Development Services

From Concept to Construction

Phone: 503-823-7300 Email: bds@portlandoregon.gov 1900 SW 4th Ave, Portland, OR 97201
More Contact Info (http://www.portlandoregon.gov//bds/article/519984)

APPEAL SUMMARY

Status: Decision Rendered

Appeal ID: 31454	**Project Address:** 6123 N Marine Dr
Hearing Date: 4/12/23	**Appellant Name:** Jessie Reeves
Case No.: B-001	**Appellant Phone:** 3604335154
Appeal Type: Building	**Plans Examiner/Inspector:** Joe Thornton
Project Type: commercial	**Stories:** 1 **Occupancy:** 10 **Construction Type:** Tenant Improvement
Building/Business Name: Rodda Paint	**Fire Sprinklers:** Yes - Warehouse
Appeal Involves: other: Fire	**LUR or Permit Application No.:** IVR Number: 4892439
Plan Submitted Option: pdf [File 1] [File 2] [File 3]	**Proposed use:** Storing Paint

APPEAL INFORMATION SHEET

Appeal item 1

Code Section	Fire Code Appeal
Requires	OSSC 2702.1.1/PFC 1203.1.1 Stationary generators. Stationary emergency and standby power generators required by this code shall be listed in accordance with UL 2200.
Code Modification or Alternate Requested	The intent behind the appeal is to get approval to use the Wacker G25 in lieu of the permanent generator until the permanent generator is received in June 2023.
Proposed Design	The generator set shall conform to the requirements of the following codes and standards, as applicable. The generator set shall include necessary features to meet the requirements of these standards. CSA C282, 2009 Emergency Electrical Power Supply for Buildings
Reason for alternative	The Wacker g25 is similar to the permanent unit being offered. The intent behind the appeal is to get approval to use the Wacker G25 in lieu of the permanent generator until the permanent generator is received in June 2023. CSA C282, 2009 Emergency Electrical Power Supply for Buildings

APPEAL DECISION

Use of temporary emergency generator until the permanent generator is received in June 2023: Granted as proposed.

The Administrative Appeal Board finds that the information submitted by the appellant demonstrates that the approved modifications or alternate methods are consistent with the intent of the code; do not lessen health,

safety, accessibility, life, fire safety or structural requirements; and that special conditions unique to this project make strict application of those code sections impractical.

Pursuant to City Code Chapter 24.10, you may appeal this decision to the Building Code Board of Appeal within 90 calendar days of the date this decision is published. For information on the appeals process, go to www.portlandoregon.gov/bds/appealsinfo, call (503) 823-6251 or come in to the Development Services Center.

G25

Mobile Generators

Versatile and reliable power, when and where you need it

The G25 mobile generator offers contractors and rental houses an excellent power solution. The compact, sound-attenuated model provides single and three-phase power for construction, commercial, industrial and special event applications where quiet, reliable power is needed. A digital controller monitors and protects the generator and engine while providing continuous operating data on an easy to read LCD display. Large capacity fuel tank for long run times and durable features for long life.

- Ideally suited for construction sites where durability, reliability and flexibility are required to supply continuous power for applications such as lighting, cranes, concrete mixers and conveyor belts.
- Brushless, oversized alternators with separate excitation winding and AVR (Automatic Voltage Regulation) provide superior motor starting and enhanced ability to run non-linear loads.
- Single switch start and simple, uncluttered control panel provide unmatched ease of use.
- Automatic remote start capability standard which is ideal for temporary standby applications.
- Factory-installed customized options are available. These include, but are not limited to, a fluid containment system, cold weather options, a camlock panel, etc. Also available are optional trailers that are fully equipped and highway ready.

