

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
1151 Punchbowl Street, Room 221
Honolulu, Hawaii 96813

ADDENDUM NO. 1

TO

Job No. D01CH65A
Kaulana Manu Native Bird and Plant Sanctuary
Viewing Area and Parking Lot
Kipuka 21, Saddle Road, County of Hawaii

MAY 26 2016

The items listed hereinafter are hereby made a part of the contract for the above project and shall govern the work, taking precedence over previously issued plans and specifications governing the items mentioned.

SPECIFICATIONS

1. Proposal - DELETE Pages P-1 to P-13 in its entirety and REPLACE with the attached revised Pages P-1 to P-13. Proposal Item No. 7 on sheet P-2 was revised to have one (1) quantity and unit price.
2. Section 10170 -Attached additional Clivus Multrum Composting Toilets specification Section to be included to supplement the Plans and Specifications.

GENERAL INFORMATION

1. A pre-bid meeting was held on May 20, 2016. The pre-bid meeting minutes and sign-in sheets are attached for information only.
2. Question: For Bid Proposal Item 7, the quantity is listed as 2 each, but the unit price is listed as LS:

"Item 7 - 2 EA Cattle Gate; including foundations, lock, chain, etc. in place complete. LS"

Is this a Lump Sum Price for 2 Each Cattle Gates?

Job No D01CH65A
Kaulana Manu Native Bird and Plant Sanctuary
Viewing Area and Parking Lot

Addendum No. 1

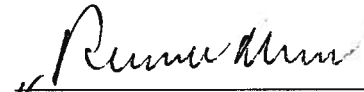
Page 1 of 2

Response: Proposal Item No. 7 was revised in Addendum 1.

3. Question : Are the composting tanks, vents and toilets part of this project? There are no specs for this?

Response: See attached specifications Section 10170 in Addendum 1.

Engineering Division



Carty S. Chang
Chief Engineer

P R O P O S A L

FOR

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
State of Hawaii

JOB NO. D01CH65A
KAULANA MANU NATIVE BIRD & PLANT SANCTUARY
VIEWING PLATFORM AND PARKING LOT

_____, 20__

Chief Engineer
Engineering Division
Department of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Dear Sir:

The undersigned, having carefully examined the local conditions and all available records and information covering conditions which may affect the cost of the work to be performed, and having carefully examined the Plans and Specifications, and other contract documents, hereby proposes to furnish and pay for all materials, tools, equipment, labor and other incidental work necessary to construct the viewing platform, composting toilet facility, parking lot, and other site improvements, as required or called for in this Proposal, all according to the true intent and meaning of the Notice to Bidders, Information and Instructions to Bidders, Proposal, Detailed Specifications, Interim General Conditions, Plans, and any and all addenda for:

JOB NO. D01CH65A
KAULANA MANU NATIVE BIRD & PLANT SANCTUARY
VIEWING PLATFORM AND PARKING LOT

on file in the office of the Engineering Division for the TOTAL BASE BID (Items 1 to 12) of:

_____ Dollars (\$_____)

and will fully complete all work under this contract within one hundred eighty (180) consecutive calendar days from the date of written notice to proceed, including date of said order, said total sum being itemized on the following pages.

PROPOSAL

Item No.	Quantity	Unit	Description	Unit Price	Total
1.	1	LS	Site Preparation Work; to include erosion control measures, site BMPs, clearing and grubbing, hauling, disposal & relocations as required to construct new improvements.	LS	\$ _____
2.	1	LS	Grading Work, as required to construct new improvements.	LS	\$ _____
3.	1	LS	Parking Lot; to include AC Pavement, Concrete Curbs, Concrete Sidewalks, ADA Ramp, Base Course, in place complete.	LS	\$ _____
4.	1	LS	Striping Work, in place complete.	LS	\$ _____
5.	4	Ea.	Signage & Posts, in place complete.	\$ _____	\$ _____
6.	16	Ea.	Wheel Stops, in place complete.	\$ _____	\$ _____
7.	1	Ea.	Cattle Gate; including foundations, lock, chain, etc. in place complete.	\$ _____	\$ _____
8.	1	LS	New Viewing Platform, in place complete.	LS	\$ _____
9.	1	LS	New Composting Toilet Facility, in place complete.	LS	\$ _____
10.	1	LS	Project Sign, in place complete.	LS	\$ _____
11.	1	LS	Access Road and maintenance area pavement; to include Concrete Pavement, Base Course, in place complete.	LS	\$ _____
Subtotal Base Bid (Items 1-11)					\$ _____
12.	1	LS	Mobilization and Demobilization (not to exceed 10% of the Subtotal Base Bid)		\$ _____
Total Base Bid (Items 1-12)					\$ _____

HAWAII PRODUCTS PREFERENCE AND/OR USE OF HAWAII PRODUCTS

In accordance with Act 175, SLH 2009, the Hawaii products preference is applicable to this solicitation. Bidders offering a Hawaii product (“HP”) shall identify the HP in the table below.

Persons desiring to qualify their product(s) not currently on the Hawaii Product List, shall complete Form SPO-38, *Certification for Hawaii Product Preference*, and submit the completed form no later than the deadline specified in the procurement notice and solicitation. The responsibility for certification and qualification shall rest upon the person requesting the preference. One form shall be completed and submitted for each product. Form SPO-38 is available at <http://hawaii.gov/spo/>

For the purpose of selecting the low bid when a solicitation contains both HP and non-HP, the price offered for a HP item shall be decreased by subtracting 10% for the class I or 15% for the class II HP item(s) offered. The lowest total offer, taking the preference into consideration, shall be awarded the contract, unless the offer provides for additional award criteria. The contract amount of any contract awarded, however, shall be the amount of the price offered, exclusive of the preferences.

In the event of any change that materially alters the bidder’s ability to supply the Hawaii product(s), the bidder shall immediately notify the procurement officer in writing and the parties shall enter into discussions for the purpose of revising the contract or terminating the contract for convenience.

Item No.	Pre-Approved Hawaii Product Description & Manufacturer	Class (I or II)	Quantity	Unit Measure	Unit Price	Total Price
1.	<i>[Product Description, Manufacturer Name]</i>	(I)				
2.						
3.						
4.						

RECYCLED PRODUCTS PREFERENCE

This project allows a 10% price preference for recycled products in accordance with HRS 103D-1005. Please indicate your recycled or non-recycled product by indicating its cost FOB jobsite unloaded in the schedule below, including applicable General Excise & Use Taxes.

<u>DESCRIPTION</u>	<u>RECYCLED PRODUCT COST</u>	<u>NONRECYCLED PRODUCT COST</u>
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____

The bidder requesting a recycled product preference shall also complete and submit the form "CERTIFICATION OF RECYCLED CONTENT" as shown in the Interim General Conditions and provide all supporting information with this proposal. Additional information may be requested to qualify a product.

The following definitions are applicable to the CERTIFICATION OF RECYCLED CONTENT form:

"Post-consumer recovered material" means any product used by a consumer, including a business that purchases the material, that has served its intended end use, and that has been separated or diverted from the solid waste stream for the purpose of use, reuse, or recycling.

"Product" includes materials, manufactures, supplies, merchandise, goods, wares, and foodstuffs.

"Recovered material" means waste material and by-products that have been separated, diverted, or removed from the solid waste stream after a manufacturing process for the purpose of use, reuse, or recycling. Recovered material does not include those materials and by-products that are generated and normally reused on-site or within original manufacturing processes (such as mill broke, in the case of paper products).

"Recycled content" means the percentage of a product composed of recovered material, or post-consumer recovered material, or both.

"Recycled product" means a product containing recovered material, or post-consumer recovered material, or both.

The bidder agrees that preference for recycled products shall be taken into consideration to determine the low bidder in accordance with said Section and the rules promulgated, however, the award of contract will be in the amount of the bid offered exclusive any preference.

