Request for Proposals

Construction of Pavilion/Bathrooms

States Landing Beach Facility

Moultonborough, NH

Proposals Due 2:00 p.m. April 10, 2025

Kevin D. Quinlan, Chairman
Board of Selectmen

TOWN OF MOULTONBOROUGH
REQUEST FOR PROPOSALS
Construction of Pavilion/Bathrooms
States Landing Beach Facility

The Town of Moultonborough is seeking proposals from qualified companies for the construction of the Pavilion/Bathrooms, to be located at States Landing Beach Facility, States Landing Road, Moultonborough, NH. The proposals will be accepted until 2:00 p.m. on Thursday, April 10, 2025, in the Offices of the Select Board, 6 Holland Street, PO Box 139, Moultonborough, NH 03254 at which time they will be opened and publicly read aloud.

A detailed package with information on the services to be provided or items to be supplied by the vendor, the conditions thereof, and bid forms, is available at www.moultonboroughnh.gov (Request for Proposals) or said Select Board offices during normal business hours.

The work includes providing all labor, equipment and materials necessary to complete a full-service installation, including all carpentry, electrical, plumbing, and finish work necessary to house a Clivus Multrum Model M12 Waterless Composting Toilet System. Site work and foundation/slab to be completed by others.

A pre-bid conference and site inspection will be held at 10:00 a.m. on Friday, April; 4, 2025 in the Ernest Davis Meeting Room at Town Hall at 6 Holland St. A site visit will follow the pre-bid conference. Any questions with regard to this invitation must be expressed orally by the conclusion of the site visit - or received in writing by Noon of that day - by Mr. Carter Terenzini, Interim Town Administrator, at cterenzini@moultonborughnh.gov. The answers and any changes or supplements to this document, will be emailed to those who attend and posted on the Town's website as an Addendum no later than 4:00 p.m. on that same Friday, April 4, 2025 (www.moutonboroughnh.gov Request for Proposals). It is the bidder's responsibility to check and verify any such changes in order to account for them in their bid.

Your bid envelope must be marked with the project, item or service being sought by the Town, and the date the bids are due. Bids submitted by mail should be placed in a separate sealed envelope, marked as required, inside the mailing envelope to safeguard against it being opened in error.

The Town reserves the right to reject any and all bids, and waive any minor or non-material informalities, if deemed to be in its best interests.

Kevin D. Quinlan, Chairman/s/
Board of Selectmen

Posted:	Town Bulletin Boards (7)	Mail:	March 28, 2025
Advertised:	N/A	Pre-Bid:	April 4, 2025
Mailed:	Bidders List	Questions Due:	April 4, 2025
Web:	Town Web Site	Addendum Out:	April 4, 2025
		Proposals Due:	April 10, 2025

REQUEST FOR PROPOSALS
Construction of Pavilion/Bathrooms
States Landing Beach Facility

REQUIREMENTS & ADVISORIES:

1. A pre-bid conference will be held at 10:00 a.m. on Friday April 4, 2025 in the Ernest Davis Meeting Room at the Moultonborough Town Hall on 6 Holland Street, Moultonborough, NH 03254. A site visit will occur immediately thereafter. **Attendance is NOT mandatory.**
2. Any questions with respect to this invitation must be received by the Town, either orally or in writing, by the end of this site visit. The answers and any changes or supplements to this document, will be emailed to those who attend and posted on the Town's website as an Addendum no later than 4:00 p.m. on that same Friday, April 4, 2025 (www.moutonboroughnh.gov Request for Proposals). It is the bidder's responsibility to check and verify any such changes in order to account for them in their bid.
3. Contractor shall provide all material, labor and equipment required to complete a full-service installation, including all carpentry, electrical, plumbing, venting, and finish work necessary to house and install a Clivus Multrum Model M12 Waterless Composting Toilet System (Note: M12 System to be furnished by Owner and installed by Contractor).
4. Contractor shall complete field reconnaissance of the work areas to become fully familiar with the existing conditions.
5. All preparatory and finish site work, foundation, slab and the installation of the Clivus water "holding tank" will be completed *by others*. However, the Contractor shalleb responsible for coordinating with *the others.*
6. Contractor shall obtain the required permits from the Office of Land Use.
7. Contractor shall construct the pavilion/bathroom building in accordance with the latest Building Codes.
8. Contractor shall perform all electrical work in accordance with the latest Electrical Codes.
9. Contractor shall perform all plumbing work in accordance with the latest Plumbing Codes.
10. Contractor shall perform all work in accordance with the requirements of the Town of Moultonborough ordinances and regulations.
11. Contractor shall clean up the site daily, receiving prior approval from the Town for any staging area of materials, dumpsters and the like. Disposal of materials is permissible at the Town's Solid Waste Facility at no charge to contractor during normal hours of Facility operation or by prior arrangement with the Town of Moultonborough.
12. Materials, equipment, and construction requirements shall be per Exhibit A and the posted plans, schematics, and specifications, or approved equivalent.
13. Contractor shall submit for approval a stamped/engineered beam design for the roof truss support over the open pavilion section. The spacing of the posts shall be 6'-8" on the side walls and 7'-2" on the gable end.
14. Contractor shall submit for approval a stamped/engineered roof truss design for the structure. The Boise Cascade Roof Truss Design provided in the RFP is an example for *reference only*.
15. Basement will span the full width/length of the enclosed portion of the structure.
16. All DES permit requirements must be adhered to.

PROPOSAL SUBMISSION:

1.) Completed Town of Moultonborough Bid Form (attached).
2.) A description of the firm and qualifications, and references of the individual who will be completing the work.

INSURANCE & HOLD HARMLESS:

Prior to commencing work, and throughout the term of this contract, the Contractor shall obtain, and maintain, in the limits and under the conditions set forth below, insurance coverage naming the Town, its officers, employees and assigns, as Certificate Holder and additionally Named Insured, for the following types and levels of coverage:

- Workers Compensation	Statutory
- Automobile and Equipment	$1 Million/$2 Million
- Property Damage	$1 Million/$2 Million
- General Liability	$1 Million/$2 Million

If a sub-Contractor is used for any portion of the work, the Contractor will provide to the Town a similar certificate, in similar amounts and under similar conditions, from the Subcontractor.

Should the Contractor fail to maintain such Workers' Compensation insurance, and should the Town be found liable to principals, officers, employees and agents of the Contractor, the Town may recover from the Contractor the amount of any medical costs and compensation paid to or on behalf of the principals, officers, employees and agents of the Contractor and any expenses relating to claims filed under the provisions of Workers' Compensation.

The Contractor shall indemnify, defend and save harmless the Town, and its officers, agents and employees from and against any suit, action or claim of loss or expenses because of bodily injury, including death at any time there from, sustained by any person or persons or on account of damages to property, including loss thereof to the extent caused by the Contractor's negligent acts, errors, or omissions, in the performance of services under this Contract. The Town agrees that the Contractor will not be responsible for any suit, action or claim of loss or expenses because of bodily injury, or damages, caused by the Town, its officers, agents and employees due to the negligence or omission of the Town. This covenant shall survive the termination of this Contract.

PROPOSAL DUE DATE AND METHODS OF DELIVERY:

Sealed Proposals will be accepted until 2:00 p.m. on Thursday April 10, 2025 in the in the Offices of the Select Board, 6 Holland Street, PO Box 139, Moultonborough, NH 03254 at which time they will be opened and publicly read aloud. Each submission should be in a sealed envelope marked, Town of Moultonborough, Construction of Pavilion/Bathrooms Proposal with the due date clearly marked. If mailed, the proposal should be in a separate sealed envelope with the outer envelope marked similarly to prevent the bid from being opened in error.

It is the Contractor's responsibility to ensure that the proposal is received in the Town Administrator's office by the due date and time irrespective of whatever means of delivery chosen. Any submission received after the due date and time will be returned to you unopened.

ANTICIPATED TIMELINE:

Pre-Bid Meeting	April 4, 2025
Opening of Proposals	April 10, 2025
Anticipated Award of Contract	May 6, 2025 (Possibly April 15, 2025)
Contract Execution	Fourteen Days Thereafter
Contract Start & Completion	To Be Determined
Contract Completion	May 23, 2025

BONDING & PAYMENT PROCEDURE:

No bid bond is required!

Progress payments will be made on a periodic basis as justified by the percentage of completion.

We do not anticipate that the project needs to be bonded unless the value of your proposal exceeds $125,000. [RSA 447:16 requires that "Officers… agents or other persons who contract in behalf of… any political subdivision thereof for the construction, repair or rebuilding of public buildings… shall if said contract involves an expenditure of… $125,000 in behalf of a political subdivision… obtain as a condition precedent to the execution of the contract, sufficient security, by bond or otherwise, in an amount equal to at least 100 percent of the contract price…".] A 2: **Should bonding be required, we will hold a retainage of 5%** on each progress payment, and certificates of payment received from each subcontractor for work due under that progress payment, until such time as the work is complete and we have issued a Certificate of Completion.

In the alternative, if bonding is not required, we will hold a retainage of 10% on each progress payment, and certificates of payment received from each subcontractor for work due under that progress payment, until such time as the work is complete and we have issued a Certificate of Completion

Payment will be made within twenty-one (21) days of the acceptance of the work.

Town of Moultonborough

Construction of Pavilion/Bathrooms

States Landing Beach Facility

Bid Form

(Please Print in Ink or Type)

Name of Bidder: _____

Address: _____

_____

Contact Person: _____

_____ _____

Telephone Fax

_____

Email

ATTENTION: Board of Selectmen
PO Box 139
Moultonborough, NH 03254

Dear Honorable Selectmen:

Having examined the documentation provided with the subject Request for Proposals the undersigned proposes to furnish the requested item or materials as requested in accordance with the subject documents.

Bidder acknowledges receipt of the following Addenda (List Addenda by Addendum Number and Date):

Number	Date

1. BASE BID:

I propose to provide the total work required for the lump sum price of:

In Words: _____

In Numbers: $ _____

Bid Form
Construction of Pavilion/Bathrooms – States Landing Beach Facility
April 10, 2025

Note: In the event there is a discrepancy between the written bid amount and the numerical bid amount, the written amount will be the bid amount recorded.

I understand that the Town may hold my bid for forty-five (45) days of the bids having been opened. If I am notified my proposal is accepted within said time period, I will execute a contract for the work within fourteen (14) days thereafter.

Time for Delivery: I will complete all work within _____ days (In Figures) of your notice to proceed.

I understand that the Town reserves the right to reject any and all bids, and waive any minor or non-material informalities, if deemed to be in its best interests.

I certify, under the penalties of perjury, that (1) I have had an opportunity to view the full bid package and am aware it was my responsibility to perform my own due diligence appropriate to submitting this proposal, (2) I am fully authorized to submit this bid, (3) I have not engaged in discussions, negotiations, or collusion with any person to determine what my bid will be and (4) that I, to the best of my knowledge and belief, have paid all taxes, fees, assessments, betterments or other municipal charges that I owe to the Town of Moultonborough or have payment agreement in place or have filed an appeal over the same.

_____
Signature of Bidder

Corporate

_____ Seal
Title of Bidder

Signed this _____day of _____, _____.

STATEMENT OF BIDDERS QUALIFICATIONS

GENERAL INFORMATION:

A. Name: _____

Principal Office Address: _____

_____

Telephone: _____

B. If a Corporation, answer the following:

When incorporated: _____

In what State: _____

Director's names (s) _____

_____

_____

President's Name: _____

Vice President's Name: _____

Secretary's Name: _____

Treasurer's Name: _____

C. If a partnership, answer the following:

Date of Organization: _____

State whether partnership is general or limited: _____

Name and Address of Partners: _____

_____

_____

EXPERIENCE:

A. How many years has your organization been in business as contractor under your present business name? _____

B. What are the prior names of your organization? _____

_____

_____

C. How many years of experience does your organization have as a prime contractor in the type of work specified in the Contract Documents? _____

As a sub-contractor? _____

D. List below the largest projects your organization has completed.

	Contract Amount	Project Title	Owner	When Completed
1.				
2.				
3.				

Name and address of references for respective projects listed above:

1. _____
2. _____
3. _____

E. List other references: _____

_____

_____

_____

F. List below two (2) completed projects which agree most similar to the proposed work.

	Contract Amount	Project Title	Owner	When Completed
1.				
2.				

G. Have you ever failed to complete any work awarded to you? If yes, give name of Owner, name of Bonding Company and circumstances: _____

_____

H. State the largest dollar volume of work your organization has completed in any one year and the year that it was completed in: _____

_____

FINANCIAL REFERENCES

A. Name one (1) banking institution reference:

Name: _____

Address: _____

B. Name two (2) credit references other than the bank listed above.

1. Name: _____

Address: _____

2. Name: _____

Address: _____

CERTIFICATION

I hereby certify that the information submitted herewith, including any attachment, is true to the best of my knowledge and belief.

_____
Firm Name

By: _____
Signature

Title: _____

Date: _____

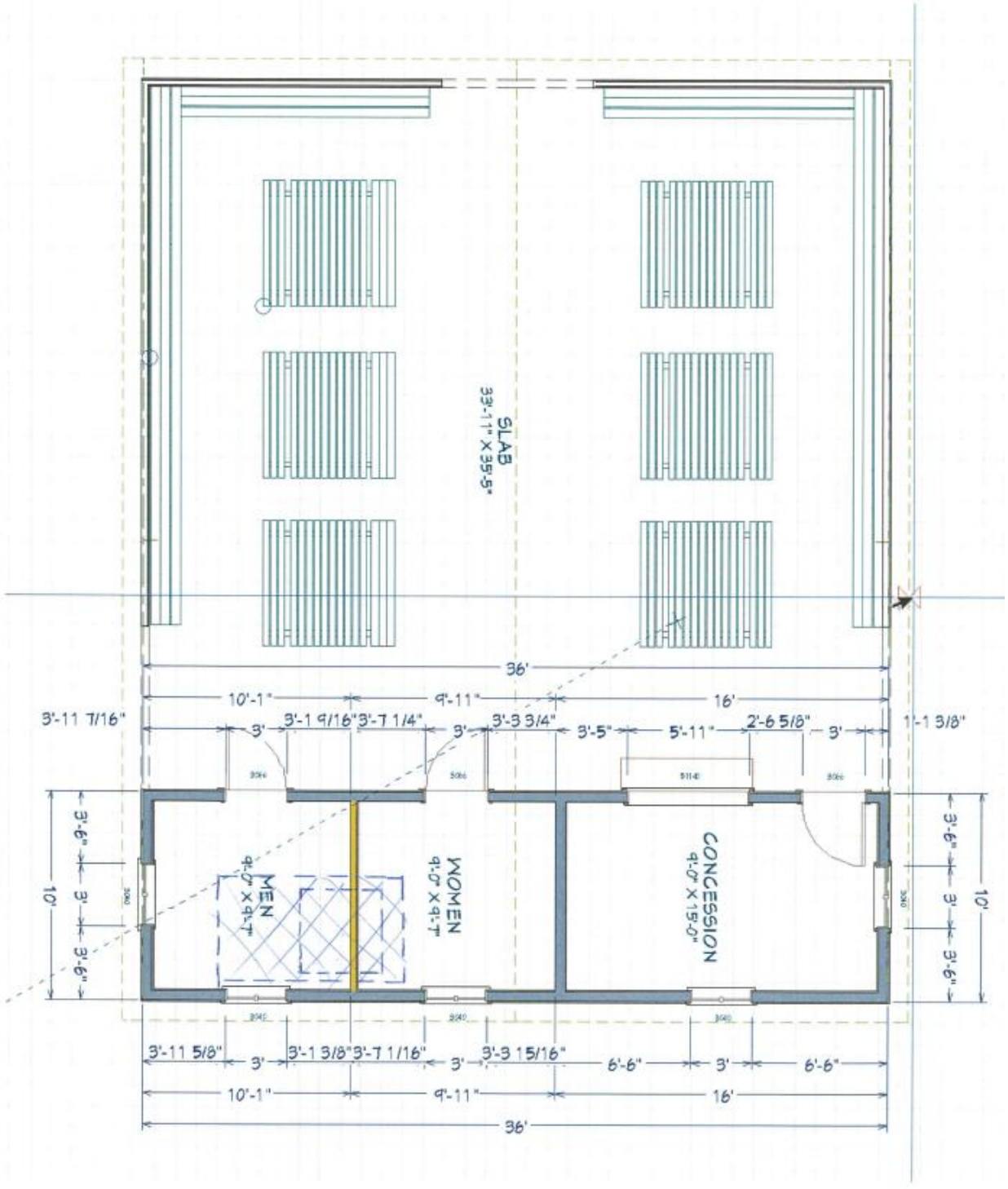
EXHIBIT A

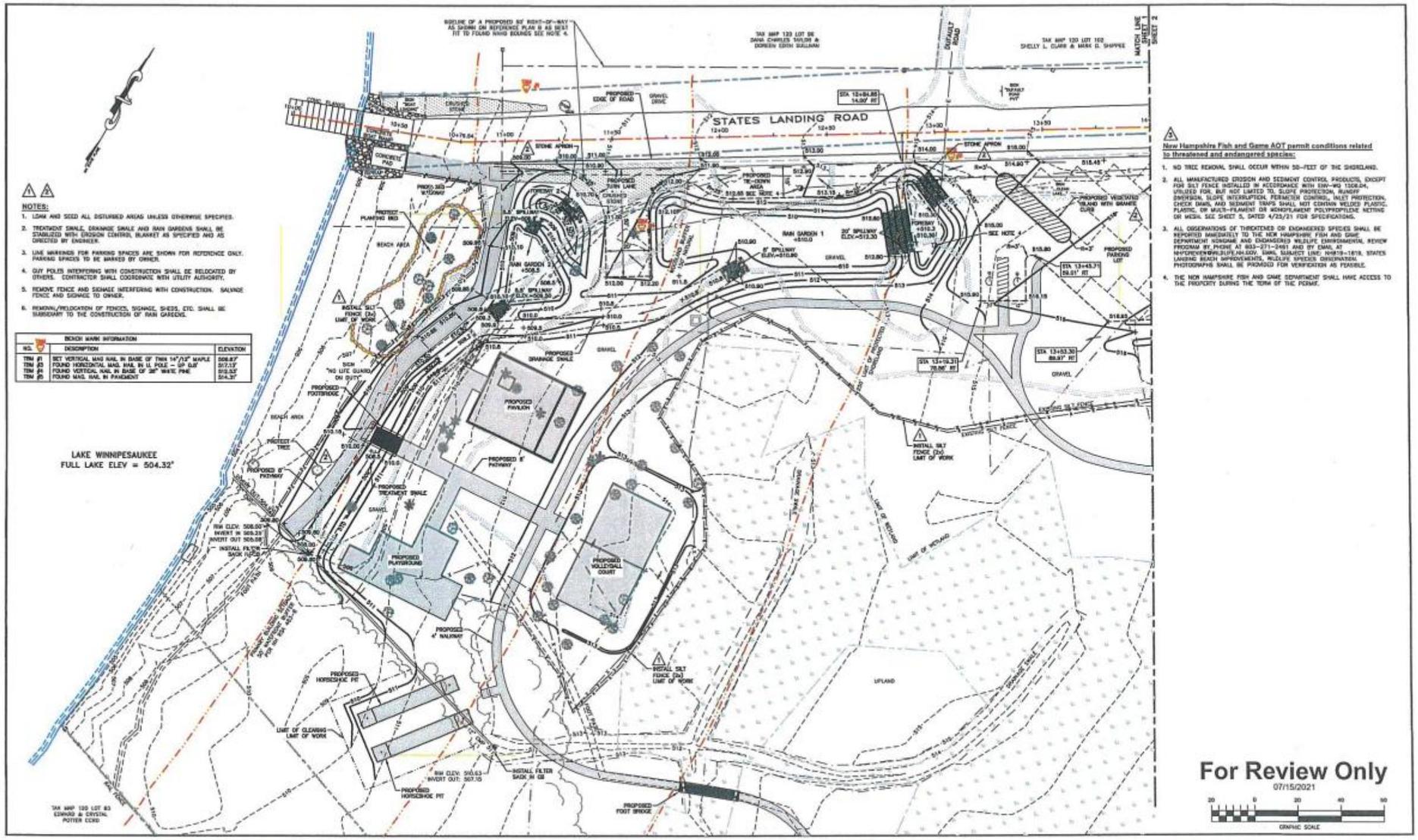
Compliance			Construction of Pavilion/Bathrooms
Item #	**Yes**	**No**	**<u>Specifications:</u>**
1			**Flooring:**
2			PT Sill
3			2x8 KD, 16" O.C.
4			¾" Advantech Subfloor
5			VCT covering, Color: Blue-Gray
6			**Walls:**
7			2X6 KD, 16" O.C.
8			Exterior: ½" ZIP System, Vinyl Siding, Color: Hampton Red or similar to match existing buildings.
9			Interior: ½" Greenboard, FRP finish
10			Pavilion: 6x6 PT Posts, Trimmed with full White PVC trim board, 2x4 KD partition walls (3' high, 6" above slab), 16" O.C., Capped w/1x8 PVC trim, ½" ZIP System, Vinyl Siding, Color: Hampton Red or similar to match existing buildings.
11			Ceiling: ½" Greenboard, Painted White (excluding pavilion)
12			**Roof:**
13			Truss System, as specified.
14			Ice & Water Shield, 25-Year Architectural Roof Shingles, Color: Timberline HD Charcoal
15			**All exposed trim to be wrapped with PVC trim**
16			**Windows:**
17			(5) Vinyl Awning Windows w/screens
18			**Doors:**
19			ADA Compliant, Fiberglass Flat Panel, Composite Jams and Trim,
20			**Bulkhead with Stairs**
21			**Electrical:**
22			Interior and exterior motion lights at doorways/entrances
23			Ceiling fans in Pavilion Area
24			Basement outlets and lights
25			Interior Outlets: (1) in each bathroom, (5) in Concession
26			Exterior Outlets: (4) in Pavilion Area and (2) on Building
27			**Plumbing:**
28			Piping and appurtenances as required by manufacturer of composting toilet system

This list is a general specification for the project and may not be all inclusive. Contractor is responsible for providing all necessary materials and equipment for a full-service operating installation meeting all applicable codes, ordinances, and regulations.

