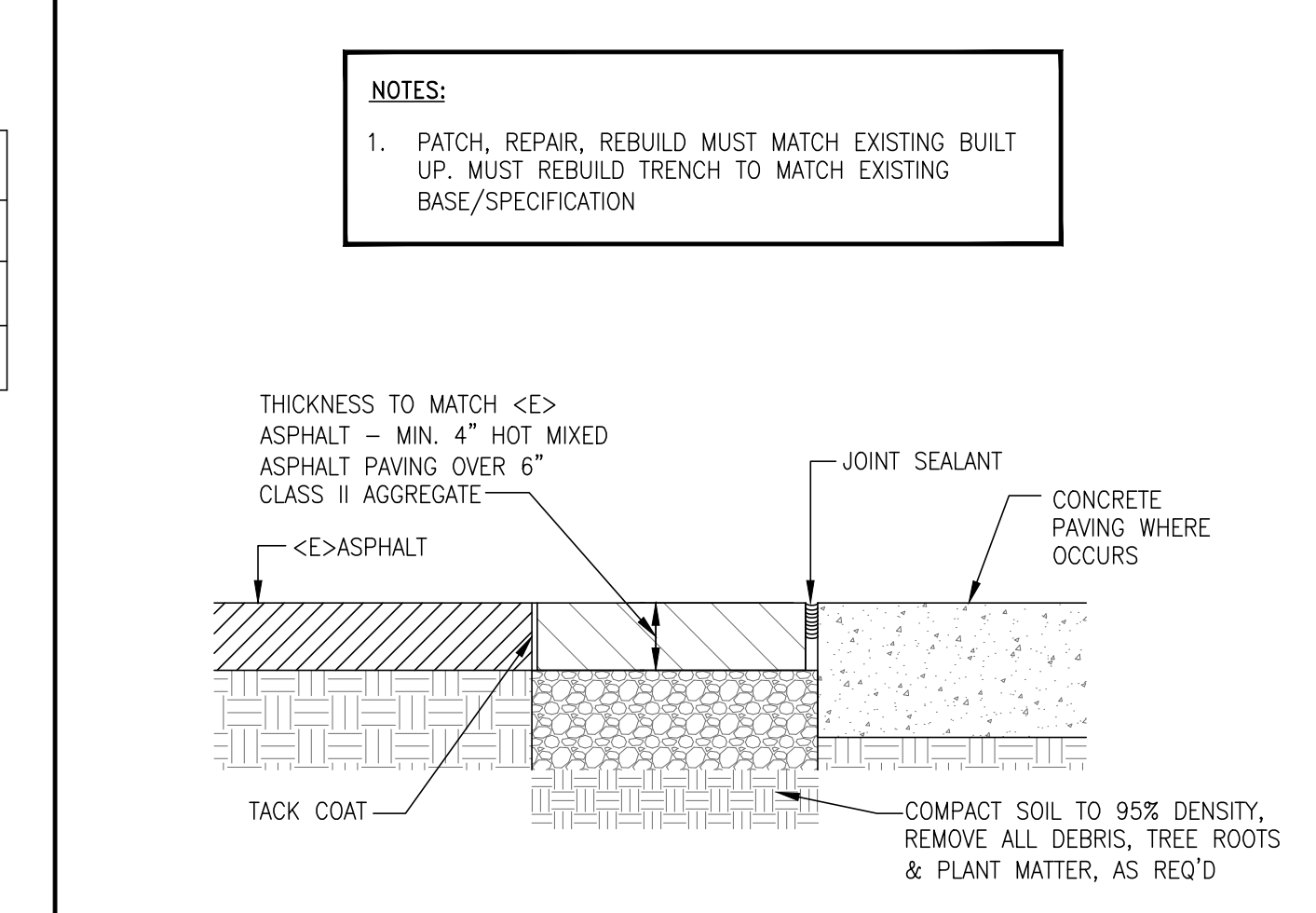
TABLE ONLY APPLIES TO CONDUITS AFTER THE UTILITY POINT OF CONNECTION.

NOTES:

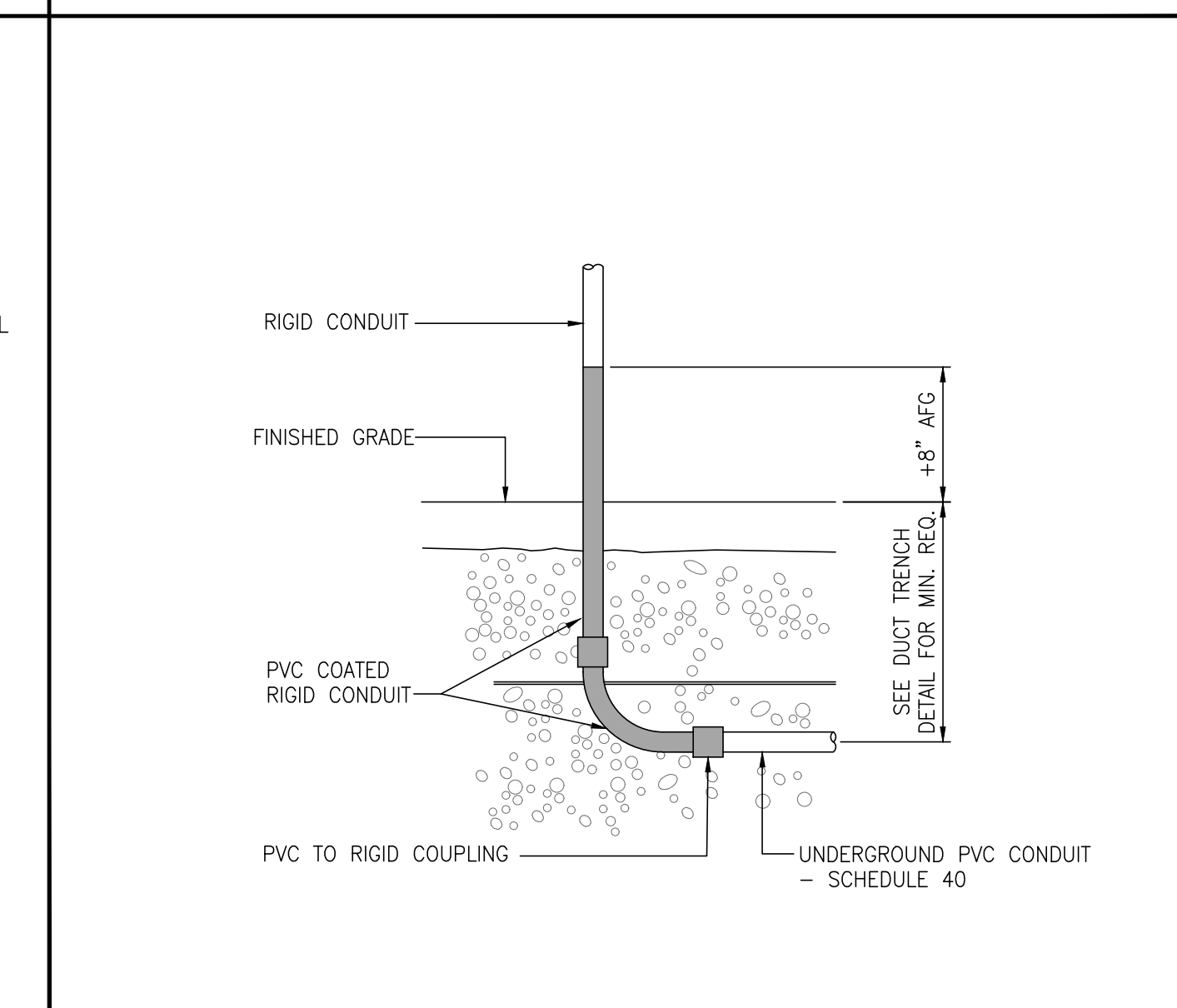
- UTILITY OWNED AND END-USER CONDUITS AND TRENCH SHALL NOT BE COMBINED.
- PROVIDE 12" SEPARATION WHEN CROSSING "WET" UTILITIES.
- ALL DIMENSIONS ARE MINIMUM.



15 CONCRETE PATCH DETAIL
SCALE: N.T.S.

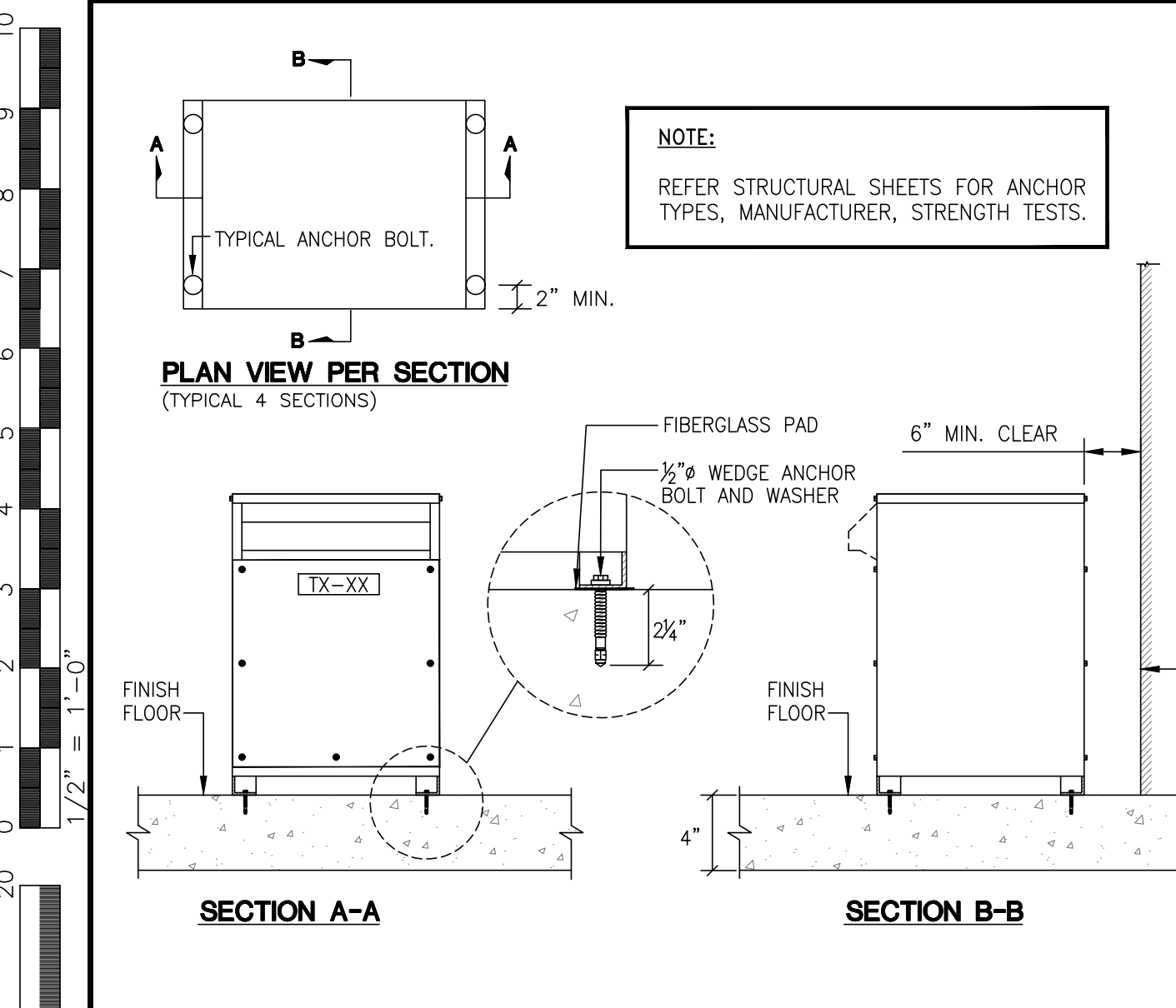


14 ASPHALT PATCH DETAIL
SCALE: N.T.S.



13 CONDUIT SUPPORT
SCALE: N.T.S.

- NOTES:
- 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 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.
 - 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 built 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.
 - 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.



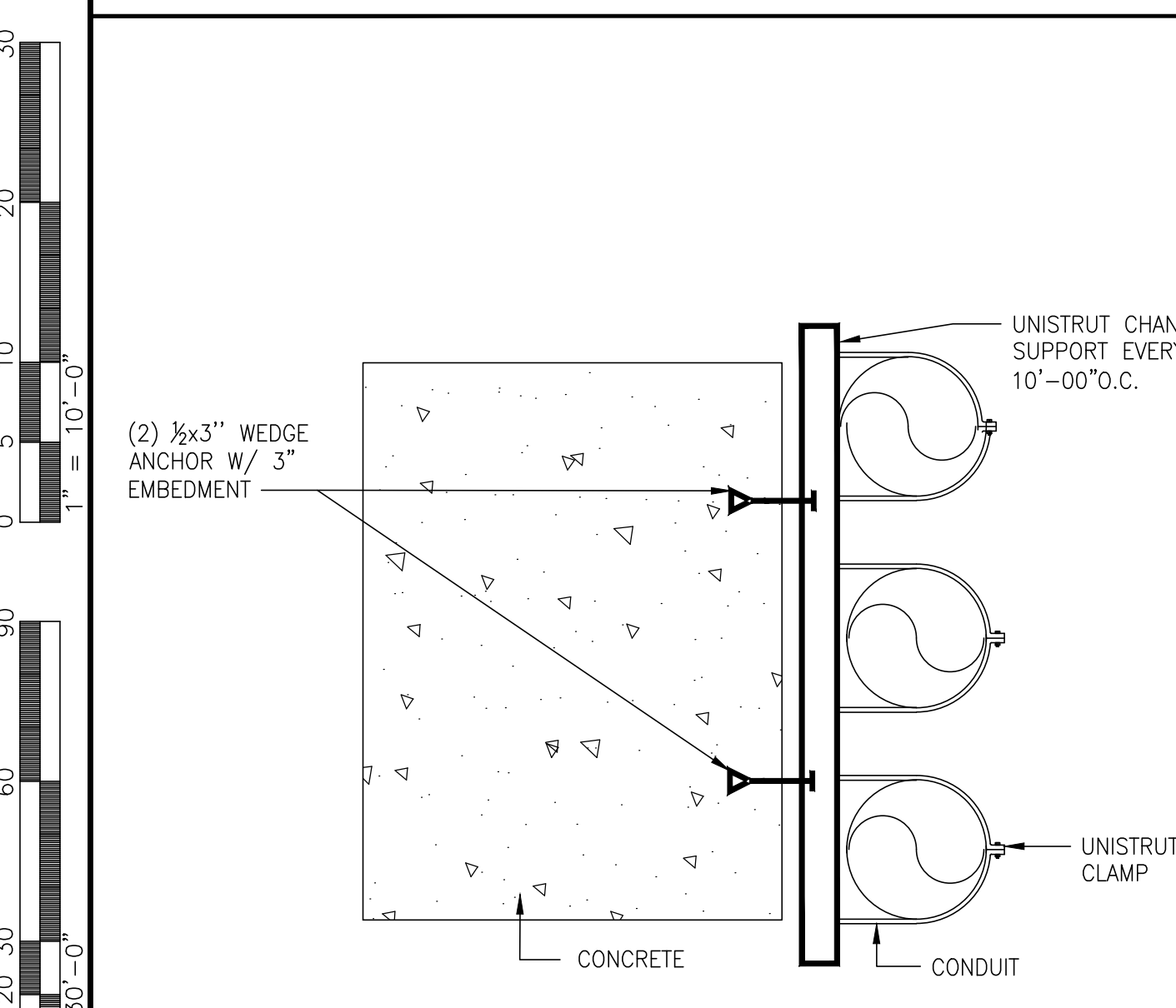
17 LOW VOLTAGE TRANSFORMER MOUNTING
SCALE: N.T.S.

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	6.0	13.0
FIRE TRUCK TRAFFIC (T.I. = 6.0)	4.0	5.0	6.0	15.0

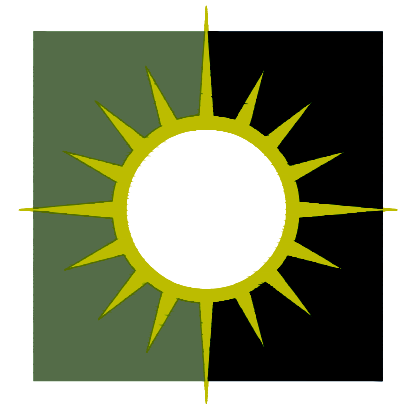
NOTE:
HOLES RESULTING FROM THE REMOVAL OF UNDERGROUND OBSTRUCTIONS (SUCH AS OLD CONCRETE FOOTINGS, ABANDONED UTILITIES OR TREE ROOT BUILDS) THAT EXTEND BELOW THE PLANNED FINISHED GRADE SHOULD BE CLEARED OF LOOSE SOIL AND DEBRIS, AND BACKFILLED WITH SUITABLE MATERIAL COMPACTED TO AT LEAST 90 PERCENT RELATIVE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

16 MINIMUM PAVEMENT SECTION TABLE AND NOTE
SCALE: N.T.S.



11 CONDUIT PENETRATION THROUGH WALL
SCALE: N.T.S.

- NOTES:
- SEE STRUCTURAL SHEETS FOR ANCHOR TYPES, MANUFACTURER, STRENGTH TESTS.



