Lincoln-Lancaster County Health Department
Environmental Public Health Division
3140 N Street • Lincoln NE 68510-1514
Phone: 402-441-8643

A

Permit Number
HS001617

Onsite Wastewater Treatment System
Request for Site Clearance and Permit

Include Form B and C. Submit correct fee with this Application

3 acres or more required for: ☒ Septic System ☐ Lagoon ☐ Other (Refer to Form C)

The undersigned hereby requests site clearance and permit to construct a Wastewater Treatment System in conformance with appropriate regulations.

PLEASE PRINT OR TYPE

A. Onsite System Location

Address _____ City _____, NE Zip _____
(no rural route)

Legal Description 17 9 6 Twin Pines 4 6
1/4 1/4 Section Township Range Subdivison Addition Block Lot

Geographical Location (if known): Lat/Long: _____ PID 0917400006000

B. Owner

Name Jacob Dieckman Signature _____

Address _____ City/State/Zip _____

Home Phone _____ Work Phone _____

C. Certified Installer

Name: Blain Johnson Signature _____

Address 8533 E State Hwy 43 City/State/Zip Adams NE 68301

Work Phone 402 610 2270

D. Engineer

☐ **Check and complete if engineer designed system** P.E. License Number: _____

Designer Name _____ Firm _____ Work Phone _____

E. This system will serve a

☒ Residential Dwelling Number of Bedrooms 5 Is there a Whirlpool Bathtub? ☒ Yes ☐ No Total Acres 3

☐ Commercial Establishment/Other Facility Specify _____ Design flow in gallons per day _____

Type of Wastewater ☐ Domestic ☐ Non-Domestic Well Permit Applied for ☐ Yes ☐ No ☐ Not Applicable

DO NOT WRITE BELOW THIS LINE

Approval Process ☐ Municipal Code 24.38 ☐ County Resolution No. 02-30

1. Health Department
Site visits _____
Date rec'd _____ Date frwd _____
ACTION ☐ Approved ☐ Disapproved
Signature _____

2. Supt. Bldg. Insp. or Village Clerk
Comments _____
Date rec'd _____ Date frwd _____
ACTION ☐ Approved ☐ Disapproved
Signature _____

3. City or County Engineer
Comments _____
Date rec'd _____ Date frwd _____
ACTION ☐ Approved ☐ Disapproved
Signature _____

Installation Final Written Approval
By _____
Date _____

Business Office Use Only
Date Received 3-12-18 Amount Paid $405.00
Received By _____ Cash/Check No. 2629

White - Health Department Yellow - Engineer Pink - Building & Safety

Form A Updated: 5/10

Lincoln-Lancaster County Health Department
Environmental Public Health Division
3140 "N" Street • Lincoln, NE 68510-1514
Phone: 402-441-8022

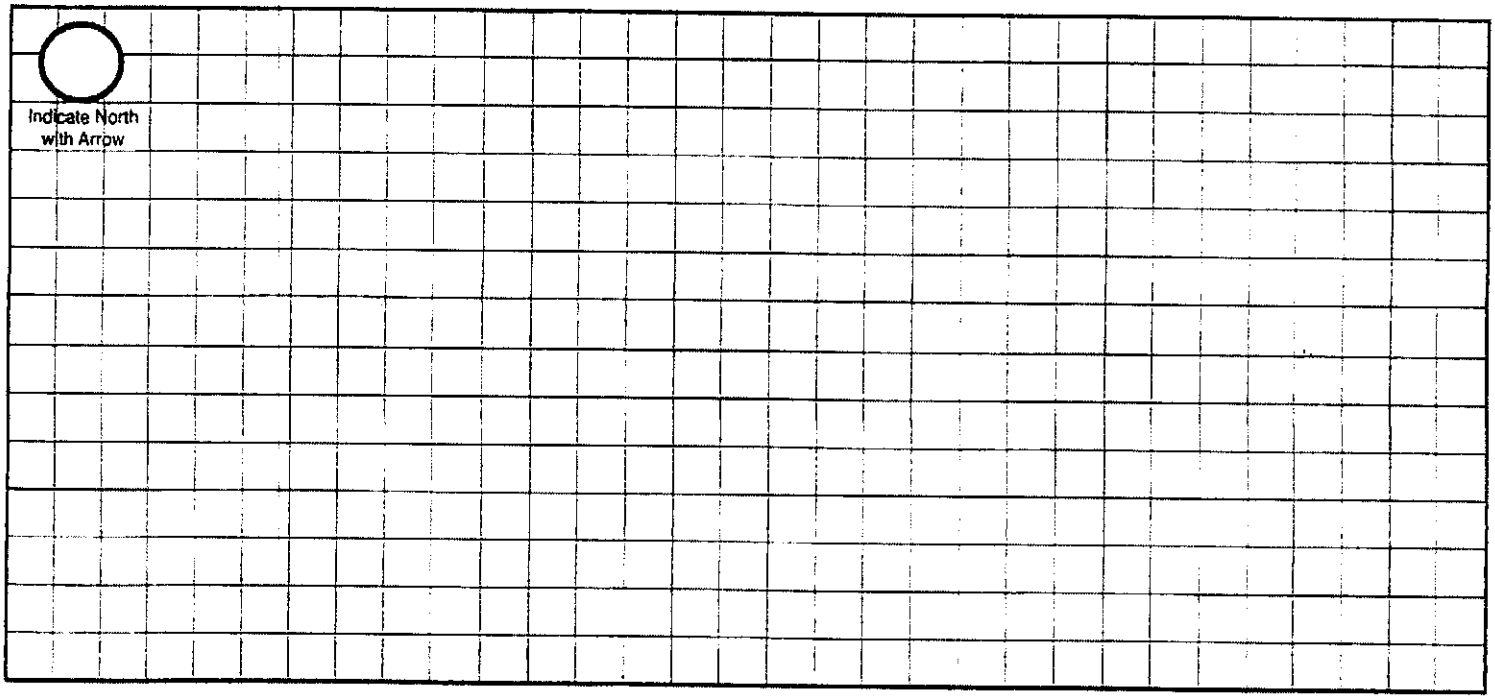
C

Permit Number:

Onsite Wastewater Treatment System

Preliminary Plan Specifications

Draw a plot plan showing onsite system sewer lines, drop of distribution boxes, tank, drainfields, percolation test holes, well, residence, direction of groundwater flow, property lines, and reserve area for replacement onsite system.



Approximate Scale: _____ft. = _____ grid line/s

A. Onsite System Location

Address (no rural route) PIN # 0917404006000 City _____ NE. Zip _____

B. Proposed Septic Tank/s

Septic Tank Cap._____ gals Tank Material: ☒ Concrete ☐ Plastic ☐ Other_____ ☐ Lagoon(Max. seepage 1/8" per day)

C. Reserve Area for Replacement Onsite System

☒ Drainfield Absorption Area (percolation test required) ☐ Lagoon

D. Drainfield Absorption System

Percolation Rate 59 (min/inch = mpi) No. of Bedrooms 5 Soil Type wymore / otoe Land Slope_____%

☒ Trench ☐ Bed ☐ Non-Standard (engineer designed and NDEQ approved Total Square feet of drainfield_____sq.ft.

Total length of laterals 487 Type of distribution: ☐ Perforated pipe ☐ Half-Round ☒ Chamber ☐ Other

No. of absorption trenches 4 Width 36 No. of drop boxes_____ Distrubtion Box_____

No. of absorption beds_____ Width_____ No of Distribution lines per bed_____

E. Setbacks Check the Boxes Below if the Required Setback has been Satisfied

Distance From	Private Well	Public Well	Surface Water	Gound Water	Pressure Water Lines	Property Lines	Foundations Yours	Foundations Neighbors	All Other Setbacks
Tank (ft)	50 ☒	500 ☒	50 ☒	NA ☒	25 ☒	20 ☒	15 ☒	25 ☒	☒
Field (ft)	100 ☒	500 ☒	50 ☒	4 ☒	30 ☒	20 ☒	30 ☒	40 ☒	☒
Lagoon (ft)	100 ☐	500 ☐	50 ☐	N/A ☐	30 ☐	50 ☐	100 ☐	200 ☐	☐

F. Required Signatures

Home Building Contractor _____ Date _____

Installer Ben Tabor Date 9 Mar 2018

Lincoln-Lancaster County Health Department (LLCHD)
Environmental Public Health Division
3140 "N" Street • Lincoln, NE 68510-1514
Phone: 402-441-8643

B

Permit Number:

Onsite Wastewater Treatment System
Soil Evaluation Report

PLEASE PRINT OR TYPE

Onsite System Location

Address TWIN PINES ADDITION BLOCK 4 LOT 6 City LINCOLN NE, Zip 68523
(no rural route)

Owner MARVIN HOY Address 2250 BENNET RD UNIT B, ROCA NE 68430

Date of Tests 7/15/17 to 7/16/17 Weather: Precipitation 0 Temperature 95

Percolation Test Data Table

A.	B.	C. D. E. F. Saturation/Swelling Time				G. H. I. J. K. Water Level Drop Last 30 mins of 4 hr or last 10 mins of 1 hr					L. M. N. Results		
		Start		End		Start			End				
Hole No.	Hole Depth(in)	Date (Mo/Da)	Time (Hr/Min)	Date (Mo/Da)	Time (Hr/Min)	Date (Mo/Da)	Time (Hr/Min)	Initial Water Lev (in.)	Date (Mo/Da)	Time (Hr/Min)	Elapsed Time Interval	Water Level Drop(in)	Percolation Rates (Min/in = mpi)
1	30	7/15	3:25	7/16	2:25	7/16	5:55	6	7/16	6:25	30	1.125	27
2	30	7/15	3:25	7/16	2:25	7/16	5:55	6	7/16	6:25	30	1.125	27
3	30	7/15	3:25	7/16	2:25	7/16	5:55	6	7/16	6:25	30	0.50	60
								6					
								6					
								6					
								6					
								6					

Person Conducting Percolation Test

Name: JASON KUBIK
Phone: 402-475-2462
Address 105 LOCUST ST
HICKMAN NE 68372

Sum of Percolation Rates: 114
Average of Rates: 38
Rate Used for Calculation: 59 due to > than 20 mpi variance