APPRENTICESHIP AGREEMENT PREFERENCE

1. If applicable to this project, any bidder seeking the preference must be a party to an apprenticeship agreement registered with the State Department of Labor and Industrial Relations (DLIR) at the time the bid is submitted for each apprenticeable trade the bidder will employ to construct the project. “Employ” means the employment of a person in an employer-employee relationship.
 - a. The apprenticeship agreement shall be registered with the DLIR and conform to the requirements of Hawaii Revised Statutes Chapter 372.
 - b. Subcontractors do not have to be a party to an apprenticeship agreement for the bidder to obtain preference.
 - c. The bidder is not required to have apprentices in its employ at the time the bid is submitted to qualify for the preference.
2. A bidder seeking the preference must state the apprenticeable trade the bidder will employ for each trade to be employed to perform the work by submitting a completed signed original *Certification Form 1* verifying participation in an apprenticeship program registered with DLIR. “Apprenticeable trade” shall have the same meaning as “apprenticeable occupation” pursuant to Hawaii Administrative Rules (HAR) §12-30-5.
 - a. The *Certification Form 1* shall be authorized by an apprenticeship sponsor listed on the DLIR list of registered apprenticeship programs. “Sponsor” means an operator of an apprenticeship program and in whose name the program is approved and registered with the DLIR pursuant to HAR §12-30-1.
 - b. The authorization shall be an original signature by an authorized official of the apprenticeship sponsor.
 - c. The completed signed original *Certification Form 1* for each trade must be submitted with the bid. Previous certifications shall not apply.
 - d. When filling out the *Certification Form 1*, the name of Apprenticeable Trade and Apprenticeship Sponsor must be the same as recorded in the List of Construction Trades in Registered Apprenticeship Programs that is posted on the DLIR website. “Registered apprenticeship program” means a construction trade program approved by the DLIR pursuant to HAR §12-301 and §12-30-4.
 - e. The *Certificate Form 1* and the List of Construction Trades in Registered Apprenticeship Programs is available on the DLIR website at: <http://hawaii.gov/labor/wdd>.
3. Upon receiving the *Certification Form 1*, the Procurement Officer will verify that the apprenticeship program is on the List of Construction Trades in Registered Apprenticeship Programs and that the form is signed by an authorized official of the Apprenticeship Program Sponsor. If the programs and signature are not confirmed by the DLIR, the bidder will not qualify for the preference.
4. If the bidder is certified to participate in an apprenticeship program for each trade which will be employed by the bidder for the project, a preference will be applied to decrease the bidder’s bid

amount by five percent (5%) for evaluation purposes.

5. Should the bidder qualify for other preferences (e.g. Hawaii Products), all applicable preferences shall be applied to the bid price.

CONTRIBUTIONS BY STATE AND COUNTY CONTRACTORS PROHIBITED

Contractors are hereby notified of the applicability of Section 11-355, HRS, which states that campaign contributions are prohibited from specified State or county government contractors during the term of the contract if the contractors are paid with funds appropriated by a legislative body.

CONDITION OF AWARD

It is understood that the award of the contract will be made on the basis of the lowest responsible Total Base Bid (Items 1 to 12) selected by the Board of Land and Natural Resources. Write the total of bid items 1 to 12 on page P-1.

It is understood and agreed that the Board of Land and Natural Resources reserves the right to reject any and/or all bids and waive any defects when, in the Board's opinion, such rejection or waiver will be for the best interest of the State of Hawaii.

In the event all bids exceed available funds certified by the appropriate fiscal officer, the head of the purchasing agency responsible for the procurement in question is authorized in situations where time or economic considerations preclude resolicitation of work of a reduced scope to negotiate an adjustment of the bid price, including changes in the bid requirements, with the low responsible and responsive bidder, in order to bring the bid within the amount of available funds. It is understood and agreed upon that the head of the purchasing agency may delete a portion or all of any item(s) in the proposal at the stated unit or lump sum price as necessary to stay within the available funding. The bidder is responsible to make an earnest effort to represent the actual cost of each item, including all materials, labor, equipment, overhead and profit in their bid proposal to preclude claims of anticipated profit or loss of profit because of an unbalanced bid proposal.

It is also understood that if a mutually agreeable cost for the reduced scope of work necessitated by a lack of available funds cannot be agreed upon between the bidder and the head of the purchasing agency within 14 calendar days after the bid opening, then the bid may be rejected in the best interest of the purchasing agency, and the head of the purchasing agency may negotiate in progressive order (lowest to highest) with the next lowest responsible and responsive bidder.

It is also understood and agreed that the award of the contract shall be conditioned upon funds being made available for this project and further upon the right of the Board of Land and Natural Resources to hold all bids received for a period of sixty (60) days from the date of the opening thereof, unless otherwise required by law, during which time no bid may be withdrawn.

It is also understood that Notice to Proceed may be delayed up to one (1) year after the bid opening date, and that no additional compensation will be provided for any claim for escalation or delay for issuance of Notice to Proceed on or before that date.

It is also understood and agreed that the quantities given herewith are approximate only and are subject to increase or decrease, and that the undersigned will perform all quantities of work as either increased or decreased, in accordance with the provisions of the Contract Specifications.

It is also understood and agreed that the estimated quantities shown for the items for which a UNIT PRICE is asked in this Proposal are only for the purpose of comparing on a uniform basis, bids offered for the work under this contract, and the undersigned agrees that he is satisfied with and will at no time, dispute said estimated quantities as a means of claims for anticipated profit or loss of profit, because of a difference between the quantities of the various classes of work done or the materials and equipment installed, and the said estimated quantities. On UNIT PRICE bids, payment will be made only for the actual number of units incorporated into the finished project at the contract UNIT PRICE.

After the proposals are opened and read, the figures will be extended and/or totaled in accordance with the bid prices of the acceptable proposals and the totals will be compared. In the comparison of bids, words written in the proposal shall govern over figures and unit prices will govern over totals. Until the award of the contract, however, the right will be reserved to reject any and all proposals and to

waive any defects or technicalities as may be deemed best for the interest of the State.

It is also understood and agreed that liquidated damages in the amount of two hundred dollars (\$ 200.00) for each and every calendar day in excess thereof prior to completion of the contract shall be withheld from payments due to the Contractor.

It is also understood and agreed that if this bid is accepted, the successful bidder must enter into and execute a contract with the Board of Land and Natural Resources and furnish a Performance and Payment Bond, as required by law. These bonds shall conform to provisions of Section 103D-324 and 325, Hawaii Revised Statutes and any law applicable hereto.

It is also understood and agreed that the successful bidder will provide all necessary labor, materials, tools, equipment, and other incidentals necessary to do all the work and furnish all the materials specified in the contract in the manner and time herein prescribed, and according to the requirements of the Engineer as therein set forth.

It is understood that by submitting this proposal, the undersigned is declaring that his firm has not been assisted or represented on this matter by an individual who has, in a State capacity, been involved in the subject matter of this contract in the past two years.

It is understood that by submitting this proposal in accordance with HAR 3-122-192, the undersigned is declaring that the price submitted is independently arrived without collusion.

It is also understood that by submitting this proposal, a Certification for Safety and Health Programs for bids in excess of \$100,000 (in accordance with HRS 396-18), the undersigned certifies that his organization will have a written safety and health plan for this project that will be available and implemented by the Notice to Proceed date of this project. Details of the requirements of this plan may be obtained from the Department of Labor and Industrial Relations, Occupational, Safety and Health Division (HIOSH).

It is further understood and agreed that the successful bidder shall comply with paragraph 3.1.a "SUBCONTRACTING" of the General Provisions which requires that the contractor shall perform with his own organization and with the assistance of workmen under his immediate superintendence, work of a value not less than twenty percent (20%) of the value of all work embraced in the Contract, except that certain contract items of work, if specifically referred to in the special provisions, will be exempted from said twenty percent requirement.

Compliance with §103-310 HRS. As a condition of award all bidders shall comply with all laws governing entities doing business in the State, including Chapter 237 HRS (general excise tax); Chapter 383 HRS (employment security – unemployment insurance); Chapter 386 HRS (workers compensation); Chapter 392 HRS (temporary disability insurance); and Chapter 393 HRS (pre-paid health care), and shall produce all documents to the State (DLNR, Engineering Division) required to demonstrate compliance with these subsections. Any bidder making a false affirmation or certification under this subsection shall be suspended and may be debarred from further offerings or awards pursuant to §103D-702 HRS.

RECEIPT OF ADDENDA

The bidder also acknowledges receipt of any and all addenda issued by the Engineering Division, by recording the date of receipt of the respective addenda in the space provided below:

<u>Addendum</u>	<u>Date Received</u>	<u>Addendum</u>	<u>Date Received</u>
No. 1	_____	No. 5	_____
No. 2	_____	No. 6	_____
No. 3	_____	No. 7	_____
No. 4	_____	No. 8	_____

It is understood that failure to receive any such addendum shall not relieve the Contractor from any obligation under this Proposal as submitted.

