HCAI

EXPEDITED BUILDING PERMIT FOR INSTALLING A CONNECTION FOR A TEMPORARY GENERATOR - EMERGENCY GENERATOR BACKUP

FOR SINGLE STORY WOOD OR LIGHT STEEL FRAME CONSTRUCTION SKILLED NURSING FACILITIES & INTERMEDIATE CARE FACILITIES

(OSHPD 2 Buildings)

How – To Guide Series

7

A Companion Document to the FREER Manual

October 2021 Hardcopy Version

EXPEDITED BUILDING PERMIT GUIDE
FOR INSTALLING A CONNECTION FOR A TEMPORARY GENERATOR
EMERGENCY GENERATOR BACKUP

The Expedited Building Permit Guides are companion documents to the Department of Health Care Access and Information (HCAI) Field Review, Exempt, and Expedited Review (FREER) Manual and are intended as general reference guides and/or checklists to facilitate **repair, maintenance, minor renovation/remodeling, or installation of certain equipment** projects.

The Expedited Building Permit Guides are intended only for single-story Skilled Nursing Facilities (SNFs) and Intermediate-Care Facilities that are of wood frame construction or light steel frame construction and excluded from the definition of "Hospital Building" in the California Administrative Code (CAC) Article 2, Section 7-111.

This Expedited Building Permit Guide is made available for use at the discretion of the facility owner. HCAI (Department) does not mandate the use of the Expedited Building Permit Guide for any condition. Use of project-specific design and construction documents prepared by a California licensed design professional in lieu of using the Expedited Building Permit Guide is always acceptable, and in some cases, may be required.

This Expedited Building Permit Guide gives no consideration to suitability for use in a specific application, compatibility with other building systems, appropriate use of materials or design, appearances, etc. The facility owner and/or his/her representative shall review all such qualities, features, and/or properties to ensure compliance with the California Building Standards Code and all applicable local codes and ordinances, appropriate integration with other building systems, and proper design for the project specific conditions and installation, etc. This shall include pre-assessment for existing damage that may need to be repaired and/or corrected.

While not mandatory, HCAI recommends the facility have a California licensed architect or engineer, or a California licensed contractor assist in the review of the code compliance checklist herein below. In this manner, the facility will have a better understanding of the scope of work that may be required for a code compliant project prior to beginning the work.

The following regulations of the California Building Standards Code apply:

> *Before commencing construction or alteration of any health facility, the governing board or authority thereof shall submit an application for plan review to the Department and shall obtain the written approval thereof by the Department describing the scope of work included and any special conditions under which approval is given (CAC, Section 7-113 (a)).*
>
> *Construction or alteration of any health facility, governed under these regulations,*

performed without the benefit of review, permitting, and/or observation by the Department when review, permitting and/or observation is required, and without the exemption by the Department provided for in Section 7-127, shall be subject to examination by the Department to assess relevant code compliance. Failure to obtain the necessary reviews and approvals prior to commencing construction will result in examination fees, in addition to application fees (CAC, Section 7-128).

CONNECTION FOR A TEMPORARY GENERATOR

The installation of a connection for a temporary generator requires a Building Permit but may be exempt from the plan review process in accordance with Health and Safety Code (H&SC) Section 129875. Simple installation of a connection for a temporary generator in qualifying SNFs and ICFs may be exempt from plan review, if the following criteria are met:

- One of the pre-approved designs included with package can be constructed without modification.
- The existing service is either 120/240 V or 208Y/120 V.
- The existing generator is rated not more than:
  - 600 amps single phase, and;
  - 400 amps 3 phase

This Expedited Building Permit Guide presents those criteria in a checklist format for general assessment of the specific project conditions. Installation of a connection for a temporary generator without a permit is subject to an investigation fee, submittal of a project to the Department for plan review, demolition and/or rework of defective non-code complying work, etc. in accordance with the California Administrative Code, Title 24, Part 1, Section 7-128 "*Work Performed without a Permit".*

The facility owner or his/her authorized agent should review this checklist with the **HCAI Compliance Officer** to determine program eligibility, to assess the specific project conditions and determination of possible approaches to the application, review, permitting, and construction process prior to proceeding with work. Possible approaches include, but are not limited to:

> **More than Minor Work** – Not covered under this Expedited Building Permit Guide is the installation of a connection for a temporary generator where modification, repair, or remedial work is necessary to bring a system that did not comply with the code at the time it was installed into compliance with current code and/or to ensure a safe condition. The facility must involve a licensed design professional (architect and/or electrical engineer dependent upon the scope and nature of the remedial work). If this work is of sufficient limited scope, field review by the Compliance Officer can be used under this Expedited Building Permit Guide, however more involved work will require submittal as a standard project and reviewed by the Department by the Regional Architectural & Engineering Unit.

Determination of Eligibility – Determination of eligibility and appropriate permitting process is the responsibility of the HCAI Regional Compliance Officer. Facilities are encouraged to work with their Compliance Officer prior to assuming eligibility or an approach to permitting.

Inspections – The approved Inspector of Record (IOR) must inspect the work prior to use. Interim inspection will be required when walls, ceilings or other construction materials will cover the finished work. Any deficiencies, identified through inspection,

shall be corrected before use of the system is permitted. A “Certificate of Compliance” issued by the HCAI Compliance Officer is required prior to use of the connection. Responsible parties shall file Verified Compliance Reports (CAC, Section 7-151) in accordance with the requirements of the Testing, Inspection and Observation (TIO) Program (CAC, Section 7-149).

Manufacturer's Written Installation, Operating, and Maintenance Instructions – The installation shall comply with the manufacturer’s written installation instructions. The installer (facility’s maintenance staff/contractor) shall leave or submit to the Compliance Officer the manufacturer's installation, operating, and maintenance instructions in a location on the premises where they will be readily available for reference and guidance for the Inspector of Record (IOR), HCAI staff, service personnel, and the owner or operator.

Electrical systems shall be installed in a manner that is in accordance with the California Electrical Code (CEC), applicable standards, and the manufacturer’s installation instructions. (CEC 110.3)

New Project/Building Permit Application Requirements

Step 1. Verify that the project is eligible for this program. Consultation with the HCAI Compliance Officer is recommended.

Step 2. Use the eServices Portal online application process or download and print the expedited Building Permit Guide and complete the **Installing a Connection for a Temporary Generator (Emergency Generator Option) Code Compliance Checklist** beginning on Page 6 of this Guide and complete the **Application for New Project/Building Permit** available at the HCAI website or eServices Portal. These documents may be filled-in manually or electronically.

Step 3. Prepare a plan/sketch showing the location(s) of where equipment will be installed (a reduced copy of the building site or floor plan may be used for this purpose). Complete the Data Collection Sheet, which is included in the document package.

Step 4. If not using the online application, print one (1) complete set of the entire package (the Expedited Building Permit Guide with completed Checklist and Applications), sign and date (where required), and mail or deliver to:

For construction in Northern California, submit to:
Department of Health Care Access and Information
Facilities Development Division
2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
(916) 440-8300 phone
(916) 274-0102 fax

For construction in Southern California, submit to:
Department of Health Care Access and Information
Facilities Development Division
355 South Grand Avenue, Suite 1900
Los Angeles, CA 90071
(213) 897-0166 phone
(213) 217-8511 fax

Upon issuance of the building permit for the project by HCAI, you may submit a construction start letter and begin installation of the equipment.

The following questions based on your answer may have requirements. These requirements will be communicated to you by the HCAI Regional Compliance Officer.

