



Memorandum

Date: August 22, 2024

To: SOUTHERN NEVADA DISTRICT BOARD OF HEALTH

From: Daniel Isler, PE, REHS, *Environmental Health Engineer/Supervisor* *DI*
Daniel Burns, PE, REHS, *Environmental Health Engineer/Manager* *DB*
Chris Saxton, MPH-EH, REHS, *Environmental Health Director* *CS*
Cassius Lockett, PhD, *Deputy District Health Officer-Operations* *CL*
Fermin Leguen, M.D., MPH, *District Health Officer* *FL*

Subject: Variance request to install an incinerator septic system (ECOJOHN®) in lieu of a traditional septic system; and to install the system on an undersized lot.

I. BACKGROUND:

Todd and Maria McKinney, Owners (“Petitioners”), are requesting a variance to permit and install a waste combustion (incinerator) system instead of a conventional individual sewage disposal system (ISDS) on an undersized lot served by municipal water, located at Assessor’s Parcel Number (APN) 129-02-410-065, also known as 2130 Via Vita St., Mt. Charleston, NV 89124 (“Subject Property”).

Petitioners request a variance from Section 11.12 of the *Southern Nevada District Board of Health Regulations Governing Individual Sewage Disposal Systems and Liquid Waste Management* (“SNHD ISDS Regulations”), which states that “A septic tank shall not be installed independently without a soil absorption system to receive the septic tank effluent.” In lieu of effluent disposal via a soil absorption system, Petitioners are proposing an effluent disposal system in which the effluent is pumped from the septic tank into an above ground proprietary waste incinerator manufactured by ECOJOHN®.

Petitioners further request a variance from Section 9.1 of the SNHD ISDS Regulations, which requires that wastewater effluent “be disposed of by a soil absorption system or by some other manner approved by the Health Authority provided such disposal does not create a nuisance or hazard to public health.” Petitioners proposed use of an incinerator as an alternative to a conventional soil disposal system that has not been fully evaluated or approved by SNHD for use in Clark County.

Petitioners further request a variance from Section 11.20.2 of the SNHD ISDS Regulations, which requires a minimum lot size of 0.25 acres for the installation of an ISDS on a lot served by municipal water. The Subject Property has an area of approximately 0.13 acres.

Petitioners state the following with regards to these requirements:

1. There must be circumstances or conditions which are unique to the applicant, and do not generally affect other persons subject to the regulation:

"The lot sizes and topography of this particular site does not allow for the required size of septic system. This would not apply to other properties under these regulations as they do not have the same conditions."

2. There must be circumstances or conditions which make compliance with the regulation unduly burdensome and cause a hardship to and abridge a substantial property right of the applicant, and the variance is necessary to render substantial justice to and preserve the property rights of the applicant. Please indicate in what manner compliance with the regulation would be burdensome or cause a hardship on your business or how the free use of your property may be affected (if economic factors are an issue, please include estimates regarding the costs that would be incurred by compliance):

"Without this septic system the property would not be able to have plumbing fixtures and therefore could not be used as a home/residence for the client. In addition, if a septic system was proposed on the property, many existing old growth trees would need to be removed to accommodate, and therefore reduce the quality of the site and surrounding neighborhood."

3. Granting the variance will not be detrimental or pose a danger to public health and safety. Please provide evidence that the variance request, if approved, will not adversely affect the safe and sanitary operation of the applicant(s) pool, spa, or food establishment:

"This variance would allow the client to safely dispose of their sewage without disturbing the natural landscape of the area. Adhering to the county odor rules and visible emission regulations will make sure that the use of this home will not adversely affect public health and safety."

The Subject Property is depicted in Attachment C as Lot 3 of Block 4 of the recorded subdivision known as Camp Lady of the Snows, which was approved in 1959. The property has not been improved since the adoption of the current SNHD ISDS Regulations in 2009.

Examination of the Clark County Assessor's records and parcel genealogy show that the Petitioners are the second owners of the property and obtained the Subject Property in March 2022. An analysis of the surrounding area shows that there are three public water system wells and 49 permitted septic systems within a square mile of the Subject Property.

II. RECOMMENDATION:

Variance Issue #1 – Incinerator System (Sections 9.1 and 11.12 of the SNHD ISDS Regulations)

Staff believes that granting this ECOJOHN® variance poses a danger to public health and the environment. The proposed system involves pumping wastewater effluent into the above ground incinerator. A reliable source of electricity is necessary to run the pump and power the incinerator, and propane is necessary to provide fuel for the combustion process. Failure of any component of the system can potentially cause wastewater effluent to be released into the environment.