It is also understood and agreed that if this Proposal is accepted and the undersigned should fail or neglect to contract as aforesaid, the Board may determine that the bidder has abandoned the Contract, and thereupon, forfeiture of the security accompanying his proposal shall operate and the same shall become the property of the Board.

JOINT CONTRACTORS OR SUBCONTRACTORS TO BE ENGAGED ON THIS PROJECT

The Bidder agrees that the following is a complete listing of all joint contractors or subcontractors covered under Chapter 444, Hawaii Revised Statutes (HRS), who will be engaged by the Bidder on this project to perform the required work indicated pursuant to Section 103D-302, HRS. It is the sole responsibility of the contractor to review the requirements of this Project and determine the appropriate licenses that are required to complete the Project. The Bidder certifies that the completed listing of joint contractors or subcontractors fulfills the requirements for the project and the Bidder, together with the listed subcontractors or joint contractors have all the specialty contractor's licenses to complete the work, except as provided for in HRS §103D-302(b). Failure of the Bidder to comply with this requirement may be just cause for rejection of the bid.

“A” General Engineering Contractors and “B” General Building Contractors are reminded that due to the Hawaii Supreme Court’s January 28, 2002 decision in Okada Trucking Co., Ltd. v. Board of Water Supply, et al., 97 Haw. 450 (2002), they are prohibited from undertaking any work, solely or as part of a larger project, which would require the general contractor to act as a specialty contractor in any area in which the general contractor has no license. Although the “A” and “B” contractor may still bid on and act as the “prime” contractor on an “A” or “B” project (*See, HRS §444-7 for the definitions of an “A” and “B” project.*), respectively, the “A” and “B” contractor may only perform work in the areas in which they have the appropriate contractor’s license (*An “A” or “B” contractor obtains “C” specialty contractor’s licenses either on its own, or automatically under HAR § 16-77-32*). The remaining work must be performed by appropriately licensed entities.

General Engineering “A” Contractors automatically have these “C” specialty contractor’s licenses: C-3, C-9, C-10, C-17, C-24, C-31a, C-32, C-35, C-37a, C-37b, C-38, C-43, C-49, C-56, C-57a, C-57b and C-61.

General Building “B” Contractors automatically have these “C” specialty contractor’s licenses: C-5, C-6, C-10, C-12, C-24, C-25, C-31a, C-32a, C-42a and C-42b.

In completing the Joint Contractors or Subcontractors List, describe the specialty contractor’s nature and scope of work to be performed for this project and provide the complete firm name of the joint contractor or subcontractor in the respective columns. If the Bidder is a general contractor providing the work of a required specialty contractor, whose license is not automatically held pursuant to HAR 16-77-32, fill in the Bidder’s (general contractor’s) name and nature and scope of work to be performed on this project.

List only one joint contractor or subcontractor per required specialty contractor’s classification, unless within the same specialty, the work of each joint contractor or subcontractor can be described so that there is no overlap in work descriptions.

If a contractor’s license is required by law for the performance of the work which is called for in this bid, the bidder and all subcontractors must have the required license before the submission of the bidder’s proposal in the case of a non-federal aid project, and for federal-aid projects, the bidder must have the required license prior to the award of the project and all subcontractors prior to the start of the subcontracted work.

COMPLETE FIRM NAME OF JOINT CONTRACTOR OR SUBCONTRACTOR	NATURE AND SCOPE OF WORK TO BE PERFORMED

Enclosed herewith is a:

- | | | | |
|----|-----------------------------|---|--------|
| 1. | Surety Bond (*1) |) | |
| 2. | Legal Tender (*2) |) | |
| 3. | Cashier's Check (*3) |) | |
| 4. | Certificate of Deposit (*3) |) | in the |
| 5. | Certified Check (*3) |) | amount |
| 6. | Official Check (*3) |) | of |
| 7. | Share Certificate (*3) |) | |
| 8. | Teller's Check (*3) |) | |
| 9. | Treasurer's Check (*3) |) | |

(Cross Out Those Not Applicable)

_____ Dollars (\$_____)

as required by law.

Respectfully submitted,

Name of Company, Joint Venture
or Partnership

Contractor's License No.

By _____
Signature (*4)

Title _____

Print Name _____

Date _____

Address _____

Telephone No. _____

E-Mail Address _____

NOTES:

1. Surety bond underwritten by a company licensed to issue bonds in this State;
2. Legal tender; or
3. A certificate of deposit; share certificate; or cashier's, treasurer's, teller's, or official check drawn by, or a certified check accepted by, and payable on demand to the State by a bank, a savings institution, or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration.
 - A. These instruments may be utilized only to a maximum of \$100,000.
 - B. If the required security or bond amount totals over \$100,000, more than one instrument not exceeding \$100,000 each and issued by different financial institutions shall be accepted.
4. Please attach to this page evidence of the authority of this officer to submit bids on behalf of the Company and also the names and residence addresses of all officers of the Company.
5. Fill in all blank spaces with information asked for or bid may be invalidated. PROPOSAL MUST BE INTACT, MISSING PAGES MAY INVALIDATE YOUR BID.

End of Proposal

SECTION 10170

CLIVUS MULTRUM COMPOSTING TOILETS

1.0 PART 1 – GENERAL

1.1 DESCRIPTION

- A. Work Included: Install all composting toilet materials required for all waterless toilets, toilet chutes, vents, vent fans, ducting, clamps, electrical junction boxes, PV box, wiring, duct tape, Clivus Multrum installation kit, etc., complete as indicated on the Drawings and specified herein. Where items are not specifically mentioned for a completely functional operation, they shall be furnished as similar specified work. It is the intent of this section to cover the class and character of all composting toilet system required.
- B. Quality assurance, Representative: Provide services of a competent plumber and electrician who shall be subject to call for the Engineer to direct application and final adjustment of the composting toilet systems.

2.0 PART 2 – PRODUCTS

- A. Composting Toilet Systems. Two (2) Clivus Multrum M35 Composter Bins, Four (4) Toilets, Toilet Seats and other equipment necessary to construct the composting toilets shall be provided by the State. DOFAW will deliver the materials to the project site. Contractor to coordinate with DOFAW to arraign for delivery of materials to the site. Contractor shall be responsible to install materials in accordance with Clivus Multrum Installation Manual attached to this specification section.
- B. Additional Materials. Additional materials not included with the Clivus Multrum Composter Bins, Toilets, Toilet Seats and Installation Kit shall be provided by the Contractor. Additional materials to be provided by the Contractor include duct tape, electrical junction boxes, electrical wiring, electrical connections, plumbing connections and items shown in installation manual as being provided by others.

3.0 PART 3 – EXECUTION

- A. Upon delivery of the composting toilet materials to the job site by the State, the General Contractor shall have a responsible person check in this materials at place for storage. The materials shall be protected from damage at all times, both prior to and after its installation.
- B. The installation manual is provided in this specification section. Contractor shall also contact Clivus Multrum (Brian Barry at (800) 425-4887 or their designated representative) to coordinate the installation. Clivus personnel may visit the project site during

construction and start-up procedures to assist the Contractor in confirming installation requirements.

- C. Method of Measurement. No measurement of composting toilet systems will be made, and is incidental to the New Composting Toilet Facility proposal item.
- D. Basis of Payment. Payment for all items of work and materials specified in this Section and/or shown on the plans shall be made on a lump sum basis. Said lump sum payment shall be full compensation for furnishing materials, labor tools and equipment necessary to render work in place complete.

END OF SECTION



Model M35 Specification Sheet

NSF Certification

The Clivus Model M35 is certified by the National Sanitation Foundation under Standard 41 (day-use, park).

Capacity

M35 VOLUME

Solids storage capacity: 234 cubic feet; 1,747 US gallons

Daily capacity at average temp. >65°F: 180 visits

Annual capacity at average temp. >65°F: 65,000 visits

Specifications and Materials

DIMENSIONS

Installed: Length: 103"; Width: 70.5"; Height: 89"

Weight: 800 lbs

Working Area on Top of Composter: 53"x53"

Waste Access Door: 10"x30" (composter front)

Compost Access Lid: 34.5"x70.5" (composter front)

Polyethylene Wall Thickness: 0.375" nominal

MATERIALS

The M35 Composter and its internal Liquid Separation Tank are rotationally molded high-density polyethylene resin that conforms with the following specifications:

- Density (ASTM D1505): 0.943 g/cm³
- Tensile Strength at Yield (ASTM D638): 3,000 psi
- Impact Brittleness Temperature (ARM Impact): -103°F
- Dart Impact (-40°C, 6.53 mils thickness): 180 ft-lbs
- Env't. Stress Crack Resistance (D1693): 700 hrs

VENTILATION

AC: 120V, 60 Hz, 71w, .67 amp fan with 263 cfm at free air. Fan made of GE Noryl plastic, totally enclosed, ball-bearing motor, in-line, direct drive. UL & CSA approved. Energy Star rated. Diameter: 11.75"; Inlet/Outlet Diameter: 6"; Length: 9.625". The fan is mounted in-line near the composter, with 4" PVC or ABS ducting (not included). 12V DC available.