Technical specifications

	G25 (T4i)	G25 (T4F)	G25 (T4i) 600V- Canada Only
Dimensions			
L x W x H Operating (Skid) in	76.6 x 35 x 44.5	76.6 x 35 x 44.5	76.6 x 35 x 44.5
L x W x H Shipping (Skid) in	81 x 37.5 x 56.6	81 x 37.5 x 56.6	81 x 37.5 x 56.6
L x W x H Shipping/Operating (Trailer) in	133 x 60 x 69	133 x 60 x 69	133 x 60 x 69
Weights			
Weight Dry (Skid) lb	1,911	1,952	1,911
Weight Operating (Skid) lb	2,332	2,373	2,332
Weight Shipping (Skid) lb	2,031	2,072	2,031
Weight Operating (Trailer) lb	2,802	2,843	2,802
Weight Shipping (Trailer) lb	2,381	2,422	2,381
Operating data			
Trailer coupling Type	2in Ball	2in Ball	2in Ball
Standby output kW	20.4	21.4	19.5
Prime output kW	19.5	19.5	18.7
Voltage 3 Phase V	240/480	240/480	240/480/600
Current 3 Phase (Prime) A	58/29	58/29	58/29/23
Current 1 Phase (Prime) A	120/240	120/240	120/240
Voltage 3 Phase V	208, 220, 240, 416, 440, 480	208 / 220 / 240 / 416 / 440 / 480	208, 220, 240, 416, 440, 480, 600
Voltage 1 Phase V	120, 127, 139, 240, 254, 277	120, 127, 139, 240, 254, 277	120, 127, 139, 240, 254, 277, 346
Circuit breaker (Main) A	70	70	70
Frequency Hz	60	60	60
Power factor 1 Phase cos Φ 1~	1	1	1
Power factor 3 Phase cos Φ 3~	0.8	0.8	0.8
Sound level (LwA) at Prime (23 ft / 7 m) dB(A)	65	65	65
Receptacles -20 Amp GFI Duplex	2	2	2
Receptacles -50 Amp Twist Lock	2	2	2
Engine / Motor			
Engine / Motor	Liquid-Cooled, 4 Cylinders	Liquid-Cooled, 4 Cylinders	Liquid-Cooled, 4 Cylinders
Engine / Motor manufacturer	Isuzu	Isuzu	Isuzu
Emissions Certified	Tier 4i	Tier 4	Tier 4i

	G25 (T4i)	G25 (T4F)	G25 (T4i) 600V- Canada Only
Displacement in^3	133	133	133
Operating performance SAE J1995, ISO 8528-1 hp	35.4	31.5	35.4
at rpm rpm	1,800	1,800	1,800
Coolant Capacity US qt	11.9	13.3	11.9
Engine oil Capacity US qt	8.5	11	8.5
Fuel type	Diesel	#1/#2 ULSD	Diesel
Fuel consumption (Prime Load) US gal/h	1.8	1.8	1.8
Tank capacity -Fuel US gal	58.4	58.4	58.4
Quantity (Battery)	1	1	1
Battery V	12	12	12
Generator model	Mecc Alte, Brushless w/AVR	Mecc Alte, Brushless	Mecc Alte, Brushless w/AVR
Voltage control No Load to Full Load +/- %	1	1	1
Voltage control Steady State +/- %	0.2	0.2	0.2
Generator insulation (class)	H	H	H
Frequency (Generator Speed) Hz	60	60	60
Runtime at 100% Prime Load h	32.2	28.2	32.2
Runtime at 75% Prime Load h	24.15		

Please note
that product availability can vary from country to country. It is possible that information / products may not be available in your country. More detailed information on engine power can be found in the operator's manual; the stated power may vary due to specific operating conditions.
Subject to alterations and errors excepted. Applicable also to illustrations.

LIVERMORE
ARCHITECTURE &
ENGINEERING, INC.

Occupancy Change for
Rodda Paint, Portland, Oregon

Structural Calculations:
Generator Attachment 1-7

EXPIRES: 12/31/24

Revision
03/16/23
Project Number: 220090.00

1500 SW 1st Ave., Suite 240, Portland, Oregon 97201 • Phone 503-892-3002 • www.livermoreae.com

Generator

Seismic, ASCE 7-16

$S_{DS} := 0.663$

13.3, Table 13.5-1 Generators, batteries, ...

$a_p := 1$ $R_p := 2.5$ $\Omega := 2$

13.1.3

$I_p := 1.0$

13.3.1

$$F_p := \frac{0.4 \cdot a_p \cdot S_{DS}}{\left(\frac{R_p}{I_p}\right)} \cdot (1 + 2 \cdot 0) = 0.11$$