Please Refer to the Posted Specification Materials

1) Moultonborough Field House Schematic
2) Figure 1: States Landing Beach Pavilion and Bathrooms Site Plan
3) Interior Basement Requirements (Restroom and Composter Layout)
4) Boise Cascade Roof Truss Design
5) Clivus Multrum Model M12 Specification Sheet
6) Clivus Multrum AC Liquid Removal System Specification Sheet
7) Clivus Multrum Model M12 Installation Manual
8) Clivus New England Letter, Dated March 13, 2025, for reference to installation requirements.
9) DES Shoreline Permit


SLAB
33'-11" X 35'-5"
36'
10'-1"
9'-11"
16'
3'-11 7/16"
3'
3'-1 9/16"
3'-7 1/4"
3'
3'-3 3/4"
3'-5"
5'-11"
2'-6 5/8"
3'
1'-1 3/8"
MEN
9'-0" X 9'-7"
WOMEN
9'-0" X 9'-7"
CONCESSION
9'-0" X 15'-0"
10'
3'-6"
3'
3'-6"
3'-11 5/8"
3'
3'-1 3/8"
3'-7 1/16"
3'
3'-3 15/16"
6'-6"
3'
6'-6"



⚠1 ⚠2

NOTES:

1. LOAM AND SEED ALL DISTURBED AREAS UNLESS OTHERWISE SPECIFIED.
2. TREATMENT SWALE, DRAINAGE SWALE AND RAIN GARDENS SHALL BE STABILIZED WITH EROSION CONTROL BLANKET AS SPECIFIED AND AS DIRECTED BY ENGINEER.
3. LINE MARKINGS FOR PARKING SPACES ARE SHOWN FOR REFERENCE ONLY. PARKING SPACES TO BE MARKED BY OWNER.
4. GUY POLES INTERFERING WITH CONSTRUCTION SHALL BE RELOCATED BY OTHERS. CONTRACTOR SHALL COORDINATE WITH UTILITY AUTHORITY.
5. REMOVE FENCE AND SIGNAGE INTERFERING WITH CONSTRUCTION. SALVAGE FENCE AND SIGNAGE TO OWNER.
6. REMOVAL/RELOCATION OF FENCES, SIGNAGE, SHEDS, ETC. SHALL BE SUBSIDIARY TO THE CONSTRUCTION OF RAIN GARDENS.

BENCH MARK INFORMATION		
NO.	DESCRIPTION	ELEVATION
TBM #1	SET VERTICAL MAG NAIL IN BASE OF TREE 14"/12" MAPLE	508.87'
TBM #3	FOUND HORIZONTAL MAG. NAIL IN U. POLE – SP 0.8'	517.13'
TBM #4	FOUND VERTICAL NAIL IN BASE OF 28" WHITE PINE	512.53'
TBM #5	FOUND MAG. NAIL IN PAVEMENT	514.37'

⚠3

New Hampshire Fish and Game AOT permit conditions related to threatened and endangered species:

1. NO TREE REMOVAL SHALL OCCUR WITHIN 50-FEET OF THE SHORELAND.
2. ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, EXCEPT FOR SILT FENCE INSTALLED IN ACCORDANCE WITH ENV-WQ 1506.04, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN WELDED PLASTIC, PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH. SEE SHEET 5, DATED 4/23/21 FOR SPECIFICATIONS.
3. ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE: NH879-1618, STATES LANDING BEACH IMPROVEMENTS, WILDLIFE SPECIES OBSERVATION. PHOTOGRAPHS SHALL BE PROVIDED FOR VERIFICATION AS FEASIBLE.
4. THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.

For Review Only
07/15/2021

20 0 20 40 60
GRAPHIC SCALE

REVISIONS			
NUMBER	DATE	BY	DESCRIPTION
3	07/12/21	RHK	NHFAG COMMENTS
2	07/08/21	RHK	FINAL DESIGN
1	04/29/21	RHK	NHDES COMMENTS

KV Partners
CONSULTING ENGINEERS
PO BOX 7721 GILFORD, NH 03247 TEL: (603) 513-1909
PO BOX 432 NEW BOSTON, NH 03070 TEL: (603) 413-6556
www.kvpllc.com

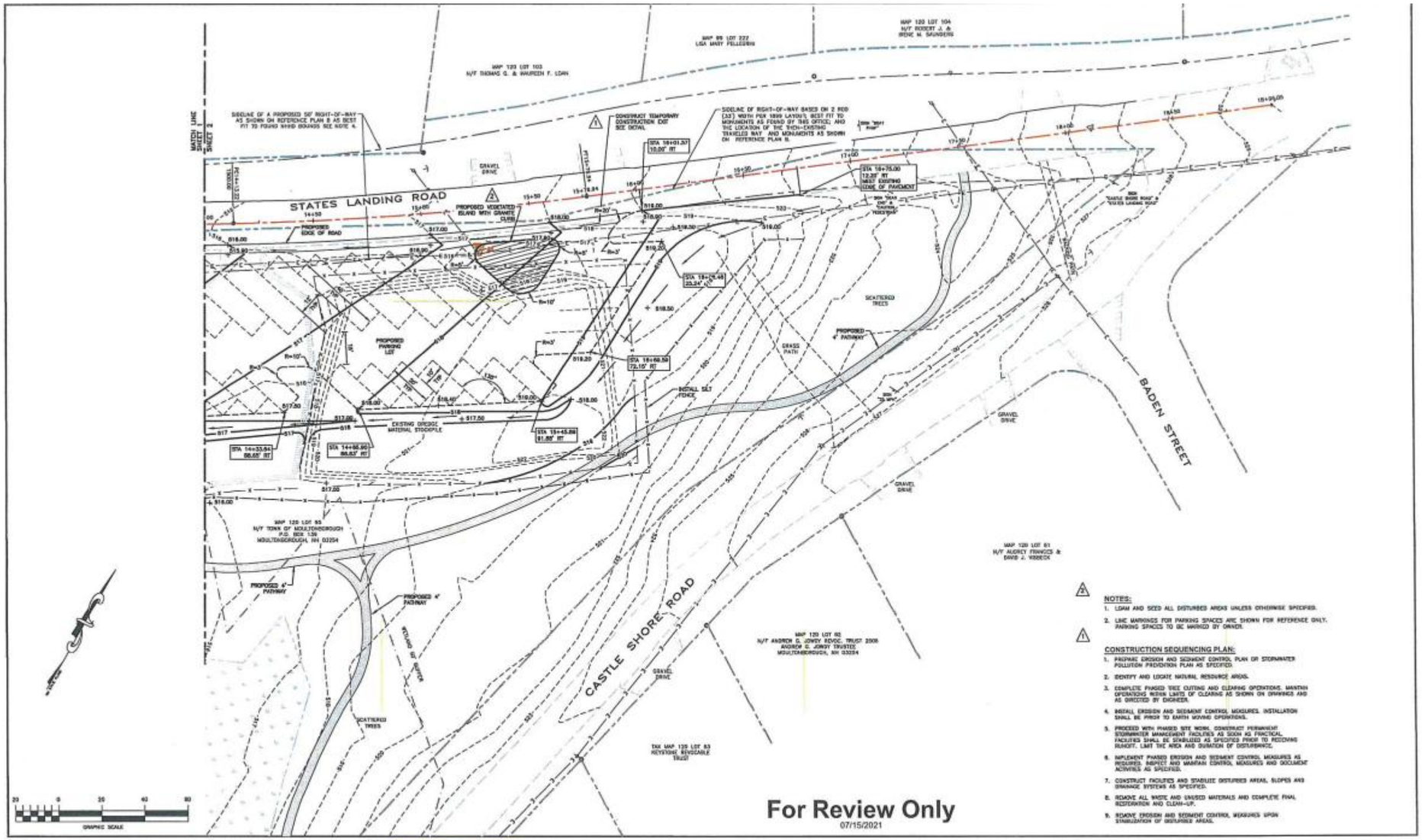
DATE:	02/05/21
SCALE:	AS NOTED
DESIGNED BY:	RGR
DRAWN BY:	NMT
CHECKED BY:	RHK
APPROVED BY:	RHK

STATES LANDING BEACH
LANDSIDE IMPROVEMENTS PROJECT
MOULTONBOROUGH, NEW HAMPSHIRE

SITE PLAN

SHEET NO. 1

SHEET 1 OF 5



NOTES:

1. LOAM AND SEED ALL DISTURBED AREAS UNLESS OTHERWISE SPECIFIED.
2. LINE MARKINGS FOR PARKING SPACES ARE SHOWN FOR REFERENCE ONLY. PARKING SPACES TO BE MARKED BY OWNER.

CONSTRUCTION SEQUENCING PLAN:

1. PREPARE EROSION AND SEDIMENT CONTROL PLAN OR STORMWATER POLLUTION PREVENTION PLAN AS SPECIFIED.
2. IDENTIFY AND LOCATE NATURAL RESOURCE AREAS.
3. COMPLETE PHASED TREE CUTTING AND CLEARING OPERATIONS. MAINTAIN OPERATIONS WITHIN LIMITS OF CLEARING AS SHOWN ON DRAWINGS AND AS DIRECTED BY ENGINEER.
4. INSTALL EROSION AND SEDIMENT CONTROL MEASURES. INSTALLATION SHALL BE PRIOR TO EARTH MOVING OPERATIONS.
5. PROCEED WITH PHASED SITE WORK. CONSTRUCT PERMANENT STORMWATER MANAGEMENT FACILITIES AS SOON AS PRACTICAL. FACILITIES SHALL BE STABILIZED AS SPECIFIED PRIOR TO RECEIVING RUNOFF. LIMIT THE AREA AND DURATION OF DISTURBANCE.
6. IMPLEMENT PHASED EROSION AND SEDIMENT CONTROL MEASURES AS REQUIRED. INSPECT AND MAINTAIN CONTROL MEASURES AND DOCUMENT ACTIVITIES AS SPECIFIED.
7. CONSTRUCT FACILITIES AND STABILIZE DISTURBED AREAS, SLOPES AND DRAINAGE SYSTEMS AS SPECIFIED.
8. REMOVE ALL WASTE AND UNUSED MATERIALS AND COMPLETE FINAL RESTORATION AND CLEAN-UP.
9. REMOVE EROSION AND SEDIMENT CONTROL MEASURES UPON STABILIZATION OF DISTURBED AREAS.

For Review Only
07/15/2021

REVISIONS			
NUMBER	DATE	BY	DESCRIPTION
2	07/08/21	RHK	FINAL DESIGN
1	04/23/21	RHK	NHDES COMMENTS

KV Partners
CONSULTING ENGINEERS
PO BOX 7721
GILFORD, NH 03247
TEL: (603) 513-1589
PO BOX 432
NEW BOSTON, NH 03070
TEL: (603) 413-6556
www.kvpllc.com

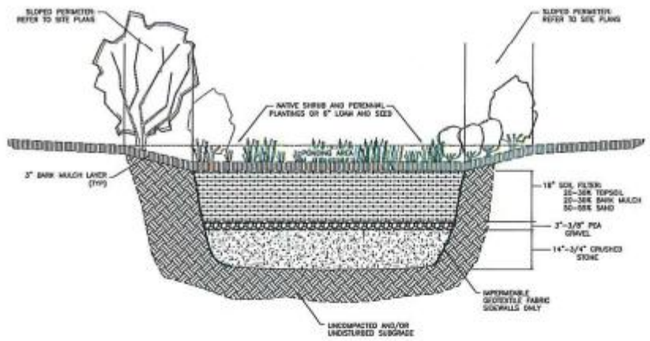
DATE:	02/08/21
SCALE:	AS NOTED
DESIGNED BY:	RGR
DRAWN BY:	MHT
CHECKED BY:	RHK
APPROVED BY:	RHK

STATES LANDING BEACH
LANDSIDE IMPROVEMENTS PROJECT
MOULTONBOROUGH, NEW HAMPSHIRE

SITE PLAN

SHEET NO. 2

SHEET 2 OF 5

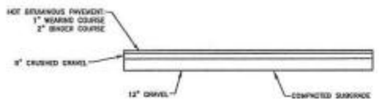


NOTES:

1. RAIN GARDEN SHALL BE STABILIZED AS SPECIFIED PRIOR TO DIRECTING RUNOFF TO PRACTICE. FILTER ALL RUNOFF TO PREVENT SILTATION INTO THE RAIN GARDEN.
2. RAIN GARDEN SUBGRADE SHALL BE EXCAVATED TO THE DESIGN DEPTH PLUS TWO (2) INCHES. AT THAT DEPTH FOUR (4) INCHES OF COMPOST SHALL BE TILLED INTO THE EXISTING SOILS SUCH THAT THE SOILS ARE WELL MIXED.
3. DO NOT PLACE OR OPERATE CONSTRUCTION EQUIPMENT ON SUBGRADE OR SOIL FILTER.
4. MATERIALS: CRUSHED STONE LAYER SHALL MEET NHDOT 304.4. STONE SHALL CONTAIN NO MORE THAN 5% FINES PASSING THE #200 SIEVE. TOPSOIL SHALL CONTAIN 15 TO 20% FINES PASSING THE #200 SIEVE. MULCH SHALL BE SHREDDED PINE OR HEMLOCK BARK, AGED IN A STOCKPILE OR STORED FOR AT LEAST 12 MONTHS.
5. RAIN GARDEN PLANTINGS SHALL BE NATIVE TO NEW HAMPSHIRE. REFER TO LANDSCAPE DRAWINGS FOR ERNST SEED MIXES AND PLANTINGS. FERTILIZATION OF THE FILTER AREA SHALL BE AVOIDED UNLESS ABSOLUTELY NECESSARY TO ESTABLISH VEGETATION.
6. DURING THE FIRST 2-3 MONTHS OF ESTABLISHMENT WATER VEGETATION ON A WEEKLY BASIS TO SUPPLEMENT RAINFALL FOR TOTAL OF 1-INCH PER WEEK.
7. REFER TO SITE PLANS FOR DIMENSIONS AND ELEVATIONS.

RAIN GARDEN DETAIL

NOT TO SCALE

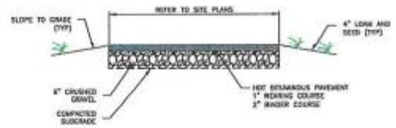


NOTES:

1. REFER TO SITE PLANS FOR GRADING REQUIREMENTS.

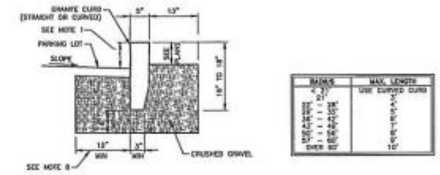
PARKING LOT, TURN LANE AND TIE-DOWN AREA SECTION

NOT TO SCALE



PATHWAY DETAIL

NOT TO SCALE



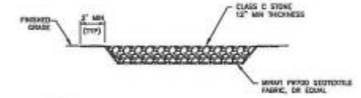
RADIUS	MAX. LENGTH
4'-0" TO 5'-0"	USE CURVED CURB
5'-1" TO 6'-0"	
6'-1" TO 7'-0"	
7'-1" TO 8'-0"	
8'-1" TO 9'-0"	
9'-1" TO 10'-0"	
OVER 50'	10'-0"

NOTES:

1. 7" REVEAL TYPICAL. 8" MAXIMUM.
2. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'.
3. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'.
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES – SEE CHART.
5. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
6. ALLOW FOR COMPACTION ALONG CURBLINE. COMPACT TO A MINIMUM 95%. HAND COMPACTION IS NOT PERMITTED.
7. GRANITE CURB SHALL BE NEW GRANITE CURB AS SPECIFIED IN NHDOT STANDARD SPECIFICATION, SECTION 609. CONSTRUCT CURB IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATION, SECTION 609.

GRANITE CURB DETAIL (A)

NOT TO SCALE

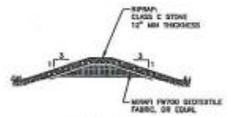


NOTES:

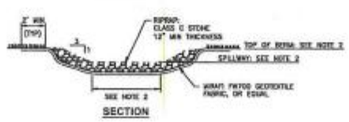
1. GEOTEXTILE FABRIC SHALL BE PLACED ON A PREPARED SUBBASE. OVERLAP SECTIONS A MINIMUM OF 12". CARE SHALL BE TAKEN NOT TO PUNCTURE THE FABRIC DURING INSTALLATION. ANY DAMAGED AREAS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.
2. REFER TO SITE PLAN FOR LIMITS OF WORK.

STONE APRON DETAIL (A)

NOT TO SCALE



PROFILE



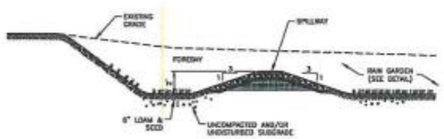
SECTION

NOTES:

1. GEOTEXTILE FABRIC SHALL BE PLACED ON A PREPARED SUBBASE. OVERLAP SECTIONS A MINIMUM OF 12". CARE SHALL BE TAKEN NOT TO PUNCTURE THE FABRIC DURING INSTALLATION. ANY DAMAGED AREAS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.
2. REFER TO SITE PLAN FOR LOCATION, DIMENSIONS AND ELEVATIONS.

SPILLWAY DETAIL (A)

NOT TO SCALE

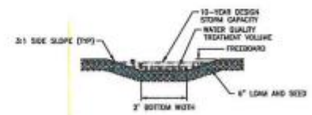


NOTES:

1. FOREBAY SHALL BE STABILIZED AS SPECIFIED PRIOR TO DIRECTING RUNOFF TO PRACTICE. FILTER ALL RUNOFF TO PREVENT SILTATION OF FOREBAY.
2. REFER TO SITE PLANS FOR DIMENSIONS AND ELEVATIONS.

FOREBAY DETAIL (A)

NOT TO SCALE



NOTES:

1. TREATMENT SWALE SHALL BE STABILIZED AS SPECIFIED PRIOR TO DIRECTING RUNOFF TO PRACTICE. FILTER ALL RUNOFF TO PREVENT SILTATION OF TREATMENT SWALE.

TREATMENT SWALE DETAIL

NOT TO SCALE

For Review Only
07/15/2021

REVISIONS			
NUMBER	DATE	BY	DESCRIPTION
2	07/08/21	RHK	FINAL DESIGN
1	04/29/21	RHK	NHDES COMMENTS

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DATE:	02/08/21
SCALE:	AS NOTED
DESIGNED BY:	RHK
DRAWN BY:	MMT
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APPROVED BY:	RHK

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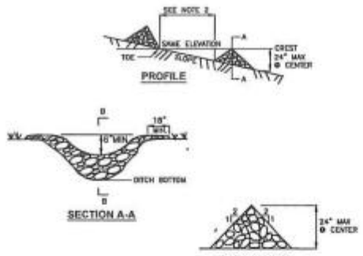
CIVIL DETAILS

SHEET NO. 3

SHEET 3 OF 5

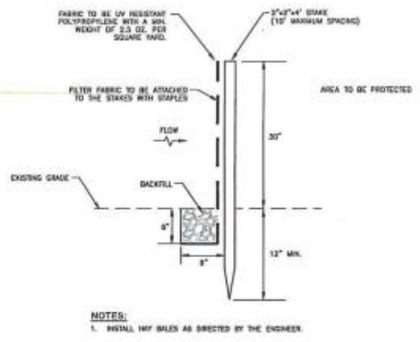


NOTES:

1. PLACE STONE TO THE LINES, GRADES AND LOCATIONS SHOWN AS ON THE PLANS OR AS DIRECTED.
2. SET SPACING OF CHECK DAMS SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

STONE CHECK DAM DETAIL

NOT TO SCALE

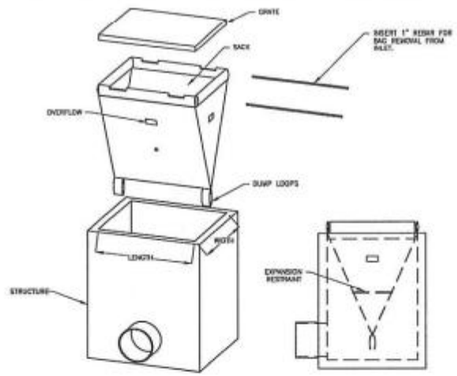


NOTES:

1. INSTALL HAY BALES AS DIRECTED BY THE ENGINEER.

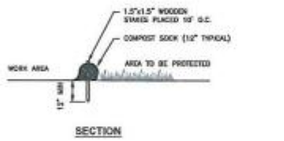
SILT FENCE DETAIL

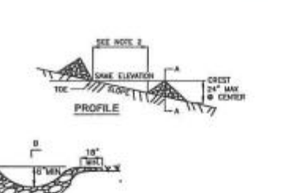
NOT TO SCALE



FILTER SACK DETAIL

NOT TO SCALE





FILTER SOCK DETAIL

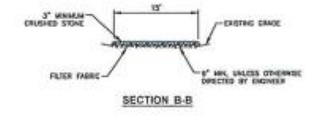
NOT TO SCALE

NOTES:

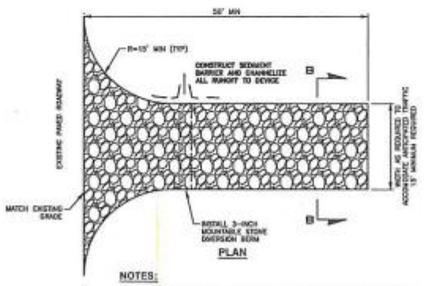
1. THE BALES ARE TO BE EMBEDDED A MINIMUM OF 3" INTO THE EXISTING GROUND, ROADWAY SLOPE OR DITCH SECTION.
2. POINT "A" SHOULD BE AT A HIGHER ELEVATION THAN POINT "B."
3. BARRIERS SHALL BE INSTALLED AT 50 FOOT INTERVALS ALONG THE CENTERLINE OF THE PROPOSED DRAINAGE DITCHES, OR AS DIRECTED BY THE ENGINEER, UNTIL PERMANENT SURFACE TREATMENTS ARE INSTALLED AND FULLY STABILIZED.

