

STAFF REPORT FOR PLANNING COMMISSION MEETING OF SEPTEMBER 30, 2020

FILE NO: LU-2020-0025

AGENDA ITEM: E.6

STAFF AUTHOR: Hope Sullivan, Planning Manager

AGENDA TITLE: For Possible Action: Discussion and possible action regarding a request for a Special Use Permit to modify a municipal well site by adding an emergency backup generator on property zoned Public Community (PC), located at 603 Marsh Road, APN 010-021-43.

STAFF SUMMARY: Carson City Public Works is proposing to install an emergency backup generator at the City's well site. The proposed improvements include installing a new generator and fuel tank on a concrete pad. The generator would be approximately 9-feet, 4-inches tall by 6-feet, 9-inches wide by 14-feet, 10-inches long. The generator will be housed inside a white, sound attenuating enclosure. The proposed generator will provide emergency backup power to the well. The Planning Commission is authorized to approve a Special Use Permit.

RECOMMENDED MOTION: I move to approve LU-2020-0025, based on the ability to make the required findings and subject to the conditions of approval contained in the staff report.

VICINITY MAP:



RECOMMENDED CONDITIONS OF APPROVAL:

1. All development shall be substantially in accordance with the approved site plan.
2. All on and off-site improvements shall conform to City standards and requirements.

3. The use for which this permit is approved shall commence within twelve (12) months of the date of final approval. A single, one (1) year extension of time must be requested in writing to the Planning and Community Development Department thirty (30) days prior to the one (1) year expiration date. Should this permit not be initiated within one (1) year and no extension granted, the permit shall become null and void.
4. The applicant must sign and return the Notice of Decision for conditions of approval within ten (10) days of receipt of notification. If the Notice of Decision is not signed and returned within ten (10) days, then the item may be rescheduled for the next Planning Commission meeting for further consideration.
5. The applicant shall submit exterior light fixture details for any proposed fixtures with the building permit application. Lights must be shielded with a 90-degree full cutoff so that light is projected downward and not horizontally or upward. Light sources or refractors shall not extend below the bottom of the shield.

LEGAL REQUIREMENTS: Carson City Municipal Code 18.04.180 Public Community (PC) Conditional Uses

MASTER PLAN DESIGNATION: Parks and Recreation

PRESENT ZONING: Public Community

KEY ISSUES: Will the use be compatible with the surrounding neighborhood and be in keeping with the standards of the Carson City Municipal Code?

SURROUNDING ZONING AND LAND USE INFORMATION:

NORTH: Public Community / Open Space

SOUTH: Public Regional / Open Space

EAST: Public Regional / Open Space

WEST: Single Family 21 Planned Unit Development / Single Family Residential

ENVIRONMENTAL INFORMATION:

FLOOD ZONE: Zone AE

EARTHQUAKE FAULT: Beyond 500 feet

EARTHQUAKE POTENTIAL: Greatest severity

SLOPE/DRAINAGE: Flat

SITE DEVELOPMENT INFORMATION:

LOT SIZE: 100 acres

EXISTING LAND USE: park

PREVIOUS REVIEWS:

SUP-04-170 – New Well

U-86-15 - Well

DISCUSSION:

Per CCMC 18.04.180, a municipal well facility is a conditional use in the Public Community zoning district and may only be established with a Special Use Permit. The municipal well use is established. The applicant is now seeking to add an emergency generator to the site. The generator will be 14 feet, 10 inches long by six feet, nine inches wide by nine feet, four inches tall. The addition of the generator requires a modification to the special use permit. The Planning

Commission is authorized to approve a modification to a special use permit.

Of note, on August 17, 2017, the Board of Supervisors voted 5 – 0 to submit a grant application to the Nevada Division of Emergency Management for emergency generators and booster pumps as part of the hazard mitigation grant program. The scope of the grant application, as approved by the Board Supervisors, was for the purchase and installation of four emergency generators in order to provide backup power to critical well facilities and one lift station. The locations where the generators are proposed are:

1881 Winnie Lane
4675 East Fifth Street
603 Marsh Road
2201 West College Parkway

The Planning Commission approved the special use permit for the generator on Winnie Lane at its July 2020 meeting. In addition to the subject request, the requests for the generators on East Fifth Street and College Parkway are on the Commission's September 2020 agenda for consideration.

The facilities where the generators are proposed were determined based on an analysis of the potential damages for loss of water service. A power outage at the subject well 41 would impact water service to 28,701 people as well as businesses.

The well site is located in the southeastern portion of the Korean War Veterans Memorial Park, just west of the Carson River. Land to the east and south is City owned open space.

PUBLIC COMMENTS:

Public notices were mailed to 167 property owners within 900 feet of the subject site on August 7, 2020. As of the writing of this report, staff has not received any written comments. Any comments that are received after this report is completed will be submitted to the Planning Commission prior to or at the meeting on September 30, 2020 depending on the date of submission of the comments to the Planning Division.

OTHER CITY DEPARTMENTS OR OUTSIDE AGENCY COMMENTS:

Plans were routed to commenting agencies, and the following comments were received. Comments have been incorporated into the conditions of approval, as appropriate.

Engineering Division

The Engineering Division has reviewed the application within our areas of purview relative to adopted standards and practices and to the provisions of CCMC 18.02.080, Conditional Uses. The Engineering Division offers the following discussion:

C.C.M.C. 18.02.080 (5a) - Master Plan

The request is not in conflict with any Engineering Master Plans.

C.C.M.C. 18.02.080 (5b) – Use, Peaceful Enjoyment, Economic Value, Compatibility
Development Engineering has no comment on this finding.

