BEFORE THE TENNESSEE REGULATORY AUTHORITY
NASHVILLE, TENNESSEE

filed electronically in docket office on 02/02/11

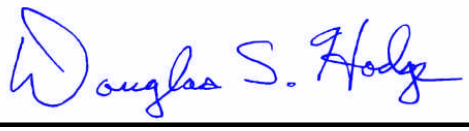
January 11, 2011

IN RE:

PETITION OF DSH & ASSOCIATES, LLC TO OBTAIN A
CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR
THE SERVICE OF THE PART OF JEFFERSON COUNTY, TENNESSEE
KNOWN AS LAKESIDE ESTATES

DOCKET NO. 11-00220

Respectively Submitted,



Douglas S. Hodge, Ph.D., PMP
DSH & Associates, LLC
Operations Manager
4028 Taliluna Avenue
Knoxville, TN 37919
865-755-8066

TITLE PAGE

REGULATION AND SCHEDULE OF CHARGES GOVERNING THE PROVISION OF WASTEWATER UTILITY SERVICE TO RESIDENCES AND BUSINESSES WITHIN THE STATE OF TENNESSEE

This tariff contains the descriptions, regulation and rates applicable to the furnishing of wastewater utility service provided by DSH & Associates, LLC within the State of Tennessee. This tariff is on file with the Tennessee Regulatory Authority. Copies may be inspected during normal business hours at the Company's principal place of business at ***4028 Taliluna Avenue, Knoxville, TN 37919***.

TABLE OF CONTENTS

SYMBOLS

The following symbols are used for the purposes indicated below:

C	Changed regulations or rate structure
D	Discontinued material
I	An increased rate
M	A move in the location of text
N	A new rate or regulation
R	A reduced rate
S	Reissued material
T	Change in text but no change in rate or regulation

TARIFF FORMAT

A. Sheet numbering – Sheet numbers appear in the upper right corner of the sheet. Sheets are numbered sequentially. However, new sheets are occasionally added to the tariff. When new sheet is added between sheets already in effect, a decimal is added. For example, a new sheet added between sheets 12 and 13 would be 12.1.

B. Sheet Revision Numbers – Revision numbers also appear in the upper right corner of each sheet. These numbers are used to determine the most current sheet version on file with the TRA. For example, the 4th revised Sheet 12 cancels the 3rd revised Sheet 12. Because of various suspension periods, deferrals, etc., that the TRA follows in its tariff approval process, the most current sheet number on file with the TRA is not always the sheet in effect. Consult the Check Sheet for the sheet currently in effect.

C. Paragraph Numbering Sequence – There are nine levels of paragraph coding. Each level of coding is subservient to the next higher level:

2.
2.1
2.1.1
2.1.1.A
2.1.1.A.1
2.1.1.A.1.(a)
2.1.1.A.1.(a).1
2.1.1.A.1.(a).1.(i)
2.1.1.A.1.(a).1.(i).(1)

D. Check Sheets – When a tariff filing is made with the TRA, an updated Check Sheet accompanies the tariff filing. The Check Sheet lists the sheets contained in the tariff, with a cross-reference to the current revision number. When new sheets are added, the Check Sheet is changed to reflect the revision. All revisions made in a given filing are designated by an asterisk (*). There will be now other symbols used on this sheet if these are the only changes made to it (i.e., the format, etc. remain the same, just revised revision levels on some sheets.) The tariff user should refer to the latest Check Sheet to find out if a particular sheet is the most current on file with the TRA.

DEFINITIONS

Certain terms used generally throughout this tariff for the Utility Service of this Company are defined below:

1. Company — DSH & Associates, LLC
2. Engineer—the consulting engineer of DSH & Associates, LLC
3. Customer — any person, firm, corporation, association or government unit furnished sewage by the Company.
4. Residential Property — property that is an established residence for a single family that is intended solely for the family's use.
5. Commercial Property — property that is used for commercial, overnight rental or institutional purposes.
6. Facilities — all equipment owned and operated by the Company.
7. TRA — the Tennessee Regulatory Authority.
8. Septic Pump Tank — the tank located near a customer's building which accepts waste and contains a pump vault.
9. Septic Gravity Tank — the septic tank located near a customer's building which accepts waste and contains an effluent filter.
10. Service Line — the line from the Septic Pump/Septic Gravity Tank to a Collector Line.
11. Collector Line —the line from the Service Line to the Main Line.
12. Main Line —the line from the Collector Line to the treatment facility.
13. Building Outfall Line — the customer owned line that caries waste from the building to the Septic Pump Tanks/Septic Gravity Tank.
14. Pumping Station — a tank that contains pumps and receives effluent from Septic Gravity Tanks and/or Collector Lines.
15. Premises — shall mean customer's private property.
16. Service Connection — the point at which the service line to the wastewater system components at the customer's building is connected to the main wastewater collection system.

SECTION 2
RULES AND REGULATIONS

Governing the sewage collection and treatment systems of DSH & Associates (DSH)

Statement of Purpose

The general purpose of these rules and regulations is:

1. To establish procedures for furnishing sewage collection and treatment services on a uniform basis to customers within the Company's service area.
2. To provide standards and procedures for:
3. Acceptable sewage characteristics
4. Protection of the integrity of the water tight system
5. Engineering design standards
6. Construction standards and inspection requirements
7. Quality of materials

Authorization of Rules and Regulations

DSH & Associates, LLC is a corporation organized and engaged in business as a public utility in the State of Tennessee. The Company is regulated Under a Certificate of Convenience and Necessity issued the Tennessee Public Service Commission (PSC) on ?, under Docket No. ?, and subsequent certificates issued by the PSC and the TRA.

Effect of Rules and Regulations

All provisions of these rules and regulations shall be incorporated in each contract with each sewage system customer of the Company

Utility Facilities on Private Property

The Company shall maintain all septic pump and septic gravity tanks, control systems and service lines required to provide sewer services on the Customer's premises. The Customer must execute an agreement that acknowledges the Company to have a perpetual easement in, over, under and upon the specified land of Customer as shown on the property plat, with the right to operate and repair all components of the sewer system on the Customer's property, including but not limited to the septic tank and septic pump tank systems. The Customer must grant the Company permission to enter upon Customer's property for any reason connected with the provision or removal of sewer service or collection therefore. The Customer must agree to allow the Company to install an approved cut off valve between the house and water supply and grant the Company exclusive rights to use such valve to cut off water in order to safely stop wastewater flow. The Customer understands there will be a charge of $100.00 for installation of this valve. The Customer's Building and Pluming outfall line shall be maintained by the Customer.

Discontinuance of Service

Service under any application may by dis-continued for the following reason:

1. Non-payment of bill as hereinafter set forth below
2. For misrepresentation of application
3. For adding to the property without notice of the Company
4. For tampering any service pipe, tank, control system, filter or any other facilities of the Company in any way whatsoever.
5. For violation of any rules of the Company.
6. For disconnecting or reconnecting service by any party, other than a duly authorized agent of the Company without the consent of the Company.

Non-Payment Penalties

The Customer agrees to promptly pay for service at the then current schedule or rates and fees and agrees to abide by and be subject to the Company's billing and cutoff procedures. Should the Customer not pay in accordance with the Company's rules, the Customer agrees to pay all reasonably incurred cost of collection of delinquent fees including attorney fees.

A non-payment penalty of five percent (5%) of the total bill amount will be due after the due date shown on the bill. If payment is not received within fifteen days after the due date, a 2nd notice will be sent to the customer. If payment is not received within 30 days, service will be turned off from the customer's property as per the Sewer Service Contract Agreement (Attachment 14) executed by the customer with no additional notice being sent. No service shall be reconnected if disconnected for non-payment (or any other valid reason) until all charges have been paid, including disconnection and reconnection fees. The disconnection fee is $40. The reconnection fee is $50 plus all back payments.

Returned Checks

A check returned by the bank will incur a fee of $25.

Changes in Ownership, Tenancy of Service

A new application and contract must be made and approved by the Company on any change in ownership of property, or tenancy, or in the service as described in the application. In the event of a failure of a new owner or tenant to make such application, the Company shall have the right to discontinue service until such new application is made an approved.

Sewer System Access Fee

The owner of each property parcel, which is provided a service connection when the sewer system is built, will be required to pay a sewer access fee of $120.00 per year. This fee will be payable each July 1st. As each Customer attaches to the Service Connection and signs up for service, they will pay a pro-rated access fee for that year and thereafter the fee will not be charged.

Engineering, Material and Construction Standards

General: This specification covers the type of sewer system required for various design conditions of sewers constructed by developers.

1. The requirements called for are a minimum in all cases. Bedding conditions, material specifications, sealing requirements and installation methods are the responsibility of the design engineer and must be approved by the Company Engineer.
2. Design and construction of sewer lines shall meet the requirements of the State of Tennessee Department of Environment. Any conflicts between company and state requirements shall be resolved so that the more restrictive shall govern.
3. All sewage collection system components are to be watertight. This includes Building Outfall lines, all tanks, Collector Lines, Service Lines and Main Lines.
4. Collector Lines and Main Lines are to be tested to 100 pounds per square inch of water pressure. Risers and lids are to be watertight.
5. Septic Pump and Septic Gravity Tanks are to be installed near the customer's building to be served. The tanks are to be set in a level condition and tested for water tightness before backfilling.
6. STEP septic tanks must meet the specifications outlined in this document. Size of STEP tanks must be approved by DSH and will be based on the number of bedrooms in the home and the intended use of the home.
7. All pipe is to be PVC. Classes and sizes will be per Engineer's design and in all cases Schedule 40 will be the minimum allowable.
8. Only wastewater drains are to be connected to the sewer system. No water sources such as roof drains, sump pumps, condensate lines and swimming pools shall be connected to the sewer system.

Special Pretreatment Sewage Requirements

For all sewage connections the Company reserves the right to require any non-residential user to provide special pre-treatment for any high strength effluent before discharge into its sewage system. The Company may, upon the basis of recognized engineering standards and treatment costs, increase the rate charged to cover the cost of treatment of high strength effluent or industrial waste, and may impose recognized engineering standards as to the maximum size of solids and constituents in such waste discharged into its sewage system.

Additionally, if excessive volumes of sewage are received, the Company may require the Customer to monitor flow volume and increase surge holding capacity at the Customer's expense. All customers will be required to follow the Owners User Manual for an effluent collection system supplied to them by the Company (Attachment 1). These requirements prohibit the dumping of any toxic chemicals that kill tank bacteria and disposal of an excessive amount of grease, among other things. All requirements (and notification of repair costs associated with the system abuse) are established in the Customer's Sewer Subscription Contract with the Company.

Damages

The Company shall in no event be responsible for maintaining any Building Outfall Line owned by the Customer, nor for damages created by sewage escaping there from, nor for defects in Customer's building lines or fixtures. The customer

shall at all times comply with all regulations of the TRA and of the Company.

All leaks in any building pipe or fixture on the premises of the Customer shall be immediately repaired by the Customer. On failure to repair any such leak, the service may be discontinued until repairs are made. Any customer found introducing prohibited substances into the waste water system is liable to pay the full cost of cleanup and the repair of any damage caused.

Inspection

All pipes, valves and fixtures shall be at all reasonable hours, be subject to inspection by the Company or it's duly agent.

In Event of Emergency

The Company shall not be liable to the Customer for interruption in service, or for damages or inconvenience as a result of any interruption, stoppage, etc., which was beyond the reasonable control of the Company. In case of emergency, call 865-622-2452.

Service Area

The Company will provide service within its current service area. Additions to the service area must be approved by TRA.

Extension Plan

The Company may furnish sewer service to property owners whose lands abut the Main Line of existing sewer systems. The sewer service charges listed in the sewer billing monthly rates do not include costs for constructing extensions to the sewer system. Any sewer system facilities required to service such abutting properties shall be constructed at the cost of those parties desiring same, and these facilities shall become the property of the Company to be credited to the account for Contributions in Aid of Construction. In addition, treatment system facility costs will be paid by the Customer desiring to connect onto the system. Sewer service to new areas within a service territory will be made available where it is technically feasible and the developer or property owner is willing the bear the expense of designing and building the sewer system.

Contributions in Aid of Construction

Sewer system facilities furnished by developers and property owners to the Company will be recognized as Contributions in Aid of Construction in the amount of the actual cost of construction. Capital contributions from developers will be treated in like manner.

Contracts for Service

Each Customer before installation of service shall be required to execute on the appropriate forms furnished by the Company, a Sewer Subscription Contract.

Customer Billing Forms

Customer billings will be sent monthly or annually to Customers for payment of a flat fee.

Individual Septic Tank and Pump Tank Requirements

Only the configurations listed on the Individual Septic Tank and Pump Tank requirements list may be used. This list may be added to or taken from as needed.

Public Contact

Doug Hodge

4028 Taliluna Ave

Knoxville, TN 37919

865-622-2452

Tennessee Regulatory Authority Regulations

The Company, in its operation, shall conform to all the applicable rules and regulations promulgated from time to time by the Tennessee Regulatory Authority. The TRA can be reached by phone at 1-800-342-8359 or 615-741-2904.

SECTION 3
RESIDENTIAL SEWER SERVICE TERRITORIES

Service Territory	County	TRA Docket #	Rate Class
Lakeside Estates on Norris Lake	Campbell	?	Rate Class 1

SECTION 4

I: RESIDENTIAL RATE SHEET/EXPLANATION

FEES:	TOTAL	
Non-Payment	5%	
Tap Fee	3,750/lot	
Disconnection	$ 40.00	
Reconnection	$ 50.00	
Returned Check	$ 25.00	
Access Fee	$120/yr	
*Escrow amount is included in total	$15.95	
** Tap fee is for homes with 3 bedrooms or less		

Explanation

FFR.D:	Standard Base RSF/Fixed Film Reactor Treatment Rate	$ 27.39
E1:	RSF Escrow Rate	$ 15.95
B1:	Standard bonding charge of	$ 1.19
	Total	**$ 44.53**

II: COMMERICAL RATE SHEET Overnight Rental Units

The monthly sewer charge per customer is based on the monthly average daily flow monitored from the unit being served. A minimum of $69.53 per month will be charged for up to the first 300 gallons per day of average daily flow. (I) For each additional 100 gallons per day of average daily flow, up to a total of 1,000 gallons per day, an additional charge of $15.00 per month per 100 gallons will be levied. For average daily flows over 1,000 gallons per day, an additional monthly charge of $157.95 per 1,000 gallons of average daily flow will apply.

COMMERCIAL W/O FOOD	FLOWRATE BETWEEN (GPD)		TOTAL**	ESCROW***
Tier 1	0	300	$ 69.53	$ 15.95
Tier 2.1	301	400	$ 84.53	$ 19.49
Tier 2.2	401	500	$ 99.53	$ 23.02
Tier 2.3	501	600	$ 114.53	$ 26.56
Tier 2.4	601	700	$ 129.53	$ 30.10
Tier 2.5	701	800	$ 144.53	$ 33.63
Tier 2.6	801	900	$ 159.53	$ 37.17
Tier 2.7	901	1000	$ 174.53	$ 40.71
Tier 3.1	1001	2000	$ 332.48	$ 77.95
Tier 3.2	2001	3000	$ 490.43	$ 115.19
Tier 3.3	3001	4000	$ 648.38	$ 152.43
Each additional tier			$ 157.95	$ 37.24

Each customer will be billed the minimum monthly charge unless DSH determines that the customer's measured usage exceeds an average of 300 gallons per day over a thirty day period. Unless otherwise stated in this tariff, measured usage will be based on a customer's actual or estimated usage, averaged over a thirty-day period.

Actual usage may be measured in any of the following ways:

- Effluent flow meter.
- STEP pump. Usage will be measured by multiplying the period of elapsed pumping time shown on the pump times the capacity of the pump.
- In the absence of an effluent flow meter or a STEP pump, usage will be assumed to be equal to the customer's usage of potable water as shown on the customer's potable water meter.

If a customer is charged in excess of the minimum monthly fee, DSH will measure the customer's actual usage at least once every ninety days using one of the methods described above and display on the customer's statement the usage and measurement method used. In any month in which DSH does not measure the company's actual usage, the customer's monthly bill will be based on the customer's estimated monthly usage. No less than once every ninety days DSH will bill (or credit) the customer for any differences between an estimated bill and actual measured usage.

If a customer's usage exceeds the average daily design flow for three consecutive months, the customer may be required to pay any capital costs associated with increasing the capacity of that portion of the system designed and dedicated to serve that customer. For purposes of this section, DSH must measure actual usage for three consecutive months using one of the methods described above.

If DSH determines that a customer's usage meets the criteria described above, DSH will notify the customer in writing of any proposed construction work, the reasons for the work, and the estimated

cost to the customer. The notice will also state that if the customer believes that his usage does not meet the criteria described above or that the charge to the customer is unjust and unreasonable, the customer may file a written complaint with the Tennessee Regulatory Authority, located at 460 James Robertson Parkway, Nashville, TN, 37243. Unless the TRA orders otherwise, the filing of a complaint will not delay the proposed construction work but may initiate a proceeding in which the TRA will determine whether, under the terms of this tariff, the customer is responsible for the cost of the construction work.

** Bonding amount of $1.19 included
*** Escrow amount is included

SEWER SERVICE CONTRACT

DATE:_____.

PRINTED NAME:_____.

ADDRESS OF PROPERTY:_____.

MAILING ADDRESS:_____.

TELEPHONE NUMBER:_____.

EMAIL ADDRESS:_____.

I hereby make application to DSH & Associates, LLC (DSH) for sewer service at the address of property stated above. In consideration of the undertaking on the part of DSH to furnish sewer service, I understand, covenant and agree as follows:

1. I understand that the components of a sewer system have been installed on the property referred to above, which is owned or occupied by me, and which is to be connected with a wastewater disposal system owned and/or maintained by DSH. I warrant that any connection to and/or subsequent use to this system by the components on my property shall be in accordance with the Rules, Regulations and Plans of DSH. Regarding my usage of the system components on my property, which are owned by me, I covenant to follow the guidelines set forth in the Owners User Manual. Should I violate these Rules and/or abuse or damage my components, I understand that I must bear the expense to repair or replace the same in accordance with the Plans of DSH.
2. I acknowledge DSH, its successors and assigns, have a perpetual easement in, over, under and upon the above specified land as shown on the property plat, with the right to operate and repair all components of the sewer system on my property, including but not limited to the septic tank and septic pump tank systems. I further grant DSH permission to enter upon my property for any reason connected with the provision or removal of sewer service or collection therefore.
3. For all other plumbing and structures on the property, including the outfall line to the septic tank, I agree that I am responsible for all operation and repair thereof.
4. I agree to promptly pay for service at the then current schedule or rates and fees and agree to abide by and be subject to DSH's billing and cutoff procedures. Should I not pay in accordance with DSH's rules, I agree to pay all reasonably incurred cost of collection of delinquent fees including attorney fees.
5. I accept the current Rules and Regulations and the Rates and Fees Schedule and agree to abide by any amendments to such Schedules as approved by the Tennessee Regulatory Authority.
6. I agree that this Agreement shall remain in effect for as long as I own, reside upon or rent the above-described property. When such circumstances no longer exist, I agree to provide notice to DSH at least thirty (30) days in advance of my vacating the property.
7. I agree to allow DSH to install an approved cut off valve between the house and water supply and grant DSH exclusive rights to use such valve to cut off water in order to safely stop wastewater flow. I understand there will be a charge of $100.00 for installation of this valve.

SUBSCRIBERS SIGNATURE:_____

Jon Trimbach

320 Echo Valley Drive
Vandalia, OH 45377
877-204-0785

Lakeside Estate HOA

Attn: Lakeside Estate Property Owners

(Address Stamp Here)

Trimbach Development, LLC has engaged DSH & Associates (DSH), LLC (a waste water utility company) to replace LaFollette Utility District for waste water utility services. Their rate sheets and other pertinent information are attached. This transition will be effective January 1st, 2011.

Please contact me by phone if you have any transitional questions. The DSH point of contact is Doug Hodge who can be reached at 865-851-8351 or hodge.dsh@gmail.com.

Jon Trimbach
President
Trimbach Development, LLC
1/1/11

BEFORE THE TENNESSEE REGULATORY AUTHORITY

NASHVILLE, TENNESSEE

August 20, 2010

IN RE:

PETITION OF DSH & ASSOCIATES, LLC TO OBTAIN A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR THE SERVICE OF THE PART OF JEFFERSON COUNTY, TENNESSEE KNOWN AS LAKESIDE ESTATES.

DOCKET NO. ?

III. General Requirements:

A. Application of Issuance of a CCN:

B. DSH & Associates, LLC has received a letter from Norris Lake Properties, LLC, developer for Lakeside Estates (attachment 2). The letter requests we provide wastewater service to Lakeside Estates Development in Campbell County, Tennessee. The current Centralized Treatment System has been in operation for approximately 3 years under a State Operating Permit granted to LaFollette Utility (SOP # 07073). LaFollette has agreed to release the Lakeside Estates SOP #07073 to DSH & Associates, LLC (attachment 3). Prior to the original SOP being granted to LaFollette, LaFollette confirmed that there were no municipal sewer lines in the vicinity of Lakeside Estates, no current plans for future extension of lines to service this development, and the soils are not adequate for individual onsite septic systems.

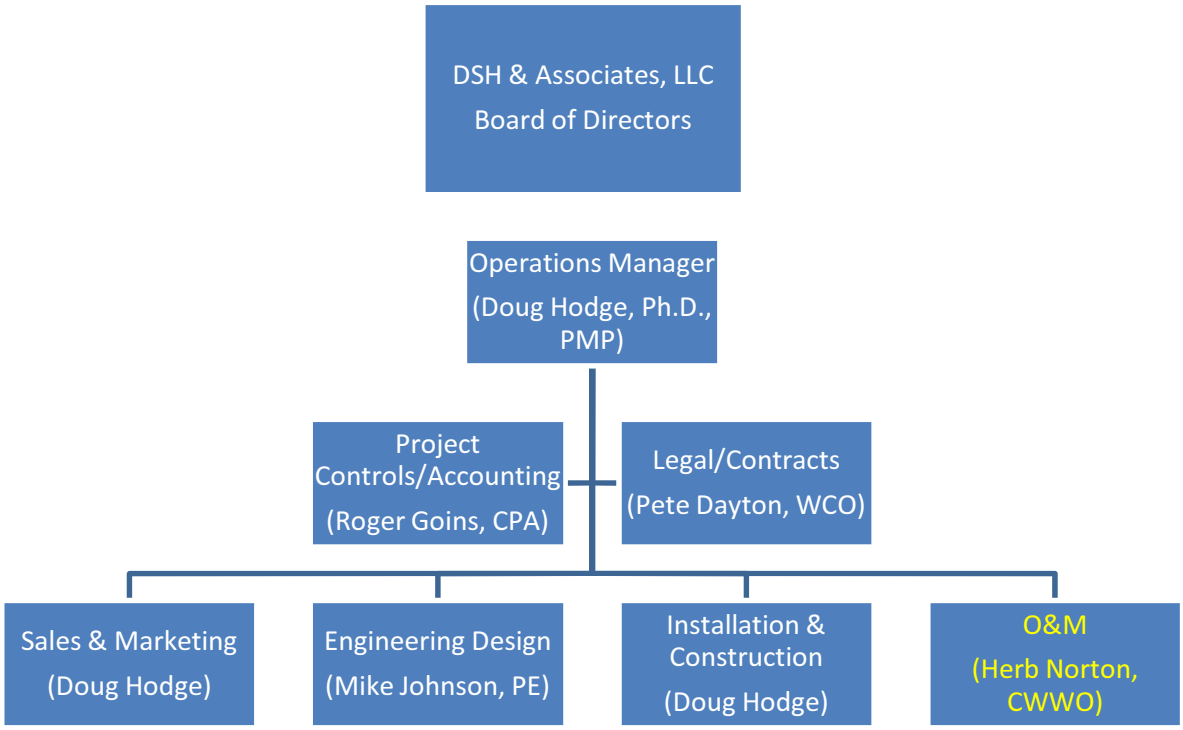
C. Sworn pre-filed written testimony. See attached document (attachment 4)

D. SOP #07073 Permit & application (attachment 5).

IV: Administrative Requirements:

A. DSH & Associates, LLC, 4028 Taliluna Avenue, Knoxville, TN 37919, 865-755-8066

B. Organizational Structure



C. Officers:

a. Officer, Douglas Hodge, 4028 Taliluna Avenue, Knoxville, TN 37919, 865-755-8066, Operations Mgr, 100% owner.

b. Board of Directors:

i. Doug Hodge
ii. Pete Dayton
iii. Roger Goins

D. Principle officers: Same as noted above in section C.a.

E. Articles of incorporation (attachment 6).

F. License to engage in business within State of Tennessee registered with the Secretary of State (attachment 6)

G. DSH & Associates, LLC has no franchise agreements.

H. DSH & Associates, LLC is not located in other states, and has no other application pending.

I. DSH & Associates, LLC is not currently involved with any mergers or acquisitions.

V: Managerial Requirements:

A. Degrees held by water utility staff (copies of degrees and certificates are attached in attachment 7):

- ***a. Dr. Douglas S. Hodge, Ph.D., PMP***
  - i. Ph.D. Environmental Engineering, Univ. of Southern Calif, 1993
  - ii. M.S. Environmental Engineering, Univ. of Southern Calif, 1991
  - iii. B.A. Mathematics, Colorado College, 1988
  - iv. Project Management Professional, 2010, Certification #1322650
- ***b. Michael Johnson, PE***
  - i. Registered Professional Engineer (TN), Certification #112003
  - ii. BS Civil Engineering, Univ. of Tennessee, 2003
- ***c. Herbert Norton, CWWO***
  - i. Certified Water and Wastewater Operator (TN), Certification #142
  - ii. Wastewater treatment plant operation, East Tennessee State University, 1969
- ***d. Roger Goins, CPA***
  - i. BS Accounting, University of Tennessee
  - ii. Certified Professional Accountant
- ***e. Pete Dayton, WCO***
  - i. BS Mathematics, University of Tennessee, 1966
  - ii. Masters of Business Administration (MBA), University of Tennessee, 1968
  - iii. Warranted Contracting Officer, State of Tennessee, 1990

B. Professional licenses of staff and contractors

a. ***Water and Wastewater Operator Grade II*** – Herbert Norton
b. ***Professional Engineer*** – Mike Johnson
c. ***Project Management Professional*** – Doug Hodge
d. ***Certified Professional Accountant*** – Roger Goins
e. ***Warranted Contracting Officer*** – Pete Dayton

C. Experience of water utility staff:

DOUGLAS S. HODGE, PH.D., PMP.
Operations Manager

QUALIFICATIONS

With DSH & Associates, LLC, Dr. Hodge's primary role as Operations Manager is to ensure awarded projects are completed on time, within budget, and according to client requirements. Additional duties includes: staffing all projects, developing initial budgets and schedules, aligning client expectations with project goals, monitoring performance of all projects, and ensuring Quality and Health and Safety Management procedures are followed.