HAYBALE CHECK DAM DETAIL

NOT TO SCALE



SECTION B-B



NOTES:

1. CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR DISCHARGE OF SEDIMENT ONTO PAVED SURFACES OR PUBLIC RIGHT-OF-WAY.
2. IN EVENT VOIDS CLOG TOP DRESS STONE WITH NCH STONE. REPLACE CONSTRUCTION EXIT IF REQUIRED.
3. REPAIR OR CLEAN ANY MEASURES USED TO TRAP SEDIMENT.
4. WHEN NECESSARY, CLEAN WHEELS PRIOR TO LEAVING CONSTRUCTION SITE. ALL CLEANING SHALL BE COMPLETED IN AN AREA STABILIZED BY STONE THAT DRAINS TO SEDIMENT BARRIER.
5. REMOVE CONSTRUCTION EXIT PRIOR TO FINAL PAVING (IF REQUIRED).

CONSTRUCTION EXIT DETAIL ⚠

NOT TO SCALE

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07/15/2021

REVISIONS			
NUMBER	DATE	BY	DESCRIPTION
1	04/25/21	RHK	NHDES COMMENTS

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APPROVED BY:	RHK

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LANDSIDE IMPROVEMENTS PROJECT
MOULTONBOROUGH, NH

EROSION AND SEDIMENT CONTROL DETAILS

SHEET NO. 4

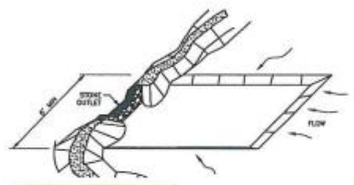
SHEET 4 OF 5

EROSION AND SEDIMENT CONTROL NOTES:

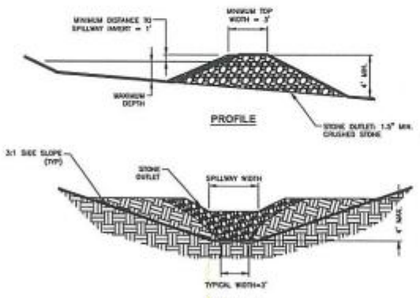
1. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AS INDICATED ON THE DRAWINGS AND AS DIRECTED BY THE ENGINEER.
2. CONTRACTOR SHALL MINIMIZE THE AMOUNT OF DISTURBED EARTH MATERIAL EXPOSED AT ANY ONE-TIME DURING CONSTRUCTION AND SHALL MINIMIZE THE LENGTH OF TIME DISTURBED EARTH MATERIAL IS EXPOSED.
   A. THE ENGINEER WILL LIMIT THE AREA OF CLEARING, GRUBBING, EXCAVATION, BORROW AND EMBANKMENT OPERATIONS COMMENSURATE WITH THE CONTRACTOR'S CAPABILITY AND PROGRESS IN KEEPING THE FINISHED GRADING, MULCHING, SEEDING, EROSION AND SEDIMENT CONTROL MEASURES CONCURRENT WITH OPERATIONS.
   B. THE ALLOWABLE DISTURBED AREA SHALL NOT EXCEED 5 ACRES FOR ALL OPERATIONS AT ANY ONE TIME.
   C. DISTURBED AREAS SHALL NOT REMAIN EXPOSED FOR LONGER THAN 45 DAYS.
   D. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 72 HOURS OF FINAL GRADING.
3. PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
4. RUNOFF SHALL BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BEST MANAGEMENT PRACTICES ARE STABILIZED.
5. STORMWATER PONDS, INFILTRATION BASINS AND SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
6. STORMWATER PONDS, INFILTRATION BASINS AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
7. INSPECTION AND MAINTENANCE:
   A. INSPECTION AND MAINTENANCE OF TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PERFORMED BY THE CONTRACTOR FOR THE DURATION OF THE PROJECT AT NO ADDITIONAL COST TO THE OWNER.
   B. PATCH SEEDING AND MULCHING SHALL BE DONE AS REQUIRED UNDER AREAS PREVIOUSLY TREATED TO MAINTAIN OR ESTABLISH PROTECTIVE COVER.
   C. SEDIMENT BARRIERS THAT BECOME DECOMPOSED, CLOGGED AND THAT ARE INEFFECTIVE AND DO NOT RETAIN SILT OR SUSPENDED SOLIDS SHALL BE REMOVED FROM THE SITE AND IMMEDIATELY REPLACED AS DIRECTED BY THE ENGINEER. MEASURES SHALL BE REPLACED AS OFTEN AS NECESSARY TO PROVIDE EFFECTIVE SEDIMENT CONTROL.
   D. REMOVE SEDIMENT DEPOSITS AFTER EACH STORM EVENT AS DIRECTED BY THE ENGINEER OR OWNER. AT A MINIMUM, REMOVE SEDIMENT WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER. DISPOSE OF SEDIMENT DEPOSITS OFF-SITE OR DISPERSE OF SEDIMENT DEPOSITS ON-SITE IN A MANNER APPROVED BY THE OWNER.
   E. INSPECT ALL EROSION AND SEDIMENT CONTROLS ON A WEEKLY BASIS. INSPECT SEDIMENT BARRIERS IMMEDIATELY AFTER EACH RAINFALL EVENT AND AT LEAST DAILY DURING PROLONGED RAINFALL. COMPLETE ANY REQUIRED REPAIRS IMMEDIATELY.
   F. PERIODICALLY INSPECT EARTHWORKS TO DETECT ANY EVIDENCE OF EROSION AND SEDIMENTATION AND PROMPTLY APPLY CORRECTIVE MEASURES.
   G. A STOCKPILE OF ALL AND EACH EROSION AND SEDIMENT CONTROL MEASURE TO BE EMPLOYED ON THE PROJECT SHALL BE AVAILABLE ON-SITE FOR USE AS NEEDED FOR REPAIR OR REINFORCEMENT OF THE EROSION AND SEDIMENT CONTROLS UNTIL THE AREA IS STABILIZED.
8. WINTER CONSTRUCTION:
   A. ALL DISTURBED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED AS FOLLOWS:
      1. FOR SLOPES GREATER THAN 3:1, SEED AND INSTALL EROSION CONTROL BLANKETS.
      2. FOR ALL OTHER AREAS, SEED AND PLACE 3 TO 4 TONS OF MULCH PER ACRE AND SECURE WITH ANCHORED NETTING.
   B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
   C. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF SNOW OR SPRING MELT EVENTS.
   D. AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF BASE COURSE GRAVEL (MDOT ITEM 304.2). OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, SUCH SURFACES SHALL BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
9. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS (MDOT ITEM 304.2 OR MDOT ITEM 304.3 AS SPECIFIED) ARE INSTALLED IN AREAS TO BE PAVED.
   B. A MINIMUM OF 85% VEGETATIVE GROWTH HAS BEEN ESTABLISHED.
   C. A MINIMUM OF 3 INCHES OF NON-ERODIBLE MATERIAL, SUCH AS STONE OR RIPRAP, HAS BEEN INSTALLED.
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
10. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL PERMANENT MEASURES HAVE BEEN ESTABLISHED AND AFTER ALL WORK IS COMPLETED IN A PARTICULAR AREA, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. DISPOSE OF MATERIALS IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
11. SEEDING:
   A. SEEDBED PREPARATION: INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES AND DIVERT RUNOFF AWAY FROM AREA TO BE SEEDED. GRADE AREA AS REQUIRED TO COMPLETE OPERATIONS. REMOVE STONES, TRASH AND DEBRIS SO AS NOT TO INTERFERE WITH AREA TO BE SEEDED. AMEND SOIL WITH ORGANIC MATTER AND TILL SOIL TO A 4-INCH DEPTH. APPLY FERTILIZER AND LIME ACCORDING TO SOIL TEST RECOMMENDATIONS AND MIX THOROUGHLY INTO SOIL. FERTILIZER SHALL BE A LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER. LIGHT SEEDBED IN FIRM AND SMOOTH CONDITION.
   B. SEED APPLICATION AND TYPE:
      (1) APPLY SEED UNIFORMLY BY METHOD MOST SUITABLE FOR THE SITE. METHOD MAY INCLUDE HAND, BROADCAST SPREADER, SHELL HYDROSEEDER OR OTHER APPROVED METHOD.
      (2) TEMPORARY CONTROL: SEED SHALL BE A QUICK GROWING SPECIES SUITABLE TO THE AREA AND TIME OF PLANTING (WINTER RYE, OATS, ANNUAL RYEGRASS OR PERENNIAL RYEGRASS) AND PROVIDING A TEMPORARY COVER WHICH WILL NOT COMPETE WITH THE GRASSES SUBSEQUENTLY SOWN FOR PERMANENT COVER. SEEDING RATES SHALL BE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS TO ESTABLISH FULL GROUND COVER, ACHIEVE 85% VEGETATIVE GROWTH OVER DISTURBED AREA PRIOR TO OCTOBER 15. MULCH AS REQUIRED TO ENSURE TURF ESTABLISHMENT.
      (3) PERMANENT CONTROL: SEED SHALL BE A FRESH, CLEAN MIXTURE SUITABLE FOR PERMANENT LAWN ESTABLISHMENT. SEED SHALL TEST TO MINIMUM 85% PURITY AND 85% GERMINATION. SEED MIXTURE SHALL BE DELIVERED IN ORIGINAL SEALED PACKAGES BEARING THE PRODUCER'S GUARANTEED ANALYSIS FOR PERCENTAGES OF MIXTURES, PURITY, GERMINATION, WEED SEED CONTENT, AND INERT MATERIAL. SEED SHALL BE LABELED IN CONFORMANCE WITH THE U.S. DEPARTMENT OF AGRICULTURAL RULES AND REGULATIONS AND APPLICABLE STATE SEED LAWS. SEED SHALL BE PURCHASED FROM A RECOGNIZED DISTRIBUTOR. SEEDING RATES SHALL BE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS TO ACHIEVE FULL GROUND COVER. SEED MIXTURE SHALL CONFORM TO THE FOLLOWING:

SPECIES	POUNDS PER ACRE
TALL FESCUE	20
CREEPING RED FESCUE	20
REDTOP	2
TOTAL	42

   C. INSTALL EROSION CONTROL BLANKET OR APPLY HAY, STRAW OR OTHER MULCH WHEN REQUIRED. APPLY IMMEDIATELY AFTER SEEDING. EROSION CONTROL BLANKET SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. MULCH SHALL BE HELD IN PLACE USING APPROPRIATE BEST MANAGEMENT PRACTICES.
   D. PROTECT SEEDED AREAS FROM DAMAGE AND DISTURBANCE. MONITOR AND OBSERVE SEEDED AREAS TO IDENTIFY AREAS OF POOR GROWTH, AREAS THAT FAIL TO GERMINATE AND AREAS THAT ARE IN NEED OF REPAIR DUE TO DISTURBANCE. REPAIR, RESEED, REFERTILIZE AND REMULCH THESE AREAS AS NEEDED. WORK SHALL BE COMPLETED AT NO ADDITIONAL COST TO OWNER.
   E. REFER TO SPECIFICATION SECTION 02920 FOR ADDITIONAL REQUIREMENTS FOR LAWNS AND GRASSES.
12. REFER TO SPECIFICATION SECTION 02370 FOR ADDITIONAL EROSION AND SEDIMENT CONTROL REQUIREMENTS.

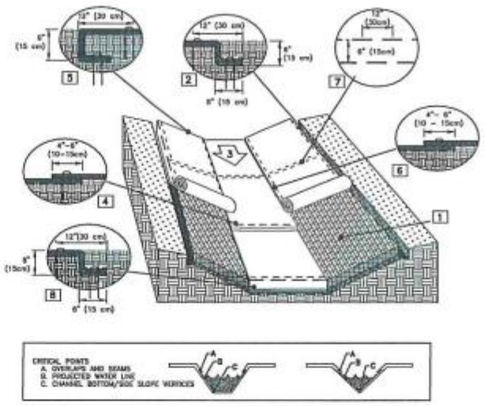


ISOMETRIC VIEW



NOTES:
1. STABILIZE SIDE SLOPES IMMEDIATELY AFTER CONSTRUCTION.
2. OUTLET TO DISCHARGE TO STABILIZED AREA ONLY.
3. CLEAN TRAP WHEN 50% ORIGINAL VOLUME IS FILLED.

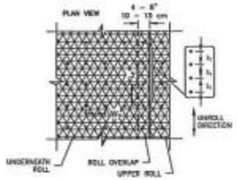
SEDIMENT TRAP DETAIL ⚠
NOT TO SCALE



CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE INTERFACE

NOTES:
1. ALTER HORIZONTAL STAPLE SPACING IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

STAPLE PATTERN GUIDE



+ PIN/STAPLE/TWIST PIN, AS APPROPRIATE FOR FIELD CONDITIONS

	STAPLE PATTERN
DIMENSION	E
W_S	30" (50 cm)
L_S	20" (50 cm)
S_S	10" (45 cm)
NOMINAL FREQUENCY	3.8 / SY

INSTRUCTIONS

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPS), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. GROUND SURFACE MUST BE FREE OF DEBRIS, ROCKS, CLAY CLODS AND RAKED SMOOTH SUFFICIENT TO ALLOW INTIMATE CONTACT OF THE RECP WITH THE SOIL OVER THE ENTIRETY OF THE INSTALLATION.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECPS IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECPS EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. USE SHORINGS MAT AT THE CHANNEL/CULVERT OUTLET AS SUPPLEMENTAL SCOUR PROTECTION AS NEEDED. ANCHOR THE RECPS WITH A ROW OF STAPLES/STAKES/PINS APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO THE COMPACTED SOIL AND FOLD THE REMAINING 12" (30 CM) PORTION OF RECPS BACK OVER THE SEED AND COMPACTED SOIL. SECURE RECPS OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES/PINS SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECPS.
3. ROLL CENTER RECPS IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECPS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES/PINS IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. PLACE CONSECUTIVE RECPS END-OVER-END (SHINGLE STYLE) WITH A 4"- 6" (10 - 15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE RECPS.
5. FULL LENGTH EDGE OF RECPS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES/PINS SPACED AT S_S APART IN A 6" (15 CM) DEEP X 6"(15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECPS MUST BE OVERLAPPED APPROXIMATELY 4"- 6" (10 - 15 CM) AND SECURED WITH STAPLES/STAKES/PINS AT S_S.
7. IN HIGH FLOW CHANNEL APPLICATIONS A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 -12M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 6" (15 CM) APART AND 12" (30 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECPS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES/PINS SPACED AT S_S APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
9. FASTENERS SHOULD PROVIDE A MINIMUM OF TWENTY POUNDS OF PULLOUT RESISTANCE. SIX-INCH (10 CM) X ONE-INCH (2.5 CM) ELEVEN GAUGE STAPLES ARE TYPICALLY ADEQUATE. IN LOOSE SOILS, LONGER STAPLES MAY BE NECESSARY. TWIST PINS CAN PROVIDE THE GREATEST PULLOUT RESISTANCE. IN HARD OR ROCKY SOILS, STRAIGHT PINS MAY BE USED WHERE STAPLES OR TWIST PINS ARE REFUSED, PROVIDED THE MINIMUM PULLOUT REQUIREMENTS ARE MET.
10. RECP SHALL BE ROLLMAX BIONET SC150BN EROSION CONTROL MAT BY NORTH AMERICAN GREEN, EVANSVILLE IN.

CHANNEL STABILIZATION DETAIL ⚠
NOT TO SCALE

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REVISIONS			
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LANDSIDE IMPROVEMENTS PROJECT
MOULTONBOROUGH, NH

EROSION AND SEDIMENT CONTROL DETAILS

SHEET NO. 5

SHEET 5 OF 5

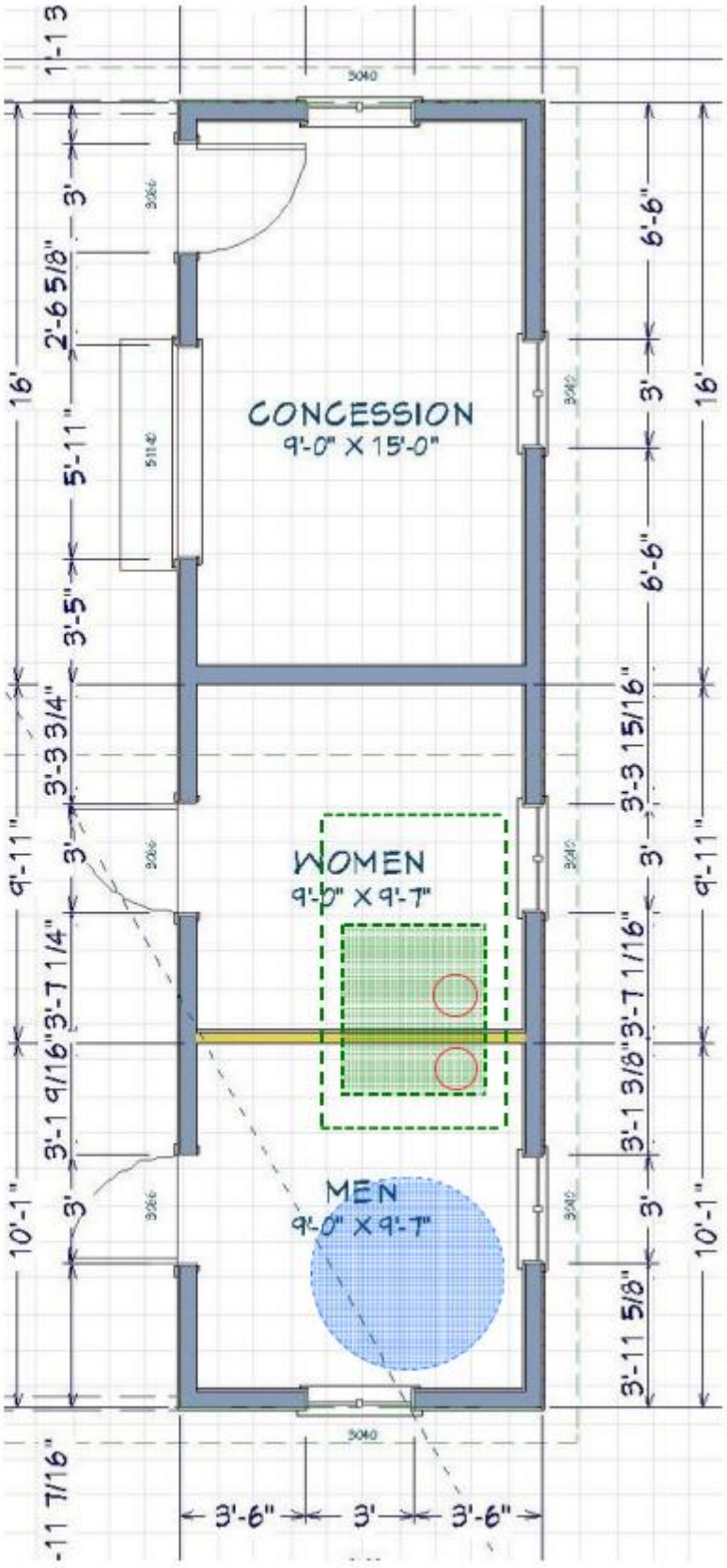
STATES LANDING BEACH FACILITY
restroom and composter layout

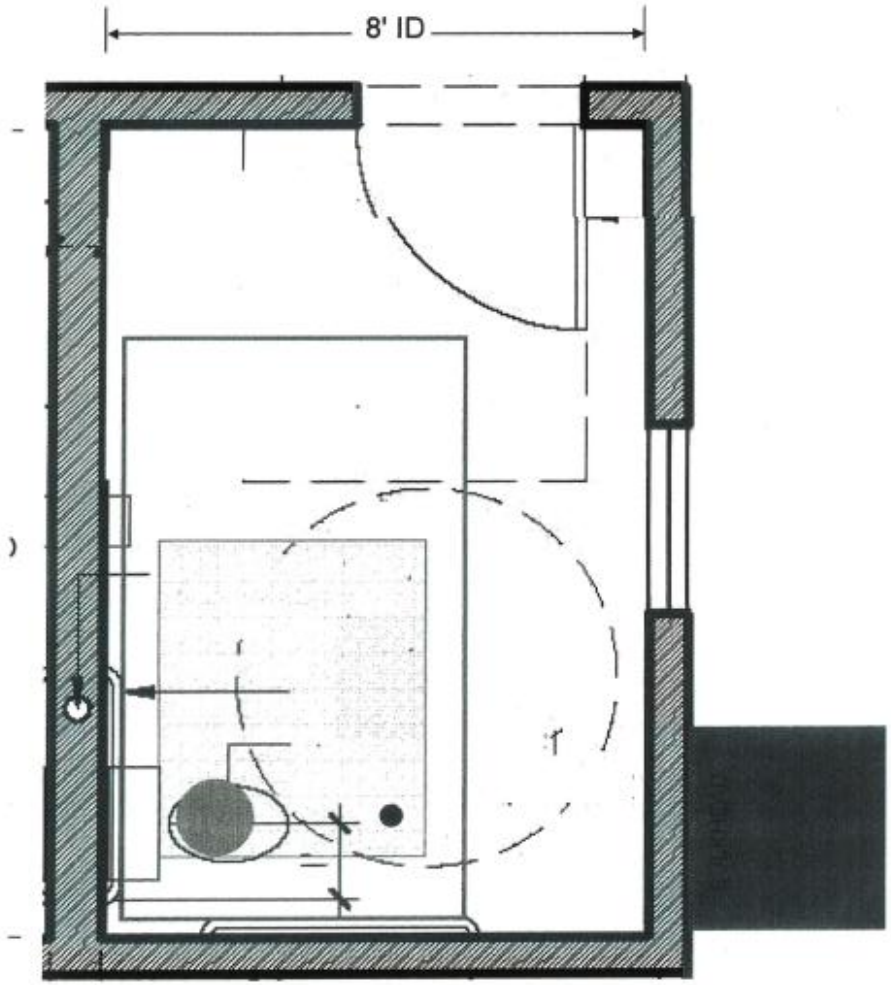
M-12 composter 105" x 62"
in basement

Working surface area of M-12
57-1/2" x 48"

Liquid storage tank 64"
in basement

14"D toilet chute





4"D ventilation pipe

14"D waste chute from waterless toilet
NOTE: toilet must be positioned to allow the chute to land within the working surface area of the composter. C/L of toilet must be at least 12-1/2" off back finished wall and 18" off the side wall. This assumes that the basement interior walls and the finished bathroom walls are on the same plane.