C.C.M.C. 18.02.080 (5c) - Traffic/Pedestrians

The use has no impact on vehicle or pedestrian traffic.

C.C.M.C. 18.02.080 (5d) - Public Services

The use improves the reliability of the City's water system.

C.C.M.C. 18.02.080 (5e) – Title 18 Standards

Development Engineering has no comment on this finding.

C.C.M.C. 18.02.080 (5f) – Public health, Safety, Convenience, and Welfare

The project meets engineering standards for health and safety.

C.C.M.C. 18.02.080 (5g) – Material Damage or Prejudice to Other Property

Development Engineering has no comment on this finding.

C.C.M.C. 18.02.080 (5h) – Adequate Information

The plans and reports provided were adequate for this analysis.

Fire Department

1. Project must comply with the International Fire Code and northern Nevada fire code amendments as adopted by Carson City.
2. Project is in the identified wildland urban interface of Carson City and must comply with the International Wildland Urban Interface Code and northern Nevada wildland urban interface amendments as adopted by Carson City.

FINDINGS: Staff's recommendation is based upon the findings as required by CCMC Section 18.02.062 (Special Use Permits) enumerated below and substantiated in the public record for the project.

1. Will be consistent with the master plan elements.

The Water System Master Plan is an integrated planning document that describes existing regulation and legal commitments, water rights, supply sources, storage and distribution infrastructure and characterization of water use. The generator will allow for the distribution of water consistent with the Master Plan during power outages.

2. Will not be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties or the general neighborhood; and will cause no objectionable noise, vibrations, fumes, odors, dust, glare or physical activity.

The well site is located near the eastern edge of Korean War Veterans Memorial Park, just west of the Carson River. City owned open space is located to the east and to the south of the site. Given the setting of the well site and surrounding land uses, staff does not find that the proposed use will be detrimental to the peaceful enjoyment of surrounding properties.

3. Will have little or no detrimental effect on vehicular or pedestrian traffic.

The addition of a generator to the site will not create a detrimental effect on vehicular or pedestrian traffic. There will be no change to traffic patterns.

4. Will not overburden existing public services and facilities, including schools, police and fire protection, water, sanitary sewer, public roads, storm drainage, and other public improvements.

The addition of an emergency generator will not overburden, or even create a demand on public services or facilities. It will allow for more reliable water delivery during times of power outages.

5. Meets the definition and specific standards set forth elsewhere in this title for such particular use and meets the purpose statement of that district.

The subject property is zoned for Public Community (PC). The purpose of the PC zoning district is for facilities and uses that serve primarily a large portion of Carson City to, in part, accommodate the wide range of public institutional and auxiliary uses which are established in response to the health, safety, cultural and welfare needs of the citizens of the city. The well site is necessary for public health safety. The generator will improve the reliability of the well.

A municipal well facility is a conditional use in the PC zoning district. In the PC zoning district, setbacks and heights are determined as part of the special use permit. As conditioned, staff find that the proposed use meets the purpose statement and definition and standards of the district.

6. The use will not be detrimental to the public health, safety, convenience and welfare.

The emergency generator will not be detrimental to public health, safety, convenience and welfare. Rather, the proposed generator will promote public health and safety by ensuring the availability of water during electricity outages.

7. Will not result in material damage or prejudice to other property in the vicinity.

The proposed emergency generator, subject to the conditions of approval, will not result in material damage or prejudice to other property in the vicinity. It is a somewhat isolated location, where potential impacts are mitigated by the isolation.

Attachments:
LU-2020-0025 application

Carson City Planning Division
 108 E. Proctor Street • Carson City NV 89701
 Phone: (775) 887-2180 • E-mail: planning@carson.org

FOR OFFICE USE ONLY:

CCMC 18.02.080

SPECIAL USE PERMIT

FEE*: \$2,450.00 MAJOR
 \$2,200.00 MINOR (Residential zoning districts)

+ noticing fee

*Due after application is deemed complete by staff

SUBMITTAL PACKET – 4 Complete Packets (1 Unbound Original and 3 Copies) including:

- Application Form
- Detailed Written Project Description
- Site Plan
- Building Elevation Drawings and Floor Plans
- Special Use Permit Findings
- Master Plan Policy Checklist
- Applicant's Acknowledgment Statement
- Documentation of Taxes Paid-to-Date
- Project Impact Reports (Engineering)

CD or USB DRIVE with complete application in PDF

Application Received and Reviewed By: _____

Submission Deadline: Planning Commission application submittal [schedule](#).

Note: Submittals must be of sufficient clarity and detail for all departments to adequately review the request. Additional information may be required.

FILE

APPLICANT _____ PHONE # _____

MAILING ADDRESS, CITY, STATE, ZIP _____

EMAIL ADDRESS _____

PROPERTY OWNER _____ PHONE # _____

MAILING ADDRESS, CITY, STATE, ZIP _____

EMAIL ADDRESS _____

APPLICANT AGENT/REPRESENTATIVE _____ PHONE # _____

MAILING ADDRESS, CITY STATE, ZIP _____

EMAIL ADDRESS _____

Project's Assessor Parcel Number(s): _____ Street Address _____

Project's Master Plan Designation _____ Project's Current Zoning _____ Nearest Major Cross Street(s) _____

Please provide a brief description of your proposed project and/or proposed use below. Provide additional pages to describe your request in more detail.

PROPERTY OWNER'S AFFIDAVIT

I, _____, being duly deposed, do hereby affirm that I am the record owner of the subject property, and that I have knowledge of, and I agree to, the filing of this application.

Signature _____ Address _____ Date _____

Use additional page(s) if necessary for additional owners.