Dr. Doug Hodge has over 20 years of experience in waste water treatment system design and construction, research & development, design and construction management. He has managed the design and construction of over $500M worth of projects. A graduate of the University of Southern California's Civil Engineering Program, Doug's focus has been on development and implementation of innovative, environmentally friendly technologies for treating waste streams. He has extensive experience in writing proposals and has been awarded work from commercial, State and Federal Government entities. Dr. Hodge has strong working relationships with Tennessee's Department of Environmental Conservation (TDEC) and the University of Tennessee Wastewater Treatment Faculty. The American Society of Civil Engineers awarded Dr. Hodge their second highest honor, The James R. Croes Medal, for his role in advancing innovative environmental technologies.

Dr. Hodge has extensive experience with oversight of large scale design and construction projects. He has been responsible for leading large construction programs for some of the leading federal contractors, including being the Manager of Projects for Jacobs Engineering's US Army Corps of Engineers projects and the Remediation Business Unit Manager for CAPE, Inc. Dr. Hodge was responsible for leading an impressive list of projects that includes the New Bedford Harbor Superfund Site, the Massachusetts Military Reservation TERC and AFCEE contracts, a $50M Army Chemical Demilitarization Program, PRACs at Mobile and Buffalo, a Nashville HTRW design/remediation contract and numerous other DoD programs and projects. In addition, he was responsible for leading DOE projects that included support of the DOE Oak Ridge remediation program and the Nashville A/E Contract which supported the Oak Ridge Y-12 new facility construction program - a $3 million design and construction oversight program that included complete designs of three new facilities and the oversight of the construction of these facilities. He was the Chairman of the Technology Committee for Jacobs Engineering's Environmental Division and has published more than 20 technical papers. His expertise includes developing and implementing earned value project management systems and cost tracking systems.

Experience

- **Bouldercrest Villas Development, TN**
  - Bouldercrest Villas, LLC is a 28 home subdivision on Norris Lake.
  - The project is a turn-key Design Build estimated at approximately $18M.
  - As engineering manager, Dr. Hodge designed and constructed a new innovative onsite wastewater treatment system that has been fully approved by the State. This system contains the first engineered fill approach to infiltration of final effluent for the State of Tennessee.
  - Doug teamed with the University of Tennessee Engineering Department and the local Jefferson County Health Department in design, installation, and operation of the system.
  - Doug managed all field efforts to install the developments infrastructure.

- **The Flats Resort, TN**

  - Rezoning a 63 acre property from Agricultural to Commercial use.
  - Preparing and gaining City approval for a 145 Unit Lake Development.
  - Managing the engineering designs for the developed.
  - Managed the field construction effort to install the $8M of infrastructure. This included a 100,000 gallon per day centralized treatment plant located on the property.

- **The Villages at Norris Lake, TN**
  - Currently engineering a centralized treatment system for a 450 unit development
  - The system is being designed to handle 135K gallons per day

PETE DAYTON
Legal/Contracts Manager

Qualifications

With DSH & Associates, LLC, Mr. Dayton offers 25 years experience in providing leadership and management oversight of operations, including operations and program management, business development, and contract management. His extensive experience includes negotiating and managing all types of contracts for engineering, construction, environmental services and infrastructure support services. Mr. Dayton was the Director of Procurement and Contracts for the U.S. Department of Energy in Oak Ridge, Tennessee where he was responsible for overseeing the negotiation and administration of contracts and financial assistance instruments totaling over $2 billion annually. In this position he was also responsible for overseeing the Oak Ridge Small Business Program that consistently ranked as the best in DOE. Following his retirement from DOE, Mr.

Dayton became the Operations Manager for Federal Operations at Jacobs Engineering Group where he led several departments and regional operations with up to 360 line managers, project managers and staff across the U.S. This staff was involved in the execution of up to $100 million of environmental and engineering projects for the Department of Energy, Air Force, Army Corps of Engineers, and the Army Chemical Demilitarization Program.

ROGER GOINS
Project Controls/Accounting

QUALIFICATIONS

With DSH & Associates, LLC, Mr. Goins will be responsible for all project controls, billing supervision, monthly accounting, and annual preparation of taxes and required annual reports. Mr. Goins is a TN CPA and has over 30 years of experience with accounting and specifically the State of TN accounting practices. In addition, Mr. Goins is currently the CPA/project controls lead for Martel Utility District, is registered with the State as providing utility accounting support, and currently is following all professional practices required to meet TRA accounting requirements.

HERBERT NORTON
Operations and Maintenance (O&M)

QUALIFICATIONS

With DSH & Associates, LLC, Mr. Norton will be responsible for O&M of the Lakeside Estates De-Centralized treatment system. He will conduct all sampling and analyzes, operate the system, respond to shut downs, and keep the system operational.

Mr. Norton has over 40 years of experience in the water and wastewater. He has managed municipal operations for the Cities of Newport and Dandridge, TN from 1968 through 2003. He has a grade 2 wastewater treatment plant and distribution and collection systems license. He has the experience to manage all aspects of the O&M for the Lakeside Estates De-centralized system.

MICHAEL C. JOHNSON, P.E.
Engineering/Design Manager

QUALIFICATIONS

With DSH & Associates, LLC, Mr. Johnson's primary role as Project Manager is to ensure awarded projects are completed on time, within budget, and according to requirements. Additional duties includes: scheduling meetings, presenting meetings, preparing and distributing meeting minutes, determining resources required, preparing

work plans, executing work plans and adjusting the work plans as necessary, assigning tasks to team members, and preparing status reports and presenting to upper management

As a project engineer, responsibilities included site layout design, grading design, stormwater collection/management design, water and sewer utility design, hydrology studies, surveying/mapping, horizontal/vertical road design, traffic control design for street/highway construction, erosion and sediment control design/inspection, feasibility studies, flood analysis studies and reports, bridge/culvert design pertaining to hydrology/hydraulic design, documentation of construction inspections pertaining to pay requests, preparation of permit applications and supporting documents for Federal, State and local regulatory agencies (e.g., TDEC stormwater permitting, stream/wetland alterations and rehabilitations, TDOT permits, FEMA NFIP and Flood Plain Management Procedures, etc.) for residential, commercial, and industrial developments as well as preparation of construction documents. Additionally, tasks include oversight and training of junior staff engineers and designers. Work has required coordination and cooperation with surveyors, architects, regulators, contractors and other consultants as part of the overall design effort and construction support.

Experience

- **Titanic Museum Attraction, Pigeon Forge, TN**

Mr. Johnson performed project management, engineering design services, technical support and construction management for the commercial development. Responsibilities include site layout design, grading design, water and sewer design/calculations, stormwater design/calculations, erosion and sediment control design/inspection, traffic control design, cost estimating and preparation of construction documents.

- **Jasmine Fields, Sevier County, TN**

Mr. Johnson performed project management, engineering design services, technical support and construction management for the residential development. Responsibilities include site layout design, grading design, water and sewer design/calculations, stormwater design/calculations, erosion and sediment control design/inspection, horizontal/vertical road design/calculations, cost estimating and preparation of construction documents. The project included multiple Class V Injection Wells. Mr. Johnson prepared all required documents and design for the closure and stormwater injection of the Class V Injection Wells.

- **RCA Rental Equipment, Sevierville, TN**

Mr. Johnson prepared Individual permit applications and supporting documents for Federal, State and Local regulatory agencies of the directly connected existing stream and wetland. In order for the commercial site to fit on the property, the stream and wetland needed to be relocated with a ratio of 3:1. During investigation of the historical existence of the wetland, it was found that when Veterans Boulevard was constructed, the wetland area was depleted and never properly mitigated. Therefore, the regulatory agencies required that the previous mitigation must be incorporated into the proposed mitigation for the rehabilitation of the wetland habitat. After many negotiations with the regulatory

agencies, approval was granted. At the present time, the mitigation is being monitored for completion.

VI: Technical Requirements:

A. State Operating Permit (SOP) is filed with the Tennessee Department of Environmental and Conservation as SOP #07073.

B. Construction plans and engineering drawings of the decentralized treatment facility (attachment 8).

C. Projected 5 year build-out and cost analysis is attached as attachment 9 with explanation pages. The estimates of the number of builds per year are based on information gained from a local real estate company. There are 200 lots and a pool in the subdivision (200 hookups total). We tried to factor in today's economic environment as well.

   a. According to Trimbach Development, LLC, 36 lots have been sold/closed.

D. Proposed Tariff showing rates to be charged for wastewater service.

   1. Sewage treatment service recommended rates: Rate to customer for residential fixed film treatment is $44.53 and for Commercial Rental Units is $69.53 per month. Then we broke down our cost further in a 5 year spread sheet format. (attachment 9)
   2. Service Access Fee of $120.00 annually.
   3. Bills are due on the first day of the month and considered late if not received by the 10th day of the month due.
   4. A 5% of total bill amount to be added to bills not paid by the 10th of the month.
   5. Bills over 30 day past due are subject to being disconnected. A service disconnect fee of $40.00 will be charge if a service must be disconnected. For service reconnect: all back payments plus a reconnect fee of $50.00 will be charged
   6. A returned Check fee of $25.00
   7. Any damages to the sewage treatment system caused by anyone will be billed at actual cost of repair and loss of service. These types of damage include but are not limited to:
      i. Damages caused to the disconnect valve located at main line tap
      ii. Any damages to pipes or equipment caused during excavation by machine or hand.
      iii. Hazardous waste; Industrial chemicals and other non household sewage added to the treatment system.
      iv. Sewage added to the system not generated at the customer's residence, like from a septic pumper truck.
   8. See attachment 14.

E. Copy of license of the water system operator of record (attachment 7)

F. The area to be served will be limited to the subdivision known as Lakeside Estates Subdivision. Lakeside Estates total acreage of lots and sewage disposal field is approximately 70 acres. See attached subdivision plans (attachment 10)

G. The decentralized treatment system was installed and started treating influent 2008..

H. Name and contact information for responsible person regarding applicants proposed operation.

   a. Doug Hodge, 4028 Taliluna Avenue, Knoxville, TN 37919, 865-755-8066.

I. There are no complaints filed against DSH & Associates, LLC

VI I: Financial Requirements:

A. The developer, Norris Lake Properties, LLC, paid approximately $425K to install the completed system at Lakeside Estates, which started operation in 2008. DSH & Associates, LLC will show $678,000K as a capital Contribution on its books. This is the cost of the decentralized treatment plant and associated acreage (price of acreage is calculated at $10,000 per acre and the system sits on approximately 25.3 acres including the drip area). The land cost is an average according to a local real estate company.

B. The land is currently owned by the developer (Trimback Development, LLC). As part of the CCN application process, the developer will transfer ownership of the wastewater treatment plant, drip fields, and associated acreage to DSH & Associates, LLC.

C. Chart of accounts for the water utility (attachment 11).

D. List of all plant-in-service account numbers with account names and estimated account balances as of the start of operation (attachment 11).

E. Our CPA will use the Tax Basis Deprecation Rates considered with the MACRS tables. For the main plant we would use the MACRS 39 year table. For the blowers and motors we would use the MACRS 7 year table. For the control system we would use the MACRS 5 year table.

F. A performance bond in the amount of $20,000 is being acquired through Athens Insurance for the Lakeside Estates Treatment System (attachment 12).

G. Provide pro forma income statements for the water utility for the first two years of operation. The first 2 years of projected cost and income estimate is provided with in attachment 13 with explanation sheets.

ATTACHEMENT 1:

Owners User Manual

OWNERS USER MANUAL

Welcome! You are hooked up to a state of the art fixed film wastewater treatment system. This environmentally friendly system does an excellent job of treating wastewater and returning it to the soil. It will do best if you follow the guidelines listed below:

Proper Use:

Direct all wastewater from the home into the septic tank. Any wastewater can contain disease causing organisms and pollutants.

Practice water conservation to avoid overloading the onsite sewage system. Repair dripping faucets and leaking toilets. Run dishwashers when full. Do not do all your laundry in one day. Space out the washing machine use over the week. Replace old fixtures with water saving fixtures.

Do not direct water from gutter downspouts, sump pumps or subsurface drains into the septic tank. The sewage management system is designed based on an estimated daily water use. Excess water directed into the septic tank will cause a hydraulic failure.

Use commercial bathroom cleaners and anti-bacterial soaps in moderation. Treatment in the wastewater system depends on natural bacteria. The Utility does not recommend the use of septic tank additives. These products are not necessary for proper system operation.

Do not plant trees or bushes on top of the septic or pump tank. Root intrusion may damage and block the line.

Do not dig without knowing the location of your septic and pump tank. Landscape the site to allow surface water to drain off of these tanks. Divert roof drains from these tanks. Standing water over these tanks will cause increased load saturations and potential pump failure.

Do not park or drive over the septic and pump tank. This can damage or compromise the tanks.

Do not pour grease, oil, paint or other chemical products down the drain. Do not put not-biodegradable items such as cigarette butts, feminine hygiene products, condoms, disposable diapers or other similar solid waste into the septic tank. Remember living microbes clean the wastewater.

Do not enter your septic or pump tank. Gases from inside the tank can be fatal. Keep the lids secure and screwed down.

Do not turn off the main circuit breaker to the wastewater pumps when going on vacation. The pumps will need to handle any infiltration into the system.

If there is a power failure, your alarm might go off when the power comes back on. Wait at least 2 hours; if the alarm is still going off please call the customer service number. If you have had no power failure and the alarm goes off, call customer service without delay.

Customer Service: 865-622-2452

DSH & Associates, LLC

Construction and Utility Services
4028 Taliluna Avenue, Knoxville, TN 37919

Dear DSH Utility Services Customers

I would like to welcome you to DSH Utility Services and Lakeside Estates. We at DSH Utility Services look forward to providing the best and most environmentally friendly wastewater treatment service. First of all I would like to explain our rates for Lakeside Estates.

We have 2 basic rates, one if you have not built your home yet and the other as your home is built. First, the rate if you have not built your home yet is referred to as an access fee. The access fee is $120.00 dollars per year and is due on July 1st. What this fee pays for is the maintenance of the lines in the streets and the treatment plant components. Even if no homes are built in the subdivision, maintenance and test records must be maintained to meet state requirements. We use this fee to offset these costs so that when you are ready to connect, the system will be ready for you.

Our next rate is for when you build your home and tie on, this rate is $44.53 and 69.53 per month for residential and commercial rental units, respectively. For this payment we will treat the wastewater to the highest standards and dispose of it into a drip emitter field. We use the fixed film system of treating the wastewater because of it's reliability and it can be maintained more cost effectively than other systems. This is a fully automated PLC controlled system for the utmost reliability. You will additionally install a septic and pump tank at your home at your expense. We will pump and maintain the septic tank, pump tank and components at no additional cost to you. It should be noted that we do not maintain any plumbing or unstop any blockages in your home or the outfall line to the septic tank.

Additional charges are as follows:

- Service disconnect $40.00
- Service reconnect all past due amounts with late fees and $50.00
- Returned Check Fee $25.00
- A 5% late fee will be added to the total bill on the lot of any month in which we have not received your payment.

A complete copy of our tariff or billing amounts is available for viewing at our office during normal business hours by appointment

Now for connecting, we have a set of specifications that must be followed and are included in this packet. You must get a permit from Jefferson County Environmental Health before starting work. Before you can connect to the DSH Utility Services Service Connection you must sign and return your Sewer Service Contract Agreement.

You will need to install a cut off valve between the house and water supply and grant DSH Utility Services, exclusive rights to use such valve to cut off water in order to safely stop wastewater flow.

You will have an alarm post next to your pump tank or on your house. If there is a power failure, this alarm might go off

after the power comes back on due to residual water needing to be pumped out. Wait at least 2 hours and if the alarm is still going off please call the customer service number. If you have had no power failure and the alarm goes off, call customer service without delay. If you need additional assistance, please call our Customer Service number: 865-851-8351.

All payments will be sent to:

DSH & Associates, LLC
4028 Taliluna Avenue
Knoxville, TN 37919

Again I would like to welcome you to DSH Utility Services and Lakeside Estates. We at DSH Utility Services will do our best to handle your wastewater service needs in an honest and professional manner.

Sincerely,

_____
Douglas S. Hodge, Ph.D. PMP
Operations Manager
DSH & Associates, LLC
Construction & Utility Services

DSH Utility Services

Individual septic tank and pump tank requirements.

Only configurations and equipment approved by DSH Utility Services may be used. Not following these configurations shall be cause for disconnect until the specifications are met.

All connections to the septic and dosing will be:

- 4" schedule 40 PVC at not less than 1/8" fall per 1'
- Have an Inspection port relief valve between the septic tank and pump tank. The Inspection port relief valve will be on an elevation of not less than 6" below the elevation where the building outfall line leaves the home. (see approved products)
- Foam core pipe is approved if it meets local code requirements

The line from the pump tank to the main line will be:

- Pressure rated Schedule 40 PVC minimum 1.25 inch
- Have a piece of single strand insulated copper wire included in the ditch turned up in the utility box at the road and alarm post for future locating needs.
- Pumped line from pump tank to service connection should be burred at least 18"deep.

The septic and pump tank must meet the Utility's design requirements:

- All tanks must be on the Utility's approved list. Other tanks may be added to approved list if they meet all requirements. Contact the Utility for details on adding additional equipment to approved list.
- Shall be of a watertight design and all joints must be sealed to stop ground water intrusion and sewage leaks. Concrete/Fiberglass tanks must be l piece tanks with sealed lid.
- The septic tank will be a two chamber design at least 1000 gallon capacity.
- The pump tank will be a one chamber design at least 1000 gallon capacity.
- The septic tank will have PVC tees in each end at least 1/3 the water depth.
- The outlet tee will include a septic tank filter.
- The top of the tanks shall not be buried deeper than 24" from the surface.
- The septic tank will include two approved risers to the surface.
- The dosing tank will include one approved riser to the surface.
- The risers will have two forms of entry security. Safety screws in outer lid and a riser pan with cement lid or a safety screen.
- The dosing tank will have an 1.5 inch metal pipe entering at least 46"on center from the bottom of the tank at the riser end. The total length of the installed pump and piping shall be 46" from center of the line entering the tank to the bottom of the pump.
- The pipe in the tank will have a 1/16 hole pointed downward in the tank to relieve air after pump cycle.
- The pump tanks will have an EZ pull adapter for quick pump service.

- A1 pipes in the dosing tank will be galvanized water pipe, aluminum or stainless steel
- Metal pipe must extend at least 3' from tank toward Utility connection before converting to using PVC.
- The metal elbow shall have a 1/16 hole at a 30 degree downward angle drilled into it'
- A non spring check valve shall be connected to the Utility service just inside the Utility service box. This will make a total of two check valves at the service box.

Electrical Connections

- All connections shall meet the national electrical code.
- All connections shall be located outside of the tank.
- An approved alarm post with a high level alarm shall be located atthe pump tank riser.
- No electrical connections are allowed inside the pump tank or riser.
- Two 110 volt electrical circuits are required from the house to the alarm post. One l2 gauge dedicated for the pump and one 14 gauge for the alarm, so the alarm will work even if the pump throws a circuit breaker. Wire in PVC conduit or direct burial wire is required.
- The conduit connecting the riser to the alarm post must be sealed so as to keep corrosive gasses from entering the alarm post.

Approved Materials: (contact the Utility in advance to recommend an addition to this list)

Risers: Can use either Orenco System or Polylok System risers as outlined below:

- Orenco: Jeff Brownfield at 423-331-2036
  - 2.000 FL24G-4BU Fiberglass Lid, 24" W/ Urethane Gasket, Angled Core; 4 bolts, Inlet & outlet
  - 2.000 RR2436 Pvc Access Riser, 24" Dia.
  - 2.000 MA320 200 G Epoxy Kit
  - 1.000 SB4 Pvc Splice Box W/4 Cord Grips
  - 1.000 PV55-1817 Simplex Biotube Pump Vault for 24" Riser, 18" Cartridge
- Polylok: www.polvlok.com 877-POLYLOK
  - Polylok 3008 HD Heavy Cover or
  - Polylok 3008 RC Light Duty Cover
  - Polylok 3008-RP 24" Riser Pan or
  - Polylok 3008-SS 24" Safety Screen
  - Polylok 3008 24" Riser 6" tall
  - Polylok 3008-R12 24" Riser 1,2" tall
  - Polylok PL-68 Filter Cartridge (septic tank filter)
  - Polylok 3009-AR (adapter ring for plastic tanks)

Alarm Post:

- SJE Rhombus model PSPL20V6HL7 A www.sierhombus.com 1-888-DIALSJE
- Septic Products Inc. - Observer 100 www.septicproducts.com 419-282-5933

EZ pull adapter -EZ-Puller 1.5 inch www.webtrol.com 800-769-7867

lnspection Port Relief Valve 562-304 www.Plum.com 800-462-6991

Septic Tank: 1 piece 2 chamber

- Orenco Step Tank: Jeff Brownfield 423-331-2036
- Norwesco 1050 Septic tanks part number 42250,42248,42283, 42293 www.norwesco.com
- Ashley Cement Tanks: Must be L piece 2 chamber poured tanks with two Polylok 24" risers andsealant between lid and tank.
- Watson Septic, Madisonville, TN
- Dixie Concrete, LaFollette, TN
- Tays Septic, Crossville, TN
- Morrison Tank & Vault, Morrison, TN

Approved Pumps:

- Myers 2NFLs1-8E www.femvers.com 419-289-1144
- Orenco: Jeff Brownfield at 423-331-2036
    - 1.000 PF100511 Effluent Pump; 1/2Hp, 10gpm, 115V, 60Hz, 10' Lead
    - 1.000 HV100BCFCPRX Hose & Valve Assembly, 1" Pressure, w/B,C,FC,X
    - 1.000 MF3A-Y,B,R-27V Fl. Assem.;(Y,B,R);27" step pump vault
    - 1.000 S1ETM Simplex Panel, 115V W/Etm

Some local Installers: (if an installer does poor work, the Utility reserves the right to not allow him/her to do further work) To add your installer, please call the Utility first:
Doug Hodge at 865-622-2452.

For additional technical assistance call DSH Utility Services: 865-622-2452.

ATTACHEMENT 2:

Norris Lake Properties Letter Requesting DSH Take Over Service of Decentralized Treatment System and Facility

Jon Trimbach

Trimbach Development, LLC
320 Echo Valley Drive
Vandalia, OH 45377
877-204-0785

Douglas Hodge

DSH & Associates, LLC
4028 Taliluna Avenue
Knoxville, TN 37919
865-755-8066
Hodge.dsh@gmail.com

Dr. Hodge,

Per our phone conversation on 11/1//10, Trimbach Development (developer for Lakeside Estates) approves of DSH & Associates, LLC taking ownership of the State Operating Permit #07073 and the installed de-centralized treatment system for Lakeside Estates from LaFollette Utilities In conversations with Eddy Troxell with LaFollette, they will release the SOP. Please proceed with submitting a CCN application for Lakeside Estates through TRA and have TDEC transfer the SOP to DSH.

Please give me a call with any questions.

Jon Trimbach
President
Trimbach Development, LLC
11/1/10

ATTACHEMENT 3:

LaFollette Utility Letter Releasing

State Operating Permit (SOP)

DSH & Associates, LLC

Engineers and Consultants

November 1, 2010

Tennessee Department of Environmental Conservation
Attn: Wade Murphy
Permit Division Manager
401 Church Street
6th Floor, L&C Annex
Nashville, TN 37243-1534

SUBJECT: Transfer of ownership of SOP # 07073
PROJECT: Lakeside Estates WWTP

Dear Mr. Murphy:

DSH and Associates, L.L.C. (EUS) and *LaFollette Utilities Board* have agreed to transfer ownership of State Operating Permit (SOP) #07073 and associated installed decentralized treatment system located on Lakeside Estates Subdivision, LaFollette, TN.

We request the date of the transfer be effective on January 1, 2011. The treatment system, easements, and other property associated with the system and currently owned by LaFollette, will be transferred to EUS ownership no later than February 28th, 2011.

Please let us know if there is any additional information you require and we appreciate your time and effort.

Sincerely,

11/29/10

Douglas S. Hodge, Ph.D., PMP ***Date***
Manager
DSH & Associates, LLC
4028 Taliluna Avenue
Knoxville, TN 37919
865-755-8066
Hodge.dsh@gmail.com

11/29/10

Walter M. Baird, Jr. ***Date***
General Manager
LaFollette Utilites Board
P.O. Box 1411
LaFollette, TN 37766
423-562-3316

11/29/10

Jon Trimbach ***Date***
President
Norris Lake Properties
320 Echo Valley Drive
Vandalia, OH 45377
937-238-6843

ATTACHEMENT 4:

Sworn Pre-filed Testimony

BEFORE THE TENNESSE REGULATORY AUTHORITY
NASHVILLE, TENNESSE

January 1, 2011

IN RE:

PETITION OF DSH & ASSOCIATES, LLC TO OBTAIN
A CERTIFICATION OF PUBLIC CONVENIENCE AND NECESSITY
FOR THE SERVICE PART OF JEFFERSON COUNTY, LAKESIDE ESTATES

DOCKET NO: ???????

LAKESIDE ESTATES
PRE-FILED DIRECT TESTIMONY OF DOUG HODGE

Question: State your name for the record and your position with the Petitioner, DSH & Associates, LLC.

Answer: Doug Hodge. I am the operations manager and owner of DSH & Associates, LLC.

Question: What is the business of DSH & Associates, LLC?

Answer: To provide environmentally friendly and affordable wastewater service to communities where wastewater service is not currently available. DSH also has an engineering/construction group within the company that will support those technical areas of potential projects.

Question: Is there a need for wastewater service in the proposed development?

Answer: Yes, we have been requested to provide wastewater service by Lakeside Estates. I have included a copy of a letter requesting that the service be provided (attachement 2). Currently, LaFollette is operating the constructed waste water system and has agreed to release the SOP and operation over to DSH (see attached

letter, attachment 3). During the initial SOP submittal approval process, LaFollette confirmed that there were no sewer utility lines in the vicinity of the subdivision and confirmed that there were no current plans for providing service lines. A decentralized treatment system was also required since most of the soils in the development are not suitable for individual septic systems.

Question: What services will DSH & Associates, LLC provide to Lakeside Estates?

Answer: DSH & Associates, LLC will provide wastewater service including pumping and maintenance of the step systems at individual homes, maintaining the community main lines, maintaining and operating the treatment plant and drip field. All operation and maintenance will be done in a manor as to meet all requirements of the state operating permit.

Question: Does DSH & Associates, LLC have the technical, managerial, and financial capability to provide wastewater service to Lakeside Estates?

Answer: Yes, DSH & Associates, LLC staff and associates have all the necessary technical, managerial, and financial capability to provide wastewater service to Lakeside Estates.

Question: Will DSH & Associates, LLC abide by all applicable Tennessee statues and TRA rules governing wastewater utilities?

Answer: Yes, DSH & Associates, LLC will abide by all applicable Tennessee statues and TRA rules governing wastewater utilities including but not limited to TRA Rule Chapters 1220-1-1, 1220-4-1 and 1220-4-13.

Question: How many customers will be served in this development?

Answer: DSH & Associates, LLC will service up to 200 residential/commercial wastewater customers once the subdivision is built out.

Question: Identify any complaints filed with any state regulatory agency involving DSH & Associates, LLC.

Answer: There have never been any complaints filed against DSH & Associates, LLC.

Question: Testify to DSH's technical, managerial, and financial expertise to operate a wastewater utility.