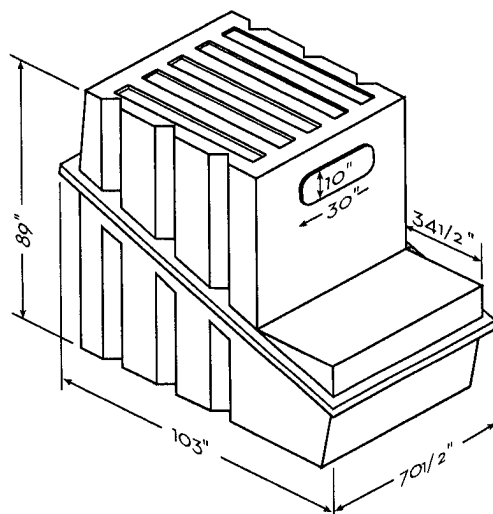


Figure 1. | M35 Composter

AUTOMATIC MOISTENING SYSTEM

An automatic control device monitors daily compost mass moistening. Timer is housed in water-resistant NEMA box. Spray time is pre-set at factory.

TANK ALARM

Automatic tank alarm responds to liquid level and air flow sensors.

AC: 120 VAC, 50/60 Hz, 7 watts max. Alarm Horn: 82 decibels at 10 feet; meets Type 3R water-tight standard as installed by factory. Alarm Beacon: meets Type 3R water-tight standard as installed by factory. CSA certified.

LIQUID REMOVAL PUMP

AC: Submersible, 115V, 5 amp, with 18', 3-conductor, oil-resistant cord. UL & CSA approved. 1" NPT liquid discharge outlet. Capacity is 20.4 gallons per minute at 1' with a maximum pumping height of 26.3'.

LIQUID END-PRODUCT SEPARATION TANK

Internal tank (45 US gallons) stores the liquid separately from the compost to enhance decomposition and to facilitate the removal of the liquid end-product by the automatic pump to a secondary storage tank.

Components

Solenoid: 120V AC, 50/60 Hz, UL & CSA listed.

Timer: Synchronous motor, 48 max. on-off cycles, 120V AC, 0.1 watts. 12V DC available.

Rear of Composter

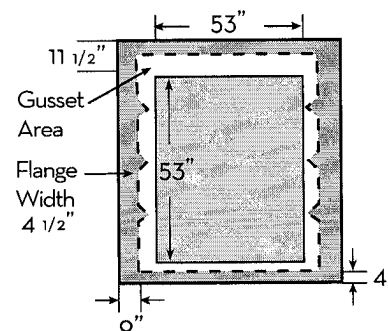


Figure 2. | M35 Composter, Top View

TOILET OPTIONS

Waterless Toilet

Constructed of impact resistant fiberglass with sanitary white finish. Seat and lid are made of plastic; the liner is rotationally molded polyethylene. The toilet must be located directly over the composter, which is situated in a space or room below. The toilet is connected with a 14" diameter straight chute.

Toilet Height: Standard: 14"; ADA Compliant: 18"

Width: 18.5"; Length: 24.25"

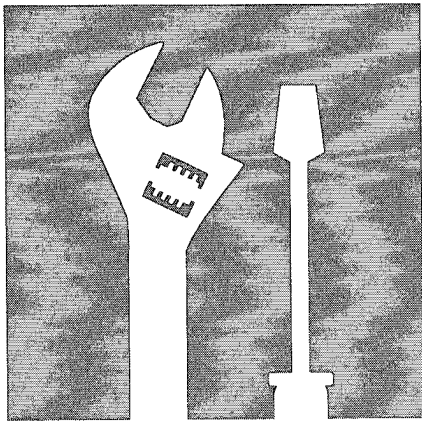
Foam-flush Toilet

The Foam-flush toilet is constructed of vitreous ceramic. The seat and lid are made of plastic. The toilet connects to the composting unit with a 4" plastic pipe. The drain may slope up to 45 degrees from vertical. A water connection and a power connection (AC) are required.

Toilet height: Standard: 16"; ADA compliant: 17.5"

Width: 15"; Length: 29"

.....Addendum 1.....



M32 & M35

Installation Manual

.....
Clivus Multrum, Inc.
15 Union Street
Lawrence, MA 01840
.....

.....
800.425.4887
.....

.....
clivusmultrum.com
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Rev. 8/09

Addendum 1

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Introduction

Welcome

Congratulations on your purchase of a Clivus Multrum Composting Toilet System. You have purchased a system that represents the leading edge in composting technology today. Clivus composters are manufactured to be efficient, durable and easy to maintain. With proper installation and regular maintenance the Clivus composter will give you years of trouble-free service.

The M32 & M35 Composter can be installed by anyone with basic carpentry skills. However, it is recommended that the services of a licensed plumber and electrician be obtained, as required by state or local codes, for plumbing and electrical hook-ups. The basic tools and materials required are listed in the instructions. The average installation time is approximately 40 worker-hours for each M32 or M35 unit.

If you have any questions, please contact your local representative or Clivus Multrum, Inc.

Before Starting

Read all instructions before assembly.

Clivus recommends that two people work together when installing the composter portion of this system.

Receiving the Shipment

Check for Damage

Examine the Clivus composter and its contents carefully for evidence of damage or rough handling.

Minor Damage: Do not sign the shipping receipt until the carrier has noted the damage on the Bill of Lading.

Significant damage: DO NOT SIGN the shipping receipt. Refuse the shipment and immediately call Clivus Multrum, Inc. at 1-800-425-4887.

Check Parts Immediately

Most of the Clivus system components are packed inside the composter for shipping. If the shipment is accepted, immediately cut the strapping, open the package, and remove the components packed inside.

Check item numbers on kit boxes against the packing list, but do not open individual kits until needed for assembly. Identify the parts and check them against the packing list. Damage, shortages, and discrepancies must be reported to your local authorized representative or Clivus Multrum, Inc. within 5 working days. **If the composter will not be installed immediately, secure all components in a safe location which is protected from the weather.**

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FOR REPLACEMENT CLAIMS, CLIVUS MULTRUM®, INC. MUST BE NOTIFIED OF ANY CONCEALED DAMAGE OR MISSING PARTS WITHIN 5 WORKING DAYS FROM RECEIPT OF GOODS. AFTER THIS PERIOD, ANY ADDITIONAL PARTS REQUIRED MUST BE PURCHASED AT THE CUSTOMER'S EXPENSE.
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Materials

An installation kit is provided with each composter that includes sealant, pine shavings, screws, nuts, bolts and washers. You will also need to obtain the following materials locally:

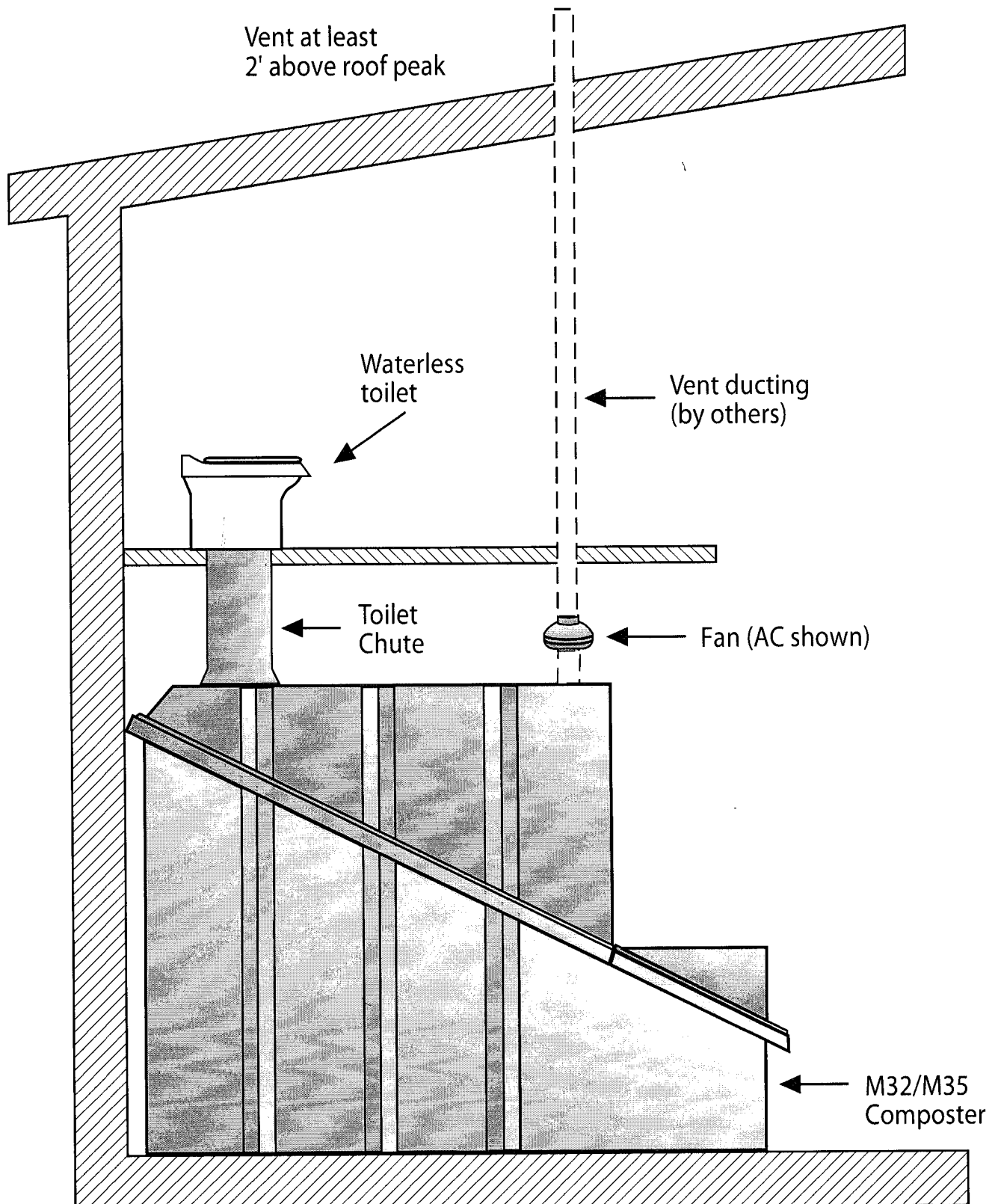
- Duct tape
- PVC electrical junction boxes, electrical wiring and all other necessary electrical connections supplied by installing electrician.
- All necessary plumbing connections supplied by installing plumber.

Tools

hammer
plumb bob
square
standard & Phillips screwdrivers
#8 nut driver
compass
hand saw
adjustable hole saw
caulking gun
two wrenches 7/16"
level
drill bits (1/8", 3/16", 5/16")
drill
tape measure
jib saw, reciprocating saw
metal & wood-cutting saw blades

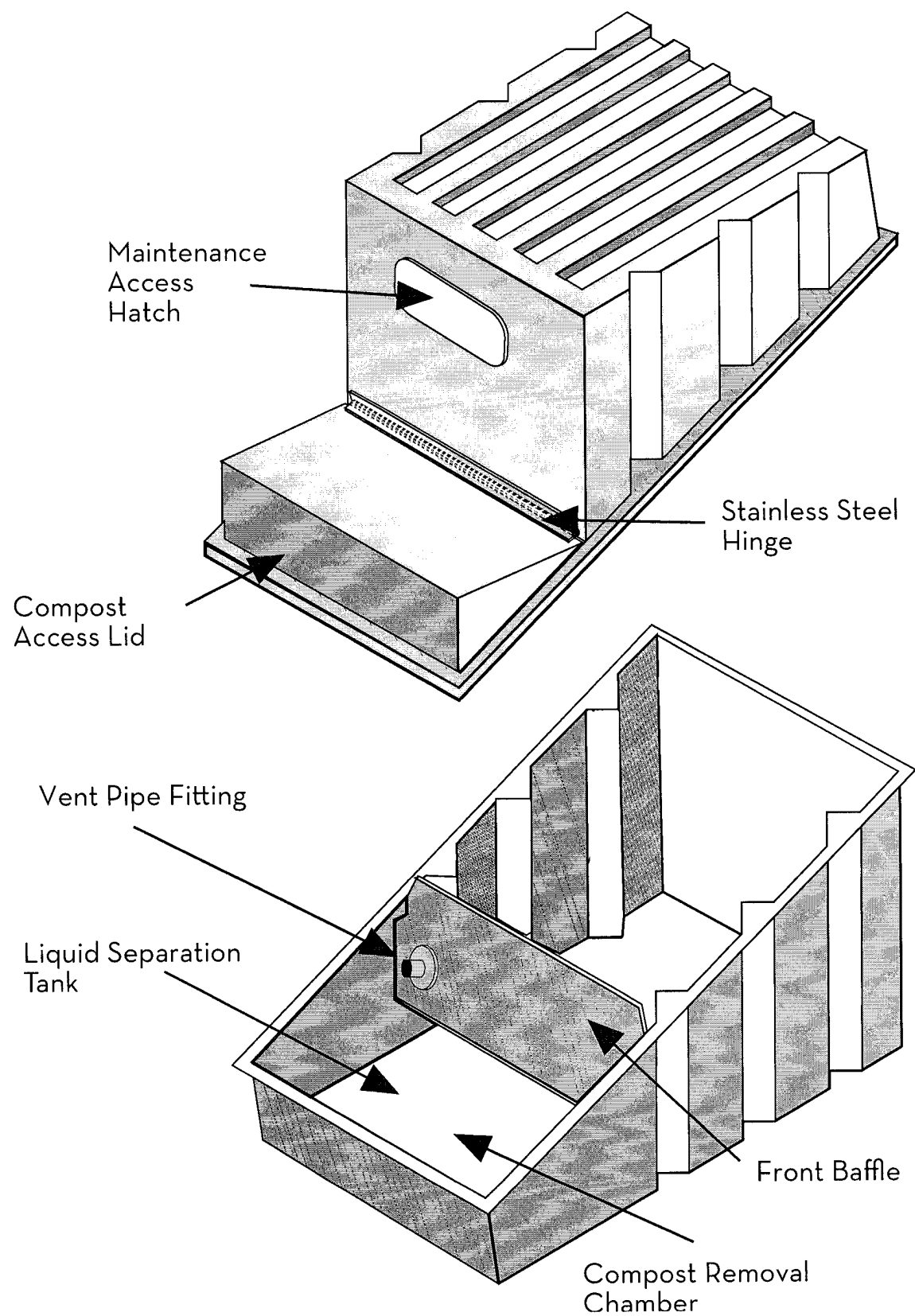
**KEEP THIS MANUAL
HANDY FOR FUTURE
REFERENCE OR SERVICE.**

Typical Configuration



Addendum 1

Exploded View



Installation and Assembly Instructions

Note: For Foam-flush toilet installation, see Clivus Multrum Foam-flush Toilet Installation Manual.

Fixture Location & Installation

Toilet Chute Location

1. Locate center point of chute on toilet room floor and drill small hole for plumb bob.

2. Using plumb bob, locate center point of chute on compostor top as per plan, or as far to rear of tank top working area as possible. Note that rear flange on tank may affect placement of toilet.

NOTE: For concrete toilet room floors, use plans for placement and sleeve out a 14 1/2" diameter hole for each chute before pouring floor.

3. Scribe and cut a circle with 7 1/4" radius (14 1/2" hole) through toilet room floor and compostor top, using plumb bob point as center point of circle.