STATE OF NEVADA)
 COUNTY)

On _____, 2_____, _____, personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

Notary Public _____

NOTE: If your project is located within the Historic District or airport area, it may need to be scheduled before the Historic Resources Commission or the Airport Authority in addition to being scheduled for review by the Planning Commission. Planning staff can help you make this determination.



CARSON CITY NEVADA

Consolidated Municipality and State Capital

PUBLIC WORKS

July 15th, 2020

Carson City Planning Commission
108 E. Proctor Street
Carson City, Nevada 89701

RE: Special Use Permit Project Description – Carson City Municipal Well 41

Carson City Public Works is proposing to install a diesel generator at the City's Municipal Well 41 site. The improvements would include installing a new generator and fuel tank on a concrete pad in the location indicated on the site map. The generator would be approximately 9'-4" tall, 6'-9" wide, and 18'-10" long. The generator will be housed inside a white, level 2, sound attenuating enclosure. The proposed generator will provide emergency backup power to Well 41.

Carson City has received a grant through the Nevada Department of Emergency Management (NDEM) which funds the installation of emergency generators at four critical well facilities in the City. Well 41 was identified as one of the critical facilities and has the potential to impact 28,000 people in the event of a power outage. Installation of the portable generator will provide resiliency against outages and better service to the residents of Carson City.

If you have any questions, please feel free to call or email me.

Sincerely,

Darren Anderson, P.E.
Project Manager
Carson City Public Works
danderson@carson.org

STATEMENT OF FINDINGS
APPLICATION FOR SPECIAL USE PERMIT
WELL 41 EMERGENCY GENERATOR PROJECT

Question 1: Will be consistent with the objectives of the Master Plan elements.

Installation of the emergency backup generator at Well 41 will be in accordance with Carson City's Master Plan. The generator will help the City to continue to operate the site as it is currently operated. The generator will match the facility and equipment located at the site.

The generator will be constructed of long lasting, rust resistant materials and be housed in a neutral colored, level 2, sound attenuating enclosure.

Completion of the project will allow the City to continue to provide a satisfactory level of service to those connected to the City's water system and help to maintain good quality of life for residents. Installation of the emergency backup generator will help sustainability of our community by adding reliability to the City's water system.

Question 2: Will not be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties or the general neighborhood; and is compatible with and preserves the character and integrity of adjacent development and neighborhood or includes improvements or modifications either on-site or within the public right-of-way to mitigate development related to adverse impacts such as noise vibrations, fumes, odors, dust, glare or physical activity.

Well 41 is one of Carson City's better producing wells, producing approximately 1,500 gpm. Additionally, Well 41 is necessary for the proper operation of another well in the area, Well 24. Well 41 serves much of the central and eastern areas of the City. Installation of the emergency generator will greatly enhance resiliency of this well power outages.

The site is generally surrounded by large publicly owned parcels with single family 1 acre homes located to the southeast. The installation of the emergency backup generator will not be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties due to the use of the site not changing and the new generator matching the existing facility and equipment.

Adjacent properties:

Single Family-21,000 square feet (SF21) to the west

Public Regional (PR) to the south and east

Public Community (PC) to the north

Single Family 1 Acre (SF1A) to the southeast

Question 3: Will have little or no detrimental effect on vehicular traffic or pedestrian traffic.

The project will have no effect on vehicular or pedestrian traffic.

Question 4: Will not overburden existing public services and facilities, including schools, police and fire protection, water, sanitary sewer, public roads, storm drainage and other public improvements.

The project will help improve the public water system and service. Installation of an emergency generator at Well 41 will provide increased reliability of the water system.

Question 5: Meets the definition and specific standards set forth elsewhere in Carson City Municipal Code, Title 18 for such particular use and meets the purpose statement of that district.

A municipal well is a conditional use for parcels Located in PC district. The proposed improvements will help the City to continue to use the site as a municipal well facility as has been previously approved.

Question 6: Will not be detrimental to the public health, safety, convenience and welfare.

This project will help to improve public health, safety, convenience and welfare by providing improved reliability of water from the Well 41 site. Additionally, the redundancy of Well 24 will be improved by this project.

Question 7: Will not result in material damage or prejudice to other property in the vicinity, as a result of proposed mitigation measures.

The use of the land will not vary from how it has been previously used. The site will continue to be used as a municipal well facility with the proposed improvements. The well will operate during power outages if the well is in operation at the time of the outage and on a scheduled maintenance startup frequency of once a week for 30 minutes. The maintenance startup will be scheduled during daytime weekday hours to minimize disturbance to neighbors.

ACKNOWLEDGMENT OF APPLICANT

I certify that the forgoing statements are true and correct to the best of my knowledge and belief. I agree to fully comply with all conditions as established by the Planning Commission. I am aware that this permit becomes null and void if the use is not initiated within one-year of the date of the Planning Commission's approval; and I understand that this permit may be revoked for violation of any of the conditions of approval. I further understand that approval of this application does not exempt me from all City code requirements.



Darren Anderson

7/27/2020

Applicant's Signature

Print Name

Date

Master Plan Policy Checklist

Special Use Permits & Major Project Reviews & Administrative Permits

PURPOSE

The purpose of a development checklist is to provide a list of questions that address whether a development proposal is in conformance with the goals and objectives of the 2006 Carson City Master Plan that are related to non-residential and multi-family residential development. This checklist is designed for developers, staff, and decision-makers and is intended to be used as a guide only.