Answer: **Technical Experience:** DSH has a strong technical team with a broad skill set and background adequate to support the technical requirements of a wastewater utility. The technical team and their associated degrees/certifications consist of:

a. Dr. Douglas S. Hodge, Ph.D., PMP

i. Ph.D. Environmental Engineering, Univ. of Southern Calif, 1993

ii. M.S. Environmental Engineering, Univ. of Southern Calif, 1991

iii. B.A. Mathematics, Colorado College, 1988

iv. Project Management Professional, 2010, Certification #1322650

b. Michael Johnson, PE

i. Registered Professional Engineer (TN), Certification #112003

ii. BS Civil Engineering, Univ. of Tennessee, 2003

c. Herbert Norton, CWWO

i. Certified Water and Wastewater Operator (TN), Certification #142

ii. Wastewater treatment plant operation, East Tennessee State University, 1969

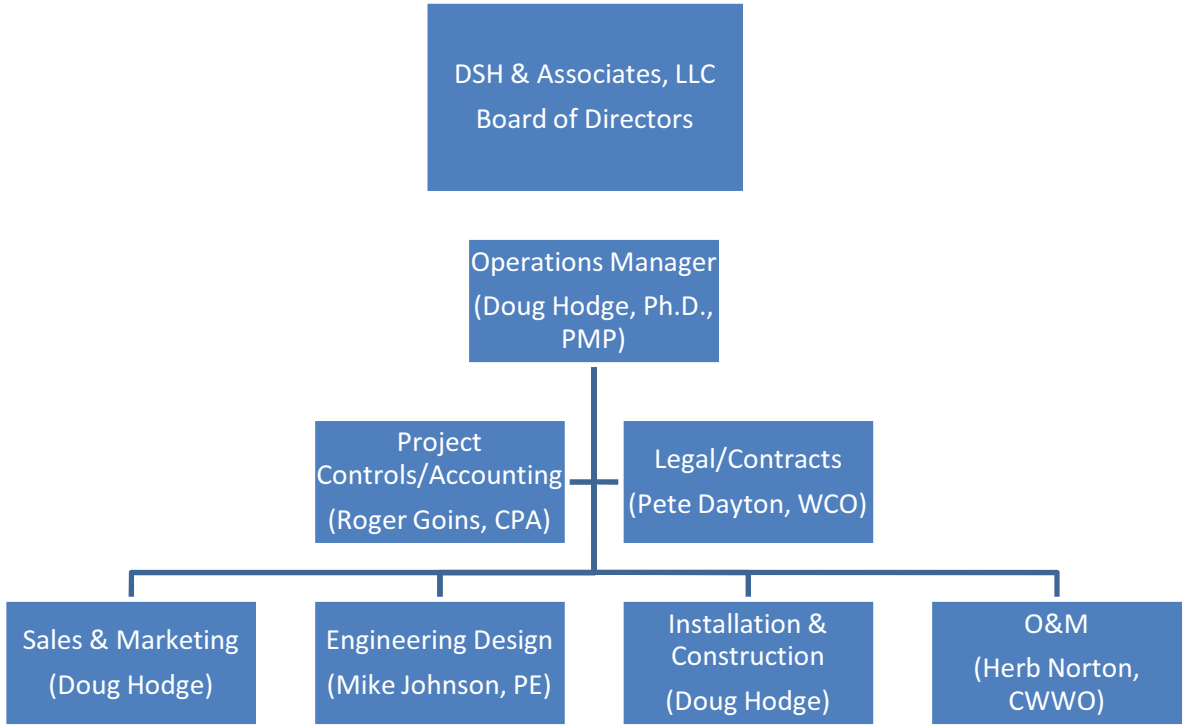
Along with the degrees and certification the team brings to the Utility, its members cumulatively have approximately 70 years of experience in the environmental/water/waste water profession. Dr. Doug Hodge has over 20 years of experience in environment/water/wastewater treatment system design and construction, research & development, design and construction management. He has managed the design and construction of over $500M worth of projects since the early 90's. His specific experience includes project management responsibility for the design, construction, and operation of approximately 10 water/waste water treatment facilities with cumulative installed cost of approximately $70 M with flowrates of approximately 7 million gallons per day. For approximately 3 years, Dr. Hodge was also the Operations Manager for these systems,

directly responsible for the O&M team, cost accounting group, contracts group, and other technical discipline support groups.

Mr. Norton, DSH's O&M Lead, has over 40 years of experience in the water and wastewater. He has managed municipal operations for the Cities of Newport and Dandridge, TN from 1968 through 2003. He has a grade 2 wastewater treatment plant and distribution and collection systems license. He has the experience to manage all aspects of the O&M for the Lakeside Estates De-centralized system.

Mike Johnson, DSH's Engineering Lead, is a Professional Engineer with water/waste water design experience. He has worked as a Project Manager and Project Engineer on many large design/construction projects and his specific responsibilities will include site layout design, grading design, stormwater collection/management design, water and sewer utility design, hydrology studies, surveying/mapping, horizontal/vertical road design, traffic control design for street/highway construction, erosion and sediment control design/inspection, feasibility studies, flood analysis studies and reports, bridge/culvert design pertaining to hydrology/hydraulic design, documentation of construction inspections pertaining to pay requests, preparation of permit applications and supporting documents for Federal, State and local regulatory agencies (e.g., TDEC stormwater permitting, stream/wetland alterations and rehabilitations, TDOT permits, FEMA NFIP and Flood Plain Management Procedures, etc.) for all projects.

Managerial Experience: DSH has a strong managerial team consisting of a board of directors, operations manager, project controls (accountant) lead, Legal contracts lead, sales and marketing lead, engineering design lead, construction lead, and O&M lead. The following figure outlines DSH's organizational structure with associated responsible individuals:



Dr. Hodge is a Certified Project Management Professional (PMP) with extensive experience in managing large teams of individuals and groups. Over the last 10 years, he has worked for several large design/construction/O&M companies with direct responsibility for over 600 individuals. The Utility Management structure has been designed based on this experience defining key positions, roles and responsibilities, and assigning the right individuals for the positions. Along with Dr Hodge, Herb Norton, and Mike Johnson, Roger Goins and Pete Dayton will support the management team. Their degrees and certifications are listed below:

d. ***Roger Goins, CPA***
    i. BS Accounting, University of Tennessee
    ii. Certified Professional Accountant

e. ***Pete Dayton, WCO***
    i. BS Mathematics, University of Tennessee, 1966
    ii. Masters of Business Administration (MBA), University of Tennessee, 1968
    iii. Warranted Contracting Officer, State of Tennessee, 1990

Mr. Goins will be responsible for all project controls, billing supervision, monthly accounting, and annual preparation of taxes and required annual reports. Mr. Goins is a TN CPA and has over 30 years of experience with accounting and specifically the State of TN accounting practices. In addition, Mr. Goins is currently the CPA/project controls lead for Martel Utility District, is registered with the State as providing utility accounting support, and currently is following all professional practices required to meet TRA accounting requirements.

Mr. Dayton will be responsible for all legal and contractual issues. Mr. Dayton offers 25 years experience in providing leadership and management oversight of operations, including operations and program management, business development, and contract management. His extensive experience includes negotiating and managing all types of contracts for engineering, construction, environmental services and infrastructure support services. Mr. Dayton was the Director of Procurement and Contracts for the U.S. Department of Energy in Oak Ridge, Tennessee where he was responsible for overseeing the negotiation

and administration of contracts and financial assistance instruments totaling over $2 billion annually. In this position he was also responsible for overseeing the Oak Ridge Small Business Program that consistently ranked as the best in DOE. Following his retirement from DOE, Mr. Dayton became the Operations Manager for Federal Operations at Jacobs Engineering Group where he led several departments and regional operations with up to 360 line managers, project managers and staff across the U.S. This staff was involved in the execution of up to $100 million of environmental and engineering projects for the Department of Energy, Air Force, Army Corps of Engineers, and the Army Chemical Demilitarization Program.

Financial Experience: As outlined above, DSH's team brings strong financial experience to the Utility. The team members have worked with other organizations performing similar activities that will be required to run the financial side of the utility. Of specific note is Dr. Hodge's PMP certification and Mr. Goins CPA and experience with the Martel Utility District.

Question: Explain the public need for a wastewater treatment system in the requested area.

Answer: Currently there are no municipal waste water utility lines that support the main road to the development and the lot layout/soils of the development do not meet TDEC's individual home septic system requirements. Based on these restrictions and discussions with LaFollette Utility District and TDEC, in 2007 the decision was made by the developer to install a decentralized treatment system to support the 410 three bedroom homes in the development. Phase I of this system was installed in 2008 and operations commenced in 2008.

Question: Describe any commercial customers DSH will provide service to.

Answer: 26 out of the 28 customers anticipated for 2011 will be commercial customers. These commercial customers have homes that are on a rental program.

Question: Describe DSH's financial ability to operate a wastewater utility by providing detailed information of all funding available and professional accounting expertise.

Answer: In 2011, DSH plans to finance the operation and maintenance of the decentralized system through the following major revenue streams associated with the Lakeside Estates:

- 2 Non-resident property owners: $240 (annual)
- 28 Commercial/residential customers: $22,762 (annual)
- Anticipate tap fees: $7,500 (one time fee)
    - **Total 2011 Revenue** **$30,502**

As part of TRA's CCN application, DSH has prepared a detail 5 year anticipated revenue and expense analysis that can be included in this Testimony as directed.

DSH's professional accounting expertise has been described in detail in the answer to the 3rd question included in this testimony. In summary, our account, Roger Goins, is a CPA who has worked directly with TRA and is the responsible accountant for the Martel Utility District. He is familiar with all TRA accounting/reporting requirements and has directed DSH in the preliminary setup of the DSH's accounting system to track and categorize utility costs per TRA's requirements. Dr. Hodge is a certified professional in project management and project controls practices (PMP) and has been the operations manager responsible for annual revenues in excess of $50M per year. DSH's annual revenue for 2011 is anticipated to be approximately $160K.

Question: Does this conclude your pre-filed testimony?

Answer: Yes

I swear that the foregoing testimony is true and correct to the best of my knowledge and belief.

Douglas S. Hodge, Ph.D., PMP
Operations Manager
DSH & Associates, LLC

Subscribed and sworn to me this 24th day of January, 2011

Notary Public _____

County of Knox

My Commission Expires 09-06-2011

MELISSA DILLS
STATE OF TENNESSEE NOTARY PUBLIC
KNOX COUNTY

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the above and foregoing Pre-filed testimony of Doug Hodge has been served upon the Tennessee Regulatory Authority, 460 James Robertson Parkway, Nashville, Tennessee 37243. By the method of incorporation into this submittal documentation.

On this 24th day of January

Douglas S. Hodge, Ph.D., PMP

ATTACHEMENT 5:

State Operating Permit (SOP) Lakeside Estates

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
401 CHURCH STREET
L & C ANNEX 6TH FLOOR
NASHVILLE TN 37243-1534
March 6, 2008

Mr. Eddie W. Troxell,
Superintendent of Operations
LaFollette Utilities Board
P.O. Box 1411
LaFollette, TN 37766

Re: State Operating Permit No. SOP-07073
LaFollette Utilities Board - Lakeview Estates WWTP
LaFollette, Campbell County, Tennessee

Dear Mr. Troxell:

In accordance with the provisions of the "Tennessee Water Quality Control Act" (Tennessee Code Annotated Sections 69-3-101 through 69-3-120) the enclosed State Operating Permit is hereby issued by the Division of Water Pollution Control. The continuance and/or reissuance of this Permit is contingent upon your meeting the conditions and requirements as stated therein.

Please be advised that you have the right to appeal any of the provisions established in this State Permit, in accordance with Tennessee Code Annotated, Section 69-3-110, and the General Regulations of the Tennessee Water Quality Control Board. If you elect to appeal, you should file a petition within thirty (30) days of the receipt of this permit.

If you have questions, please contact the Division of Water Pollution Control at your local Environmental Field Office at 1-888-891-TDEC; or, at this office, please contact Mr. Hari Akunuri at (615) 532-0650 or by E-mail at *Hari.Akunuri@state.tn.us*.

Sincerely,

Mr. Vojin Janjić
Manager, Permit Section
Division of Water Pollution Control

SOP-07073
P/WAT/5S

Enclosure

cc: Division of Water Pollution Control, Permit Section
Division of Water Pollution Control, Knoxville Environmental Field Office

TENNESSEEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER POLLUTION CONTROL
6th Floor, L & C Annex
401 Church Street
Nashville, TN 37243-1534

Permit No. SOP-07073

PERMIT
For the operation of Wastewater Treatment Facilities

In accordance with the provision of Tennessee Code Annotated section 69-3-108 and Regulations promulgated pursuant thereto:

PERMISSION IS HEREBY GRANTED TO

LaFollette Utilities Board - Lakeview Estates WWTP
LaFollette, Campbell County, Tennessee

FOR THE OPERATION OF

Septic tanks, effluent collection system, Advantex AX-100 textile-media recirculating filters, advanced anoxic nitrogen removal system, UV disinfection and 17.2 acre drip irrigation area system located at latitude 36.371500 and longitude -84.054110 in Campbell County, Tennessee to serve 410 homes in the Lakeview Estates. The design capacity of the system is .123 MGD.

This permit is issued as a result of the application filed on October 12, 2007, in the office of the Tennessee Division of Water Pollution Control and in conformity with approved plans, specifications and other data submitted to the Department in support of the above application, all of which are filed with and considered as a part of this permit, together with the following named conditions and requirements.

This permit shall become effective on: April 1, 2008

This permit shall expire on: February 28, 2013

Issuance date: February 29, 2008

BJ Davis FOR

Paul E. Davis
Director
Division of Water Pollution Control

CN-0759

RDAs 2352 & 2366

PART I

A. GENERAL REQUIREMENTS

The treatment system shall be monitored by the permittee as specified below:

Parameter	Sample Type	Daily Maximum	Sampling Point	Measurement Frequency
Flow	instantaneous		*	1/month
BOD_5	grab	45 mg/l	*	1/quarter
Nitrate as N	grab	20 mg/l	*	1/quarter
Ammonia as N	grab	Report	*	1/quarter
E. Coli	grab	941 colonies/100 ml	*	1/quarter

* Effluent to the drip irrigation plots.

The permittee must disinfect the wastewater in order to meet the above *E. Coli* limit.

This permit allows the operation of a wastewater drip irrigation system. The operation should be such that there is no contamination of and no wastewater discharge to any surface or subsurface stream because of collected pools of water called "ponding", irrigation into karst features or because of improper irrigation. Any runoff due to improper operation must be reported in writing to the Division of Water Pollution Control, Knoxville Environmental Field Office within 5 days of the incident. In addition, the drip irrigation system must be operated in a manner preventing the creation of a public health hazard or a public/private nuisance.

B. MONITORING PROCEDURES

1. Representative Sampling

Samples and measurements taken in compliance with the monitoring requirements specified above shall be representative of the volume and nature of the monitored discharge, and shall be taken at the following location(s):

Effluent to drip irrigation plots.

C. DEFINITIONS

The "daily maximum concentration" is a limitation on the average concentration, in milligrams per liter, of the discharge during any calendar day.

A "grab sample" is a single influent or effluent sample collected at a particular time.

A "quarter" is defined as any one of the following three-month periods: January 1 through March 31, April 1 through June 30, July 1 through September 30, and/or October 1 through December 31.

D. REPORTING

1. Monitoring Results

Monitoring results shall be recorded monthly and submitted quarterly. Submittals shall be postmarked no later then 15 days after the completion of the reporting period. A copy should be retained for the permittee's files. Operation reports and any communication regarding compliance with the conditions of this permit must be sent to:

Division of Water Pollution Control
Knoxville Environmental Field Office
3711 Middlebrook Pike
Knoxville, TN 37921

The first operation report is due on the 15th of the month following permit effectiveness

2. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified in 1200-4-5-.07(4)(h)2, the results of such monitoring shall be included in the calculation and reporting of the values required in the Quarterly Operation Report. Such increased frequency shall also be indicated.

3. Falsifying Reports

Knowingly making any false statement on any report required by this permit may result in the imposition of criminal penalties as provided for in Section 69-3-115 of the Tennessee Water Quality Control Act.

E. SCHEDULE OF COMPLIANCE

Full operational level shall be attained from the effective date of this permit.

PART II

A. GENERAL PROVISIONS

1. Duty to Reapply

The permittee is not authorized to discharge after the expiration date of this permit. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information and forms as are required to the Director of Water Pollution Control (the "Director") no later than 180 days prior to the expiration date.

2. Right of Entry

The permittee shall allow the Director, or authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or where records are required to be kept under the terms and conditions of this permit, and at reasonable times to copy these records;

b. To inspect at reasonable times any monitoring equipment or method or any collection, treatment, pollution management, or discharge facilities required under this permit; and

c. To sample at reasonable times any discharge of pollutants.

3. Availability of Reports

All reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division of Water Pollution Control.

4. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems (and related appurtenances) for collection and treatment which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory and process controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. Backup continuous pH and flow monitoring equipment are not required.

The monitoring frequency stated in this permit shall not be construed as specifying a minimum level of operator attention to the facility. It is anticipated that visits to the treatment

facility by the operator will occur at intervals frequent enough to assure proper operation and maintenance, but in no case less than one visit per month. If discharge monitoring reports, WPC inspection reports, or other information indicates a problem with the facility, the permittee may be subject to enforcement action and/or the permit may be modified to include increased parameter monitoring, increased monitoring frequency or other requirements as deemed necessary by the division to correct the problem. The permittee shall ensure that the certified operator is in responsible charge of the facility and observes the operation of the system frequently enough to ensure its proper operation and maintenance regardless of the effluent monitoring frequency stated in the permit."

b. Dilution water shall not be added to comply with effluent requirements

5. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

6. Severability

The provisions of this permit are severable. If any provision of this permit due to any circumstance, is held invalid, then the application of such provision to other circumstances and to the remainder of this permit shall not be affected thereby.

7. Other Information

If the permittee becomes aware that he failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, then he shall promptly submit such facts or information.

B. CHANGES AFFECTING THE PERMIT

1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.

2. Permit Modification, Revocation, or Termination

a. This permit may be modified, revoked and reissued, or terminated for cause as described in section 69-108-(F) The Tennessee Water Quality Control Act as amended.

b. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.

The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

3. Change of Ownership

This permit may be transferred to another person by the permittee if:

a. The permittee notifies the Director of the proposed transfer at least 30 days in advance of the proposed transfer date;

b. The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage, and liability between them; and

c. The Director, within 30 days, does not notify the current permittee and the new permittee of his intent to modify, revoke or reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

4. Change of Mailing Address

The permittee shall promptly provide to the Director written notice of any change of mailing address. In the absence of such notice the original address of the permittee will be assumed to be correct.

C. NONCOMPLIANCE

1. Effect of Noncompliance

Any permit noncompliance constitutes a violation of applicable State laws and is grounds for enforcement action, permit termination, permit modification, or denial of permit reissuance.

2. Reporting of Noncompliance

a. 24-Hour Reporting

In the case of any noncompliance which could cause a threat to public drinking supplies, or any other discharge which could constitute a threat to human health or the environment, the required notice of non-compliance shall be provided to the appropriate Division environmental assistance center within 24 hours from the time the permittee becomes aware of the circumstances. (The environmental field office should be contacted for names and phone numbers of emergency response personnel.)

A written submission must be provided within five days of the time the permittee becomes aware of the circumstances unless this requirement is waived by the Director on a case-by-case basis. The permittee shall provide the Director with the following information:

i. A description of the discharge and cause of noncompliance;

ii. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and

iii. The steps being taken to reduce, eliminate, and prevent recurrence of the non complying discharge.

b. Scheduled Reporting

For instances of noncompliance which are not reported under subparagraph 2.a. above, the permittee shall report the noncompliance on the Quarterly Operation Report. The report shall contain all information concerning the steps taken, or planned, to reduce, eliminate, and prevent recurrence of the violation and the anticipated time the violation is expected to continue.

3. Overflow

a. "***Overflow***" means the discharge to land or water of wastes from any portion of the collection, transmission, or treatment system other than through permitted outfalls.

b. Overflows are prohibited.

c. The permittee shall operate the collection system so as to avoid overflows. No new or additional flows shall be added upstream of any point in the collection system, which experiences chronic overflows (greater than 5 events per year) or would otherwise overload any portion of the system.

d. Unless there is specific enforcement action to the contrary, the permittee is relieved of this requirement after: 1) an authorized representative of the Commissioner of the Department of Environment and Conservation has approved an engineering report and construction plans and specifications prepared in accordance with accepted engineering practices for correction of the problem; 2) the correction work is underway; and 3) the cumulative, peak-design, flows potentially added from new connections and line extensions upstream of any chronic overflow point are less than or proportional to the amount of inflow and infiltration removal documented upstream of that point. The inflow and infiltration reduction must be measured by the permittee using practices that are customary in the environmental engineering field and reported in an attachment to a Monthly Operating Report submitted to the local TDEC Environmental Field Office. The data measurement period shall be sufficient to account for seasonal rainfall patterns and seasonal groundwater table elevations.

e. In the event that more than 5 overflows have occurred from a single point in the collection system for reasons that may not warrant the self-imposed moratorium or completion of the actions identified in this paragraph, the permittee may request a meeting with the Division of Water Pollution Control EFC staff to petition for a waiver based on mitigating evidence.

4. Upset

a. "***Upset***" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

i. An upset occurred and that the permittee can identify the cause(s) of the upset;

ii. The permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;

iii. The permittee submitted information required under "Reporting of Noncompliance" within 24-hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days); and

iv. The permittee complied with any remedial measures required under "Adverse Impact."

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

6. Bypass

a. "***Bypass***" is the intentional diversion of wastewater away from any portion of a treatment facility. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypasses are prohibited unless all of the following 3 conditions are met:

i. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;

ii. There are no feasible alternatives to bypass, such as the construction and use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass, which occurred during normal periods of equipment downtime or preventative maintenance;

iii. The permittee submits notice of an unanticipated bypass to the Division of Water Pollution Control in the appropriate Environmental Field Office within 24 hours of becoming aware of the bypass (if this information is provided orally, a written submission must be provided within five days). When the need for the bypass is foreseeable, prior notification shall be submitted to the director, if possible, at least 10 days before the date of the bypass.

c. Bypasses not exceeding permit limitations are allowed **only** if the bypass is necessary for essential maintenance to assure efficient operation. All other bypasses are prohibited. Allowable bypasses not exceeding limitations are not subject to the reporting requirements of 6.b.iii, above.

7. Washout

a. For domestic wastewater plants only, a "washout" shall be defined as loss of Mixed Liquor Suspended Solids (MLSS) of 30.00% or more. This refers to the MLSS in the aeration basin(s) only. This does not include MLSS decrease due to solids wasting to the sludge disposal system. A washout can be caused by improper operation or from peak flows due to infiltration and inflow.

b. A washout is prohibited. If a washout occurs the permittee must report the incident to the Division of Water Pollution Control in the appropriate Environmental Field Office within 24 hours by telephone. A written submission must be provided within five days. The washout must be noted on the discharge monitoring report. Each day of a washout is a separate violation.

D. LIABILITIES

1. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the State of Tennessee, including but not limited to fish kills and losses of aquatic life and/or wildlife, as a result of the discharge of wastewater to any surface or subsurface waters. Additionally, notwithstanding this Permit, it shall be the responsibility of the permittee to conduct its wastewater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created.

2. Liability Under State Law

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law.

PART III
OTHER REQUIREMENTS

A. CERTIFIED OPERATOR

The waste treatment facilities shall be operated under the supervision of a Biological Natural System operator and the collection system operated under the supervision of a Grade I Collection System certified operator in accordance with the Water Environmental Health Act of 1984.

B. PLACEMENT OF SIGNS

The permittee shall place a sign at all approaches to the drip irrigation lot. The sign should be clearly visible to the public. The minimum sign size should be two feet by two feet (2' x 2') with one inch (1") letters. The sign should be made of durable material and have a white background with black letters.

TREATED DOMESTIC WASTEWATER
DRIP IRRIGATED PLOTS
(PERMITTEE'S NAME)
(PERMITTEE'S PHONE NUMBER)
TENNESSEE DIVISION OF WATER
POLLUTION CONTROL
Knoxville Environmental Field Office
PHONE NUMBER: 1-888-891-8332

No later than sixty (60) days from the effective date of the permit, the permittee shall have the above sign(s) on display in the location specified.

C. ADDITION OF WASTE LOADS

The permittee may not add wasteloads to the existing treatment system without the knowledge and approval of the division.

D. SEPTIC TANK OPERATION

The proper operation of this treatment system depends, largely, on the efficient use of the septic tank. The solids that accumulate in the tank shall be removed at a frequency that is sufficient to insure that the treatment plant will comply with the discharge requirements of this permit.

E. SEPTAGE MANAGEMENT PRACTICES

The permittee must comply with the provisions of 40 CFR Part 503. If the septage is transported to another POTW for disposal, the permittee shall note the amount of septage wasted in gallons, % solids of septage wasted and the name of the facility to which the septage was taken on the monthly operation report. Sludge or any other material removed by any treatment works must be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, TCA 68-31-101 et seq. and Tennessee Hazardous Waste Management Act, TCA 68-46-101 et seq.

F. DRIP SITE MANAGEMENT

The drip irrigation system must have appropriate site management practices to ensure that the nitrogen design assumptions will be achieved. The cover crop must be able to uptake the prescribed amount of nitrogen (50 lbs/acre/year). This requirement shall not be construed to warrant any use of the harvested product and the permittee shall assume full responsibility for its proper use or disposal.

G. OWNERSHIP OF THE TREATMENT FACILITIES

a. The permittee shall own the treatment facilities (and the land upon which they are constructed) including the land to be utilized for drip or spray irrigation. A perpetual easement (properly recorded) may be accepted in lieu of ownership. If the permittee elects to make the treated wastewater available for reuse (irrigation of a golf course for example) a backup dedicated land application site must be provided or a perpetual easement must be obtained for the property where reuse is to take place. The perpetual easement must allow year-round application of the wastewater except where the permittee has provided (and the division has approved) storage facilities for periods when reuse is not available. Evidence of ownership of the treatment facility land application site(s) and/or a copy of the perpetual easement(s) must be furnished to the division for approval prior to construction of the wastewater collection and treatment system.

b. Where the treatment facility serves private homes, condominiums, apartments, retirement homes, nursing homes, trailer parks, or any other place where the individuals being served have property ownership, rental agreements, or other agreements that would prevent their being displaced in the even of abandonment or noncompliance of the sewerage system, ownership of the treatment facilities must be by a municipality, a public utility, a wastewater authority, or a privately owned public utility (having a Certificate of Convenience and Necessity from the Tennessee Regulatory Authority), or another public agency.

LaFollette Utilities Board/ Trimbach Development
Operational Agreement
Lakeside Estates Onsite Wastewater Treatment Facility

This operational agreement and contract is made and entered into on this 8th day of May, 2008, by and between LAFOLLETTE UTILITIES BOARD, a utility incorporated under the laws of the State of Tennessee, with its office and principal place of business in Campbell County, Tennessee (hereinafter called "LUB"), and Trimbach Development LLC (Developer), a Corporation Corporation/Partnership/Sole Proprietorship whose office and principal place of business is in Campbell County, Tennessee (State) (hereinafter called "Developer").