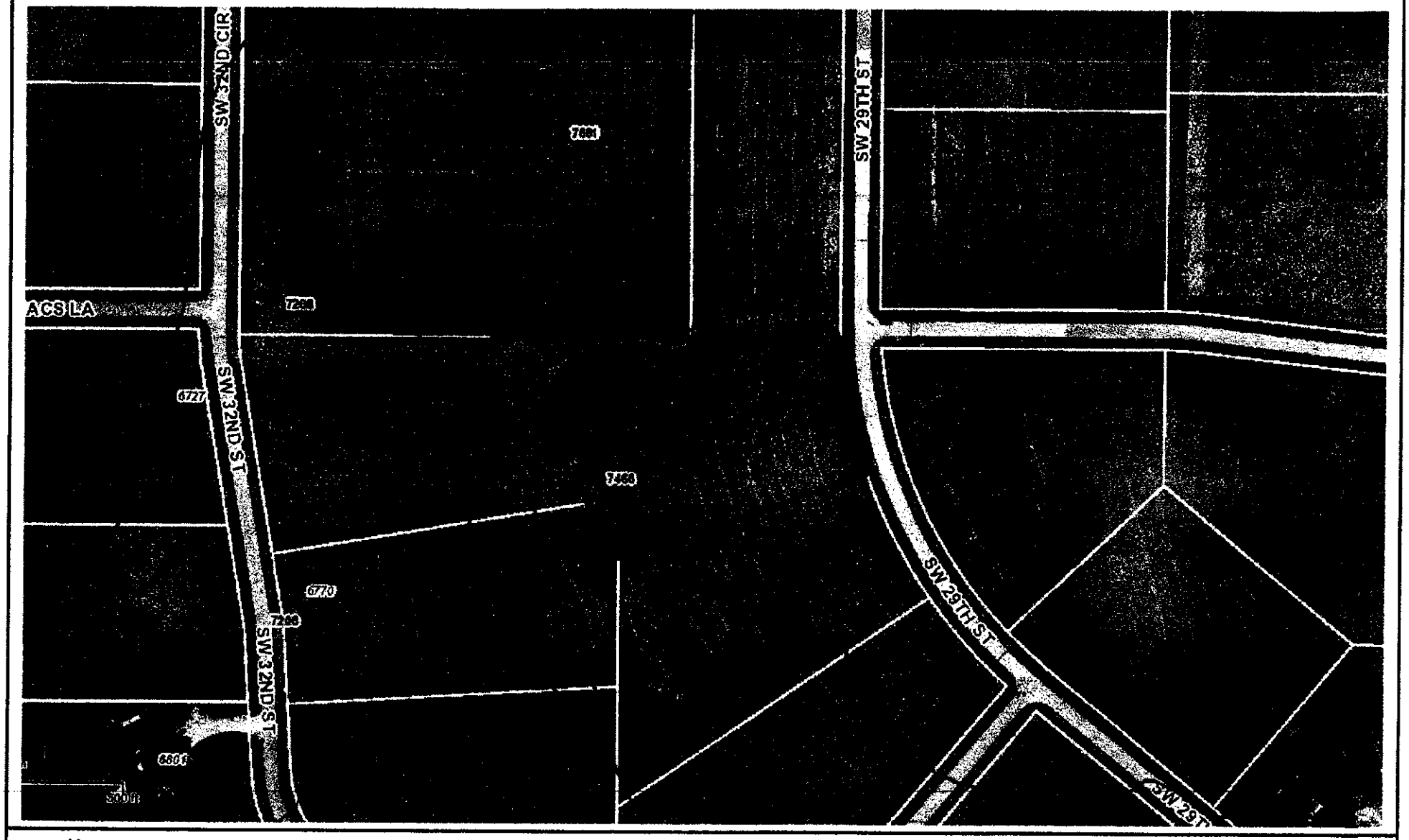
Soil type (NRCS Maps/Other) 7684 WYMORE SILTY CLAY LOAM, 7466 OTOE SILTY CLAY
Groundwater Depth > 12'

DO NOT WRITE BELOW THIS LINE

Reviewing Action

Comments (Soil type, groundwater, floodplain, etc.)

Signature of Reviewing Official Date



N
W E
S

Lancaster County/City of Lincoln GIS Map

Twin Pines Lot 19

Printed: Jul 11, 2017

DISCLAIMER: The information is presented on a best-efforts basis, and should not be relied upon for making financial, survey, legal or other commitments. If you have questions or comments regarding the data displayed on this map, please email ags@lincoln.ne.gov and you will be directed to the appropriate department.

Lincoln-Lancaster County Health Department
Environmental Public Health Division (402) 441-8027
3131 O Street Lincoln, Nebraska 68510-1514

ON-SITE WASTE WATER SYSTEM
CONSTRUCTION - INSTALLATION PERMIT
No. HS001617

System Type: Standard

Situs: 6747 SW 29 ST, DENTON, NE 68523

Issued: 3/14/2018

Expires: 3/14/2019

Description: TWIN PINES ADDITION, BLOCK 4, Lot 6

Owner: DIEKMAN, JACOB & SOLTERO, AMANDA
1033 LONE IVORY TRL
ARLINGTON, TX 76005

Shavonna M. Lausterer, MPH, CPH, Health Director

Dear Applicant:

The above document is your permit to construct a new On-site Waste Water System at the location listed. Please contact this office once the sytem is complete in order to schedule a final inspection before use.

Shavonna M. Lausterer, MPH, CPH
Health Director

BLAIN JOHNSON
8533 E STATE HWY 43
ADAMS, NE 68301

RECEIVED
AUG 27 2018
Nebraska Department of Environmental Quality

COPY

SEPTIC SYSTEM DESIGN – 3747 SW 29th ST, Lincoln, NE

Prepared by: Jeffery N. Schoeneck, P.E.

Owner: Jacob T. Diekman 7542 Blanchard Blvd, Lincoln, NE 68516

HORIZON ENVIROTECH,LLC

1291 COUNTY RD V
FREMONT, NE 68025

(402)-720-9209

E-mail jeffhet@1791.com

8/21/2018

Pollution Control Project

Nebraska DEQ

APPROVED

9/7/18 John Jaeger PE

1800503

6747 SW 29th St - Septic System Design
8/8/2018

Design Daily Flow for 5-Bedroom Home **Total Design Load** **600 GPD**

Lateral Field Sizing

Soil Percolation Rates Ranged from 50 to 120 min/in
Soil Borings Revealed Silty Clay Loam Soils with Weak to Moderate Prismatic/ Blocky Structure
Proposed Hydraulic Loading
< 150mg/l BOD - 0.2 gal/sq ft/day
< 30 mg/l BOD - 0.3 gal/sq ft/day
Propose to provide Tertiary Treatment with BioFast 0.625 Treatment Unit (625 GPD)

Minimum Lateral Size Required - 600 GPD/0.3 gal/sq ft/day = 2,000 sq ft
Propose (8) Laterals of 34" Wide Infiltrator Chambers X 70 ft Long
Equiv Lateral Size Calc - 8 X 29" (inside width of chamber)/12 X 1.5 x 70' = **2,030 sq ft**

→ Optional EZ Flow Bundles ⇒ 450 LN FT x 4.5'/Ft = 2025 SQ Ft

Septic Tank / Settling Zone Tank Sizing

0.625 MicroFAST Unit Requires min of 375 gal settling zone prior to treatment

Propose Using 1,000 gal septic tank

Treatment Zone Tank Sizing

Minimum footprint of 44" X 67"
Propose to use 1,000 gal tank with footprint of approx 62" X 93"

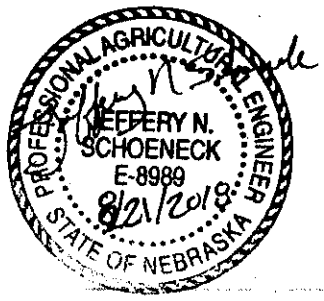
Dose Tank Size - Propose 1,000 gal minimum

Dose Volume - (4) Doses per day @150 gallons each - Tank Volume 22.2 Gal/in

Draw-down 150/22.2 ≈ 6.75"

SET HIGH WATER (Float) ALARM @ 3" Above Pump-ON Elev

Prepared By:
Jeffery N. Schoeneck, P.E.
Horizon Envirotech, LLC
1291 County Rd V
Fremont, NE 68025
402-720-9209
jeffhet@1791.com



Septic System Design - 6747 SW 29th St, Lincoln, NE

Septic System Critical Elevations	
DESCRIPTION	ELEVATION
Top of Footing of Home	99.75
Top of Field Driven Stake	100.00
* Sewer Outlet @ Home	97.75
* Septic Tank Inlet	96.25
* Treatment Tank Inlet	95.90
* Dose Tank Inlet	95.05
* Pump Inlet in Dose Tank	91.00
Laterals A,B,C & D Trench Bottom Excavation	97.15
Laterals E,F,G & H Trench Bottom Excavation	96.40
D-Box INLET (to Lat A,B,C & D)	97.65

Notes:

1. Orientation & Location of Tanks & Pressure Line May Vary Slightly From Shown
2. Installer to verify sewer outlet elevation - Actual Elevation of Components above noted with (*) to be adjusted accordingly.
3. Refer to Bio Microbics MicroFAST installation instructions for installation and start-up information.
4. Proposed concrete tanks are from Accurate Concrete.
5. Concrete Tank containing MicroFAST unit will need to be modified as per Bio Microbics Instructions.
6. An O&M agreement with a authorized service provider is highly recommended for proper long-term operation.
7. Contractor Responsible for Contacting 811 for Primary Utilities and Should Contact Owner for Secondary Utility Locations in Proposed Construction Area.
8. Septic Permit and Inspections are Required from Douglas County Health Department
9. Septic Installation Shall Also Meet Minimum Requirements of NDEQ Title 124 and Shall Be Registered With NDEQ Onsite Department
10. Contractor to Warrant Workmanship Items for a Period of 1-Year (Equipment Warranties Limited To Mfg. Warranty Terms and Coverage)
11. Septic Installation Excavation Back-fill to be Left Slightly Mounded to Allow for Natural Settling (Especially Over Laterals) - Additional Future Grading & Seeding May Be Required
12. Owner To Keep Trees From Growing Within Lateral Field Area.
13. Electrical Contractor To Provide Dedicated Electrical Service Circuits to MicroFAST Control Panel (Refer to MicoFAST manual for electrical service requirements)
14. Consult BioMicrobics for add-on dose pumping and alarm controls or provide (2) dedicated 20 amp, 120V - 1 Ph Circuits for pump and high water alarm.