Development Name: _____

Reviewed By: _____

Date of Review: _____

DEVELOPMENT CHECKLIST

The following five themes are those themes that appear in the Carson City Master Plan and which reflect the community's vision at a broad policy level. Each theme looks at how a proposed development can help achieve the goals of the Carson City Master Plan. A check mark indicates that the proposed development meets the applicable Master Plan policy. The Policy Number is indicated at the end of each policy statement summary. Refer to the Comprehensive Master Plan for complete policy language.

CHAPTER 3: A BALANCED LAND USE PATTERN



The Carson City Master Plan seeks to establish a balance of land uses within the community by providing employment opportunities, a diverse choice of housing, recreational opportunities, and retail services.

Is or does the proposed development:

- Meet the provisions of the Growth Management Ordinance (1.1d, Municipal Code 18.12)?
- Use sustainable building materials and construction techniques to promote water and energy conservation (1.1e, f)?
- Located in a priority infill development area (1.2a)?
- Provide pathway connections and easements consistent with the adopted Unified Pathways Master Plan and maintain access to adjacent public lands (1.4a)?

- Protect existing site features, as appropriate, including mature trees or other character-defining features (1.4c)?
- At adjacent county boundaries or adjacent to public lands, coordinated with the applicable agency with regards to compatibility, access and amenities (1.5a, b)?
- In identified Mixed-Use areas, promote mixed-use development patterns as appropriate for the surrounding context consistent with the land use descriptions of the applicable Mixed-Use designation, and meet the intent of the Mixed-Use Evaluation Criteria (2.1b, 2.2b, 2.3b, Land Use Districts, Appendix C)?
- Meet adopted standards (e.g. setbacks) for transitions between non-residential and residential zoning districts (2.1d)?
- Protect environmentally sensitive areas through proper setbacks, dedication, or other mechanisms (3.1b)?
- Sited outside the primary floodplain and away from geologic hazard areas or follows the required setbacks or other mitigation measures (3.3d, e)?
- Provide for levels of services (i.e. water, sewer, road improvements, sidewalks, etc.) consistent with the Land Use designation and adequate for the proposed development (Land Use table descriptions)?
- If located within an identified Specific Plan Area (SPA), meet the applicable policies of that SPA (Land Use Map, Chapter 8)?

CHAPTER 4: EQUITABLE DISTRIBUTION OF RECREATIONAL OPPORTUNITIES



The Carson City Master Plan seeks to continue providing a diverse range of park and recreational opportunities to include facilities and programming for all ages and varying interests to serve both existing and future neighborhoods.

Is or does the proposed development:

- Provide park facilities commensurate with the demand created and consistent with the City's adopted standards (4.1b)?
- Consistent with the Open Space Master Plan and Carson River Master Plan (4.3a)?

CHAPTER 5: ECONOMIC VITALITY



The Carson City Master Plan seeks to maintain its strong diversified economic base by promoting principles which focus on retaining and enhancing the strong employment base, include a broader range of retail services in targeted areas, and include the roles of technology, tourism, recreational amenities, and other economic strengths vital to a successful community.

Is or does the proposed development:

- Encourage a citywide housing mix consistent with the labor force and non-labor force populations (5.1j)
- Encourage the development of regional retail centers (5.2a)
- Encourage reuse or redevelopment of underused retail spaces (5.2b)?
- Support heritage tourism activities, particularly those associated with historic resources, cultural institutions and the State Capitol (5.4a)?
- Promote revitalization of the Downtown core (5.6a)?
- Incorporate additional housing in and around Downtown, including lofts, condominiums, duplexes, live-work units (5.6c)?

CHAPTER 6: LIVABLE NEIGHBORHOODS AND ACTIVITY CENTERS



The Carson City Master Plan seeks to promote safe, attractive and diverse neighborhoods, compact mixed-use activity centers, and a vibrant, pedestrian-friendly Downtown.

Is or does the proposed development:

- Use durable, long-lasting building materials (6.1a)?
- Promote variety and visual interest through the incorporation of varied building styles and colors, garage orientation and other features (6.1b)?
- Provide variety and visual interest through the incorporation of well-articulated building facades, clearly identified entrances and pedestrian connections, landscaping and other features consistent with the Development Standards (6.1c)?
- Provide appropriate height, density and setback transitions and connectivity to surrounding development to ensure compatibility with surrounding development for infill projects or adjacent to existing rural neighborhoods (6.2a, 9.3b 9.4a)?
- If located in an identified Mixed-Use Activity Center area, contain the appropriate mix, size and density of land uses consistent with the Mixed-Use district policies (7.1a, b)?
- If located Downtown:
 - Integrate an appropriate mix and density of uses (8.1a, e)?
 - Include buildings at the appropriate scale for the applicable Downtown Character Area (8.1b)?
 - Incorporate appropriate public spaces, plazas and other amenities (8.1d)?
- Incorporate a mix of housing models and densities appropriate for the project location and size (9.1a)?

CHAPTER 7: A CONNECTED CITY



The Carson City Master Plan seeks promote a sense of community by linking its many neighborhoods, employment areas, activity centers, parks, recreational



Special Use Permit, Major Project Review, & Administrative Permit Development Checklist

amenities and schools with an extensive system of interconnected roadways, multi-use pathways, bicycle facilities, and sidewalks.

Is or does the proposed development:

- Promote transit-supportive development patterns (e.g. mixed-use, pedestrian-oriented, higher density) along major travel corridors to facilitate future transit (11.2b)?
- Maintain and enhance roadway connections and networks consistent with the Transportation Master Plan (11.2c)?
- Provide appropriate pathways through the development and to surrounding lands, including parks and public lands, consistent with the Unified Pathways Master Plan (12.1a, c)?