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REFERENCE SHEET NOTES

- EXISTING PANEL TO BE MODIFIED, REFER TO SHEET E-7.2.

GENERAL SHEET NOTES

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

LEGEND

- FDR #4
- FDR #5
- FDR #6
- FDR #4, #5, #6 INTERCONNECTIONS

This project has demonstrated conformance with applicable codes and standards established by state and University policy. Based on this determination, we are approving for construction.

'APPROVED FOR CONSTRUCTION'

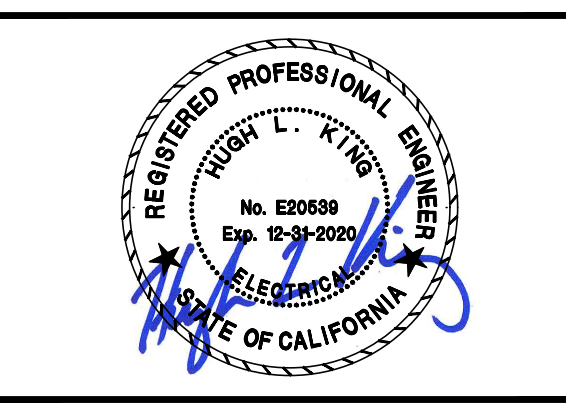
Michael Fisher
 Campus Deputy Building Official
 Humboldt State University
 The California State University

Date: _____
 Permit #: _____
 (Other approvals as applicable)
 SPM Approval: _____
 ERM Approval: _____
 Science Peer Review: _____
 Mock Peer Review: _____

CALIFORNIA STATE FIRE MARSHAL APPROVED

Approval of this plan does not authorize or approve any installation or deviation from applicable regulations. Final approval is subject to field inspection. Set of approved plans shall be available on the project site at all times.

Reviewed by: _____
 Date: _____



HUMBOLDT STATE UNIVERSITY

1 HARPST STREET
 ARCATA, CA 95521

JOLLY GIANT COMMONS EMERGENCY GENERATOR

ISSUE	MARK	DATE	DESCRIPTION
		05/19/20	PROGRESS SET
		12/15/20	100% CD

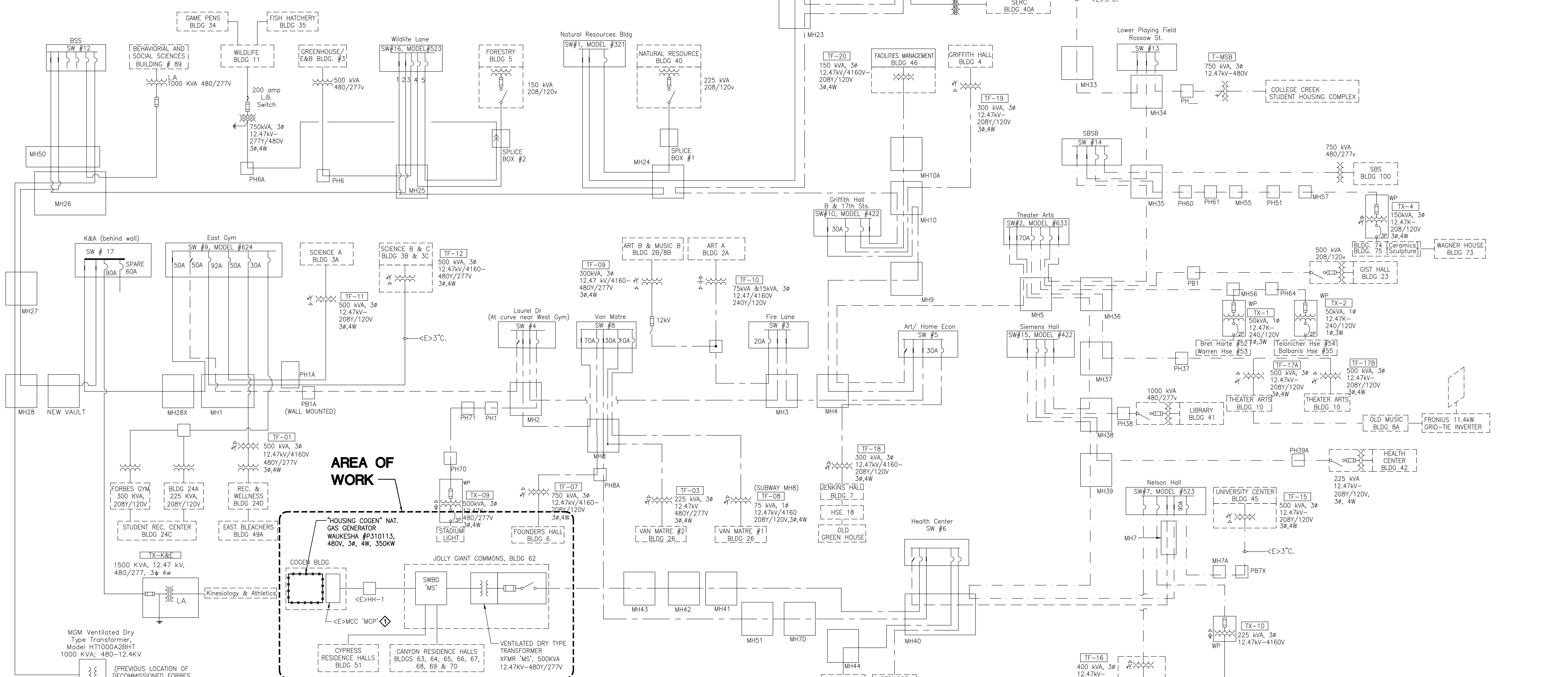
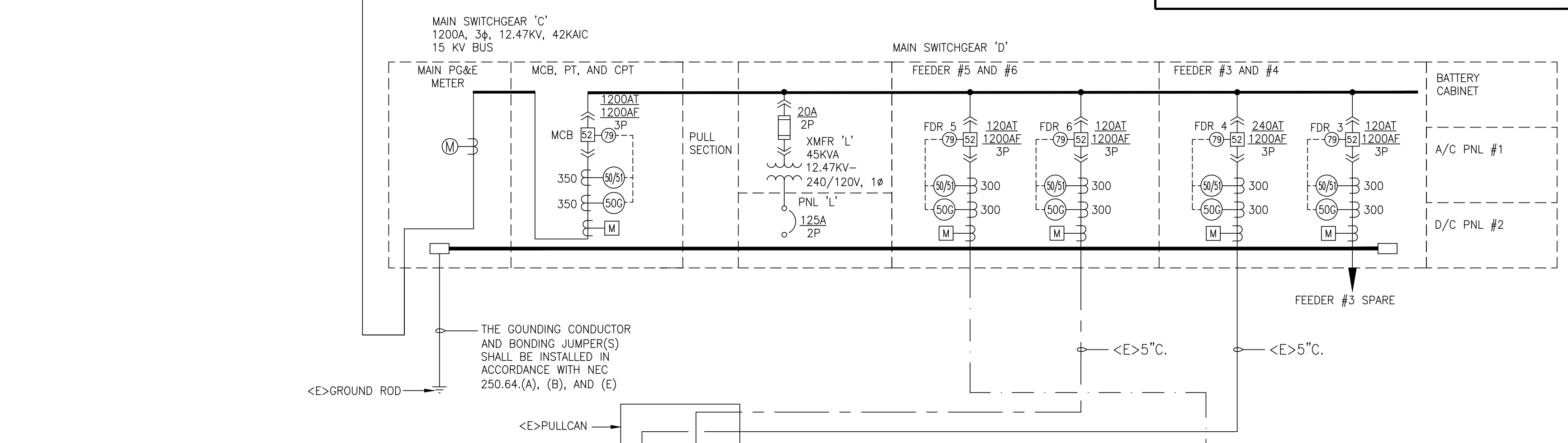
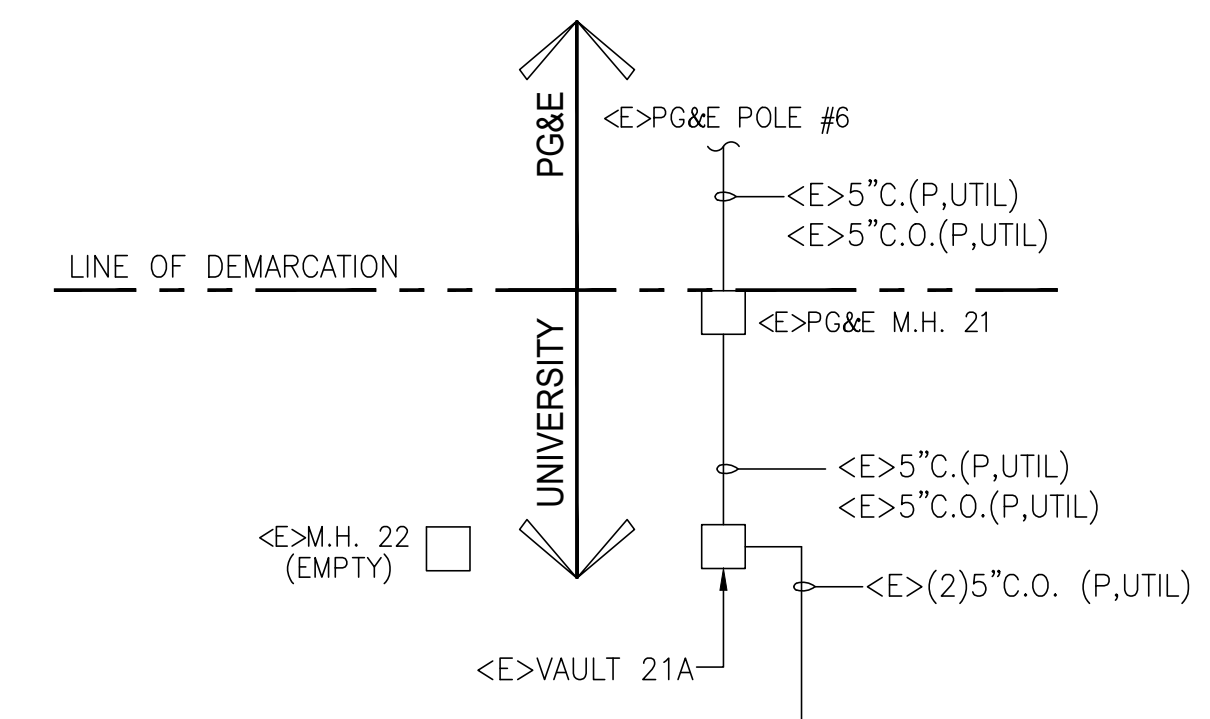
SOBE PROJECT NO: 2000677
 DATE: 12/15/20
 DRAWN BY:
 CHECKED BY:
 APPROVED BY:

SHEET TITLE
CAMPUS SINGLE LINE DIAGRAM - DEMO

SCALE: AS NOTED
 THIS DRAWING IS 30" X 42" AT FULL SIZE

ED-7.1
 SHEET OF

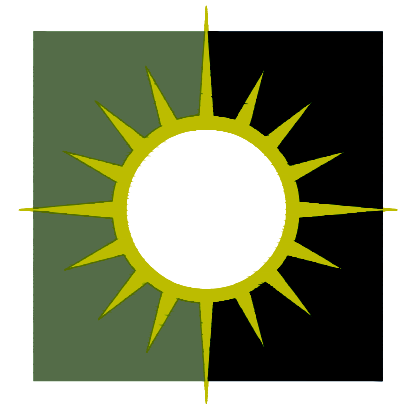
- FEEDER #4 LOADS**
- NATURAL RESOURCES #40
 - FORESTRY #5
 - FORESTRY GREENHOUSE
 - SCIENCE D & E #3
 - WILDLIFE #11
 - SCIENCE #3A & #3B
 - SCIENCE #3C
 - WEST GYM #24D
 - FIELDHOUSE #24C
 - FIELDHOUSE LIGHTING - PRESSBOX
 - CO-GEN #24E
 - BEHAVIORAL AND SOCIAL SCIENCES #89
- FEEDER #5 LOADS**
- SBSB #100
 - COLLEGE CREEK APARTMENTS #50
 - CERAMICS LAB #74
 - WAGNER #73
 - SCULPTURE LAB #75
 - GIST HALL #23
 - LIBRARY #41 → PARKING & REF CTR #82
 - HEALTH CENTER #42
 - THEATRE ARTS #10 → OLD MUSIC #8
 - SIEMENS HALL #1
 - UNIVERSITY CENTER #45
 - NELSON HALL #14
 - HOUSING COGEN #108
- FEEDER #6 LOADS**
- GRIFFITH HALL #4
 - PLANT OPERATIONS #46 → CHILD DEV LAB #31
 - STADIUM LIGHTING
 - VAN MATRE HALL #26
 - FOUNDERS HALL #6
 - ART & MUSIC #2B & 8B
 - HOME ECONOMICS #2A
 - JENKINS HALL #7
 - BROOKINGS HOUSE #18
 - OLD GREENHOUSE #29
 - REDWOOD HALL #60
 - SUNSET HALL #61
 - SCHATZ ENERGY RESEARCH CENTER #40A



AREA OF WORK

1 CAMPUS 12 KV SINGLE LINE DIAGRAM - DEMO
 SCHEMATIC

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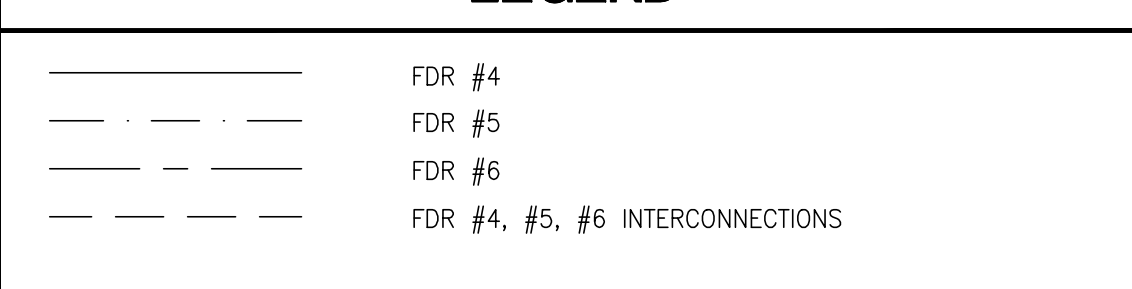
REFERENCE SHEET NOTES

1. GENERATOR, REFER TO SHEET E-7.2.
2. REFER TO SHEET E-7.2 FOR WIRE AND CONDUIT SIZES.

GENERAL SHEET NOTES

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

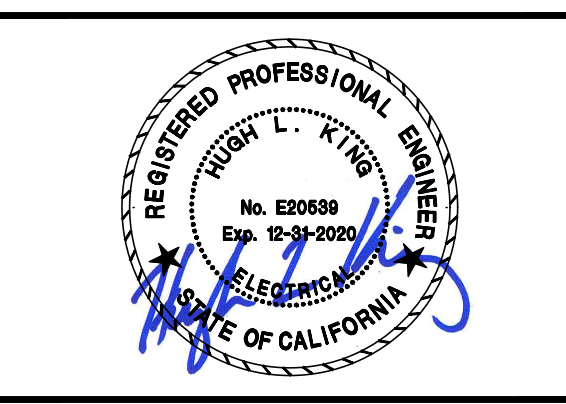
LEGEND



This project has demonstrated conformance with applicable codes and standards established by state and University policy. Based on this determination, we are approving for construction.