4. Place flanged chute into compostor top. Add any needed extension chutes. Cut top-most chute to proper length.

5. From inside compostor, caulk around flanged chute. Duct tape all chute joints.

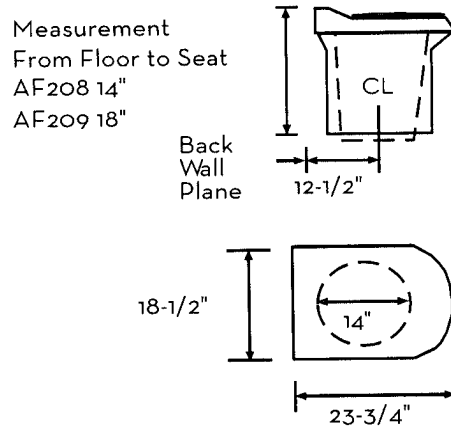


Figure 1. | Toilet Measurements

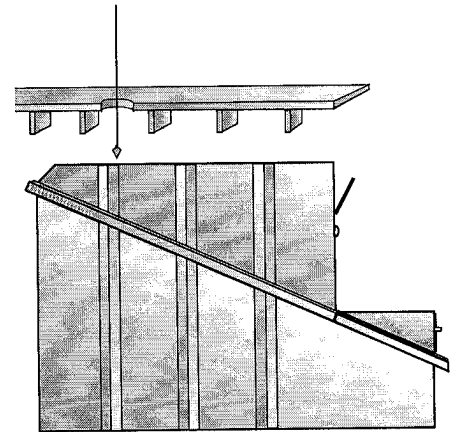


Figure 2. | Plumb Bob

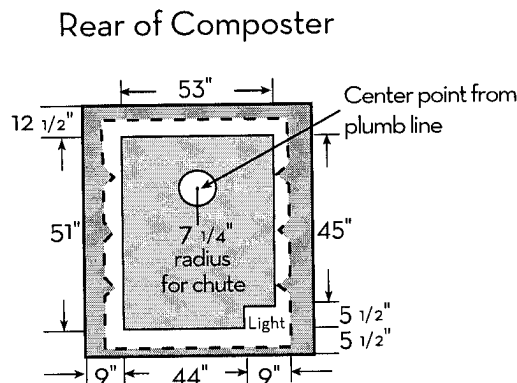


Figure 3. | M32 Top Working Area for Toilet Connection

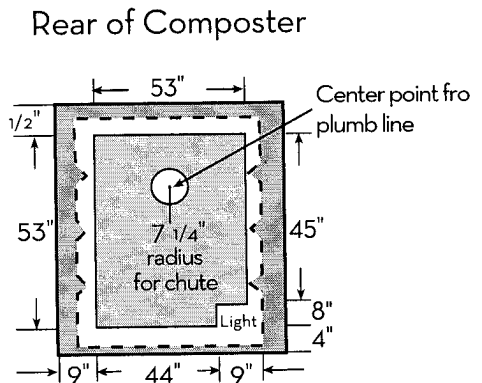


Figure 4. | M35 Top Working Area for Toilet Connection

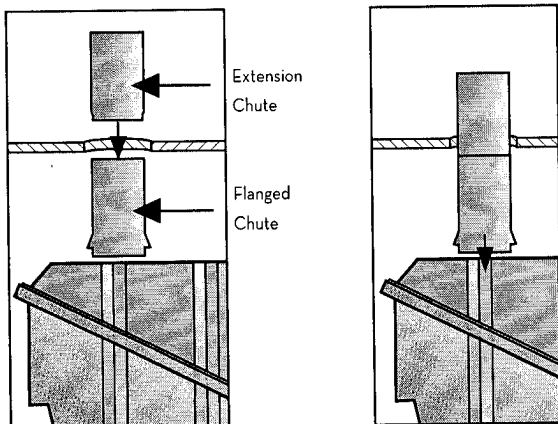


Figure 5. | Chute Installation

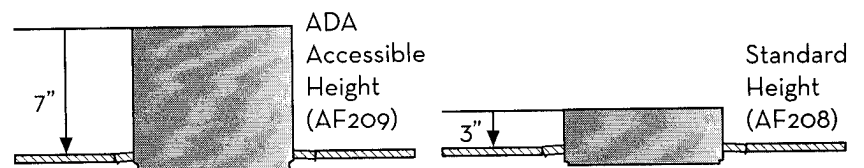


Figure 6. | Chute Height

Addendum 1

Installation and Assembly Instructions (continued)

Adding Starter Bed

Add approximately 55 cu. ft. of pine shavings (supplied with unit).

1. Add starter bed. (For systems using the waterless toilet, starter bed may be added down toilet chute. For systems using the Foam-flush fixture, add starter bed through Maintenance Access hatch.)
2. Spread out as shown.

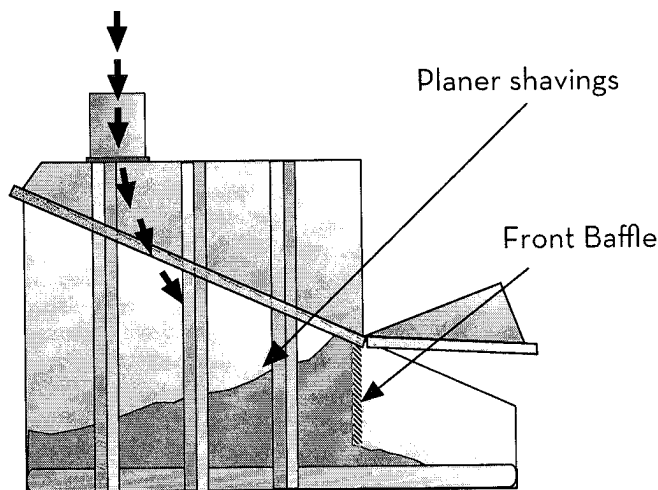


Figure 7. | Adding Starter Bed

Toilet Installation

1. Remove toilet top from toilet base by removing screw in front and lifting front to back.
2. Position base over toilet chute and secure to floor with hardware provided.
3. Replace toilet top, inserting liner into chute and re-attach toilet top to base.
4. Caulk around the base of the toilet using the white caulking provided.

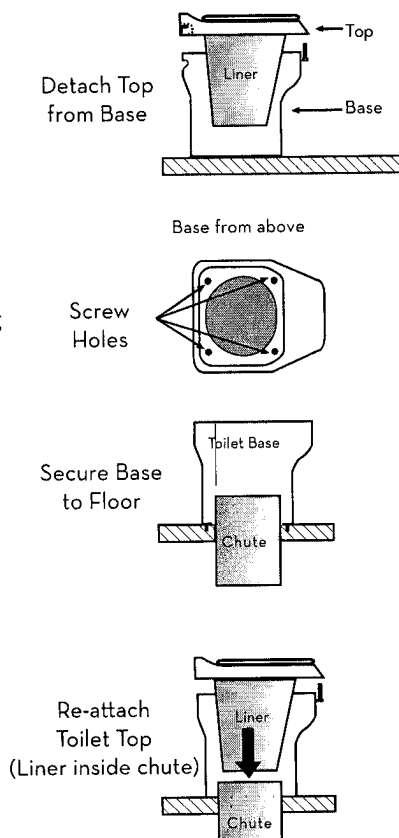


Figure 8. | Toilet Installation

You are using a recycling toilet by Clivus®

1 This toilet uses no water or chemicals.

2 Waste is being composted in the equipment below this building.

3 Do not throw cigarettes, plastics, bottles or cans into this recycling toilet.

THANK YOU FOR HELPING US PRESERVE THE ENVIRONMENT

Clivus Multrum®, Inc.
15 Union Street
Lawrence, MA 01840
1-800-4-Clivus

Installation and Assembly Instructions (continued)

Urinal Installation

1. Hang the urinal at height specified in plans or at height specified by governing codes.
2. Plumb into rear top working surface of composteer using 2" drain pipe. Do not install in-line trap. Use as steep a slope as possible. Include clean-outs with all elbows.
3. Caulk around pipe where it enters composteer.
4. Caulk around pipe where it passes through finished floor.