Whereas the Developer proposes to construct an onsite wastewater treatment facility within the boundary of LUB located in a development known as Lakeside Estates, on Ivey Hollow Road in Campbell County, Tennessee for the purpose of providing domestic wastewater treatment to the residents within the development and to transfer ownership to LUB. The following statements apply to this agreement:

I. Construction, ownership, and applicable operating permits

A. Developer is responsible for all construction costs of the treatment facility, including future additions required by expansion of Lakeside Estates Development.

B. The Tennessee Department of Environment and Conservation has issued LUB a Standard Operating Permit naming LUB as the permitee. LUB is therefore responsible for all aspects of operation and maintenance of the wastewater treatment facility.

C. Trimbach Development agrees to transfer ownership of the wastewater treatment facility in its entirety to LUB by means of a perpetual easement, to include all portions of the facility including drip field property.

D. Construction plans and actual construction shall be according to applicable Federal, State, LUB, and local rules and regulations. Upon completion of construction, facility will be tested and approved before being placed into service.

II. Fees for providing wastewater service.

A. Houses, cabins, condos, or other dwellings shall be billed on a flat rate year round. The rate is equivalent to LUB's outside the city rate based on an average of 5,000 gallons per month usage. The sewer use rate shall consist of the outside the city minimum based on 0-2000 gallons, plus the charge for the next 3,000 gallons.

The rates will be adjusted to reflect any changes in LUB's sewer use rates. Each unit shall receive a separate bill. For example, a six unit condo will receive six individual bills.

B. Empty lots or unoccupied properties within the active phases of the development shall be billed an empty lot fee based on the projected number of houses, condos, cabins, etc. to be constructed on the vacant properties. The developer/lot/property owner shall be billed a monthly bill for each of the vacant properties within active phases of the development. The developer shall provide LUB with a detailed site plan for the property clearly identifying plans for construction on each lot or tract.

C. *Empty lot fees will be the LUB minimum outside the city sewer use rate. The* empty lot fees will be assessed on each planned individual unit to be constructed, whether it be houses, cabins, condos (EACH UNIT IN THE CONDO WILL COUNT AS AN INDIVIDUAL UNIT), or other dwelling for human occupation or use.

D. Sewer use fees for empty lots will be adjusted to reflect any changes in LUB's sewer use rates.

In witness thereof, the parties hereto have caused this instrument to be executed in multiple originals by persons authorized so to do on or as of the day and year first given above.

LUB:

LAFOLLETTE UTILITIES BOARD of Campbell County, Tennessee

By: _____
General Manager

DEVELOPER:

By: _____

TITLE: _____

Mailing Address:

370 Echo Valley Dr.
Vandalia Ohio, 45377

Tennessee Department of Environment and Conservation
Division of Water Pollution Control
401 Church Street, 6th Floor L & C Annex
Nashville, TN 37243-1534
(615) 532-0625

APPLICATION FOR A STATE OPERATION PERMIT (SOP)

Type of application: ☒ New Permit ☐ Permit Reissuance ☐ Permit Modification

Permittee Identification: (Name of city, town, industry, corporation, individual, etc., applying, according to the provisions of Tennessee Code Annotated Section 69-3-108 and Regulations of the Tennessee Water Quality Control Board.)

Permittee Name (applicant):	**LaFollette Utilities Board**
Permittee Address:	**302 North Tennessee Avenue, P.O. Box 1411** **LaFollette, TN 37766**

Official Contact: **Eddie Troxell**	Title or Position: **Superintendent of Water Operations**		
Mailing Address: **P.O. Box 1411**	City: LaFollette	State: **TN**	Zip: **37766**
Phone number(s): **(423) 562-3316**	E-mail: **eddie.troxell@lub.org**		

Optional Contact: **Kenny Baird**	Title or Position: **General Manager**		
Address: **P.O. Box 1411**	City: **LaFollette**	State: **TN**	Zip: **37766**
Phone number(s): **(423) 562-3316**	E-mail: **kenbaird@ccdi.net**		

Application Certification (must be signed in accordance with the requirements of Rule 1200-4-5-.05)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and title; print or type	Signature	Date
Eddie Troxell	Eddie W. Troxell	9/11/07

SOP-07073

RECEIVED
OCT 12 2007
Permit Section

Permit Number: SOP-_____

Facility Identification:		**Existing Permit No.**	
Facility Name:	**Lakeview Estates WWTP**	County:	**Campbell**
Facility Address or Location:	**Waterfront Trails LaFollette, TN 37766**	Latitude:	**36d22'17.4"**
		Longitude:	**84d03'14.8"**

Name and distance to nearest receiving waters: **Norris Lake is the nearest water body. Discharge is to be to a subsurface dripfield.**

If any other State or Federal Water/Wastewater Permits have been obtained for this site, list their permit numbers:

Name of company or governmental entity that will operate the permitted system: **LaFollette Utilites Board**

Operator address: **302 North Tennessee Avenue, P.O. Box 1411, LaFollette, TN 37766**

Has the owner/operator filed for a Certificate of Convenience & Necessity (CCN), or an amended CCN, with the Tennessee Regulatory Authority (TRA) (may be required for collection systems and land application treatment systems)? ☐ Yes ☒ No ☐ N/A

If the applicant listed above does not yet own the facility/site or if the applicant will not be the operator, explain how and when the ownership will be transferred or describe the contractual arrangement and renewal terms of the contract for operations.

Upon construction approval of plant by TDEC and upon operational initiation of the system, ownership of the collection system, treatment plan and dripfield will be transferred to the LaFollette Utilities Board, who will then own and maintain the system on an on-going basis.

Complete the following information explaining the entity type, number of design units, and daily design wastewater flow:

Entity Type	Number of Design Units		Flow (gpd)
☐ City, town or county	No. of connections:		
☒ Subdivision	No. of homes: **410**	Avg. No. bedrooms per home: **3**	
☐ School	No. of students:	Size of cafeteria(s): No. of showers:	
☐ Apartment	No. of units:	No. units with Washer/Dryer hookups: No. units without W/D hookups:	
☐ Commercial Business	No. of employees:	Type of business:	
☐ Industry	No. of employees:	Product(s) manufactured:	
☐ Resort	No. of units:		
☐ Camp	No. of hookups:		
☐ RV Park	No. of hookups:	No. of dump stations:	
☐ Car Wash	No. of bays:		
☐ Other			

Describe the type and frequency of activities that result in wastewater generation.

Typical residential activities generating domestic wastewater, including the use of baths, dishwashers, faucets, showers, toilets, and washing machines.

(continued)

SOP APPLICATION – page 3

Permit Number: SOP-_____

Engineering Report (required for collection systems and/or land application treatment systems): ☐ N/A

☒ Prepared in accordance with Rule 1200-4-2-.03 and Section 1.2 of the Tennessee Design Criteria (see website for more information)

☒ Attached, or

☐ Previously submitted and entitled: Approved? ☐ Yes. Date: ☐ No

Wastewater Collection System: ☐ N/A

System type (i.e., gravity, low pressure, vacuum, combination, etc.): **low pressure**

System Description: **STEP system**

Describe methods to prevent and respond to any bypass of treatment or discharges (i.e., power failures, equipment failures, heavy rains, etc.):
Pumping system will be monitored by real-time telemetry back to LaFollette Utilities, where operators are present to respond immediately to any incidences

In the event of a system failure describe means of operator notification:**real-time telemetry to LaFollette Utilities**

List the emergency contact(s) (name/phone): **Eddie Troxell (423) 562-3316**

For low-pressure systems, who is responsible for maintenance of grinder pumps and septic tanks (list all contact information)?
LaFollette Utilities Board, 302 North Tennessee Avenue, P.O. Box 1411, LaFollette, TN 37766
Eddie Troxell, Superintendent of Water Operations, (423) 562-3316

Approximate length of sewer (excluding private service lateral): **5,400 feet**

Number/hp of pump stations: **1 / 7.5 hp** Number/hp of grinder pumps /

Number/volume of low pressure pump tanks / Number/volume septic tanks **78 / 6K, 3K, 2K**

Attach a schematic of the collection system. ☐ Attached

If you are tying in to another system complete the following section, listing tie-in points to public sewer system and their location (attach additional sheets as necessary):

Tie-in Point	Latitude (xx.xxxx°)	Longitude (xx.xxxx°)

Land Application Treatment System: ☐ N/A

Type of Land Application Treatment System: ☒ Drip ☐ Spray ☐ Other, explain:

Type of treatment facility preceding land application (recirculating media filters, lagoons, other, etc.): **Advantex AX-100 textile-media recirculating filters, advanced anoxic nitrogen removal system, and UV filter**

Attach a treatment schematic. ☒ Attached

Describe methods to prevent and respond to any bypass of treatment or discharges (i.e., power failures, equipment failures, heavy rains, etc.):
System will be monitored by real-time telemetry back to LaFollette Utilities Board, where operators are present to respond immediately to any incidences

For land application, list: ☒ Proposed acreage involved: **17.2** ☒ Inches/week to be applied: **2.25**

Describe how access to the treatment area will be restricted if wastewater disinfection is not proposed:

Attach required additional Engineering Report Information (see website for more information)

☒ Topographic map (1:24,000 scale presented at a six inch by six inch minimum size) showing the location of the project including GPS coordinates, latitude and longitude in decimal degrees should also be included.

☒ Scaled layout of facility showing the following: lots, buildings, etc. being served, the wastewater collection system routes, the pretreatment system location, the proposed land application area(s), roads, property boundaries, and sensitive areas such as streams, lakes, springs, wells, wellhead protection areas, sinkholes and wetlands.

☒ Soils information for the proposed land disposal area in the form of an extra high intensity soils map (50 foot grid stake). The soils information should include soil depth (borings to a minimum of 4 feet or refusal) and soil profile description for each soil mapped.

☒ Topographic map of the area where the wastewater is to be land applied with no greater than two-foot contours presented at a minimum size of six inches by six inches.

☒ Describe alternative application methods based on the following priority rating: (1) connection to a municipal/public sewer system, (2) connection to a conventional subsurface disposal system as regulated by the Division of Groundwater Protection, and/or (3) land application

(continued)

Permit Number: SOP-_____

Pump and Haul:	☒ N/A
Reason system cannot be served by public sewer:	
Distance to the nearest manhole where public sewer service is available:	
When sewer service will be available:	
Volume of holding tank: gal.	
Tennessee licensed septage hauler (attach copy of agreement):	
Facility accepting the septage (attach copy of acceptance letter):	
Latitude and Longitude (in decimal degrees) of approved manhole for discharge of septage:	
Describe methods to prevent and respond to any bypass of treatment or discharges (i.e., power failures, equipment failures, heavy rains, etc.):	

Holding Ponds (for non-domestic wastewater only):	☒ N/A
Pond use: ☐ Recirculation ☐ Sedimentation ☐ Cooling ☐ Other (describe):	
Describe pond use and operation:	
If the pond(s) are existing pond(s), what was the previous use?	
Have you prepared a plan to dispose of rainfall in excess of evaporation? ☐ Yes ☐ No	
If so, describe disposal plan:	
Is the pond ever dewatered? ☐ Yes ☐ No	
If so, describe the purpose for dewatering and procedures for disposal of wastewater and/or sludge:	
Is(are) the pond(s) aerated? ☐ Yes ☐ No	
Volume of pond(s): gal. Dimensions:	
Is the pond lined (Note if this is a new pond system it must be lined for SOP coverage. Otherwise, you must apply for an Underground Injection Control permit.)? ☐ Yes ☐ No	
Describe the liner material (if soil liner is used give the compaction specifications):	
Is there an emergency overflow structure? ☐ Yes ☐ No	
If so, provide a design drawing of structure.	
Are monitoring wells or lysimeters installed near or around the pond(s)? ☐ Yes ☐ No	
If so, provide location information and describe monitoring protocols (attach additional sheets as necessary):	

(continued)

Permit Number: SOP-_____

Mobile Wash Operations:	☒ N/A
☐ Individual Operator	☐ Fleet Operation Operator
Indicate the type of equipment, vehicle, or structure to be washed during normal operations (check all that apply):	
☐ Cars	☐ Parking Lot(s): sq. ft.
☐ Trucks	☐ Windows: sq. ft.
☐ Trailers (Interior washing of dump-trailers, or tanks, is prohibited.)	☐ Structures (describe):
☐ Other (describe):	
Wash operations take place at (check all that apply):	
☐ Car sales lot(s)	☐ Public parking lot(s)
☐ Private industry lot(s)	☐ Private property(ies)
☐ County(ies), list:	☐ Statewide
Wash equipment description:	
☐ Truck mounted	☐ Trailer mounted
☐ Rinse tank size(s) (gal.):	☐ Mixed tanks size(s) (gal.):
☐ Collection tank size(s) (gal.):	Number of tanks per vehicle:
Pressure washer: psi (rated) gpm (rated)	Pressure washer: ☐ gas powered ☐ electric
Vacuum system manufacturer/model:	Vacuum system capacity: inches Hg
Describe any other method or system used to contain and collect wastewater:	
List the public sewer system where you are permitted or have written permission to discharge waste wash water (include a copy of the permit or permission letter):	
Are chemicals pre-mixed, prior to arriving at wash location? ☐ Yes ☐ No	
Describe all soaps, detergents, or other chemicals used in the wash operation (attach additional sheets as necessary):	

Chemical name:	Manufacturer:	Primary CAS No. or Product No.

OFFICIAL STATE USE ONLY

Received Date	Permit Number	Field Office	Reviewer
	SOP		

ATTACHEMENT 6:

DSH & Associates Articles of Incorporation/Business License

State of Tennessee

Department of State
Corporate Filings
312 Eighth Avenue North
6th Floor, William R. Snodgrass Tower
Nashville, TN 37243

ARTICLES OF ORGANIZATION (LIMITED LIABILITY COMPANY)

(For use on or after 7/1/2006)

For Office Use Only

The Articles of Organization presented herein are adopted in accordance with the provisions of the Tennessee Revised Limited Liability Company Act.

1. The name of the Limited Liability Company is: DSH & Associates, LLC

(NOTE: Pursuant to the provisions of TCA §48-249-106, each limited Liability Company name must contain the words "Limited Liability Company" or the abbreviation "LLC" or "L.L.C.")

2. The name and complete address of the Limited Liability Company's initial registered agent and office located in the state of Tennessee is:

Douglas S. Hodge
(Name)

12828 Stahl Drive | Knoxville | TN | 37922
(Street address) | *(City)* | *(State/Zip Code)*

Knox
(County)

3. The Limited Liability Company will be: ***(NOTE: PLEASE MARK APPLICABLE BOX)***

☐ Member Managed ☑ Manager Managed ☐ Director Managed

4. Number of Members at the date of filing, if more than six (6): 1 .

5. If the document is not to be effective upon filing by the Secretary of State, the delayed effective date and time is: (Not to exceed 90 days)
Date: _____ , _____ Time: _____

6. The complete address of the Limited Liability Company's principal executive office is:

12828 Stahl Drive | Knoxville | TN | 37922
(Street Address) | *(City)* | *(State/County/Zip Code)*

7. Period of Duration if not perpetual: _____

8. Other Provisions:

9. THIS COMPANY IS A NONPROFIT LIMITED LIABILITY COMPANY (Check if applicable) ☐

9/10/2007
Signature Date

Douglas S. Hodge
Signature

Managing Member
Signer's Capacity (if other than individual capacity)

Douglas S. Hodge
Name (printed or typed)

SS-4270 (Rev. 05/06) Filing Fee: $50 per member (minimum fee = $300, maximum fee = $3,000 RDA 2458

Secretary of State
Division of Business Services
312 Rosa L. Parks Avenue
6th Floor, William R. Snodgrass Tower
Nashville, Tennessee 37243

DATE: 03/05/09
REQUEST NUMBER: 6463-2019
TELEPHONE CONTACT: (615) 741-2286
FILE DATE/TIME: 03/04/09 0933
EFFECTIVE DATE/TIME: 03/04/09 0933
CONTROL NUMBER: 0560182

TO:
DSH & ASSOCIATES LLC
704 WATERS EDGE

DANDRIDGE, TN 37725

RE:
DSH & ASSOCIATES, LLC
APPLICATION FOR REINSTATEMENT - DOMESTIC
LIMITED LIABILITY COMPANY

IT HAS BEEN DETERMINED THAT THE ATTACHED APPLICATION FOR REINSTATEMENT CONTAINS THE INFORMATION REQUIRED BY STATUTE, THEREFORE THE ABOVE LIMITED LIABILITY COMPANY IS HEREBY REINSTATED, OR IF A FOREIGN LIMITED LIABILITY COMPANY, ITS CERTIFICATE OF AUTHORITY IS REINSTATED.

WHEN CORRESPONDING WITH THIS OFFICE OR SUBMITTING DOCUMENTS FOR FILING, PLEASE REFER TO THE LIMITED LIABILITY COMPANY CONTROL NUMBER GIVEN ABOVE.

FOR: APPLICATION FOR REINSTATEMENT - DOMESTIC LIMITED LIABILITY COMPANY
ON DATE: 03/04/09

FROM:
DSH & ASSOCIATES LLC
12828 STAHL DR

KNOXVILLE, TN 37934-0000

	FEES	
RECEIVED:	$70.00	$0.00

TOTAL PAYMENT RECEIVED: $70.00

RECEIPT NUMBER: 00004543995
ACCOUNT NUMBER: 00621665

SS-4458

TRE HARGETT
SECRETARY OF STATE

RECEIVED
STATE OF TENNESSEE
For Office Use Only
2009 FEB 20 AM 8:23
TRE HARGETT
SECRETARY OF STATE

State of Tennessee

Department of State
Corporate Filings
312 Eighth Avenue North
6th Floor, William R. Snodgrass Tower
Nashville, TN 37243

APPLICATION FOR REINSTATEMENT FOLLOWING ADMINISTRATIVE DISSOLUTION/REVOCATION (LLC)

FILED

Pursuant to the provisions of §48-245-303 or §48-246-503 of the Tennessee Limited Liability Company Act or §48-259-606 or §48-249-910 of the Tennessee Revised Limited Liability Company Act, this application is submitted to the Tennessee Secretary of State for reinstatement.

1. The name of the Limited Liability Company is DSH & Associates, LLC

   (Name change if applicable) _____

2. The effective date of its administrative dissolution/revocation is 8-22-08
   (must be month, day and year)

3. The ground(s) for the administrative dissolution/revocation

   ☐ did not exist.

   ☒ has/have been eliminated.

   [NOTE: Please mark the applicable box]

4. The Limited Liability Company name as listed in number one (1) satisfies the name requirements of Tennessee Limited Liability Company Act or Tennessee Revised Limited Liability Company Act, as applicable.

5. The Limited Liability Company control number assigned by the Secretary of State, if known is 0560182.

2/12/09
Signature Date

Managing Member
Signer's Capacity

DSH & Associates, LLC
Name of Limited Liability Company

Doug S. Hodge
Signature

Doug Hodge
Name (typed or printed)

SS-4240 (Rev. 01/06) Filing Fee: $70 RDA 2458

RECEIVED
STATE OF TENNESSEE
2009 MAR 4 AM 9:33
SECRETARY OF STATE

6451.26617 6463.2019

ATTACHEMENT 7:

Degrees & Certificates of DSH Staff

Herbert Howard Norton

1132 Patterson Street, Dandridge, TN 37725 865.397.3857

PROFESSIONAL SUMMARY

Experienced professional in operations of water and wastewater treatment facilities and distribution and collection systems.

PROFESSIONAL EXPERIENCE

Independent Consulting, Dandridge, TN 1976-present

Self-Employed

- Manage and operate wastewater treatment facilities
- Perform wastewater lab testing
- Complete preventive maintenance checks on facilities

Dandridge Water Department, Dandridge, TN 1972-2003

Superintendent

- Water treatment grade 2 and wastewater treatment grade 3 licensed operator
- Distribution and collection systems grade 2 licensed operator
- Operated water and wastewater treatment plants
- Perform water and wastewater lab testing
- Maintain distribution and collection systems
- Inspect water and wastewater line installation, wastewater treatment plant construction, and water tank construction and rehabilitation
- Construct wastewater treatment plant expansion to include new digester and E.Q. basin

Newport Utilities Board 1968-1972

Wastewater Treatment Plant Operator

- Wastewater treatment plant grade 2 licensed operator
- Operate wastewater treatment plant
- Perform wastewater lab testing
- Complete preventive maintenance checks on pump stations

EDUCATION AND PROFESSIONAL DEVELOPMENT

East Tennessee State University, Johnson City, TN 1969

- Wastewater Treatment Plant Certification

Parrotsville High School, Parrotsville, TN 1955-1959

- Diploma

PROFESSIONAL AFFILIATIONS

Lifetime member of Newport Rescue Squad, Jefferson County Rescue Squad, and Dandridge Fire Department, TAUD, AWWA

State of Tennessee

Water and Wastewater Operator Certification Board

Be it hereby known, that

HERBERT H. NORTON

has demonstrated ability as a wastewater collection system operator
Grade II *and has fulfilled the requirements prescribed by*
the Water and Wastewater Operator Certification Board.
Therefore in recognition of ability and experience is granted this

Certificate of Competency

for the operation of wastewater treatment facilities in Tennessee as follows:

Certificate No. 142 *Dated* 4-4-72

Recommended Joe H. Lovell
Board Chairman

Attest J R Fleming
Board Secretary

Approved [illegible] *Commissioner.*
Tennessee Department of Public Health

STATE OF TENNESSEE
DEPARTMENT OF COMMERCE AND INSURANCE
STATE BOARD OF ARCHITECTURAL AND ENGINEERING EXAMINERS
500 JAMES ROBERTSON PARKWAY
NASHVILLE, TN 37243-1142
www.tn.gov/commerce/boards/ae
E-mail: ce.aeboard@tn.gov
FAX (615) 532-9410
(615) 741-3221
(800) 256-5758

June 30, 2010

MICHAEL CHRISTOPHER JOHNSON
2531 JIM HENRY ROAD
DANDRIDGE, TN 37725

Dear MR JOHNSON:

Registration Number: 112003

The Board of Architectural and Engineering Examiners is pleased to notify you of your registration as an engineer in the State of Tennessee. Your registration number, which must appear on your seal, is indicated above. Information about the design and use of the seal is enclosed. In the next several days, you should receive your wallet card and professional license. Your license will be eligible for renewal every two years based on the month of original registration; at that time, as a prerequisite to renewal of active registration, you must certify completion of the continuing education hours required by Rule 0120-5-.04 [Basic Requirements].

The law and rules, including the Rules of Professional Conduct, are available on the Board's website (www.tn.gov/commerce/boards/ae). The rules are extensions of the law and carry the force of law. It is important to read these materials regularly, since they are updated by both legislative and Board action, as required to protect the public health, safety and welfare. It is your responsibility to keep abreast of the current law and Rules of Professional Conduct.

We welcome you as a new registrant. Members of the Board and staff will be glad to answer any questions you might have.

For the Board,

John Cothron

John Cothron
Executive Director

UNIVERSITY OF SOUTHERN CALIFORNIA

OFFICIAL ACADEMIC TRANSCRIPT

OFFICE OF THE REGISTRAR
LOS ANGELES, CA 90089-0912
(213) 740-7445

STUDENT NAME	STUDENT NUMBER	DATE	PAGE
Hodge, Douglas, Stuart	[redacted]	01-02-96	1 of 3

NOTE: THE NAME OF THE UNIVERSITY IS PRINTED ACROSS THE FACE OF THE 8 1/2 X 11 TRANSCRIPT. PHOTOCOPIES ARE NOT TO BE CONSIDERED OFFICIAL TRANSCRIPTS. THE REGISTRAR'S SEAL AND SIGNATURE APPEAR ON THE FIRST PAGE.

ISSUE TO:
DOUGLAS S. HODGE
315 17TH STREET
SEAL BEACH, CA 90740

CONTROL #: 000000153485

RAISED SEAL NOT REQUIRED

This official document, issued by the Registrar's Office, is printed on tamper-proof security paper and does not require a raised seal.

Kenneth L. Servis
Dean of Academic Records and Registrar

USC Degrees Awarded

05/08/92 Master of Science — Environmental Engineering
12/17/93 Doctor of Philosophy — Civil Engineering(Environmental Engineering)

Transfer Summary Information

Undergraduate Units Attempted: 105.00 Earned: 80.00 Available: 80.00 Grade Points: 308.00 GPA: [redacted]

USC Cumulative Totals

Undergraduate	Units Attempted:	3.0	Earned:	3.0	Available:	3.0	GPA Units:	3.0	Grade Points:	11.1	GPA: [redacted]
Graduate	Units Attempted:	70.0	Earned:	70.0	Available:	70.0	GPA Units:	63.0	Grade Points:	217.6	GPA: [redacted]
Other	Units Attempted:	2.0	Earned:	2.0	Available:	0.0	GPA Units:	2.0	Grade Points:	4.0	GPA: [redacted]

Fall Semester 1988 (09-06-88 to 12-22-88) **Class Level: Junior**

CE-309	[redacted]	Fluid Mechanics	Course included in graduate GPA
CE-443	[redacted]	Environmental Chemistry	Course included in graduate GPA
CE-453	[redacted]	Water Quality Control	Course included in graduate GPA
CE-463L	[redacted]	Environmental Engineering Laboratory	

Term Units Attempted	Term Units Earned	Term GPA Units	Term Grade Points	Term GPA
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Project Management Institute

14 Campus Blvd | Newtown Square, PA 19073-3299 USA
Tel: +1 610 356 4600 Fax: +1 610 356 4647
www.pmi.org

PMI Identification Number
PMP® number: 1322650
PMI ID number: 1704925
PMP Original Grant Date: 16 March 2010
PMP Expiration Date: 15 March 2013

22 March 2010

DOUGLAS HODGE
704 WATERS EDGE
DANDRIDGE TN 37725
UNITED STATES

Dear Dr. Douglas Hodge,

On behalf of the PMI's Certification Department, congratulations on the successful demonstration of your project management knowledge by passing the Project Management Professional (PMP)® examination. As one of a select group of project management practitioners to earn the PMP designation, you can justifiably take pride in your accomplishment. Welcome to the global community of PMP credential holders.

The enclosed material is provided to you as a new PMP credential holder. Review this material carefully and create a PMP certification file to maintain these and additional materials you will receive pertaining to the maintenance of your credential. Included in this packet are a personalized certificate and a pin that attest to the fact that you are a certified Project Management Professional. On your PMP certificate you will find:

- **PMP number**: This is the unique identification number used by PMI to maintain your PMP record. This number, along with the PMI identification number (issued when you applied), is needed to access the online system used for reporting professional development units (PDUs) and to register your PDU activities in compliance with Continuing Certification Requirements (CCR) program.
- **PMP Original Grant Date**: This is the date that you earned the PMP credential. As you renew your credential every three years, this date will remain the same. If you allow your credential to expire and successfully earn the PMP again, then you will be issued a new PMP since date.
- **PMP Expiration Date**: This is the date that your active credential expires. You must renew your credential before this date to remain an active PMP. You will receive a new certificate with the current date each time you renew your PMP credential, but you will retain your original *PMP number*.

We understand that you may have questions and we are happy to provide the support you need. For more detailed information about your credential and its maintenance, please view the Frequently Asked Questions on the Credential & Certification pages of PMI.org. If you have questions, please e-mail customercare@pmi.org.