'APPROVED FOR CONSTRUCTION'
 Michael Fisher
 Campus Deputy Building Official
 Humboldt State University
 The California State University
 Date: _____
 Permit #: _____
 (Other approvals as applicable)
 SPM Approval: _____
 DSA Approval: _____
 Science Peer Review: _____
 Mock Peer Review: _____

CALIFORNIA STATE FIRE MARSHAL APPROVED
 Approval of this plan does not authorize or approve any installation or deviation from applicable regulations. Final approval is subject to field inspection. Set of approved plans shall be available on the project site at all times.
 Reviewed by: _____
 Date: _____



HUMBOLDT STATE UNIVERSITY

1 HARPST STREET
 ARCATA, CA 95521

JOLLY GIANT COMMONS EMERGENCY GENERATOR

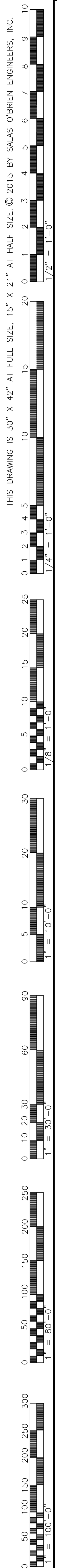
ISSUE	MARK	DATE	DESCRIPTION
		05/19/20	PROGRESS SET
		12/15/20	100% CD

SOBE PROJECT NO: 2000677
 DATE: 12/15/20
 DRAWN BY:
 CHECKED BY:
 APPROVED BY:

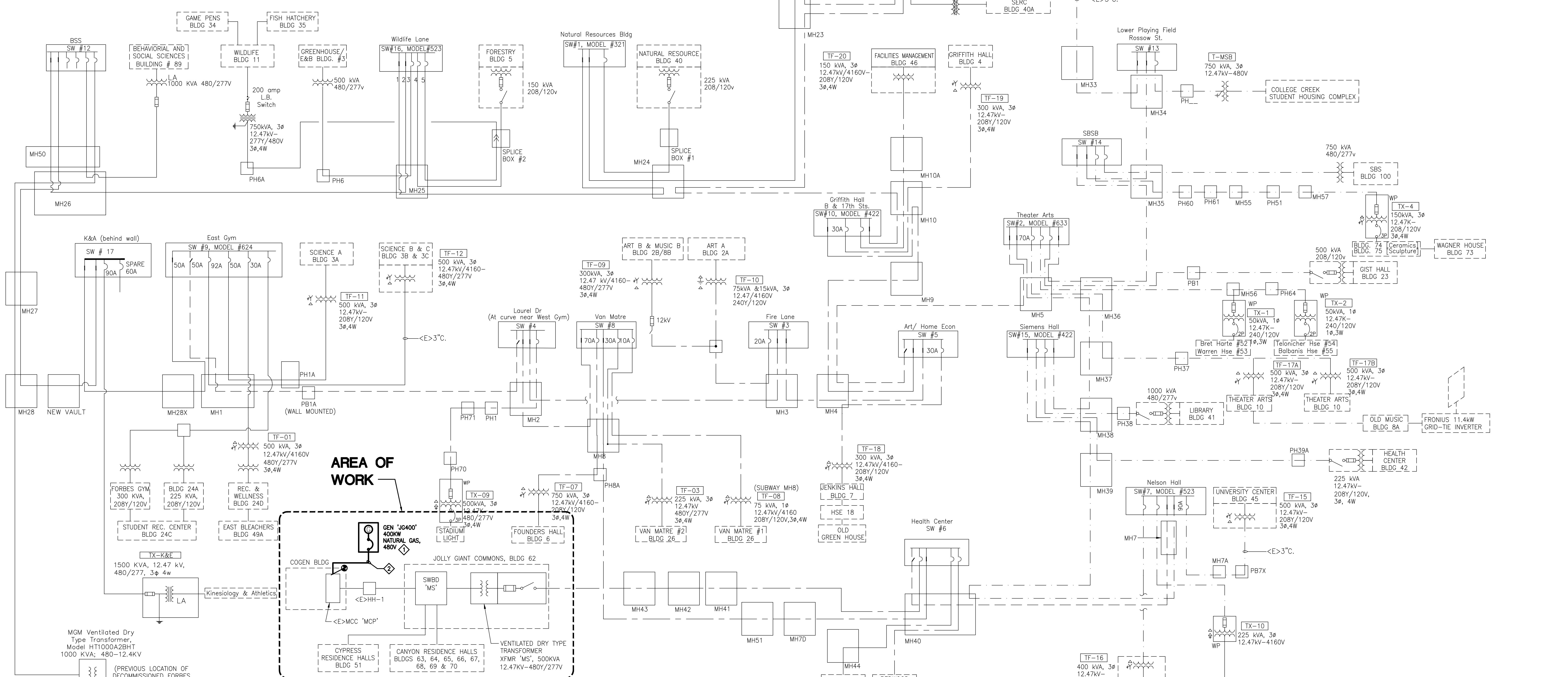
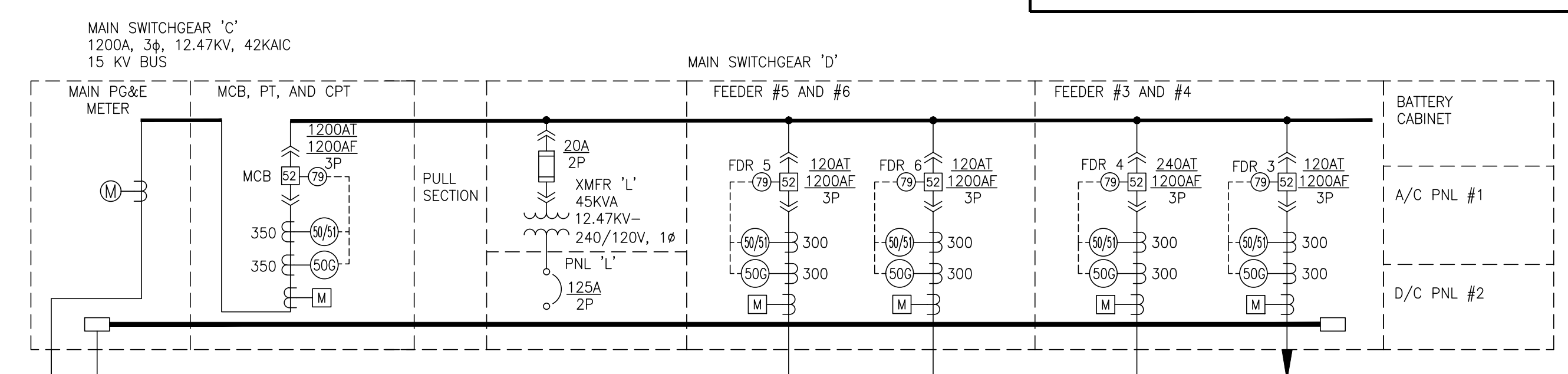
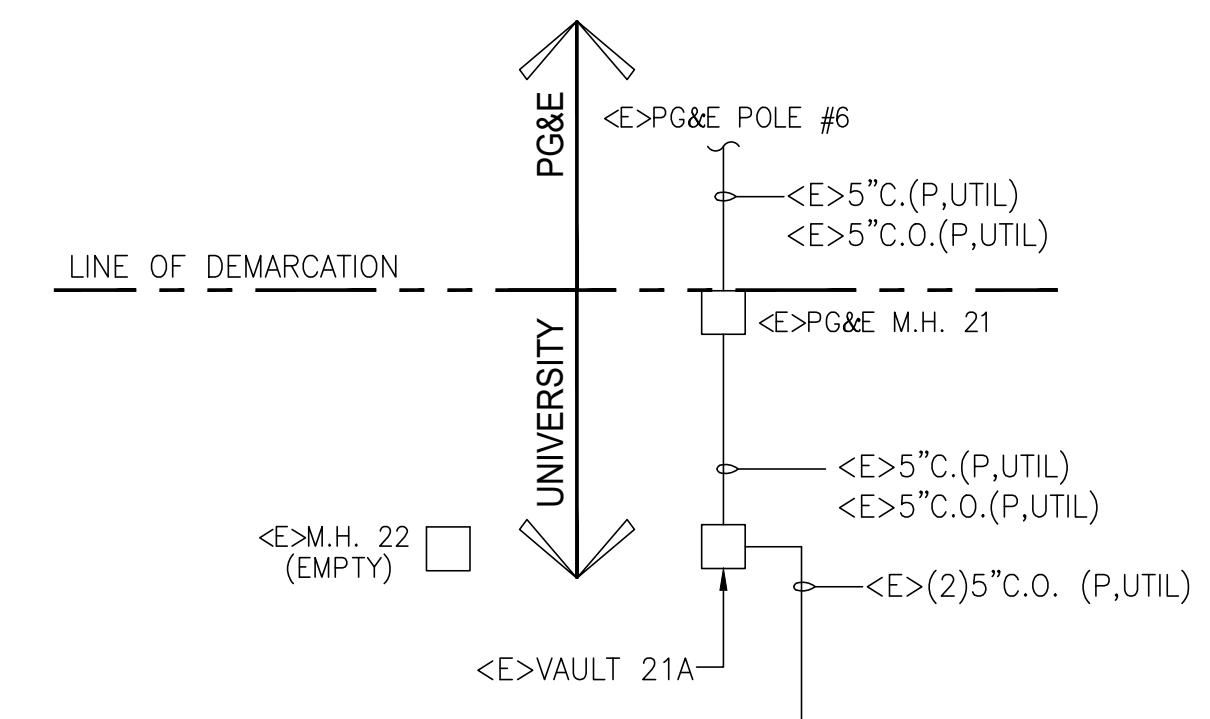
SHEET TITLE
CAMPUS SINGLE LINE DIAGRAM - NEW

SCALE: AS NOTED
 THIS DRAWING IS 30" X 42" AT FULL SIZE

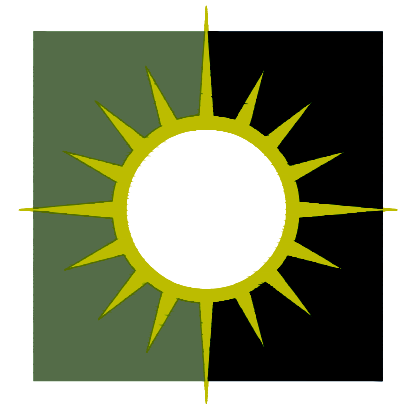
E-7.1
 SHEET - OF -



FEEDER #4 LOADS	
NATURAL RESOURCES #40	
FORESTRY #5	
SCIENCE D & E #3	
WILDLIFE #11	
SCIENCE #3A & #3B	
SCIENCE #3C	
WEST GYM #24D	
FIELDHOUSE #24C	
FIELDHOUSE LIGHTING - PRESSBOX	
CO-GEN #24E	
BEHAVIORAL AND SOCIAL SCIENCES #89	
FEEDER #5 LOADS	
SBSB #100	
COLLEGE CREEK APARTMENTS #50	
CERAMICS LAB #74	
WAGNER #73	
SCULPTURE LAB #75	
GIST HALL #23	
LIBRARY #41	
HEALTH CENTER #42	
THEATRE ARTS #10	
SIEMENS HALL #1	
UNIVERSITY CENTER #45	
NELSON HALL #14	
HOUSING COGEN #108	
FEEDER #6 LOADS	
GRIFFITH HALL #4	
PLANT OPERATIONS #46	
STADIUM LIGHTING	CHILD DEV LAB #31
VAN MATRE HALL #26	
FOUNDERS HALL #6	
ART & MUSIC #2B & 8B	
HOME ECONOMICS #2A	
JENKINS HALL #7	
BROOKINGS HOUSE #18	
OLD GREENHOUSE #29	
REDWOOD HALL #60	
SUNSET HALL #61	
SCHATZ ENERGY RESEARCH CENTER #40A	



1 CAMPUS 12 KV SINGLE LINE DIAGRAM - NEW
 SCHEMATIC



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'APPROVED FOR CONSTRUCTION'
Michael Fisher
Campus Deputy Building Official
Humboldt State University
The California State University

Permit #:
Other approvals as applicable:
SFM Approval:
DIA Access Approval:
Science Park Review:
Mock Pipe Review:

CALIFORNIA STATE FIRE MARSHAL APPROVED
Approval of this plan does not authorize or approve any construction or deviation from applicable regulations. Final approval is subject to field inspection. Set of approved plans shall be available on the project site at all times.
Reviewed by:
Date:



HUMBOLDT STATE UNIVERSITY

1 HARPST STREET
ARCATA, CA 95521

JOLLY GIANT COMMONS EMERGENCY GENERATOR

ISSUE
MARK DATE DESCRIPTION
05/19/20 PROGRESS SET
12/15/20 100% CD

SOBE PROJECT NO: 2000677
DATE: 12/15/20
DRAWN BY:
CHECKED BY:
APPROVED BY: CM

SHEET TITLE
MECHANICAL & PLUMBING GENERAL NOTES, SYMBOLS & ABBREVIATIONS

SCALE: AS NOTED
THIS DRAWING IS 30" X 42" AT FULL SIZE

MP-0.1
SHEET OF

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): 2019
2. CALIFORNIA BUILDING CODE (PART 2, TITLE 24): 2018 IBC WITH 2019 CA AMENDMENTS
3. CALIFORNIA ELECTRICAL CODE (PART 3, TITLE 24): 2017 NEC WITH 2019 CA AMENDMENTS
4. CALIFORNIA MECHANICAL CODE (PART 4, TITLE 24): 2018 UMC WITH 2019 CA AMENDMENTS
5. CALIFORNIA PLUMBING CODE (PART 5, TITLE 24) 2018 UPC WITH 2019 CA AMENDMENTS
6. CALIFORNIA ENERGY CODE (PART 6, TITLE 24): 2019
7. CALIFORNIA HISTORICAL BUILDING CODE, (PART 8, TITLE 24): 2019
8. CALIFORNIA FIRE CODE (PART 9, TITLE 24): 2018 IFC WITH 2019 CA AMENDMENTS
9. CALIFORNIA EXISTING BUILDING CODE (PART 10, TITLE 24): 2018 INTERNATIONAL EXISTING BUILDING CODE WITH 2019 CA AMENDMENTS
10. CALIFORNIA GREEN BUILDING STANDARDS CODE OR CAL GREEN (PART 11, TITLE 24): 2019
11. CALIFORNIA REFERENCED STANDARDS CODE (PART 12, TITLE 24): 2019
12. CALIFORNIA CODE OF REGULATIONS PUBLIC SAFETY (TITLE 19), STATE FIRE MARSHAL: CURRENT EDITION
13. NFPA 13 INSTALLATION OF SPRINKLER SYSTEMS: 2019 (CA AMENDED)
14. NFPA 14 (AMENDED) INSTALLATION OF STANDPIPE, PRIVATE HYDRANT AND HOSE SYSTEMS: 2019 (CA AMENDED)
15. NFPA 17 DRY CHEMICAL EXTINGUISHING SYSTEM: 2017 EDITION
16. NFPA 17A TO A UL 300 FOR CLASS I HOOD FIRE SUPPRESSION SYSTEM. (WET CHEMICAL EXTINGUISHING SYSTEMS) 2017
17. NFPA 20 INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION: 2019 EDITION
18. NFPA 22 WATER TANKS FOR PRIVATE FIRE PROTECTION: 2018 EDITION
19. NFPA 24 INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES: 2019 EDITION (CA AMENDED)
20. NFPA 25 INSPECTION, TESTING, MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS: 2020 EDITION (CA EDITION)
21. NFPA 72 NATIONAL FIRE ALARM CODE, WITH CA AMENDMENTS: 2019 EDITION (CA AMENDED)
22. NFPA 80 FIRE DOORS AND OTHER OPENING PROTECTIVE: 2019 EDITION
23. NFPA 110 EMERGENCY AND STAND-BY POWER SYSTEMS: 2019 EDITION
24. NFPA 170 STANDARD FOR FIRE SAFETY AND EMERGENCY SYMBOLS: 2018 EDITION
25. NFPA 2001 CLEAN AGENT FIRE EXTINGUISHING SYSTEMS 2018
26. ICC 300-12 STANDARD ON BLEACHERS, FOLDING AND TELESCOPIC SEATING AND GRANDSTANDS
27. SFM 12-10-1 POWER OPERATED EXIT DOORS
28. SFM 12-10-2 SINGLE POINT LATCHING OR LOCKING DEVICES
29. SFM 12-10-3 EMERGENCY EXIT & PANIC HARDWARE
30. ASTM STANDARD CHANGES (EXAMPLE: ASTM E648-04 STANDARD TEST METHOD FOR CRITICAL RADIANT FLUX OF FLOOR)
31. UL 38 AMENDED MANUAL OPERATED SIGNAL BOXES, WITH REVISIONS, LATEST EDITION AS AMENDED
32. UL 268 SMOKE DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS
33. UL 288A SMOKE DETECTORS DUCT APPLICATIONS
34. UL 300 FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF RESTAURANT COOKING AREAS
35. UL 305 PANIC HARDWARE
36. UL 464 AUDIBLE SIGNAL APPLIANCES
37. UL 521 HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS
38. UL 864 CONTROL UNITS FOR FIRE PROTECTIVE SIGNALING SYSTEMS
AMERICANS WITH DISABILITIES ACT (A.D.A.) FEDERAL ACCESSIBILITY STANDARDS
ACI 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AISC MANUAL OF STEEL CONSTRUCTION
ASCE/SEJ 7-16, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION

GENERAL NOTES

- 1. PRIOR TO SUBMITTING PROPOSAL, BIDDER SHALL EXAMINE CONSTRUCTION DRAWINGS AND SPECIFICATIONS AND SHALL HAVE VISITED THE CONSTRUCTION SITE. HE SHALL BE FAMILIAR WITH THE CONDITIONS UNDER WHICH HE 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 PART. DETERMINE THE SEQUENCE OF CONSTRUCTION THROUGHOUT THE PROJECT.
- 2. THE CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE FOR THE PROPER RESTORATION OF ALL SURFACES REQUIRING PATCHING, PLASTERING, PAINTING AND/OR OTHER WORK DUE TO THE INSTALLATION OF WORK UNDER THE TERMS OF THIS SPECIFICATION. CLOSE ALL OPENINGS, REPAIR ALL SURFACES, ETC., AS REQUIRED.
- 3. ALL TEMPORARY WORK SHALL BE CONSIDERED A 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.
- 4. SEAL ALL PENETRATIONS THROUGH FIRE WALLS. FURNISH AND INSTALL FIRE RATED BACKBOXES AS REQUIRED TO MAINTAIN FIRE RATINGS ON CEILINGS WHERE RECESSED ELECTRIC EQUIPMENT SUCH AS LIGHT FIXTURES, SWITCHES, RECEPTACLES, PANEL, ETC. ARE INSTALLED IN RATED WALL OR CEILINGS.
- 5. ALL DIMENSIONS ARE APPROXIMATE. THE DRAWINGS ARE DIAGRAMMATIC TO THE EXTENT THAT ALL FITTINGS, OFFSETS, ETC. MAY NOT BE SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE GUIDANCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD FOR FABRICATION OF THE PIPING, MECHANICAL, AND ELECTRICAL COMPONENTS INTO A COMPLETE AND OPERABLE SYSTEM. ALL EXISTING PIPES, CONDUITS, DUCTS AND WIRING FOUND TO INTERFERE WITH NEW CONSTRUCTION SHALL BE REROUTED AS REQUIRED TO ACCOMMODATE NEW WORK.
- 6. THE PLANS AND SPECIFICATIONS DO NOT UNDERTAKE TO SHOW OR LIST EVERY ITEM TO BE PROVIDED, BUT RATHER TO DEFINE THE REQUIREMENTS FOR A FULL AND WORKING SYSTEM FROM THE STANDPOINT OF THE END USER. FOR THIS REASON, WHEN AN ITEM NOT SHOWN OR LISTED IS CLEARLY NECESSARY FOR PROPER CONTROL/OPERATION OF EQUIPMENT WHICH IS SHOWN OR LISTED, PROVIDE AN ITEM WHICH WILL ALLOW THE SYSTEM TO FUNCTION PROPERLY AT NO INCREASE IN PRICE.
- 7. ALL WORK SHALL CONFORM TO CALIFORNIA TRADE STANDARDS WHICH GOVERN EACH PHASE OF THE PROJECT.
- 8. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE LATEST ADOPTED CAMPUS STANDARDS.
- 9. ALL MECHANICAL, PLUMBING, AND ELECTRICAL EQUIPMENT SHALL BE ANCHORED AND SEISMICALLY BRACED PER CODE.
- 10. THIS DRAWINGS SET SHALL BE USED IN CONJUNCTION WITH THE CSI FORMAT SPECIFICATIONS PUBLISHED IN BOOK FORM, COMBINED, THEY ARE THE "CONTRACT DOCUMENTS".
- 11. DIMENSIONS ON WORKING DRAWINGS GOVERN. DO NOT SCALE DRAWINGS.
- 12. ALL TYPICAL DETAILS SHALL APPLY UNLESS OTHERWISE NOTED.
- 13. ALL CONTRACTORS SHALL REMOVE TRASH AND DEBRIS STEMMING FROM THEIR WORK ON A DAILY BASIS. PROJECT SITE SHALL BE MAINTAINED IN A CLEAN AND ORDERLY CONDITION.
- 14. THE DETAILS REFLECT THE DESIGN INTENT FOR TYPICAL CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND SHALL INCLUDE, IN HIS SCOPE, THE COST FOR COMPLETE FINISHED INSTALLATIONS, INCLUDING ANNUALS, OF ALL TRADES.
- 15. PRIOR TO BIDDING, CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY CONDITIONS WHICH ARE NOT COVERED IN THE CONTRACT DOCUMENTS. CONTRACTOR SHALL NOTIFY THE ARCHITECT AND SEEK CLARIFICATION IF ANY DISCREPANCIES ARE FOUND. CONTRACTOR SHALL BE RESPONSIBLE FOR REMEDIAL WORK IF RELATED WORK IS CONTINUED AFTER A DISCREPANCY IS IDENTIFIED.
- 16. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT MATERIALS, LABOR, INSTALLATION, ETC., CONFORMS TO ALL CODES AND REQUIREMENTS OF LOCAL GOVERNING AGENCIES.
- 17. NO WORK SHALL COMMENCE WITH UNAPPROVED MATERIALS. ANY WORK DONE WITH UNAPPROVED MATERIALS AND EQUIPMENT IS AT THE CONTRACTOR'S RISK. SEE SPECIFICATIONS FOR SUBMITTAL AND SUBSTITUTION REQUIREMENTS.
- 18. CONSTRUCTION MATERIALS STORED ON THE SITE SHALL BE PROPERLY STACKED AND PROTECTED SO AS TO PREVENT DAMAGE OR DETERIORATION UNTIL USED. FAILURE IN THIS REGARD MAY BE CAUSE FOR REJECTION OF MATERIAL AND/OR WORK.
- 19. ALL FINISHES AND CONSTRUCTION SHALL BE PROTECTED BY THE CONTRACTOR FROM POTENTIAL DAMAGE CAUSED BY CONSTRUCTION ACTIVITY. DAMAGE TO FINISHES OR CONSTRUCTION SHALL BE REPAIRED OR REPLACED (OWNER'S DECISION) BY THE CONTRACTOR WITH IDENTICAL MATERIAL AND/OR FINISHES. CONTRACTOR SHALL MAKE AND MAINTAIN A PHOTOGRAPHIC RECORD NOTEBOOK WITH DATED/INDEX PHOTOGRAPHS.
- 20. ALL EQUIPMENT SHALL BE FABRICATED FROM FIELD VERIFIED DIMENSIONS AND APPROVED SHOP DRAWINGS. COORDINATE MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT & INSTALLATION.

UNDERGROUND WORK:

- 1. CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHILE TRENCHING FOR NEW UTILITIES. THESE DRAWINGS HAVE BEEN COMPILED FROM RECORD DOCUMENTS, FIELD SURVEYS AND OTHER AVAILABLE INFORMATION. NOT ALL UTILITIES AND/OR OBSTRUCTIONS ARE SHOWN. CONTRACTOR SHALL VERIFY THE LOCATIONS OF UTILITIES PRIOR TO EXCAVATION, EITHER BY HAND EXCAVATION OR WITH THE ASSISTANCE OF AN UNDERGROUND UTILITY LOCATION SERVICE (USA WILL NOT LOCATE UTILITIES ON THE CAMPUS).
- 2. PROVIDE FOR PEDESTRIAN ACCESS AT ALL TIMES. PROVIDE BARRICADES, WARNING SIGNS, TEMPORARY BRIDGES, ETC. AS REQUIRED TO FULFILL THIS REQUIREMENT.
- 3. NORMAL UNDERGROUND UTILITY LOCATION PROVISIONS (i.e. USA LOCATOR SERVICE) ARE NOT AVAILABLE ON CAMPUSES AS A RULE. CONTRACTOR IS RESPONSIBLE TO PROVIDE PRIVATE SERVICE FOR LOCATION OF UNDERGROUND SERVICES. PROVIDE ACCESS REQUEST PRIOR TO DISRUPTION OF ANY SERVICE, OR ACCESS TO ANY SENSITIVE/OCCUPIED AREA.

SPRINKLER / IRRIGATION REPAIR:

- 1. INCLUDE NECESSARY MATERIALS & LABOR TO REPAIR IRRIGATION/SPRINKLER LINES UP TO 2" FOR THE QUANTITY LISTED BELOW.
- 2. REPAIR 1 SPRINKLER/IRRIGATION LINE FOR EVERY 10 FEET OF TRENCH.
- 3. NO INCREASE IN PRICE SHALL RESULT FROM SPRINKLER/IRRIGATION REPAIR WITHOUT SUBSTANTIATING DOCUMENTATION SHOWING REPAIRS HAVE EXCEEDED THE QUANTITY SPECIFIED.

INTERRUPTIONS TO EXISTING SYSTEMS:

- 1. THE CONTRACT REQUIRES THAT ALL ELECTRICAL CONNECTIONS REQUIRING AN OUTAGE SHALL OCCUR ON A WEEKEND OR BETWEEN THE HOURS OF 10PM AND 7AM, MONDAY THROUGH FRIDAY. OUTAGES SHALL BE SCHEDULED AND APPROVED IN ADVANCE AND IN WRITING AT LEAST 10 DAYS PRIOR TO THE OUTAGE. WORK SHALL BE SCHEDULED SUCH THAT AT NO TIME WILL ANY EMERGENCY FEEDER, CIRCUIT OR FIRE ALARM ZONE BE OUT OF SERVICE. THIS MEANS THAT CONTRACTOR SHALL INCLUDE ALL PROVISIONS FOR TEMPORARY FEEDERS IN ORDER TO ACCOMPLISH THIS REQUIREMENT.

INTENT:

"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, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY EXISTING CONDITION SUCH AS DETERIORATION OR NONCOMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CCD OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE DIVISION OF STATE ARCHITECT BEFORE PROCEEDING WITH THE WORK."

HARDSCAPING/LANDSCAPING RESTORATION:

- 1. ALL LANDSCAPING AND HARDSCAPING DAMAGED AS A RESULT OF UNDERGROUND WORK SHALL BE RESTORED TO AS-FOUND CONDITION. SAWCUTTING OF HARDSCAPE SHALL BE FROM SCOREMARK TO SCOREMARK. REPAIRS SHALL BE MADE WITH #4 DOWELS @ 12" O.C., 4-1/2" MIN. EMBED IN 6000 PSI EPOXY.
- 2. THE INTENT OF THIS PROJECT IS TO INSTALL UNDERGROUND UTILITIES THROUGHOUT THE CAMPUS AND TO RESTORE ALL DISTURBED FEATURES OF SURFACE IMPROVEMENTS. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES ARE TO BE RESTORED TO "AS-FOUND" OR BETTER CONDITION.
- 3. ALL SURFACE REPAIRS SHALL MATCH ADJACENT SURFACE FEATURES IN CONSTRUCTION, COLOR AND FINISH. ALL TURF AREAS DISTURBED ARE TO BE REPAIRED TO ORIGINAL CONDITION WITH THE USE OF TOP SOIL, CONDITIONERS AND SOD. MATCH GRASS TYPES BY AREA TO PROVIDE SAME TURF CHARACTERISTICS AS ADJACENT TURF.
- 4. CONCRETE SIDEWALK REPAIRS: ALL CONCRETE SIDEWALKS ARE TO BE CONSIDERED AS TRAFFIC RATED AND SHALL BE REPLACED/REPAIRED WITH MINIMUM 6" OF 3000 PSI CONCRETE WITH #4'S AT 12" O.C.E.W. PLACED ON TOP OF 6" CLASS II AGGREGATE.
- 5. ASPHALT ROADWAY REPAIRS: ALL ASPHALT DRIVEWAYS ARE TRAFFIC RATED. ALL ASPHALT REPAIRS SHALL BE REPAIRED TO MATCH ADJACENT BASE COURSE, BINDER COURSE AND WEARING COURSES. RESTORE ANY/ALL STRIPING TO AS FOUND CONDITION.

UNDERGROUND UTILITY NOTE:

THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. A REASONABLE EFFORT HAS BEEN MADE TO FIELD LOCATE AND DELINEATE ALL KNOWN UTILITIES BUT SINCE ONLY ACTUAL EXCAVATION CAN REVEAL THE TRUE LOCATION AND PHYSICAL CHARACTERISTICS OF ALL UNDERGROUND UTILITIES OR OTHER BURIED OBJECTS, THE SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF THEIR DELINEATION AS SHOWN ON THIS PLAN.

CONTRACTOR NOTE:

CONTRACTOR TO POTHOLE & LOCATE ALL EXISTING UTILITIES SHOWN CROSSING NEW WORK BEFORE DIGGING. SOME UTILITIES HAVE BEEN FOUND AS SHALLOW AS 6".

LAYING OUT THE WORK:

ACCURATELY LAYOUT INSTALLATION OF EQUIPMENT PRIOR TO BEGINNING WORK. LAYOUT WORK SHALL INCLUDE PROVISIONS FOR CONNECTIONS TO <E>SERVICES, NECESSARY TURN & CHANGES IN ELEVATION, BYPASSING OBSTRUCTIONS, AND ANY OTHER IMPEDIMENT ASSOCIATED WITH THE BELOW GRADE PIPING INSTALLATIONS.

ABBREVIATIONS

AAV	AUTOMATIC AIR VENT	AAV	AUTOMATIC AIR VENT
AFF	ABOVE FINISHED FLOOR	AS	AIR SEPARATOR
AS	AIR SEPARATOR	ASJ	ALL SERVICE JACKET
B	BOILER	BFP	BACKFLOW PREVENTER
BOP	BOTTOM OF PIPE	Q	CENTERLINE
CFT	CHEMICAL FEED TANK	CGWS/R	COGEN WATER SUPPLY/RETURN
CONT	CONTINUATION	DIA	DIAMETER
DP	DIFFERENTIAL PRESSURE	DPT	DIFFERENTIAL PRESSURE TRANSDUCER
<E>	EXISTING	ELEV	ELEVATION
EQ	EQUAL	ET	EXPANSION TANK
F	FAHRENHEIT	FM	FLOW METER
FS	FLOW SWITCH	G	GAS
HHW(R)(S)(T)(P)	HEATING HOT WATER (RETURN)(SUPPLY)(PUMP) (TEMPERATURE)	HWP	HOT WATER PUMP
HX	HEAT EXCHANGER	IE	INVERT ELEVATION
IN.	INCH	IN.W.C.	INCHES WATER COLUMN (PRESSURE)
MAV	MANUAL AIR VENT	MAX	MAXIMUM
MU	MAKE-UP	MUA	MAKE UP ASSEMBLY
<N>	NEW	N.T.S.	NOT TO SCALE
P	PUMP	PHW(R)(S)	PRIMARY HOT WATER (RETURN)(SUPPLY)
POC	POINT OF CONNECTION	PSI(G)	POUNDS PER SQUARE INCH (GAUGE)
<RR>	REMOVE AND RELOCATE	<REL>	RELOCATED
SHHW(R)(S)(T)	SECONDARY HEATING HOT WATER (RETURN)(SUPPLY) (TEMPERATURE)	SIM.	SIMILAR
SS	SANITARY SEWER	TBA	TO BE ABANDONED
TP	TEST PLUG (PETE'S PLUG)	TYP	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED	VFD	VARIABLE FREQUENCY DRIVE
V.F.	VERIFY IN FIELD	W.C.	WATER COLUMN
WT	WEIGHT		

SYMBOLS

- EXTENT OF DEMOLITION
- NEW TO EXISTING CONNECTION
- REVISION NUMBER
- WORK ITEM (MECHANICAL)
- WORK ITEM (PLUMBING)
- DETAIL DESIGNATION
- EQUIPMENT DESIGNATION
- SECTION DESIGNATION
- TO BE DEMOLISHED
- TO BE DEMOLISHED

PIPING

- ARROW INDICATES DIRECTION OF FLOW
- EXISTING PIPING (ABOVE GRADE OR FLOOR)
- EXISTING PIPING (BELOW GRADE OR FLOOR)
- NEW PIPING (ABOVE GRADE OR FLOOR)
- NEW PIPING (BELOW GRADE OR FLOOR)
- PIPE TO BE REMOVED (ABOVE GRADE OR FLOOR)
- PIPE TO BE REMOVED (BELOW GRADE OR FLOOR)

HEATING

- BBD BOILER BLOW DOWN
- CR CONDENSATE RETURN
- CW CITY WATER
- FO(R)(S) FUEL OIL (RETURN)(SUPPLY)
- FOV FUEL OIL TANK VENT
- (P)(S)HHW(R)(S) (PRIMARY)(SECONDARY) HEATING HOT WATER (RETURN)(SUPPLY)
- HTW(R)(S) HIGH-TEMPERATURE HOT WATER (RETURN)(SUPPLY)
- IW INDUSTRIAL WATER
- (L)(M)(H)PS (LOW)(MEDIUM)(HIGH) PRESSURE STEAM
- (L)(M)(H)PCR (LOW)(MEDIUM)(HIGH) PRESSURE CONDENSATE RETURN
- MU MAKEUP WATER
- PCR PUMPED CONDENSATE RETURN
- VR VACUUM CONDENSATE RETURN

VALVES, SPECIAL DUTY

- CHECK, SWING GATE
- CIRCUIT SETTER
- NEEDLE
- PRESSURE REDUCING (NUMBER & SPECIFY)
- PRESSURE REGULATOR
- RELIEF (R) OR SAFETY (S)
- SEISMIC VALVE
- MAKE UP WATER ASSEMBLY
- BACK PRESSURE
- PLUG VALVE
- TRIPLE DUTY VALVE (STOP CHECK & BALANCE W/PRESSURE TAPS)
- REDUCED PRESSURE BACKFLOW PREVENTER
- FLOW CONTROL

POINTS LIST

FUTURE CONTROL POINTS						
EQUIPMENT LOCATION	POINT ID	CONTROL DEVICE	CONTROL DESCRIPTION	CONTROL DEVICE LOCATION	GENERATOR POINT	NOTES
GENERATOR	GEN_JG_RUN	MODBUS	GENERATOR RUN	GEN CONTROLLER	2	1
GENERATOR	GEN_JG_ALARM	MODBUS	GENERATOR ALARM	GEN CONTROLLER	2	1
GENERATOR	GEN_JG_VOLTAGE	MODBUS	GENERATOR RMS VOLTAGE	GEN CONTROLLER	2	1
GENERATOR	GEN_JG_CURRENT	MODBUS	GENERATOR RMS CURRENT	GEN CONTROLLER	2	1
GENERATOR	GEN_JG_POWER	MODBUS	GENERATOR REAL POWER	GEN CONTROLLER	2	1
GENERATOR	GEN_JG_PHASE_A_VOLTAGE	MODBUS	GENERATOR PHASE A RMS VOLTAGE	GEN CONTROLLER	2	1
GENERATOR	GEN_JG_PHASE_B_VOLTAGE	MODBUS	GENERATOR PHASE B RMS VOLTAGE	GEN CONTROLLER	2	1
GENERATOR	GEN_JG_PHASE_C_VOLTAGE	MODBUS	GENERATOR PHASE C RMS VOLTAGE	GEN CONTROLLER	2	1
GENERATOR	GEN_JG_PHASE_A_CURRENT	MODBUS	GENERATOR PHASE A RMS CURRENT	GEN CONTROLLER	2	1
GENERATOR	GEN_JG_PHASE_B_CURRENT	MODBUS	GENERATOR PHASE B RMS CURRENT	GEN CONTROLLER	2	1
GENERATOR	GEN_JG_PHASE_C_CURRENT	MODBUS	GENERATOR PHASE C RMS CURRENT	GEN CONTROLLER	2	1
GENERATOR	GEN_JG_HOURS	MODBUS	GENERATOR RUN HOURS	GEN CONTROLLER	2	1
GENERATOR	GEN_JG_FUEL_CONSUMPTION	MODBUS	GENERATOR FUEL CONSUMPTION	GEN CONTROLLER	2	1
SUBTOTALS:					26	
TOTAL VIRTUAL POINTS:					26	

NOTES:
1) VIRTUAL POINT.
2) CONTRACTOR SHALL SUBMIT SAMPLE GRAPHICS FOR GENERATOR FOR REVIEW, COMMENT AND APPROVAL BY ENGINEER AND DISTRICT.