INSTALLING A CONNECTION FOR A TEMPORARY GENERATOR
EMERGENCY GENERATOR BACKUP OPTION
CODE COMPLIANCE CHECKLIST

NOTE: The Compliance Officer will field verify compliance with this checklist and additional work may be required to bring the installation into code compliance if found to be deficient.

		Compliance		
		Yes	**No**	**NA**
PROJECT DESCRIPTION				
1.	Is this project for a single-story skilled nursing or intermediate care facility building of wood-frame or light steel frame construction?	❑	❑	
2.	Is this project for the installation of a point of connection for a temporary generator that will back up the existing emergency generator during repair, replacement, or maintenance?	❑	❑	
3.	Will the connection that is being installed backup exactly one permanent emergency generator with exactly one transfer switch? **Commentary:** The scope of this checklist is limited to facilities with one generator and one ATS.	❑	❑	
4.	Will this work be performed by an electrical contractor licensed in the State of California?	❑	❑	
5.	Does the licensed contractor carry workmen's compensation insurance in accordance with State of California law?	❑	❑	
6.	Is the Estimated Construction Cost or Contract Amount less than $50,000? **Note:** Only projects costing less than $50,000 are eligible for the expedited permit.	❑	❑	
7.	Has the Data Collection Sheet for Emergency Generator Backup (attached) been completed? If not, complete it before continuing. **Note:** Completion of the data collection sheet should be performed by a licensed electrical contractor.	❑	❑	

<table>
<tr><th colspan="2" rowspan="2"></th><th colspan="3">Compliance</th></tr>
<tr><th>Yes</th><th>No</th><th>NA</th></tr>
<tr><td>8.</td><td>Is there a location for the temporary generator that meets the following requirements?
A. Is outdoors at grade level (NFPA 37, CBC 442)
B. Close proximity to the concrete pad above and a clear route for cables
C. Has dimensions of not less than 20′ L X 9′ W
D. > 5 feet from the nearest building opening or combustible wall
E. > 10 feet from the nearest air intake
F. The area can be secured against tampering and theft
G. Has ready access for a fuel truck
H. Is accessible for maintenance, repair and fire-fighting (NFPA 37 4.1.1.1)
I. Is out of the paths of egress, traffic, and fire department access
J. Has receptacles nearby for battery charger and engine heater</td><td>❑</td><td>❑</td><td></td></tr>
<tr><td>9.</td><td>Is the rating of the permanent generator 120/240 V or 208Y/120 V?</td><td>❑</td><td>❑</td><td></td></tr>
<tr><td>10.</td><td>Review the following table. Does the existing permanent emergency generator meet any of the following criteria?
<table>
<tr><th colspan="2">Existing Generator Voltage</th><th colspan="2">Generator Amps</th><th>Design</th></tr>
<tr><th>Voltage</th><th>PH/Wire</th><th>Min</th><th>Max</th><th>Number</th></tr>
<tr><td>120/240 Volts</td><td>1PH/3W</td><td>0</td><td>400</td><td>EB-4-1</td></tr>
<tr><td>120/240 Volts</td><td>1PH/3W</td><td>401</td><td>600</td><td>EB-6-1</td></tr>
<tr><td>120/240 Volts</td><td>3PH/4W</td><td>0</td><td>400</td><td>EB-4-3</td></tr>
<tr><td>208Y/120 Volts</td><td>3PH/4W</td><td>0</td><td>400</td><td>EB-4-3</td></tr>
</table></td><td>❑</td><td>❑</td><td></td></tr>
<tr><td>11.</td><td>Following approval by HCAI, perform the work as specified in the attached documents.</td><td></td><td></td><td></td></tr>
</table>

DATA COLLECTION SHEET

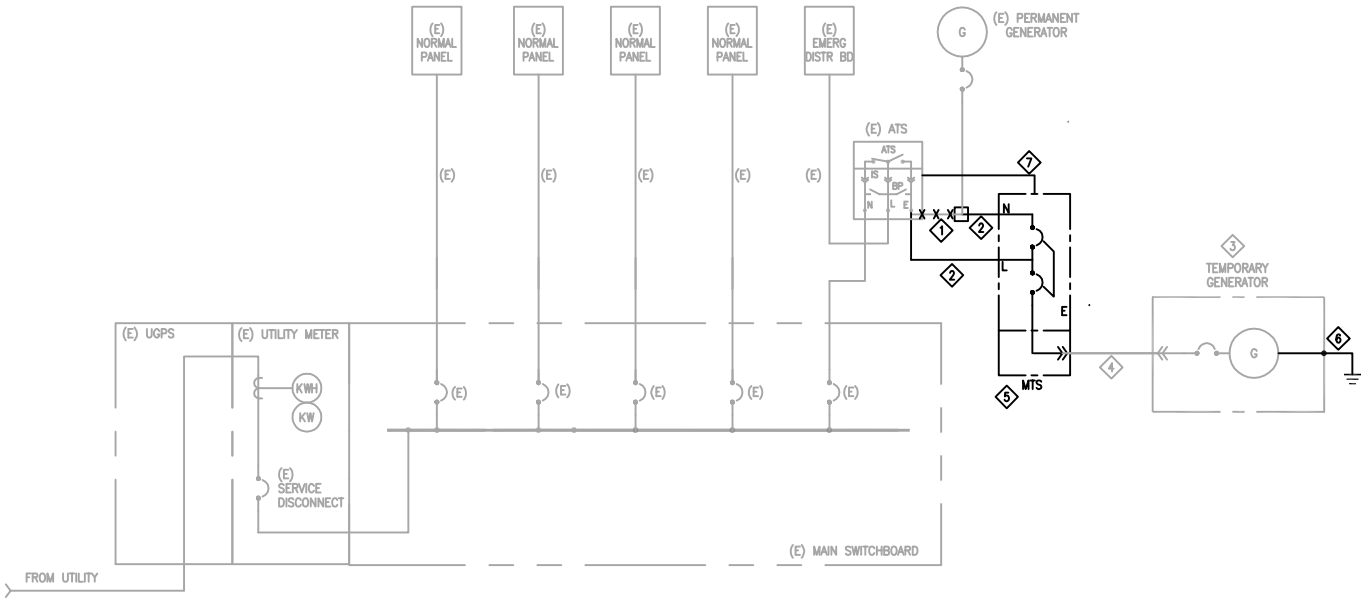
EMERGENCY GENERATOR BACKUP

PERMANENT GENERATOR

Generator ID	_____			
Manufacturer and Model	_____			
Rating	_____ kW	_____ kVA		
Generator Voltage (Select one)	❑	240/120 V	❑	208Y/120
	❑	Other (specify) _____		
Configuration (select one)	❑	1 phase 3 wire	❑	3 phase 4 wire
Beaker Rating (Amps)	_____			
Separately Derived (Yes/No)	_____			
Phase Rotation (select one)	❑	Clockwise		
	❑	Counter-clockwise		
	❑	N/A (single phase)		

AUTOMATIC TRANSFER SWITCH (ATS)

ATS ID	_____			
Manufacturer and Model	_____			
Voltage (Line-Line) (208, 240)	_____			
Current Rating (Amps)	_____			
Short-Circuit Current Rating (Amps)	_____			
Configuration (select one)	❑	1 phase 3 wire	❑	3 phase 4 wire
# Switched poles:	2	3	4	
Neutral (Solid / Switched)	_____			