Bulkhead with 36" minimum doorway into basement

M-18 composter
105"L x 62"W x 83"H

Working surface area of M-12 composter
48"W x 57-1/2"L

ALL EQUIPMENT MUST BE PLACED IN BASEMENT PRIOR TO "CAPPING OFF" OF BASEMENT CEILING

INTERIOR BASEMENT DIMENSIONS:
8'W X 12'L x 8'H

Job	Truss	Truss Type	Qty	Ply	
684903	C01	FINK	25	1	Job Reference (optional)

Boise Structural Solutions, Saco, ME 04072, Samantha Turbide — 8.200 s Feb 13 2018 MiTek Industries, Inc. Fri Mar 30 13:45:21 2018 Page 1
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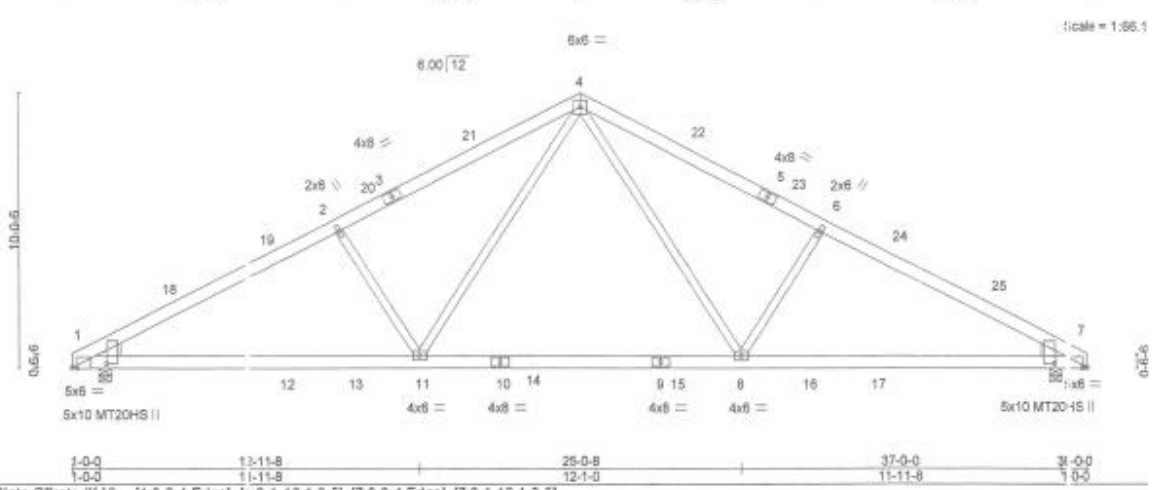

Plate Offsets (X,Y)-- [1:0-2-4,Edge], [7:0-1-12,1-3-5], [7:0-2-4,Edge], [7:0-1-12,1-3-5]

LOADING (psf)		SPACING-	1-4-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	61.6	Plate Grip DOL	1.15	TC	0.77	Vert(LL)	-0.24	1-11	>999	240	MT20	169/146
(Ground Snow=80.0)		Lumber DOL	1.15	BC	0.63	Vert(TL)	-0.47	1-11	>965	180	MT20HS	148/108
TCDL	10.0	Rep Stress Incr	YES	WB	0.77	Horz(TL)	0.11	7	n/a	n/a		
BCLL	0.0 *	Code IBC2009/TPI2007		Matrix-SH							Weight: 180 lb	FT = 0%
BCDL	10.0											

LUMBER-
TOP CHORD 2x6 SPF 1650F 1.5E
BOT CHORD 2x6 SPF 1650F 1.5E
WEBS 2x4 SPF-S No.2
WEDGE
Left: 2x6 SPF 1650F 1.5E, Right: 2x6 SPF 1650F 1.5E

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-0-3 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS. (lb/size) 1=2042/0-5-8 (min. 0-3-3), 7=2042/0-5-8 (min. 0-3-3)
Max Horz 1=111(LC 8)
Max Uplift1=-253(LC 9), 7=-253(LC 10)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-18=-3663/563, 18-19=-3483/564, 2-19=-3285/584, 2-20=-3161/562, 3-20=-3093/564, 3-21=-2940/578, 4-21=-2931/591, 4-22=-2931/591, 5-22=-2940/578, 5-23=-3093/564, 6-23=-3161/562, 6-24=-3285/584, 24-25=-3483/564, 7-25=-3663/563
BOT CHORD 1-12=-417/3094, 12-13=-417/3094, 11-13=-417/3094, 11-14=-184/2041, 10-14=-184/2041, 9-10=-184/2041, 9-15=-184/2041, 8-15=-184/2041, 8-16=-417/3094, 16-17=-417/3094, 7-17=-417/3094
WEBS 2-11=-1046/272, 4-11=-163/1278, 4-8=-163/1278, 6-8=-1046/272

NOTES- (10-11)
1) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Cat. II; Exp C; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) 0-2-12 to 4-0-6, Interior(1) 4-0-6 to 15-2-6, Exterior(2) 15-2-6 to 19-0-0, Interior(1) 22-9-10 to 33-11-10 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-05; Pg= 80.0 psf (ground snow); Pf=61.6 psf (flat roof snow); Category II; Exp C; Partially Exp.; Ct=1.1
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for basic load combinations, which include cases with reductions for multiple concurrent live loads.
5) All plates are MT20 plates unless otherwise indicated.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 253 lb uplift at joint 1 and 253 lb uplift at joint 7.
9) This truss is designed in accordance with the 2009 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
10) Dimensions are in feet-inches-sixteenths
11) Drawing prepared exclusively for manufacturing by Boise Cascade.

LOAD CASE(S) Standard

Boise Cascade
Building Materials
Distribution
Boise Structural Solutions

68 Industrial Park Rd
Saco Me, 04072
Tel: 877-291-5276
Fax: 877-782-0999

Job Name: TOWN OF MOULTONBOROUGH

MOULTONBOROUGH, NH

Prepared By:	Date Quoted:	Delivery Date:	Last Revised:	Price Protected Until:

ROOF TRUSSES

Designed per: IBC2009/TPI2007 Code.

PROFILE	LBL	QTY / PLY	OVRALL LGTH / WEIGHT	NET SPAN	PITCH TOP	PITCH BOT	TYPE	SPC	OVERHANG LEFT	OVERHANG RIGHT	CUT	LOADING TLL-TDL-BLL-BDL / Heel Height Left	LOADING Heel Height Right	CANTILEVER LEFT	CANTILEVER RIGHT	BRG SIZE LEFT	BRG SIZE RIGHT		
 A694903-0001	001	24	38-00-00	36-00-00	6.00	0.00	FINK	16	00-00-00	00-00-00	P	61.6-10-0-10 Gnd Snow=80		01-00-00	01-00-00	00-05-08	00-05-08		
		1	180 lbs									00-06-06	00-06-06			BRG#:	2		
 A694903-0002	002	3	38-00-00	38-00-00	6.00	0.00	GESI	16	00-00-00	00-00-00	P	61.6-10-0-10 Gnd Snow=80		00-00-00	00-00-00	38-00-00	00-00-00		
		1	226 lbs									00-06-06	00-06-06			BRG#:	1		

3

Total Weight: 4952 lbs

Quote Source: VERBAL INFORMATION FROM CUSTOMER

Job Notes To Customer:

36 X 34 BUILDING AT 16" O.C., 36'-0 SPAN

Plan Date:

Special Instructions For Design:

SUB-TOTAL:	
DISCOUNTS:	
GRAND TOTAL:	

**** QUANTITY CHANGES WILL EFFECT PRICES* MAXIMUM UNLOADING TIME IS 1 HOUR* TRUSS SYMBOLS CONCEPTUAL ONLY NOT FOR DESIGN

**** ALL TRUSSES ARE CUSTOM BUILT AND CANNOT BE RETURNED

UNLESS SPECIFICALLY NOTED ON THIS QUOTE PRICE DOES NOT INCLUDE:

TREATED LUMBER, SEALED LAYOUTS, BRACING AND / OR HANDLING DRAWINGS

METAL HARDWARE, ENGINEERED LUMBER (LVL,I-JOISTS, ETC.)

POSTED ROADS, POSTED ROADS!!!!! THE SPRING CHALLENGE IN MAINE AND NEW HAMPSHIRE! BEWARE DELIVERIES COULD BE AFFECTED

Report Date/Time: 3/20/2019 1:47:15 PM

Job	Truss	Truss Type	Qty	Ply	
694903	002	GESI	2	1	Job Reference (optional)

Boise Structural Solutions, Saco, ME 04072, Samantha Turbide — 8.200 s Feb 13 2018 MiTek Industries, Inc. Fri Mar 30 13:46:12 2018 Page 1
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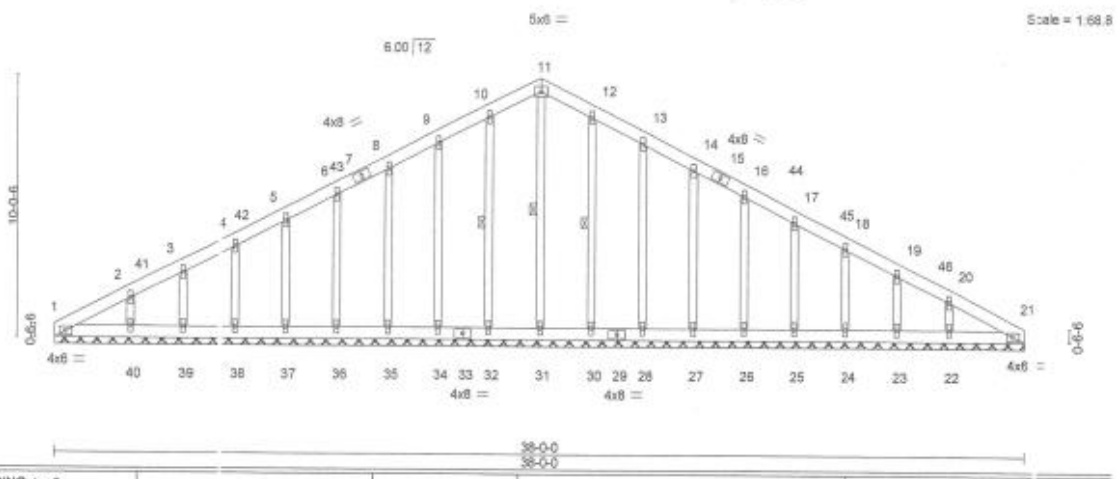


LOADING (psf)		SPACING-	1-4-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	61.6	Plate Grip DOL	1.15	TC	0.04	Vert(LL)	n/a	-	n/a	999	MT20	169/123
(Ground Snow=80.0)		Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.36	Horz(TL)	0.00	21	n/a	n/a		
BCLL	0.0 *	Code IBC2009/TPI2007		Matrix-SH							Weight: 226 lb	FT = 0%
BCDL	10.0											

LUMBER-
TOP CHORD 2x6 SPF 1650F 1.5E
BOT CHORD 2x6 SPF 1650F 1.5E
WEBS 2x4 SPF-S No.2
OTHERS 2x4 SPF-S No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 11-31, 10-32, 12-30

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS. (lb/size) 1=151/38-0-0 (min. 0-6-8), 21=151/38-0-0 (min. 0-6-8), 31=177/38-0-0 (min. 0-6-8), 32=219/38-0-0 (min. 0-6-8), 34=219/38-0-0 (min. 0-6-8), 35=217/38-0-0 (min. 0-6-8), 36=218/38-0-0 (min. 0-6-8), 37=218/38-0-0 (min. 0-6-8), 38=225/38-0-0 (min. 0-6-8), 39=181/38-0-0 (min. 0-6-8), 40=331/38-0-0 (min. 0-6-8), 30=219/38-0-0 (min. 0-6-8), 28=219/38-0-0 (min. 0-6-8), 27=217/38-0-0 (min. 0-6-8), 26=218/38-0-0 (min. 0-6-8), 25=218/38-0-0 (min. 0-6-8), 24=225/38-0-0 (min. 0-6-8), 23=181/38-0-0 (min. 0-6-8), 22=331/38-0-0 (min. 0-6-8)
Max Horz 1=-111(LC 7)
Max Uplift 1=-6(LC 7), 32=-13(LC 8), 34=-39(LC 10), 35=-33(LC 10), 36=-32(LC 10), 37=-33(LC 9), 38=-54(LC 9), 39=-52(LC 9) 40=-93(LC 9), 30=-10(LC 9), 28=-39(LC 10), 27=-33(LC 10), 26=-32(LC 9), 25=-33(LC 10), 24=-54(LC 10), 23=-52(LC 10), 22=-93(LC 10)
Max Grav 1=151(LC 1), 21=151(LC 1), 31=177(LC 1), 32=313(LC 13), 34=320(LC 13), 35=309(LC 13), 36=253(LC 13), 37=216(LC 1), 38=225(LC 1), 39=181(LC 13), 40=331(LC 13), 30=313(LC 14), 28=320(LC 14), 27=309(LC 14), 26=253(LC 14), 25=218(LC 1), 24=225(LC 1), 23=181(LC 14), 22=331(LC 14)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-136/33, 2-41=-100/40, 3-41=-94/47, 3-4=-79/59, 4-42=-81/64, 5-42=-48/71, 5-6=-81/83, 6-43=-92/91, 7-43=-40/94, 7-8=-38/98, 8-9=-98/130, 9-10=-102/172, 10-11=-103/206, 11-12=-103/206, 12-13=-102/172, 13-14=-98/130, 14-15=-38/98, 15-44=-40/94, 16-44=-92/91, 16-17=-81/68, 17-45=-38/39, 18-45=-81/33, 18-19=-79/15, 19-46=-50/3, 20-46=-89/0, 20-21=-102/33
BOT CHORD 1-40=0/115, 39-40=0/115, 38-39=0/115, 37-38=0/115, 36-37=0/115, 35-36=0/115, 34-35=0/115, 33-34=0/115, 32-33=0/115, 31-32=0/115, 30-31=0/115, 29-30=0/115, 28-29=0/115, 27-28=0/115, 26-27=0/115, 25-26=0/115, 24-25=0/115, 23-24=0/115, 22-23=0/115, 21-22=0/115
WEBS 11-31=-150/0, 10-32=-286/58, 9-34=-293/80, 8-35=-283/57, 6-36=-226/55, 5-37=-191/56, 4-38=-194/69, 3-39=-170/70, 2-40=-264/112, 12-30=-286/58, 13-28=-293/80, 14-27=-283/57, 16-26=-226/55, 17-25=-191/56, 18-24=-194/69, 19-23=-170/70, 20-22=-264/112

NOTES- (13-14)
1) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Cat. II; Exp C; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) 0-0-0 to 3-8-10, Interior(1) 3-8-10 to 15-0-0, Exterior(2) 15-0-0 to 19-0-0, Interior(1) 23-0-0 to 34-2-6 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) TCLL: ASCE 7-05; Pg= 80.0 psf (ground snow); Pf=61.6 psf (flat roof snow); Category II; Exp C; Partially Exp.; Ct=1.1
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for basic load combinations, which include cases with reductions for multiple concurrent live loads.
6) All plates are 2x6 MT20 unless otherwise indicated.

Continued on page 2

Model M12
Specification Sheet

NSF Certification

The Clivus Model M12 is certified by the National Sanitation Foundation under Standard 41 (day-use, park).

Capacity

M12 Volume

Solids storage capacity: 132 cubic feet; 987 US gallons

Daily capacity at average temp. >65°F: 80 visits

Annual capacity at average temp. >65°F: 30,000 visits

Specifications and Materials

Dimensions

Installation: Length: 105"; Width: 62"; Height: 58.5"

Weight: 365 lbs

Working Area on Top of Composter: 48"x57.5"

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

Compost Access Lid: 32"x62" (composter front)

Polyethylene Wall Thickness: 0.375" nominal

Materials

The M12 Composter is rotationally molded high-density linear polyethylene resin that conforms with the following specifications:

- Density (ASTM TEST 4883): 0.942 g/cm3
- Tensile Strength at Yield (ASTM D638): 2,950 psi
- Dart Impact (-40°C, 250 mils thickness): 108 ft-lbs
- Envt. Stress Crack Resistance, 100% Igepal (D1693): 550 hrs

Ventilation

AC: 120V, 60 Hz, 71w, .67 amp fan with 264 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.

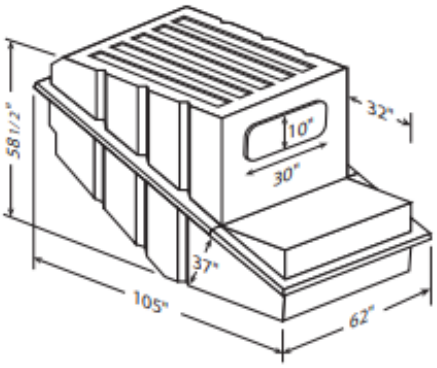


Figure 1. | M12 Composter

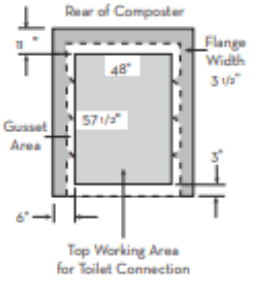


Figure 2. | M12 Composter, Top View

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'. 12V DC available.

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.

Automatic Moistening System

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

Components

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

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

Composter Wood Support Cradle Kit

Supports the M12 Composter. Made from pressure treated lumber.

Toilet Options

Waterless Toilet

Waterless toilets 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"

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

Distributed by: Clivus New England, Inc., P.O. Box 127, North Andover, MA 01845 | 978.794.9400 | www.clivusne.com

Rev. 1/11

AC Liquid Removal System
Specification Sheet

Purpose

The Clivus AL101, AC Liquid Removal System, is designed to automatically keep the contents of the compost tank free of liquid end-product in situations where traditional AC electric service is available. This provides the best environment for decomposition to take place.

Operation

The Clivus AC Liquid Removal System consists of a pump and float switch, pump isolation chamber (PIC) with screened inlet, double union ball check valve and tank adapter.

The pump and float switch are housed in the PIC to keep them free of compost debris. They are wired through the wall of the composter to an AC power source.

The liquid end-product enters the bottom of the PIC. When sufficient liquid has accumulated, the float switch engages and activates the pump. The liquid is pumped out via the drain line and thru-hull fitting to the appropriate distribution site or auxillary storage vessel. The check valve prevents liquid from siphoning back into the composter.

Specifications and Materials

Components

AC pump: 115V, 5 amps, 60 Hz, single phase, 20.8 gal/min at full flow

Float switch: 115V, 10 amps, 1/3 hp

Drain line: 1" PVC or ABS

Installation

1. Position pump assembly in the front-left or front-right corner of composter, on the side closest to external drain line.

2. Mount ball check-valve above pump chamber lid. Plumb to drain line, exiting through side wall of composter.

3. Bring pump and float switch power lines through chamber lid and through a grommet. Fit grommet into lid. Pass power lines through the second grommet, then through composter side wall. Fit grommet into hole in side wall.