SCHEDULE

PRESSURE REGULATOR VALVE SCHEDULE							
MARK	SERVICE	MAKE & MODEL	MIN CAPACITY (SCFH)	INLET PIPE SIZE (IN)	INLET PRESSURE (PSI)	OUTLET PRESSURE RANGE	NOTES
PRV-JG400-NG	JOLLY GIANT	AMERICAN METER - 1800 SERIES	5,946	1-1/4"	5	6" TO 13" IN. W.C.	1, 2, 3, 4
PRV-JG30-NG	JOLLY GIANT	AMERICAN METER - 1800 SERIES	381	1"	5	6" TO 13" IN. W.C.	1, 2, 3, 4

NOTE:
1) PRESSURE REGULATOR VALVE'S OUTLET PRESSURE SHALL BE SET FOR 8.5" W.C.
2) REGULATOR SHALL BE DIRECT-OPERATED.
3) REGULATOR SHALL HAVE AN AUTOMATIC UNDERPRESSURE SHUTOFF PROTECTION.
4) CONTRACTOR SHALL FIELD VERIFY INLET PRESSURE AND REPORT VALUE TO ENGINEER PRIOR TO ORDERING PRV.

CONTROLS SUMMARY OF WORK

- THE FOLLOWING IS FUTURE WORK AND SHALL NOT BE INCLUDED IN THE BASE BID:
1. INTERCEPT <E> MODBUS BACKBONE IN MECHANICAL ROOM AND EXTEND RS485 WIRING AND CONDUIT TO NEW GENERATOR. GENERATOR HAS INTEGRAL CONTROL CARD. SEE ELECTRICAL DRAWINGS FOR CONDUIT PATHWAY AND NEW GENERATOR LOCATION. SEE MECHANICAL SITE PLAN FOR APPROXIMATE LOCATION OF MECHANICAL ROOM.
2. ALL CONTROLS CONDUIT SHALL SHARE SAME TRENCH AS ELECTRICAL WHERE POSSIBLE.
3. PROVIDE CONNECTION TO NEW GENERATOR CONTROL CARD.
4. PROVIDE PROGRAMMING OF NEW GRAPHICS.
5. PROGRAM REQUESTED POINTS, PER POINTS LIST, TO <E> BMS. SET UP TRENDS PER DISTRICT'S DIRECTION.
6. COORDINATE WITH DISTRICT ON FINAL POINTS AND TRENDS TO BE PROGRAMMED INTO <E> BMS.

GRAPHICS

- THE FOLLOWING IS FUTURE WORK AND SHALL NOT BE INCLUDED IN THE BASE BID:
1. CONTROLS CONTRACTOR SHALL PROGRAM A UNIQUE "GENERATOR" PAGE, AS PART OF A SUB-PAGE OF THE MAIN "JOLLY GIANT" BUILDING BMS PAGE. GENERATOR SHALL BE SELECTABLE FROM THE MAIN BUILDING PAGE.
2. PROGRAM GENERATOR GRAPHICS DISPLAYING REAL TIME VALUES OF ALL THE POINTS PROVIDED ON THE POINTS LIST.
3. SAMPLE GRAPHIC SHALL BE SUBMITTED TO DISTRICT FOR FINAL APPROVAL.
4. TRENDS SHALL BE SETUP FOR ALL REQUESTED CONTROL POINTS. TRENDED DATA SHALL BE STORED FOR A MINIMUM OF 90 DAYS, AT 15 MINUTE INTERVALS.

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0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 100 150 200 250 300



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National Strength.
Local Action.

This project has demonstrated conformance with applicable codes and standards established by state and University policy. Based on this determination, the following approvals are:

'APPROVED FOR CONSTRUCTION'

Michael Fisher
Campus Deputy Building Official
Humboldt State University
The California State University

Date: _____
Permit #: _____
Other approvals as applicable:
SFM Approval: _____
DHS Access Approval: _____
Science Peer Review: _____
Mock Pipe Review: _____

CALIFORNIA STATE FIRE MARSHAL APPROVED

Approval of this plan does not authorize or approve any construction or deviation from applicable regulations. Final approval is subject to field inspection. Set of approved plans shall be available on the project site at all times.

Reviewed by: _____
Date: _____



HUMBOLDT STATE UNIVERSITY

1 HARPST STREET
ARCATA, CA 95521

**JOLLY GIANT COMMONS
EMERGENCY GENERATOR**

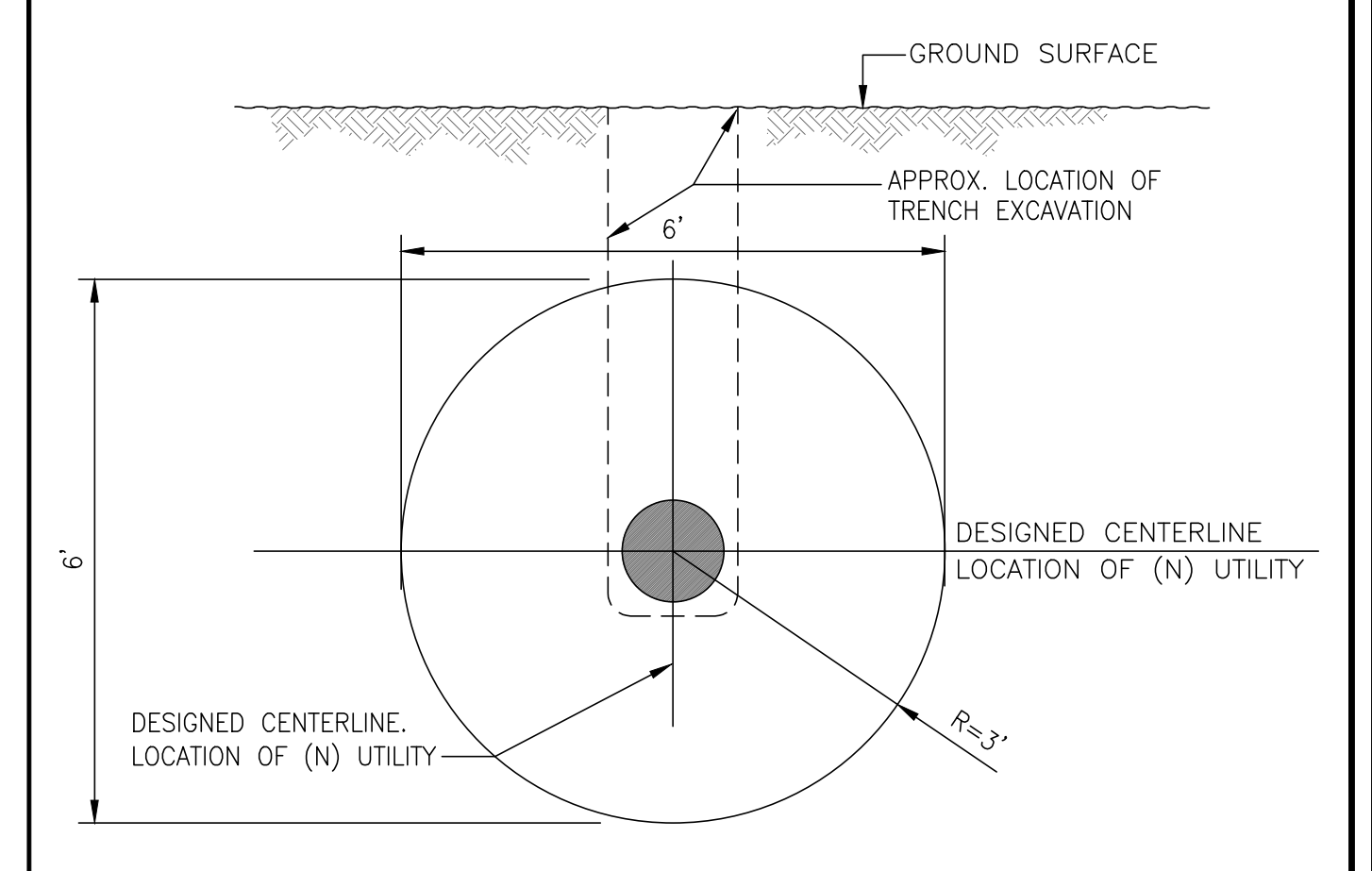
MARK	DATE	DESCRIPTION
	05/19/20	PROGRESS SET
	12/15/20	100% CD

SOBE PROJECT NO: 2000677
DATE: 12/15/20
DRAWN BY:
CHECKED BY:
APPROVED BY:

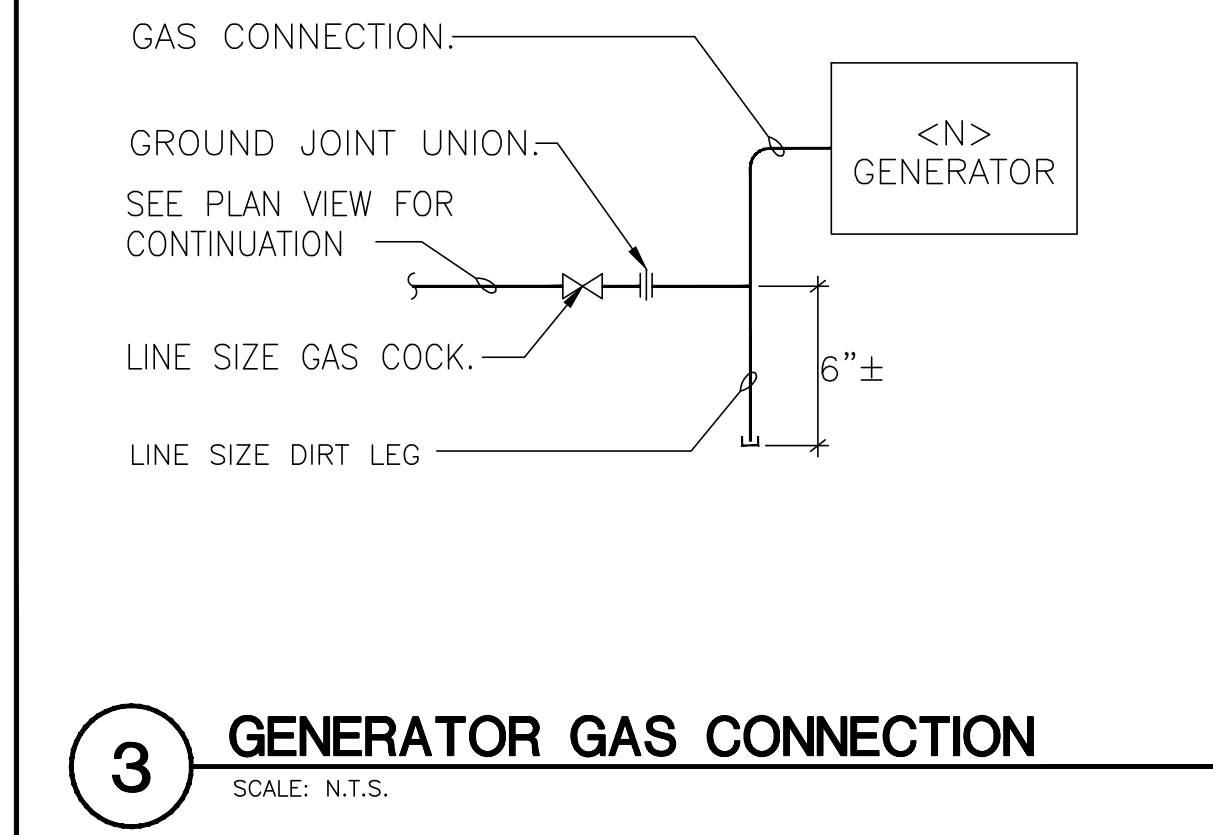
SHEET TITLE
**MECHANICAL & PLUMBING
DETAILS**

SCALE: AS NOTED
THIS DRAWING IS 30" X 42" AT FULL SIZE

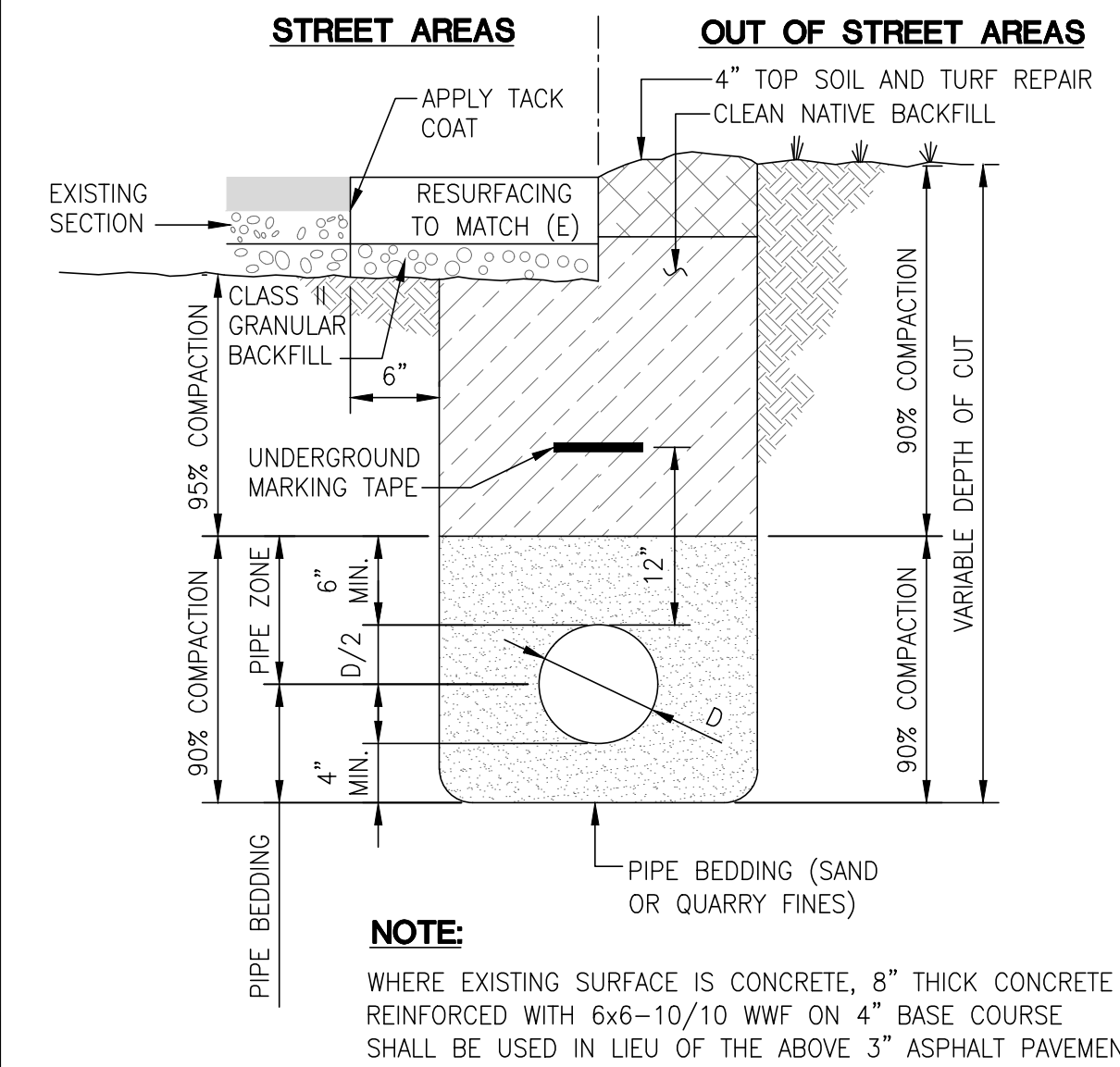
MP-5.1
SHEET - OF -



- NOTES:
- ANY FIELD ADJUSTMENTS TO THE PROPOSED LOCATION OF (N) UTILITIES WITHIN A 3 FOOT RADIUS OF THE DESIGN CENTERLINE LOCATION SHALL BE DONE AT NO ADDITIONAL EXPENSE TO THE OWNER. ALL PROPOSED ADJUSTMENTS SHALL BE SUBJECT TO PRIOR APPROVAL OF THE OWNER. SHOULD THE OWNER AGREE THAT IT IS NECESSARY TO ADJUST THE DESIGN LOCATION OF THE (N) UTILITY TO A POSITION OUTSIDE THE ABOVE 3 FOOT RADIUS, SUCH ADJUSTMENT SHALL BE SUBJECT TO REVIEW AS AN ITEM OF EXTRA EXPENSE.
 - IF IT IS NECESSARY TO RELOCATE (E) UTILITIES IN ORDER TO ALLOW THE (N) UTILITY TO BE INSTALLED WITHIN A 3 FOOT RADIUS OF ITS DESIGNED CENTERLINE, THEN SUCH RELOCATION OF (E) UTILITIES SHALL BE PAID FOR AS AN ITEM OF EXTRA EXPENSE. ANY SUCH RELOCATION SHALL BE SUBJECT TO PRIOR APPROVAL OF THE OWNER.
 - IN AREAS WHERE SHORING IS NOT REQUIRED AS PER THE LINE PROFILE DRAWINGS, THE MAXIMUM DEPTH OF TRENCHING TO AVOID OBSTACLES WITHOUT ADDITIONAL COST SHALL BE 5' BELOW GRADE. IN AREAS WHERE SHORING IS REQUIRED TO MEET DESIGN GRADE, THE LINE MAY BE ADJUSTED AN ADDITIONAL 3' BELOW THAT SHOWN WITH NO INCREASE IN COST.