Existing Generator Breaker	Feeder (ITEM 2)				
	Number Sets	Conduit Inches	Conductors (Copper) #	AWG/kcmil	GND
70	1	1	3	4	8
80	1	1	3	4	8
90	1	1	3	3	8
100	1	1	3	3	8
110	1	1 1/4	3	2	6
125	1	1 1/4	3	1	6
150	1	1 1/4	3	1/0	6
175	1	1 1/2	3	2/0	6
200	1	2	3	3/0	6
225	1	2	3	4/0	4
250	1	2	3	250	4
300	1	2 1/2	3	350	4
350	1	3	3	500	3
400	2	2	3	3/0	3

SHEET NOTES:

1. INTERCEPT EXISTING GENERATOR FEEDER. EXTEND TO NEW MANUAL TRANSFER SWITCH.
2. FEEDER CONDUCTORS: SEE TABLE
3. TEMPORARY GENERATOR: RATING NOT LESS THAN (E) PERMANENT GENERATOR.
4. TEMPORARY FEEDER AND ENGINE START CONDUCTORS: SUPPLIED BY VENDOR OF TEMPORARY GENERATOR.
5. MANUAL TRANSFER SWITCH (MTS) :
   A. 400 AMP 80% RATED BREAKERS WITH ADJUSTABLE TRIP, SET TO MATCH BREAKER ON (E) GENERATOR.
   B. 120/240 VOLTS 1 PHASE 3 WIRE TO MATCH (E) SYSTEM.
   C. PROVIDE SWITCHED NEUTRAL ON SEPARATELY DERIVED SYSTEMS, SOLID NEUTRAL CONNECTION OTHERWISE.
   D. INCLUDE NEC 700.3(F) OPTION.
   E. SHALL BE LISTED UL 1008 AND CERTIFIED HCAI OSP-582-10.
   F. ANCHOR PER DRAWING S-1.
6. GROUND ELECTRODE (ONLY REQUIRED ON SEPARATELY DERIVED SYSTEMS). TWO ⅝" X 8' MINIMUM DRIVEN GROUND RODS, ONE EACH ON OPPOSITE CORNERS OF GENERATOR PAD. PROVIDE #6 COPPER GROUNDING ELECTRODE CONDUCTOR FROM EACH ROD FOR CONNECTION TO THE GROUND BUS OF THE TEMPORARY GENERATOR.
7. PROVIDE ¾" EMT WITH #12 CONDUCTORS TO EXTEND THE EXISTING ATS START CONTACTS TO THE NEW MANUAL TRANSFER SWITCH.

SEQUENCE:

CEC 517.41 REQUIRES TWO INDEPENDENT SOURCES OF POWER FOR THE ESSENTIAL ELECTRICAL SYSTEM AT ALL TIMES.

THE WORK SHOWN MAY DISABLE THE NORMAL POWER (UTILITY) OR THE PERMANENT BACKUP GENERATOR FOR SOME PERIOD OF TIME. THE DURATION CAN BE MINIMIZED BY CAREFUL PLANNING, WHICH MAY INCLUDE THE NEED FOR A TEMPORARY GENERATOR.

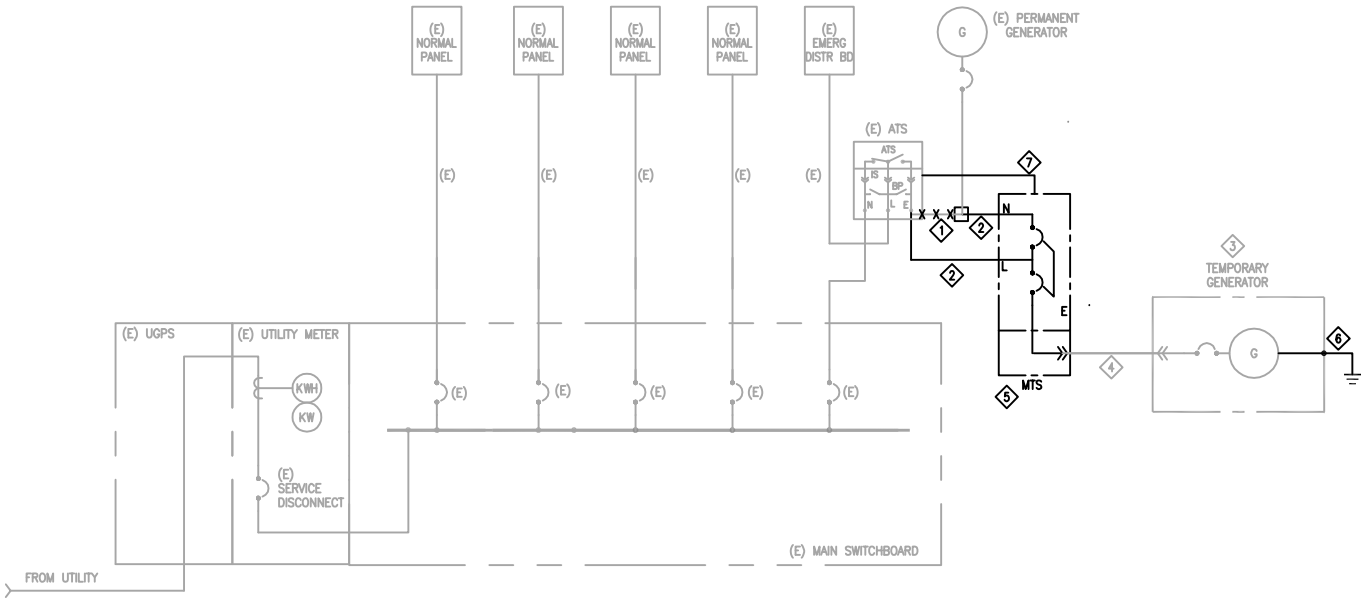
THE CONTRACTOR SHALL PREPARE A PATIENT IMPACT REPORT AND SCHEDULE THAT SPECIFIES THE AREAS AFFECTED AND DURATIONS. PRIOR TO PROCEEDING WITH WORK, THE PLAN SHALL BE APPROVED BY THE BUILDING OWNER, HCAI COMPLIANCE OFFICER AND CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, LICENSING AND CERTIFICATION DIVISION.

SINGLE LINE - EMERGENCY GENERATOR BACKUP - 400 AMP 1 PHASE 3 WIRE

DATE	REVISION
10/12/21	FINAL

NO:

EB-4-1



Existing Generator Breaker	Feeder (ITEM 2)				
	Number Sets	Conduit Inches	Conductors (Copper) #	AWG/kcmil	GND
70	1	1 1/4	4	4	8
80	1	1 1/4	4	4	8
90	1	1 1/4	4	3	8
100	1	1 1/4	4	3	8
110	1	1 1/4	4	2	6
125	1	1 1/2	4	1	6
150	1	1 1/2	4	1/0	6
175	1	2	4	2/0	6
200	1	2	4	3/0	6
225	1	2 1/2	4	4/0	4
250	1	2 1/2	4	250	4
300	1	3	4	350	4
350	1	3	4	500	3
400	2	2	4	3/0	3

SHEET NOTES:

1. INTERCEPT EXISTING GENERATOR FEEDER. EXTEND TO NEW MANUAL TRANSFER SWITCH.
2. FEEDER CONDUCTORS: SEE TABLE
3. TEMPORARY GENERATOR: RATING NOT LESS THAN (E) PERMANENT GENERATOR.
4. TEMPORARY FEEDER AND ENGINE START CONDUCTORS: SUPPLIED BY VENDOR OF TEMPORARY GENERATOR.
5. MANUAL TRANSFER SWITCH (MTS) :
   A. 400 AMP 80% RATED BREAKERS WITH ADJUSTABLE TRIP, SET TO MATCH BREAKER ON (E) GENERATOR.
   B. 120/240 OR 208Y/120 VOLTS 3 PHASE 4 WIRE TO MATCH (E) SYSTEM.
   C. PROVIDE SWITCHED NEUTRAL ON SEPARATELY DERIVED SYSTEMS, SOLID NEUTRAL CONNECTION OTHERWISE.
   D. INCLUDE NEC 700.3(F) OPTION.
   E. SHALL BE LISTED UL 1008 AND CERTIFIED HCAI OSP-582-10.
   F. ANCHOR PER DRAWING S1.
6. GROUND ELECTRODE (ONLY REQUIRED ON SEPARATELY DERIVED SYSTEMS). TWO 5/8" X 8' MINIMUM DRIVEN GROUND RODS, ONE EACH ON OPPOSITE CORNERS OF GENERATOR PAD. PROVIDE #6 COPPER GROUNDING ELECTRODE CONDUCTOR FROM EACH ROD FOR CONNECTION TO THE GROUND BUS OF THE TEMPORARY GENERATOR.
7. PROVIDE 3/4" EMT WITH #12 CONDUCTORS TO EXTEND THE EXISTING ATS START CONTACTS TO THE NEW MANUAL TRANSFER SWITCH.

SEQUENCE:

CEC 517.41 REQUIRES TWO INDEPENDENT SOURCES OF POWER FOR THE ESSENTIAL ELECTRICAL SYSTEM AT ALL TIMES.

THE WORK SHOWN MAY DISABLE THE NORMAL POWER (UTILITY) OR THE PERMANENT BACKUP GENERATOR FOR SOME PERIOD OF TIME. THE DURATION CAN BE MINIMIZED BY CAREFUL PLANNING, WHICH MAY INCLUDE THE NEED FOR A TEMPORARY GENERATOR.

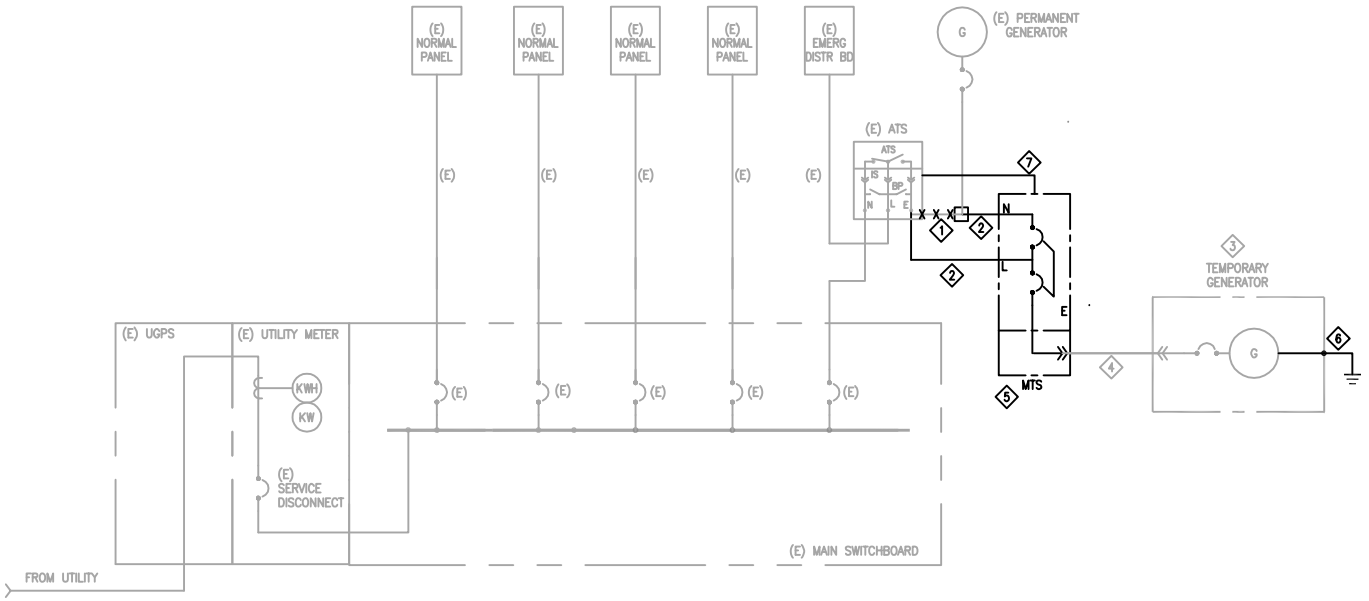
THE CONTRACTOR SHALL PREPARE A PATIENT IMPACT REPORT AND SCHEDULE THAT SPECIFIES THE AREAS AFFECTED AND DURATIONS. PRIOR TO PROCEEDING WITH WORK, THE PLAN SHALL BE APPROVED BY THE BUILDING OWNER, HCAI COMPLIANCE OFFICER AND CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, LICENSING AND CERTIFICATION DIVISION.

SINGLE LINE - EMERGENCY GENERATOR BACKUP - 400 AMP 3 PHASE 4 WIRE

DATE	REVISION
10/12/21	FINAL

NO:

EB-4-3



Existing Generator Breaker	Feeder (ITEM 2)				
	Number Sets	Conduit Inches	Conductors (Copper) #	AWG/kcmil	GND
450	2	2	3	4/0	2
500	2	2	3	250	2
600	2	2 1/2	3	350	1

SHEET NOTES:

1. INTERCEPT EXISTING GENERATOR FEEDER. EXTEND TO NEW MANUAL TRANSFER SWITCH.
2. FEEDER CONDUCTORS: SEE TABLE
3. TEMPORARY GENERATOR: RATING NOT LESS THAN (E) PERMANENT GENERATOR.
4. TEMPORARY FEEDER AND ENGINE START CONDUCTORS: SUPPLIED BY VENDOR OF TEMPORARY GENERATOR.
5. MANUAL TRANSFER SWITCH (MTS) :
   A. 600 AMP 80% RATED BREAKERS WITH FIXED TRIP, ORDER TO MATCH BREAKER ON (E) GENERATOR.
   B. 120/240 VOLTS 1 PHASE 3 WIRE TO MATCH (E) SYSTEM.
   C. PROVIDE SWITCHED NEUTRAL ON SEPARATELY DERIVED SYSTEMS, SOLID NEUTRAL CONNECTION OTHERWISE.
   D. INCLUDE NEC 700.3(F) OPTION.
   E. SHALL BE LISTED UL 1008 AND CERTIFIED HCAI OSP-582-10.
   F. ANCHOR PER DRAWING S1.
6. GROUND ELECTRODE (ONLY REQUIRED ON SEPARATELY DERIVED SYSTEMS). TWO ⅝" X 8' MINIMUM DRIVEN GROUND RODS, ONE EACH ON OPPOSITE CORNERS OF GENERATOR PAD. PROVIDE #6 COPPER GROUNDING ELECTRODE CONDUCTOR FROM EACH ROD FOR CONNECTION TO THE GROUND BUS OF THE TEMPORARY GENERATOR.
7. PROVIDE ¾" EMT WITH #12 CONDUCTORS TO EXTEND THE EXISTING ATS START CONTACTS TO THE NEW MANUAL TRANSFER SWITCH.