$F_{p\_max} := 1.6 \cdot S_{DS} \cdot I_p = 1.06$

$F_{p\_min} := 0.3 \cdot S_{DS} \cdot I_p = 0.2$ Governs

$\boxed{F_p} := F_{p\_min} = 0.2$

Generator

$W_p := 2373\ lb$ $X := 50 \cdot in$ $Y := 33\ in$ $Z := 24\ in$

$F_p := F_p \cdot W_p = 472\ lb$

Overturning
LC: 0.9D-Ev+Eh=>[0.9-0.2(0.663)]D+E=>0.77D+E

$M_{ot} := F_p \cdot Z = 944\ lb \cdot ft$

$M_{res} := 0.77 \cdot \left(W_p \cdot \frac{Y}{2}\right) = 2512\ lb \cdot ft$

$\frac{M_{ot}}{M_{res}} = 0.38$ <1.0. no overturning

Soil Bearing
LC: 1.0D+0.7Ev+0.7Eh=>[1.0+0.7(0.2)0.663]D+0.7E=>1.09D+0.7E

$M := 0.7\ F_p \cdot Z = 661\ lb \cdot ft$

$P := 1.09\ W_p = 2587\ lb$

$e := \frac{M}{P} = 3\ in$ <Y/6=10.5in

$SB := \frac{\frac{P}{Y \cdot X} + \frac{6 \cdot P \cdot e}{Y^2 \cdot X}}{2} = 176\ \frac{lb}{ft^2}$ <1500psf

Anchorage
LC: 0.9D-Ev+Eh=>[0.9-0.2(0.663)]D+2E=>0.77D+2E

$TC := \left(\frac{M_{ot} \cdot \Omega}{Y \cdot 2}\right) = 343\ lb$ tension force, divide by 2 anchors

$P := 0.77\ \frac{W_p}{4} = 457\ lb$ divide by 4 locations

$T := P - TC = 114\ lb$ uplift

$V := \frac{F_p}{4} = 118\ lb$ resisted by 4 anchors

--by calculation use Simpson Strong-Tie 1/2" dia.
Titen HD, nominal height 4"

1.Project information

Customer company:
Customer contact name:
Customer e-mail:
Comment:

Project description:
Location:
Fastening description:

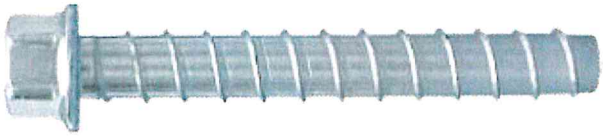
2. Input Data & Anchor Parameters

General
Design method:ACI 318-14
Units: Imperial units

Anchor Information:
Anchor type: Concrete screw
Material: Carbon Steel
Diameter (inch): 0.500
Nominal Embedment depth (inch): 4.000
Effective Embedment depth, h_{ef} (inch): 2.990
Code report: ICC-ES ESR-2713
Anchor category: 1
Anchor ductility: No
h_{min} (inch): 6.25
c_{ac} (inch): 4.50
C_{min} (inch): 1.75
S_{min} (inch): 3.00

Base Material
Concrete: Normal-weight
Concrete thickness, h (inch): 12.00
State: Cracked
Compressive strength, f'_c (psi): 4500
$\Psi_{c,V}$: 1.0
Reinforcement condition: B tension, B shear
Supplemental edge reinforcement: Not applicable
Reinforcement provided at corners: No
Ignore concrete breakout in tension: No
Ignore concrete breakout in shear: No
Ignore 6do requirement: Not applicable
Build-up grout pad: No

Recommended Anchor
Anchor Name: Titen HD® - 1/2"Ø Titen HD, hnom:4" (102mm)
Code Report: ICC-ES ESR-2713