200 ekW- 300 ekW

60 Hz

Standby	Prime
200ekW	180ekW
250ekW	225ekW
300ekW	275ekW



BENEFITS & FEATURES

CAT® GENERATOR SET PACKAGE

Cat generator set packages have been fully prototype tested and certified torsional vibration analysis reports are available. The packages are designed to meet the NFPA 110 requirement for loading, conform to the ISO 8528-5 steady state and fill transient response requirements.

CAT DIESEL ENGINES

The four-cycle Cat diesel engine combines consistent performance with excellent fuel economy and transient response that meets or exceeds ISO 8528-5. The engines feature a reliable, rugged, and durable design that has been field proven in thousands of applications worldwide in emergency standby installations.

COOLING SYSTEM

The cooling system has been designed and tested to ensure proper generator set cooling, and includes the radiator, fan, belts, and all guarding installed as standard. Contact your Cat dealer for specific ambient and altitude capabilities.

GENERATORS

The generators used on Cat packages have been designed and tested to work with the Cat engine. The generators are built with robust Class H insulation and provide industry-leading motor starting capability and altitude capabilities.

EMCP CONTROL PANELS

The EMCP controller features the reliability and durability you have to come to expect from your Cat equipment. The EMCP 4 is a scalable control platform designed to ensure reliable generator set operation, providing extensive information about power output and engine operation. EMCP 4 systems can be further customized to meet your needs through programming and expansion modules.

SPECIFICATIONS

ENGINE SPECIFICATIONS

Engine Model	Cat® C9 ACERT In-line 6, 4-cycle diesel
Bore x Stroke	112mm x 149mm (4.4in x 5.9in)
Displacement	8.8 L (538 in ³)
Compression Ratio	16.1:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	MEUI
Governor	Electronic ADEM™ A4
Emission Certifications	EPA Tier 3 - EPA Stationary Emergency

GENERATOR SET SPECIFICATIONS

Alternator Design	Brushless Single Bearing, 4 Pole
Stator	2/3 Pitch
No. of Leads	12
Available Voltage Options	600V/480V/240V/208V
Frequency	60Hz
Alternator Voltage	24V
Alternator Insulation & IP	Class H; IP23
Standard Temperature Rise	150 Deg C
Available Excitation Options	Self-Excited, AR
Voltage Regulation, Steady State +/-	≤0.5%

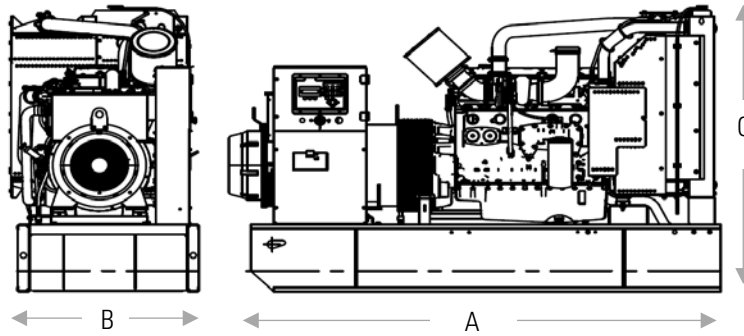
STANDARD EQUIPMENT

Air inlet system	Aftercooler core, Turbocharger.
Control panels	EMCP4.2 control panel.
Cooling system	Coolant drain line with valve; terminated on edge of base.
	Fan and belt guards.
	Coolant Level Sensor
	Thermostats and housing, full open temperature 92 deg C (198 deg F).
	Coolant level sight gauge.
Exhaust system	Jacket water pump, gear driven, centrifugal.
	Exhaust manifold; dry.
Fuel system	Primary fuel filter w/integral water separator & secondary filter.
	Fuel cooler.
	Fuel priming pump.
	Flexible fuel lines.
	Engine fuel transfer pump.
Generators and generator attachments	Brushless, self-excited 2/3 pitch, random wound.
	IP23 Protection.
	Insulation Class H and temperature rise
	Power center, IP22 bottom cable entry
Governing system	Segregated low voltage wiring panel
	Cat Electronic Governor (ADEM A4).
Lube system	Oil cooler.
	Lubricating oil.
	Oil filter and dipstick.
	Oil drain lines with valve; piped to edge of base.
	- Fumes disposal; piped to front of radiator.
Starting/charging system	24-volt electric starting motor.
	24V, 45 amp charging alternator.
General	Paint, Caterpillar Yellow.
	Vibration damper.

OPTIONAL EQUIPMENT

Air inlet system	STD AIR CLEANER
	Single Element Air Cleaner
	Dual Element Air Cleaner
Control panels	EMCP 4.4
	Local & Remote Annunciator
	Discrete I/O Module
Circuit Breakers	Power terminal strips- 800A & 600A
	3-Pole 100% Rated- Single (Manual & Motorised)
	3-Pole 100% Rated- Dual (Manual)
	3-Pole 100% Rated- Third (Manual)
Enclosures	External Paralleling
	Weather Protective
	Sound Attenuated
Cooling system	Aluminium Enclosures
	Stone guards.
Exhaust system	Industrial grade (10 dBA)
	Residential and Critical grade (25 dBA)
	Industrial grade (10 dBA)
Fuel storage	Sub Tank & Integral tank Bases
Generators and generator attachments	Space heater control
	Permanent magnet generator
Mounting system	Captive linear vibration isolators
Starting/charging system	Battery Chargers
	Jacket Water Heater
General	Tool Set.