3 GENERATOR GAS CONNECTION
SCALE: N.T.S.



4 PIPE BEDDING AND BACKFILL
SCALE: N.T.S.

GAS EQUIPMENT LOADS/SIZING
JOLLY GIANT BUILDING

Tag #	Item	Qty	Rating (BTUH)	CFH	LATERAL SIZE & CAPACITY PER CPC	<N> LATERAL SIZE
GEN	Generator	1	5,946,000	5946	3"	3"

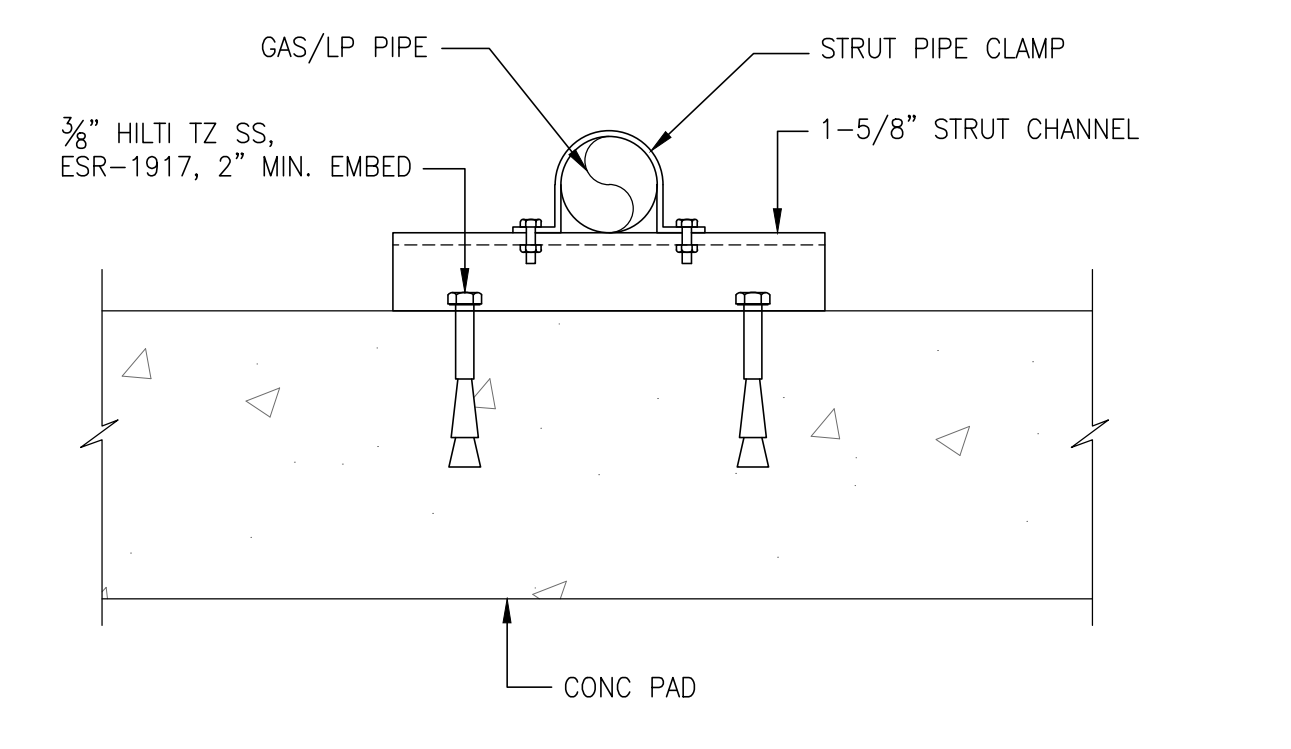
TOTAL CFH = 5946
LONGEST DISTANCE FROM REGULATOR TO LAST FIXTURE = 30'
BUILDING GAS PRESSURE = 2" PSI
PRESSURE DROP = 0.5" W.C.
BUILDING GAS SUPPLY SIZE PER CPC TABLE 1215.2(1) = 3"
<N> BUILDING GAS SUPPLY SIZE = 3"

BUILDING LOAD SUMMARY
JOLLY GIANT BUILDING

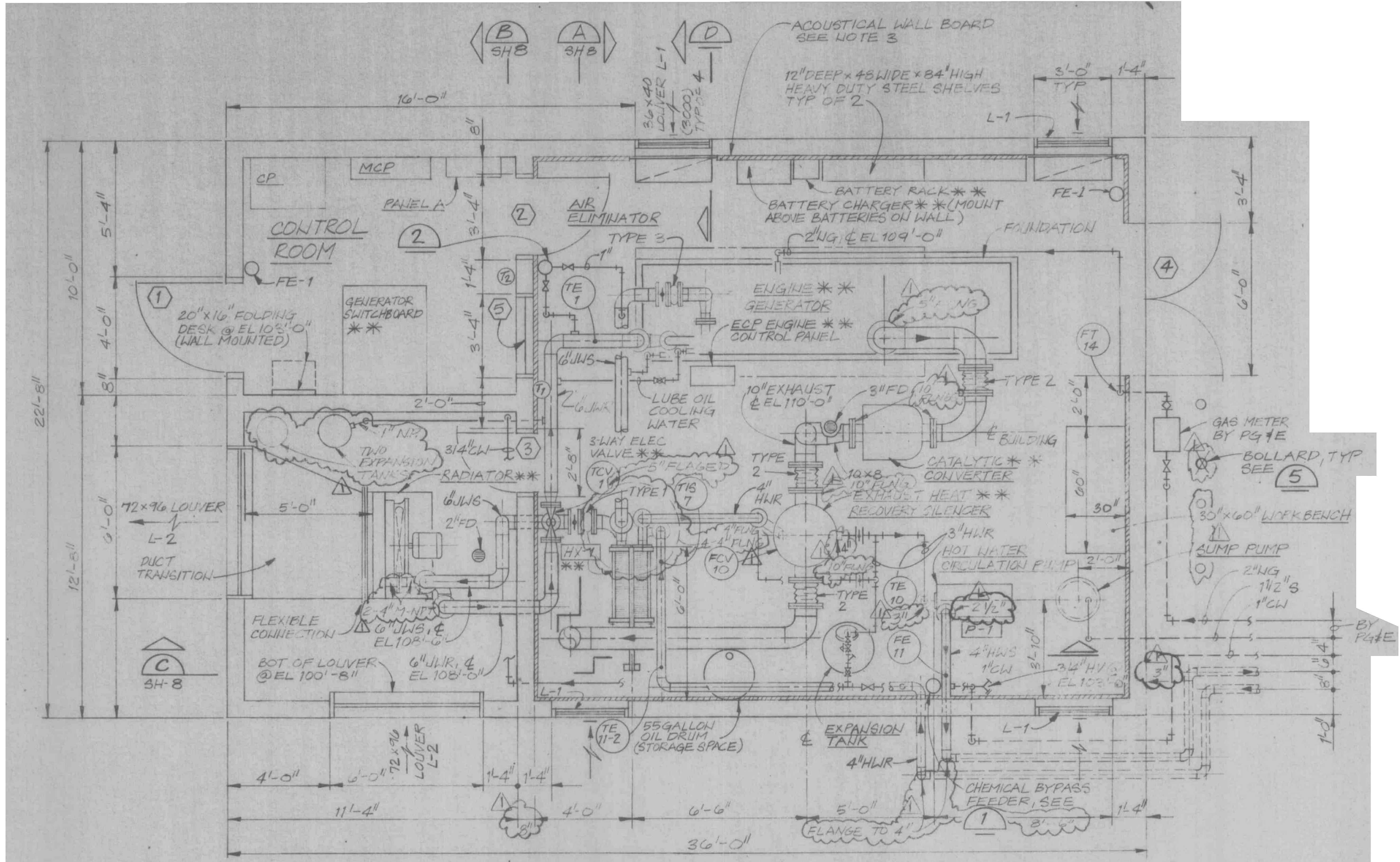
Item	Load	Unit
GAS LOAD REMOVED (1) GAS GENERATOR	-1,600	MBH
GAS LOAD ADDED (1) GAS, 400 KW GENERATOR	1,000	MBH
NEW BUILDING LOAD:	1,000	MBH

**TOTAL BUILDING GAS LOAD IS DECREASING BY 600 MBH.

5 GAS LOAD CALCULATION
SCALE: N.T.S.



6 GAS/LP PIPE ANCHORAGE AT CONCRETE PAD
SCALE: N.T.S.



1 COGENERATION ROOM - EXISTING EQUIPMENT & PIPING LAYOUT
SCALE: 1/2" = 1' - 0"

DEMOLITION SCOPE

- DEMO ALL MECHANICAL AND PLUMBING EQUIPMENT FOR <E> COGENERATION, INCLUDING BUT NOT LIMITED TO THE FOLLOWING: HYDRONIC PIPING, EXPANSION TANKS, GAS PIPING, AIR ELIMINATOR, RECIRCULATION PUMPS, CATALYTIC CONVERTERS, EXHAUST HEAT RECOVERY SILENCERS, RADIATORS, VALVES, PIPING, DUCTWORK, ETC. REFER TO AS-BUILT DRAWING BELOW FOR EXISTING EQUIPMENT LAYOUT.
- CONTRACTOR SHALL CONSULT WITH UNIVERSITY PRIOR TO START OF DEMOLITION FOR ANY EQUIPMENT THAT SHALL BE SALVAGED AND RETURNED TO UNIVERSITY.
- GAS PIPING SHALL BE DEMOLISHED BACK TO <E> GAS METER.
- HYDRONIC PIPING SHALL BE DEMOLISHED BACK TO EXTERIOR AND CAPPED UNDERGROUND.

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National Strength. Local Action.

This project has demonstrated conformance with applicable codes and standards established by state and University policy. Based on this determination these documents are
'APPROVED FOR CONSTRUCTION'
 Michael Fisher
 Campus Design Building/Official
 Humboldt State University
 The California State University
 Date: _____
 Permit #: _____
 Other approvals as applicable:
 SFR Approval: _____
 ISA Access Approval: _____
 Seismic Peer Review: _____
 Mech Peer Review: _____

CALIFORNIA STATE FIRE MARSHAL APPROVED
 Approval of this plan does not constitute or approve any condition or deviation from applicable regulations. Final approval subject to field inspection. Set of approved plans shall be available on the project site at all times.
 Reviewed by: _____
 Date: _____



HUMBOLDT STATE UNIVERSITY

1 HARPST STREET
 ARCATA, CA 95521

JOLLY GIANT COMMONS
 EMERGENCY GENERATOR

ISSUE	MARK	DATE	DESCRIPTION
		07/29/20	PROGRESS SET
		07/31/20	ISSUED FOR PERMIT
		9/11/20	ISSUED FOR PERMIT

MME PROJECT NO: 20134
 SOBE PROJECT NO: 2000677
 DATE: 05/05/20
 DRAWN BY: EDD
 CHECKED BY: BR
 APPROVED BY: _____

SHEET TITLE
 JOLLY GIANT COMMONS
 SPECIFICATIONS, DETAILS
 AND FOUNDATION PLAN

SCALE: AS NOTED
 THIS DRAWING IS 30" X 42" AT FULL SIZE

S-2.0
 SHEET - OF -

STRUCTURAL NOTES & SPECIFICATIONS

GENERAL
 Construction and materials shall be as specified and as required by the 2019 edition of the California Building Code (CBC) and locally enforced codes and authorities.
 All articles, materials and equipment shall be installed, applied and connected as directed by the manufacturer's latest written specifications except where otherwise noted. Material notes on the drawings shall take precedence over these Specifications.
 In the event certain features of the construction are not fully shown, their construction shall be as shown for similar features. All dimensions shall take precedence over scale shown on the Plans.
 It shall be the Contractor's sole responsibility to design and provide adequate shoring, bracing and formwork as required for the protection of life and property during construction.
 The Contractor shall examine and check all existing conditions, dimensions, levels and materials and notify the Engineer of any discrepancies before proceeding with the work. Should a discrepancy appear in the Specifications or Drawings, or in the work done by others from the contract documents that affect any work, notify the Architect or Engineer at once for instruction on how to proceed. If the Contractor proceeds with the work affected without instructions from the Engineer, the Contractor shall make good any resulting damage or defect to the satisfaction of the Engineer. Should a conflict occur in or between Drawings and Specifications, or where detail references on Contract Drawings have been omitted, the Contractor is deemed to have estimated the most expensive materials and construction method involved, unless a written decision of the Engineer has been obtained which describes an alternate method and/or materials.
 Do not scale structural drawings.
 Materials stored on the site shall be properly stacked and protected to prevent damage and deterioration until use. Failure to protect materials may be cause for rejection of work.
 The Contractor shall do all cutting, fitting, or patching of his work that may be required to make its several parts fit together properly and shall not endanger any other work by cutting, or otherwise altering the total work or any part of it. Contractor shall exercise care to protect any existing construction so that integrity and finish are not impaired. All patching, repairing and replacing of materials and surfaces, cut or damaged in execution of work, shall be done with appropriate materials so the surfaces repaired will, upon completion match surrounding similar surfaces.
 See architectural, electrical and mechanical drawings for size and location of pipe, vent, duct and other openings and details not shown on the structural drawings. Structural drawings, details, dimensions, etc. shall be checked and verified, by the Contractor, with the drawings by others. Discrepancies shall be brought to the attention of the Engineer for resolution before proceeding with the work.

CONCRETE
 Work done under this section shall conform with the applicable portions of ACI 318, latest edition.
 Poured in place concrete work shall be constructed of normal weight, Portland Cement Concrete, having a minimum 28-day compressive strength of 3000 psi. Portland cement concrete shall conform to the requirements of ACI 318, "Building Code Requirements for Reinforced Concrete", latest edition. The concrete shall be placed with a maximum water/cementitious material ratio of 0.50 by weight per cubic yard. Concrete shall have class F flyash content equal to 25% of the total cementitious materials. Maximum concrete slump shall be 4 inches. The use of any admixture in the concrete must be approved by the Engineer.
 Aggregates: Coarse aggregates shall conform to ASTM C33 size 57, 67 or 7. Pea gravel aggregates shall not be used.
 Newly placed concrete shall be cured in accordance with the provisions in ACI 308, "Standard Practice for Curing Concrete", latest edition. Method of curing shall be at the option of the Contractor with approval of the Owner and Engineer.
 Metal anchorage devices, anchor bolts, etc. shall be secured in place and inspected prior to placing concrete. Wet setting embedded devices is not acceptable.

REINFORCEMENT
 Use Grade 60 deformed reinforcing bars conforming to the requirements of ASTM A615. Stagger all reinforcing bar contact splices. Support horizontal steel at bottom on mortar blocks. Minimum 3-inch clearance for surfaces poured against earth; minimum 1-1/2 inch elsewhere unless noted otherwise.
 All reinforcing bars to be welded shall be ASTM Designation A706 and welded in accordance with A.W.S. D14 "Welding Reinforcing Steel, Metal Inserts and Connections in Reinforced Concrete Construction."
 All reinforcing, and other embedments shall be secured in place and inspected prior to placing any concrete or grout. Lap bars 40 bar diameters minimum.
 Work done under this section shall conform with the applicable portions of ACI 318, latest edition, particularly Chapter 7, "Details of Reinforcement".