Furthermore, there is limited guidance available from jurisdictions outside Clark County regarding whole-building incinerators such as the one proposed by the Petitioners. Although the Clark County Fire Department and Division of Air Quality have not indicated that they would be opposed to such a system (Attachments E and F), they also lack a regulatory framework to adequately evaluate the air quality, nuisance odor, and fire safety risks of the system.

Staff recommends DENIAL of Variance Issue #1. If the Board of Health approves the variance, staff recommend also approving the undersized lot (Variance Issue #2) and requiring all the conditions outlined in Section III.

Variance Issue #2 – Minimum Lot Size (Section 11.20.2 of the SNHD ISDS Regulations)

The Subject Property has an area of approximately 0.13 acres, which is smaller than the minimum lot size of 0.25 acres required by the SNHD ISDS Regulations. Lot size variances have been approved for other properties on Mt. Charleston, some of which were as small as 0.06 acres.

Petitioners initially applied for a permit to install a conventional ISDS in August 2023, at which time they were informed by staff that they would need to apply for a variance from the lot size requirements. To avoid removing trees, however, Petitioners later revised their application, replacing the soil absorption system with the proposed ECOJOHN® system. Staff would recommend approval of a variance from the lot size requirements, as such variances are common for properties on Mt. Charleston, but on the condition that Petitioners install a conventional ISDS with a soil absorption system.

Should the Board DENY Variance Issue #1, Staff recommends approval of Variance Issue #2 under condition that a conventional ISDS with a soil absorption system is installed; providing that all trees located within ten feet from the adsorption system are removed; and also with conditions 1, 2, and 3 outlined in Section III.

III. CONDITIONS:

1. Petitioners and their successor(s) in interest shall abide by all local governmental regulations requiring connection to community sewage systems. Use of the ISDS shall be discontinued and the structure it serves shall be connected to any community sewage system constructed in the future to within four hundred (400) feet of the applicant's

property line when connection can be made by gravity flow and the owner(s) are notified and legally required to do so.

2. Petitioners and their successor(s) will abide by the operation and maintenance requirements of the most current SNHD Regulations governing individual sewage disposal systems.
3. Permitting of the ISDS must be completed within one year of the date of approval of the variance. If the permit has not been approved within that period, this variance shall automatically expire and be of no further force and effect, unless application is made and approved for an extension of time prior to the expiration date by Petitioners or their successor(s) in interest.
4. The system must be designed by a professional engineer licensed in Nevada, must be installed by an installer pre-approved by ECOJOHN®, and must be installed in accordance with the Installation Instructions (Attachment H) provided in the Owner's Manual.
5. Petitioners and their successor(s) must obtain all applicable Clark County Building and Fire permits.
6. Petitioners and their successor(s) must maintain a backup generator and propane tank to provide adequate electricity and fuel in the event of a power outage.
7. Petitioners and their successor(s) will adhere to the Cleaning and Maintenance Schedule (Attachment G) included within the Owner's Manual, including properly disposing of waste ash. If the system fails due to improper or inadequate maintenance, resulting in sewage overflows, nuisance odors, or other nuisances or hazards to public health, this variance will be void and the incinerator will need to be replaced with a traditional soil absorption system.

Attachments:

- A. Variance Candidate Application
- B. Justification Letter from the Petitioners
- C. Recorded Plat for Camp Lady of the Snows
- D. Proposed Septic Tank and Waste Incinerator Plan
- E. Clark County Fire Department Email
- F. Clark County Division of Air Quality Email
- G. Cleaning and Maintenance Schedule
- H. Installation Instructions
- I. Public Notice

Attachment A: Variance Candidate Application (Page 1 of 3)



VARIANCE CANDIDATE WORKSHEET

PART I:

ESTABLISHMENT INFORMATION

Name of Facility/Establishment: McKinney's Residence
Health Permit Number: _____ Date of Inquiry: 04/03/2024
Name of Operator/ Agent: NEO & Associates
Address of Operator/ Agent: 2115 Huntington Drive Unit C, San Marino, CA 91108
Contact Information of Operator/ Agent:
Office Phone: 702-625-0752 Cell Phone: _____
Fax Number: _____ Email Address: nickvw@neo-inc.com
If corporation, the name/title of individual to sign for Variance document:
Name: Nicholas Voell-White
Title: Design Director

OWNER INFORMATION

Name of Property Owner: McKinney, Maria and Todd
Address of Property Owner: 2130 Via Vita, Mt. Charleston, NV 89124
Contact Information of Property Owner:
Office Phone: _____ Cell Phone: 702-606-8210
Fax Number: _____ Email Address: tarhead812@gmail.com

PROPERTY INFORMATION

Property Address: 2130 Via Vita, Mt. Charleston, NV 89124
Assessor's Parcel Number (APN): 129-02-410-065
Describe location within larger facility (i.e. hotel/casino/resort, etc.):
A single family home on a private property