Sincerely,

Brian Weiss
Vice President, Product Management

Project Management Institute

THIS IS TO CERTIFY THAT

Douglas S. Hodge

HAS BEEN FORMALLY EVALUATED FOR DEMONSTRATED EXPERIENCE, KNOWLEDGE AND SKILLS TO LEAD AND DIRECT PROJECT TEAMS AND IS HEREBY BESTOWED THE GLOBAL CREDENTIAL

Project Management Professional

IN TESTIMONY WHEREOF, WE HAVE SUBSCRIBED OUR SIGNATURES UNDER THE SEAL OF THE INSTITUTE.

Eugene Bounds · Chair, Board of Directors

Gregory Balestrero · Chief Executive Officer and President

PROJECT MANAGEMENT INSTITUTE CORPORATE SEAL 1969 PENNSYLVANIA

PMP® Number **1322650**

PMP® Original Grant Date **16 March 2010**

PMP® Expiration Date **15 March 2013**

PMI® Project Management Institute

Information about Your PMP Credential and Its Maintenance*

Use of the "PMP" Designation and Logo

Now that you are a PMP credential holder, you are authorized to use the PMP designation in block letters after your name on business cards, personal letterhead, resumes, web sites and in your e-mail signature. You may continue to use this designation as long as your credential remains current and in good standing.

Please note that, when you applied for the credential, you agreed to adhere to the PMI Code of Ethics and Professional Conduct and the PMI Certification Application/Renewal Agreement. This means, among other things, that you will only use the PMP designation in the manner stated above and that you will not use the PMP designation in company names, product names, domain names or in any similar unauthorized manner.

You also have use of the PMP logo as well as other resources. You can access electronic files of the logo on "My PMP Resources," a section on the online certification system at **www.pmi.org/certapp/Default.aspx**. This section includes the PMP logo, PMP logo usage guidelines and a news release that your employer may use to announce your achievement of the PMP credential.

Briefly, here are some logo usage guidelines:

- The logo can be sent directly to your business card designer/printer to produce your business cards. The file is supplied in a jpeg format for optimal print quality.
- The logo placement is important. The logo must appear immediately after your name on your business cards and should be used in black and white and in the size provided. It is not to be used on personal letterhead stationery or resumes, on websites or in e-mail signatures.

Refer to the document on "My PMP Resources" for complete PMP logo guidelines.

PMP Maintenance and Renewal

As indicated in PMP Credential Handbook, you have a 3-year certification cycle during which you need to earn and report 60 professional development units (PDUs) to maintain your credential. This is part of PMI's Continued Certification Requirements (CCR) program.

Use the information on your PMP certificate to help you in the maintenance of your credential. First, your active certification cycle is listed on your PMP certificate as the "PMP original grant date and the expiration date. Secondly, you will use your PMP number, as it is listed on your certificate, when it comes time to report your PDUs online.

As you begin your active, 3-year PMP certification/CCR cycle, PMI offers the following advice to help you maintain your credential:

- Create a personal credential/CCR folder as a place to retain important documentation about your PMP credential, including this letter, and the activities you participate in to maintain it.
- Familiarize yourself with the CCR process and PDU categories through the online CCR Handbook available at **http://www.pmi.org/PDF/pdc_ccrhandbook.pdf**. Be mindful that handbook updates occur occasionally and that it is best to use the online handbook for the latest information.
- Visit PMI.org for the many PDU opportunities available to you through the Institute, and map out your course of action for earning PDUs. Be mindful that activities outside of those offered by PMI also can qualify for PDUs. Include those activities in your plan.
- Earn 60 PDUs and report them using the online system at **http://www.pmi.org/CareerDevelopment/Pages/CCR-Reporting-Forms.aspx**.
- After you report 60 PDUs, PMI will e-mail you with a link to the Renewal Form. Complete the form and submit the renewal fee through the online certification system.

PMI Membership – Sign Up or Renew

PMI membership is particularly beneficial to credential holders as it enables discounts on attendance at PMI® global congresses, seminars and e-learning courses, where you can earn PDUs, and on credential renewal. Please be aware that being a credential holder does not automatically make you a PMI member.

We also invite you to visit PMI.org to explore additional opportunities to advance your career through continuing education programs and volunteer and employment opportunities. If you have any questions related to the materials contained in this package or any of PMI's program areas, please contact our Customer Care team at customercare@pmi.org or call us at +1 610 356 4600.

**Please note that this information is subject to change. Please refer to PMI.org for regular updates.*

ATTACHEMENT 8:

Lakeside Estates WWT System Engineering Report & Engineering Drawings

Engineering Report

for

Lakeside Estates
Wastewater Collection and Treatment System

LaFollette, Tennessee

October, 2007

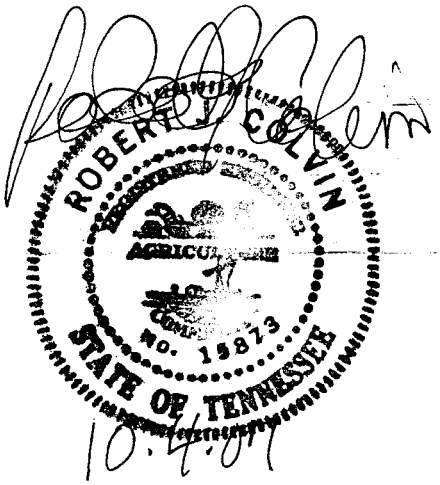


Table of Contents

General

Lakeside Estates is a proposed condominium development in Cambbell County, adjacent to Norris Lake where Cedar Creek discharges into the Norris Reservoir. The development area is near LaFollette, Tennessee, off of Ivey Hollow Road. The entrance to the project is next to Goins Lake Lane, and the coordinates at the entrance are approximately N 36°22'18.33", W 84°03'25.13". The developer proposes to construct a combination of single-family residences and multi-family condominium units. A small number of single-family residences will be built near the lakefront, while the majority of the development will be lakeview condominium buildings of three floors, with two, three-bedroom units per floor.

The development is being constructed in multiple phases as indicated on the plan sheets that accompany this report. The breakdown of units is as follows:

Phase	# of single units	# of 6-unit bldgs	Total Units
1	20	3	38
2	6	14	90
3	0	26	156
4	0	9	54
5	6	11	72

Total Units=410

A topographic map is included with this report. The map shows the location of the project and the approximate boundary of the property to be developed. The approximate GPS coordinates of the entrance to the property are N 36°22'14.9", W84°03'27.8".

Alternative system Analyses

Four sewerage system options were considered for providing sewerage service to the project area: (1) conventional, onsite septic tank seepage fields at each lot, (2) STEP collection, Advantex AX-100 treatment units, with discharges to area water courses, (3) STEP collection, Advantex AX-100 treatment units with disposal by subsurface drip dispersal, and (4) connection of a conventional sewage collection system to the nearest municipal sewer system.

Option 1: Conventional, On-site Systems. Due to the topology of the site, the land area available for conventional drain fields is not sufficient to support septic tank/drain field systems on each lot. The resulting reduction in lot

density would have made the project economically unviable. The use of conventional septic systems was, therefore, rejected.

Option 2: STEP, Advantex units, Surface Discharge. The Advantex AX-100 units are capable of producing an effluent quality suitable to discharge to flowing streams. A system of this type could also be eligible for ownership and operation by a public utility such as the LaFollette Utilities Board. Operations and monitoring costs would be quite high, however, as a result of the daily and weekly monitoring requirements that would be imposed by the NPDES permit. The required onsite operator time requirements would also be quite expensive compared to the requirements of Option 3 (below). Finally, Tennessee Department of Environment and Conservation staff have made it clear that they will strongly resist any request for NPDES discharge permits. Therefore, this option was rejected.

Option 3: STEP, Advantex units, Drip Dispeersal. This is the selected option. It would produce no effluent for discharge to waters of the state and, therefore, would be regulated by a Tennessee State Operating Permit. The monitoring requirements would be simple and relatively infrequent in comparison to the monitoring requirements under an NPDES permit. Minimal onsite operator time would be required. Capital costs for construction would be higher than for the first two options, but lower than for the fourth option. The increased capital costs would be offset by the reduced monitoring and operating costs.

Option 4: Connection to a Local Municipal Sewer System. In addition to being considerably higher in capital costs than any other option, this option was not available. The nearest municipal sewer was 3.8 miles away, and the LaFollette Utilities Board has no plans or desire to expand the system in the direction of the proposed development. This option, therefore, was also rejected.

System Design

Design Loading

The collection, treatment, and reuse system is designed for a total of 410 units of three bedrooms each, with a design flow of 100 gallons per day per bedroom, for a total design flow of 123,000 gpd. Since the project is being constructed in multiple phases, it is not clear at this time what the actual breakdown of multi-family and single-family units will be for future phases. However, the 123,000 gpd design rate is a maximum expected daily flow.

Septic Tank Design

Each multi-family building is to be served by one double-compartment septic tank of 6000 gallon capacity. This size was chosen based on the following criteria:

6 three-bedroom units / building * 100 gallons per day / bedroom
= total flow per building per day of 1800 gallons

With a recommended retention time of 3 days, this equals a recommended tank size of 5400 gallons. Therefore, a 6000 gallon tank was chosen from the available common tank sizes of fiberglass tanks, to accommodate the expected flow.

Septic tanks for the single-family residences will be selected and located in a manner to allow several residences to share a common tank. The locations of these tanks will be based on the topography of the site. Tanks will be sized based on the same criteria and calculations as for the multi-family units, with an expected flow of 100 gallons per day per bedroom, and a minimum residence time of 3 days,

Collection System Design

The collection system design was done using the actual building locations for Phase 1, and the layout from the concept plan, since the actual design of the subsequent phases has not yet been done. Collection system piping needs to be sized for the total flow of the expected system, while avoiding any situation that may cause prolonged retention of the sewage in the collection system . With this in mind, the initial design of the collection system calls for sewage from septic tanks in Phases 1 & 2 to be collected using a low-presure sewer main with a maximum size of 4". Sewage from septic tanks in Phase 3 will use a separate low-presure sewer main with a maximum size of 4". Sewage from septic tanks in Phases 4 and 5 will share a low-pressure sewer main with a maximum size of 4". This will result in the placement of three separate low-pressure sewer mains in parallel along the entrance road to the development, ending at the treatment plant site. Each of these force mains will feed a separate treatment system consisting of an anoxic tank, a recirculation tank, 18 Advantex AX-100 treatment units, a dosing tank, and separate dripfields for each treatment plant.

Treatment System Design

The treatment system to be used consists of a 40,000 gallon recirculation tank for the wastewater effluent, a cluster of Advantex AX-100 treatment units, a 40,000 gallon advanced nitrogen removal system, and a 10,000 gallon dosing tank.

Commercial AdvanTex® Treatment System Process Description

TREATMENT PROCESS

The AdvanTex® Treatment System is configured in a typical recirculating treatment fashion such that a mix of septic tank effluent and pre-filtered effluent is blended and then applied in small, frequent doses to the media surface.

Primary treatment of raw sewage is accomplished through appropriately sized primary septic tanks. After primary treatment, the effluent enters the recirc-blend tank, where it blends with the contents of the tank. ProSTEP™ pump packages in the recirc-blend tank transport blended effluent to a distribution manifold in the AdvanTex filter pod. Effluent percolates down through the textile media, where it is treated by naturally-occurring microorganisms that populate the filter.

After passing through the filter media, the treated effluent flows out of the filter pod through the filtrate return line that returns the effluent to the recirculating splitter valve (RSV). The valve automatically splits or diverts the flow between the recirc-blend tank and the final discharge and controls the liquid level within the tank.

PRIMARY TREATMENT

Raw sewage from the facility will first be treated in a primary tank. Typical strength of raw sewage can be characterized as the following:
Biochemical Oxygen Demand (BOD5): 400 mg/L
Total Suspended Solids (TSS): 500 mg/L
Total Keldhal Nitrogen (TKN): 70 mg/L

Source: Crites and Tchobanoglous 1998, pp. 180 and 183. Based on 50 gpcd.

In the primary tank Heavy solids (known as sludge) settle to the bottom while the lighter material (known as scum) floats to the top of the liquid contents. Facultative and anaerobic digestion converts the organic matter to gases. Facultative microbes solubilize the complex organic material to volatile organic acids while strict anaerobes ferment the volatile organic acids to gases (methane, carbon dioxide, etc.). For the system to operate properly and be in compliance with State and County regulations, it is essential that all tanks be appropriately sized and watertight.

Following treatment of raw sewage in the primary tank the typical wastewater strength can be characterized as the following:

Table 1. Typical Commercial AdvanTex Influent Wastewater Strength[1]

Characteristic	Average[2] *mg/L*	Weekly Peak *mg/L*	Rarely Exceed *mg/L*
BOD_5	150	250	500
TSS	40	75	150

TKN	65	75	150
G&O	20	25	30

[1]*Maximum allowable wastewater strength entering the Recirc-blend Tank of an AdvanTex Treatment System is "Typical Commercial AdvanTex Influent Wastewater Strength."*
[2]*Commercial systems will occasionally elevate in strength based upon changes in flow characteristics or ownership. As the average influent strength approaches 80% of the weekly peak levels, consideration must be given to providing supplemental pre-treatment or additional treatment units.*

RECIRCULATION-BLEND TANK

Wastewater from the primary tank (septic tank effluent) flows into a recirculating-blend tank where it blends with the contents of the tank.

The recirculation-blend tank is sized to equal at least 80% of the peak flow (Qp). A larger tank may be recommended based on the expected organic or peak design hydraulic loads, or to accommodate special surge capacities or operator response capabilities.

For nitrogen sensitive areas requiring greater than 60% nitrogen reduction, the recirc-blend tankage is sized to equal at least 100% of the peak flow and greater primary tankage is recommended. Where access to a primary waste source is unavailable, this may be provided as two separate tanks, typically an 80% recirc-blend, preceded by a 20% denitrification tank. This is discussed further later in the document.

TEXTILE TREATMENT PROCESS - ORGANIC REMOVAL

The recirc-blend tank is set up so that incoming effluent from the primary septic tanks and filtrate from the AdvanTex system pods enter opposite the pump discharge to the pods so that mixing, blending, and dilution of the effluent occurs before being dosed onto the AdvanTex filter pods.

As the blended wastewater filters (percolates) slowly down through the media, it comes in contact with organisms. The frequent dosing and percolating of effluent through the media in stages ensures an unsaturated state through the media. With each dose, the physical action of the effluent percolating down through the media and over the biological surfaces, draws fresh air into the media's unsaturated pores. Oxygen (from the air) is then transferred by diffusion into the thin film of water that spreads over the media surfaces. In the organic film attached to surfaces, residing organisms consume the free oxygen. Therefore, the dominant biological activity is that of aerobic digestion of both organic and inorganic constituents, thus reducing the contaminates and changing the form of the wastewater characteristics.

Both heterotrophic and autotrophic bacteria are found in these biofilms. There are many types of heterotrophs and autotrophs and they will vary in populations respective of each other and of their respective needs for the available free oxygen. At the surface and top 6 inches (more or less) of the textile media, matter is trapped and the biofilm on the textile grows. In this nutrient rich upper zone, most of the organic material is trapped, decomposed, and digested. The water holding capacity of the media and of the biofilm are important in ensuring sufficient moisture for maintaining healthy microbial environments.

The critical factors in controlling the environment for the biota are the recirculation ratio and time-controlled dosing. Typical multiple-pass recirculating filter design criteria Recirculation (recirc-blend) Ratio (Rb) is defined as the ratio of the daily flow returned (Qr) to the recirc-tank to blend with the daily inflow (influent or forward) wastewater flow (Qi) as shown in the following expression:

$Rb = Qr/Qi$

$Qr = Rb\ Qi$

Where Rb is the recirculation (recirc-blend) ratio

Qr is the daily flow returned to the recir tank, gpd,

Qi is the actual daily inflow (or forward flow), gpd.

Typically, the Rb control range is between 2:1 to 6:1. It's important to understand that there are both high and low Rb limits to watch for. Higher ratios may be preferred to prevent odor problems, but generally should not exceed 6 or 7; ratios of 2 or 3 – with normal strength influent – are typically sufficient for controlling odors and providing treatment.

The function of the Rb is as critical to process management for multiple-pass attached-growth packed bed filter systems as return sludge, waste sludge, and air management are to suspended-growth processes. Proper management of the Rb assures aeration and wetting needs, but most importantly it establishes equilibrium with respect to the desired endogenous respiration rate by maintaining food-to-microorganism (F/M) ratios relative to influent hydraulic and biological loads. The recirculation ratio is well documented in textbooks and design manuals.

The dosing frequency is related to the Rb as well as particular features of the media, such as its texture, void ratio, water holding capacity etc. Considerable academic work has been done to establish relative dosing frequencies for various media. It's well established that small frequent doses improve filter

performance. Increasing the dosing frequency (number of occurrences over a given time period) reduces the volume of wastewater applied per dose and increases coliform removal.

By adjusting the Rb, the dilution and blend concentrations within the recirc-chamber can be balanced. By varying the recirc-blend ratio (Rb) within the limits of the applications wastewater characteristics, optimization of the HRT and substrate concentrations within the recirc chamber can be accomplished. Biological respiration rates tend to adjust according to the available food and oxygen. Therefore, to ensure the best performance and sustain the most efficient and effective working environment, the recirc-blend ratio needs to be kept between 2:1 to 6:1.

TEXTILE FILTER SIZING

AdvanTex® effluent waste strengths are dependent on hydraulic and organic loading rates. Orenco Systems, Inc.'s AX100 AdvanTex Treatment Systems packed bed media is configured in the same manner as their ANSI/NSF Standard 40 Class I treatment units. Typically, the daily mass loading is based on the expected daily flows and parameter strength. Figures 4a and 4b show average loading capacity at 95% confidence level.

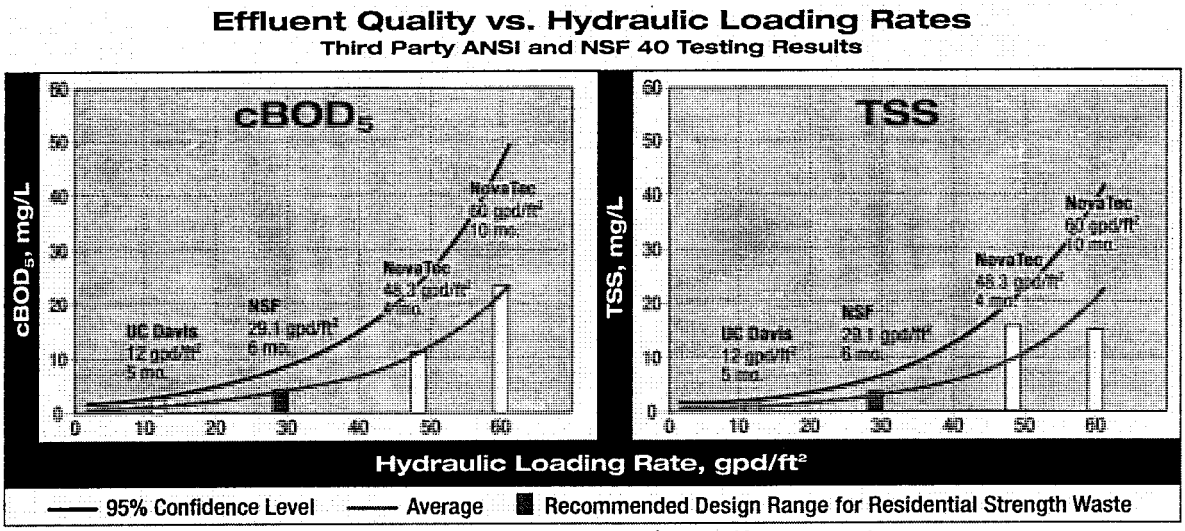


Fig. 4a - $cBOD_5$ Fig. 4b - TSS

Orenco's suggested design loading rates are based on typical per capita flow rates and average strength characteristics expected as listed in Table 1. Discharge effluent quality may be projected at a 95% confidence level relative to the hydraulic loading rate. The base AdvanTex actual daily hydraulic load is 25 gpd/ft2 and the base actual daily organic loading rate is 0.04 lbpd BOD/ft2.

This design methodology is supported by performance testing that has been performed on the AdvanTex Treatment System as represented in Table 1.

Table 2: Average BOD_5 & TSS Performance Results

Project	Testing Period (months)	# of Samples Per Site	Average Hydraulic Loading Rate (gpd/ft^2)	Average Organic Loading Rate ($lbpd\ BOD/ft^2$)	Average Effluent BOD_5 (mg/L)	Average Effluent TSS (mg/L)
Hebo	23	23	25	.04	4	5
Pines Nursing Home	5	8	24	.03	13	9
Blue Jay Café	18	18	9	.04	13	10
ANSI/NSF Standard 40	6	109	29.1	.04	5	4
Average:	***12***	***40***	***21.7***	***.04***	***8***	***7***

The average testing period is 12 months with an average of 40 samples. All systems, except one, were close to the average design hydraulic loading rate of 25 gpd/ft^2 used for the AdvanTex Treatment System. The average effluent quality from all systems is 8 mg/L BOD_5 and 7 mg/L TSS.

The Blue Jay Café was loaded at a lower hydraulic loading rate but it is important to note that it is being loaded at the average design organic loading rate of .04 lbpd BOD/ft^2. This is consistent with the AdvanTex Commercial Design Guidelines as detailed above.

Each AX100 pod, peak hydraulic loads of 5000 gpd and peak organic stress loads of over 8 lbs of BOD per day can be handled for short periods of time with little effect on performance. Higher loading rates may be applicable relative to higher discharge limits or sufficient operating documentation, but would not be allowed to exceed 50 gpd/ft2 at the typical average influent characteristics outlined in the AdvanTex Design Criteria for Commercial and Multi-Family Applications. Performance results from systems loaded at these higher loading rates are represented in Table 2.

Table 3: Average BOD_5 & TSS Performance Results Under Increased Loading

Project	Testing Period (months)	# of Samples Per Site	Average Hydraulic Loading Rate (gpd/ft^2)	Average Organic Loading Rate (lbpd BOD/ft^2)	Average Effluent BOD_5 (mg/L)	Average Effluent TSS (mg/L)
Imboden	12	11	23	.086	3	3
Novatec TVP	14	101	54	.076	21	17
Snow Road	6	61	60	.19	26	19
Average:	***10***	***57***	***45***	***.12***	***17***	***13***

The average hydraulic and organic load for all systems was 44 gpd/ft^2 and .12 lbpd BOD/ft^2. This is close to two times the recommended design hydraulic loading rate and three times the recommended design organic loading. Even under these increased hydraulic and organic load conditions the AdvanTex System effluent quality averaged 17 mg/L BOD_5 and 13 mg/L TSS.

It is important to note that while the Imboden system was loaded lower than the average design hydraulic loading rate it was loaded at more than 2 times the average design organic loading rate.

NITROGEN REMOVAL

Nitrogen reduction occurs in the AdvanTex Treatment System through a biochemical process in which ammonia is converted to nitrate (Nitrification) and then reduced through bacterial action to nitrogen gas, which can be released harmlessly to the atmosphere (Denitrification). The reduction in total nitrogen occurs under the same hydraulic and organic loading design parameters detailed above. Total nitrogen reduction in the standard mode configuration will typically exceed 60 percent. Using an enhanced denitrification mode, nitrogen reduction will typically exceed 70 percent.

Nitrification

Nitrification occurs in the lower region of the textile media where conditions (highly aerobic, low organic concentration) favor this process. Nitrification is a two-step biochemical process where ammonia (NH4-N) is converted to nitrate.

The ammonia is converted to nitrite (NO2-N) by autotrophic bacteria. Nitrite demands oxygen and where oxygen is available, it will rapidly convert (oxidize) to nitrate (NO3-N).

$$2NH4^+ + 3O2 \longrightarrow NO3^- + 2H^+ + H2O$$

During the process about 9 parts oxygen are consumed in converting 2 parts ammonia to nitrate. Therefore, depending on the concentration of ammonia, a considerable amount of air may be needed. Sufficient air is provided either through passive or active (ventilation fan) venting. The decision of whether to passively or actively vent the AdvanTex pods is dependent upon a number of factors and is decided on a case by case basis; application, influent waste strength, # of pods etc.

In an abundance of air, all the aerobic or facultative microbes compete for their share. When the organic concentration is high, the microbes that oxidize organic matter, *primarily the heterotrophic bacteria*, typically thrive first because of their aggressive growth rate. The oxidation of ammonia is accomplished by *autotrophic bacteria, which do not have as aggressive a growth rate.*

Consequently, the nitrification process usually lags until the organic concentration is depleted, or until sufficient oxygen is present. At a 2.5:1 BOD/TKN ratio the nitrifiers may only make up about 10 percent of the microbial population ... at 0.5:1 BOD/TKN the nitrifiers make up about 35 percent of the population. Under normal operating conditions it will take 30 to 60 days.

On average, after normal operating conditions have established, the nitrification within the AdvanTex Treatment System will reduce ammonia more than 90%.

Table 4: Average Ammonia Performance Results							
Project	**Testing Period (months)**	**# of Samples Per Site**	**Average Hydraulic Loading Rate (gpd/ft^2)**	**Average Organic Loading Rate (lbpd BOD/ft^2)**	**Average Influent Ammonia (mg/L)**	**Average Effluent Ammonia (mg/L)**	**Average Percent Ammonia Reduction**
Snow Road	33	61	34	.19	80	18	78%
Pines Nursing Home	5	8	24	.03	13	3	77%
Imboden	12	11	23	.086	27	1.4	95%
Novatec Nitrogen Testing	5	16	29.1	.039	22	.87	96%
Average:	***13***	***24***	***27***	***.08***	***35***	***6***	***87%***

The average testing period is 13 months with an average of 24 samples. All systems were loaded at or above the average design hydraulic and/or organic loading rate. The average effluent Ammonia concentration is 6 mg/L.

The Snow Road system has a higher than expected ammonia concentration in the effluent which is expected because the system is being loaded at more than 4 times the average design organic loading rate. Excluding this system, the average Ammonia concentration is 1.7 mg/L and the average percent removal for ammonia is 90%.

Although the table addresses Ammonia concentrations it should be noted that there is an organic faction of nitrogen which when added to ammonia equals TKN.

Denitrification

Denitrification occurs within anoxic conditions that exist primarily in the recirculation tank. Denitrification is a process where nitrate (NO3-N) is reduced to nitrite (NO2-) and nitrite is further reduced to nitrogen gas typically by heterotrophic bacteria.

NO3- ——> NO2- ——> N2 gas

The "nitrified" filtrate from the AdvanTex Pod is returned into the recirc-blend tank or denitrification tank. As the dissolved oxygen is depleted within the tank the heterotrophic bacteria reduce the nitrates to nitrites. Further reduction leaves nitrogen gas, which is released into the atmosphere. A carbon source is needed for this process to be carried out. Approximately 4 g BOD is needed per g NO3-N consumed. This carbon source is available in the recirculation tank or in the denitrification tank depending on the configuration.