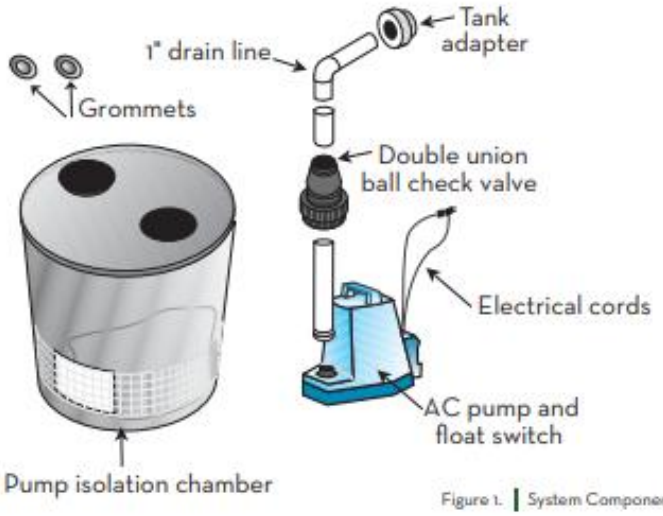


Figure 1. | System Components

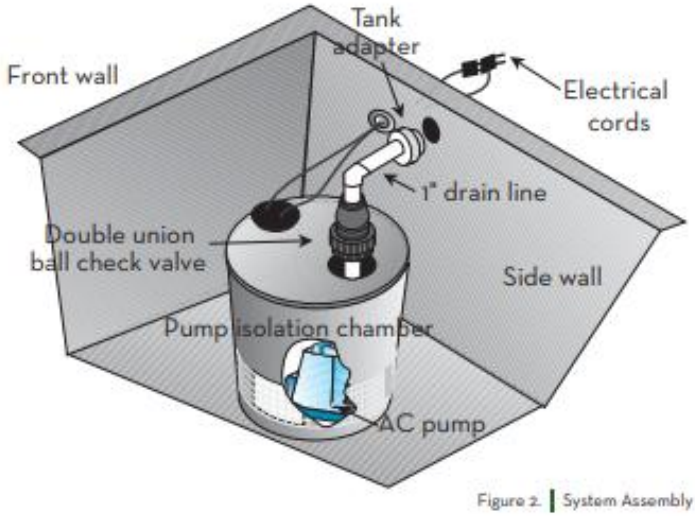


Figure 2. | System Assembly

Clivus Multrum, Inc., 15 Union Street, Lawrence, MA 01840
Distributed by: Clivus New England, Inc., P.O. Box 127, North Andover, MA 01845 | 978.794.9400

Rev. 8/09

Industrial

5-MSP Series

Applications

- For commercial, industrial, and home applications where water must be transferred or recirculated

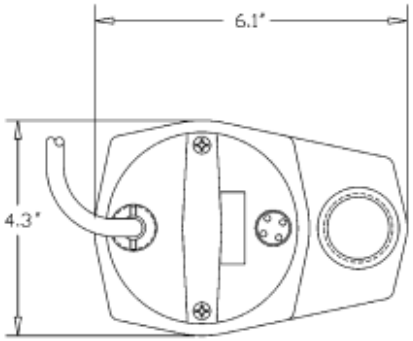
Features

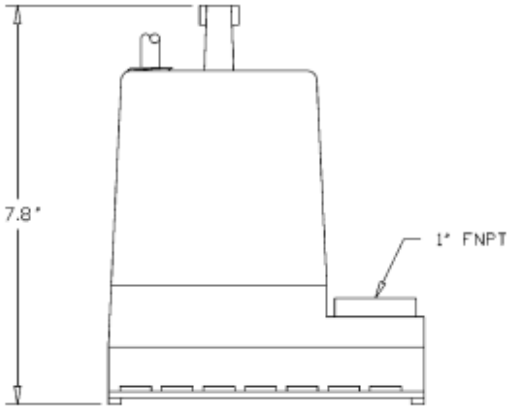
- 1/6 hp oil-filled motor
- Epoxy-coated die cast aluminum housing
- 1" FNPT discharge
- Screened intake
- Intermittent liquid temperate up to 120 °F
- Thermal overload protection
- 26.3' maximum lift
- For submersible use only

Construction

- Housing – Epoxy-coated cast aluminum
- Cover – Epoxy-coated cast aluminum
- Volute – Nylon
- Impeller – Nylon
- Shaft Seal – Fluoroelastmer (FKM)
- Screen – Nylon

Engineering Data





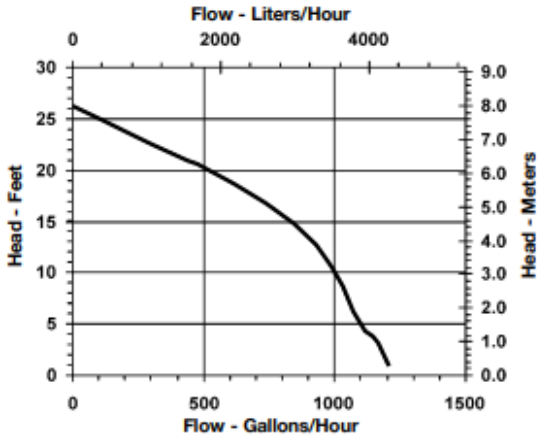
Specifications

	Item No.	Model No.	Listing(s)	HP	Volts	Hz	Amps	Watts	Discharge	Performance (GPH @ Head) 1'	3'	5'	10'	20'	Shut Off Ft	Shut Off PSI	Cord Length (ft)	Weight (lbs)	Dimensions H X L X W (in)
	505000	5-MSP	cCSAus	1/6	115	60	5.0	380	1" FNPT	1200	1170	1100	1000	520	26.3	11.4	10	8.25	7.8" x 6.1" x 4.3"
X	505176	5-MSP	cCSAus	1/6	115	60	5.0	380	1" FNPT	1200	1170	1100	1000	520	26.3	11.4	18	8.50	7.8" x 6.1" x 4.3"
	505025	5-MSP	cCSAus	1/6	115	60	5.0	380	1" FNPT	1200	1170	1100	1000	520	26.3	11.4	25	8.75	7.8" x 6.1" x 4.3"
	505500	5-MSP	—	1/6	127	60	5.8	380	1" FNPT	1200	1170	1100	1000	520	26.3	11.4	10	8.25	7.8" x 6.1" x 4.3"
	505501	5-MSP	—	1/6	127	60	5.8	380	1" FNPT	1200	1170	1100	1000	520	26.3	11.4	18	8.50	7.8" x 6.1" x 4.3"
	505202	5-MSP	—	1/6	230	60	2.5	380	1" FNPT	1200	1170	1100	1000	520	26.3	11.4	12	8.25	7.8" x 6.1" x 4.3"

Replacement Parts

Volute	105375
Screen	105376
Impeller	105310
Handle	105918
Adapter (GH)	599030
Seal Ring (volute)	928024

Performance Data



Franklin Electric
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Form 995117 — 01/13

Little GIANT

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RS-5LL

Remote Switch for Submersible Pumps
Interrupteur à Distance pour Pompes Submersibles
Interruptor Remoto para Bombas Sumergibles

EN INTRODUCTION

This Little Giant product is carefully packaged and inspected to ensure safe operation and delivery. When you receive your product, examine it carefully to determine that there are no broken or damaged parts that may have occurred during shipment. If damage has occurred, make notation and notify the firm from which you purchased the product. They will assist you in replacement or repair, if required.

The following instructions and safety guidelines will enable you to use the switch for trouble-free automatic operation of your pump. Please read the instructions and safety guidelines entirely before using the RS-5LL accessory.

The Little Giant remote switch RS-5LL for submersible pumps can be used either by attaching it to the 5-MSP pump or used separately with other pumps to control on-off operation of the pump. The unit comes with a piggyback 115V plug/receptacle and are for 115V pumps rated 10 amps or less.

The switch is activated by pressure to a diaphragm, which activates a switch providing power to the pump. Pressure to the diaphragm is caused by rising water around the switch housing. The differential between "on-off" levels is 1-3/4" (± 1/2").

SAFETY GUIDELINES

⚠WARNING⚠

1. Read all instructions and Safety Guidelines thoroughly. Failure to follow the guidelines and instructions could result in serious bodily injury and/or property damage.
2. Do not use to pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc.
3. During operation the area surrounding the pump may be covered with water. Take care when handling the pump. Do not pull the pump out of the water by the power cord when the pump is operating or connected to power source.
4. Do not stand in water when changing fuses.
5. This product is provided with a three prong grounding plug, to reduce the risk of electrical shock. When pump is in operation, make sure it is properly connected to grounded outlet.
6. Always unplug the pump from the outlet when not in use, before putting on or taking off parts, and before cleaning. Never yank cord to pull plug from outlet. Grasp the plug and pull to disconnect.

INSTALLATION

1. For installation on the Little Giant 5-MSP pump, refer to Figure 1. Attach the RS-5LL directly to the 5-MSP housing using the two Phillips drive screws provided, as shown in Figure 1. Use the cable ties provided to secure the power cords together. To ensure proper operation of pump and switch, place pump on a solid surface in water at least 3/4" deep.
2. For installation on Little Giant 6-CIM-R or 6-CBM-R pumps, refer to Figure 2. Attach the RS-5LL directly to the 6 series pump housing using the two slot drive screws provided, as shown in Figure 2. Use the cable ties provided to secure the power cords together. To ensure proper operation of pump and switch, place pump on a solid surface in water at least 1" deep.
3. For universal installation, refer to Figure 3. The RS-5LL can be attached to a pipe with the cable ties provided. Slots are provided at the upper collar of the switch housing to enable you to secure the switch to piping. Use one cable tie to attach the switch to the pipe through the slots on the collar. The other cable tie should be used to secure the power cord to the piping approximately 3" above the switch collar as shown in Figure 3.

   NOTE: When setting the switch separate from the pump, the pump must always have a flooded intake.

ELECTRICAL CONNECTIONS

⚠WARNING⚠

WARNING: ALWAYS DISCONNECT THE ELECTRICAL POWER BEFORE TOUCHING THE PUMP OR DISCHARGE WHEN WATER IS PRESENT IN THE AREA OF THE PUMP. FAILURE TO DO SO CAN RESULT IN HAZARDOUS ELECTRICAL SHOCK.

1. The RS-5LL 115V switch is supplied with a three-prong piggyback plug/receptacle on the cord and must be used with pumps that have three prong plugs. This connection is illustrated in Figure 4. The third prong is to ground the pump to prevent possible electric shock hazard. Do not remove the third prong from the plug. To reduce the risk of electric shock, be certain that it is connected to a properly grounded grounding type receptacle.
2. A separate branch electrical circuit is recommended. Do not use an extension cord.
3. Be sure that electrical connection cannot be reached by rising water. Under no circumstances should the outlet box be located where it may become flooded or submerged by water.
4. Automatic power cord contains a breather tube. Be sure power cord is not pinched so that breather tube is obstructed. Non-restrictive air flow in breather tube is required for proper RS-5LL operation.
5. Test the pump after all electrical connections have been made. Run water into area where pump is to be placed. Do not attempt to run the pump without water; this could result in permanent damage to the pump. Fill the area to a normal "on" level and allow the pump to remove water to a normal "off" level.
6. **WARNING:** Risk of electric shock. This switch is supplied with a grounding conductor and grounding-type attachment plug. To reduce the risk of electric shock, be certain that it is connected to a properly grounded grounding-type receptacle.

FR INTRODUCTION

Ce produit Little Giant a été soigneusement empaqueté, inspecté et testé afin que sa livraison et son utilisation se fassent sans problème. Au moment de la réception, bien examiner le produit afin de s'assurer qu'aucune pièce n'a été cassée ou endommagée pendant le transport. Si tel n'est pas le cas, en aviser le détaillant. Il vous aidera dans le remplacement ou les réparations qui s'imposent.

Les présentes instructions et consignes de sécurité permettent d'utiliser en toute sécurité l'interrupteur conjointement avec votre pompe. Veuillez lire toutes les instructions et les consignes de sécurité avant d'utiliser le RS-5LL.

L'interrupteur à distance pour pompes submersibles RS-5LL de Little Giant peut s'utiliser soit fixé à la pompe 5-MSP, soit séparément avec d'autres pompes afin qu'il gère leur mise en marche. L'interrupteur est muni d'un raccord mâle de 115 V et est compatible avec les pompes de cette même tension, cotées 10 A ou moins.

L'interrupteur se déclenche par la pression sur un diaphragme, lequel active un commutateur qui alimente la pompe. La pression sur le diaphragme est causée par l'eau qui monte autour du boîtier de l'interrupteur. La différence de hauteur d'eau entre les niveaux de mise en marche et d'arrêt de la pompe est de 1-3/4 po (±1/2 po).

DIRECTIVES DE SÉCURITÉ

⚠AVERTISSEMENT⚠

1. Bien lire les instructions du Directives de Sécurité. Le non-respect des consignes de sécurité peut causer de graves blessures ou des dommages à la propriété, ou les deux.
2. Ne pas utiliser pour pomper des liquides explosifs ou inflammables (essence, huile, kérosène, etc.)
3. Pendant le fonctionnement de la pompe, le périmètre entourant celle-ci peut être recouvert d'eau. La prudence est de mise lors de la manipulation de la pompe. N'utilisez pas le cordon d'alimentation pour sortir la pompe de l'eau alors que la pompe fonctionne ou qu'elle est reliée à une source d'alimentation.
4. Ne pas se tenir dans l'eau en changeant les fusibles.
5. Afin que les risques de choc électrique soient réduits, cet appareil comprend une fiche électrique à trois branches. Lorsque la pompe fonctionne, s'assurer qu'elle est correctement raccordée à une prise mise à la terre.
6. Débranchez toujours la pompe de la prise murale lorsqu'elle n'est pas utilisée, avant de la monter ou de la démonter et avant de la nettoyer. Ne tirez jamais sur le cordon pour le débrancher de la prise murale. Saisissez la fiche et tirez pour la dégager de la prise.

INSTALLATION

1. Consulter la Figure 1 pour l'installation de la pompe 5-MSP de Little Giant. Fixer le RS-5LL directement au boîtier de la pompe 5-MSP à l'aide des deux clous vrillés Phillips fournis, tel qu'indiqué à la Figure 1. Utiliser les attaches de câble fournies pour fixer les cordons d'alimentation ensemble. Pour s'assurer du bon fonctionnement de l'interrupteur et de la pompe, placer cette dernière dans au moins 3/4 po d'eau, sur une surface stable.
2. Pour l'installation des pompes 6-CIM-R ou 6-CBM-R de Little Giant, consulter la Figure 2. Fixer le RS-5LL directement au boîtier de la pompe de série 6 à l'aide des deux clous vrillés fournis, tel qu'illustré à la Figure 2. Utiliser les attaches de câble fournies pour fixer les cordons d'alimentation ensemble. Pour s'assurer du bon fonctionnement de l'interrupteur et de la pompe, placer cette dernière dans au moins 3/4 po d'eau, sur une surface stable.
3. Pour une installation universelle, consulter la Figure 3. Le RS-5LL peut, à l'aide des attaches de câble fournies, se fixer à un tuyau. Le haut du boîtier de l'interrupteur est muni de rainures afin de pouvoir fixer ce dernier à la tuyauterie. Utiliser une attache de câble pour fixer l'interrupteur au tuyau, par les rainures sur le collet. L'autre attache peut servir à fixer le cordon d'alimentation au tuyau, à environ 3 pouces au-dessus du collet, tel qu'indiqué à la Figure 3.

   NOTE: Si le réglage de l'interrupteur se fait séparément de la pompe, l'entrée de celle-ci doit toujours être inondée.

CONNEXIONS ÉLECTRIQUES

⚠AVERTISSEMENT⚠

AVERTISSEMENT : LORSQU'IL Y A DE L'EAU PRÈS DE LA POMPE, TOUJOURS COUPER L'ALIMENTATION ÉLECTRIQUE À LA POMPE AVANT DE TOUCHER CELLE-CI OU LA SORTIE DE LA POMPE, SINON IL POURRAIT EN RÉSULTER UN CHOC ÉLECTRIQUE.

1. Le cordon d'alimentation de l'interrupteur RS-5LL 115 V est doté d'un raccord mâle à trois branches, et doit être utilisé avec des pompes pourvues de prises à trois trous. (voir la Figure 4). Pour éviter les risques d'électrocution, la troisième broche relie la pompe à la terre. Ne pas retirer la troisième broche de la prise. Afin de réduire le risque de décharge électrique, s'assurer que la pompe est branchée à une prise correctement mise à la terre.
2. Un circuit de dérivation séparé est recommandé. Ne pas utiliser de prolongateur.
3. S'assurer que l'eau ne peut atteindre ce boîtier. Ne placer sous aucun prétexte le boîtier électrique à un endroit où il pourrait être submergé.
4. Le fil d'alimentation comporte un tube de purge. S'assurer que rien ne pince le fil d'alimentation et ne risque d'obstruer le tube. L'air doit circuler dans le tube pour que ce dernier fonctionne correctement.
5. Vérifier le fonctionnement de la pompe une fois tous les branchements effectués. Mettre de l'eau à l'endroit où la pompe sera installée. Ne pas faire fonctionner la pompe à sec : cela pourrait l'endommager immédiatement. Remplir le réservoir jusqu'à un niveau normal de mise en marche et laisser la pompe faire son travail jusqu'à ce que l'eau retourne au niveau d'arrêt de la pompe.
6. **AVERTISSEMENT :** Risque de décharge électrique. Cet interrupteur est pourvu d'un conducteur de mise à la terre ainsi que d'une fiche de mise à la terre. Afin de réduire le risque de décharge électrique, s'assurer que la pompe est branchée à une prise correctement mise à la terre.

ES INTRODUCCIÓN

Este dispositivo Little Giant se empaqueta e inspecciona cuidadosamente para asegurar una operación y entrega segura. Al recibir su dispositivo, examínelo cuidadosamente para determinar que no se hayan roto o dañado piezas durante el envío. Si ha ocurrido algún daño, tome nota e informe a la firma a la cual usted le compró el dispositivo. Ellos lo ayudarán a reemplazarlo o repararlo, si es necesario.

Las siguientes instrucciones y normas de seguridad le permitirán usar el interruptor para una operación automática sin problemas de su bomba. Lea por favor las instrucciones y normas de seguridad antes de usar el accesorio RS-5LL.

El interruptor remoto Little Giant RS-5LL para bombas sumergibles puede usarse o sujetándolo a la bomba 5-MSP o usándolo por separado con otras bombas para controlar la operación de conexión-desconexión de la bomba. La unidad viene con una clavija/receptáculo incorporada de 115 V y son para bombas de 115 V de 10 amperios o menores.

El interruptor se activa por presión a un diafragma, que a su vez activa un interruptor suministrando energía eléctrica a la bomba. La presión sobre el diafragma es causada por la elevación del nivel del agua alrededor de la caja del interruptor. El diferencial entre los niveles de "conexión-desconexión" es de 1-3/4" (±1/2").

REGLAMENTO DE SEGURIDAD

⚠ADVERTENCIA⚠

LEA DETENIDAMENTE LAS INSTRUCCIONES ANTES DE INTENTAR INSTALAR OPERAR O DAR MANTENIMIENTO A LA BOMBA LITTLE GIANT. CONOZCA LAS LIMITACIONES, APLICACIONES Y LOS PELIGROS POTENCIALES DE LA BOMBA. PROTEJASE A SI MISMO Y A LOS DEMAS CUMPLIENDO TODAS LAS RECOMENDACIONES DE SEGURIDAD. ¡EL INCUMPLIMIENTO DE LAS INSTRUCCIONES PODRIA RESULTAR EN LESIONES PERSONALES Y/O DAÑOS MATERIALES! CONSERVE LAS INSTRUCCIONES PARA REFERENCIAS FUTURAS.

1. Lea todo el instructivo, el no seguir estas recomendaciones puede causar serios daños a la persona y al equipo.
2. No use la unidad para bombear líquidos inflamables ni explosivos tales como gasolina, fueloil, queroseno, etc.
3. Durante la operación, el área alrededor de la bomba puede estar cubierta por las aguas. Tenga cuidado al manejar la bomba. No saque la bomba del agua tirando del cable de potencia cuando la bomba está en funcionamiento o cuando está conectada a la fuente de potencia.
4. No se pare en el agua cuando esté cambiando los fusibles.
5. Este producto viene con un enchufe de tres espigas con conexión a tierra para reducir el peligro de un choque eléctrico. Cuando la bomba se encuentre en operación, verifique que se encuentre conectada a un tomacorriente conectado a tierra.
6. Siempre desenchufe la bomba del tomacorriente cuando no está en uso, antes de poner o quitar piezas, y antes de limpiarla. Nunca hale el cable para desenchufarlo del tomacorriente. Agarre el enchufe y hale para desconectarlo.

INSTALACION

1. Para instalación en la bomba Little Giant 5-MSP, refiérase a la Figura 1. Sujete el RS-5LL directamente a la caja de la 5-MSP utilizando los dos tornillos Philips que se suministran, como se muestra en la Figura 1. Use las ataduras de cable suministradas para mantener unidos los cables de energía eléctrica. Para asegurar una operación adecuada de la bomba y el interruptor, coloque la bomba sobre una superficie sólida en agua con una profundidad mínima de 3/4 de pulgada.
2. Para la instalación en las bombas Little Giant 6-CIM-R o 6-CMB-R refiérase a la Figura 2. Sujete el RS-5LL directamente a la caja de las bombas de la serie 6 utilizando los dos tornillos con cabeza ranurada que se suministran, tal y como se muestra en la Figura 2. Use las ataduras de cable suministradas para mantener unidos los cables de energía eléctrica. Para asegurar una operación adecuada de la bomba y el interruptor, coloque la bomba sobre una superficie sólida en agua con una profundidad mínima de 3/4 de pulgada.
3. Para instalación universal, refiérase a la Figura 3. El RS-5LL puede sujetarse a una tubería con las ataduras de cable suministradas. Se suministran ranuras en el cuello superior de la caja del interruptor para permitirle asegurar el interruptor a la tubería. Use una atadura de cable para sujetar el interruptor a la tubería a través de las ranuras del cuello. La otra atadura de cable debiera usarse para asegurar el cable de potencia a la tubería aproximadamente 3 pulgadas por encima del cuello del interruptor como se muestra en la Figura 3.

   NOTA: Cuando se coloque el interruptor separado de la bomba, la bomba debe tener siempre una toma inundada.

CONEXIONES ELECTRICAS

⚠ADVERTENCIA⚠

ADVERTENCIA: SIEMPRE DESCONECTE EL SUMINISTRO DE CORRIENTE ANTES DE TOCAR LA BOMBA O LA TOMA DE DESCARGA DE LA BOMBA CUANDO HAY AGUA PRESENTE EN EL ÁREA DE LA BOMBA. EL NO ADOPTAR ESTA PRECAUCIÓN PUEDE RESULTAR EN UN PELIGROSO CHOQUE ELÉCTRICO.

1. El interruptor RS-5LL se suministra con una clavija/receptáculo de tres puntas incorporada en el cable y debe usarse con bombas que tienen clavijas de tres puntas (ver la Figura 3). El tercer diente es para ponerla a tierra, con el fin de evitar el riesgo de posibles choques eléctricos. No quite el tercer diente del enchufe. Se recomienda un circuito de ramal independiente. Para reducir el riesgo de choque eléctrico, cerciórese de que se encuentre conectada a un receptáculo del tipo a ras de tierra, debidamente puesto en tierra.
2. Se recomienda un circuito de ramal independiente. No utilice cables de extensión.
3. Asegúrese que la conexión eléctrica no pueda ser alcanzada por la subida de las aguas. Bajo ninguna circunstancia debe estar ubicado el tomacorriente donde el agua lo pueda inundar o sumergir.
4. El cable de corriente automático contiene un tubo de desahogo. Asegúrese de que el cable no quede aprisionado y el tubo de desahogo no quede obstruido. Se requiere un flujo de aire libre por el tubo de desahogo para un funcionamiento apropiado.
5. Pruebe la bomba después de hacer todas conexiones eléctricas. Deje que el agua entre al área donde se va a colocar la bomba. No intente hacer funcionar la bomba sin agua; esto podría dañar la bomba permanentemente. Llene el área hasta un nivel normal de encendido "ON" y deje que la bomba saque el agua hasta un nivel normal de apagado "OFF".
6. **ADVERTENCIA:** Peligro de choque eléctrico. El interruptor se suministra con un conductor conectado a tierra y clavija de conexión con conexión a tierra. Para reducir el riesgo de choque eléctrico, cerciórese de que se encuentre conectada a un receptáculo del tipo a ras de tierra, debidamente puesto en tierra.