Prepared By:

Jeffery N. Schoeneck, P.E.
Horizon Envirotech, LLC
1291 County Rd V
Fremont, NE 68025
402-720-9209
jeffhet@1791.com

2A /13

PUMP SELECTION PROCEDURE

1. Determine pump capacity:

A. Gravity distribution

1. Minimum required discharge is 10 gpm
2. Maximum suggested discharge is 45 gpm. For other establishments at least 10% greater than the water supply rate, but no faster than the rate at which effluent will flow out of the distribution device.

B. Pressure distribution

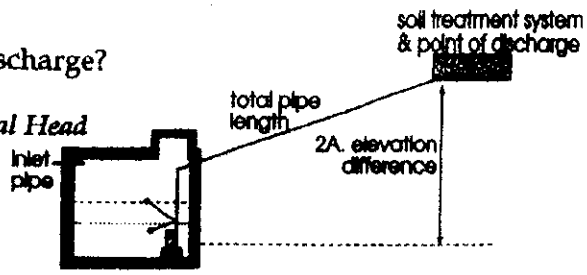
See pressure distribution work sheet

From A or B Selected pump capacity: 20 gpm

2. Determine pump head requirements:

A. Elevation difference between pump and point of discharge?
6.65 feet

B. Special head requirement? *(See Figure at right - Special Head Requirements)*
0 feet



Special Head Requirements	
Gravity Distribution	0 ft
Pressure Distribution	5 ft

C. Calculate Friction loss

1. Select pipe diameter 1.5 in
2. Enter *Figure E-9* with gpm (1A or B) and pipe diameter (C1)

Read friction loss in feet per 100 feet from Figure E-9
Friction Loss = 2.47 ft/100ft of pipe

3. Determine total pipe length from pump discharge to soil treatment discharge point. Estimate by adding 25 percent to pipe length for fitting loss. Total pipe length times 1.25 = equivalent pipe length
30 feet x 1.25 = 37.5 feet

4. Calculate total friction loss by multiplying friction loss (C2) in ft/100 ft by the equivalent pipe length (C3) and divide by 100.
= 2.47 ft/100ft x 37.5 ÷100 = 0.93 ft

D. Total head required is the sum of elevation difference (A), special head requirements (B), and total friction loss (C4)
6.65 ft + 0 ft+ 0.93 ft =

E-9: Friction Loss in Plastic Pipe
Per 100 feet

flow rate gpm	nominal pipe diameter 1.5"	2"	3"
20	2.47	0.73	0.11
30	5.23	1.55	0.23
35	6.96	2.06	0.30
45	11.07	3.28	0.48
50	13.46	3.99	0.58
60		5.60	0.82
65		6.48	0.95
70		7.44	1.09

Total head: 7.6 feet

3. Pump selection

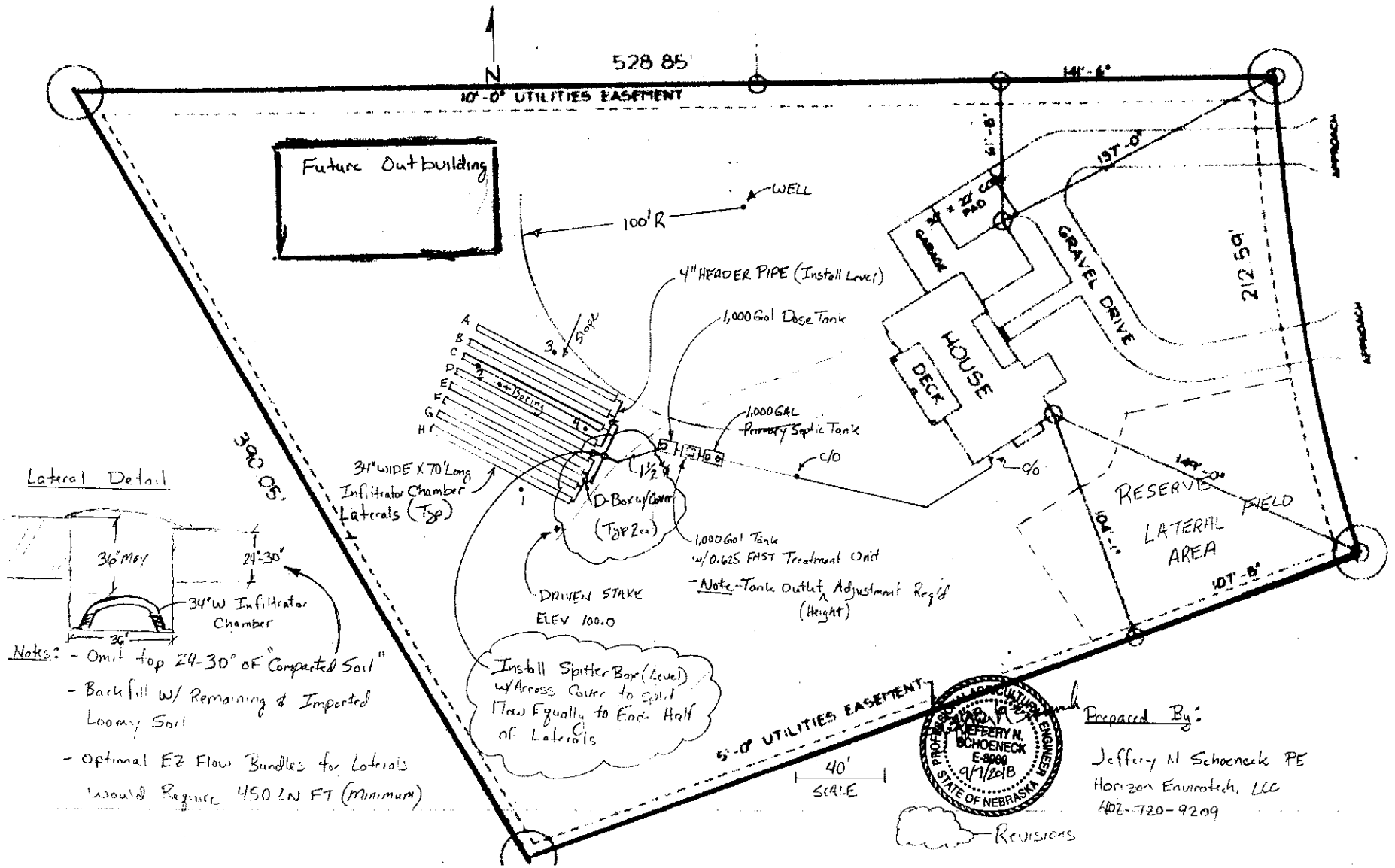
A pump must be selected to deliver at least 20 gpm (1A or B) with at least 10 feet of total head (2D)

I hereby certify that I have completed this work in accordance with applicable ordinances, rules and laws.

Jeffrey A Schmidt (signature) E8989 (license #) 8/13/2018 (date)

SEPTIC SYSTEM PLAN - 6747 SW 29th St., Lincoln, NE

3/13



Lateral Detail

Notes:
- Omit top 24-30" of "Compacted Soil"
- Backfill w/ Remaining & Imported Loamy Soil
- Optional EZ Flow Bundles for Laterals would Require 450 LN FT (Minimum)

Prepared By:

Jeffery N Schoeneck PE
Horizon Envirotech, LLC
402-720-9209

4/13

Soil Absorption Test Data Sheet

Owner Information:

Owner: Erickson Homes, LLC Phone: _____

Address: 6519 Boulder Ridge Rd

Location: 6747 SW 29th St, Lincoln, NE

Latitude 40.7445 Longitude -96.7647

Township _____ Range _____ Sec. _____ 1/4 sec. _____

County: Lancaster Area: 3.00 Acres

Soil Boring

0 - 29	Very Firm Br Clay Loam
29 - 98	Br SiCL w/few Red/Br Mottles
98 - 108	Br SiCL w/Many Red/Br Mottles

Evidence of Season High Water Table @ 8.2ft Below Surface Due to Heavy Mottling

Test Dates

Start Date	End Date
8/2/18	8/3/18

Test Day Weather

Weather Sunny Temp. 76 F

Precipitation 0

Percolation test data:

Hole No.	Hole Depth (in.)	Final Percolation Readings: Start Date Mo./Day	Start Time (Hr./Min.)	Start Water Level (in.)	End (Hr./Min.)	End Water Level (In.)	Final Results: Elapsed Time (Min.)	Water Level Drop (in.)	Percolation Rate (Min./Inch)
1	42	8/3/18	9:15 AM	7.65	9:45 AM	7.40	30	0.25	120.0
2	42	8/3/18	9:16 AM	7.50	9:46 AM	7.20	30	0.30	100.0
3	42	8/3/18	9:17 AM	7.70	9:47 AM	7.25	30	0.45	66.7
4	42	8/3/18	9:18 AM	7.55	9:48 AM	6.95	30	0.60	50.0

Jeffery N. Schoeneck, P.E. - E8989
Horizon Envirotech, LLC
1291 Co Rd V
Fremont, NE 68025
(402) 720-9209
Phone

Sum of Percolation rates = 336.7

Number of test holes = 4.0

Average of rates in Minutes/inch = ~~84.2~~ 120

*If rates vary more than 20 minutes/inch, do not average but use the slowest rate for design purposes.