EARTHWORK
 Footings shall be embedded into firm native soil or engineered fill as shown in the plans and as specified in Chapter 18 of the current California Building Code. Footings shall extend a minimum of 12 inches into firm native soil or 12 inches below pad grade which ever is lower. Footings are proportioned for an allowable soil pressure of 1500 PSF per Table 1806.2 of the 2019 California Building Code for class 5 material.
 Contractor shall carefully excavate all materials necessary, of whatever nature, for construction of the work. Any material of an unsuitable or deleterious nature discovered below the foundations shall be brought to the attention of the engineer before proceeding with the work.
 Backfill placed under paved areas shall be compacted to a relative density of 95%.
 All other earthwork shall conform to the requirements of the current CBC Chapter 33, "Safeguards During Construction."

SUBMITTALS
 Shop drawings shall be submitted to the Engineer, for review, in the following areas of work:
 1. Rebar shop drawings for concrete
 2. Concrete mix design
 Approval by the Engineer does not mean approval of failure to comply with the plans or specifications. Shop drawings for fabrication of components shall not utilize copies of the Engineer's drawings.
 All submittals shall be reviewed and checked by the Contractor prior to submittal to Engineer for review. Contractor shall stamp and sign each submittal indicating they have reviewed, checked and approved the submittal for compliance with all the requirements of the plans and specifications.

POST-INSTALLED ANCHORAGE NOTES:
 1. Mechanical unit anchorage - Screw Anchors
 1.1. Simpson Titen HD (ESR-2713)
 Anchors shall have minimum embedment of not less than eight (8) anchor diameters, unless noted otherwise. Torque anchors during installation to the values specified in manufacturer's ICC-ES Report. See Notes Below for special inspection and testing requirements
 2. Mechanical unit anchorage - Rods and Bars in SET-3G Epoxy Adhesive
 2.1. Simpson SET-3G Epoxy Adhesive (ESR-4057)
 Anchor minimum embedment, drill bit diameter, maximum tightening torque, installation dimensions and other layout properties shall satisfy Table 1 of ESR Report, unless noted otherwise.
 Holes shall be prepared and cleaned prior to epoxy injection per ESR Report.
 Tension tests shall be performed on anchors to the values specified in manufacturer's ICC-ES Report. See Notes Below for special inspection and testing requirements.
 3. Prior to drilling holes for post installed anchors into 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 anchors shall be installed not less than 1" clear from reinforcing. Where reinforcing bars cannot be located, care shall be taken while drilling holes so that reinforcing bars are not cut or damaged and holes shall be repaired & relocated as required. Recommended using drills with ground fault interrupters (GFI).
 Where reinforcing is encountered, the hole shall be filled with non-shrink grout. New holes shall maintain the 1" clear from reinforcing note above.
 4. Substitutions:
 Any proposed substitutions of materials or manufacturers shall be submitted in writing to the EOR for review and approval. Approval is required prior to fabrication or installation. Properties and strengths of proposed materials must exceed those specified on these drawings.
 5. Special Inspections. Testing and Inspection Lab shall be retained according to the ESR report.
 5.1. Screw and Adhesive type anchors: Special Inspection is required for all anchors per the ESR of those anchors.
 6. See electrical drawings for locations of equipment.
 7. See prefabricated curb and electrical units drawings by others for bolt locations and spacing.
 7.1. Use electrical units' curbs or base as templates for drilling bolt holes in concrete.
 7.2. Contractor to verify all dimensions with actual equipment and support systems to be installed.

TESTING AND SPECIAL INSPECTIONS
 All inspections shall conform to applicable requirements of Section 1704 of the 2019 California Building Code. Special Inspection shall be performed by an independent testing laboratory approved by the local jurisdiction and paid by the owner. Copies of all reports shall be submitted to the Engineer. See city-specific requirements for further information.
 1. See Special Inspection and Testing Agreement.
 2. Concrete construction per CBC Table 1705.3
 3. Concrete placing;
 4. Reinforcement steel placement;
 5. Post-installed Anchors and Bars in Concrete
 a. All anchor systems used shall have ICC-ES approval.
 b. Special Inspection is required for all anchors.
 c. Inspection shall be per ICC-ES report for anchoring system used.
 d. Testing of rods and bars installed in epoxy is required.
 Approval by the inspector does not mean approval of failure to comply with the plans or specifications. Any detail that fails to be clear or is ambiguous must be referred to the Engineer for interpretation or clarification prior to performing the work.

DEFERRED SUBMITTALS:
 Deferred submittals shall be submitted to the Engineer. The Contractor shall prepare and provide the engineering design for all deferred submittal items. Calculations and drawings submitted for review shall be signed and sealed by a Professional Engineer who is licensed in the State of California. The calculations shall include all design information necessary to determine the adequacy of the deferred submittal item.
 Submit and designate design documents for the following items and as noted elsewhere on plans or specifications shall be deferred:
 A. Any equipment changes or modifications.

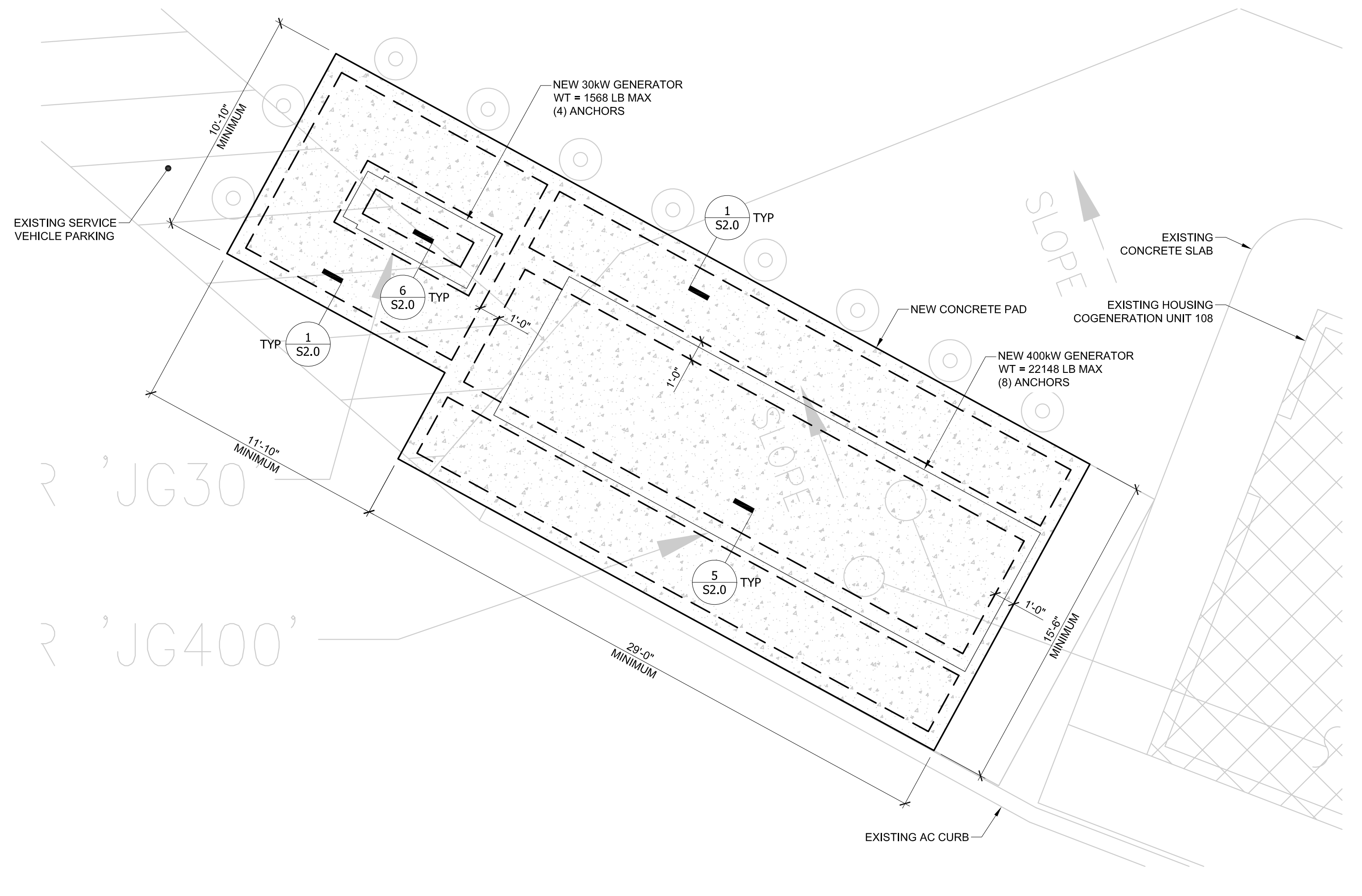
STRUCTURAL DESIGN CRITERIA
 RISK CATEGORY: (ASCE 7 TABLE 1.5-1) IV
EARTHQUAKE DESIGN CRITERIA: (ASCE 7, CSU Seismic Requirements: Attachment B, Table 1)
 SEISMIC DESIGN CATEGORY D
 SITE CLASS D
 ANALYSIS PROCEDURE USED NONSTRUCTURAL COMPONENTS: NONBUILDING STRUCTURE
 SEISMIC IMPORTANCE FACTOR 1.5
 Ss, S1, Sds, Sd1 N/A, N/A, 1.95, 1.22
WIND DESIGN CRITERIA: (ASCE 7):
 BASIC WIND SPEED 115 MPH
 WIND EXPOSURE C
 IMPORTANCE FACTOR 1.0

ABBREVIATIONS

AB	Anchor Bolt	HDR	Header	R&R	Remove And Replace
ACI	American Concrete Institute	HORIZ	Horizontal	RS	Rough Sawn
ASBC	American Institute of Steel Construction	ID	Inside Diameter	RWD	Redwood
ATC	American Institute of Timber Constr.	IN	Inch	SAD	See Architectural Drawings
ALT	Alternate	JST(S)	Joint(s)	SCH	Schedule
APA	American Plywood Association	KP	King Post	SECT	Section
APPROX	Approximately	L	Angle	SEL	Select
ARCH	Architect	LB	Pound	SF	Square Foot
ASTM	American Society for Testing & Materials	LL	Live Load	SHRWL	Shear wall
AVG	Average	LTWT	Light Weight	SHG	Sheathing
BLDG	Building	MAX	Maximum	SIM	Similar
BLK(G)	Blocking	MB	Machine Bolt	SPEC	Specifications
BM	Beam	MECH	Mechanical	SQR	Square
BN	Boundary nailing	MISC	Miscellaneous	STD	Standard
BOT	Bottom	MIN	Minimum	STL	Steel
BTWN	Between	MTL	Metal	STRUCT	Structural
BVL	Bevel	NS&FS	Near Side And Far Side	T	Teel Section
CB	Channel	NTS	Not To Scale	T&G	Tongue And Groove
CANT	On Center	OC	On Center	T&B	Top And Bottom
CB	Carriage Bolt	OD	Outside Diameter	TN	Toe Nail
CBC	California Building Code	P	Post	TOC	Top Of Concrete
CC	Center to Center	PERT	Pre-Engineered Roof Truss	TOF	Top Of Footing
CJ	Control Joint	PJP	Partial Joint Penetration	TOS	Top Of Steel
CL	Center Line	PL	Plate	TOW	Top Of Wall
CLG	Ceiling	PLY	Plywood	TYP	Typical
CLR	Clear, Clearance	PMR	Per Manufacturers Recommendations	UNO	Unless Noted Otherwise
CMU	Concrete Masonry Unit	PSF	Pounds per Square Foot	VERT	Vertical
COL	Column	PSI	Pounds per Square Inch	VIF	Verify In Field
CJP	Complete Joint Penetration	PTDF	Preservative Treated Douglas Fir	W	Wide flange steel beam
CONC	Concrete	RC	Radius	W	With
CONN	Connection	RC	Relative Compaction	W/O	Without
CONT	Continuous	REINF	Reinforcement	WP	Work Point
CTR	Center	REQD	Required	WWF	Welded Wire Fabric
CVR	Cover	RET	Retaining		
DBL	Double				
DEG	Degree				
DET	Detail				
DF	Douglas Fir				
DIA	Diameter				
DIAG	Diagonal				
DM	Dimension				
DL	Dead Load				
DN	Down				
DWG	Drawing				
EA	Each				
EF	Each Face				
EL	Elevation				
ELEV	Elevation				
EN	Edge Nail				
ENGR	Engineer				
EOR	Engineer of Record				
ES	Each Side				
EW	Each Way				
EX	Existing				
EXT	Exterior				
FG	Finish Grade				
FLR	Floor				
FN	Field nailing				
FDN	Foundation				
FOC	Face Of Concrete				
FOS	Face Of Steel/Stud				
FRMG	Framing				
FT	Foot or Feet				
FTG	Footing				
GA	Gauge				
GALV	Galvanized				
GLB	Glulam Beam				
HD	Holdown				

DESIGN CRITERIA

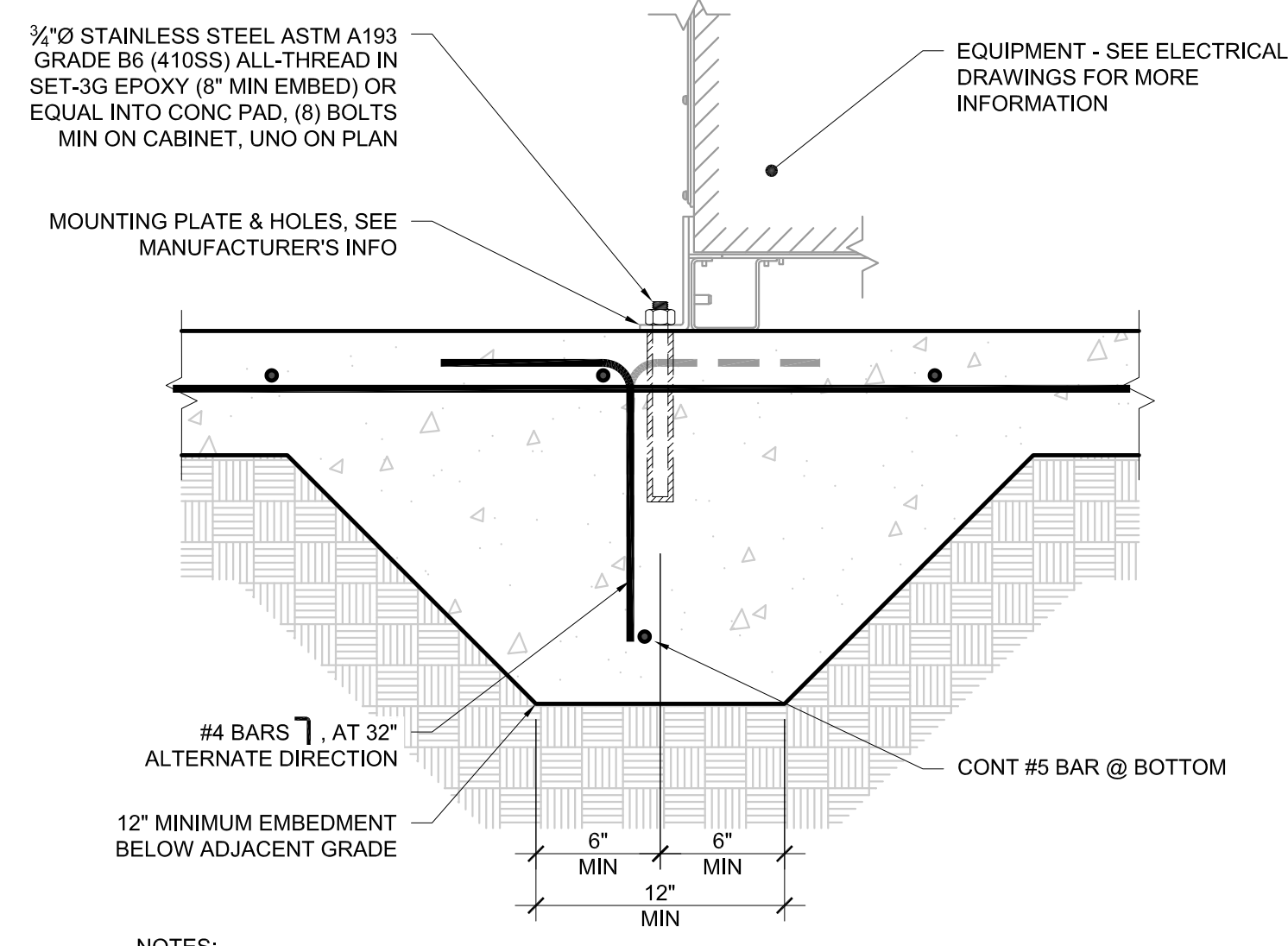
UNIT	Ap	Rp	Zh	Fp or Cs
GENERATOR	1.0	2.5	0	0.878



PLAN NOTES:
 1. PLAN DIMENSIONS ARE MINIMUMS. REFER TO ELECTRICAL DRAWINGS FOR EXACT FOUNDATION LOCATIONS AND DIMENSIONS.
 2. FOOTING SIZES AND DETAILS ARE BASED ON PRELIMINARY INFORMATION AVAILABLE WHEN THIS SET OF DRAWINGS WAS PRINTED. CONTRACTOR IS SOLELY RESPONSIBLE FOR COORDINATING STRUCTURAL DRAWINGS WITH ELECTRICAL DRAWINGS, DEFERRED SUBMITTALS AND ANY REQUIRED CHANGES.