SEQUENCE:

CEC 517.41 REQUIRES TWO INDEPENDENT SOURCES OF POWER FOR THE ESSENTIAL ELECTRICAL SYSTEM AT ALL TIMES.

THE WORK SHOWN MAY DISABLE THE NORMAL POWER (UTILITY) OR THE PERMANENT BACKUP GENERATOR FOR SOME PERIOD OF TIME. THE DURATION CAN BE MINIMIZED BY CAREFUL PLANNING, WHICH MAY INCLUDE THE NEED FOR A TEMPORARY GENERATOR.

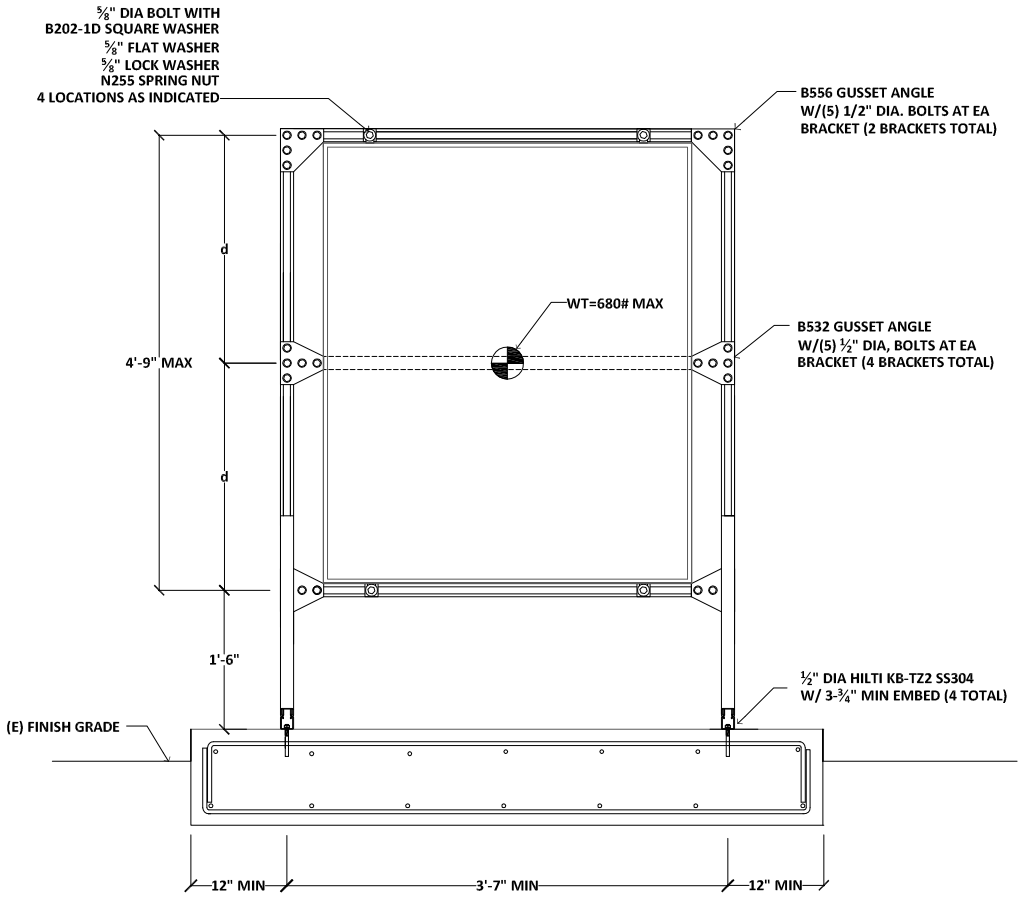
THE CONTRACTOR SHALL PREPARE A PATIENT IMPACT REPORT AND SCHEDULE THAT SPECIFIES THE AREAS AFFECTED AND DURATIONS. PRIOR TO PROCEEDING WITH WORK, THE PLAN SHALL BE APPROVED BY THE BUILDING OWNER, HCAI COMPLIANCE OFFICER AND CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, LICENSING AND CERTIFICATION DIVISION.

SINGLE LINE - EMERGENCY GENERATOR BACKUP - 600 AMP 1 PHASE 3 WIRE

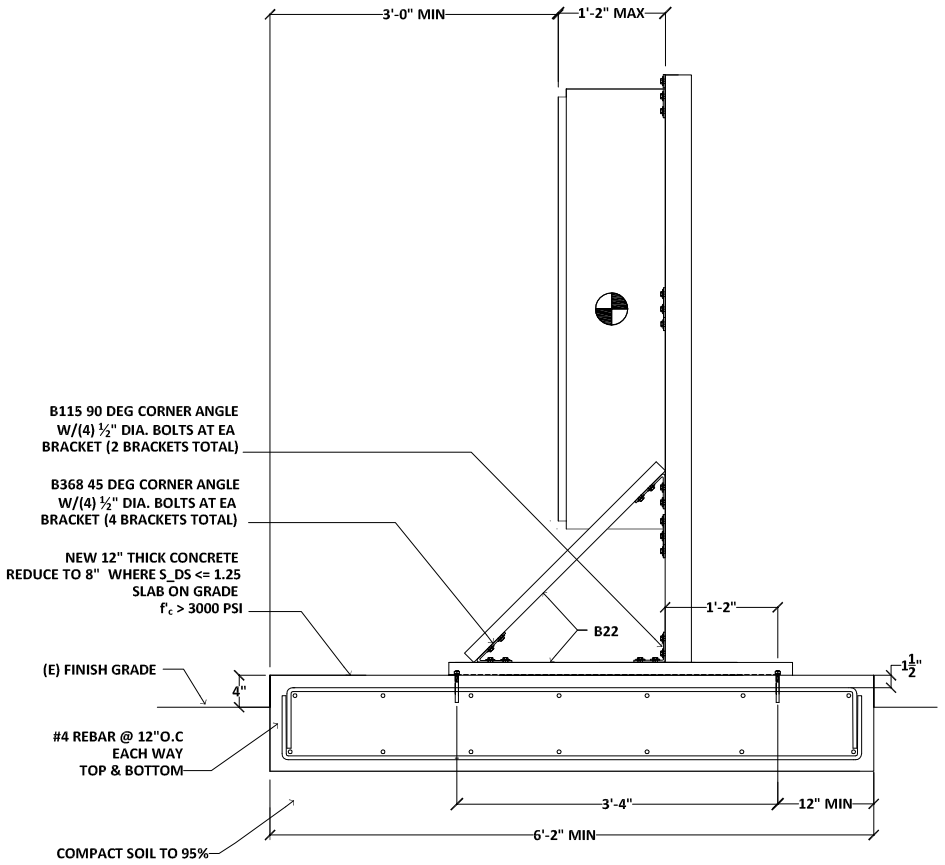
DATE	REVISION
10/12/21	FINAL

NO:

EB-6-1



FRONT ELEVATION



SIDE ELEVATION

1. CHANNEL MATERIAL BLINE 12 GA HOT DIPPED GALVANIZED. B11 UNLESS OTHERWISE NOTED.
2. ALL BRACKETS TO HAVE ELECTROPLATED ZINC FINISH.
3. ALL HARDWARE TO BE ZINC PLATED.
4. ATTACHMENT TO B22 CHANNEL: ½" DIA BOLT, ½" LOCK WASHER, N225 CHANNEL NUT.
5. ATTACHMENT TO B11 CHANNEL: ½" DIA BOLT, ½" LOCKWASHER, N725 CHANNEL NUT, UNLESS OTHERWISE NOTED.
6. TORQUE ALL CHANNEL BOLTS TO 50 FT-LBS.
7. BOLTS SHALL BE HEX HEAD MACHINE BOLTS CONFORMING TO THE REQUIREMENTS OF ASTM A307, SAEJ429, OR ASTM A563.