Table 4-3. Suggested hydraulic and organic loading rates for sizing infiltration surfaces

Texture	Structure		[redacted]		Organic loading (lb BOD/1000ft²-day)	
	Shape	Grade	[redacted]	BOD=30	BOD=150	BOD=90
Coarse sand, sand, loamy coarse sand, [redacted]	Single grain	Structureless	[redacted]	1.6	1.00	0.40
Fine sand, very fine sand, loamy fine sand, loamy very fine sand	Single grain	Structureless	0.4	1.0	0.50	0.25
Coarse sandy loam, sandy loam	Massive	Structureless	0.2	0.6	0.25	0.15
	Platy	Weak	0.2	0.5	0.25	0.13
		Moderate, strong	[redacted]			
	Prismatic, blocky, granular	Weak	0.4	0.7	0.50	0.18
		Moderate, strong	0.6	1.0	0.75	0.25
Fine sandy loam, very fine sandy loam	Massive	Structureless	0.2	0.5	0.25	0.13
	Platy	Weak, mod., strong	[redacted]			
	Prismatic, blocky, granular	Weak	0.2	0.6	0.25	0.15
		Moderate, strong	0.4	0.8	0.50	0.20
Loam	Massive	Structureless	0.2	0.5	0.25	0.13
	Platy	Weak, mod., strong	[redacted]			
	Prismatic, blocky, granular	Weak	0.4	0.6	0.50	0.15
		Moderate, strong	0.6	0.8	0.75	0.20
Silt loam	Massive	Structureless	[redacted]	0.2	0.00	0.05
	Platy	Weak, mod., strong	[redacted]			
	Prismatic, blocky, granular	Weak	0.4	0.6	0.50	0.15
		Moderate, strong	0.6	0.8	0.75	0.20
Sandy clay loam, clay loam, silty clay loam	Massive	Structureless	[redacted]			
	Platy	Weak, mod., strong	[redacted]			
	Prismatic, blocky, granular	Weak	0.2	0.3	0.25	0.08
		Moderate, strong	0.4	0.6	0.50	0.15
Sandy clay, clay, silty clay	Massive	Structureless	[redacted]			
	Platy	Weak, mod., strong	[redacted]			
	Prismatic, blocky, granular	Weak	[redacted]			
		Moderate, strong	0.2	0.3	0.25	0.08

urce: [redacted]

*

Propose Tertiary Treatment ≤ 30 mg/l BOD

PROFESSIONAL AGRICULTURAL ENGINEER
JEFFERY N. SCHOENECK
E-8989
8/21/2018
STATE OF NEBRASKA

END OF SECTION



FAST® wastewater treatment systems with S.F.R.®

Bio-Microbics FAST® wastewater treatment systems provide alternative options for properties residing outside the reach of municipal (public) treatment plants. Engineered to fit most typical residential and commercial applications, FAST® systems can be used for new construction or retrofit in existing tanks; including those in nitrogen sensitive areas or limitations with distance to groundwater and/or smaller dispersal field size requirements.

Scientifically-proven, advanced, self-contained wastewater treatment systems, the process contains no internal in-sewage moving parts. The Bio-Microbics FAST® systems use only active naturally occurring microorganisms to transform sewage wastewater to be cleaner than natural surface fresh water sources and protects family health, dwellings, property values and fresh water sources.

RESIDENTIAL

COMMERCIAL

MARINE OFFSHORE

...and more!

MicroFAST® wastewater treatment systems

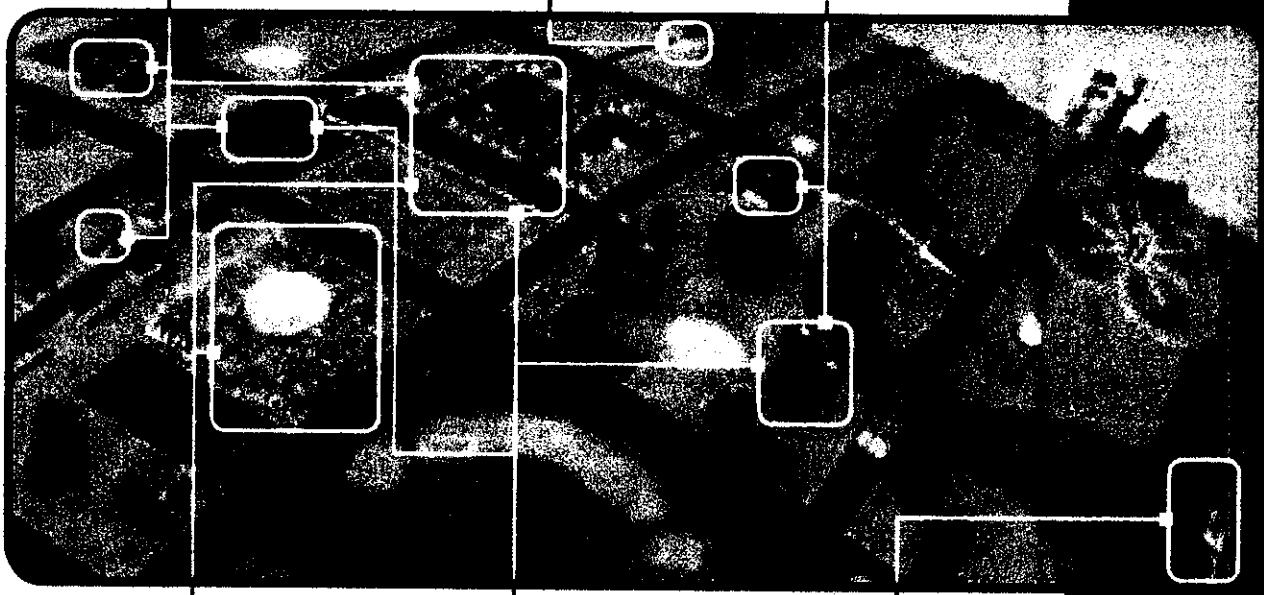
Versatile and robust, these systems are designed for individual homes, clustered subdivisions, and other domestic-strength flow applications

RetroFAST® wastewater treatment systems

Ideal for existing tanks or upgrading the septic system to enhance/renovate a drain field, see our S.O.S.-Save Our Septic® Warranty Program

HighStrengthFAST® wastewater treatment systems

Meeting the unique challenges of high-strength commercial applications or properties with a higher loading with robust, low-maintenance treatment systems.



MyFAST® wastewater treatment systems

Ideal for small communities or commercial properties, the MyFAST® maintains consistent high performance, low maintenance, and sludge management all in one tank

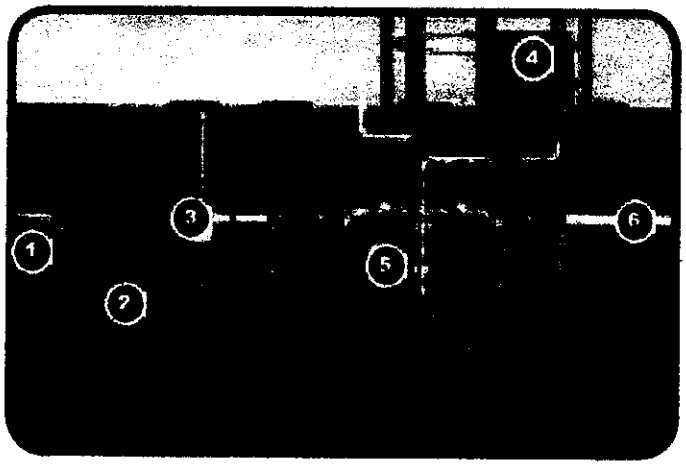
NitriFAST®

For use with a MicroFAST® system to provide second stage nitrification to achieve even higher levels of nitrogen reduction

MarineFAST®

Certified Type II Marine Sanitation Devices (MSDs) for virtually every type of vessel or offshore structure

FAST



How Does the FAST® System Work?

1. Wastewater enters the treatment system
2. Natural separation and settling processes occur in the primary settling zone.
3. In the primary settling zone for most large residential and commercial applications, a SaniTEE® device is used to prevent large solids from entering the treatment zone.
4. A remote, above-ground blower introduces air (oxygen) into the treatment module to facilitate a robust circulation of wastewater through the media's channeled flow path.
5. Bacteria in the aeration zone become "fixed" or attached to the stationary media. This is where the abundant, diverse, self-regulating population of microbes consistently metabolize the incoming waste.
6. Clear, odorless, treated water is ready for standard or innovative dispersal.

OTHER SYSTEMS & PRODUCTS AVAILABLE TO SUIT YOUR PARTICULAR NEEDS:

- **BioBarrier MBR**
- **BioBarrier HSMBR**

- **RollsAIR & RollsAIR HS-STP**

- **SeptiTech STAAR™ Residential**
- **SeptiTech STAAR™ Commercial**

- **Recover Residential**
- **BioBarrier**

- **BioSTORM Stormwater System**
- **StormTEE Litter Control Screen**
- **d-Rain Joint™ Rainwater Filtration**

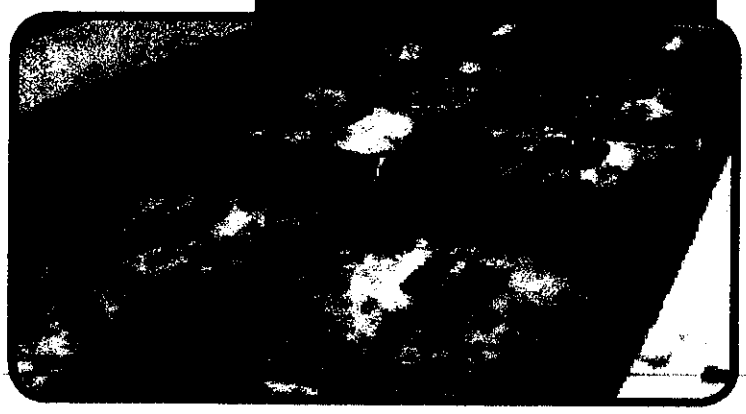
- **MarineFAST LX-Series**
- **MarineFAST M-&MX-Series**
- **MarineFAST DV-Series**

- **BioSTEP**
- **MyTEE Grit Control Screen**
- **SaniTEE Wastewater Screen**

- **Lixor**
- **FOGHog Traps & Tablets**
- **ABC -N Clarifiers & Devices**

- **SciCHLOR**
- **SciBRINE BrineMakers**
- **Mighty Mike CPT Tablets**

- **Mighty Mike All Purpose Cleaner**
- **Mighty Mike Laundry Detergent**
- **Mighty Mike Industrial Descaler**
- **Mighty Mike Bond-SORB**