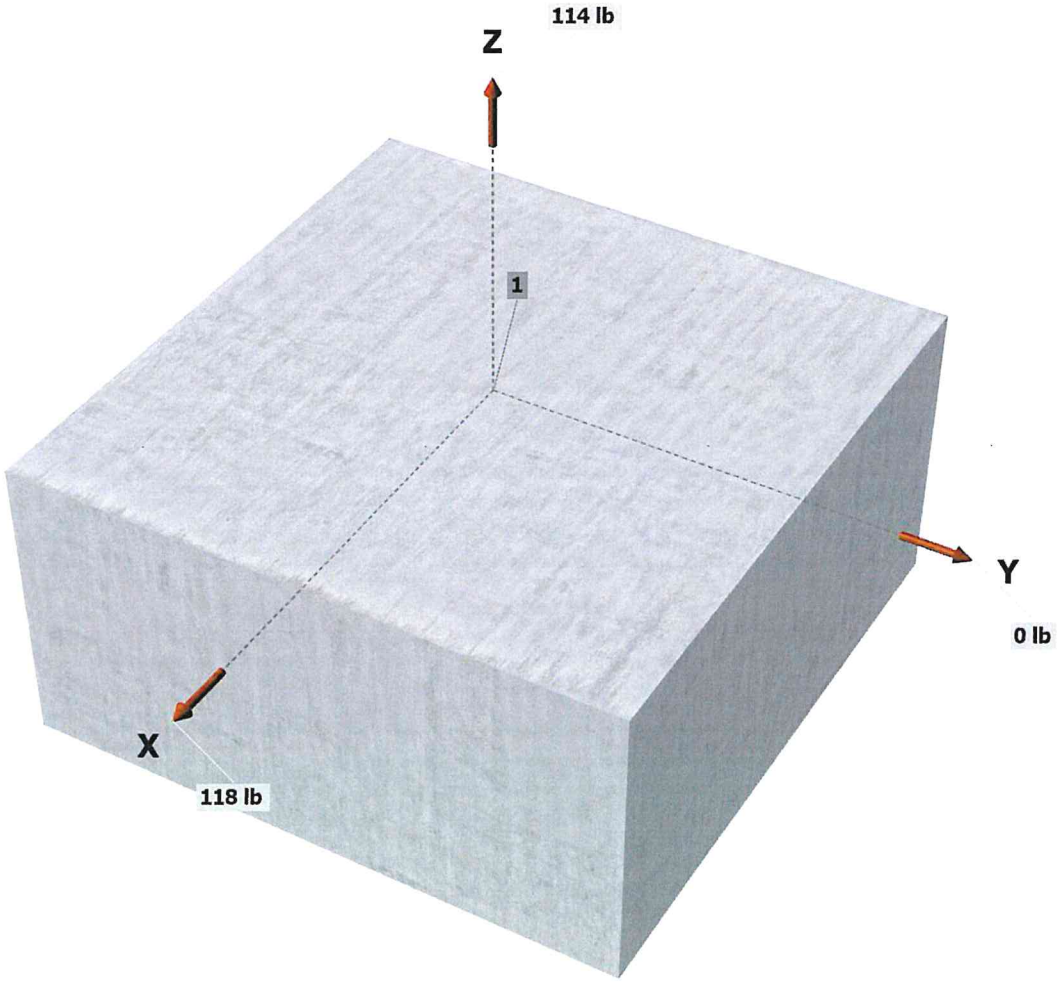


Load and Geometry
Load factor source: ACI 318 Section 5.3
Load combination: not set
Seismic design: Yes
Anchors subjected to sustained tension: Not applicable
Ductility section for tension: 17.2.3.4.3 (d) is satisfied
Ductility section for shear: 17.2.3.5.3 (c) is satisfied
Ω_0 factor: not set
Apply entire shear load at front row: No
Anchors only resisting wind and/or seismic loads: Yes

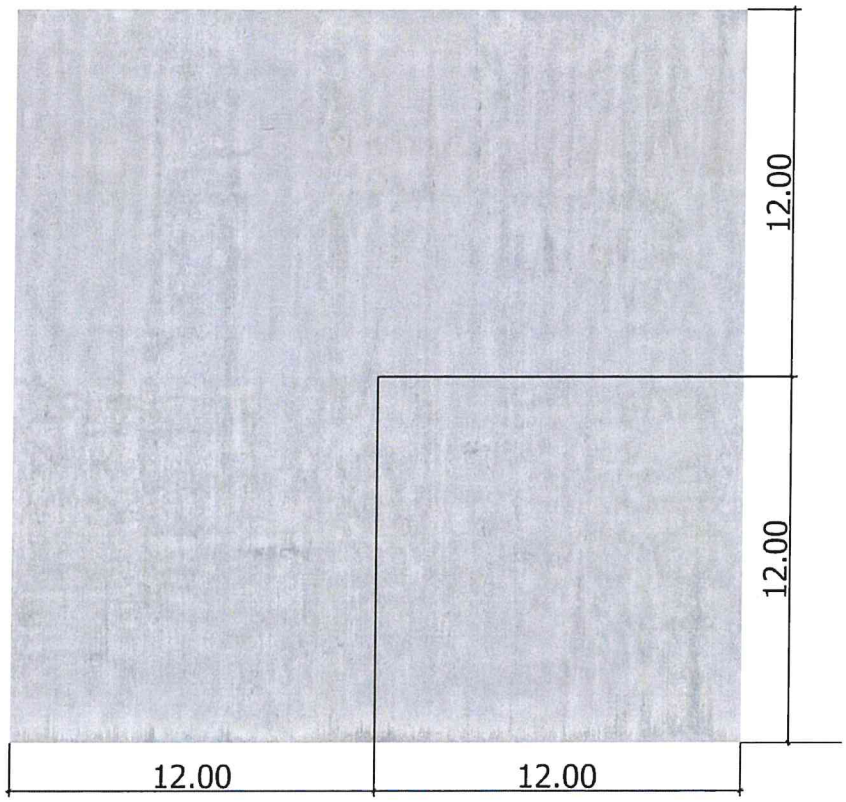
Strength level loads:

N_{ua} [lb]: 114
V_{uax} [lb]: 118
V_{uay} [lb]: 0

<Figure 1>



<Figure 2>



3. Resulting Anchor Forces

Anchor	Tension load, N_{ua} (lb)	Shear load x, V_{uax} (lb)	Shear load y, V_{uay} (lb)	Shear load combined, $\sqrt{(V_{uax})^2+(V_{uay})^2}$ (lb)
1	114.0	118.0	0.0	118.0
Sum	114.0	118.0	0.0	118.0

Maximum concrete compression strain (‰): 0.00
Maximum concrete compression stress (psi): 0
Resultant tension force (lb): 114
Resultant compression force (lb): 0
Eccentricity of resultant tension forces in x-axis, e'_{Nx} (inch): 0.00
Eccentricity of resultant tension forces in y-axis, e'_{Ny} (inch): 0.00
Eccentricity of resultant shear forces in x-axis, e'_{Vx} (inch): 0.00
Eccentricity of resultant shear forces in y-axis, e'_{Vy} (inch): 0.00

4. Steel Strength of Anchor in Tension (Sec. 17.4.1)

N_{sa} (lb)	ϕ	ϕN_{sa} (lb)
20130	0.65	13085

5. Concrete Breakout Strength of Anchor in Tension (Sec. 17.4.2)

$N_b = k_c\lambda_a\sqrt{f'_c}h_{ef}^{1.5}$ (Eq. 17.4.2.2a)

k_c	λ_a	f'_c (psi)	h_{ef} (in)	N_b (lb)
17.0	1.00	4500	2.990	5896

$0.75\phi N_{cb} = 0.75\phi\,(A_{Nc}/A_{Nco})\,\Psi_{ed,N}\Psi_{c,N}\Psi_{cp,N}N_b$ (Sec. 17.3.1 & Eq. 17.4.2.1a)

A_{Nc} (in²)	A_{Nco} (in²	$c_{a,min}$ (in)	$\Psi_{ed,N}$	$\Psi_{c,N}$	$\Psi_{cp,N}$	N_b (lb)	ϕ	$0.75\phi N_{cb}$ (lb)
80.46	80.46	12.00	1.000	1.00	1.000	5896	0.65	2874

8. Steel Strength of Anchor in Shear (Sec. 17.5.1)

V_{sa} (lb)	ϕ_{grout}	ϕ	$\phi_{grout}\phi V_{sa}$ (lb)
4790	1.0	0.60	2874

9. Concrete Breakout Strength of Anchor in Shear (Sec. 17.5.2)

Shear perpendicular to edge in x-direction:

$V_{bx} = \min|7(l_e/d_a)^{0.2}\sqrt{d_a}\lambda_a\sqrt{f'_c}c_{a1}^{1.5};\ 9\lambda_a\sqrt{f'_c}c_{a1}^{1.5}|$ (Eq. 17.5.2.2a & Eq. 17.5.2.2b)

l_e (in)	d_a (in)	λ_a	f'_c (psi)	c_{a1} (in)	V_{bx} (lb)
2.99	0.500	1.00	4500	8.00	10744

$\phi V_{cbx} = \phi\,(A_{Vc}/A_{Vco})\,\Psi_{ed,V}\Psi_{c,V}\Psi_{h,V}V_{bx}$ (Sec. 17.3.1 & Eq. 17.5.2.1a)

A_{Vc} (in²)	A_{Vco} (in²)	$\Psi_{ed,V}$	$\Psi_{c,V}$	$\Psi_{h,V}$	V_{bx} (lb)	ϕ	ϕV_{cbx} (lb)
288.00	288.00	1.000	1.000	1.000	10744	0.70	7521