WEIGHTS & DIMENSIONS



Genset Package		Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Open Generator Set Weight (Dry) ¹ kg (lb)	Maximum Weight (Dry) ² kg (lb)
Standby	Prime					
200 ekW	180 ekW	3091 (122)	1622 (64)	2066 (82)	2157 (4755)	2692 (5935)
250 ekW	225 ekW	3091 (122)	1622 (64)	2066 (82)	2248 (4956)	2692 (5935)
300 ekW	275 ekW	3091 (122)	1622 (64)	2066 (82)	2313 (5100)	2908 (6411)

¹Estimated weight includes standard generator, narrow skid base and heaviest mechanically operated standard single circuit breaker.

²Estimated weight includes oversize generator, wide skid base and heaviest circuit breaker configuration.



Image shown might not reflect actual configuration

WEATHER PROTECTIVE & SOUND ATTENUATED FUEL TANKS

FEATURES

- UL Listed for United States (UL 142) and Canada (CAN/ULC S601)
- Facilitate compliance with NFPA 30 code, NFPA 37 and 110 standards and CSA C282 code.
- Dual wall
- Lockable fuel fill cap, 4" (101.6mm) NPT
- Low fuel level warning standard, customer configurable warning or shutdown Primary tank leak detection switch in containment basin.
- Tank design provides capacity for thermal expansion of fuel
- Fuel supply dip tube is positioned so as not to pick up fuel sediment
- Fuel return and supply dip tube is separated by an internal baffle to prevent immediate re-supply of heated return fuel
- Pressure washed with an iron phosphate solution
- Interior tank surfaces coated with a solvent-based thin-film rust preventative
- Heavy gauge steel gussets with internal lifting rings
- Primary and secondary tanks are leak tested at 20.7 kPa (3 psi) minimum
- Compatible with open packages and enclosures
- Gloss black polyester alkyd enamel exterior paint
- Welded steel containment basin (minimum of 110% of primary tank capacity)
- Direct reading fuel gauge with variable electrical output
- Emergency vents on primary and secondary tanks are sized in accordance with NFPA 30

Sub Base

- The sub-base fuel tank mounts below the generator set wide base

Integral Base

- Integral diesel fuel tank is incorporated into the generator set base frame.
- Robust base design includes linear vibration isolators between tank base and engine generator.

Options

- Audio/visual fuel level alarm panel
- 5gal (18.9 L) spill containment
- 5gal (18.9 L) spill containment with fuel fill drop tube with in 6" (152mm) from bottom of tank.
- 5gal (18.9 L) spill containment with overflow prevention valve and fuel fill drop tube with in 6" (152mm) from bottom of tank
- ULC Listed 7.5gal (28.4 L) spill containment with vent extensions, vent whistle, and drop tube facilitating compliance with CSA B139-09.
- ULC Listed 7.5gal (28.4 L) spill containment with overflow prevention valve, vent extensions, vent whistle and drop tube facilitating compliance with CSA B139-09

Integral & Sub-Base Fuel Tank Base Capacities with Fuel Tank Dimensions & Weights

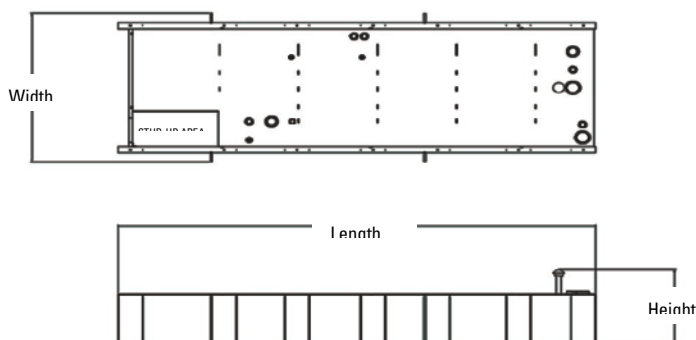
Integral – Width (W) 2014 mm (79.3 in); Sub-base – Width (W) 2056 mm (81.0 in)

Open Set, Weather Protective Enclosure & Sound Attenuated

C9 Tank Design	Feature Code	Total Capacity		Useable Capacity		Tank Only						Overall Package Height with Tank					
		Litre	Gallon	Litre	Gallon	Dry Weight		Height 'H'		Length 'L'		Open		Weather Protective		Sound Attenuated	
						kg	lb	mm	in	mm	in	mm	in	mm	in	mm	in
Integral	FTDW010	784	207	770	203	891	1964	635	25.0	3810	150.0	2360	90.0	2438	96.0	2492	98.1
Sub-Base	FTDW008	2476	654	2435	643	1468	3236	635	25.0	3810	150.0	2699	106.3	2777	109.4	2831	111.5
Sub-Base	FTDW009	3941	1041	3876	1024	1832	4039	635	25.0	5550	219.0	2699	106.3	2777	109.4	2831	111.5
Sub-Base	FTDW012	4285	1132	4221	1115	1542	3399	686	27.0	5550	219.0	5550	219.0	2750	108.3	2828	111.4

Estimated Run Times (hours) at 100% Load

C9 Tank Design	Feature Code	Standby Ratings (ekW)			Prime Ratings (ekW)		
		300	250	200	275	225	180
Integral	FTDW010	9	11	13	10	11	14
Sub-Base	FTDW008	28	33	42	30	35	46
Sub-Base	FTDW009	45	53	67	48	56	73
Sub-Base	FTDW012	48	57	72	52	60	79



Notes:

The heights listed above do not include lumber used during manufacturing and shipping.

Tanks with full electrical stub-up area include removable end channel. Tanks with RH/LH stub-up include stub-up area directly below the circuit breaker or power terminal strips. Dimensions include weather-protective enclosure exhaust system.