GENERAL FAST® PRODUCT INFORMATION

RetroFAST	Maximum Treatment Capacity*		Module Dimensions*** (L x W x H)	Weight***	
RetroFAST® 0.150	150 GPD (567 LPD)	1 to 3	22" (55 cm) x 24" (61 cm) x 32" (81 cm)	74 lbs	34 kg
RetroFAST® 0.250	250 GPD (947 LPD)	1 to 4	27" (67 cm) x 30" (76 cm) x 34" (85 cm)	125 lbs	57 kg
RetroFAST® 0.375	375 GPD (1420 LPD)	1 to 5	39" (98 cm) x 30" (76 cm) x 34" (85 cm)	156 lbs	71 kg
MicroFAST	**Maximum Treatment Capacity***		**Module Dimensions*** (L x W x H)**	**Weight***	
MicroFAST® 0.5	500 GPD (1893 LPD)	1 to 8	59" (150 cm) x 30" (76 cm) x 56" (130 cm)	165 lbs	75 kg
MicroFAST® 0.625	625 GPD (2366 LPD)	1 to 10	60" (152 cm) x 43" (109 cm) x 55" (130 cm)	185 lbs	84 kg
MicroFAST® 0.75	750 GPD (2839 LPD)	1 to 11	60" (152 cm) x 43" (109 cm) x 55" (130 cm)	200 lbs	91 kg
MicroFAST® 0.9	900 GPD (3407 LPD)	1 to 14	59" (150 cm) x 48" (122 cm) x 57" (145 cm)	215 lbs	98 kg
MicroFAST® 1.5	1500 GPD (5678 LPD)	6 to 21	82" (208 cm) x 55" (140 cm) x 58" (147 cm)	456 lbs	207 kg
MicroFAST® 3.0	3000 GPD (11356 LPD)	10 to 42	71" (180 cm) x 59" (150 cm) x 81" (206 cm)	725 lbs	329 kg
MicroFAST® 4.5	4500 GPD (17034 LPD)	18 to 63	145" (368 cm) x 73" (185 cm) x 51" (130 cm)	1600 lbs	726 kg
MicroFAST® 9.0	9000 GPD (34068 LPD)	30 to 126	145" (368 cm) x 73" (185 cm) x 76" (193 cm)	2300 lbs	1044 kg

Larger Applications>9000 GPD *Multiple FAST® treatment modules can be used in parallel and/or series for additional flow or desired treatment levels.*

HighStrengthFAST	Maximum Treatment Capacity*		Module Dimensions*** (L x W x H)	Weight***	
HighStrengthFAST® 1.0	~900 GPD (3407 LPD)	Consult Factory	59" (150 cm) x 48" (135 cm) x 57" (130 cm)	227 lbs	103 kg
HighStrengthFAST® 1.5	~1500 GPD (5678 LPD)		82" (208 cm) x 55" (140 cm) x 58" (147 cm)	456 lbs	207 kg
HighStrengthFAST® 3.0	~3000 GPD (11356 LPD)		71" (180 cm) x 59" (150 cm) x 81" (206 cm)	725 lbs	329 kg
HighStrengthFAST® 4.5	~4500 GPD (17034 LPD)		145" (368 cm) x 73" (185 cm) x 51" (130 cm)	1600 lbs	726 kg
HighStrengthFAST® 9.0	~9000 GPD (34068 LPD)		145" (368 cm) x 73" (185 cm) x 76" (193 cm)	2300 lbs	1044 kg

Larger Applications>9000 GPD *Multiple FAST® treatment modules can be used in parallel and/or series for additional flow or desired treatment levels.*

MyFAST	Maximum Treatment Capacity*		AMS ZONE	BMS ZONE	OPTIONAL MyTEE SCREENING DEVICE	
MyFAST® 1.0	10000 GPD (38 m^3/d)	up to 200+	--------	--------	5000 gallon [19 m^3]	2
MyFAST® 2.0	20000 GPD (76 m^3/d)	up to 400+	3.0XD	Lixor® 2.0	5000 gallon [19 m^3]	2
MyFAST® 3.0	30000 GPD (114 m^3/d)	up to 500+	3.0XD	Lixor® 2.0	5000 gallon [19 m^3]	2
MyFAST® 4.0	40000 GPD (150 m^3/d)	up to 600+	4.0XD	Lixor® 2.0	5000 gallon [19 m^3]	2
MyFAST® 6.0	60000 GPD (225 m^3/d)	up to 900+	6.0XD	Lixor® 3.0	7500 gallon [28 m^3]	3
MyFAST® 8.0	80000 GPD (300 m^3/d)	up to 1200+	(2) 4.0XD	Lixor® 4.0	10000 gallon [38 m^3]	4
MyFAST® 12.0*	120000 GPD (450 m^3/d)	up to 1900+	(2) 6.0XD	Lixor® 6.0	(2) 7500 gallon [28 m^3]	6
MyFAST® 16.0*	160000 GPD (600 m^3/d)	up to 2500+	(4) 4.0XD	Lixor® 8.0	(2) 10000 gallon [38 m^3]	8

Larger Applications >160000 GPD, consult factory. *Multiple FAST® treatment modules can be used in parallel and/or series for additional flow or desired treatment levels.*

***Treatment capacity:** Individual FAST® module capacities are rated based on biological (BOD), hydraulic and other project-specific considerations. All rated capacities are given as guidelines for suggested use. Actual capacity may vary with local conditions and performance goals

****Volume/People per module:** Please note that only residential applications or those applications requiring treatment for only sanitary wastewater may be designed from the volume and number of people per module. Actual capacity may vary with local conditions and performance goals

*****Module dimensions/weight** provided only for shipping specifications. Please see design specifications for recommended exterior tankage sizing. Treatment modules shall be installed inside tanks that are locally approved and manufactured using watertight materials.

Electrical Options: Electrical components are available to meet all worldwide electrical specifications (volt phase/frequency)

9/13

CONTROL PANEL REPLACEMENT

⚠ CAUTION *Always have all utility lines and equipment marked by a locating service prior to performing any work.*

⚠ WARNING *All electrical work shall be properly performed by a qualified electrician per all applicable codes. Failure to do so may result in severe bodily injury or death.*

The FAST® systems, including all electrical parts, are ETL (UL equivalent) certified for electrical safety. The control panel meets NEMA4X standards for all weather use (not explosive or submerged environments). The total electrical supply should NOT exceed 150 ft [45m].

Bio-Microbics also manufactures control panels that can control other systems, such as UV and sewage pumps. Call your distributor or Bio-Microbics for more information.

When replacing a panel follow the steps below. If relocating the panel run the electrical supply conduit from the control panel to the blower location. Keep in mind the electrical supply line should NOT exceed 150 ft [45 m] total.

1. Turn all Power OFF.
2. Examine wiring directions inside the supplied FAST® control panel (also found at the end of this Manual).
3. A dedicated breaker is required in the building's master electrical panel.. Make connections between the master panel and FAST® control panel.
4. Make connections between the blower and FAST® control panel per the electrical diagram.
5. For systems requiring the Liquid Level Switch- connect the switch to the control panel terminals labeled "FLOAT" or "HI Press Input". The newest AMI control panel with current sensor can be used to replace this switch.

CERTIFICATIONS – From FAST Service Manual

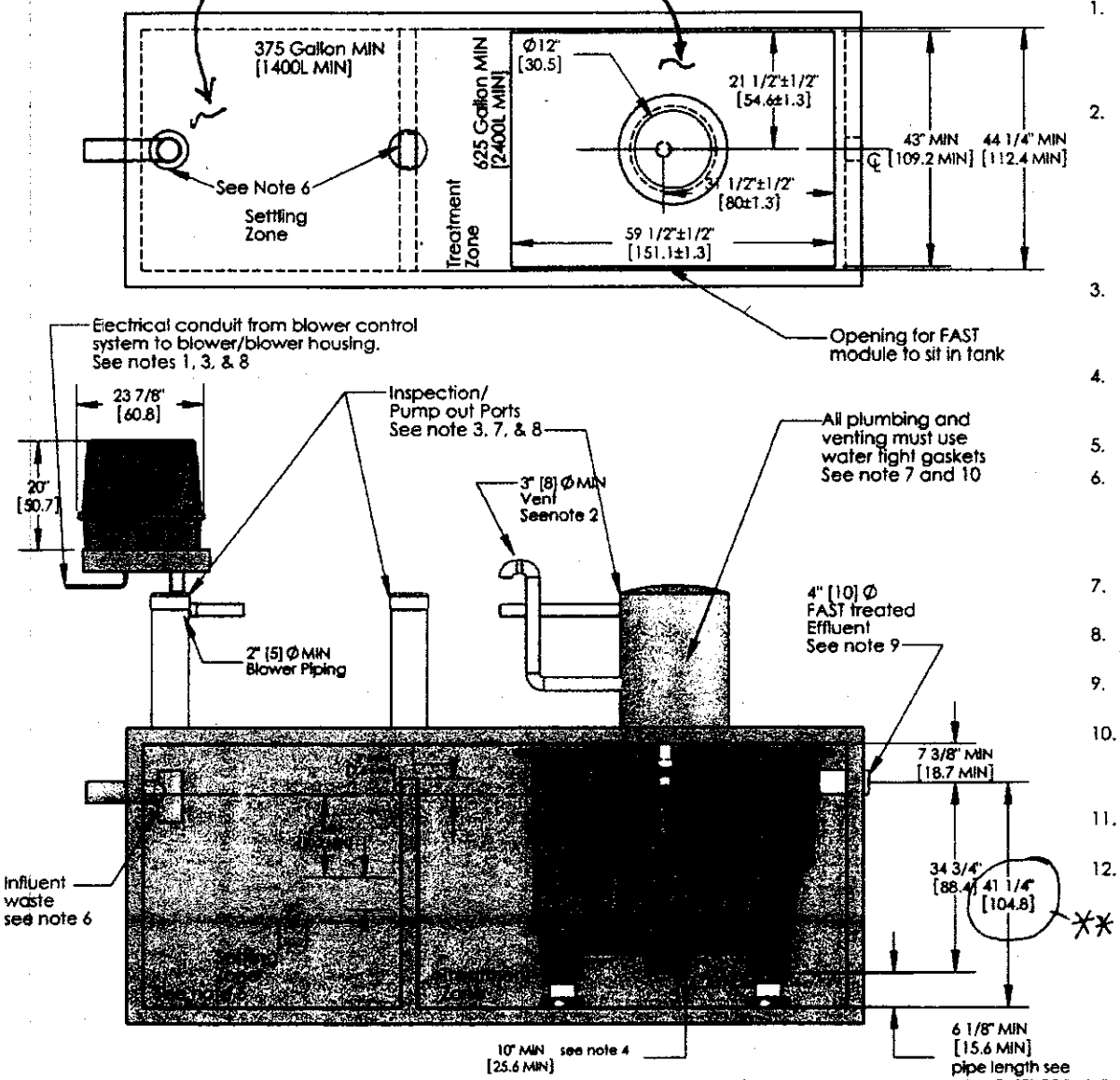
⚠ WARNING *Only authorized service personnel should service a septic system and its components. Deadly hazards such as lethal gases and high voltage electricity are associated with the system.*