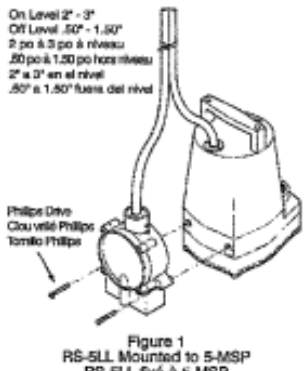

Figure 1
RS-5LL Mounted to 5-MSP
RS-5LL fixé à 5-MSP
RS-5LL montado a la 5-MSP

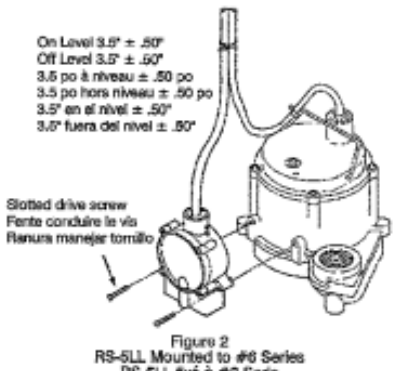

Figure 2
RS-5LL Mounted to #6 Series
RS-5LL fixé à #6 Serie
RS-5LL montado a la #6 Serie

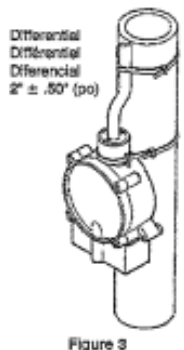

Figure 3
RS-5LL Mounted to Pipe
RS-5LL fixé au tuyau
RS-5LL montado a la tubería

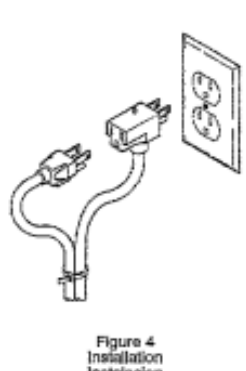

Figure 4
Installation
Instalacion
115V

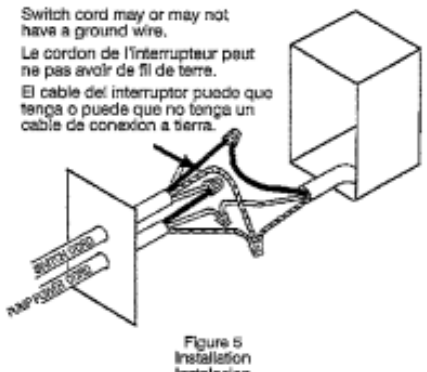

Figure 5
Installation
Instalacion
230V

RS-5LL
LGPC & WW GRAINGER

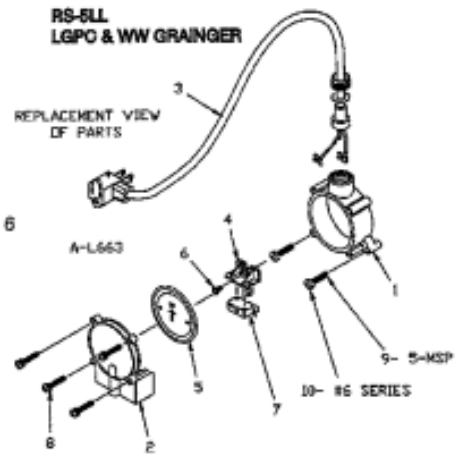

Figure 6

REPLACEMENT PARTS • PIÉCES DE RECHANGE • LISTA DE PARTES			
ITEM	P/N	DESCRIPTION • NOMENCLATURE • DESCRIPCIÓN	QTY.
1	105902	Switch Housing/Boîtier du contacteur/Caja del interruptor	1
2	105903	Switch Housing Cover/Couvercle, Boîtier du contacteur/Cubierta de la caja del interruptor	1
3	951060	Wiring Harness/Faisceau de câblage/Conjunto de cables (18' 115V)	1
3	951056	Wiring Harness/Faisceau de câblage/Conjunto de cables (26' 115V)	1
4	108202	Bracket/Patte D'attache/Soporte	1
5	108125	Diaphragm Assembly/L'assemblée de Diaphragme/La Asamblea de Diafragma	1
6	902404	Screw/Vis/Tornillo, #6 x 3/8"	1
7	950324	Switch/contacteur/interruptor	1
8	902512	Screw/Vis/Tornillo, #10 x 3/4"	4
9	902513	Screws/Vis/Tornillo #10 x 1-1/8"	2
10	901513	Screws/Vis/Tornillo #10 x 1"	2
11	950903	Ty-Wrap Nylon Fastener*/Attache en Nylon*/Abrazadera de Nilón*	2

*Not shown/Non illustré/No se muestra

TROUBLESHOOTING • INFORMATION SUR LA RELÈVE DES DÉRANGEMENTS • INFORMACION DE INVESTIGACION DE AVERIAS

PROBLEM • FONCTIONNEMENT DÉFECTUIX • PROBLEMA	PROBABLE CAUSES • CAUSES PROBABLES • CAUSAS PROBABLES	CORRECTIVE ACTIONS • SOLUTIONS • SOLUCION
Pump does not shut off. NOTE: Before troubleshooting automatic control, check to see that pump operates on manual control. To do this, create a slight vacuum on breather tube (near plug), then close off tube with thumb, plug into wall outlet. If pump works, proceed to check switch; if not, fault is in pump or power supply. Le moteur de la pompe ne s'arrête pas. NOTE: Avant de tenter de réparer la commande automatique, s'assurer que la pompe fonctionne sous commande manuelle. Pour ce faire, créer un faible vide dans le tube reniflard (près de la prise), fermer le tube avec le pouce, puis brancher la pompe. Si elle fonctionne, continuer la vérification de l'interrupteur. Sinon, c'est la pompe ou le bloc d'alimentation qui est défectueux. La bomba no se apaga. NOTA: Antes de localizar las averías con el control automático, comprueba que la bomba funciona con el control manual. Para hacer esto, cree un pequeño vacío en el respiradero (cerca de la clavija), luego tapone el tubo con el pulgar y conecte la clavija a una toma de pared. Si la bomba funciona, proceda a comprobar el interruptor; si no, el fallo está en la bomba o en el suministro de energía.	Diaphragm switch. • C'est le commutateur de diaphragme. • Interruptor del diafragma.	Replace switch. • Remplacer le commutateur. • Cambie el interruptor.
	Weak or hardened rubber diaphragm. • Le caoutchouc du diaphragme est faible ou durci. • Diafragma de caucho debilitado o endurecido.	Replace rubber diaphragm. • Remplacer le caoutchouc du diaphragme. • Cambie el diafragma de caucho.
	Plugged vent tube. • Le tuyau de purge est branché. • Tubo de expiración cerrados.	Clear vent tube of any obstructions. • Nettoyer le tuyau de purge. • Despeje el tubo de expiración de cualquier obstrucción.
	Dirt or sediment lodged between retainer ring and rubber diaphragm causing contacts to remain closed. • Boue ou résidus logés entre le jonc et le caoutchouc du diaphragme empêchent les contacts de s'ouvrir. • El sucio o sedimento atrapado entre el anillo de retención y el diafragma de caucho causa que los contactos permanezcan cerrados.	Clean area around rubber diaphragm. • Nettoyer le contour de caoutchouc du diaphragme. • Limpie el área que rodea el diafragma de caucho.
	Pump is air locked. • Poche d'air dans la pompe. • Burbujas de aire en la bomba.	Shut power off for approximately 1 minute, then restart. Repeat several times to clear air from pump. If system includes a check valve, a 3/16" hole should be drilled in discharge pipe approximately 2" above discharge connections. • Couper le courant pendant 1 minute environ puis recommencer. Répéter cette opération plusieurs fois pour évacuer l'air de la pompe. S'il y a une soupape d'arrêt, percer un trou de 3/16 po dans tuyau d'écoulement, à environ 2 po au-dessus des connexions d'écoulement. • Desconecte la electricidad durante un minuto, aproximadamente. Luego, vuélvala a conectar. Repita varias veces, para purgar el aire de la bomba. Si el sistema tiene un válvula de retención, debe perforarse un orificio de ventilación en el tubo de descarga, aproximadamente 2 pulgadas por encima de las conexiones de descarga.
	Liquid inflow matches pump capacity. • Afflux de liquide correspondant au volume de la pompe. • El caudal que entra es igual a la capacidad de la bomba.	Larger pump required. • Une pompe plus puissante est nécessaire. • Se requiere una bomba mayor.
	Defective switch. • Commutateur défectueux. • Interruptor defectuoso	Disconnect switch, check wiring/manually. Open-infinite resistance, closed-zero. • Débrancher le commutateur, vérifier avec un ohmmètre. Ouvert-résistance infinitive, fermé-zéro. • Desconecte el interruptor e inspecciónelo con el ohmímetro: abierto, resistencia infinita; cerrado, cero.
	Loose connection in level control wiring. • Connexion des fils électriques du niveau de contrôle distendue. • Conexiones flojas en los cables del regulador de nivel.	Check control wiring. • Vérifier le circuit électrique. • Inspeccione los cables del regulador.
Pump runs but does not discharge liquid. La pompe fonctionne mais il n'y a pas d'écoulement de liquide. La bomba funciona, pero no descarga líquido.	Check valve installed backwards. • Montage à l'envers de la soupape d'arrêt • Válvula de retención montada al revés	Check flow indicating arrow on check valve body to insure it is installed properly. • Vérifier la flèche indiquant l'écoulement pour s'assurer que la soupape d'arrêt est bien montée. • Inspeccione la flecha indicadora del flujo en el cuerpo de la válvula de retención, para cerciorarse de que se encuentre instalada correctamente.
	Check valve stuck or plugged. • Soupape d'arrêt bloquée ou obstruée. • Válvula de retención atorada u ocluida.	Remove check valve and inspect for proper operation. • Démonter et vérifier la soupape d'arrêt pour un bon fonctionnement. • Quite la válvula de retención, y verifique que funcione debidamente.
	Lift too high for pump. • Aspiration trop puissante pour la pompe. • Altura de impulsión excesiva para la bomba.	Check rating table. • Vérifier le tableau d'évaluation. • Estudie la tabla de capacidad.
	Inlet to impeller plugged. • Arrivée de la roue à aubes obstruée. • Toma de la rueda móvil conectada.	Pull pump and clean. • Tirer la pompe pour la nettoyer. • Saque la bomba y límpiela.
	Pump is air locked. • Présence d'une poche d'air dans la pompe. • La bomba está llena de burbujas de aire.	(See corrective action above.) • (Voir ci-dessus la solution.) • (Remítase a la solución anterior.)
Pump does not deliver rated capacity. La pompe ne pompe pas le volume normal. La bomba no impele a su capacidad normal.	Lift too high for pump. • Aspiration trop puissante pour la pompe. • Altura de impulsión excesiva para la bomba.	Check rated pump performance. • Vérifier les caractéristiques techniques de la pompe. • Verifique el rendimiento normal de la bomba.
	Low voltage, speed too slow. • Voltage et vitesse pas assez puissants. • Voltaje demasiado bajo, velocidad demasiado baja.	Check for proper supply voltage to make certain it corresponds to nameplate voltage. • S'assurer que le voltage correspond bien à celui mentionné sur la plaque. • Verifique que el suministro de electricidad sea adecuado, para cerciorarse de que corresponde al voltaje indicado en la placa del fabricante.
	Impeller or discharge pipe is clogged. • Obstruction de la roue à aubes ou de tuyau d'écoulement. • La rueda móvil en el tubo de descarga está ocluida.	Pull pump and clean. Check pipe for scale or corrosion. • Tirer la pompe pour la nettoyer. Vérifier la présence de dépôts ou de corrosion dans les tuyaux. • Saque la bomba y límpiela. Inspeccione el tubo, en busca de capas de óxido o corrosión.
	Impeller wear due to abrasives. • Usure de la roue à aubes due aux abrasifs. • Desgaste de la rueda móvil, debido a abrasivos.	Replace worn impeller. • Remplacer la roue à aubes usée. • Cambie la rueda móvil gastada.
Pump cycles continually. La pompe recommence son cycle sans s'arrêter. La bomba se enciende y apaga continuamente	No check valve in long discharge pipe allowing liquid to drain back into sump. • Absence de soupape d'arrêt dans le grand tuyau d'écoulement ainsi permettant l'écoulement du liquide dans le puisard de réception. • Falta la válvula de retención en el tubo de descarga largo, lo cual permite que el líquido refluya a la sumidero.	Install a check valve in discharge line. • Installer une soupape d'arrêt sur le tuyau d'écoulement. • Instale una válvula de retención en la tubería de descarga.
	Check valve leaking. • Fuite à la soupape d'arrêt. • Escape en la válvula de retención.	Inspect check valve for correct operation. • Vérifier la soupape d'arrêt pour obtenir un bon fonctionnement. • Verifique que la válvula de retención funcione correctamente.
	Basin too small for inflow. • Bassin de réception trop petit pour l'afflux. • El fondo del sumidero es muy pequeño o está inundado.	Install larger basin. • Installer une bassin de réception plus grand. • Instale un sumidero con un fondo mayor.

LIMITED WARRANTY

Your Little Giant product is guaranteed to be in perfect condition when it leaves our Factory. It is warranted against defective materials and workmanship for a period of 12 months (90 day warranty on Models: 1-AA-OM, GKPK-SC, PP-1, PPS-1, PP-12, PPS-12, PP-230 and Cooler King) from date of purchase by the user. No warranty on brush wear in Model 35-OM and impeller or cam in Models PP-1, PP-12, and PP-230.

Any product that should fail for either of the above two reasons and is still within the warranty period will be repaired or replaced at the option of Little Giant as the sole remedy of buyer. For our customers in the CONTINENTAL UNITED STATES: Please return the defective unit, postage paid, to the factory at 301 N. MacArthur, Oklahoma City, OK 73127-6616. All defective product returned under warranty will be fully inspected to determine the cause of failure before warranty is approved.

For our customers located elsewhere; it is not economical, due to duties and freight, to return the pump to the factory for inspection. Please return the defective unit to any authorized distributor or dealer with a brief written explanation of the problem. If there are no apparent signs of customer abuse, unit will be repaired or replaced. If dispute arises over replacement of the pump, the distributor or dealer is to segregate such items and hold for inspection by a representative of Little Giant Pump Company or notify factory with details of the problem for factory disposition and settlement of warranty claim.

DISCLAIMER: THE FOREGOING WARRANTY IS AN EXCLUSIVE WARRANTY IN LIEU OF ANY OTHER EXPRESS WARRANTIES, ANY IMPLIED WARRANTIES (INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) TO THE EXTENT EITHER APPLIES TO A PUMP SHALL BE LIMITED IN DURATION TO THE PERIODS OF THE EXPRESS WARRANTIES GIVEN ABOVE.

Warranty will be VOID if any of the following conditions are found:

1. Sealed motor housing opened
2. Product connected to voltage other than indicated on nameplate
3. Cord cut off to a length less than three feet
4. Pump allowed to operate dry (fluid supply cut off)
5. Pump used to circulate anything other than fresh water, light oils, or other mild liquids at approximately room temperature
6. Product abuse by customer

Any oral statements about the product made by the seller, the manufacturer, the representatives or any other parties, do not constitute warranties, shall not be relied upon by the user and are not part of the contract for sale. Seller's and manufacturer's only obligation, and buyer's only remedy, shall be the replacement and/or repair by the manufacturer of the product as described above. NEITHER SELLER NOR THE MANUFACTURER SHALL BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE, DIRECT, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS), ARISING OUT OF THE USE OR THE INABILITY TO USE THE PRODUCT AND THE USER AGREES THAT NO OTHER REMEDY SHALL BE AVAILABLE TO IT. Before using, the user shall determine the suitability of the product for the intended use, and user assumes all risk and liability whatsoever in connection therewith.

Some states and countries do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state and country to country.

The National Electric Code (in the USA) and similar codes in other countries require a Ground Fault Circuit Interrupter (GFCI) to be installed in the branch circuit supplying fountain equipment rated above 15 volts. 115 volt GFCI's (with various cord lengths) are in stock, and we recommend each pump be used with a GFCI.

GARANTIE LIMITÉE

La présente garantit que votre pompe Little Giant est en parfaite condition à sa sortie de l'usine. La pompe est garantie contre tout défaut de matériau ou de fabrication pendant une période de 12 mois (90 jours pour les Modèles: 1-AA-OM, GKPK-SC, PP-1, PPS-1, PP-12, PPS-12, PP-230 et Cooler King) à partir de la date d'achat initial. L'usure des balais sur le modèle 35-OM ainsi que les dommages au rotor ou à la came sur les modèles PP-1, PP-12 et PP-230 ne sont pas couverts par la présente garantie.

Tout produit encore garanti qui serait défectueux pour l'une des deux raisons sus-mentionnées sera réparé ou remplacé à la discrétion du fabricant. L'acheteur n'aura pas d'autre recours. Pour nos clients aux ÉTATS-UNIS (territoire continental seulement) : Veuillez retourner l'article défectueux suffisamment affranchi à l'usine à l'adresse suivante : 301 N. MacArthur Blvd., Oklahoma City, OK 73127-6616. Tous les produits garantis retournés feront l'objet d'une inspection détaillée afin de déterminer si la défectuosité est couverte par la garantie. Pour les clients à l'extérieur des États-Unis : étant donné les frais de douane et de transport, il n'est pas économique de retourner la pompe à l'usine pour inspection. Expédier la pompe ainsi qu'une brève description du problème à tout distributeur ou détaillant autorisé. Si elle ne présente aucun signe apparent d'une mauvaise utilisation, elle sera remplacée ou réparée. S'il y a conflit sur la nécessité de remplacer la pompe, le distributeur ou le détaillant devra garder celle-ci et, soit la fera inspecter par un représentant de Little Giant Pump Company, soit aviser l'usine du problème afin de connaître la décision de celle-ci et le règlement de la réclamation.

DÉNÉGATION : LA GARANTIE ÉNONCÉE DANS LES PRÉSENTES EST EXCLUSIVE ET REMPLACE TOUTE AUTRE GARANTIE EXPRESSE OU IMPLICITE; CELA COMPORTE, MAIS NON EXCLUSIVEMENT, TOUTE GARANTIE IMPLICITE D'APTITUDE À LA COMMERCIALISATION OU D'APTITUDE PARTICULIÈRE, POUVANT S'APPLIQUER À UNE POMPE LITTLE GIANT. DE PLUS, ELLE NE S'APPLIQUE QUE DURANT LA PÉRIODE DE COUVERTURE PRÉCISÉE CI-DEVANT.

La présente garantie sera ANNULÉE si :

1. Le boîtier scellé du moteur a été ouvert
2. Le branchement à une tension autre que celle indiquée sur la plaque du fabricant a été effectué
3. Le fil d'alimentation a été coupé à une longueur inférieure à 0,91 m (trois pieds)
4. La pompe a tourné à vide (l'alimentation en liquide a été coupée)
5. La pompe a été utilisée pour faire circuler des liquides autres que de l'eau fraîche, des huiles légères ou d'autres liquides non corrosifs et ce, à la température ambiante
6. La pompe a été mal utilisée

Toute déclaration sur la pompe faite oralement par le vendeur, le fabricant, le représentant ou par toute autre partie ne constitue pas une garantie et, par conséquent, ne peut servir à l'utilisateur. De plus, une telle déclaration ne peut, en aucun cas, faire partie du contrat de vente. L'unique obligation du vendeur et du fabricant, et l'unique recours de l'acheteur, est le remplacement ou la réparation de la pompe selon les modalités décrites précédemment. NI LE VENDEUR NI LE FABRICANT NE PEUVENT ÊTRE TENUS RESPONSABLES DE TOUTE BLESSURE, TOUTE PERTE, OU TOUT DOMMAGE DIRECT, INDIRECT OU ACCESSOIRE (INCLUANT, MAIS NON EXCLUSIVEMENT, LES VENTES OU PROFITS PERDUS, LES ATTEINTES AUX PERSONNES OU À LA PROPRIÉTÉ OU TOUTE AUTRE PERTE INDIRECTE OU ACCESSOIRE) RÉSULTANT DE L'UTILISATION OU DE L'INCAPACITÉ D'UTILISATION DE LA POMPE, ET L'ACHETEUR CONVIENT QU'IL NE DISPOSE D'AUCUN AUTRE RECOURS. L'acheteur doit s'assurer que la pompe convient à l'usage projeté; il assume aussi tout risque et toute responsabilité relativement à cet usage.

Certaines juridictions ne permettent pas la limitation de la durée d'une garantie ou l'exclusion ou la limitation de responsabilité pour des dommages indirects ou accessoires. Par conséquent, il est possible que la limitation ou l'exclusion indiquée précédemment puisse ne pas être applicable. Cette garantie vous donne des droits particuliers et peut-être d'autres, dépendamment des juridictions en vigueur.

Le code national de l'électricité et autres codes semblables d'autres pays exigent l'installation d'un interrupteur avec mise à la terre (GFI) sur le circuit d'alimentation de la fontaine pour toute installation dont la tension est supérieure à 15 volts. Nous offrons de tels interrupteurs (avec différentes longueurs de fil) et nous recommandons que chaque pompe soit reliée à un interrupteur de ce type.

GARANTIA LIMITADA

El producto que Little Giant le ofrece está garantizado a estar en perfectas condiciones al momento de salir de la fábrica. El producto está garantizado contra materiales y fabricación defectuosa por un período de 12 meses (una garantía de 90 días para los Modelos: 1-AA-OM, GKPK-SC, PP-1, PPS-1, PP-12, PPS-12, PP-230 y Cooler King) desde la fecha en la cual fue comprada por el usuario. No hay garantía contra el gasto del cepillo del Modelo 35-OM e impulsor o leva en los Modelos PP-1, PP12 y PP-230.