ANCHORAGE DETAIL MANUAL TRANSFER SWITCH / DOCKING STATION

DATE	REVISION
10/12/21	FINAL

NO:

S-1

Specifications

Codes

All work shall be performed in accordance with the following codes:

All Applications Submitted on or after January 1, 2020	
2019	**California Administrative Code (CAC)** Part 1, Title 24, California Code of Regulations (CCR)
2019	**California Building Code (CBC)** Part 2, Title 24, CCR *Based on the 2018 International Building Code (IBC)*
2019	**California Electrical Code (CEC)** Part 3, Title 24, CCR *Based on the 2017 National Electrical Code (NEC)*
2019	**California Mechanical Code (CMC)** Part 4, Title 24, CCR *Based on the 2018 Uniform Mechanical Code (UMC)*
2019	**California Plumbing Code (CPC)** Part 5, Title 24, CCR *Based on the 2018 Uniform Plumbing Code (UPC)*
2019	**California Energy Code (CEC)** Part 6, Title 24, CCR
2019	**California Historical Building Code (CHBC)** Part 8, Title 24, CCR
2019	**California Fire Code (CFC)** Part 9, Title 24, CCR *Based on the 2015 International Fire Code (IFC)*
2019	**California Existing Building Code (CEBC)** Part 10, Title 24, CCR *Based on the 2018 International Building Code*
2019	**California Green Building Standards Code (CALGreen)** Part 11, Title 24, CCR
2019	**California Referenced Standards Code (CRSC)** Part 12, Title 24, CCR

Listing

All materials and equipment shall be new and shall be listed be Underwriters Laboratories (UL) and bear their label, or listed, labeled or certified by a Nationally Recognize Testing Laboratory where UL does not have a listing.

Conduit

Conduit shall be galvanized steel rigid metal (RMC). Use fitting as required for proper installation. Use UL listed watertight hubs where installation is subject to weather. Running threads are not permitted.

EMT may be used in dry concealed locations (stud walls, ceiling spaces and where exposed above 8’ and not subject to mechanical damage). Connectors shall be watertight compression type.

Support and bracing of all conduits to be installed in accordance with one of the following pre-approved seismic bracing and support systems:

OPM-0295-13 Unistrut Seismic Bracing / Strut & Fittings

OPM-0052-13 B-Line / Tolco Seismic Restraint for Suspended Utilities

Conductors

All conductors shall be copper, #12 AWG minimum. Insulation shall be color-coded thermoplastic with a 600 volt rating. Sizes #10 and larger shall be stranded, #12 and smaller shall be solid. Type THHN / THWN. Wiring design is based on 75 deg C conductors.

All switches, circuit breakers and other equipment as specified shall have termination provisions listed and identified for 75 deg C conductors and conduits are sized based on 75 deg C copper type THHN / THWN.

Manual Transfer Switch

Manual transfer switch shall include two circuits breakers with the number of poles specified on the drawings. Circuit breakers shall be rated 208/240 VAC with an interrupting rating of 65,000 kAIC. Breaker shall be molded case, listed UL 489. Breakers shall be interlocked to prevent paralleling of sources.

Generator connection shall be color-coded 400 amp camlock-style male connectors, listed UL 1691. Access to the generator connection compartment shall require both circuit breakers to be in the “OFF” position.

Enclosure shall be gasketed and rated NEMA 3R. Door shall be hinged and have provisions to be padlocked. Dead front construction shall be provided. A lockable handle cover shall be provided to prevent unauthorized operation. A hinged access plate shall be provided to secure the cable entry compartment when not in use.

Weight and dimensions shall meet the limits shown on the anchorage detail provided with the expedited permit documents.

Where indicated, manual transfer switches shall be configured for the use specified in CEC 700.3(f).

Manual transfer switch shall be listed UL 1008 and have special seismic certification under OSHPD OSP 582-10.

Generator Docking Station

Generator docking station shall include a 3-pole molded circuit breaker rated 208/240 VAC with an interrupting rating of 65,000 kAIC. Breaker shall be listed UL 489 and shall be capable of Kirk-key interlock.

Generator connection shall be color-coded 400 amp camlock-style male connectors, listed UL 1691.

Enclosure shall be gasketed and rated NEMA 3R. Door shall be hinged and have provisions to be padlocked. Dead front construction shall be provided. A lockable handle cover shall be provided to prevent unauthorized operation. A hinged access plate shall be provided to secure the cable entry compartment when not in use.

Weight and dimensions shall meet the limits shown on the anchorage detail provided with the expedited permit documents.

Generator docking station shall be listed UL 1008.

Concrete

All concrete shall have a minimum ultimate compressive strength of 3000 psi at 28 days. All concrete shall be regular weight.

All concrete shall comply with CBC Chapter 19 and ACI 318-14 and the latest edition of ACI Manual of Concrete Practice.

Special Inspection (as required or specified) shall conform to CBC Chapter 17.

Cement shall be Portland cement type I or II and shall conform to ASTM C150.

Aggregates shall conform to ASTM C33.

Water shall conform to ASTM C1602.

Reinforcing steel shall be deformed intermediate grade bars conforming to ASTM A616. Grade (F_y = 60 ksi).

Utility Interruptions

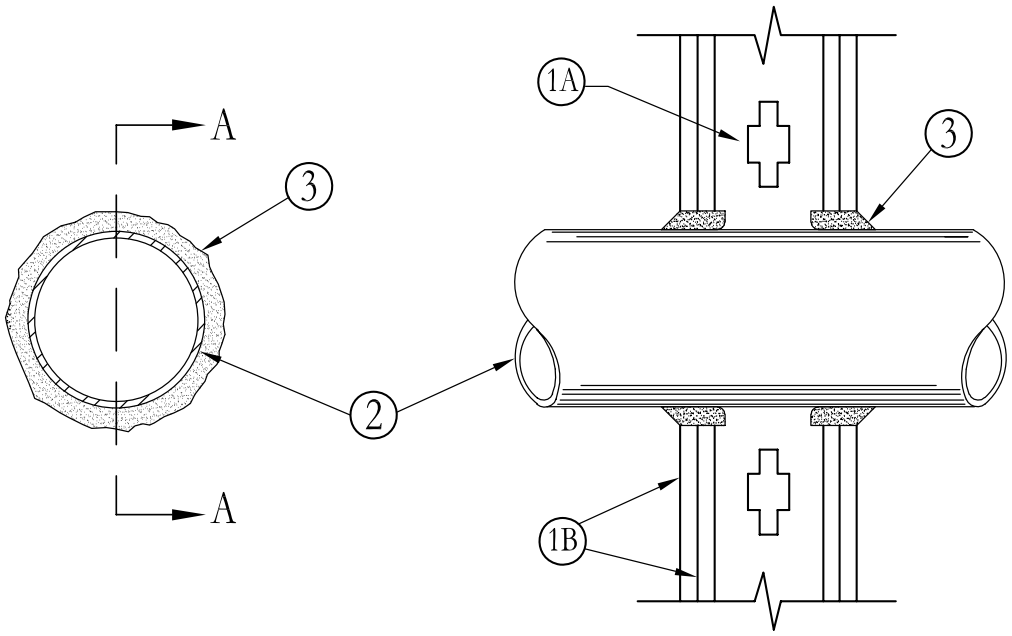
The facility is in continuous operation 24 hours per day, 7 days per week. All utility interruptions shall be reviewed, approved, and coordinated by the facility representative not less than 48 hours in advance. It shall be the contractor's responsibility to provide temporary power facilities and connections for all feeders, branch circuits, or signal and communications systems being disconnected in order to maintain systems in operation.