Dual wall sub-base tanks are UL Listed and constructed in accordance with UL Standard for Safety UL 142, Steel Aboveground Tanks for Flammable and Combustible Liquids and Canada CAN/ULC S601, Standard for Shop Fabricated Steel Aboveground Horizontal Tanks for Flammable and Combustible Liquids.

Fuel tanks and applicable options facilitate compliance with the following United States NFPA Code and Standards:

NFPA 30: Flammable and Combustible Liquids Code

NFPA 37: Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines
NFPA 110: Standard for Emergency and Standby Power Systems

Fuel tanks and applicable options facilitate compliance with the following Canadian Standard and Code:

CSA C282 – Emergency Electrical Power Supply for Buildings

CSA B139-09 – Installation Code for Oil-Burning Equipment

The following sub-base fuel tanks meet Chicago code for containment and labelling:

FTDW008

FTDW009

FTDW012



SOUND ATTENUATED & HIGH AMBIENT ENCLOSURES

60 Hz

These Sound Attenuated & High Ambient, factory installed enclosures incorporate internally mounted super critical level silencers and residential level silencers respectively, designed for safety and aesthetic value on integral fuel tank base or optional dual wall integral fuel tank base for total fluid containment. These enclosures are of extremely rugged construction to withstand exposure to the elements and provide weather protection.

FEATURES

Robust/Highly Corrosion Resistant Construction

- Factory-installed on skid base
- Environmentally friendly, polyester powder baked paint
- Zinc plated or stainless steel fasteners.
- Internally mounted-critical exhaust silencing system (sound attenuated only)
- Externally front-mounted enclosed exhaust silencing system (weather protective only)
- Designed and tested to comply with UL 2200 listed generator set package.
- Compression door latches providing solid door seal

Excellent Access

- Large cable entry area for installation ease.
- Accommodates side-mounted single or multiple breakers
- Two doors on both sides
- Vertically hinged allow 180° opening rotation and retention with door stays.
- Lube oil and coolant drains routed to the exterior of the enclosure base.

Transportability

- These enclosures are of extremely rugged construction to withstand outdoor exposure and rough handling common on many construction sites.
- Security and Safety
- Lockable access doors which give full access to control panel and breaker.
- Cooling fan and battery charging alternator fully guarded
- Fuel fill, oil fill, and battery can only be reached via lockable access.
- Externally mounted emergency stop button
- Designed for spreader bar lifting to ensure safety
- Stub-up area is rodent proof.

Options

- Caterpillar yellow* or white paint
- Weather protective enclosure constructed with 14-gauge steel
- Sound attenuated Level 1 constructed with 14-gauge steel
- Sound attenuated Level 2 constructed with 14-gauge steel
- Sound attenuated enclosure constructed with 12-gauge aluminum (5052 grade)
- UL Listed 203 gallon integral fuel tank
- UL Listed 660 or 1002 gallon sub base fuel tanks
- Seismic certification per applicable building codes:
 - IBC 2000, IBC 2003, IBC 2006,
 - IBC 2009, IBC 2012, CBC 2007, CBC 2010
- IBC certification for 150 mph wind loading
- Anchoring details are site specific and are dependent on many factors such as generator set size, weight and concrete strength.
- IBC certification requires that the anchoring system used is reviewed and approved by a professional engineer.
- Control panel viewing window**
- Cold weather bundle. Available with SA Level 2 and Aluminum SA enclosures only.

**Not available with aluminum enclosures

**Steel sound attenuated only

Enclosure Package Operating Characteristics

ENCLOSURE TYPE	STANDBY ekW	PRIME ekW	COOLING AIR FLOW RATE		AMBIENT CAPABILITY*				(DBA) @ 7M (23 FT) AT 100% LOAD
			m ³ /min	cfm	Standby		Prime		
					°C	°F	°C	°F	
SOUND ATTENUATED LEVEL 2	300	275	351	12395	46	115	50	122	71
	250	225	351	12395	53	127	56	133	71
	200	180	351	12395	59	138	60	140	71
SOUND ATTENUATED LEVEL 1	300	275	351	12395	46	115	50	122	75
	250	225	351	12395	53	127	56	133	74
	200	180	351	12395	59	138	60	140	73
	300	275	516	18222	49	120	52	126	82
WEATHER PROTECTIVE	250	225	516	18222	55	131	59	138	82
	200	180	516	18222	60	140	60	140	82
ALUMINUM SOUND ATTENUATED	300	275	351	12395	46	115	46	115	72
	250	225	351	12395	53	127	56	133	72
	200	180	351	12395	59	138	60	140	72

*Cooling system performance at sea level. Consult your Caterpillar dealer for site specific ambient and altitude capabilities.

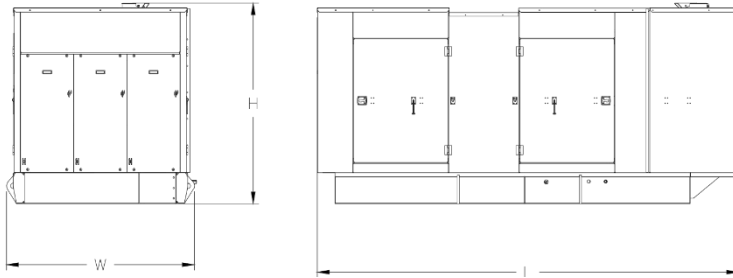
The sound pressure level data shown in the tables above is quoted as free field and is for guidance only. Actual levels produced may vary according to site conditions.