Describe Variance Issue (s): (Include sections of the Regulation or Nevada Administrative Code that applies to the request for a variance)

Existing lot (5,684 SF) is smaller than required lot size per NAC 444.790 / SNHD ISDS 11.20.2 Minimum 1/4 ac. (10,900 SF) lot required
The required size of septic system per NAC 444.8354 and an assumed 60 min. / in. percolation rate and a 1,200 G septic tank would be 250' of distribution line
Based on NAC 444.792 & 444.794 SNHD ISDS 14 & figures 7 & 8 - would cover most of the site and require the removal of most, if not all site trees

Attachment A: Variance Candidate Application (Page 2 of 3)

PART II:

Nevada Administrative Code 439.240 states in general that certain conditions or circumstances must be shown to exist in order for a Board of Health to approve a request for a Variance from adopted public health regulations. A variance application letter (as noted below in PART III) MUST specifically address each of the following issues:

1. There must be circumstances or conditions which are unique to the applicant, and do not generally affect other persons subject to the regulation. **Please indicate how your request is unique to your situation and is, therefore, not likely to affect other persons subject to the regulations:**

The lot sizes and topography of this particular site does not allow for the required size of septic system. This would not apply to other properties under these regulations as they do not have the same site conditions.

2. There must be circumstances or conditions which make compliance with the regulation unduly burdensome and cause a hardship to and abridge a substantial property right of the applicant, and the variance is necessary to render substantial justice to and preserve the property rights of the applicant. **Please indicate in what manner compliance with the regulation would be burdensome or cause a hardship on your business or how the free use of your property may be affected (if economic factors are an issue, please include estimates regarding the costs that would be incurred by compliance):**

Without this septic system the property would not be able to have plumbing fixtures and therefore could not be used as a home / residence for the client. In addition if a septic system was proposed on the property, many existing old growth trees would need to be removed to accommodate, and therefore reduce the quality of the site and surrounding neighborhood.

3. Granting the variance will not be detrimental or pose a danger to the public health and safety. **Please provide evidence that the variance request, if approved, will not adversely affect the safe and sanitary operation of the applicant(s) pool, spa, or food establishment:**

This variance would allow the client to safely dispose of their sewage without disturbing the natural landscape of the area. Adhering to the county odor rules and visible emission regulations will make sure that the use of this home will not adversely affect public health and safety.

Attachment A: Variance Candidate Application (Page 3 of 3)

NAC 439.240 Approval by State Board of Health. (NRS 439.150, 439.190, 439.200)

1. The State Board of Health will grant a variance from a regulation only if it finds from the evidence presented at the hearing that:
 - (a) There are circumstances or conditions which:
 - (1) Are unique to the applicant;
 - (2) Do not generally affect other persons subject to the regulation;
 - (3) Make compliance with the regulation unduly burdensome; and
 - (4) Cause a hardship to and abridge a substantial property right of the applicant; and
 - (b) Granting the variance:
 - (1) Is necessary to render substantial justice to the applicant and enable the applicant to preserve and enjoy his or her property right; and
 - (2) Will not be detrimental or pose a danger to public health and safety.
 2. Whenever an applicant for a variance alleges that he or she suffers or will suffer economic hardship by complying with the regulation, the applicant must submit evidence demonstrating the costs of compliance with the regulation. The Board will consider the evidence and determine whether those costs are unreasonable.
- [Bd. of Health, Variances Reg. §§ 2.7-2.8, eff. 10-16-80; A 2-5-82; 1-19-84]

PART III:

A Variance Application Letter, which includes all information provided by the applicant on his worksheet, must be submitted in writing to the Environmental Health Division (EHD) Director no later than 40 days before the monthly Board of Health Meeting. **The Application letter must be on the owner's letterhead signed by the Owner/Corporate Officer specifically listing which part(s) of the Regulation the proposed Variance covers with this completed Worksheet as an attachment. The written Application Letter must take particular care in providing statements and evidence of circumstances or conditions and reasons why the District Board of Health should grant the Variance as listed in NAC 439.240 as shown at the top of this page. ALL information you have provided in PART I and II of this Worksheet must be included in the body of the letter.** The evidence required may include 8 1/2" x 11" or 11" x 17" detailed drawings and/or photographs.

The Variance process is outlined in Nevada Administrative Code (NAC) 439.200 through 439.260 with the exception that an application fee is payable to SOUTHERN NEVADA HEALTH DISTRICT (SNHD).

This section to be completed by SNHD staff ONLY

Next closing date is: _____ for the _____ BOH Meeting.