MicroFAST® 0.5, 0.625, 0.75, 0.9, and 1.5 systems are tested and certified to NSF®/ANSI® Standards 40 (Class I) and 245

NSF
Certified to NSF/ANSI Standard 40

PARAMETER		LIMIT
CBODS	30 day avg.	25 mg/L
	7 day avg.	40 mg/L
TSS	30 day avg.	30 mg/L
	7 day avg.	45 mg/L
pH		6-9 s.u.
Total Nitrogen		50% reduction of influent

Propose (2) Separate 1000 Gal Tanks



NOTES

1. Blower piping to FAST® may not exceed 100 FT [30.5m] total length and use a maximum of 4 elbows in the piping system (@ 100FT [30m]). For distances greater than 100 FT [30m] consult factory. Blower must be located above flood levels on a concrete base 24" X 18" X1" [61 X 45.7 X 2.6cm] min.
2. Vent to be located above finish grade or higher to avoid infiltration. Cap with a vent grate with at least 7.1 sq in.[45.8 sq. cm] open surface area. Secure with stainless steel screws (see sheet 4 of 4 MicroFAST® 0.75 Details).
   or
   Run Vent to desired location and cover opening with a vent grate with at least 7.1 sq in.[45.8 sq. cm] open surface area. Secure with stainless steel screws. Vent piping must not allow excess moisture build up or back pressure.
3. All appurtenances to FAST® (e.g. tank pump outs, etc.) must conform to all applicable country, state, province, and local plumbing and electrical codes. Blower control system by Bio-Microbics, Inc.
4. Tank volume must be increased by 20% if minimum of 10 inches [25.5cm] is used between the unit and the base of tank. Consult factory for approval.
5. The primary compartment may be a separate tank.
6. Either the influent pipe tee shall be fitted with a pipe cap or the baffle separating the two zones shall be extended all the way to the top of the tank. If choosing to use the pipe cap. Then the baffle shall be at least 3" [8cm]higher than the water level as shown on the drawing.
7. All inspection, viewing and pump out ports must be secured to prevent accidental or unauthorized access.
8. Tank, piping, conduit, blower housing pad and vents are provided by others.
9. All piping and ancillary equipment installed after FAST must not impede or restrict free flow of effluent.
10. The air supply line into the FAST® unit must be secured to prevent vibration induced damage. The air supply line should be secured with a non-corrosive clamp every 2' min [5cm]. See Alternate air supply option on sheet 4 of 4 MicroFAST® 0.75
11. Min height may be reduced, consult factory and reference "Short-FAST-Module-Procedure.pdf"
12. Refer to sheet 4 of 4 MicroFAST® 0.75 Details drawing for leg extensions requirements.

DO NOT SCALE

UNLESS NOTED DIMENSIONS ARE IN INCHES [CENTIMETERS] TOLERANCES ± 0.02 IN/IN [± 0.05 CM/CM]

BIO-MICROBICS INCORPORATED

MicroFAST 0.75 Low Profile Unit *

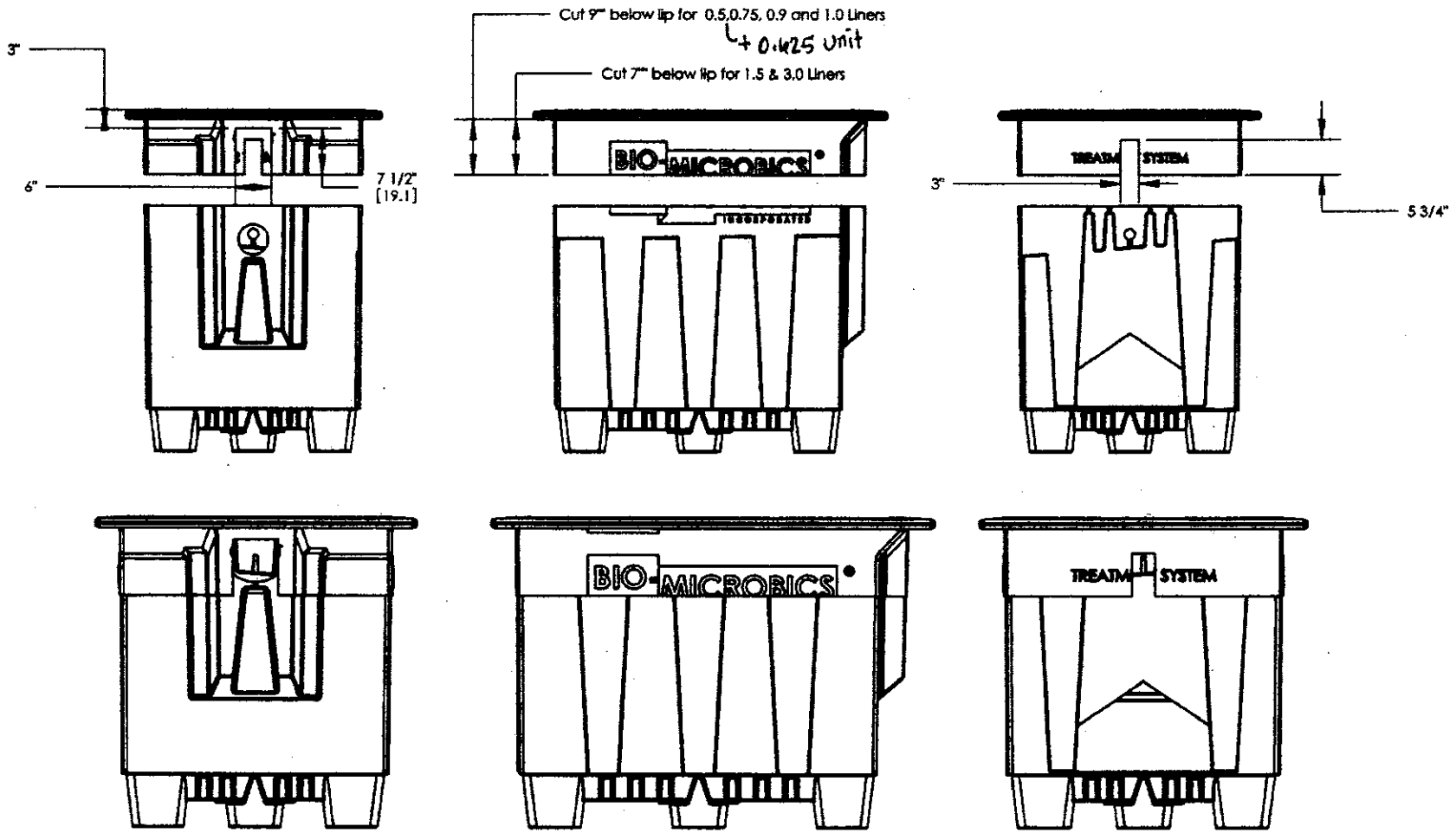
WEIGHT	lb	SIZE	DRAWING NUMBER	SHEET
NAME	DATE	A	MicroFAST® 0.75 with feet	1 OF 2
DRAWN CTC	12/18/2006			
CHECKED PF	6/16/2009	REVISED Tuesday, June 16, 2009	REV. IN8-02-K	

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF BIO-MICROBICS INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF BIO-MICROBICS INC. IS PROHIBITED. DESIGN AND INVENTION RIGHTS ARE RESERVED. IN THE INTEREST OF TECHNOLOGICAL ADVANCEMENT, ALL PRODUCTS ARE SUBJECT TO DESIGN AND OR MATERIAL CHANGE WITHOUT NOTICE. BIO-MICROBICS © 2008

10/13

* SAME Dim's For 0.625 Unit

** - Modification of Standard Tank Req'd



After trim is made, remove trimmed top portion of baffle plate.
Lower lip and secure top of liner to unit with SS screws

DO NOT SCALE

UNLESS NOTED DIMENSIONS ARE IN INCHES [CENTIMETERS] TOLERANCES ± 0.02 IN/IN [± 0.05 CM/CM]

BIO-MICROBICS INCORPORATED

MicroFAST 0.75 Low Profile Unit
@ 0.625 Unit

WEIGHT	lb	SIZE	DRAWING NUMBER		SHEET
	NAME / DATE	A	Trim Operations		2 OF 2
DRAWN EIC	12/18/2006				
CHECKED PF	6/16/2009	REVISED Tuesday, June 16, 2009		REV. INI-01-G	

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF BIO-MICROBICS INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF BIO-MICROBICS INC. IS PROHIBITED. DESIGN AND INVENTION RIGHTS ARE RESERVED. IN THE INTEREST OF TECHNOLOGICAL ADVANCEMENT, ALL PRODUCTS ARE SUBJECT TO DESIGN AND OR MATERIAL CHANGE WITHOUT NOTICE. BIO-MICROBICS © 2008

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12/13

BIO-MICROBICS® INCORPORATED

8450 Cole Parkway • Shawnee, KS 66227 • Phone: 913-422-0707 • Fax: 913-422-0808
e-mail: onsite@biomicrobics.com • www.biomicrobics.com • 800-753-FAST (3278)

Modifying a FAST® (or ABC) Treatment Module for Use in a Shallow Tank

This modification allows you to install a FAST treatment module (sizes 0.5, 0.625, 0.75, 0.9, 1.0, 1.5 and 3.0) or an ABC (Anoxic Biofilter Clarifier) module entirely inside a "low-profile" tank that is generally used in high bed rock or high ground water situations. When performed properly, this modification will not affect the performance ability of the treatment unit. If you have any questions, please call Bio-Microbics at 800-753-FAST (3278).

Conditions:

1. Once this modification is made it is NOT reversible. DO NOT perform this procedure, and then attempt to put the treatment liner back together so that it can hang from the tank lid.
2. This method is only to be used when mounting a treatment unit entirely inside a tank.
3. When using this option, the top four and one half (4 ½) inches of the treatment liner must be cut away and then re-fastened to the liner for support.
4. For the 0.5, 0.625, 0.75, 0.9 and 1.0 systems, the maximum total distance that the treatment liner can be reduced is 9 inches. For the 1.5 and 3.0 modules the maximum distance is seven (7) inches. This reduction in height can only be made above the water line.
5. The treatment liner is NOT designed to be a load bearing member for the tank.
6. All other installation instructions pertaining to mounting the treatment unit entirely inside a tank are to be used.
7. The minimum clearance underneath the treatment unit must be maintained.
8. This modification can NOT be made to the 4.5 and 9.0 models.