Warranty

The contractor shall provide a written warranty covering all equipment, materials, and labor for a period of not less than 1 year from the date of acceptance by the facility.

System No. W-L-1001

June 15, 2005
F Ratings – 1, 2, 3 and 4 Hr (See Items 2 and 3)
T Ratings – 0, 1, 2, 3, and 4 Hr (See Item 3)
L Rating At Ambient – less than 1 CFM/sq ft
L Rating At 400 F – less than 1 CFM/sq ft



SECTION A-A

1. **Wall Assembly** – The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** – Wall framing may consist of either wood studs (max 2 hr fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board*** – Nom 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft. (122 cm) 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 26 in. (660 mm).
2. **Through Penetrant** – One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in. (0 mm) (point contact) to max 2 in. (51 mm). 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 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe** – Nom 24 in. (610 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. (305 mm) diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.
   C. **Conduit** – Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing
   D. **Copper Tubing** – Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing
   E. **Copper Pipe** – Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
   F. **Through Penetrating Product*** – **Flexible Metal Piping** – The following types of steel flexible metal gas piping may be used:
      1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

         OMEGA FLEX INC
      2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

         TITEFLEX CORP

         A BUNDY CO
      3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

         WARD MFG INC

System No. W-L-1001 *continued*

3. **Fill, Void or Cavity Material*** – **Caulk or Sealant** – Min 5/8. 1-1/4,1-7/8 and 2-1/2 in. (16, 32, 48 and 64 mm) thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Max Pipe or Conduit Diam In. (mm)	F Rating Hr	T Rating Hr
1 (25)	1 or 2	0+, 1 or 2
1 (25)	3 or 4	3 or 4
4 (102)	1 or 2	0
6 (152)	3 or 4	0
12 (305)	1 or 2	0

+When copper pipe is used, T Rating is 0 hr.

3M COMPANY – CP 25WB+ caulk or FB-3000 WT sealant,

*Bearing the UL Classification Marking

Signage – Emergency Generator Backup

Durable signs complying with CEC 110.21(B) shall be installed at the indicated locations:

1. At the service-entrance equipment:
   A. A sign that indicates the type and location of each on-site emergency power source (CEC 700.7(A)).

2. At the temporary generator inlet location:
   A. A sign that reads one of the following, depending on the type of derived system (see data collection sheet):

WARNING
FOR CONNECTION OF A SEPARATELY DERIVED
(BONDED NEUTRAL) SYSTEM ONLY

or

WARNING:
FOR CONNECTION OF A NONSEPARATELY DERIVED
(FLOATING NEUTRAL) SYSTEM ONLY

   B. A sign that lists the following information (use information from data collection form)
      1. System voltage and configuration
      2. Minimum generator set rating
      3. Phase rotation (3 phase only)
      4. Whether or not the generator is a separately derived system

Final Test Procedure – Emergency Generator Backup

1.	OSHPD Compliance Officer has been notified of the planned test.	❑
2.	Install the temporary generator as specified in the “Installation of Temporary Generator” instructions.	❑
3.	Verify the presence and accuracy of all signage required under this project.	❑
4.	Place the manual transfer switch (MTS) in the "TEMPORARY" position.	❑
5.	Start the temporary generator set by using the generator control panel.	❑
6.	At the ATS, verify that the voltage of the normal source and temporary generator match. Additionally, for 3 phase installations only, verify the rotation of the normal source and temporary generator match.	❑
7.	Open the breaker on the ATS normal feeder. Confirm ATS transfers to the temporary generator.	❑
8.	Operate the temporary generator for 15 minutes. Verify that all emergency loads in the facility are operating correctly.	❑
9.	Close the breaker on the ATS normal feeder. After some delay (preset on ATS), verify the ATS transfers back to normal.	❑
10.	After a 5-minute cool-down, stop the generator using the generator control panel.	❑
11.	Return generator to the automatic start position.	❑
12.	Allow the generator to cool for at least one hour.	❑
13.	Move the ATS test switch to “TEST”. Verify the temporary generator starts and assumes the load within 10 seconds.	❑
14.	Move the ATS test switch to “NORMAL”. After some delay (preset on ATS), verify that the load is switched to the normal source.	❑
15.	After some delay (preset on ATS), verify that the generator shuts down.	❑
	Note: The following two steps verify that the operation of the permanent generator has not been adversely impacted.	

16.	Place the MTS in the “PERMANENT” Position.	❑
17.	Repeat steps 5 – 15 on the permanent generator instead of the temporary generator.	❑

Installation of Temporary Generator

		Compliance		
		Yes	**No**	**NA**
1.	The temporary generator tires are blocked.	❑	❑	
2.	The temporary generator is protected from physical damage and tampering by fencing and/or k-rails.	❑	❑	
2.	If the generator will be in place for more than 30 DAYS, it is restrained in accordance with the detail S2.	❑	❑	❑
3.	The generator output breaker is in the “OPEN” position.	❑	❑	
3.	The cables to be installed are of a type identified in CEC Table 400-4 for hard or extra-hard usage. CEC 590.4(B) One commonly used type is 4/0 Camlock Type W Cables. **Note**: Diesel locomotive (DLO) cable is commonly proposed for use as temporary conductors. Note that DLO is not a CEC recognized designation. Only cables meeting the above requirements are acceptable	❑	❑	
4.	The cables are installed such that they are protected, supported, not installed directly on the floor or ground, and are not in physical contact with each other. (CEC 590.4(H), (J)).	❑	❑	
5.	The temporary generator's battery charger and jacket/battery heater are connected to the outlets previously identified.	❑	❑	
6.	Where the generator is needed to start upon loss of the utility, the ATS start contacts are connected to the temporary generator. (This is needed only when backing up the permanent generator)	❑	❑	
7.	Where the generator is backing up the permanent emergency generator, the remote annunciator is installed in the building. (NFPA 110 5.6.6)	❑	❑	
8.	Where the generator is backing up the permanent emergency generator and the generator is a separately derived system, the two ground rods are connected to the ground bus of the temporary generator.	❑	❑	
9.	The work will be performed by an electrical contractor licensed in the State of California.	❑	❑	

OSHPD Office of Statewide Health Planning and Development

Facilities Development Division
www.oshpd.ca.gov/fdd

2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
(916) 440-8300

355 South Grand Avenue, 19th Floor
Los Angeles, California 90071
(213) 897-0166

Testing, Inspection and Observation Program

2019 California Building Standards Code – OSHPD 2

This program is prepared and submitted for an OSHPD 2 projects. OSHPD 2 projects are limited to construction and remodel projects for, skilled nursing facilities and/or intermediate-care facilities of Type V, wood or light steel-frame construction.