Cualquier producto que falle por alguna de las dos razones anteriores y que esté dentro del período de garantía será reparado o reemplazado a opción de Little Giant y éste será el único remedio del comprador. Para nuestros clientes en los ESTADOS UNIDOS CONTINENTALES: Por favor, devolver la unidad defectuosa, con el porte pagado, a la fábrica en P. O. Box 12010, Oklahoma City, OK 73127-6616. Todo producto defectuoso devuelto bajo la garantía será cuidadosamente inspeccionado para determinar la causa de la falla antes de aprobar la garantía. Para nuestros clientes ubicados en otros lugares; no es económico devolver la bomba a la fábrica para que ésta sea inspeccionada, debido a los impuestos y el flete. Por favor, devuelva la unidad defectuosa a cualquier distribuidor o vendedor autorizado con una breve explicación por escrito del problema. Si no existen señas aparentes de abuso por parte del cliente, la unidad será reemplazada o reparada. Si se produce una disputa sobre el reemplazo de la bomba, el distribuidor o vendedor debe separar los artículos y relacionarlos para que sean inspeccionados por un representante de Little Giant Pump Company o avisarle a la fábrica de los detalles del problema para que la fábrica disponga de las acciones necesarias y resuelva el reclamo de la garantía.

DESAUTORIZACION: LA GARANTIA ANTERIOR ES UNA GARANTIA EXCLUSIVA EN LUGAR DE CUALQUIER OTRA GARANTIA EXPRESA. CUALQUIER GARANTIA IMPLICADA (INCLUYENDO PERO NO LIMITADO A CUALQUIER GARANTIA IMPLICADA DE COMERCIALIZACION O APTITUD PARA PROPOSITO PARTICULAR) EN LA MEDIDA EN QUE SE PUEDA APLICAR A UNA BOMBA, QUEDARA LIMITADA EN DURACION A LOS PERIODOS DE GARANTIAS PROPORCIONADOS ANTERIORMENTE.

La garantía será declarada NULA si se encuentran cualesquiera de las siguientes condiciones:

1. El alojamiento sellado del motor abierto
2. El producto conectado a un voltaje que no es el indicado en la placa principal
3. El cable cortado a menos de tres pies (0,91 m.)
4. Se permitió que la bomba opere en seco (envío de fluido cortado)
5. La bomba empleada para hacer circular cualquier otra sustancia que no sea agua fresa, aceites livianos u otros líquidos livianosaproximadamente a temperatura ambiente
6. Abuso del producto por parte del cliente

Cualquier declaración oral acerca del producto hecha por el vendedor, fabricante, representantes o cualquiera de las partes, no constituyen garantías, el usuario no debe confiarse de ellas, y no forman parte del contrato de compra-venta. La única obligación del vendedor y del fabricante y el único remedio para el comprador, será la reposición y/o reparación del producto por parte del fabricante bajo las condiciones descritas anteriormente. NI EL VENDEDOR NI EL FABRICANTE SE HACEN RESPONSABLES DE NINGUNA LESION, PERDIDA O DAÑO, DIRECTO, INCIDENTAL O CONSECUENTE (INCLUYENDO, PERO SIN LIMITARSE A, DAÑOS INCIDENTALES O CONSECUENTES DEBIDO A GANANCIAS PERDIDAS, VENTAS PERDIDAS, DAÑOS A PERSONAS O PROPIEDADES O CUALQUIER OTRA PERDIDA INCIDENTAL O CONSECUENTE), QUE RESULTE DEL USO O DE LA IMPOSIBILIDAD DEL USO DEL PRODUCTO, Y EL COMPRADOR ACUERDA QUE NO EXISTE OTRO REMEDIO DISPONIBLE PARA EL. Antes de usar, el usuario debe determinar si el producto se adapta al uso deseado, y el usuario asume todos los riesgos y responsabilidades en relación a ello.

Algunos estados y países no permiten limitaciones sobre la duración de una garantía implícita o la exclusión o limitación de daños incidentales o consecuentes, de manera que las limitaciones o exclusiones anteriores podrían no tener aplicación en su caso. Esta garantía le da derechos legales específicos, y usted podría disponer también de otros derechos que varían de un estado a otro y de un país a otro.

El Código Eléctrico Nacional (en los Estados Unidos) y códigos similares en otros países requieren un interruptor de circuito de falla de conexión a tierra (GFCI) para ser instalado en el circuito secundario que suministra equipo de fuente calibrado por encima de 15 voltios. En el almacén se encuentran GFCI de 115 voltios (con varias longitudes de cable), y recomendamos que cada bomba sea usada con un GFCI.

Form 993976 - 06/2006

M12

Installation Manual

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Lawrence, MA 01840

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clivusmultrum incorporated

Rev. 12/09

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A Maintenance Manual is available from your local Clivus Multrum representative.

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 M12 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 M12 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.**

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.

Materials

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

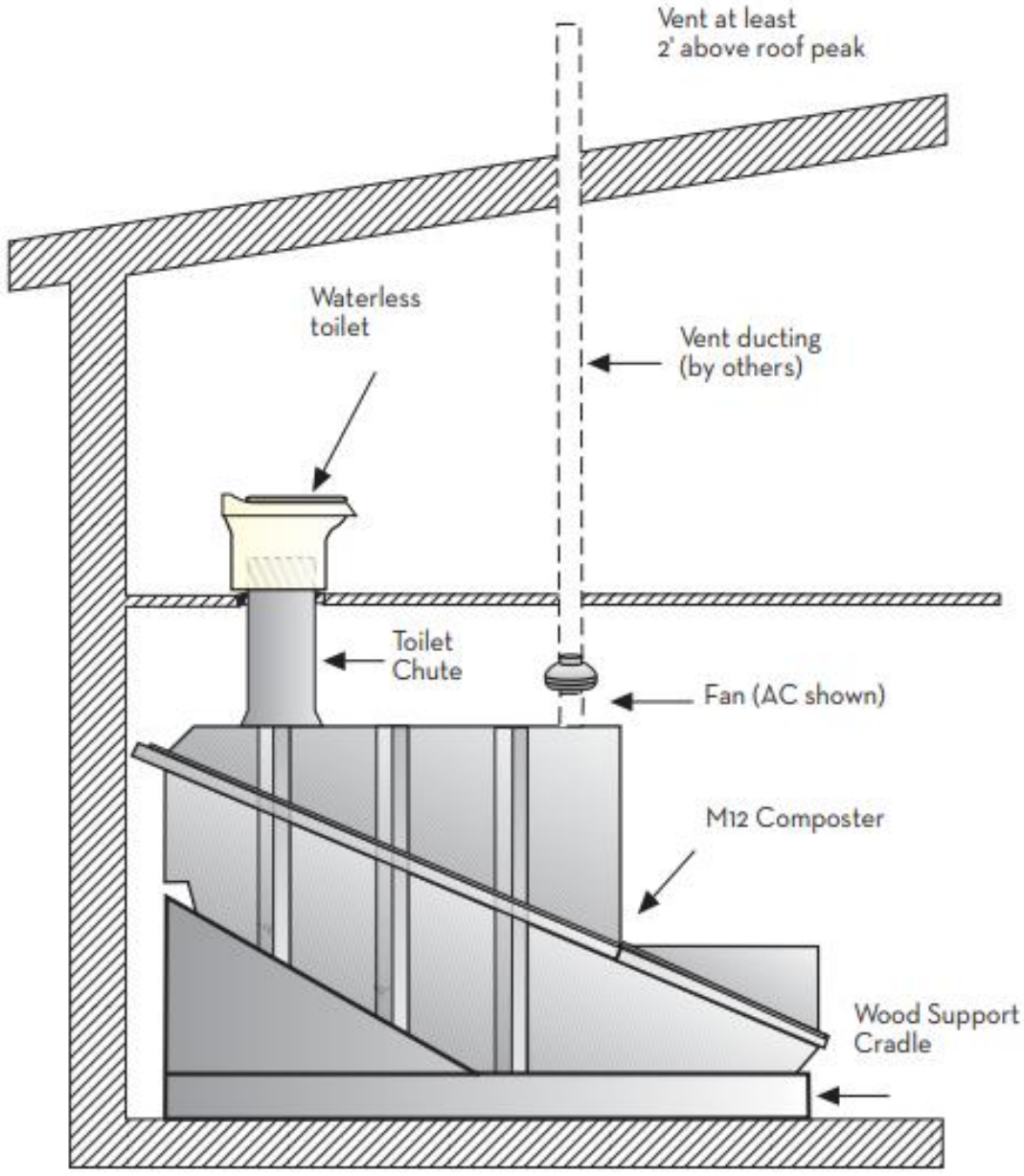
- PVC electrical junction boxes, electrical wiring and all other necessary electrical connections supplied by installing electrician.
- All necessary plumbing connections supplied by installing plumber.
- 3" galvanized nails
- 4" Schedule 40 plastic pipe for vent system

Tools

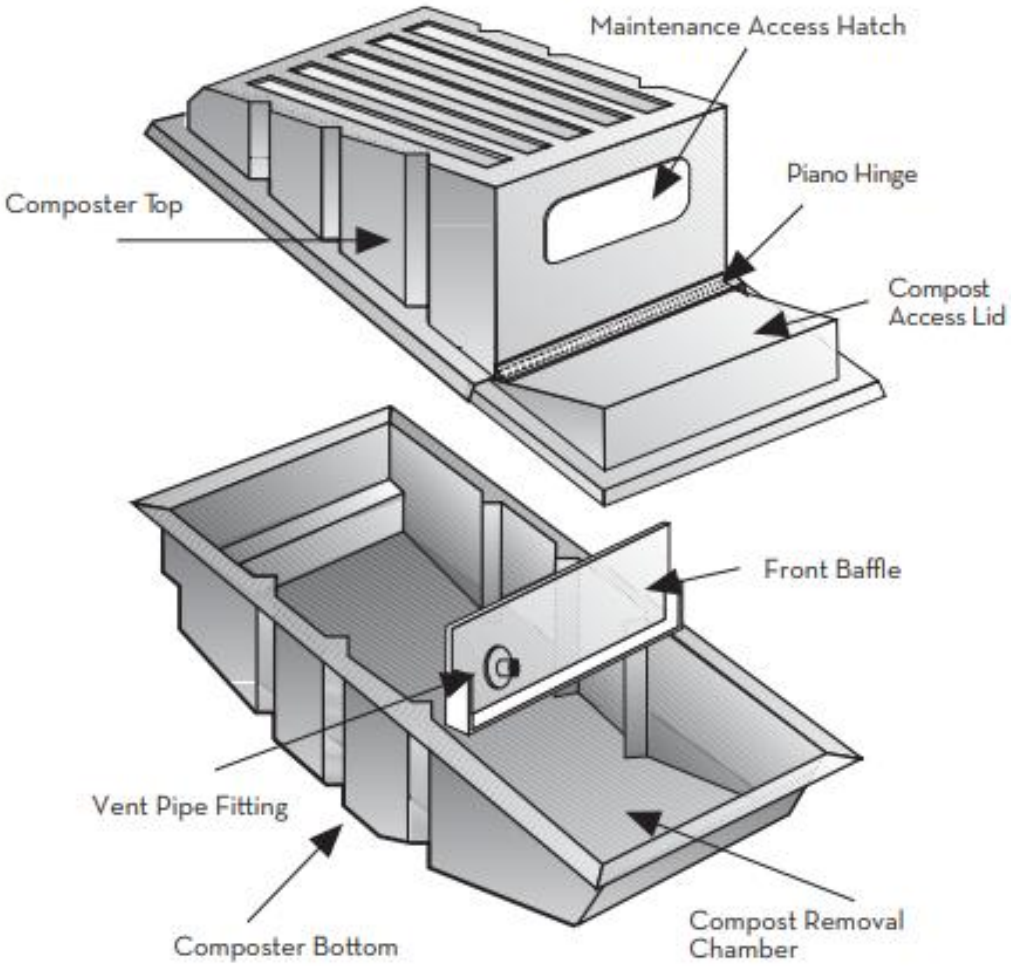
hammer
plumb bob
square
standard & Phillips screwdrivers
compass
hand saw
adjustable hole saw
caulking gun
two wrenches 7/16"
level
drill bits (1/8", 3/16", 5/16")
drill
tape measure
jig saw, reciprocating saw
metal & wood-cutting saw blades

KEEP THIS MANUAL HANDY FOR FUTURE REFERENCE OR SERVICE.

Typical Configuration



Exploded View



Installation and Assembly Instructions

Composter Support Cradle

Materials List

2-2X6X92 1/2 (Part A)

1-2X6X54 (Part B)

1-rear support

1-angled support

2-plywood triangle

3" decking screws

2" decking screws

1. Construct base rectangle: screw Rear Support inside 2X6's (Part A) with screws in each corner. Screw short 2x6 (Part B) inside parts A with screws in each corner.

2. Place notched end of angled support on top edge of rear support and screw through the 1/2" plywood into each 2X6.

3. Screw through the 2x6 into the botton of the Angled Support on both sides.

4. Set plywood triangle on 2X6 and attach using 2" screws.

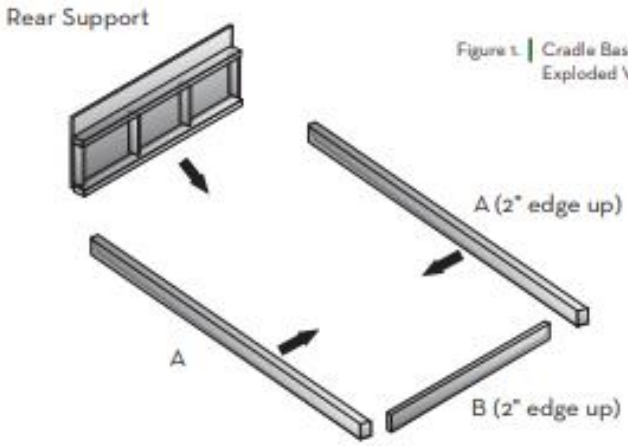


Figure 1. | Cradle Base Exploded View

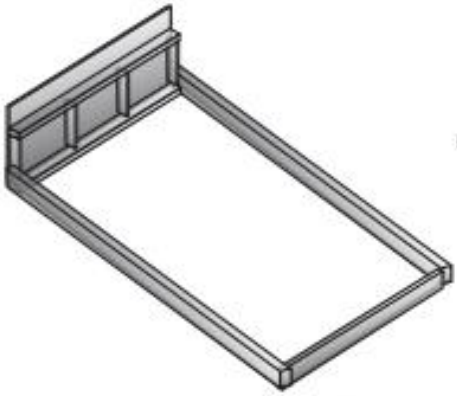


Figure 2. | Constructed Base

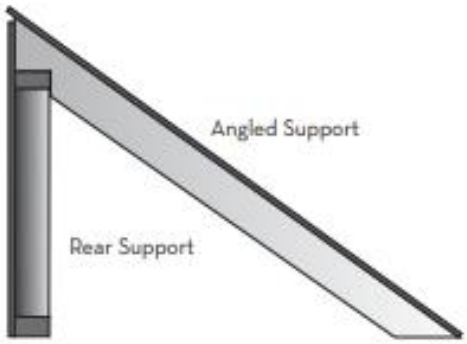


Figure 3. | Cradle, Side View

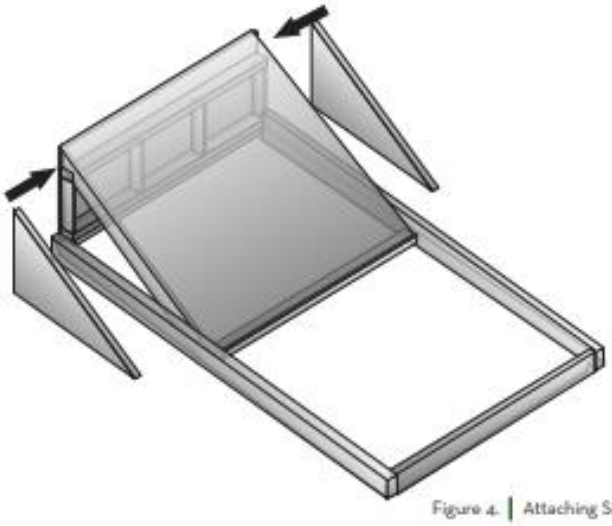


Figure 4. | Attaching Side Triangles

Installation and Assembly Instructions (continued)

Composter Assembly

1. Place front baffle into position, flange forward, and loosely attach using a bolt, nut and two washers (1 inside and 1 outside) in each of the three holes per side.

2. Apply a liberal bead of sealant between baffle flange and tank sides and tighten bolts.

3. Place composter top onto base, aligning pre-drilled holes. Place a bolt and washer into each hole from above. Loosely attach a washer and nut onto each bolt from below.

4. Use several screw drivers or other implements to raise composter top slightly. Squeeze a liberal amount of sealant into gap all around. Remove screwdrivers. Tighten bolts on flange.

5. Set access door in place on front of base and attach from the hinge side using bolts provided. Washers are on inside only. Attach nuts loosely.

6. From inside the base, apply a liberal bead of sealant between the front baffle and tank top. Tighten bolts.

7. From inside the tank, apply a liberal bead of sealant around all joints (i.e., bottom/top, baffle/side/top).

8. From inside of tank, glue PVC pipe onto Vent Pipe Fitting (to vent front area of composter). Pipe must be in a vertical position.

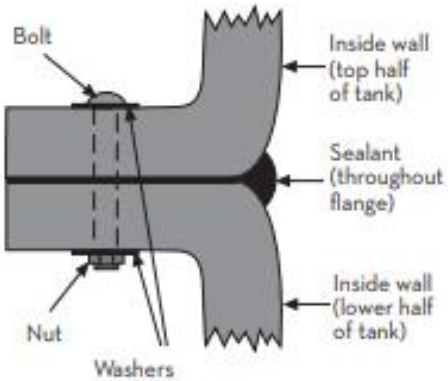


Figure 7. | Flange Detail

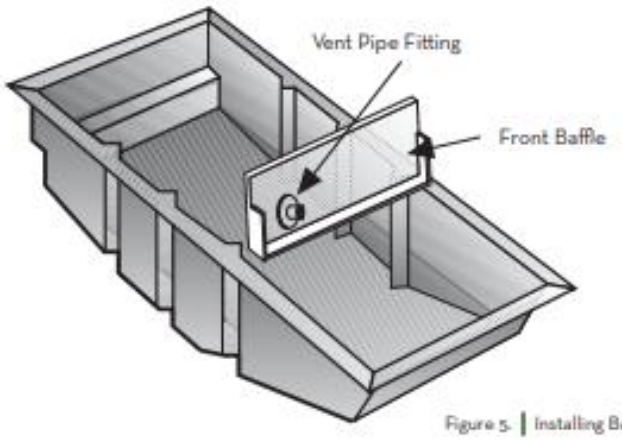


Figure 5. | Installing Baffle

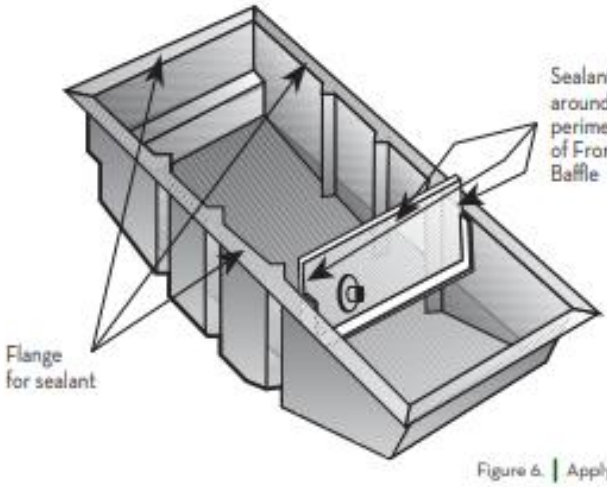


Figure 6. | Applying Sealant

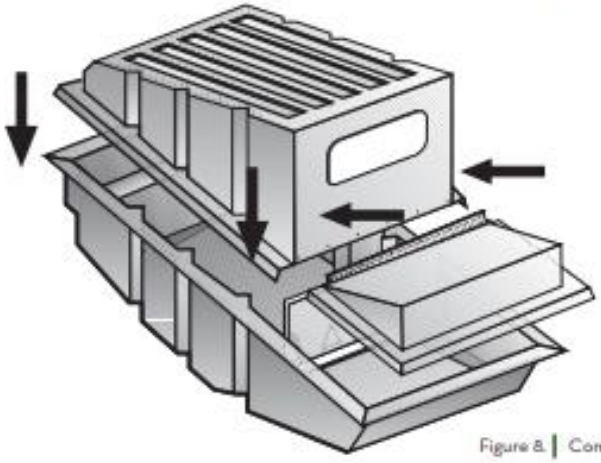


Figure 8. | Composter Top and Access Door Installation

Fixture Location & Installation

Note: For M12 systems using the Foam-flush toilet fixture, see Foam-flush Installation Manual.

Toilet Chute Location ***(Waterless toilet)***

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 composter top as per plan, or as far to rear of tank top working area as possible.

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 composter top, using plumb bob point as center point of circle.