The following procedure allows you to cut away some "free space" that exists in the treatment liner. Carefully complete the steps below.

⚠ WARNING *Use all appropriate safety equipment and follow all recommended procedures as defined by the manufacturer of the cutting device being employed. Be sure to perform work on a stable surface. Secure FAST unit in place before beginning work.*

1. On the outside of the treatment liner, measure from the underside of the treatment liner lip down four and one half (4 ½) inches. Mark your cutting location with a grease pencil or similar instrument.

2. Measure and mark your cutting location several times at different locations on the outside of the liner.

3. Draw a straight line connecting all the marks you have made on the outside of the liner.
4. Before cutting, make sure to double check your measurements and markings, because once you cut, there is no going back.

5. Using a reciprocating saw, coping saw, chain saw or other appropriate device, cut along your pre-marked straight line on the outside of the treatment liner. You should not cut any other part besides the treatment liner and inner effluent baffle plate. (A de-burring tool should be used to trace the cut edges to insure they are not sharp.)

6. Save this top 4 ½ inch portion (including the lip) for use later.

7. Repeat steps 1 through 5 again, except this time you will measure from the new top edge down to the total height you would like to remove from the treatment liner. For the 0.5, 0.75, 0.9 and 1.0 systems the maximum allowed additional distance is 4 ½ additional inches. For the 1.5 and 3.0 modules the maximum distance is three (3) additional inches.

8. Now that you have cut down the treatment liner to the desired height, you will need to reattach the top four and one half (4 ½) inch portion. Slide this 4 ½ inch piece so that the top of the lip is even with the newly cut top edge of the liner. The 4 ½ inch piece may be just long enough that you do have to trim it to fit around the treatment liner's effluent hole or gasket.

9. Using 12 – 30 stainless steel self tapping screws (about ½" long), screw the 4 inch top piece into place. The screws should be put in from the outside of the liner to the inside to ensure that all exposed surfaces are free from rough or sharp edges that may cause injury to persons using, installing, maintaining or servicing the system.

10. Complete the installation of the unit per instruction manual directions. DO NOT allow the lid of the tank to rest on (compress) the treatment liner at all.

If you have any questions before performing this procedure, call 800-753-FAST (3278).

SCANNED

Lincoln-Lancaster County Health Department
Environmental Public Health Division
3140 N Street • Lincoln NE 68510-1514
Phone: 402-441-8643

A

Permit Number HS001617

Onsite Wastewater Treatment System
Request for Site Clearance and Permit

Include Form B and C. Submit correct fee with this Application

3 acres or more required for: ☒ Septic System ☐ Lagoon ☐ Other (Refer to Form C)

The undersigned hereby requests site clearance and permit to construct a Wastewater Treatment System in conformance with appropriate regulations.

PLEASE PRINT OR TYPE

A. Onsite System Location

Address 6747 SW 29th (no rural route) City _____, NE Zip _____

Legal Description 17 (1/4) 9 (1/4) Section 6 Township Range Twin Pines Subdivison _____ Addition 4 Block 6 Lot

Geographical Location (if known): Lat/Long: _____ PID 0917406006000

B. Owner

Name Jacob Dickman Signature _____

Address _____ City/State/Zip _____

Home Phone _____ Work Phone _____

C. Certified Installer

Name: Blain Johnson Signature _____

Address 8533 E State Hwy 43 City/State/Zip Adams NE 68301

Work Phone 402 610 2270

D. Engineer

☐ Check and complete if engineer designed system P.E. License Number: _____

Designer Name _____ Firm _____ Work Phone _____

E. This system will serve a

☒ Residential Dwelling Number of Bedrooms 5 Is there a Whirlpool Bathtub? ☒ Yes ☐ No Total Acres 3

☐ Commercial Establishment/Other Facility Specify _____ Design flow in gallons per day _____

Type of Wastewater ☐ Domestic ☐ Non-Domestic Well Permit Applied for ☐ Yes ☐ No ☐ Not Applicable

DO NOT WRITE BELOW THIS LINE

Approval Process ☒ Municipal Code 24.38 ☐ County Resolution No. 02-30

1. Health Department
Site visits _____
Date rec'd 3/14/18
Date frwd 3/14/18
ACTION ☒ Approved ☐ Disapproved
Signature _____

2. Supt. Bldg. Insp. or Village Clerk
Comments _____
Date rec'd 3-14-18
Date frwd 3-14-18
ACTION ☒ Approved ☐ Disapproved
Signature _____

3. City or County Engineer
Comments _____
Date rec'd 3-14-18
Date frwd _____
ACTION ☒ Approved ☐ Disapproved
Signature _____

~~Installation Final Written Approval~~
By _____
Date 1/22/20

Box Hold 11/29/18

Business Office Use Only
Date Received 3-12-18 Amount Paid $405.00
Received By _____ Cash/Check No. 2629

White - Health Department Yellow - Engineer Pink - Building & Safety

Form A Updated: 5/10

Nate C. Hartman

From: jacob diekman <diek_05@hotmail.com>
Sent: Friday, December 21, 2018 11:20 AM
To: Nate C. Hartman; Darin Erickson
Cc: xlcontracting10@gmail.com; ericksonhomes@icloud.com
Subject: Re: Estimate 1148 from XL Contracting Inc., Erickson Homes

Hey everyone. Nate I am in agreement with this proposal. Have a great weekend and Merry Christmas. Let me know if anything else is needed.

Get Outlook for iOS

From: Nate C. Hartman <nhartman@lincoln.ne.gov>
Sent: Friday, December 21, 2018 10:21 AM
To: Darin Erickson
Cc: xlcontracting10@gmail.com; Jake Diekman; ericksonhomes@icloud.com
Subject: Re: Estimate 1148 from XL Contracting Inc., Erickson Homes

Mr Ericksen, as per our conversation this morning, I am out of the office most of the day with scheduled inspections. I dont know when, or if, I will be back on the office today. Signatures are not necessary but I would need, at least an acknowledgment reply email, to this email chain from EVERYONE before any consideration will be made. Thanks and have a great weekend!
Nate

Get Outlook for Android

From: Darin Erickson <ericksonhomes@icloud.com>
Sent: Friday, December 21, 2018 10:07:49 AM
To: Nate C. Hartman
Cc: xlcontracting10@gmail.com; Jake Diekman; ericksonhomes@icloud.com
Subject: Fwd: Estimate 1148 from XL Contracting Inc., Erickson Homes

Hi Nate,

Here is the work scope proposal for spring 2019 and contingency plan for if the system fails over the winter.

Please let myself or Blain know if you need anything else.

I have copied Jake Diekman (homeowner) on this email so he knows exactly what the proposed plans are.

As I stated on our phone call this morning I would be willing to collect each individuals signature and hand deliver the document to you yet this morning.

Thank you for working with us to resolve this issue.

Thanks again
Darin Erickson

402 304 1493

Sent from my iPhone

Begin forwarded message:

From: Blain Johnson <xlcontracting10@gmail.com>
Date: December 21, 2018 at 8:24:53 AM CST
To: Darin Erickson <ericksonhomes@icloud.com>
Subject: Estimate 1148 from XL Contracting Inc., Erickson Homes

Dear Erickson Homes,

The estimate you requested is attached. Please review it and feel free to contact us if you have any questions. We look forward to working with you.

Sincerely,
XL Contracting Inc.

CONFIDENTIALITY NOTICE: This e-mail message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message.

Nate C. Hartman

From: Nate C. Hartman
Sent: Wednesday, December 26, 2018 10:03 AM
To: Gregory K. Edwards
Subject: 6747 SW 29th

As per our discussion, this property doesn't have a "finalized" wastewater system due to extenuating circumstances. I don't plan to grant final approval until the system is fixed in the spring but they do have a system in place. I am waiting for my requested documentation but haven't seen anything as of yet. I will send you any updates. For now, I don't have anything in writing from the builder, owner or septic contractor to give them any sort of temporary approval to attach to your building permit.

Thanks for your help!

Nate Hartman REHS, QCIS, QPSWPPP
Senior Environmental Health Specialist
3131 'O' Street, Lincoln, NE 68510
O: 402-441-8643 F: 402-441-3890

Nate C. Hartman

From: Darin Erickson <ericksonhomes@icloud.com>
Sent: Friday, December 21, 2018 10:08 AM
To: Nate C. Hartman
Cc: xlcontracting10@gmail.com; Jake Diekman; ericksonhomes@icloud.com
Subject: Fwd: Estimate 1148 from XL Contracting Inc., Erickson Homes
Attachments: Estimate (No. 1148) from XL Contracting Inc..pdf

Hi Nate,

Here is the work scope proposal for spring 2019 and contingency plan for if the system fails over the winter.

Please let myself or Blain know if you need anything else.

I have copied Jake Diekman (homeowner) on this email so he knows exactly what the proposed plans are.

As I stated on our phone call this morning I would be willing to collect each individuals signature and hand deliver the document to you yet this morning.

Thank you for working with us to resolve this issue.

Thanks again
Darin Erickson
402 304 1493

Sent from my iPhone

Begin forwarded message:

> **From:** Blain Johnson <xlcontracting10@gmail.com>
> **Date:** December 21, 2018 at 8:24:53 AM CST
> **To:** Darin Erickson <ericksonhomes@icloud.com>
> **Subject: Estimate 1148 from XL Contracting Inc., Erickson Homes**
>
> Dear Erickson Homes,
>
> The estimate you requested is attached. Please review it and feel free to contact us if you have any questions. We look forward to working with you.
>
> Sincerely,
> XL Contracting Inc.

Nate C. Hartman

From: jacob diekman <diek_05@hotmail.com>
Sent: Wednesday, January 22, 2020 12:19 PM
To: Darin Erickson
Cc: Amanda Diekman; Nate C. Hartman
Subject: Re: 6747 SW 29th Septic Repairs

Yes we are satisfied with the repairs to the septic. Much appreciated.