Referred by: _____

(Print Name of REHS)

Completed by: _____ Date: _____

(Print Name of REHS if not by supervisor)

Received by: _____ Date: _____

(Owner/Operator/Agent)

Reviewed by: _____ Date: _____

(Signature of SNHD Manager)

Attachment B: Justification Letter from Petitioners



NEO & Associates
2130 Via Vita - McKinney's Residence
Justification Letter
04/04/2024

To: Southern Nevada Health District
280 S. Decatur Blvd.
Las Vegas, NV. 89107

From: NEO & Associates

Re: Parcel # 129-02-410-065

To whom this may concern:

I hereby make application and petition the Southern Nevada District Board of Health for a variance to the Regulations Governing Individual Sewage Disposal and Liquid Waste Management Section 10 and Nevada Department of Environmental Protection Policy.

This variance request is made to permit construction of an ISDS on a lot with a septic density greater than the maximum for a conventional septic system.

The legal description of said property is APN # 129-02-410-065, further described as the McKinney's Residence.

Our client has owned the property since 2022 and they wish to construct a new single family home to reside in.

Thank you for your consideration,
NEO & Associates
Nicholas Voell-White

Attachment E: Clark County Fire Department Email



Todd Mckinney <tarhead812@gmail.com>

EcoJohn's SepticJohn Information

Wayne Dailey <WDailey@clarkcountynv.gov>
To: Todd Mckinney <tarhead812@gmail.com>
Cc: Jorge Gonzalez <Jorge.Gonzalez@clarkcountynv.gov>

Thu, Oct 26, 2023 at 4:40 PM

Hello Todd,

Thanks for sending this information for review. I do not see anything provided with this package that would trigger a permit or inspection requirement from the fire department for this equipment or system. You mentioned that you would be running this off propane. If this requires the installation of a new propane tank, there is a requirement to pull a permit and have inspections from CCFD for that installation. Those are generally handled by the tank/propane supplier. If that is the case, you can follow-up with them.

I would assume that building permits will be required for items like the gas lines, plumbing and electrical, but you should verify that with them.

Please let me know if you need further.

Respectfully,

Wayne Dailey, CFM
Assistant Fire Chief
Fire Prevention Bureau
Clark County Fire Department
Office: 702-455-2048
Cell: 702-249-1513
WDailey@ClarkCountyNV.Gov



[Quoted text hidden]

Attachment F: Clark County Division of Air Quality Email

4/4/24, 11:24 AM

NEO & Associates Inc Mail - Residential sewage (toilet) incinerator



Nicholas Voell-White <nickvw@neo-inc.com>

Residential sewage (toilet) incinerator

AQ Small Business Assistance Program <AQSAP@clarkcountynv.gov>
To: Nicholas Voell-White <nickvw@neo-inc.com>

Wed, Apr 3, 2024 at 12:35 PM

Nicholas, so after speaking with my co-worker, we do not have any specific regulations regarding residential sewage incinerators or emissions except our nuisance odor regulations under section 40 found here.
https://www.clarkcountynv.gov/Environmental%20Sustainability/Current%20Rules%20and%20Regulations/SECT43_07-01-04.pdf

However, you might want to check with the building dept. on codes for the area.

I hope that helps,

Respectfully,

Wally Evans

Senior Air Quality Specialist

Small Business Assistance Program

702-455-4728 – Direct Line

725-287-2823 - Cell

702-455-5942 – Main Office

702-383-9994 - Fax

Email: Wallace.Evans@ClarkCountyNV.gov

Web Link: Clark County, NV (clarkcountynv.gov)

NOTE: Clark County DES Business Hours: M-Th 7:30 am to 5:30 pm, closed on Fridays.

Attachment G: Cleaning and Maintenance Schedule

5. CLEANING & MAINTENANCE

In order to maximize Incinerator, it is imperative to occasionally do maintenance on the system. Below is more information on how to service the system.

REMOVAL OF ASH

The Incinerator needs periodic cleaning of ashes. The ashes is not suitable to sue as fertilizer or compost and must be disposed of as household trash in accordance with state and local codes;

Before cleaning out ashes, the steps below must be followed”

To clean out the collection tray, follow these steps:

1. Stop the burn cycle when it is in cooling or standby mode
2. Change the mode to Hand Op and start the burner, run the burner for 30 minutes
3. Let it cool down for 30 minutes and then inspect the collection tray and plenum
4. If there is still water in the tray, repeat step 2
5. If there is no liquid in the tray or plenum, proceed with steps below:
 - a. Let the incinerator cool down for 2 hours
 - b. Open the burn chamber door and slowly pull out the burner tray so it can be inspected
 - c. Remove deflector plate
 - d. Vacuum out the ashes
 - e. Rotate the collection tray 180 degrees and re-install it in the burn chamber
 - f. Install deflector plate on top of tray
 - g. Close burn chamber door and power up the PLC
 - h. Go to Maintenance page and reset Maintenance Time
 - i. Done