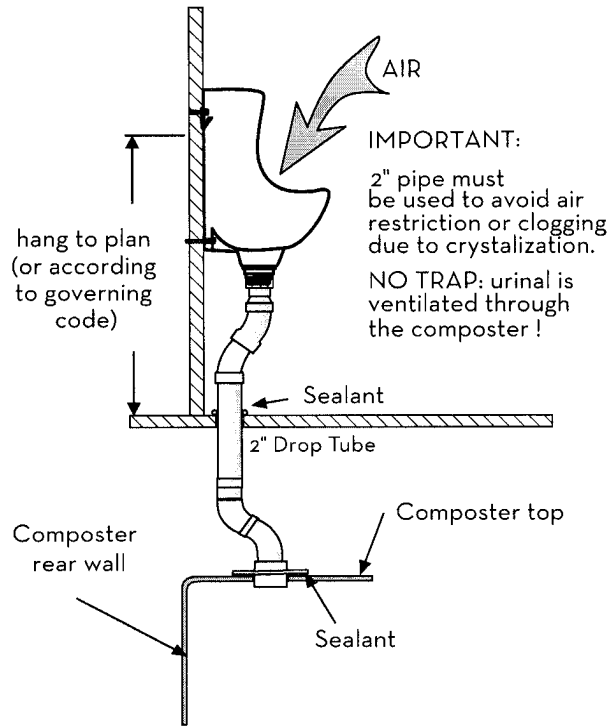


Figure 9. | Urinal Installation

Ventilation Installation

AC or DC Fan

1. Position flange as far to front of top surface and as far from toilet chutes as possible, centering it on a raised rib.
2. Trace inside of flange onto composteer top. Move flange and cut out hole.
3. Position flange over hole and drill bolt holes.
4. Apply sealant to bottom of flange and attach to composteer using bolts provided, washers inside and out, nuts on the inside.
5. Consult plan for location of vent run, ending at least 2' above roof peak. Hang pipe using standard plumbing practice. Fan should be installed in-line as close to tank as possible using mounting hardware provided.

Note: fan should be accessible to electrician for wiring and to maintenance personnel for servicing.

6. Fan can now be wired by a licensed electrician. A vent cap is recommended.

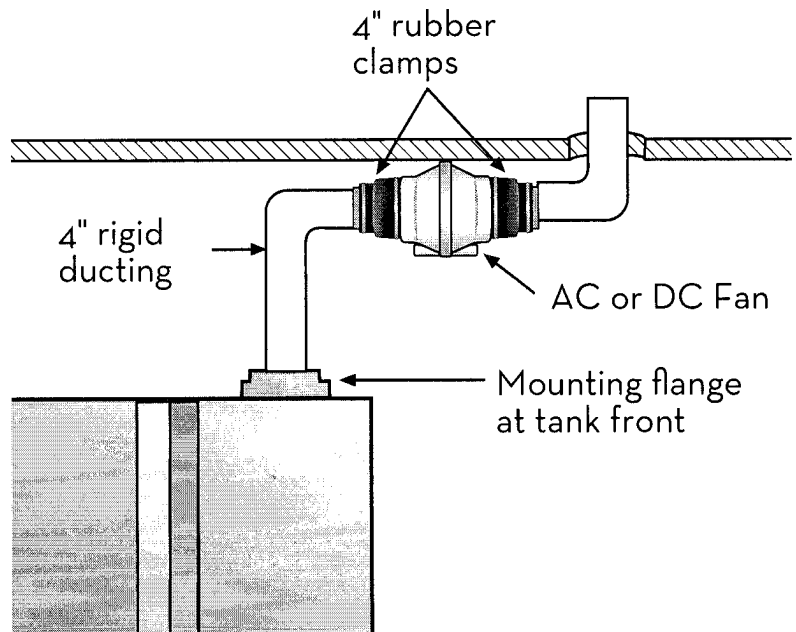


Figure 10. | Fan Installation

Installation and Assembly Instructions (continued)

Liquid Removal System

AC Pump

1. Position pump assembly in the cutout in the front right corner of the compost access chamber.
2. Mount ball check-valve above pump chamber lid. Plumb to drain line, exiting through side wall of composter using 1" tank adapter.
3. Bring pump and float switch power lines through grommet in lid, then through composter side wall.

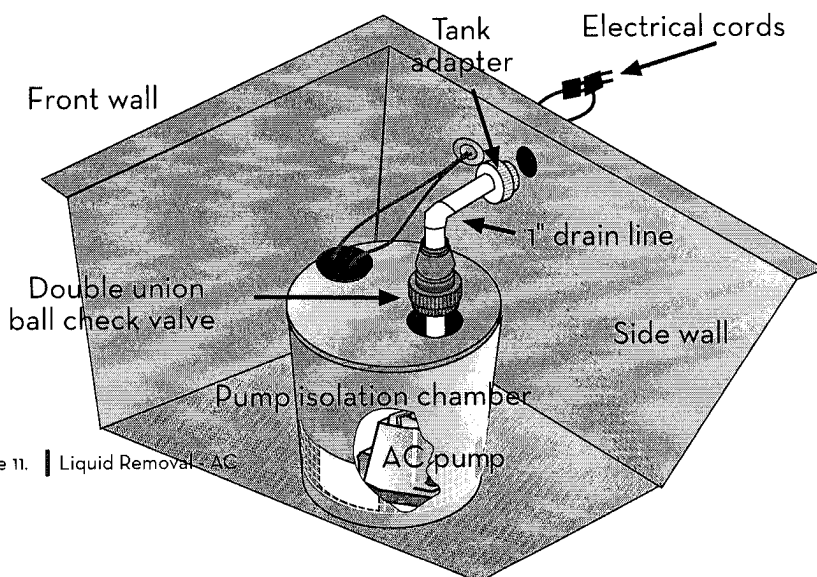


Figure 11. | Liquid Removal - AC

DC Pump

1. Position pump as above and attach vinyl tubing to pump using worm clamp.
2. Locate the position of side wall exit and drill a 1" hole. Install thru-hull fitting.
3. Attach vinyl tubing to thru-hull fitting with worm clamp.

Final Drain Connection

If plan calls for compost liquid storage tank, run 1 1/2" line from top of composter to top of storage tank to liquid storage tank.

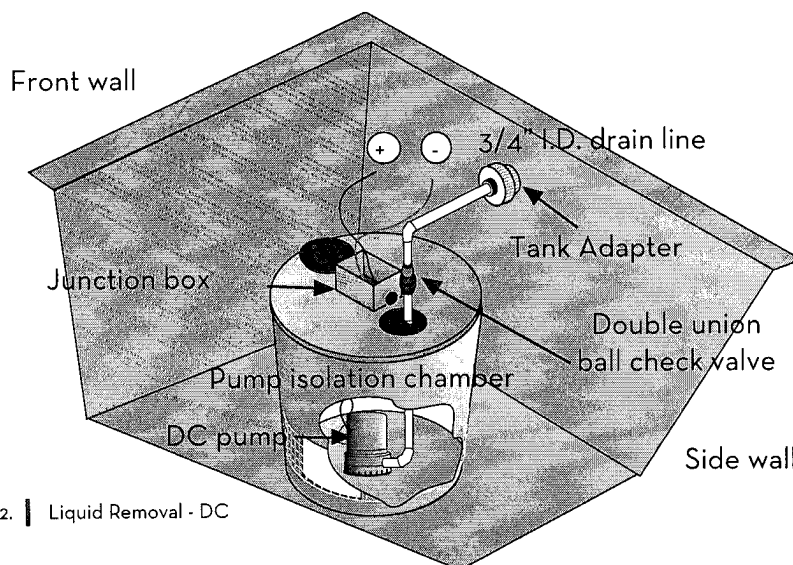
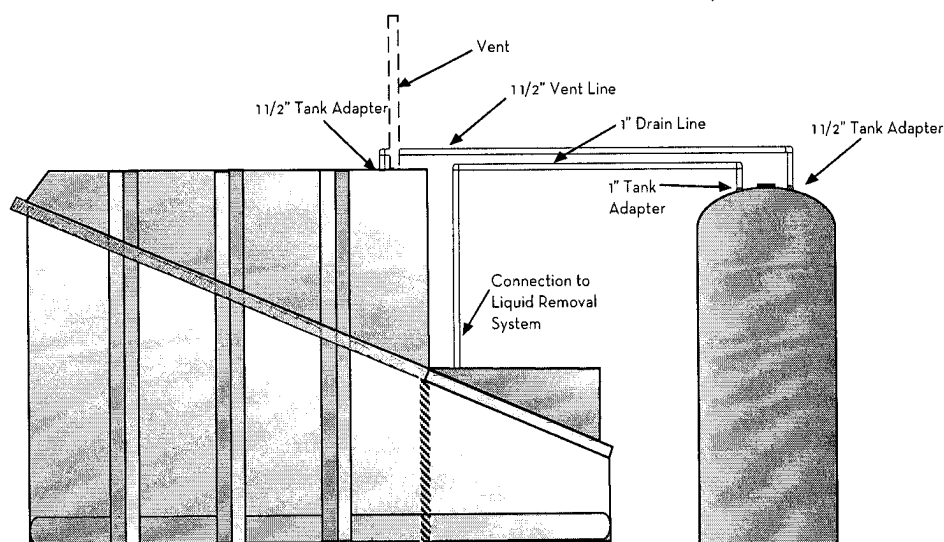


Figure 12. | Liquid Removal - DC

Figure 13. | Liquid Removal
Final Drain Connection



Addendum 1

Installation and Assembly Instructions (continued)

Moistening System

AC Pressurized

1. Attach outlet of solenoid valve to inlet of tank adapter on composter using standard plumbing parts.
2. Attach pressurized water line to inlet of solenoid valve.
3. Attach coil onto shaft of solenoid following the solenoid instructions.
4. Mount 6x6 timer box on or near composter. Consult inside cover of timer box for proper wiring of valve. Factory preset is for four spray intervals of ten seconds each per 24-hour period.