Table 5: Average Total Nitrogen and Nitrate Performance Results

Project	Testing Period (months)	# of Samples Per Site	Hydraulic Loading Rate (gpd/ft^2)	Organic Loading Rate ($lbpd\ BOD/ft^2$)	Influent Total Nitrogen (mg/L)	Effluent Total Nitrogen (mg/L)	Percent Total Nitrogen Reduction	Effluent Nitrate (mg/L)
Novatec Nitrogen Testing[1]	6	27	29.1	-	34	12	65%	9
Canyon Creek School[1]	21	10	17	.05	109	42	61%	21
Imboden[1]	12	11	23	.086	32	3	91%	0.34
Novatec Nitrogen Testing[2]	11	17	15	-	32.9	9.0	72%	5
Pines Nursing Home - Partially Enhanced Denitrification Mode	5	8	24	.03	34	15	56%	4
Average:	***11***	***15***	***22***	***.05***	***48***	***16***	***69%***	***8***

[1]Standard Mode
[2]Enhanced Denitrification Mode

The average testing period was 11 months with an average of 15 samples taken per site. The first two systems represent the standard mode configuration which reduced total nitrogen by 65% and 61% respectively. The Imboden system reduced total nitrogen by 91% on average. This is a higher reduction than typically expected when operating in this configuration.

The ANSI/NSF system represents performance of an enhanced denitrification configuration and achieved a 72% reduction in total nitrogen.

The Pines system is configured so that 20% of the AdvanTex filtrate is returned to the denitrification tank and based on the results it appears that a greater percentage needs to be returned in order to increase denitrification. The percentage of split can vary from site to site depending on wastewater characteristics and permit requirements.

The total nitrogen on all sites, except Canyon Creek, is lower than the 65 mg/L TN utilized in the calculations later on in this document. We have chosen 65 mg/L TN to be conservative and knowing that it is realistic for some homes to produce this. It is also

understood that in reality the influent concentration of TN from multiple homes will be lower than 65 mg/L, probably in the 45 to 65 mg/L range. The Canyon Creek system was included here to show the capability of the AdvanTex System to reduce higher than normal total nitrogen concentrations.

Factors Affecting Nitrification/Denitrification Process

Alkalinity is a characteristic that, more often than suspected, limits nitrification. Alkalinity is not a specific polluting substance, but a combination of factors. It is the ability of water to neutralize an acid, and is due primarily to the presence of carbonate.

Alkalinity is essential for nitrification; for each part ammonia that is nitrified, 7.14 parts alkalinity are consumed (buffering the acidity). Therefore, about 428 mg/L of alkalinity would be consumed in nitrifying a concentration of 60 mg/L of ammonia.
It is also important to note that during the denitrification process 3.5 parts of alkalinity are formed for every part of nitrate that is converted. In a properly functioning nitrifying/denitrifying system, approximately 214 mg/L of alkalinity would be consumed.

Many wastewater streams may not have sufficient alkalinity to support complete nitrification. And, if the alkalinity drops too much (<50 mg/L±), the pH can correspondingly drop to levels that will cause the microbial activity to degrade (<6). This is typical in all wastewater processes. In applications where the alkalinity may be limited, a chemical feed system can be incorporated into the design to increase and/or control the concentration.

Temperature is also a critical factor that can limit the process. Wastewater temperatures that fall below 40° F will inhibit the process. In applications where this may be a limiting factor, heated ventilation can be incorporated into the design.

Dissolved Oxygen should be between 2.5 - 6 mg/L for the nitrification process to be carried out. The concentration of dissolved oxygen in the denitrification tank needs to be between 1-2 mg/L to allow for denitrification to start.

Carbon is necessary for the denitrification process to be completed. Approximately 4g BOD is needed to per g NO3-N consumed. In applications where the carbon may be limited, a chemical feed system can be incorporated into the design to increase and/or control the concentration.

Toxic chemicals introduced into the wastewater stream in can kill the bacteria that are carrying out this process thus reducing the treatment systems performance.

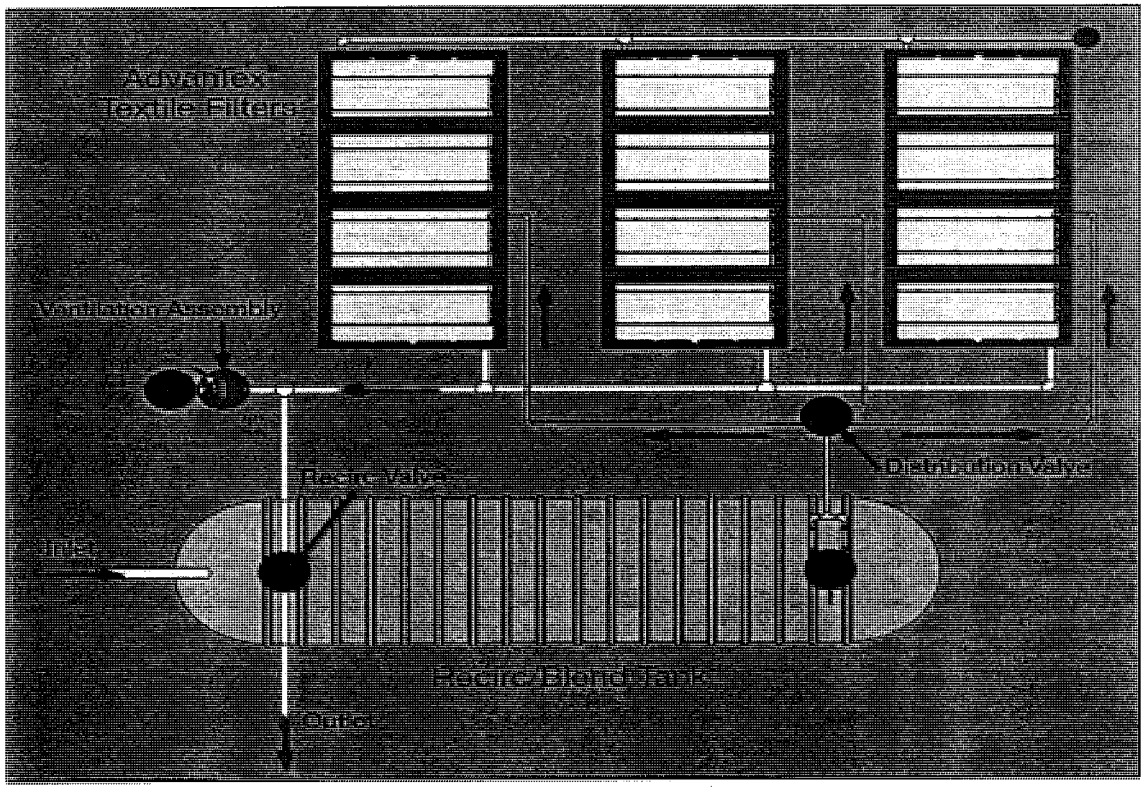
SYSTEM CONFIGURATION

Relative only to the amount of denitrification needed there are two different AdvanTex configurations utilized; Standard Mode and Enhanced Denitrification Mode. Nitrification performance of the AdvanTex Treatment System as detailed above is equal no matter what configuration is used.

Standard Mode

The standard mode is the most common configuration utilized. The recirculation tank is sized between 80 to 100 percent of design flow. Return filtrate from the AdvanTex filter pods is returned to the recirculation tank through a recirculating ball valve. The recirculating ball valve splits the flow to either return into the recirculation tank or be discharged from the system.

The following figure shows a standard mode configuration:



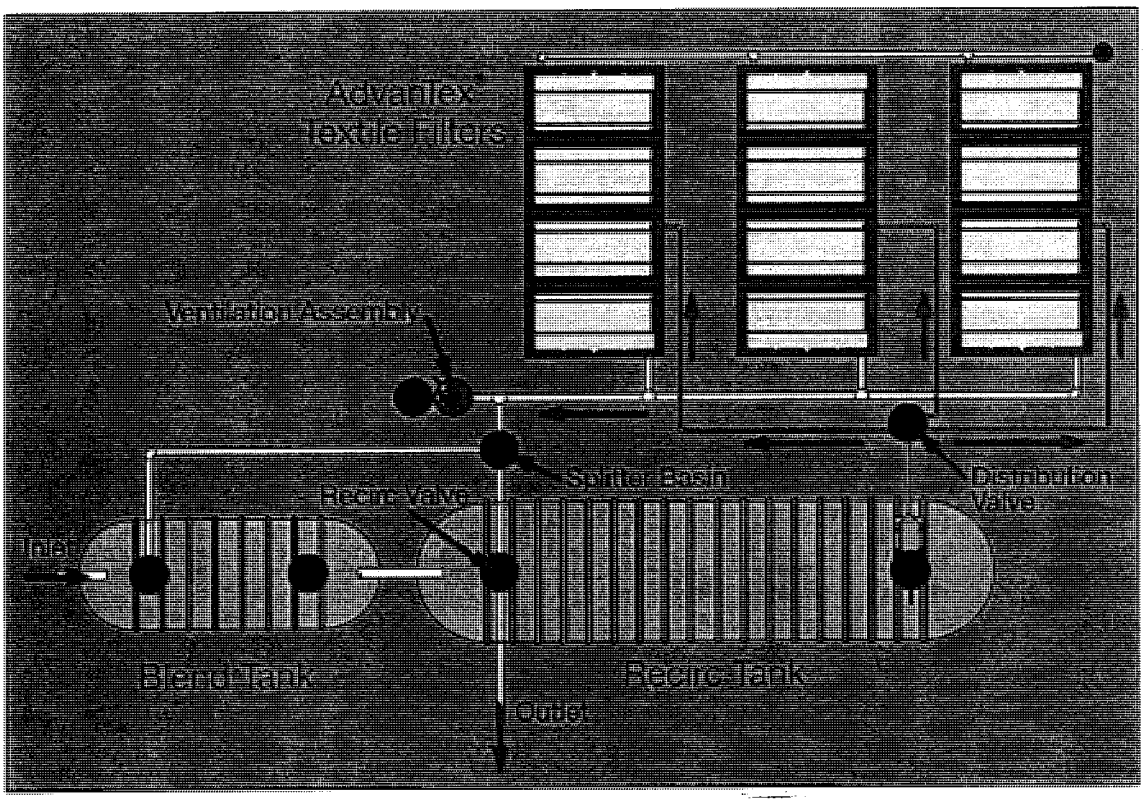
The AdvanTex System, in the standard mode configuration, will typically yield over 60% total nitrogen reduction.

Denitrification occurring in the secondary recirc-chamber (mode 1 configuration) is limited because, after dilution, the carbon source is weak (typically 25 to 35 mg/L BOD5), and at a 4 or 5:1 recirc-ratio, the hydraulic retention time (HRT) through the recirc-chamber is too short for the microbial oxygen uptake rate

(OUR) to adequately deplete the filtrate DO level to establish anoxic conditions sufficient for denitrification.

Enhanced Denitrification Mode

The enhanced denitrification mode is utilized in areas that require denitrification rates of greater than 60%. In this configuration, a portion of the filtrate effluent (Typically 20%) is split (or designed to follow the recirc process) and returned to a denitrification tank (labeled as a blend tank in the below diagram). The following figure shows the enhanced denitrification mode configuration:



The denitrification tank has a more favorable environment (anoxic, high carbon source, increased retention time) over the recirc-blend tank for the process of denitrification to take place. As a result, the denitrification is enhanced. Typical denitrification in this configuration is 65 to greater than 75% removal.

Drip Effluent Dispersal System Design

Drip dispersal will be used to distribute the effluent from the Advantex AX-100 treatment units into the shallow soil horizon on the slopes near the entrance to the development. Several areas of suitable soils have been identified and mapped, with a total area of 17.64 acres. Dripfields will be constructed in phases coinciding with the construction of the housing units.

Hydraulic Loading

The rate at which effluent can be applied to a soil column without surface flooding is dependant on the hydraulic conductivity of the soil, the amount of rainfall, and the amount of water lost through evapotranspiration. The most critical aspect affecting drip field performance in Tennessee projects is the hydraulic conductivity of the soils being dosed with secondary/advanced quality effluent. While a complete water balance equation exists and can be used to approximate acceptable loading rates, experience has shown that better indicators of performance are the observable characteristics of the soil columns, the hydraulic conductivity data measured on those soils by the natural Resources Conservation Service (NRCS), and the performance over time of drip fields placed in those soils.

Soils

Soil Solutions, Inc. mapped soils in the drip dispersal fields. Copies of his extra high intensity soils map are attached to this report. The soils are located on the slopes along the western portion of the site, away from the lakefront, which forms the eastern border of the site. All of the soils mapped are Fullerton soils.

The soils areas mapped in the proposed drip field areas range from 10% to 35% slopes. Fullerton soils are gravelly silt loam, very deep, well-drained, moderately permeable soils suitable for drip. Drip lines will be installed below the surface. Depth to rock is typically greater than 60 inches for Fullerton soils. The structure of the soils in the 6" to 26" depth, where the drip lines will be located, is described as moderate medium and fine subangular blocky structure. NRCS rates the permeability of the soils as moderate. (0.6 to 2.0 inches/hour). The most restrictive rate of 0.6 inches/hour is approximately 30 times the design rate of 0.30 gallons/day/sq.ft. (0.02inches/hour), before reduction of the design application rate for any slope factors.

The drip dispersal system areas will be located on the slopes of the ridge overlooking Cedar Creek and the confluence of Cedar Creek and the Norris Reservoir.

Nutrient Loading Rate

Information provided by Orenco, Inc., manufacturer of the Advantex AX-100 treatment unit, indicates that the expected nitrogen level in the effluent from a typical treatment facility of this type is expected to be ≤ 20 mg/liter. Based on several factors, the anticipated nitrogen level from the filters in this projected are expected to be less than ≤ 20 mg/liter. The design criteria used for this project are higher than those frequently used for projects of this type. Our design flow was 300 gpd per dwelling unit; a typical design of this type might use only 150-200 gpd per dwelling unit. Also, the developer for the project is marketing the project as vacation or summer homes, so it is expected that the development will not be fully populated except in rare instances. However, using the value of 20 mg/liter of nitrogen to calculate the allowable hydraulic loading rate based on nitrogen limits (Lwn), the limiting application month is August, with the limiting allowable hydraulic loading rate based on nitrogen is 0.204 gpd/sf of area (see Figure 1).

Drip Dispersal

Using an application rate of 0.2 gpd/sf, calculations were made to determine if the land areas mapped by the soil scientist were sufficient for the expected design flow (See Figure 2). The amount of effluent which could be applied to each of the land application areas (as indicated on sheet 2 of the accompanying plan sheets) was compared to the calculated flow which was expected to be applied to each area. For all three areas, sufficient acreage is available to accommodate the calculated demand, with sufficient "excess acreage" to accommodate an additional 36,000 gallons per day.

Lakeside Estates Dripfield Application Design Calculations RGCA#: 06106			
	Phase 1	Phase 2	Phase 3
Parcel Size (Ac.)	2.82 1.3 0.93	8	4.185308
Total (Ac.)	5.05	8	4.185308
Total (Ft^2)	219,978	348,480	182,312
Application Rate (gpd/sf)	0.2	0.2	0.2
GPD available based on area	43,996	69,696	36,462
Dwelling Units in Phase	128	144	120
Design Rate (Gal/DU/Day)	300	300	300
Design flow from plant (GPD to dose_	38,400	43,200	36,000

"Excess capacity"	5,596	26,496	462
Total			32,554

"Excess capacity" is the difference between the maximum flow that can be applied to the available land area and the expected design flow coming from the treatment works

Drip Area	219,978	348,480	182,312
@5' O.C., L.F. required	43995.6	69696	36462.403
L.F. tubing req'd * 0.62 (GPH) emitter rate divided by emitter spacing divided by 60 min for pump rating=GPM required to meet hydraulic demands of the system	227.3	360.1	188.4
From experience, number of zones required	10	16	8
Pump Sizing (GPM/zones)	22.7	22.5	23.5
Zone sizes (ft^2)	21,998	21,780	22,789

Figure 2 – Dripfield Design

Drip Pumps

Drip pumps will be sized based on Total Dynamic Head for each individual pump, based on the elevation of the dosing pump and the high points and line lengths of the individual drip fields. Pumps will be selected to provide at least 30 psi at the inlet of each drip zone. Figure 2 shows calculations for number of drip zones and size of drip zones for each treatment plant/dosing tank. Each pump will have a two-outlet valve (Orenco 6402A) or a four-outlet valve (Orenco 6404A) off the pump discharge, with additional two or four outlet valves off each of those lines to provide flow to the actual number of fields required. Since the development is being constructed in phases, each phase will require submission of actual

construction drawings specifying pump selection, piping and valving applicable to that particular phase.

Natafim Filter

The UV system is preceded by a Natafim 2" Arkal Filter providing 120 mesh (130 micron) filtration. This is an automatic self-cleaning filter designed for flow volumes of 0 to 80 gpm. It contains a built-in backflush controller, which is operated by pressure differential or time. The filter elements are plastic filter rings stacked together to form a cylindrical filter element. During filtration, the rings are compressed together, and grooves in the rings criss-cross, forming a filter network that traps contaminants. During backwash, these rings separate, and a nozzle system inside the filter spine sprays pressurized water against the loosened discs, spinning them clean. The backflush time is 20 seconds; during this interval there is no water flow to the drip field.

UV system

The discharge from the Netafim Disc-Kleen Filter will pass through a Sanitron S5000C UV filter with a maximum capacity of 80 gpm. It and the pipe manifold will be custom assembled by SOS, Inc. in an FRP enclosure measuring 90"L x 42"W x 32" D. The enclosure will house two units, which are positioned in the enclosure canted at 30 degrees, to allow for simple replacement of the UV bulbs as required.

Control Panel

The system will utilize a custom control system from Orenco. The panel is a 304 Stainless Steel enclosure controlling ultimately 6 duplex recirc dose systems and one duplex dripfield dose system with current sensors, redundant off, programmable time base dose for both sides, surge arrestor, pump run lights, UV alternation, all wrapped up with a landline based telemetry board for remote control/information.

Telemetry

The telemetry system is a Mission M-800 system comprising a field RTU, Nextel wireless communications, web-based HMI software, alarm notifications, and a website. Items to be monitored include all pumps, levels in all tanks, operational conditions of the back-flush solenoid and UV system, and the Hydroflow HF2200 fixed insertion vortex flow meter.

State Operating Permit

Upon completion and acceptance, the sewage collection, treatment, and disposal system will be owned and operated by the LaFollette Utilities Board, and Tennessee public utility. A State Operating Permit application accompanies this report.

Class 5 Underground Injection Well Permit

An Application for Authorization to Operate a Class 5 Underground Injection Well is also being submitted with a copy of this report. Additional information requested in Part C of that application is addressed on Sheet 4 of the accompanying plans sheets, Titled "Area of Interest".

Soils Information

An extra high intensity soils map is also included with this report, which shows the soils area to be used for the proposed dripfields. It was prepared by Soils Solutions, Inc. in Harriman Tennessee, and shows a mapped area of 17.64 acres. This area is also indicated on the accompanying plan sheets with existing ground contour lines indicating the 2-foot and 10-foot contours.

LAFOLLETTE UTILITIES BOARD

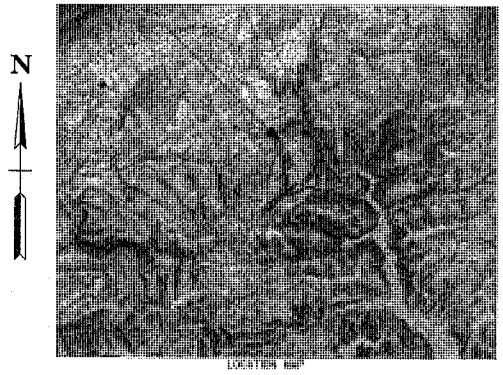
CAMPBELL COUNTY, TENNESSEE

4008
Tallulna Ave
Knoxville
37919

SANITARY SEWER SYSTEM

FOR

LAKESIDE ESTATES



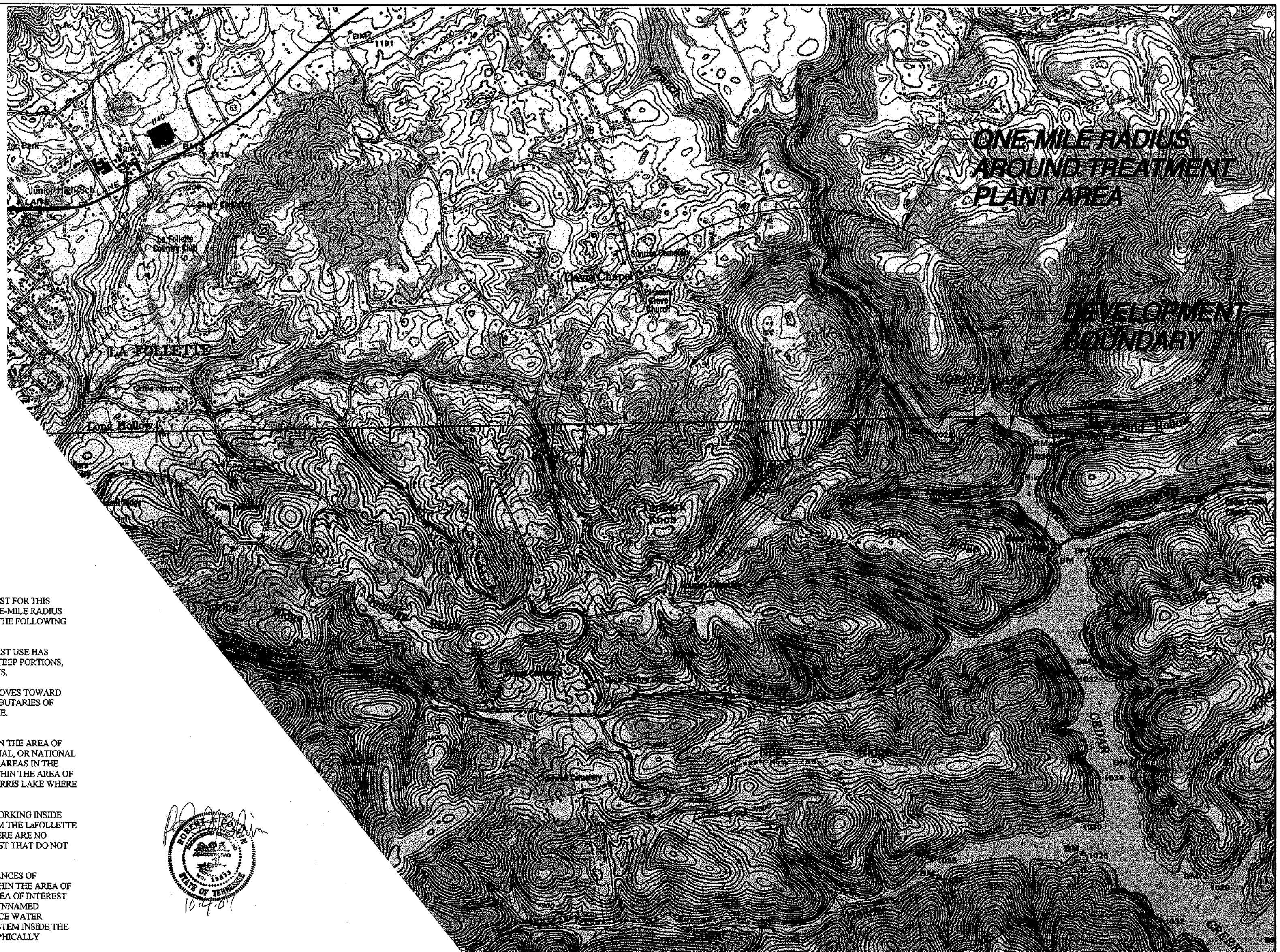
APPROVED BY:

Eddie G. Troxell

EDDIE TROXELL
SUPERINTENDENT OF WATER OPERATIONS
LAFOLLETTE UTILITIES BOARD

RGC&A

ROBERT G. CAMPBELL & ASSOCIATES , L.P.
CONSULTING ENGINEERS
KNOXVILLE , TENNESSEE



AS BEST AS CAN BE DETERMINED, THE AREA OF INTEREST FOR THIS DRIPFIELD (THE AREA LYING WITHIN AND BELOW A ONE-MILE RADIUS OF THE INJECTION WELL PUMP SITE OR FACILITY) HAS THE FOLLOWING CHARACTERISTICS:

BASED ON PUBLIC RECORD, THE AREA'S HISTORICAL PAST USE HAS BEEN AGRICULTURAL (FARMLAND) ALONG THE LESS STEEP PORTIONS, AND WAS UNUSED LAND ALONG THE STEEPER PORTIONS.

THE GROUNDWATER WITHIN THE AREA OF INTEREST MOVES TOWARD CEDAR CREEK, OR TOWARD ONE OF THE UNNAMED TRIBUTARIES OF CEDAR CREEK. THESE ALL FLOW TOWARD NORRIS LAKE.

THERE ARE APPROXIMATELY XX PEOPLE LIVING WITHIN THE AREA OF INTEREST. THERE ARE NO COMMUNITY, STATE, REGIONAL, OR NATIONAL PARKS, WILDLIFE REFUGES, NATURAL OR WILDERNESS AREAS IN THE AREA OF INTEREST. A PORTION OF NORRIS LAKE IS WITHIN THE AREA OF INTEREST, PARTICULARLY BEING THAT PORTION OF NORRIS LAKE WHERE CEDAR CREEK FLOWS INTO NORRIS LAKE.

WATER IS SUPPLIED TO THOSE PERSONS LIVING AND WORKING INSIDE THE AREA OF INTEREST BY PUBLIC SATER SUPPLY FROM THE LaFOLLETTE UTILITY BOARD. AS BEST AS CAN BE DETERMINED, THERE ARE NO INHABITED STRUCTURES WITHIN THE AREA ON INTEREST THAT DO NOT HAVE ACCESS TO A PUBLIC DRINKING WATER SUPPLY.

AS BEST AS CAN BE DETERMINED, THERE ARE NO INSTANCES OF GROUNDWATER BEING USED AS DRINKING WATER WITHIN THE AREA OF INTEREST. THE ONLY BODIES OF WAER WITHIN THE AREA OF INTEREST ARE A PORTION OF NORRIS LAKE, CEDAR CREEK, AND UNNAMED TRIBUTARIES TO CEDAR CREEK. THERE ARE NO SURFACE WATER INTAKES SUPPLYING PUBLIC WATER DISTRIBUTION SYSTEM INSIDE THE AREA OF INTEREST OR WITHIN THREE MILES TOPOGRAPHICALLY DOWNGRADIENT FROM THE FACILITY.