4. Place flanged chute into composter top. Add any needed extension chutes. Cut topmost chute to proper length.

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

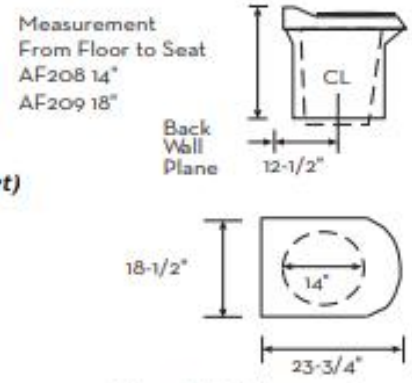


Figure 9. | Toilet Measurements

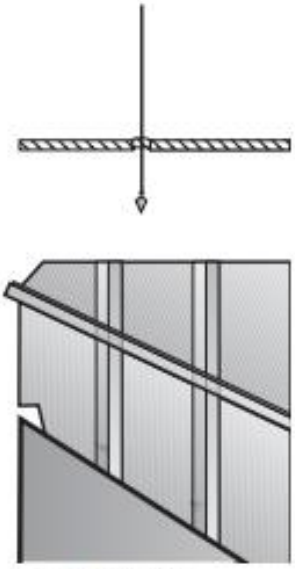


Figure 10. | Plumb Bob

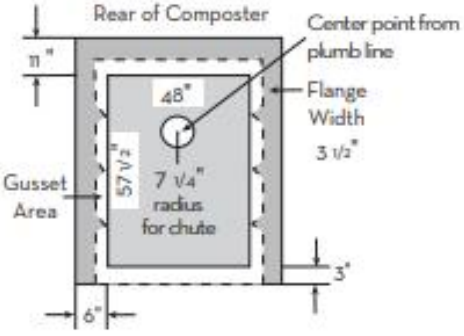


Figure 11. | Top Working Area

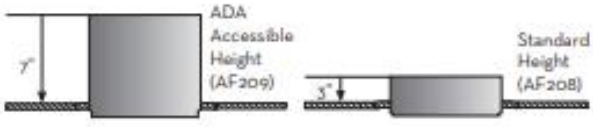


Figure 12. | Chute Height

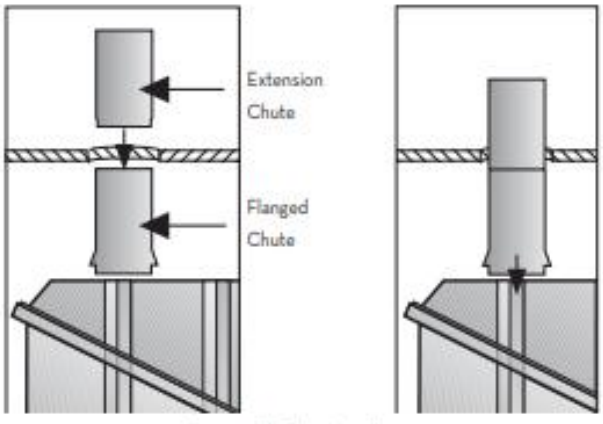


Figure 13. | Chute Installation

Installation and Assembly Instructions (continued)

Adding Starter Bed

Add approximately 35 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.

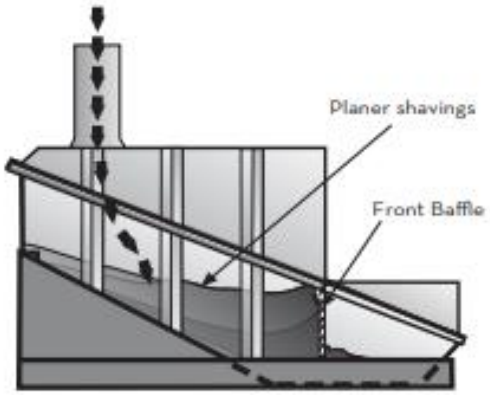


Figure 14. | Adding Starter Bed

Waterless 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. Run a small bead of caulk around the base of the toilet using the white caulking provided.

5. Attach Clivus "123" sign in toilet stall.

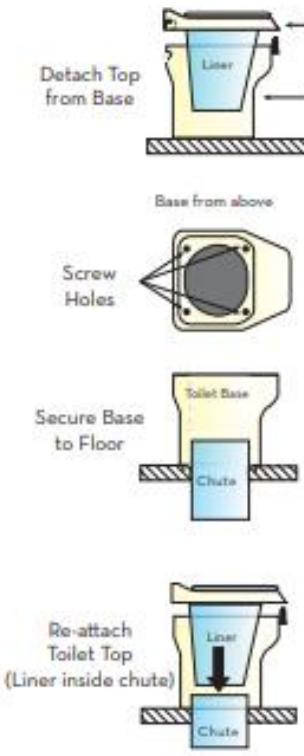


Figure 15. | Toilet Installation

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 composter using 2" drain pipe. Do not install in-line trap. Use as steep a slope as possible. Use clean-out at every elbow.

3. Caulk around pipe where it enters composter.

4. Caulk around pipe where it passes through finished floor.

5. Attach Clivus "123" sign in urinal stall.

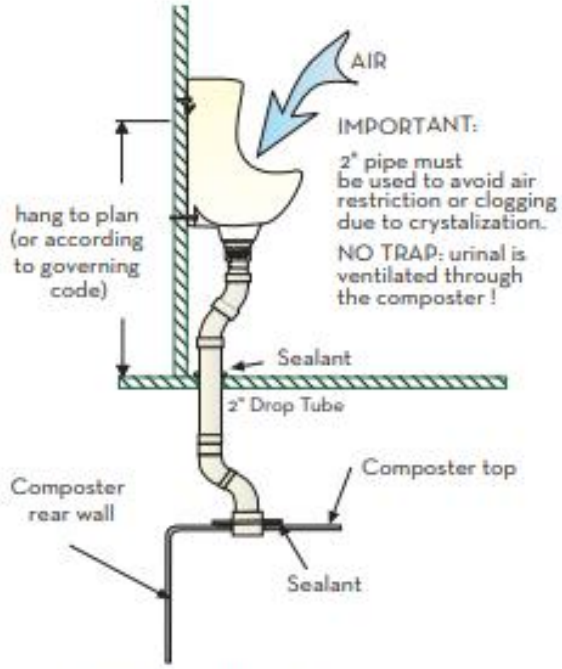


Figure 16. | Urinal Installation

Ventilation Installation

AC or DC Fan

1. Position mounting flange as far to front of top surface and as far from toilet connections as possible, centering it on a raised rib.

2. Trace inside of flange onto composter 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 composter 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.

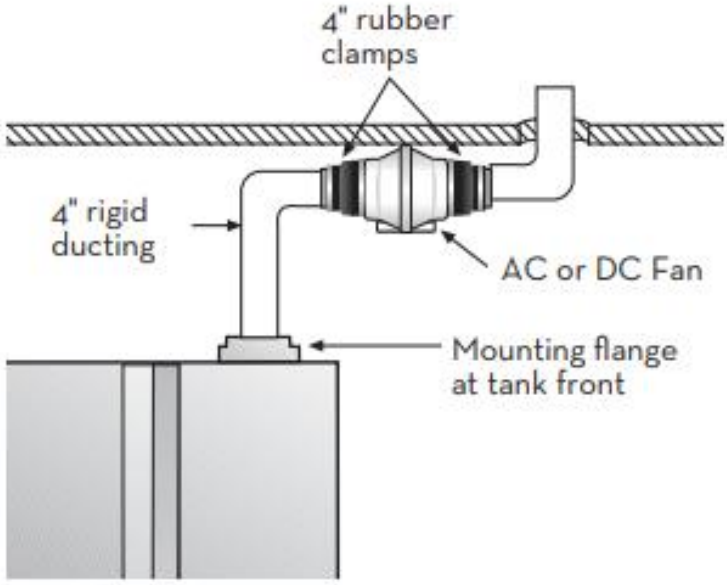


Figure 17. | Fan Installation

Liquid Removal System

AC Pump

1. Position pump assembly in the front-left or front-right corner of composter, on the side closest to external drain line.

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 isolation chamber lid, then through composter side wall.

DC Pump

1. Position pump assembly in the front left or front right corner of composter. on the side closest to the external drain line.

2. Use SS bolt and nut to mount pedal float to bottom of pump chamber. Bring bolt from underside of chamber

3. Wire pedal float and pump inside junction box with positive and negative leads from DC power source.

4. Mount ball check-valve above pump chamber lid. Plumb to drain line, exiting through side wall of composter using 1" tank adapter.

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.

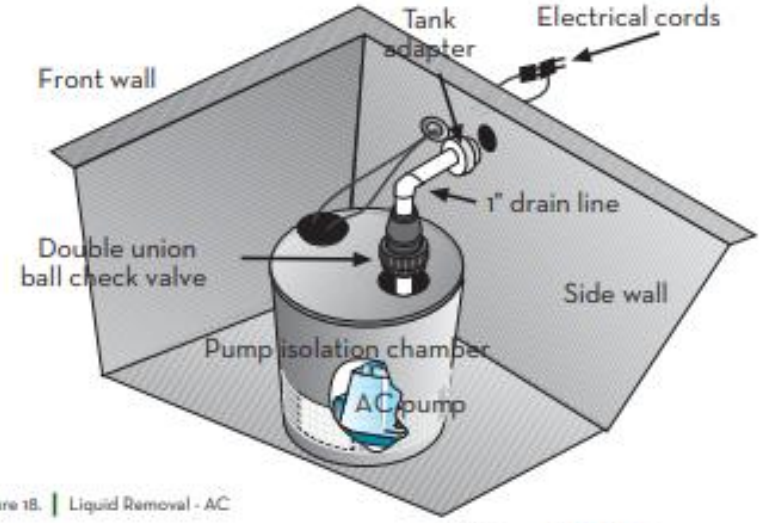


Figure 18. | Liquid Removal - AC

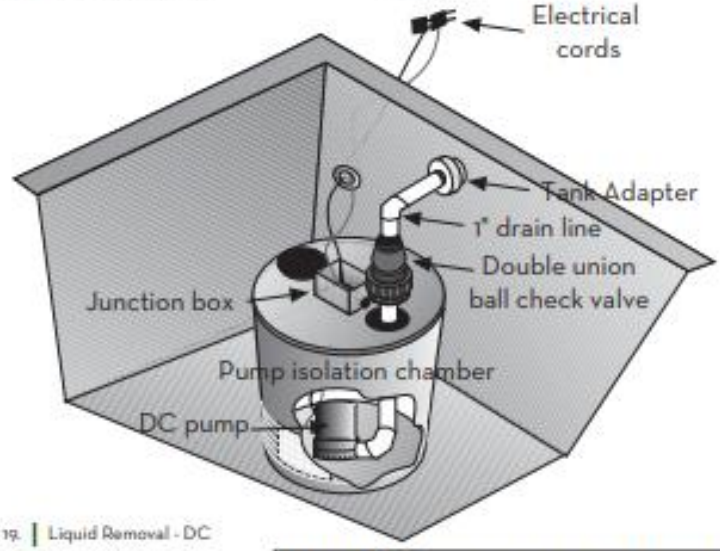


Figure 19. | Liquid Removal - DC

NOTE: Liquid removal system and storage tank set-up are site specific. Please see system plan associated with your system for pipe size, etc.

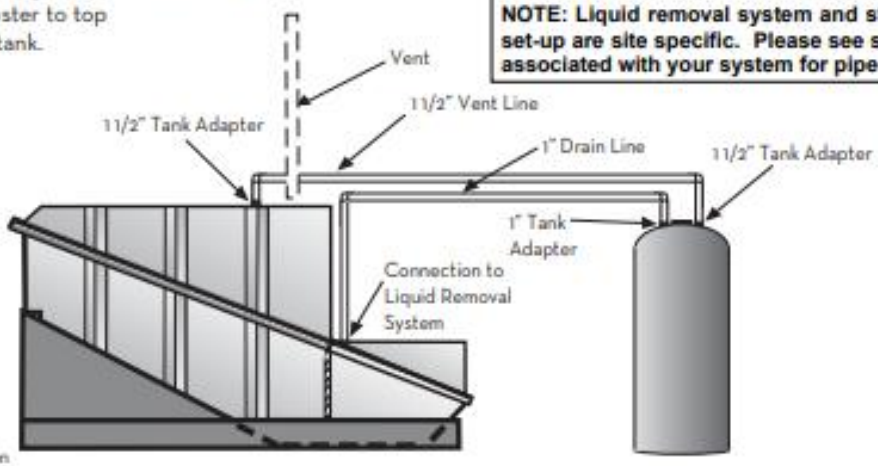


Figure 20. | Liquid Removal Final Drain Connection

Moistening System

Pressurized

1. Install solenoid valve. Include union for future removal. Check with local code for back-flow prevention requirement.

2. Wire coil to relay terminal in 6x6 timer box as shown below. Mount coil to valve.

3. Mount timer box near composter. Factory preset is for four spray intervals of ten seconds each per 24-hour period.

Moistening Starter Bed

1. Run moistening system several times until starter bed is thoroughly damp. (See Maintenance Manual for moistening system timer operation.)

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 11. Adjust if necessary.

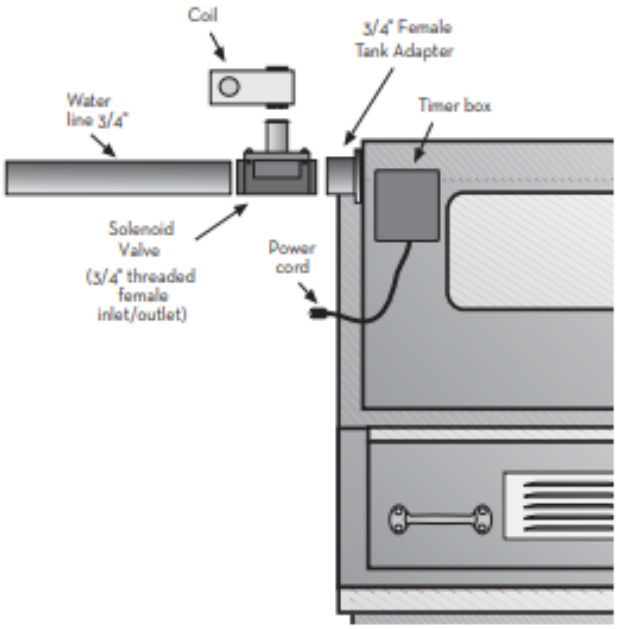


Figure 21. | Moistening System - AC

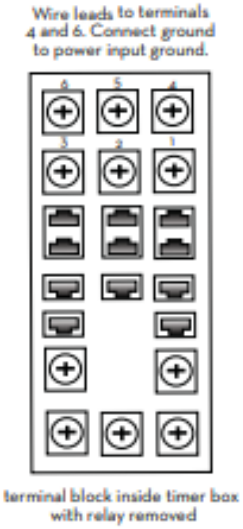


Figure 22. | Moistening System - Coil Wiring

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 one foot 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 M12 composter. For general care of the system, consult the M12 Maintenance Manual.

QUESTIONS ABOUT THE INSTALLATION OR OPERATION OF THIS DEVICE SHOULD BE DIRECTED TO YOUR LOCAL CLIVUS MULTRUM REPRESENTATIVE OR TO CLIVUS MULTRUM, INC.

Clivus New England, Inc.
P.O. Box 127
North Andover, MA 01845
(978) 794-9400
Fax: (978) 794-9444
E-mail: 123CNE@clivusne.com

clivus new england incorporated

DATE: July 25, 2024

TO: Dan Sturgeon, Dir. of Recreation CC: Lisa Truchon, Clivus New England

FROM: Joseph A. Ducharme

RE: State's Landing boat ramp, Moultonborough, NH

Based on your projected usage of the boat ramp falling below the usage of Kraine Meadow Park, the M12 system will work well at this seasonal facility. The budgetary estimate for the composting toilet system is **$24,350** and includes:

- 1 M-12 composter with wooden cradle support
- 1 Liquid removal assembly
- 1 Fantech AC FR150 ventilation fan assembly
- 2 AF209 handicapped waterless toilet fixtures with connecting chutes
- 1 500-gallon liquid storage tank with high-level alert
- All necessary internal composter components for proper operation

Please allow Clivus New England to review all building plans to ensure proper layout and installation of the system.

This estimate also includes freight, installation instruction to your installing plumber, system certification, and a maintenance training session. Others will be responsible for offloading of freight and system installation.

This estimate does not include the 4" PVC ventilation pipe which must run from the top of the composter up above the roof line, or any PVC piping associated with the liquid storage tank.

A receptacle with four outlets will be needed for the liquid removal pump and to provide extra service outlets, and should be placed within 5' 10" of the composter location. The liquid removal pump situated in the bottom of the composter will pump the liquid end-product to the storage tank. The high-level alert should be plugged into a grounded receptacle on a separate circuit than the liquid removal pump. When hard wiring the ventilation fan, a variable speed switch should be installed; this will allow for site specific adjustments and eliminate the need for any dampers in the ventilation system.

Starter material for the M-12 consists of 3 bales of planer shavings provided by Clivus, plus 2 bales of peat moss to be supplied by your installer.

Site specific service and maintenance options are available to minimize costs and maximize operational efficiency. Let us know how our service department can fulfill your needs; or we can discuss service options at a time when we are on site.

Currently there is a ten-week lead-time for the composting toilet equipment. We require a 50% deposit at the time of order, with balance due prior to delivery. This quotation is valid for 10 days.

Please review the enclosed materials to be acquainted with all the aspects of installation. We can then discuss the most efficient way for us all to complete this project. Look forward to hearing from you.

Best regards.

JAD/lmt
Enclosures

- M-12 spec sheet
- M-12 installation and maintenance manuals
- PC12 wooden support cradle spec
- Fantech FR150 ventilation fan spec sheet
- Liquid removal assembly spec sheet
- 500-gallon liquid storage tank spec sheet
- Composter maintenance
- Waterless toilet spec sheet
- Warranty

The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

AMENDED SHORELAND IMPACT PERMIT 2019-02008

NOTE CONDITIONS

PERMITTEE:	**TOWN OF MOULTONBOROUGH** **PO BOX 139** **MOULTONBOROUGH NH 03254**
PROJECT LOCATION:	**STATES LANDING BEACH RD, MOULTONBOROUGH** **Tax Map/Block/Lot(s): 120/no block/95**
WATERBODY:	**LAKE WINNIPESAUKEE**
AMENDMENT DATE:	**MAY 04, 2021**
TIME EXTENSION DATE:	**JUNE 10, 2024**
APPROVAL DATE:	**JULY 30, 2019** **EXPIRATION DATE: JULY 30, 2029**

Shoreland Permit Application 2019-02008 has been found to meet or exceed the requirements of RSA 483-B as required per RSA 483-B:6, II. The New Hampshire Department of Environmental Services (NHDES) hereby issues this Shoreland Impact Permit with conditions pursuant to RSA 483-B:6, II.

AMENDED PERMIT DESCRIPTION:
Impact 52,900 square feet of protected shoreland in order to modify the municipal beach and park facilities including paving a walking trail with timber bridge, construction of 5 rain garden sections, a volleyball pit, horseshoes pits, and play area, installation of a shelter with 2 patios, relocation of guard shack, and boat trailer management areas.

AMENDMENT DESCRIPTION: Plans revised in order to include the impact to 52,900 square feet of protected shoreland in order to remove a shed, modify the municipal beach facilities including the parking facilities, ramp access road, walkways, and 2 pedestrian bridges, construction of a volleyball pit, horseshoes pits, a play area, a pavilion, a boat trailer management area, stormwater management, and regrading and landscaping.

Impervious Surface Percentage Approved: Reduced to 9.0%

Natural Woodland Area Required per RSA 483-B:9,V, (b): 9,725 square feet

THE FOLLOWING AMENDED PROJECT-SPECIFIC CONDITIONS HAVE BEEN APPLIED TO THE PERMIT PURSUANT TO ENV-WQ 1406.15(c):

1. All work shall be in accordance with plans by David M. Dolan dated June 30, 2015 and KV Partners dated March 25, 2016 and then amended by KV Partners LLC on February 8, 2021 as received by the NH Department of Environmental Services (NHDES) on May 4, 2021 pursuant to 483-B:5-b Permit Required; Exemption, I, (a).
2. Within three days of final grading or temporary suspension of work in an area that is in or adjacent to wetlands or surface waters, all exposed soil areas shall be stabilized by seeding and mulching during the growing season, or if not within the growing season, by mulching with tack or netting and pinning on slopes steeper than 3:1 as required pursuant to RSA 483-B:9, V, (d) Erosion and Siltation, (1).
3. This permit shall not be interpreted as acceptance or approval of any impact that will occur within wetlands jurisdiction regulated under RSA 482-A including all wetlands, surface waters and their banks, the tidal-buffer zone, and sand dunes. The owner is responsible for maintaining compliance with RSA 482-A and Administrative Rules Env-

Wt 100 - 900 and obtaining any Wetland Impact Permit that may be required prior to construction, excavation or fill that will occur within Wetlands jurisdiction as required pursuant to RSA 483-B:6, I, (c).

4. This permit shall not preclude NHDES from taking any enforcement or revocation action as authorized pursuant to 483-B:5, I. If NHDES later determines that any of the structures depicted as "existing" on the plans submitted by the applicant were not previously permitted or grandfathered.

THE FOLLOWING STANDARD PROJECT CONDITIONS SHALL BE MET PURSUANT TO ENV-WQ 1406.20:

1. Erosion and siltation control measures shall be installed prior to the start of work, be maintained throughout the project, and remain in place until all disturbed surfaces are stabilized.
2. Erosion and siltation controls shall be appropriate to the size and nature of the project and to the physical characteristics of the site, including slope, soil type, vegetative cover, and proximity to wetlands or surface waters.
3. No person undertaking any activity in the protected shoreland shall cause or contribute to, or allow the activity to cause or contribute to, any violations of the surface water quality standards established in Env-Wq 1700, and the requirements in Env-Wq 1404.01(a) and(b).
4. Any fill used shall be clean sand, gravel, rock, or other suitable material.
5. For any project where mechanized equipment will be used, orange construction fence shall be installed prior to the start of work at the limits of the temporary impact area as shown on the approved plans; be maintained throughout the project; and remain in place until all mechanized equipment has been removed from the site.

ANY INDIVIDUAL CONDUCTING WORK UNDER THIS PERMIT IS ADVISED OF THE FOLLOWING:

1. During construction, a copy of this permit should be posted on site in a prominent location visible to inspecting personnel.
2. This permit does not convey a property right, nor authorize any injury to property of others, nor invasion of rights of others.
3. Pursuant to Env-Wq 1406.21, transfer of this permit to a new owner requires notification to, and approval of, NHDES.
4. This project has been screened for potential impact to **known** occurrences of protected species and exemplary natural communities in the immediate area. Since many areas have never been surveyed, or only cursory surveys have been performed, unidentified sensitive species or communities may be present. This permit does not absolve the permittee from due diligence in regard to state, local or federal laws regarding such communities or species. This permit does not authorize in any way the take of threatened or endangered species, as defined by RSA 212-A:2, or of any protected species or exemplary natural communities, as defined in RSA 217-A:3.

APPROVED:

Rosemary Aures

Rosemary E. Aures
Shoreland/Shoreline Specialist, Shoreland Program
Wetlands Bureau, Land Resources Management
Water Division

THIS PERMIT IS NOT VALID UNTIL SIGNED BY THE PARTIES BELOW (Env-Wq 1406.21(c))

PERMITTEE SIGNATURE (required)

PRINCIPAL CONTRACTOR SIGNATURE (required, if any)