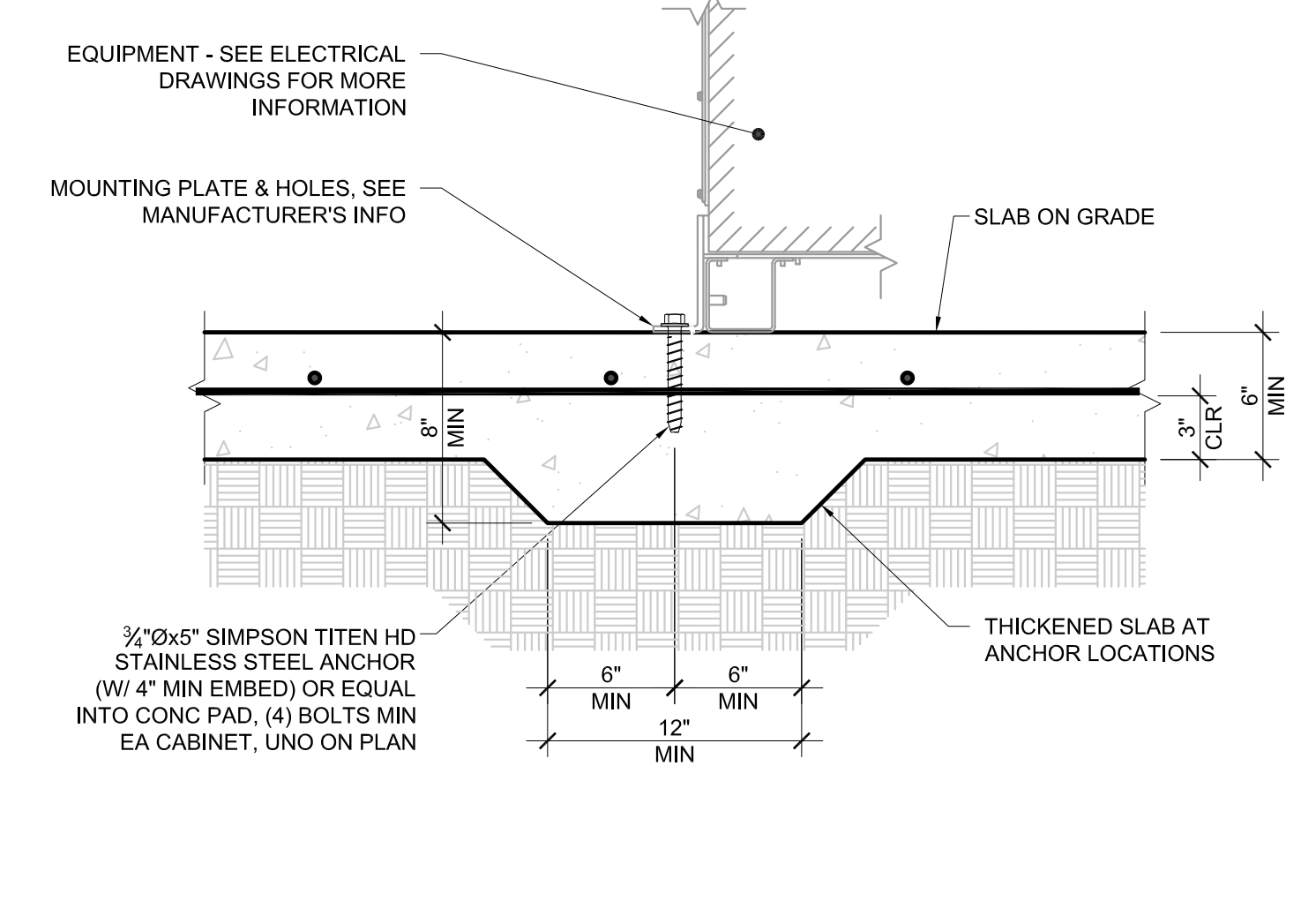
FOUNDATION PLAN - EQUIPMENT PAD

SCALE: 1/4" = 1'-0"



400 kW GENERATOR MOUNTING TO INTERIOR FOOTING

SCALE: 1 1/2" = 1'-0"



30 kW GENERATOR MOUNTING

SCALE: 1 1/2" = 1'-0"

TABLE VALUES PER ACI 318-14

BAR	BEND Ø	90°	180°	LdH
#3	40ksi	2.25"	4.5"	2.5"
#4	60ksi	4.5"	6"	3"
#5		3.75"	7.5"	2.5"
#6		4.5"	9"	3"
#7		5.25"	10.5"	3.5"
#8		6"	12"	4"
#9		9"	13.5"	4.5"
#10		10"	15"	5"
#11		11"	16.5"	5.5"
#14		17.5"	21"	7"
#18		22.5"	27"	9"

STANDARD HOOKS

SCALE: NOT TO SCALE

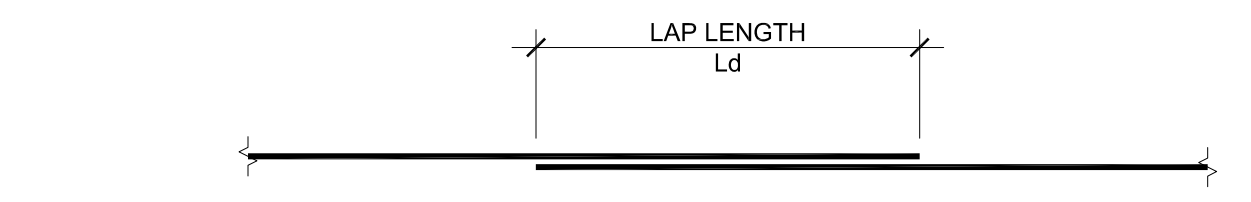
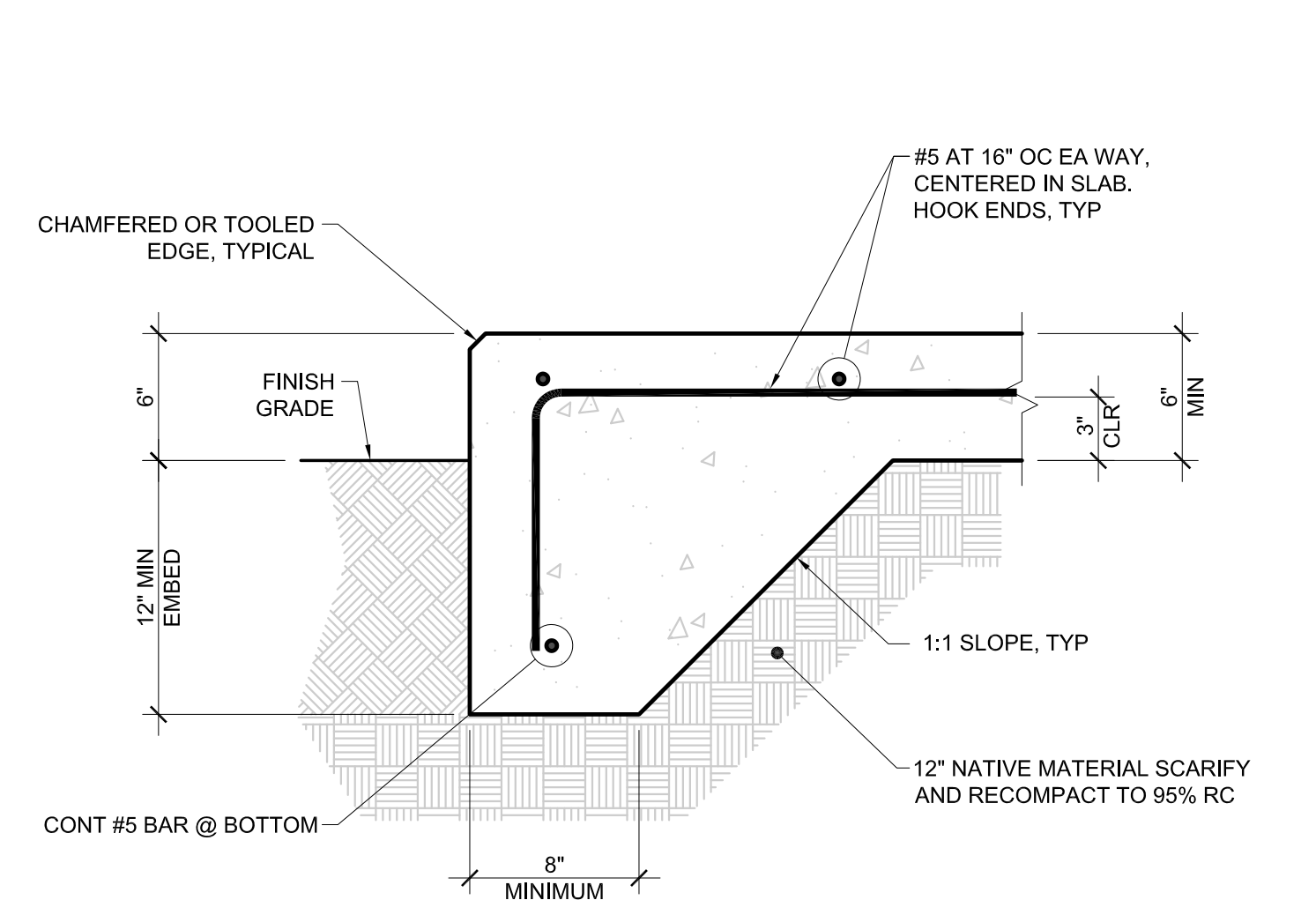
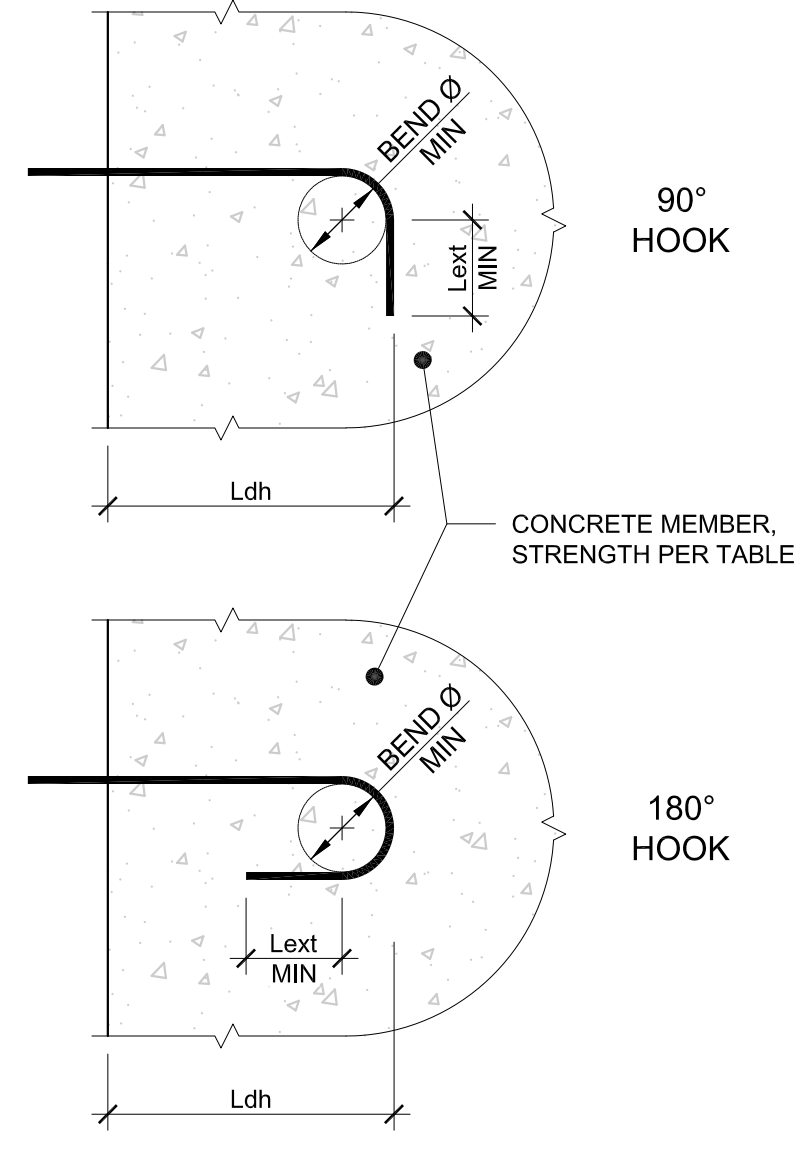


TABLE VALUES PER ACI 318-14

BAR SIZE	BAR Ø	STEEL STRENGTH (fy)	LAP LENGTH (Ld)	
			TOP BARS	OTHER BARS
#3	0.375"	40ksi	21"	16"
#3	0.375"	60ksi	31"	24"
#4	0.500"	60ksi	41"	32"
#5	0.625"	60ksi	51"	38"
#6	0.750"	60ksi	61"	47"
#7	0.875"	60ksi	89"	69"
#8	1.000"	60ksi	102"	78"
#9	1.128"	60ksi	115"	88"

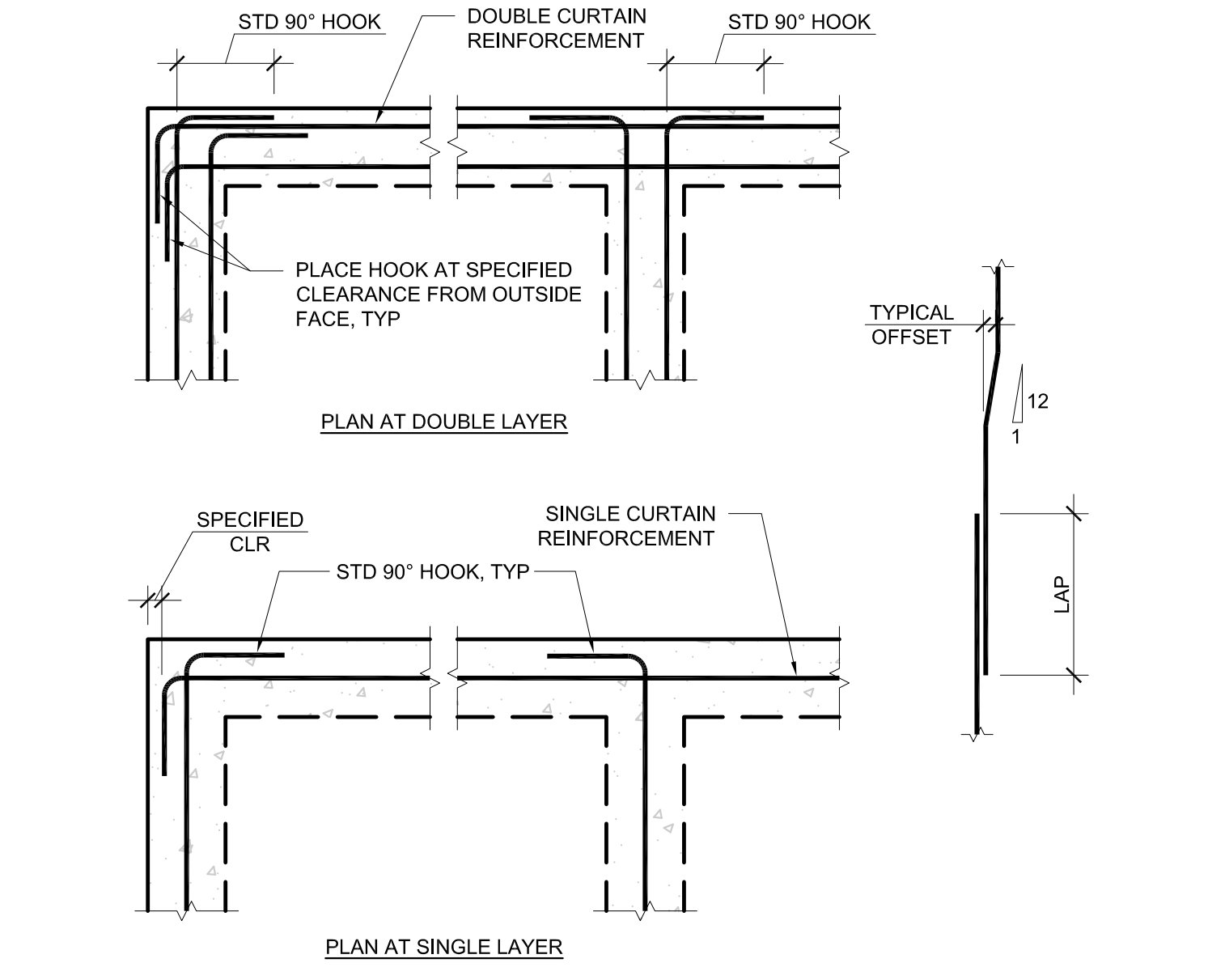
TYP REINF - LAP SPLICES

SCALE: NTS



SLAB TURN-DOWN EDGE

SCALE: 1 1/2" = 1'-0"



TYP REINF - CONCRETE

SCALE: NTS

THIS DRAWING IS 30" X 42" AT FULL SIZE, 15" X 21" AT HALF SIZE, © 2015 BY SALAS O'BRIEN ENGINEERS, INC.