Component Weights to Calculate Package Weight

Narrow Skid		Wide Skid		Steel Enclosure						Aluminum Enclosure	
				Weather Protective		Sound Attenuated Level 1		Sound Attenuated Level 2		Sound Attenuated	
kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb
219	483	468	1032	660	1455	1062	2341	1062	2341	629	1387

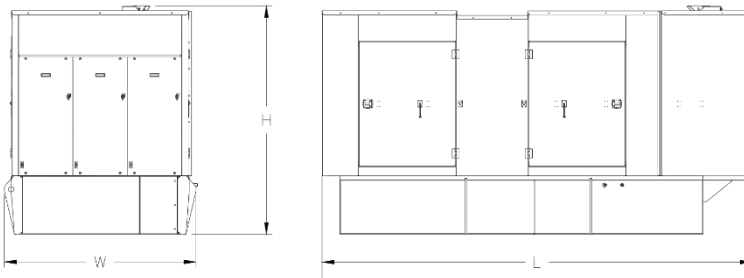
Enclosure Weights and Dimensions

A. Enclosure on Skid Base



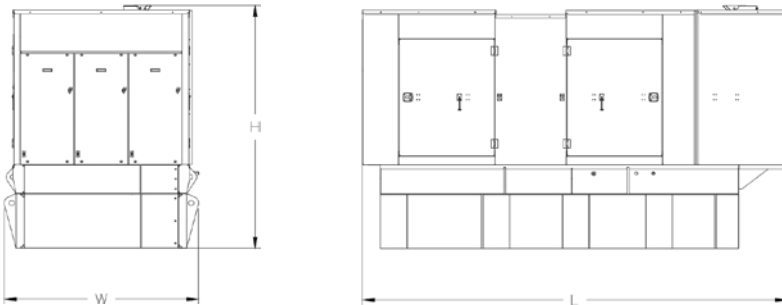
Enclosure Type	Length "L"		Width "W"		Height "H"	
	mm	in	mm	in	mm	in
Sound Attenuated	4515	177.8	2037	80.2	2196	86.5
Weather Protective	4035	158.9	2037	80.2	2142	84.3

C. Enclosure on UL Listed 203 Gallon Integral Fuel Tank Base



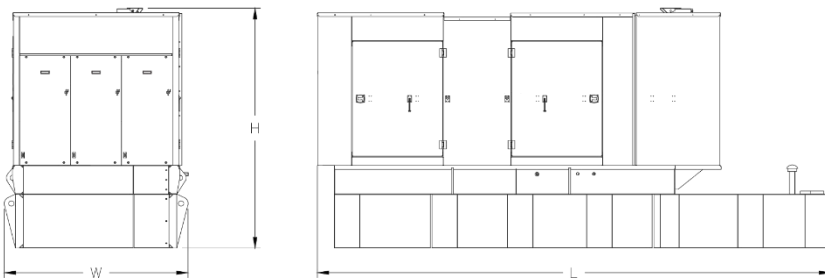
Enclosure Type	Length "L"		Width "W"		Height "H"	
	mm	in	mm	in	mm	in
Sound Attenuated	4515	177.8	2014	79.3	2492	98.1
Weather Protective	4035	158.9	2014	79.3	2438	96.0

B. Enclosure on UL Listed 660 Gallon Sub Base Fuel Tank Base



Enclosure Type	Length "L"		Width "W"		Height "H"	
	mm	in	mm	in	mm	in
Sound Attenuated	4515	177.8	2056	80.9	2831	111.5
Weather Protective	4035	158.9	2056	80.9	2777	109.3

D. Enclosure on UL Listed 1002 Gallon Sub Base Fuel Tank Base



Enclosure Type	Length "L"		Width "W"		Height "H"	
	mm	in	mm	in	mm	in
Sound Attenuated	5739	225.9	2056	80.9	2831	111.5
Weather Protective	5739	225.9	2056	80.9	2777	109.3

EMCP 4 CONTROL KEY FEATURES

EMCP 4 control features

- Run / Auto / Stop Control
- Speed and Voltage Adjust
- Engine Cycle Crank
- 24-volt DC operation
- Environmental sealed front face
- Text alarm/event descriptions

Digital indication for:

- RPM
- DC volts
- Operating hours
- Oil pressure (psi, kPa or bar)
- Coolant temperature
- Volts (L-L & L-N), frequency (Hz)
- Amps (per phase & average)
- ekW, kVA, kVAR, kW-hr, %kW, PF (4.2 only)

Warning/shutdown with common LED indication of:

- Low oil pressure
- High coolant temperature
- Overspeed
- Emergency Stop
- Failure to start (overcrank)
- Low coolant temperature
- Low coolant level



Programmable protective relaying functions:

- Generator phase sequence
- Over/Under voltage (27/59)
- Over/Under Frequency (81 o/u)
- Reverse Power (kW) (32) (4.2 only)
- Reverse reactive power (kVAR) (32RV)
- Overcurrent (50/51)

Communications:

- 4 digital inputs & 4 relay outputs (4.1)
- 6 digital inputs & 8 relay outputs (4.2)
- 12 digital inputs & 8 relay outputs (4.4)
- Customer data link (Modbus RTU) (4.2 only)
- Accessory module data link (4.2 only)
- Serial annunciator module data link (4.2 only)
- Emergency stop pushbutton

Compatible with the following:

- Digital I/O module
- Local Annunciator
- Remote CAN annunciator
- Remote serial annunciator

FINANCING

Caterpillar offers an array of financial products to help you succeed through financial service excellence. Options include loans, finance lease, operating lease, working capital, and revolving line of credit. Contact your local Cat dealer for availability in your region.

WORLDWIDE PRODUCT SUPPORT

Cat dealers provide extensive post-sale support including maintenance and repair agreements. Cat dealers have over 1,800 dealer branch stores operating in 200 countries. The Caterpillar[®] SOSSM program effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products.



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