MAINTENANCE SCHEDULE

Component	Maintenance Task	After	Every	Every	Every	Every	Every
		First	50	100	Month	500	1000
		20	Hrs	Hrs		Hrs	Hrs
		Hrs					
INCINERATOR System	General Inspection *				•		
Incinerator Tray	Clean out Ashes *				•		
Incinerator Tray	Inspect and Rotate Tray 180°				•		
Waterless Urinal	Replace Urine Filter					•	
Incinerator	Inspect Electrodes on Burner, ensure they are correctly aligned						•
Pumps	Inspect for leakages	•	•	•	•		
Toilet	Inspect for leakages	•			•		
Power	Check power and power Connection				•		

TABLE 5-1. MAINTENANCE SCHEDULE

***Perform service more often when operating in a hot or dusty environment**
***Cleaning out the ashes may be required to do more frequently depending on the heaviness of black water. I.e. 350 gallon of medium heavy black water transform into 4 lbs. of ashes.**

Attachment H: Installation Instructions (Page 1 of 7)

1. INTRODUCTION

Thank you for purchasing an ECOJOHN® product. Please take a few minutes to read this manual, then keep it in a safe place where it can be easily located if needed by your professional service technician.

The ECOJOHN® Waste Combustion Models – WC5 Mini, WC5, WC32, WC48, and WC64 (in this manual called **incinerator**) are designed to incinerate wastewater from a waste tank. Through the incineration process the wastewater water gets burned by use of propane, natural gas, or diesel fuel - the only remains will be a small amount of sterile ash. Maintenance and emptying of ash only need to be done periodically. It is important that the size of system and holding tank is sized correctly based on usage. If system is not sized correctly, there is a potential for overloading.

All products are manufactured at Ecojohn's factory in Arkansas, USA. Each product goes through a series of testing and quality control processes to ensure a highly quality built product.

TECHNICAL SPECIFICATIONS

ITEM	WC5 Mini	WC5	WC32	WC48	WC64
Fuel	Propane/Natural Gas Diesel (No 1 or 2 Oil), Kerosene, JP8 Jet Fuel	Propane/Natural Gas Diesel (No 1 or 2 Oil), Kerosene, JP8 Jet Fuel	Propane/Natural Gas Diesel (No 1 or 2 Oil), Kerosene, JP8 Jet Fuel	Propane/Natural Gas Diesel (No 1 or 2 Oil), Kerosene, JP8 Jet Fuel	Propane/Natural Gas Diesel (No 1 or 2 Oil), Kerosene, JP8 Jet Fuel
Operating Voltage	12VDC, 120V AC, 240V AC	12VDC, 120V AC, 240V AC	12VDC, 120V AC, 240V AC	12VDC, 120V AC, 240V AC	12VDC, 120V AC, 240V AC
Burning Capacity	12 Gal/Day	37 Gal/Day	75 Gal/Day	150 Gal/Day	300 Gal/Day
People per Day	1	2	4	8	16
Fuel Consumption	Propane: 0.18 GPH	Propane: 0.29 GPH Gas: 0.29 Therm/hr Diesel: 0.27 GPH	Propane: 0.48 GPH Gas: 0.49 therm/hr Diesel: 0.42 GPH	Propane: 0.79 GPH Gas: .88 therm/hr Diesel: 0.72 GPH	Propane: 1.32 G Gas: 1.58 therm. Diesel: 1.12 GPI
Max Manifold Pressure Propane	14" w.c	10" w.c	10" w.c	10" w.c	10" w.c
Min Manifold Pressure Propane	11" w.c	9.5" w.c	9.5" w.c	9.5" w.c	9.5" w.c
Max Manifold Pressure Nat Gas		3.5" w.c	3.5" w.c	3.5" w.c	3.5" w.c
Min Manifold Pressure Nat Gas		3.0" w.c	3.0" w.c	3.0" w.c	3.0" w.c
Firing Rates (Diesel)	N/A	0.5-0.6 GPH	0.6-0.65 GPH	0.9-1.0 GPH	1.1-1.8 GPH
Max Hourly BTU Input (Gas)	18,000	50,000	100,000	175,000	250,000
Max Hourly BTU Input (Diesel)	N/A	70,000	100,000	175,000	250,000
Electrical	1.5 amp, 12VDC 1 amp, 120VAC 0.5 amp, 240VAC	4 amp, 120VAC 2 amp, 240VAC	4 amp, 120VAC 2 amp, 240VAC	4 amp, 120VAC 2 amp, 240VAC	4 amp, 120VAC 2 amp, 240VAC
Breaker Size	15 Amp	20 Amp	20 Amp	20 Amp	20 Amp
Ambient Operating Temperature	+32 °F (0 °C) to 150 °F (60 °C)	+32 °F (0 °C) to 150 °F (60 °C)	+32 °F (0 °C) to 150 °F (60 °C)	+32 °F (0 °C) to 150 °F (60 °C)	+32 °F (0 °C) to 150 °F (60 °C)
Dimension	24" x 16" x 25"	36" x 23" x 27"	46" x 24" x 27"	53" x 35" x 27"	64" x 45" x 27"
Collection Tray Volume (Gal)	0.75	1.5	3	6	12