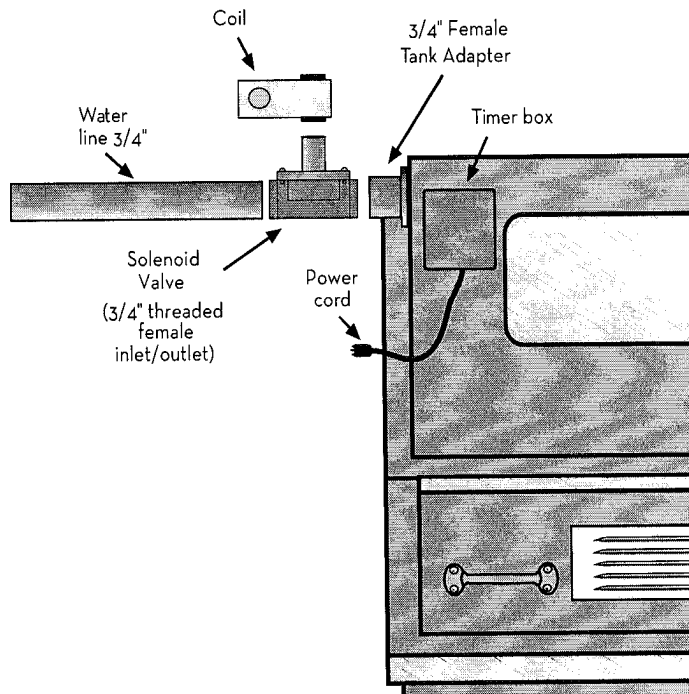
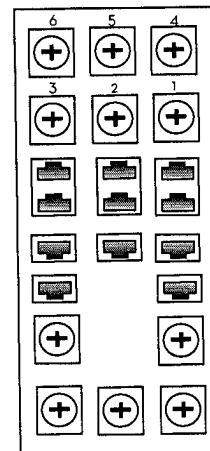


Figure 14. | Moistening System - AC

Moistening Starter Bed

1. Using 100 gallons of water, thoroughly wet starter bed.
2. Remove any liquid that drains into compost access chamber.
3. Be sure the moistened starter bed is still shaped as in the diagram under Adding Starter Bed on page 9. Adjust if necessary.

Wire leads to terminals 4 and 6. Connect ground to power input ground.



terminal block inside timer box
with relay removed

Figure 15. | Moistening System Wiring Coil

Installation and Assembly Instructions (continued)

Alarms & Sensors

Level and Air-flow Sensors/Alarms

The alarm is equipped to receive two switches. The level alarm should be wired to the “flashing mode” alarm option, and the air-flow sensor should be wired to the “continuous mode” option. (See alarm instructions for proper wiring.)

Compost Liquid Level Sensor/Alarm

Mount the alarm on top of the compost tank using screws provided. Drill a hole on either side of the front area of the tank for the power cord, about 1’ from the front corner of the tank. Position the ball float-sensor so that it suspends about 2” from the bottom of the tank and attach with 1/2” stainless steel screws provided. Wire power cord to alarm for “flashing mode” according to enclosed instruction.

Air-flow Sensor/Alarm

Air-flow sensor must be oriented in a vertical position on either a horizontal or vertical run of the vent duct. Drill a hole on the vent duct for the 1/4” plastic tube. Bend the feet on the sensor to make contact on the ducting and attach with 3/4” stainless steel screws provided. Connect the tube to the “low” side of the sensor using enclosed compression fittings. Insert the tip of the tube into the vent ducting. Wire from the switch to the alarm for “continuous” light mode according to enclosed alarm instructions.

This completes the installation of the M32 & M35 composter. For general care of the system, consult the Maintenance Manual.

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**QUESTIONS ABOUT THE INSTALLATION
OR OPERATION OF THIS DEVICE SHOULD
BE DIRECTED TO YOUR LOCAL CLIVUS
MULTRUM REPRESENTATIVE OR TO
CLIVUS MULTRUM, INC.**
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Pre-bid Meeting for Job No. D01CH65A Kaulana Manu Native Bird and Plant Sanctuary – Viewing Area and Parking Lot, Island of Hawaii

Date: May 20, 2016 (9:30 am)

Place: Honolulu Video Conferencing Center, located at 1151 Punchbowl Street, Basement Level, and the Hilo Video Conferencing Center located at 75 Aupuni Street Basement Level

Attendees: All attendees signed in (with DLNR)

Meeting was opened by the project engineer, Valerie Suzuki, who stated the following:

The work includes a new viewing platform, composting toilet facility, vehicle and bus parking and other site improvements.

Important Dates:

- 1) Last Day for RFI's: May 27, 2016
- 2) Bid Opening: June 6, 2016

Questions:

- 1) Is the project in a sensitive area?
The project site is off a driveway from the old Saddle Road and does not have heavy traffic or pedestrian/public use. Site disturbances and construction equipment should be kept within the project site and not extend into trail area except as needed for construction of improvements.
- 2) Can Contractors visit site during Bidding?
Contractors may visit project site. It is located near mile marker 21 on the new Saddle Road at approximate GPS coordinates of 19°40'13" N, 155°21'58" W. If driveway gate is locked, Contractors may park in front of gate and access project site by walking.
- 3) What is the minimum gage for roofing material?
Pre-painted metal roof to be 24 gage minimum.
- 4) Who will open gate for Contractor to the project site?
The DLNR Division of Forestry and Wildlife (DOFAW) will provide key(s) to the contractor.
- 5) Are site protections required?
Standard construction BMPs, erosion and dust control and compliance with building and grading permit conditions are required.
- 6) Any other restrictions in the area?
DOFAW is concerned about the spread of Rapid Ohia Death (ROD). The following protocol will be adhered to by contractor:

All machinery must be power washed before entering the site. Upon the end of work machines will be power washed before leaving site. DOFAW will provide alcohol to cleanse boots and other equipment. When cutting any trees, tools will be cleaned between each cutting. Tools will be wiped down with alcohol after each tree is cut to prevent the spread of ROD to the next tree.

There are NO CONCERNS regarding bird nesting/breeding issues.

- 7) Who will deliver composting toilets to the Contractor? What equipment is being delivered?

DOFAW is providing the Bins, toilets, toilet seats, and any other equipment necessary to construct the composting toilets.

Is there an anticipated start date?

To be determined upon successful bid selection. Some of the permit approvals have been obtained already, while the building permit and DCAB approval is still pending.

- 8) Is there an existing toilet facility?

No facilities exist on the project site, Contractor to provide own porta-potties.

The meeting adjourned at 10:00 am.

The above minutes summarizes our understanding of the discussions during this meeting.

SIGN-IN SHEET
PRE-BID CONFERENCE

Job Title: Kaulana Manu Native Bird and Plant Sanctuary – Viewing Area and Parking Lot
Job Number: D01CH65A Date: May 20, 2016 Time: 9:30 a.m.

	NAME	AGENCY	PHONE NO.	FAX NO.	EMAIL ADDRESS
1	Valerie Suzuki	DLNR-Engineering	587-0275	587-0283	valerie.s.suzuki@hawaii.gov
2	Ty Dempsey	Dempsey Pacific	277-2043		tyo@dempsypacific.com
3	Moana Rowland	DOTAW - Na Aha Hele	587-0057		moana.rowland@hawaii.gov
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SIGN-IN SHEET
PRE-BID CONFERENCE

Job Title: Kaulana Manu Native Bird and Plant Sanctuary – Viewing Area and Parking Lot
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	NAME	AGENCY	PHONE NO.	FAX NO.	EMAIL ADDRESS
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3	Liz: OLSON	Jas. W. Glover, LTD	935-0871	961-9237	Jas W Glover hilo@aol.com
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