SECTION A	PROJECT INFORMATION		
Facility #:	**Facility Name:**	**Project #:**	**Sub #:**
Street Address:			
City:	**County:**		
Record Name (Scope of Project):	Install Connection for Temp Generator - Emergency Generator Backup		

Abbreviations:

CAC: California Administrative Code	AAMA: American Architectural Manufacturers Association
CBC: California Building Code	NFPA: National Fire Protection Association
CEC: California Electrical Code	FM: FM Approval Standards
CMC: California Mechanical Code	DPOR: Design Professional of Record

Version: R03.7.2

OSHPD Office of Statewide Health Planning and Development

Facilities Development Division
www.oshpd.ca.gov/fdd

2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
(916) 440-8300

355 South Grand Avenue, 19th Floor
Los Angeles, California 90071
(213) 897-0166

Testing, Inspection and Observation Program

2019 California Building Standards Code – OSHPD 2

SECTION B

NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by OSHPD prior to proceeding with the related work.

Facility #:	Facility Name:	Project #:	Sub #:

DURING CONSTRUCTION DOCUMENT				DURING CONSTRUCTION		
Index #	REQUIRED (Select)	TESTS		RESPONSIBLE APPROVED AGENCY AND/OR INDIVIDUAL	COMPLIANCE VERIFICATION BY IOR (Initial/Date)	OSHPD/FDD USE (Initial/Date)
STRUCTURAL TESTS						
Foundation						
B-F2	X	**Soil fill** CBC 1705.6 Compaction test				DSE:
Concrete						
B-C2	X	**Concrete** CBC 1705.3, 1903.5; ACI-318 1.9.1 & 26.4 Aggregates/Reactive aggregates				DSE:
B-C3	X	**Concrete** CBC 1705.3, ACI-318 26.4.1.3, ASTM C1602 Water				DSE:
B-C4	X	**Concrete** CBC 1705.3 & 1909.3.7; ACI-318 26.12.2.1(a) Strength test				DSE:
B-C5	X	**Concrete** CBC 1705.3 & 1910.2 & ACI-318 20.2, 25.4.5.1 & 26.6.1.2 Metal reinforcement (including welded wire fabric and headed rebar)				DSE:
B-C14	X	**Post-installed anchors** CBC 1901.3.4 Installation verification test				DSE:
ELECTRICAL TESTS						
B-E13	X	**Torque Electrical Connections** CEC 110.3(B) & 110.14(D)				CO:
B-E20	X	**Final Test - Emergncy Generator Backup Connection**				CO:
B-E21	X	**Signage Verification - Emergency Generator Backup Connection**				

OSHPD Office of Statewide Health Planning and Development

Facilities Development Division
www.oshpd.ca.gov/fdd

2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
(916) 440-8300

355 South Grand Avenue, 19th Floor
Los Angeles, California 90071
(213) 897-0166

Testing, Inspection and Observation Program

2019 California Building Standards Code – OSHPD 2

SECTION C

NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by OSHPD prior to proceeding with the related work.

Facility #:	Facility Name:	Project #:	Sub #:

DURING CONSTRUCTION DOCUMENT SUBMITTAL			DURING CONSTRUCTION		
Index #	REQUIRED (Select)	ON-SITE SPECIAL INSPECTIONS	RESPONSIBLE APPROVED AGENCY AND/OR INDIVIDUAL (IDENTIFY SPECIAL INSPECTOR)	COMPLIANCE VERIFICATION BY IOR (Initial/Date)	OSHPD/FDD USE (Initial/Date)
STRUCTURAL SPECIAL INSPECTIONS					
Concrete					
C-C1	X	**Concrete** CBC 1705.3; ACI-318 26.5.2 & 26.13 Placement of concrete			DSE:
C-C4	X	**Concrete** CBC 1705.3; ACI-318 26.13 Reinforcing steel & prestressing steel			DSE:
C-C5	X	**Concrete** CBC 1705.3 CIP & Post-installed anchors			DSE:
FIRE PROTECTION SPECIAL INSPECTIONS					
C-FP3	X	**Penetration firestops** CBC 1705.17.1 Penetration firestop systems that are tested and listed			FLSO:

OSHPD Office of Statewide Health Planning and Development

Facilities Development Division
www.oshpd.ca.gov/fdd

2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
(916) 440-8300

355 South Grand Avenue, 19th Floor
Los Angeles, California 90071
(213) 897-0166

Testing, Inspection and Observation Program

2019 California Building Standards Code – OSHPD 2

SECTION E			REQUIRED COMPLIANCE FORMS		
Facility #:		Facility Name:	Project #:		Sub #:
DURING CONSTRUCTION DOCUMENT SUBMITTAL			DURING CONSTRUCTION		
FORM #	REQUIRED (Select)	DOCUMENT NAME	RESPONSIBLE DESIGNER OR INSTALLING CONTRACTOR	COMPLIANCE VERIFICATION BY IOR (Initial/Date)	OSHPD/FDD USE (Initial/Date)

OSHPD Office of Statewide Health Planning and Development

Facilities Development Division
www.oshpd.ca.gov/fdd

2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
(916) 440-8300

355 South Grand Avenue, 19th Floor
Los Angeles, California 90071
(213) 897-0166

Testing, Inspection and Observation Program

2019 California Building Standards Code – OSHPD 2

SECTION F — CONSTRUCTION VERIFICATION

Facility #:	Facility Name:	Project #:	Sub #:

VERIFIED CONSTRUCTION INSPECTION AND OBSERVATION REPORTING

REFERENCE NUMBER	PROJECT MILESTONE OR INTERVAL	VERIFIED COMPLIANCE REPORT REQUIRED AS INDICATED (Form OSH-FD-123) (See "PERSONAL KNOWLEDGE" as defined in California Administrative Code, Section 7-151)										FOR OSHPD USE ONLY
		GEOR	AOR	SEOR	MEOR	EEOR	CONT	IOR	SP INSP	TEST LAB		OSHPD FDD
	Substantial Compliance (Remodel, Renovations, Maintenance projects, Equipment Replacement)											
	Certificate of Occupancy (New Buildings, Additions, Changes in Occupancy)											
	Construction Final						X	X	X			

ABBREVIATIONS:

GEOR - Geotechnical Engineer of Record
AOR - Architect of Record
SEOR - Structural Engineer of Record
MEOR - Mechanical Engineer of Record
EEOR - Electrical Engineer of Record
CONT O/B - Contractor or Owner/Builder
SP. INSP - Special Inspector
IOR - Inspector of Record
Test Lab – Engr. For the approved agency

OSHPD Office of Statewide Health Planning and Development

Facilities Development Division
www.oshpd.ca.gov/fdd

2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
(916) 440-8300

355 South Grand Avenue, 19th Floor
Los Angeles, California 90071
(213) 897-0166

Testing, Inspection and Observation Program

2019 California Building Standards Code – OSHPD 2

SECTION H — PLAN REVIEW APPROVAL

Facility #:	Facility Name:	Project #:	Sub #:

NOTE: When a structural engineer has been delegated responsibility for a portion of this project his or her signature is also required. For testing, Inspection and Observation Program Instructions visit: https://oshpd.ca.gov/construction-finance/resources/forms-applications-reminder-lists/#TIO

Submitted By

I have reviewed the approved construction documents for this project and all tests and special inspections required by Code are marked as "required" on this form.

Architect/Engineer of Record (Print Name)	Architect/Engineer of Record (Signature)	Date

Structural Engineer of Record (Print Name)	Structural Engineer of Record (Signature)	Date

FOR OSHPD USE

OSHPD Plan Approval:

Signature _____ Date _____

☐ **APPROVED** ☐ **APPROVED WITH COMMENTS** ☐ **DENIED**

Comments (If AC or D is checked the following comments shall be resolved by the designer prior to proceeding with the related construction)**:**