TABLE 1-1. TECHNICAL SPECIFICATIONS

Attachment H: Installation Instructions (Page 2 of 7)

2. SAFETY

The incinerator is a safe, convenient appliance when assembled and used properly. However, as with all gas-fired and diesel-fired products, certain safeguards must be observed. Failure to follow these safeguards may result in damage or injury. If you have questions concerning assembly or operation, consult your dealer, gas/diesel appliance serviceman, or Ecojohn technical support.

WARNING

Read all instructions before proceeding. Do not operate this unit until you have read thoroughly and understand completely all instructions and safety rules contained in this manual. Save this manual and review frequently for continuing safe operation and instructing possible third-party users.

NOTICE

In the event that a problem arises, or service is required, reference the system data plate on the unit and contact your Ecojohn dealer, installer, or Ecojohn technical support for support: 1-866-ECOJOHN.

DANGER

OWNER'S RESPONSIBILITY

Incorrect installation, adjustment, and use of the incinerator could result in severe personal injury, death, or substantial property damage from fire, carbon monoxide poisoning, soot or explosion

System is only designed to incinerate wastewater. If other items are placed in the system, including but not limited to, disposal of hazardous material such as oils or corrosives, it may create a safety hazard

DO NOT ALTER THE ORIGINAL DESIGN

Tampering with or altering the burner design could seriously impair performance, resulting in loss of static pressure, damage to the system components, reduced air volume, heavy smoke, flame impingement, appliance sooting, hot gas puff-back, and asphyxiation or fire hazards.

LP-gas containers with their control valves shall be installed in compliance with the requirements of NFPA 1192/ANSI A119.2 or Title 24 CFR Part 3280.

FOR YOUR SAFETY

DO NOT store or use gasoline, or other flammable vapors and liquids in the vicinity of this or any other appliance

SPECIAL CARE MUST BE TAKEN TO KEEP SMALL CHILDREN AWAY FROM HEATED SURFACES

Attachment H: Installation Instructions (Page 3 of 7)

CAUTION

ELECTRICAL CAUTION

1. If any accessory is used on this appliance that requires an external electrical power source, the accessory when installed must be electrically grounded in accordance with local codes. In the absence of local codes, the following standards apply:

(U.S.) ANSI/NFPA No. 70-Latest Edition.

2. Do not cut or remove the grounding prong from the plug.
3. Keep the electrical supply cord and fuel supply hose away from any heated surface.

Depending on model, the incinerator will require 120V/240VAC or 12VDC input voltage.

3. INSTALLATION

NOTICE

PRE-APPROVED INSTALLER

- Contact Ecojohn for information on pre-approved installers.

PRE-INSTALLATION

1. The system meets the requirements of **NSF P157, Incinerating Toilet Systems – Health and Sanitation**
2. The installation must conform with the following, as applicable.
 - a. Local codes or, in the absence of local codes
 - ANSI Z21.61 - 1983 (1996) Gas Fired Toilet
 - CGA 5.2 - 1972 (2009) Gas Fired Toilet
 - b. Local codes or, in the absence of local codes,
CSAB 140.0-03 Oil Burning Equipment: General Requirements
 - c. THE INSTALLATION OF THE EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REGULATION OF AUTHORITIES HAVING JURISDICTION AND CSA STANDARD B139.
3. Keep the area surrounding the appliance free of combustible materials, gasoline, and all other flammable liquids and vapors.
 - In order to install the incinerator, please refer to the instructions below. Install and use the incinerator and tanks in a dry and well ventilated space. See minimum clearances below.

Minimum front/back clearance (electrical panel side): 5"
Minimum side clearance (burner compartment side and tray access door sides): 12"

Attachment H: Installation Instructions (Page 4 of 7)

CAUTION

- When unloading or moving the incinerator, make sure to take necessary precautions. Use a pallet jack or forklift to move it; internals can get damaged if incinerator is dropped in the moving/handling process.

COMBUSTION AIR SUPPLY

WARNING

Do not restrict the flow of air to the appliance

NOTICE

If the room where the incinerator is being installed is small, or if the room has a ventilation fan, it is recommended that the combustion air be supplied to the furnace room through intakes from the outside of the building. The intakes must terminate facing down in order to avoid obstruction from rain, snow, leaves, etc. Openings must have one square inch of free area per 1,000 Btu.