Shear parallel to edge in y-direction:

$V_{bx} = \min|7(l_e/d_a)^{0.2}\sqrt{d_a}\lambda_a\sqrt{f'_c}c_{a1}^{1.5};\ 9\lambda_a\sqrt{f'_c}c_{a1}^{1.5}|$ (Eq. 17.5.2.2a & Eq. 17.5.2.2b)

l_e (in)	d_a (in)	λ_a	f'_c (psi)	c_{a1} (in)	V_{bx} (lb)

2.99	0.500	1.00	4500	8.00	10744		

$\phi V_{cby} = \phi\,(2)(A_{Vc}/A_{Vco})\,\Psi_{ed,V}\,\Psi_{c,V}\,\Psi_{h,V}\,V_{bx}$ (Sec. 17.3.1, 17.5.2.1(c) & Eq. 17.5.2.1a)

A_{Vc} (in²)	A_{Vco} (in²)	$\Psi_{ed,V}$	$\Psi_{c,V}$	$\Psi_{h,V}$	V_{bx} (lb)	ϕ	ϕV_{cby} (lb)
288.00	288.00	1.000	1.000	1.000	10744	0.70	15042

10. Concrete Pryout Strength of Anchor in Shear (Sec. 17.5.3)

$\phi V_{cp} = \phi k_{cp} N_{cb} = \phi k_{cp}(A_{Nc}/A_{Nco})\,\Psi_{ed,N}\,\Psi_{c,N}\,\Psi_{cp,N} N_b$ (Sec. 17.3.1 & Eq. 17.5.3.1a)

k_{cp}	A_{Nc} (in²)	A_{Nco} (in²)	$\Psi_{ed,N}$	$\Psi_{c,N}$	$\Psi_{cp,N}$	N_b (lb)	ϕ	ϕV_{cp} (lb)
2.0	80.46	80.46	1.000	1.000	1.000	5896	0.70	8254

11. Results

Interaction of Tensile and Shear Forces (Sec. 17.6)

Tension	Factored Load, N_{ua} (lb)	Design Strength, øN_n (lb)	Ratio	Status
Steel	114	13085	0.01	Pass
Concrete breakout	**114**	**2874**	**0.04**	**Pass (Governs)**

Shear	Factored Load, V_{ua} (lb)	Design Strength, øV_n (lb)	Ratio	Status
Steel	**118**	**2874**	**0.04**	**Pass (Governs)**
T Concrete breakout x+	118	7521	0.02	Pass
|| Concrete breakout y+	118	15042	0.01	Pass
Pryout	118	8254	0.01	Pass

Interaction check	$N_{ua}/\phi N_n$	$V_{ua}/\phi V_n$	Combined Ratio	Permissible	Status
Sec. 17.6.2	0.00	0.04	4.1%	1.0	Pass

1/2"Ø Titen HD, hnom:4" (102mm) meets the selected design criteria.

12. Warnings

- Per designer input, ductility requirements for tension have been determined to be satisfied – designer to verify.
- Per designer input, ductility requirements for shear have been determined to be satisfied – designer to verify.
- Designer must exercise own judgement to determine if this design is suitable.
- Refer to manufacturer's product literature for hole cleaning and installation instructions.

CITY OF
PORTLAND, OREGON
BUREAU OF FIRE & RESCUE
BUREAU OF DEVELOPMENT SERVICES
1900 SW 4TH Avenue Suite 2100
Portland, Oregon 97201

FIRE SAFETY PLAN REVIEW CHECKSHEET

Application #: **21-042315-DFS-01-CO**
Commercial Building Permit
Review Date: March 2, 2023

To:	PWP CONTRACTOR	JH KELLY LLC *JESSIE REEVES* JH KELLY LLC 821 3rd Ave Longview, WA 98632	Work Home Email	(360) 423-5510 (503) - jreeves@jhkelly.com
From:	Fire Inspector	Joe Thornton	Phone/Cell Email	503-209-5977 Joe.Thornton@portlandoregon.gov
cc:	OWNER	PORT OF PORTLAND 6107 N MARINE DR #3 PORTLAND, OR 97203-6409		

PROJECT INFORMATION

Street Address:	**6123 N MARINE DR**
Description of Work:	SINGLE PDF - DFS FOR GENERATOR & ITS FOUNDATION & ATTACHMENTS

The following items are in apparent violation of the specific codes or laws noted.