10-4-07

NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

ROBERT G. CAMPBELL & ASSOC., L.P.
CONSULTING ENGINEERS
KNOXVILLE, TENNESSEE

LAKESIDE ESTATES
SANITARY SEWER SYSTEM

LOCATION MAP &
AREA OF INTEREST

DESIGNED BY	CHECKED BY	SCALE	SHEET
AWO	RJC	1"=1000'	NO. 4
DRAWN BY	DATE	FILE NO.	
AWO	10/4/2007	06106	OF 5 SHEETS

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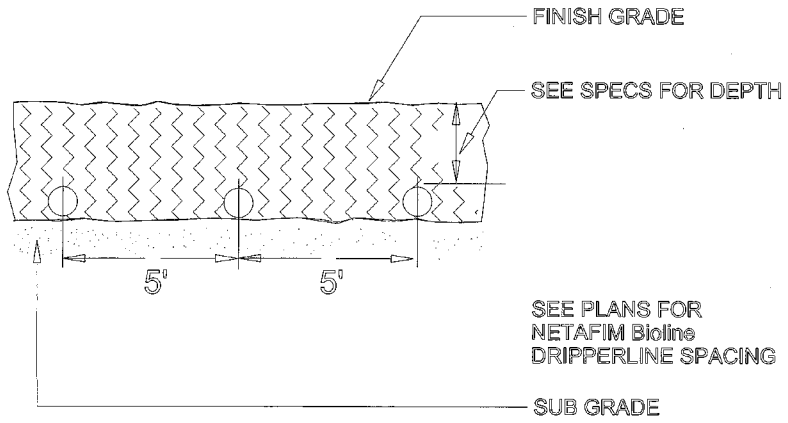
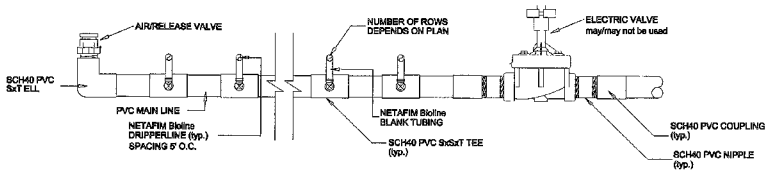


BIOLINE DRIPPERLINE



BIOLINE SUPPLY MANIFOLD

BOTH PRODUCTS BY NETAFIM

NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

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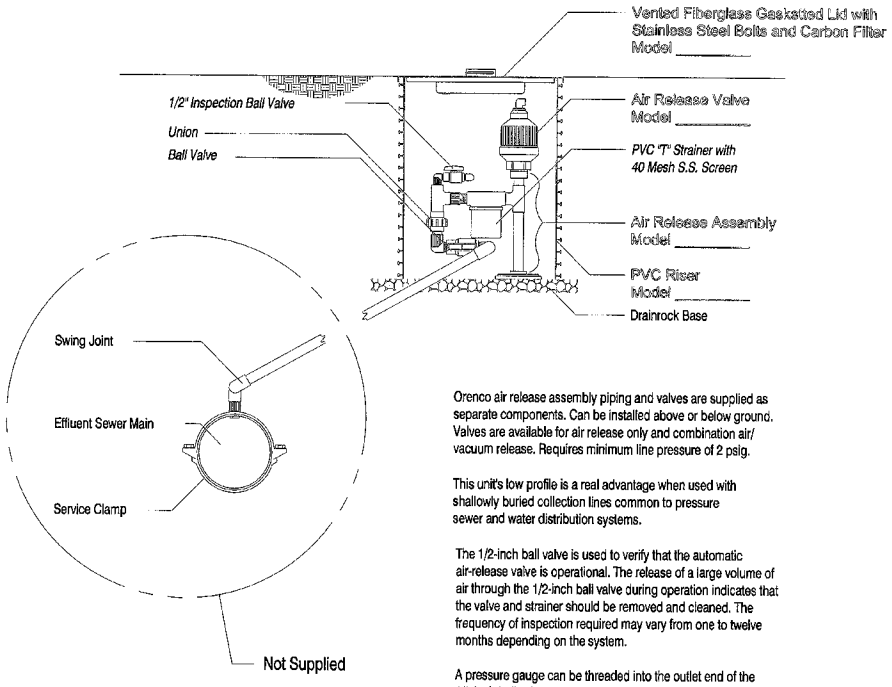
CONSULTING ENGINEERS
KNOXVILLE, TENNESSEE

LAKESIDE ESTATES SUBDIVISION
ON NORRIS LAKE

DRIPPERLINE & SUPPLY MANIFOLD
DESIGN VIEW

DESIGNED BY	CHECKED BY	SCALE	SHEET NO.
BAG	RJC	NTS	7
DRAWN BY	DATE	FILE NO.	OF 7 SHEETS
BAG	4/11/07	07030	

Air Release Assembly



Orenco air release assembly piping and valves are supplied as separate components. Can be installed above or below ground. Valves are available for air release only and combination air/vacuum release. Requires minimum line pressure of 2 psig.

This unit's low profile is a real advantage when used with shallowly buried collection lines common to pressure sewer and water distribution systems.

The 1/2-inch ball valve is used to verify that the automatic air-release valve is operational. The release of a large volume of air through the 1/2-inch ball valve during operation indicates that the valve and strainer should be removed and cleaned. The frequency of inspection required may vary from one to twelve months depending on the system.

A pressure gauge can be threaded into the outlet end of the 1/2-inch ball valve to observe system line pressure. All components are rated for a 150 psi working pressure.

NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

RGC&A

ROBERT G. CAMPBELL & ASSOC., L.P.
CONSULTING ENGINEERS
KNOXVILLE, TENNESSEE

LAKESIDE ESTATES SUBDIVISION
ON NORRIS LAKE

AIR RELEASE ASSEMBLY
DESIGN VIEW

DESIGNED BY	CHECKED BY	SCALE	SHEET NO.
BAG	RJC	NTS	6
DRAWN BY	DATE	FILE NO.	OF 7 SHEETS
BAG	4/11/07	07030	

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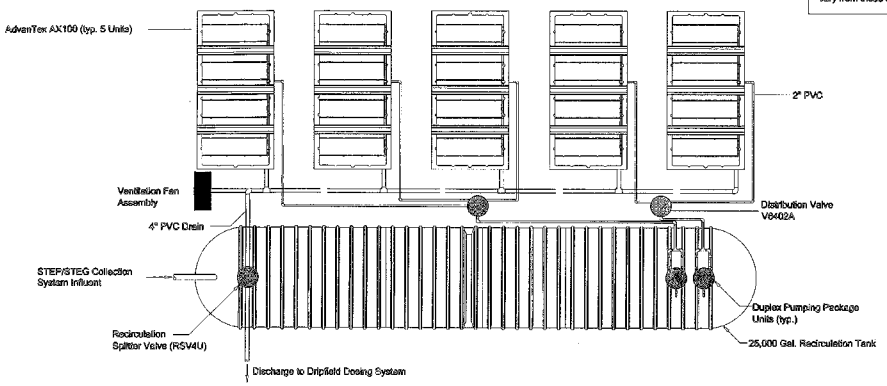
General Notes

Expected Flows
- Q_{ave} = 12,500 gpd
- Q_{peak} = 25,000 gpd

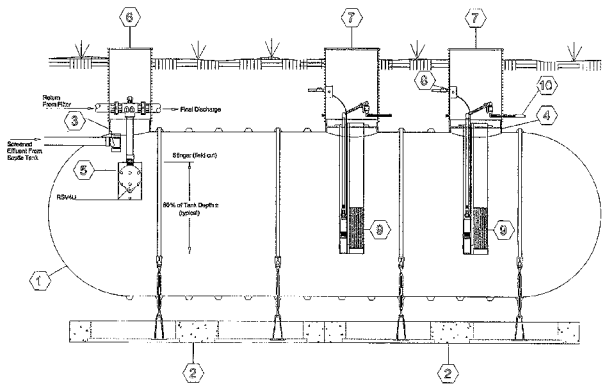
Expected Influent Quality
Grease & Oil: 20 mg/L
BOD: 150 mg/L
TSS: 60 mg/L
TN: 40 mg/L

Targeted Treatment Goals
BOD: < 20 mg/L
TSS: < 20 mg/L
TN: ≤ 20 mg/L

Note: Consult with Orenco Systems Inc. for applications where expected influent quality and/or targeted treatment goals vary from those stated above.



ADVAN TEX 25,000 GPD SYSTEM



NO.	DESCRIPTION
1	XERXES SINGLE WALL FRP TANK
2	DEADMAN SYSTEM W/ HOLD DOWN STRAP AND TURNBUCKLE ASSY.
3	30" FRP OPENING
4	30" FRP OPENING W/ INTERNAL FLANGE
5	4" SCH. 40 PVC INLET PIPE
6	30" RIBBED PVC RISER W/ FRP LID
7	30" RIBBED PVC RISER W/ FRP LID
8	PVC SPLICE BOX W/ CORD GRIPS
9	DUPLEX SUSPENDED EFFLUENT PUMPS W/ PVU8S BIOTUBE & LEVEL CONTROL FLOAT ASSEMBLY
10	EFFLUENT DISCHARGE

ADVAN TEX DOSE TANK
OSI DUPLEX PUMP SYSTEM
30,000 GAL 10' DIA. SINGLE COMPARTMENT

NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

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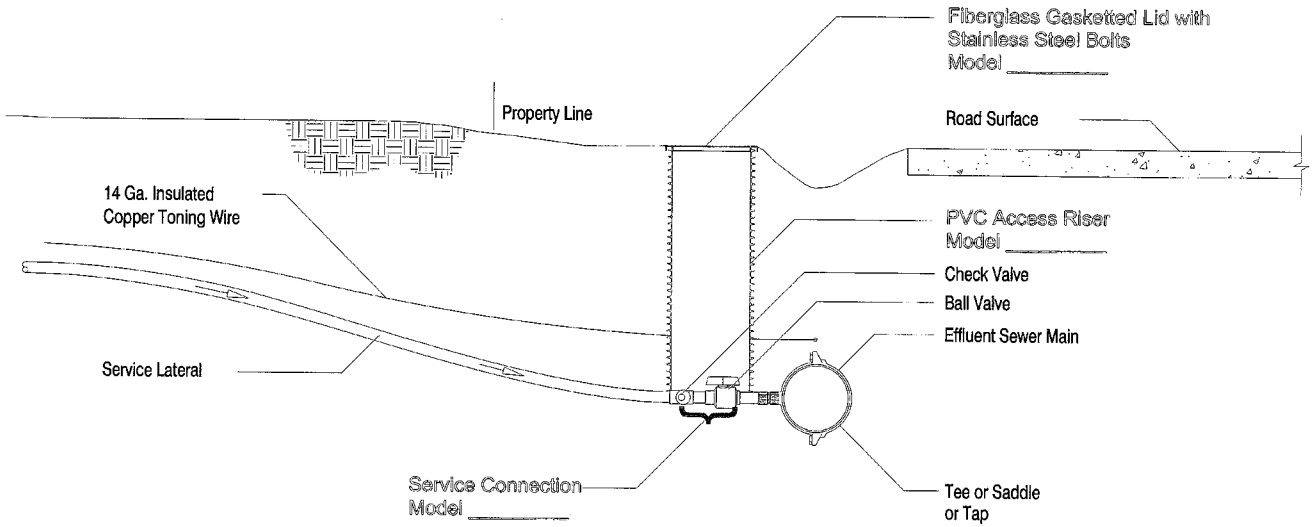
CONSULTING ENGINEERS
KNOXVILLE, TENNESSEE

LAKESIDE ESTATES SUBDIVISION
ON NORRIS LAKE

DESIGNED BY	CHECKED BY	SCALE	SHEET NO.
BAG	RJC	NTS	5
DRAWN BY	DATE	FILE NO.	OF 7 SHEETS
BAG	4/11/07	07030	

Effluent Sewer Service Connection



All service line connections shall be solvent welded. The only acceptable solvents and cements are those that are recommended by the pipe manufacturer. All service laterals from the effluent sewer main to the property line shall be pressure tested prior to any backfilling.

NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

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CONSULTING ENGINEERS
KNOXVILLE, TENNESSEE

LAKESIDE ESTATES SUBDIVISION
ON NORRIS LAKE

EFF. SEWER SERVICE CONNECTION
DESIGN VIEW

DESIGNED BY	CHECKED BY	SCALE	SHEET NO.
BAG	RJC	NTS	4
DRAWN BY	DATE	FILE NO.	OF 7 SHEETS
BAG	4/11/07	07030	

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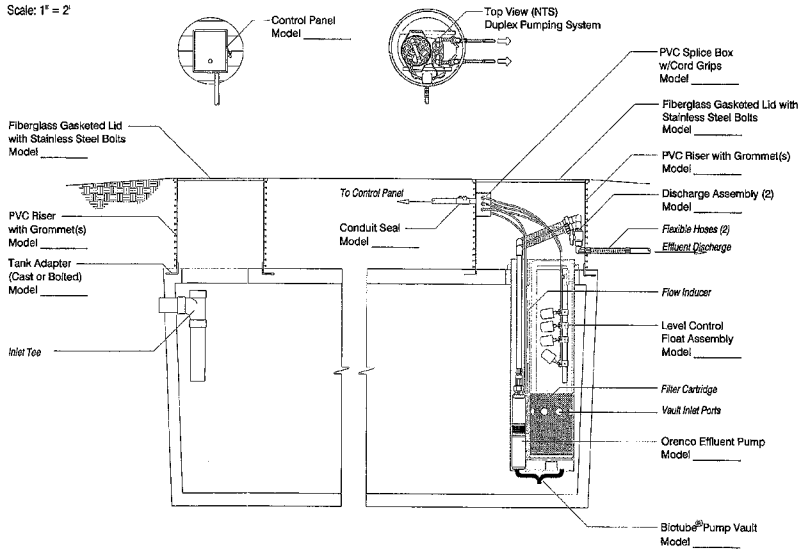
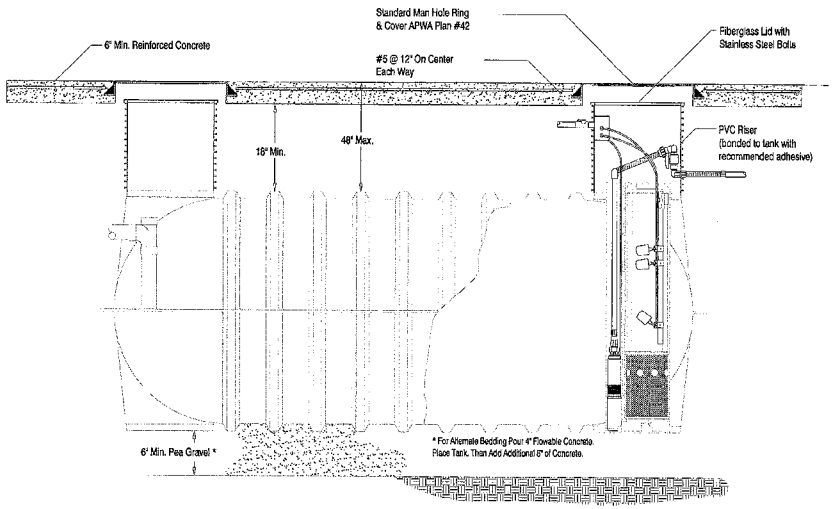
Effluent Pumping System - Duplex



Orenco Fiberglass Tank with H-20 Traffic Load

Orenco 1,500 gal. Fiberglass Tank



NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

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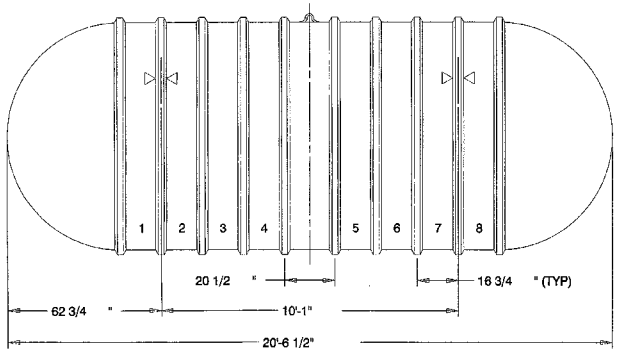
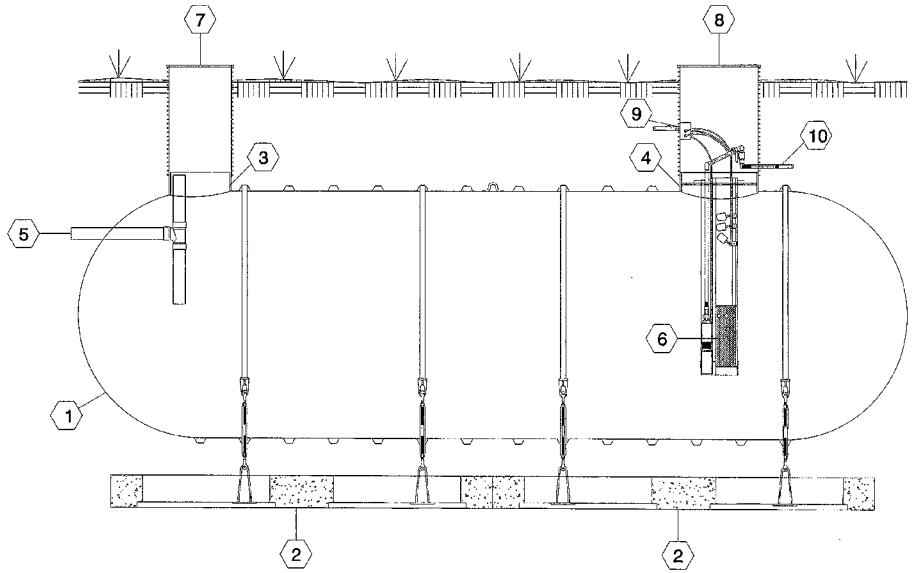
CONSULTING ENGINEERS
KNOXVILLE, TENNESSEE

LAKESIDE ESTATES SUBDIVISION
ON NORRIS LAKE

PUMP AND SEPTIC TANK
DESIGN VIEW

DESIGNED BY	CHECKED BY	SCALE	SHEET
BAG	RJC	NTS	NO. 3
DRAWN BY	DATE	FILE NO.	OF 7 SHEETS
BAG	4/11/07	07030	





8' DIA. S.W.T.
6,000 GALLON CAPACITY

NO.	DESCRIPTION
1	XERXES SINGLE WALL FRP TANK
2	XERXES PRECAST DEADMAN SYSTEM W/ HOLD DOWN STRAP AND TURNBUCKLE ASSY.
3	24" FRP OPENING
4	30" FRP OPENING W/ INTERNAL FLANGE
5	4" SCH. 40 PVC INLET PIPING W/ SANITARY TEE
6	SUSPENDED EFFLUENT PUMP W/ FILTER & LEVEL CONTROL FLOAT ASSEMBLY
7	24" RIBBED PVC RISER W/ FRP LID
8	30" RIBBED PVC RISER W/ FRP LID
9	PVC SPLICE BOX W/ CORD GRIPS
10	EFFLUENT DISCHARGE

NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				

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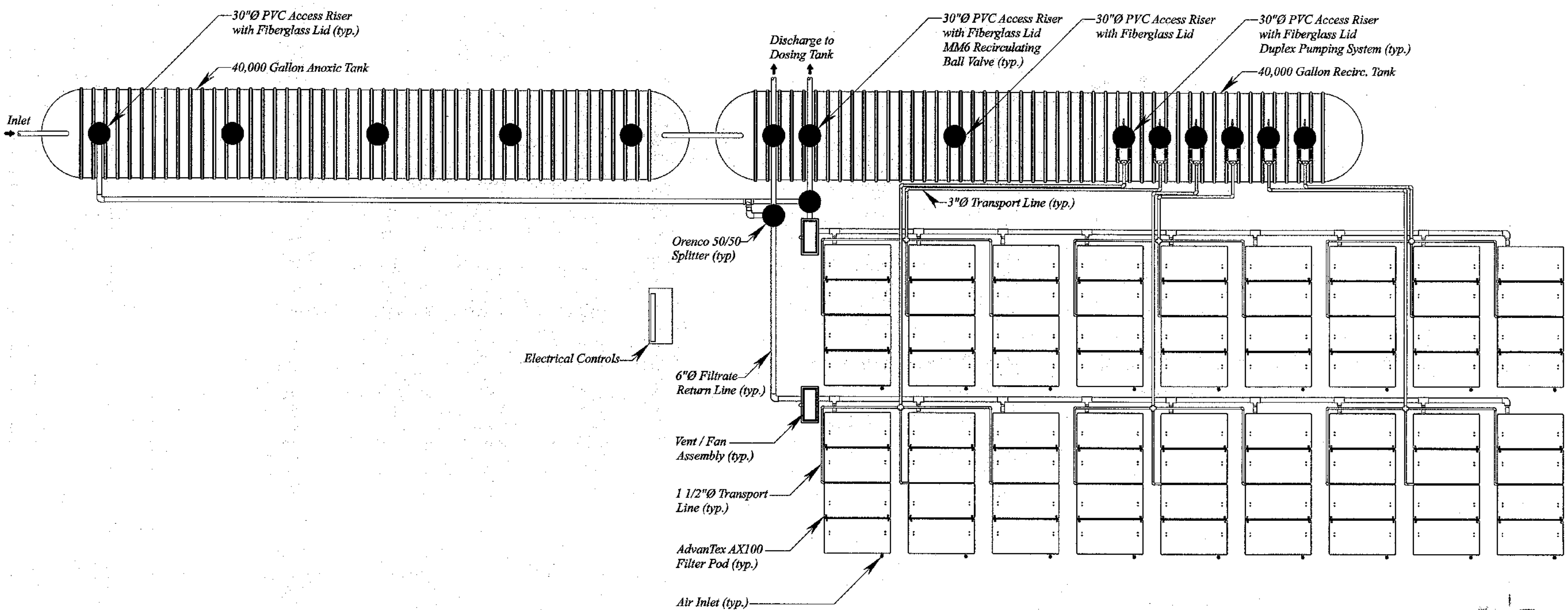
CONSULTING ENGINEERS
KNOXVILLE, TENNESSEE

LAKESIDE ESTATES SUBDIVISION
ON NORRIS LAKE

SEPTIC TANK
DESIGN VIEW

DESIGNED BY	CHECKED BY	SCALE	SHEET NO.
BAG	RJC	NTS	2
DRAWN BY	DATE	FILE NO.	OF 7 SHEETS
BAG	4/11/07	07030	



Typical 18 Pod AX100 Layout

NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

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CONSULTING ENGINEERS
KNOXVILLE, TENNESSEE

LAKESIDE ESTATES
SANITARY SEWER SYSTEM

TYPICAL 18-POD ADVANTEX
AX-100 TREATMENT SYSTEM

DESIGNED BY	CHECKED BY	SCALE	SHEET
AWO	RJC	N.T.S.	NO. 5
DRAWN BY	DATE	FILE NO.	
AWO	10/4/2007	06106	OF 5 SHEETS

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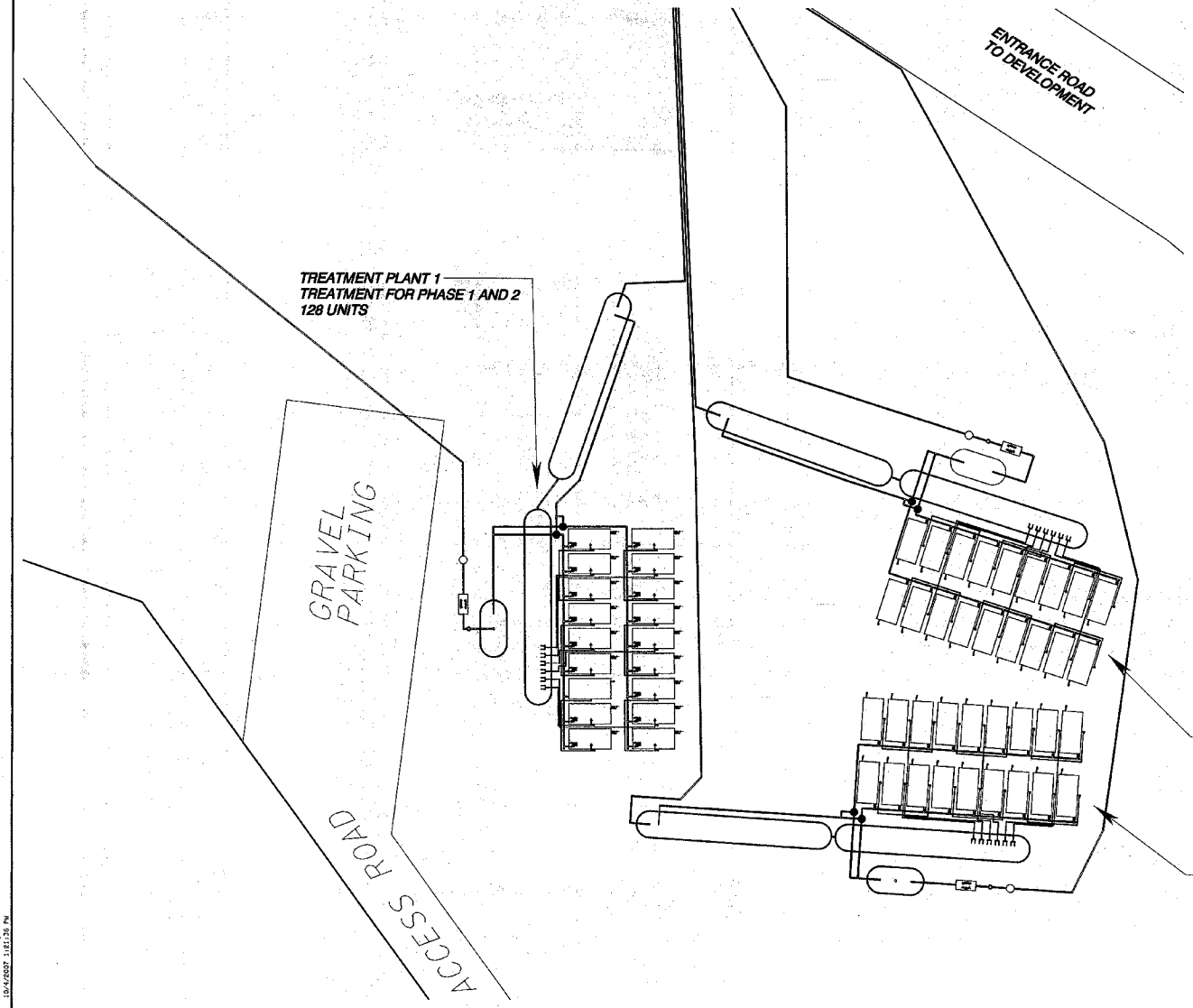

LAKEVIEW ESTATES
AdvanTex FILTER TREATMENT AND DRIP EMITTER SYSTEM

Developer: John Trinbach
7939 South County Road 25A
Tipp City, OH 45371
(937) 669-1111

DESIGN FLOWS
392 Three-Bedroom Condominium Units
Per Unit Avg. 300 gpd (75 gpd/person)
Total Avg. 117,600 gpd

Phase 1 = 38 units
Phase 2 = 90 units
Phase 3 = 144 units
Phase 4 = 54 units
Phase 5 = 66 units

WASTE CONCENTRATIONS

Projected Waste Concentrations entering Treatment Plant from the Collection System
BOD 130-150 mg/l
pH 6.6 – 7.0
TSS 30 – 50 mg/l
Ammonia as Nitrogen 25-30 mg/l

Projected General Permit Requirements of Concentrations to Drip Field fro Treatment Plant

BOD – 45 mg/l
Ammonia as Nitrogen 20 mg/l

GENERAL USAGE STATEMENT

This plan set is based upou the expected flows and waste strengths listed above for the purpose of serving a 392 Unit 3 Bedroom Condominium Development. Any change in usage that would affect flows of waste strength requires a review by this designer."

Once a facility is placed into operation, the flows and waste strengths to the facility should be monitored. If flow or any of the influent waste strengths exceed those listed in the design, measures should be taken to reduce these parameters to those listed on the plan set. Otherwise additional treatment capacity and plant expansion will be necessary"

Do not dispose of toxics or chemicals into system; such as restaurant degreasers and cleansers, eax stripper for linoleum, carpet shampoo and it's waste products, or other toxics."