Jake Diekman

Get Outlook for iOS

From: Darin Erickson <ericksonhomes@icloud.com>
Sent: Monday, January 20, 2020 2:40:17 PM
To: Jake Diekman <diek_05@hotmail.com>
Cc: Amanda Diekman <amanda.soltero@hotmail.com>; Nate Hartman <nhartman@lincoln.ne.gov>
Subject: 6747 SW 29th Septic Repairs

Good Morning Jake and Amanda,

As we have discussed and reviewed the repairs completed for the Septic in December 2019, I want to ensure that we are in mutual agreement pertaining to details specific to repairs performed on the insurance claim for the Engineered Septic system damage caused by a third party.

As a brief re-cap of the incident, the Engineered septic was damaged by a third party grading contractor who despite being advised and directed not to drive in the area of the newly installed system leechfeild, including flags installed to highlight the area, drove over the area with heavy machinery therefore causing damage in November 2018.

Because it was unknown at that time to the extent of the damage, Erickson Homes worked with the City Engineer, Nate Hartman and other necessary parties to devise a Phase 1 and Phase 2 repair plan in order to pursue the Temporary Certificate of Occupancy.

The temporary Certificate option was created for the purpose of allowing the homeowner to move into the property in December 2018 with a closing date for the property to be defined sometime in 2019 (July 2019)

Together we planned for a Phase 1 Temporary repair to take place prior to temporary certificate of Occupancy. Additionally we agreed upon a Phase 2 Comprehensive Repair, or Replacement of the system, to be completed in 2019 upon further inspection of the system and as soon as feasible for all installers assigned.

Now that we have completed Phase 2 repairs to the originally installed system, we want to ensure that you as the Client and Homeowner are satisfied and happy with the repairs performed on your property.

Can you confirm via response to this email that you are satisfied and happy with the repairs performed to your property at 6747 SW 19th; Lincoln NE ?

By doing so it is greatly appreciated for the purpose of executing the Permanent Certificate of Occupancy and the written documentation needed by Nate Hartman also copied here.

I appreciate it Jake and Amanda. And I will be in touch separately as the final certificate of occupancy is issued.

Best Regards,
Darin Erickson
Erickson Homes

Nate C. Hartman

From: jeffhet@1791.com
Sent: Friday, December 13, 2019 3:38 AM
To: Nate C. Hartman
Cc: ericksonhomes@icloud.com; Terri Jakoubek
Subject: FW: Fwd: Diekman System Inspection Letter
Attachments: Diekman System Eval Letter.pdf

Nate,

I have read the attached letter (dated Dec 5, 2019) and spoken to LLoyd Jakoubek regarding the inspection of the lateral system for the Diekman residence. Based on the information I was given, it appears the lateral system is functioning properly. Lloyd did indicate there was some egging of some of the distribution pipe of the EZ-Flow, but no collapsed sections. As long as there is no additional pressure/compaction by heavy traffic/equipment, the system should continue to function, as designed. All lateral system have a finite life, As part of the design, NDEQ required a reserve area for a replacement lateral field.

Please contact me with any questions or comments you may have.

Regards,
Jeffery N. Schoeneck, P.E.
Horizon Envirotech, LLC
402-720-9209

-----Original Message-----
From: "Terri Jakoubek" <jakoubek63@windstream.net>
Sent: Wednesday, December 11, 2019 9:43am
To: "Nate Hartman" <nhartman@lincoln.ne.gov>
Cc: "Schoeneck" <jeffhet@1791.com>, ericksonhomes@icloud.com
Subject: Fwd: Diekman System Inspection Letter

Hi Nate, I've attached the results of our inspection of the Diekman system and our recommendations. Let me know if you need anything further for your consideration.

Thanks,

Terri Jakoubek
Raymond Contracting, Inc.
13800 NW 70th St
Raymond, NE 68428
402-783-2663 (Office)
402-783-2341 (Fax)
402-890-3870 (Mobile)
jakoubek63@windstream.net

From: "Schoeneck" <jeffhet@1791.com>
To: "Terri Jakoubek" <jakoubek63@windstream.net>
Sent: Tuesday, December 10, 2019 7:35:51 PM
Subject: RE: Diekman System Inspection Letter

Terri,

Sorry it took me so long to look at this, Anyway, It is well-written and based off the information provided, the lateral system appears to be functioning as designed. I

Regards,
Jeff Schoeneck

-----Original Message-----
From: "Terri Jakoubek" <jakoubek63@windstream.net>
Sent: Friday, December 6, 2019 9:20am
To: "Schoeneck" <jeffhet@1791.com>
Subject: Diekman System Inspection Letter

Hi Jeff, I've attached the letter I plan to send to Nate regarding our inspection of the Diekman system. If you would please take a look and provide input before I send it I'd appreciate it.
Thanks,
Terri Jakoubek
Raymond Contracting, Inc.
13800 NW 70th St
Raymond, NE 68428
402-783-2663 (Office)
402-783-2341 (Fax)
402-890-3870 (Mobile)
jakoubek63@windstream.net

Raymond Contracting, Inc.
Lloyd Jakoubek
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Raymond, NE 68428
402-783-2663 Office, 402-890-6009 Mobile, 402-783-2341 Fax

December 5, 2019

Lincoln-Lancaster County Health Department
Environmental Public Health Division
Nate Hartman
3140 N St
Lincoln, NE 68510-1514

Nate,

I was contacted in early November by Darin Erickson of Erickson Homes and asked if Raymond Contracting would be interested in helping him finalize an installation of an engineered system. Darin told me the system was installed a year earlier but had never been approved/completed due to potential damage caused by heavy equipment traffic over the system. He said the original installer verified the concrete tanks were undamaged and, assuming that the absorption area was damaged, planned to replace the absorption area using the plans' designed reserve area but never scheduled the work.

We agreed to look into the situation and contacted the system's designer Jeff Schoeneck, P.E.. After speaking with Jeff and doing some field research on EZFlow's ability to withstand pressure, we felt there was a strong possibility the absorption area may not be damaged.

On December 4th, 2019 we dug up the ends of all 8 trenches and ran a camera through the center pipe of the EZFlow bundles the entire 60' length or each trench. We found the pipe to be oval shaped in some areas and dry in all of the 8 trenches with only 2 areas showing some evidence of pressure damage to the couplings in that the pipe was more oval than round but would still allow effluent to move through. We also probed all 8 trenches and found it easy to insert the probe which would indicate a looser, less compact soil. We found no sign of effluent standing in any of the trenches which would indicate it is infiltrating into the soil.

It is our professional opinion that these absorption trenches are operating effectively. While it is impossible to guarantee the life of this system, or any system realistically, we feel strongly that the heavy equipment traffic caused minimal damage. If in the future this system should fail, there is a planned reserve area for future use as required by state code.

We recommend that the original installer submit his final permit paperwork (description and As-Built drawing) and that the system be approved so he can file the state registration, the engineer can file his completion report for the state permit and the builder and homeowner can move forward with finalizing their affairs.

Respectfully,

Terri L. Jakoubek

Lloyd & Terri Jakoubek
Raymond Contracting, Inc.
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cc: Jeff Schoeneck, P.E.
Blain Johnson, Original Installer
Darin Erickson, Builder

Nate C. Hartman

From: Blain Johnson <xlcontracting10@gmail.com>
Sent: Wednesday, October 23, 2019 6:04 PM
To: Nate C. Hartman
Subject: 6747 SW 27, Diekman project

Nate, pump pipeline has been run up to front of property. Currently waiting on the surveyor to mark property lines and get engineer back after that to get lateral layout done. I was by there today and the surveyor hadn't been there yet, they were contacted back in Sept. I am planning to contact them and get an update on when they will be there.

Thanks, Blain.

Darin Erickson: 402-304-1493
Natalie Erickson: 419-8329
[redacted]
NBachmeier@ME.com

SCANNED

Lincoln-Lancaster County Health Department (LLCHD)
Environmental Public Health Division
3140 "N" Street • Lincoln, NE 68510-1514
Phone: 402-441-8643

B

Permit Number:

Onsite Wastewater Treatment System
Soil Evaluation Report

PLEASE PRINT OR TYPE

Onsite System Location

Address TWIN PINES ADDITION BLOCK 4 LOT 6 City LINCOLN NE, Zip 68523
(no rural route)

Owner MARVIN HOY Address 2250 BENNET RD UNIT B, ROCA NE 68430

Date of Tests 7/15/17 to 7/16/17 Weather: Precipitation 0 Temperature 95

Percolation Test Data Table

A.	B.	C. D. E. F. Saturation/Swelling Time				G. H. I. J. K. Water Level Drop Last 30 mins of 4 hr or last 10 mins of 1 hr					L. M. N. Results		
		Start		End		Start			End				
Hole No.	Hole Depth(in)	Date (Mo/Da)	Time (Hr/Min)	Date (Mo/Da)	Time (Hr/Min)	Date (Mo/Da)	Time (Hr/Min)	Initial Water Lev (in.)	Date (Mo/Da)	Time (Hr/Min)	Elapsed Time Interval	Water Level Drop(in)	Percolation Rates (Min/in = mpi)
1	30	7/15	3:25	7/16	2:25	7/16	5:55	6	7/16	6:25	30	1.125	27
2	30	7/15	3:25	7/16	2:25	7/16	5:55	6	7/16	6:25	30	1.125	27
3	30	7/15	3:25	7/16	2:25	7/16	5:55	6	7/16	6:25	30	0.50	60
								6					
								6					
								6					
								6					
								6					

Person Conducting Percolation Test

Name: JASON KUBIK
Phone: 402-475-2462
Address 105 LOCUST ST
HICKMAN NE 68372

Sum of Percolation Rates: 114
Average of Rates: 38
Rate Used for Calculation: 59 due to > than 20 mpi variance

Soil type (NRCS Maps/Other) 7684 WYMORE SILTY CLAY LOAM, 7466 OTOE SILTY CLAY
Groundwater Depth > 12'

DO NOT WRITE BELOW THIS LINE

Reviewing Action

Comments (Soil type, groundwater, floodplain, etc.)

Signature of Reviewing Official _____ Date _____

SCANNED



N
W E
S

Lancaster County/City of Lincoln GIS Map

Twin Pines Lot 19

Printed: Jul 11, 2017

DISCLAIMER: The information is presented on a best-efforts basis, and should not be relied upon for making financial, survey, legal or other commitments. If you have questions or comments regarding the data displayed on this map, please email ags@lincoln.ne.gov and you will be directed to the appropriate department.