Item #	Location on plans	Code Section	**Clarification / Correction Required**
			Please submit a written plan of correction for each review comment. If major revisions are required, revised plans for that portion may be necessary to resubmit. All comments should be responded to in the drawings (not just the written plan of correction) unless otherwise indicated. **Please indicate where in the drawings the requested information may be found.** **Please cloud or highlight changes to the plan set for identification of corrections made.**
1.	S101	City of Portland, Title 31	Application for separate permits shall be obtained from the Fire Marshal's Office, 1300 SE Gideon Street, prior to the installation of the following: fire sprinklers, fire alarm systems, fire pumps, underground fire lines, fixed extinguishing systems, in-building radio enhancement systems, stationary generators and hazardous material tanks and related equipment. Please list the separate permit from the Fire Marshal's Office for the hazardous materials tank (diesel) permit.
2.	S101	PFC 312	Guard posts shall comply with all of the following requirements: 1. Constructed of steel not less than 4 inches (102 mm) in diameter and concrete filled. 2. Spaced not more than 4 feet (1219 mm) between posts on center. 3. Set not less than 3 feet (914 mm) deep in a concrete footing of not less than a 15-inch (381 mm) diameter. 4. Set with the top of the posts not less than 3 feet (914 mm) above ground. 5. Located not less than 3 feet (914 mm) from the protected object.

			Please show bollards installed in accordance with this code section. Please provide a section view detail of the bollard installation.
3.	S101	PFC 5704.2.7.3.1 *No Action Required at this time. Information only*	The drawings do not show the covered outdoor storage area to the east as indicated in the reference only approved set. The tank vents are required to be 5' from building openings including this outdoor storage area if is open on the west side. This will be vetted with the FS permit for the hazardous materials tank requested above in comment #1.
4.		PFC 105.4.1.1	Examination of Documents Additional clarification and/or corrections may be required upon further review and may appear as new items in subsequent review comments.

To respond to this Checksheet, you may need to revise your plans, your supporting documents, or provide additional information. Please see BDS website directions located here: https://www.portland.gov/bds/permit-review-process/submitting-corrections. When you finish with your changes, please submit your updated plans and supporting documents. Make sure to include the attached Checksheet Response Form. Visit the BDS Permit Review Process website for more helpful information and available services: https://www.portland.gov/bds/permit-review-process

If you want to report a delay, a regulatory conflict or other issue that you have been unable to resolve with your City review team, please visit https://www.portland.gov/bds/development-permit-processes/report-problem

If you have questions about this Checksheet, please contact me at the email address or phone number listed above. To check the status of your project, go to https://www.portlandmaps.com/advanced/?action=permits. Or you may request the status to be faxed to you, by calling 503.823.7000 and selecting option 4. Please have your IVR number and fax number available.

Appeals: Pursuant to City Code Chapters 31.10 and 28.03, you may appeal any code provision cited in this Checksheet to the Administrative Board of Appeals within 180 calendar days of the review date. For information on the appeals process, costs, including forms, appeal fee and payment methods, the following information is available: For Fire Code appeals go to www.portlandoregon.gov/fire/31187, call (503) 823-3712 or come in to the Fire Marshal's Office, 1300 SE Gideon St. For Building Code appeals go to www.portland.gov/bds/file-appeal or call (503) 823-7300 for assistance. If you have questions or are not sure if your appeal should be a Fire Code or Building Code appeal, please call the Fire Plan Reviewer listed above. Permit application expiration will not be extended pending resolution of any administrative appeal.

Fire Safety Plan Review Checksheet Response

Permit #: **21-042315-DFS-01-CO** **Date: 03/02/2023**

Customer name and phone number: Katey Glibert 503-892-3002 x 111

Note: Please number each change in the '#' column. Use as many lines as necessary to describe your changes. Indicate which reviewer's checksheet you are responding to and the item your change addresses. If the item is not in response to a checksheet, write **customer** *in the last column.*

#	Description of changes, revisions, additions, etc.	Checksheet and item #
1	Tank permit not needed; generator's tank is less than 60 gallons.	1
2	See revised 1/S1.01 and 3/S1.01.	2
3	See 'note' added adjacent to equipment pad.	3

(*for office use only)*