VENTILATION SYSTEM

The chimney is build up by 6" (I.D) and 8" (O.D) double-wall modules that are very easy to handle and mount. The chimney has been closely tested so it is fire resistant, suitable for all kinds of fuel and appliances and for use at continuous operating temperatures of up to 2100 degrees F.

The WC5 Mini requires a 3" Type B vent pipe system.

NOTICE

Periodic examination of the venting system is required.

VENTILATION INSTALLATION

Before connecting any Propane or power to the unit, the vent system needs to be installed. Please follow these directions when installing the vent.

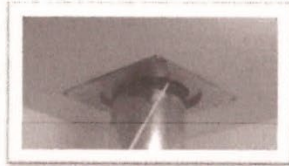
1. **Place incinerator:** Position incinerator at desired location. The unit should be positioned at least 5 inches from combustible surfaces. The flue outlet collar should be placed between the rafters or joists above, if possible.
2. **Frame Support Opening:** Drop a plumb bob to the center of the toilet's flue outlet and mark this center point on the ceiling. Cut a hole in the ceiling for the Chimney Pipes.



PICTURE 3-1. FRAME SUPPORT OPENING

3. **Install Support:** For installation into a flat ceiling, you may use a Firestop.

Attachment H: Installation Instructions (Page 5 of 7)



PICTURE 3-2. INSTALL SUPPORT

4. **Cut Roof Opening:** Cut an opening in the roof directly above the opening below, and at least 4 inches larger than the chimney's outside diameter to provide at least a 2-inch clearance all around the chimney. The chimney must be centered within the opening and maintain the 2-inch clearance to combustibles.
5. **Install Firestop Radiation Shield:** A Firestop Radiation Shield is required in multistory installations at each floor where the chimney penetrates into the attic. Note: a Firestop Radiation Shield is not installed where the chimney penetrates through the roof.
6. **Assembly Chimney Sections:** Lower the female end of the first Chimney Section through the Firebox. Twist-lock it clockwise onto the male end of the Anchor Plate on the incinerator. Turn Pipe Sections firmly clockwise to lock them together.



PICTURE 3-3. ASSEMBLY CHIMNEY SECTIONS AND ATTACH TO ANCHOR PLATE

7. **Install Attic Insulation Shield:** Install the Attic Insulation shield where the chimney passes into an attic. Slip the Attic Insulation Shield over the Chimney and Firestop Radiation Shield until the base sits squarely on the framed opening.
8. **Install Roof Support:** Use the Adjusted Roof Support to fasten the chimney pipe above the ceiling or on the roof.



PICTURE 3-4. INSTALL ROOF SUPPORT

9. **Attach Flashing:** In new constructions, assemble the Chimney Sections to a point above the roof, then slip the Flashing before extending the chimney above the roof. Allow space to permit sliding the next Chimney Section up through the Flashing. Always insure the chimney remains vertical (use level), and that at least a 2-inch clearance to combustible materials is maintained all around. Install the upper edge of the Flashing under the roofing. Nail to the roof along the upper edge of the Flashing. Be sure to follow local

Attachment H: Installation Instructions (Page 6 of 7)

building practices, as needed. Seal all nail heads with a non-hardening waterproof sealant. Do not put screws through the Flashing into the Chimney Pipe.

- 10. Finish Top:** Apply a high-temperature (500°F), non-hardening waterproof sealant around the chimney at the point where the Storm Collar will meet the chimney just above the Flashing. Slide the Storm Collar down over the chimney to the top of the Flashing. Tighten and seal the Storm Collar against the sealant. After installing sufficient Chimney Sections to meet the height requirement, attach the Chimney Cap onto the top of the chimney by holding the collar of the cap and twist locking it clockwise onto the chimney. Use an Extended Roof Bracket if the chimney extends more than 5 feet above the roof.

- 11. Ventilation installation is now complete.**

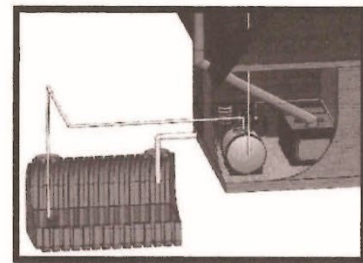


DRAWING 3-5 & 3-6 CHIMNEY INSTALLATION LAYOUT

HOSE/TANKS INSTALLATION

Use with Septic/In-Ground Holding Tank

1. Install a sewage grinder pump into the in-ground septic/holding tank.
2. Install 2" pvc piping from sewage tank up to a secondary waste tank (optional for WC5/WC32/WC48/WC64 systems) – **For WC5/WC32/48/64 the waste line can connect directly to the incinerator without a secondary tank. Note, the sewage pump has to be a manual pump model similar to a Zoeller 803**
3. Install piping from bottom of secondary waste container to the waste pump.
4. **Connect the waste pump to a check valve. The check valve should be installed as close to the waste pump as possible. Install pipe from the check valve to incinerator's waste inlet. DRAWING 3-6.**
5. (Optional Step) If you are also installing a royal mist container, place the container on the provided stand.
6. (Optional Step) install tubing from the outlet of the royal mist to the inlet of the dosing pump.
7. (Optional Step) install tubing from the outlet of the dosing pump to a tee connection in the check valve piping.
8. **Hose and tank installation is now complete**



Attachment H: Installation Instructions (Page 7 of 7)

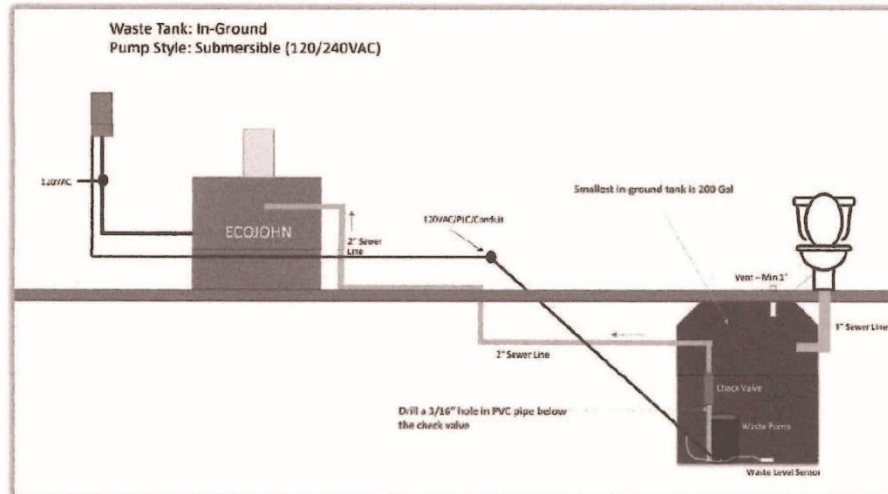
Use with an above ground holding tank

1. Install pvc pipe from toilet outlet and fixtures to a waste tank.
2. Install waste line from bottom of primary waste tank to the macerator pump.
3. Connect the macerator pump to a check valve. The check valve should be as close to the macerator pump as possible.
4. Install a waste line from the check valve to incinerator's waste inlet.
5. (Optional Step) If you are also installing a royal mist container, place the container on the provided stand.
6. (Optional Step) install tubing from the outlet of the royal mist to the inlet of the dosing pump.
7. (Optional Step) install tubing from the outlet of the dosing pump to a tee connection in the check valve piping.
8. **Hose and tank installation is now complete**

NOTICE

- If the waste holding tank is setup higher up than the incinerator, make sure there is a loop or release valve on the pipe from the waste pump that prevents black water from siphoning into the burn chamber. If there is no loop, black water could fill up the burn chamber, which will result in failing ignition of burner.
- If the waste holding tank is installed below the toilet, ensure there is a check valve installed right above the submerged waste pump

BELOW ARE LAYOUTS OF THE FIVE MOST COMMON TANK SETUPS:



Attachment I: Public Notice



PUBLIC NOTICE

The Southern Nevada District Board of Health will conduct a PUBLIC HEARING on Thursday, August 22, 2024 at 9:00 AM during its regular monthly meeting in the Red Rock Conference Room at the Southern Nevada Health District at 280 S. Decatur Blvd., Las Vegas, Nevada, to approve or deny a variance request filed by Todd and Maria McKinney ("Petitioners"), to permit and install a new individual sewage disposal system on the property located at 2130 Via Vita St., Mt. Charleston, NV 89124, APN 129-02-410-065.

The variance request is made to allow the Petitioners to permit the installation of a septic tank and effluent disposal system not in accordance with the *Southern Nevada District Board of Health Regulations Governing Individual Sewage Disposal Systems and Liquid Waste Management*. The variance will allow the Petitioners to install an ECOJOHN® waste combustion (incinerator) system in lieu of a soil absorption system on an undersized lot.

All interested persons may appear at the hearing and state their positions. All written and oral submissions will be considered by the Southern Nevada District Board of Health. Written comments must be forwarded by August 21, 2024 to:

Daniel Isler, P.E., REHS
Environmental Health Engineer/Supervisor
Southern Nevada Health District
P.O. Box 3902
Las Vegas, Nevada 89127
isler@snhd.org

The variance application is available for review at the Southern Nevada Health District, 280 S Decatur Blvd, Las Vegas, Nevada 89107. Please contact Cherie Custodio at (702) 759-0660 to schedule an appointment to review the application during the normal business hours of 8:00 AM to 4:30 PM.

- S -

Chris Saxton, MPH-EH, REHS
Environmental Health Director

August 6, 2024
Date