UTILITIES SUCH AS POWER SOURCE, WATER SOURCE (FOR O&M) AND DEDICATED PHONE LINES SHALL BE INSTALLED AND LOCATED AT TIME OF PLANT INSTALLATION.

ALL PUMPS, CONTROL PANELS, SPLITTER VALVES TO BE SIZED AND SUPPLIED BY:
SPECIALIZED OPERATIONS SERVICES, INC.
4095 HIDDEN VALLEY ROAD
CLEVELAND, TN 37312

ALL SOLID LINE TO BE MINIMUM OF SCH. 40 PVC.

ALL PRESSURE LINES MUST CONTAIN PRESSURE FITTINGS.

ROBERT G. CAMPBELL & ASSOC., L.P.
CONSULTING ENGINEERS
KNOXVILLE, TENNESSEE

LAKESIDE ESTATES
SANITARY SEWER SYSTEM

SANITARY SEWER SYSTEM
TREATMENT PLANT LAYOUT

NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

DESIGNED BY	CHECKED BY	SCALE	SHEET NO.
AWO	RJC	1"=10'	3
DRAWN BY	DATE	FILE NO.	OF 5 SHEETS
AWO	10/4/2007	06106	

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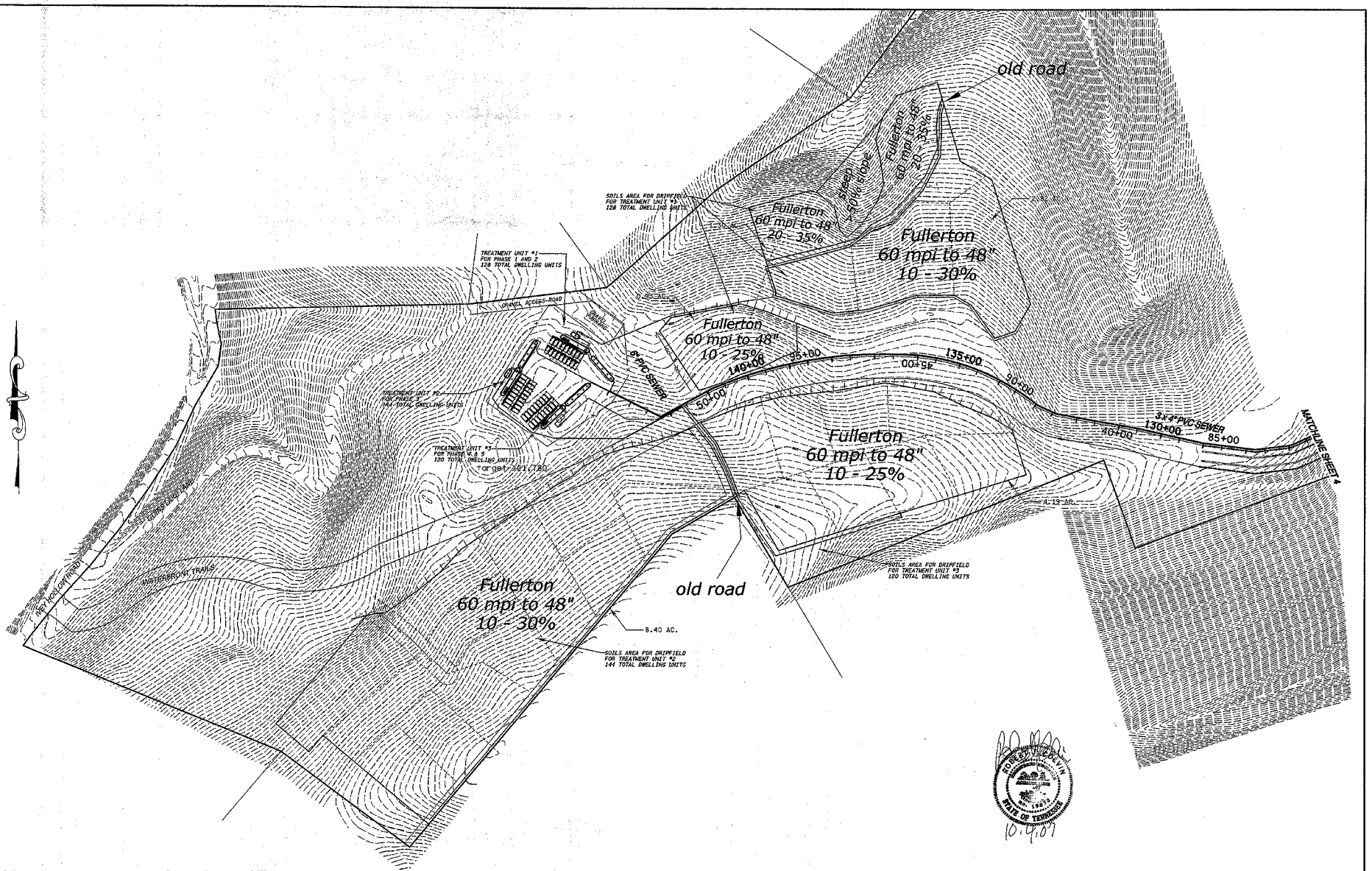

NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

RGC&A

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CONSULTING ENGINEERS
KNOXVILLE, TENNESSEE

LAKESIDE ESTATES
SANITARY SEWER SYSTEM

TREATMENT PLANTS AND
DRIPFIELD AREAS

DESIGNED BY	CHECKED BY	SCALE	SHEET NO.
AWO	RJC	1"=100'	2
DRAWN BY	DATE	FILE NO.	OF 5 SHEETS
AWO	9/28/2007	06106	

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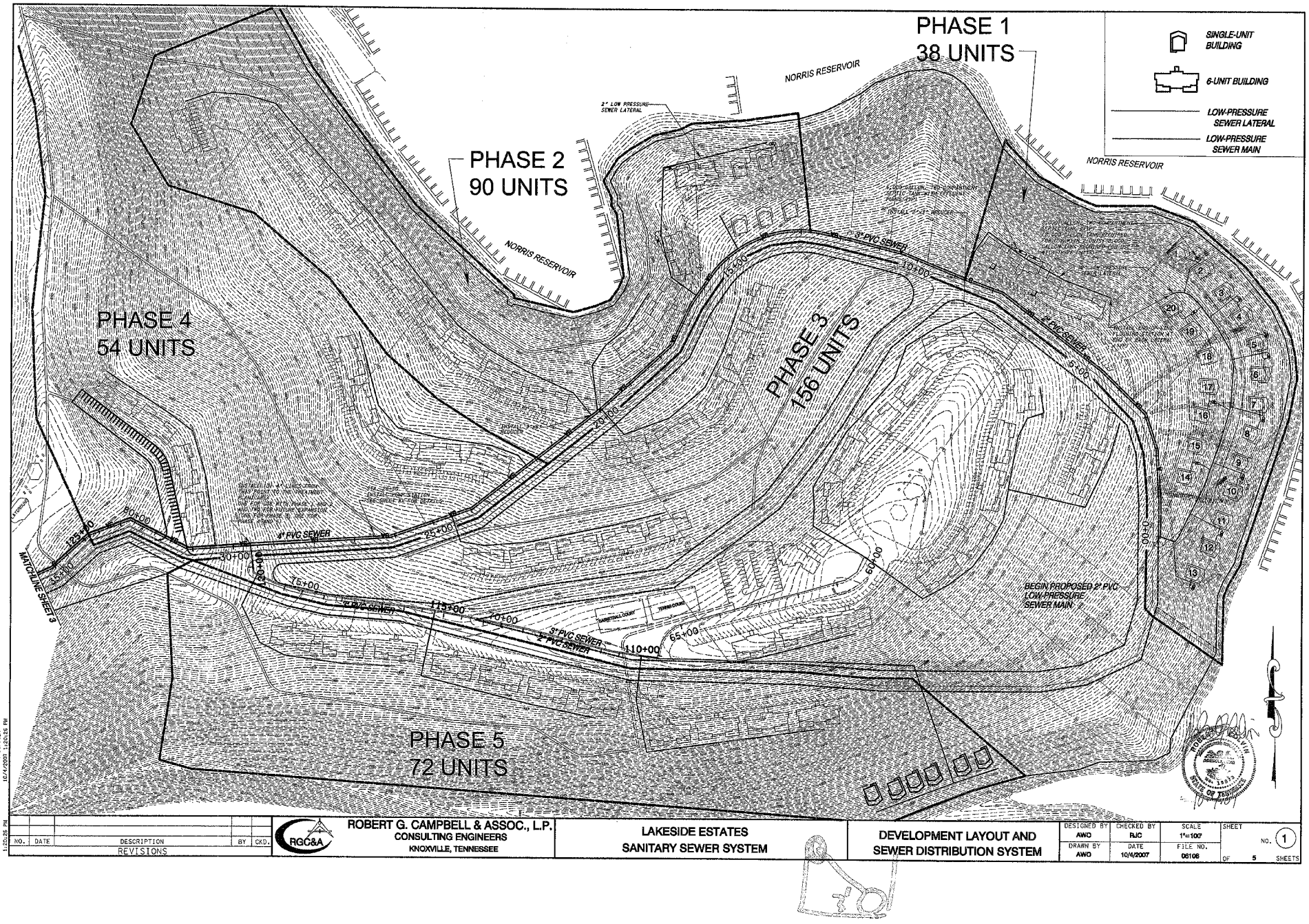


NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

ROBERT G. CAMPBELL & ASSOC., L.P.
CONSULTING ENGINEERS
KNOXVILLE, TENNESSEE

LAKESIDE ESTATES
SANITARY SEWER SYSTEM

DEVELOPMENT LAYOUT AND SEWER DISTRIBUTION SYSTEM

DESIGNED BY	CHECKED BY	SCALE	SHEET NO.
AWO	RJC	1"=100'	1
DRAWN BY	DATE	FILE NO.	OF 5 SHEETS
AWO	10/4/2007	06106	

EXTRA HIGH INTENSITY SOIL MAPPING
FOR DRIP EMITTER DISPOSAL FIELD

BY

03/12/07

ANY CUTTING, FILLING AND/OR COMPACTION WILL VOID THIS SOIL MAP

RECOMMENDED SETBACKS:

1-DOT DRAINS - 15'

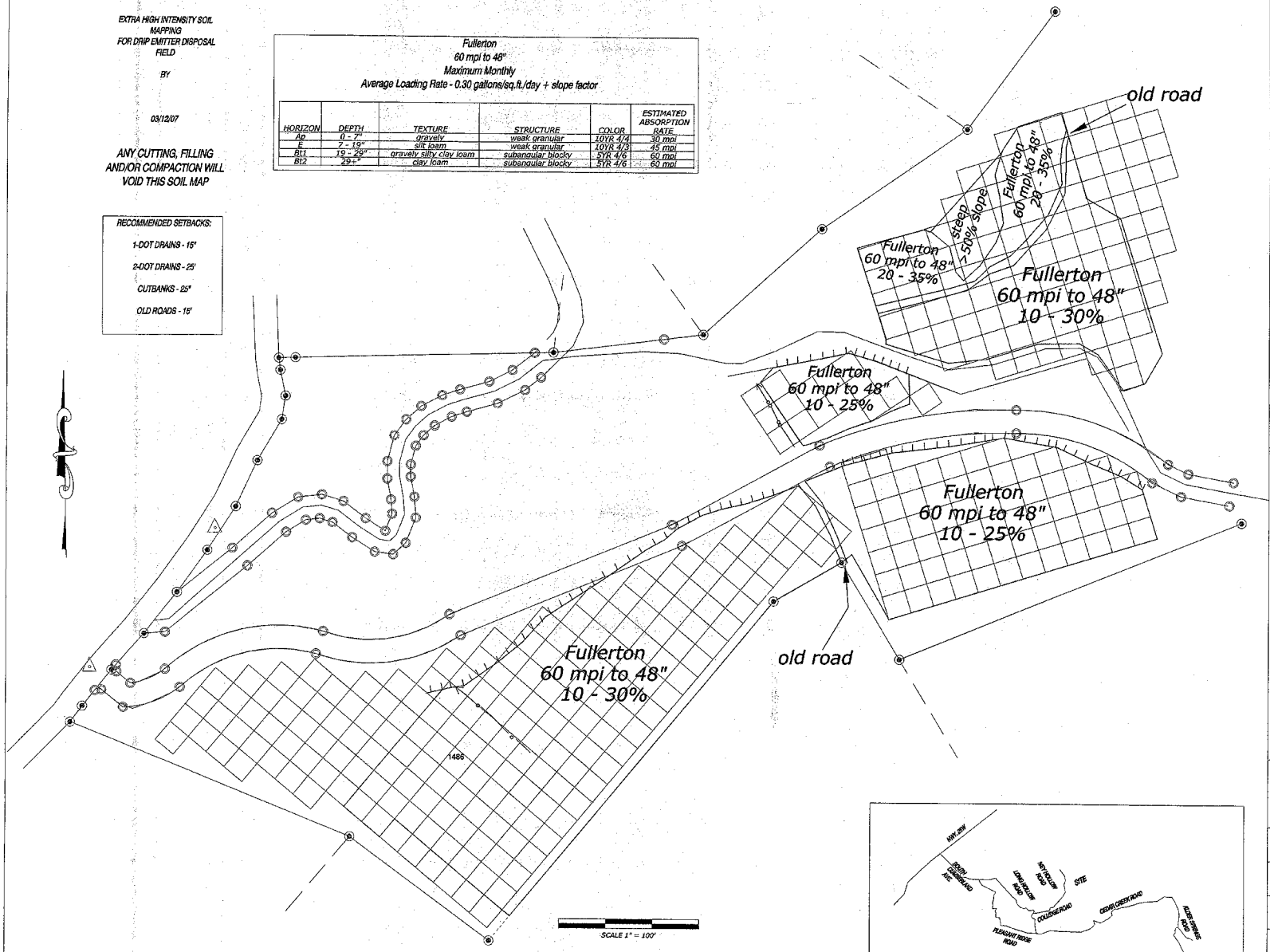
2-DOT DRAINS - 25'

CUTBANKS - 25'

OLD ROADS - 15'

Fullerton
60 mpi to 48"
Maximum Monthly
Average Loading Rate - 0.30 gallons/sq.ft./day + slope factor

HORIZON	DEPTH	TEXTURE	STRUCTURE	COLOR	ESTIMATED ABSORPTION RATE
Ap	0 - 7"	gravelly	weak granular	10YR 4/4	30 mpi
E	7 - 19"	silt loam	weak granular	10YR 4/3	45 mpi
Bt1	19 - 29"	gravelly silty clay loam	subangular blocky	5YR 4/6	60 mpi
Bt2	29+"	clay loam	subangular blocky	5YR 4/6	60 mpi



SOIL SOLUTIONS, Inc.
2415 Old Harriman Hwy.
Harriman, TN 37748
(865) 882-9387 (423) 569-1752

LAKESIDE ESTATES

EXTRA HIGH INTENSITY SOIL MAPPING
FOR DRIP EMITTER DISPOSAL FIELD

LaFOLLETTE
CAMPBELL CO., TENNESSEE

TITLE: EXTRA HIGH INTENSITY SOIL MAP

DRAWN BY: JRW

DATE: 03/20/07

REVISED:

SCALE: 1" = 100'

SHEET NO.: 1 OF 1

ATTACHEMENT 9:

Build Out Cost Analysis (5-yr)

Lakeside Estates Waste Water Treatment System

Estimated Costs and Revenues For Year 2011

Assumptions:	2011	2012	2013	2014	2015	Total
Total number of lots in subdivision	200	200	200	200	200	
Number of non-resident property owners	2	3	4	5	6	
Number of resident property owners	2	4	6	8	10	
Commercial Overnight Rental property owners	26	27	28	29	30	
Number of property owners not attached to System	6	6	6	6	6	
Unsold lots	164	160	156	152	148	
Annual residents providing tap fee	2	2	2	2	2	10

Estimated Expenses

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Routine Maintenance						
Maintenance Operator Cost (Non-resident)	Lots	2	$ 5	$ 10	$ 120	Cost based on the amount DSH & Associates will charge to maintain the wastewater system wastewater components for non-resident services.
Maintenance Operator Cost (resident & rental)	Homes	28	$ 16.71	$ 468	$ 5,615	Cost based on the amount DSH & Associates will charge to maintain the wastewater system wastewater components for residence service.
Accounting, tax preparation books setup	Hours	2	$ 50	$ 100	$ 1,200	Amount furnished by DSH's CPA - Roger Goins and book keeper.
Tax Cost (Franchise - Excise and Federal)	Homes	28	$ 1.92	$ 54	$ 645	Cost projection includes property tax and income tax. Based on project income, property value, and operating costs
Plant operator salary and testing	Sampling and Testing	12	$ 300	$ 300	$ 3,600	Based on pricing provided by our operator, Herb Norton, for monthly and quarterly sampling and testing requirements per our SOP.
Performance Bond	Event	1	$ 400	$ 33	$ 400	Set at 2% of the amount from Athens Insurance.
Insurance	Coverage	12	$ 150	$ 150	$ 1,800	Based on verbal quote from Athens Insurance.
Office telephone Line	Line	12	$ 55	$ 55	$ 660	Office phone line based on experience.
Plant Control System phone line	Line	12	$ 55	$ 55	$ 660	The telephone line is necessary for the computer (PLC) automation to call in and report any problem. Based on estimate by local phone company.
Local Managaement Fee	Month	28	$ 2.00	$ 56	$ 672	Based on experience hours and hourly rates on similar projects.
Corporate Management Fee	Month	28	$ 2.80	$ 78	$ 941	Based on experience hours and hourly rates on similar projects.
TRA Inspection Fee	Inspection	1	$ 250	$ 21	$ 250	Based on TRA published rates.
Subtotal				**$ 1,380**	**$ 16,562**	

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Non Routine Maintenance						
Septic tank pumping	Pumping Events	4	$ 240	$ 80	$ 960	Pumping of holding tanks associated with centralized treatment system. Based on $240 per pumping event.
Replacing pump & alarm systems	Replacement	2	$ 1,400	$ 233	$ 2,800	Replacement cost for pumps and alarms associated with centralized treatment system. Assume 1 pump and alarm system will have to be replace once a year for a total event cost of $1400.
Normal wear/tear items, hoses, float switches, lights	Replacement	10	$ 20	$ 17	$ 200	Based on experience hours and hourly rates on similar projects.
UV lamps	Lamp	4	$ 350	$ 117	$ 1,400	Replacement cost for UV lamps associated with the system. The system utilizes 4 lamps. Assume each lamp required replacement once every year. Lamp and labor is approx. $350.
Subtotal		**14**			**$ 5,360**	
Anticipated Electrical Usage & Costs						
Treatment Pumps				50	$ 599	Based on 18 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Effluent Pumps				5	$ 57	Based on 4 hours/day of operation, 365 days per year, $0.13 per kWatthr.
UV Lamps & Solenoids				4	$ 43	Based on 2 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Misc.				4	$ 43	Based on 6 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Subtotal				**62**	**$ 741**	
Anticipated Annual Billing Cost						
Postage	postage	30	$ 0.64	$ 19.20	$ 230	
Printing	page	120	$ 0.10	$ 12.00	$ 144	
Paper	page	120	$ 0.05	$ 6.00	$ 72	
Labor	page	120	$ 0.50	$ 60.00	$ 720	
Misc.	page	120	$ 0.05	$ 6.00	$ 72	
Subtotal					**$ 1,238**	
TOTAL ESTIMATED EXPENSES					**$ 23,902**	

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Estimated Revenue						
Fees Charged to Customers						
Non Resident Customer Access Fee	Access Fee	2	$ 10.00	$ 20	$ 240	These are billings for non-resident customers billed yearly. Based on $120 per year per non-resident property owner.
Resident Customer Monthly Fee	Monthly Fee	2	$ 44.53	$ 89	$ 1,069	These are billings for resident customers billed monthly. Based on $45 per month per resident customer.
Commercial Overnight Rental property owners	Monthly Fee	26	$ 69.53	$ 1,808	$ 21,693	These are billings for commercial customers billed monthly. Based on $102.53 per month per resident customer.
Tap Fees Collected and escrowed	Tap Fee	2	$ 3,750.00	$ 625	$ 7,500	A one time tap fee required at purchase of property. This fee is transferable to subsequent property owners. $ are in an Escrow
Tap fees that will be collected from unpaid lot owners	Tap Fee	0	$ 3,750.00	$ -	$ -	A one time tap fee required at purchase of property. This fee is transferable to subsequent property owners.
Return Check Fee	Returned check	1	$ 25.00	$ 2	$ 25	Estimate based on experience
Late Fees and Back Payment	Late fee	1	$ 2.00	$ 0	$ 2	Estimate based on experience
Disconnect Fees	Disconnect	1	$ 40.00	$ 3	$ 40	Estimate based on experience
Reconnect Fees	Reconnect	1	$ 50.00	$ 4	$ 50	Estimate based on experience

Subtotal				**$ 2,552**	**$ 30,619**	

Estimated Escrow Requirements						

Escrow Calculations						
Number of years included in calculation					1	
Number of customers					28	
Estimated Annual Non Routine Maintenance					$ 5,360	
Annual Escrow $ per customer					$ 191	

Montly Escrow $ per customer					**$ 15.95**	

Estimated Yearly Income	***2011***				**$ 6,717**	

Lakeside Estates Waste Water Treatment System

Estimated Costs and Revenues For Year 2012

Assumptions:	2012	2013	2014	2015
Total number of lots in subdivision	200	200	200	200
Number of non-resident property owners	3	4	5	6
Number of resident property owners	4	6	8	10
Commercial Overnight Rental property owners	27	28	29	30
Number of property owners not attached to System	6	6	6	6
Unsold lots	160	156	152	148
Annual residents providing tap fee	2	2	2	2

Estimated Expenses

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Routine Maintenance						
Maintenance Operator Cost (Non-resident)	Lots	3	$ 5.00	$ 15	$ 180	Cost based on the amount DSH & Associates will charge to maintain the wastewater system wastewater components for non-resident services.
Maintenance Operator Cost (resident & rental)	Homes	31	$ 16.71	$ 518	$ 6,216	Cost based on the amount DSH & Associates will charge to maintain the wastewater system wastewater components for residence service.
Accounting, tax preparation books setup	Hours	2	$ 50.00	$ 100	$ 1,200	Amount furnished by DSH's CPA - Roger Goins and book keeper.
Tax Cost (Franchise - Excise and Federal)	Homes	31	$ 1.92	$ 60	$ 714	Cost projection includes property tax and income tax. Based on project income, property value, and operating costs
Plant operator salary and testing	Sampling and Testing	12	$ 300.00	$ 300	$ 3,600	Based on pricing provided by our operator, Herb Norton, for monthly and quarterly sampling and testing requirements per our SOP.
Performance Bond	Event	1	$ 400.00	$ 33	$ 400	Set at 2% of the amount from Athens Insurance.
Insurance	Coverage	12	$ 150.00	$ 150	$ 1,800	Based on verbal quote from Athens Insurance.
Office telephone Line	Line	12	$ 55.00	$ 55	$ 660	Office phone line based on experience.
Plant Control System phone line	Line	12	$ 55.00	$ 55	$ 660	The telephone line is necessary for the computer (PLC) automation to call in and report any problem. Based on estimate by local phone company.
Local Managaement Fee	Month	31	$ 2.00	$ 62	$ 744	Based on experience hours and hourly rates on similar projects.
Corporate Management Fee	Month	31	$ 2.80	$ 87	$ 1,042	Based on experience hours and hourly rates on similar projects.
TRA Inspection Fee	Inspection	1	$ 250	$ 21	$ 250	Based on TRA published rates.

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Subtotal				**$ 1,455**	**$ 17,466**	

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Non Routine Maintenance						
Septic tank pumping	Pumping Events	4	$ 240	$ 80	$ 960	Pumping of holding tanks associated with centralized treatment system. Based on $240 per pumping event.
Replacing pump & alarm systems	Replacement	2	$ 1,400	$ 233	$ 2,800	Replacement cost for pumps and alarms associated with centralized treatment system. Assume 1 pump and alarm system will have to be replace once a year for a total event cost of $1400.
Normal wear/tear items, hoses, float switches, lights	Replacement	10	$ 20	$ 17	$ 200	Based on experience hours and hourly rates on similar projects.
UV lamps	Lamp	4	$ 350	$ 117	$ 1,400	Replacement cost for UV lamps associated with the system. The system utilizes 4 lamps. Assume each lamp required replacement once every year. Lamp and labor is approx. $350.
Subtotal		**14**			**$ 5,360**	
Anticipated Electrical Usage & Costs						
Treatment Pumps				52	$ 627	Based on 18 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Effluent Pumps				5	$ 59	Based on 4 hours/day of operation, 365 days per year, $0.13 per kWatthr.
UV Lamps & Solenoids				4	$ 45	Based on 2 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Misc.				4	$ 45	Based on 6 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Subtotal				**65**	**$ 776**	
Anticipated Annual Billing Cost						
Postage	postage	34	$ 0.64	$ 21.76	$ 261	
Printing	page	136	$ 0.10	$ 13.60	$ 163	
Paper	page	136	$ 0.05	$ 6.80	$ 82	
Labor	page	136	$ 0.50	$ 68.00	$ 816	
Misc.	page	136	$ 0.05	$ 6.80	$ 82	
Subtotal					**$ 1,404**	
TOTAL ESTIMATED EXPENSES					**$ 25,005**	

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Estimated Revenue						
Fees Charged to Customers						
Non Resident Customer Access Fee	Access Fee	3	$ 10.00	$ 30	$ 360	These are billings for non-resident customers billed yearly. Based on $120 per year per non-resident property owner.
Resident Customer Monthly Fee	Monthly Fee	4	$ 44.53	$ 178	$ 2,137	These are billings for resident customers billed monthly. Based on $45 per month per resident customer.
Commercial Overnight Rental property owners	Monthly Fee	27	$ 69.53	$ 1,877	$ 22,528	These are billings for commercial customers billed monthly. Based on $102.53 per month per resident customer.
Tap Fees Collected and escrowed	Tap Fee	2	$ 3,750.00	$ 625	$ 7,500	A one time tap fee required at purchase of property. This fee is transferable to subsequent property owners.
Tap fees that will be collected from unpaid lot owners	Tap Fee	0	$ 3,750.00	$ -	$ -	Estimate based on experience
Return Check Fee	Returned check	2	$ 25.00	$ 4	$ 50	Estimate based on experience
Late Fees and Back Payment	Late fee	2	$ 2.00	$ 0	$ 4	Estimate based on experience
Disconnect Fees	Disconnect	1				
Reconnect Fees	Reconnect	1	$ 40.00	$ 3	$ 40	Estimate based on experience

Subtotal				**$ 2,718**	**$ 32,619**	

Estimated Escrow Requirements						

Escrow Calculations						
Number of years included in calculation					1	
Number of customers					31	
Estimated Annual Non Routine Maintenance					$ 5,360	
Annual Escrow $ per customer					$ 173	

Montly Escrow $ per customer					**$ 14.41**	

Estimated Yearly Income	***2012***				**$ 7,614**	

Lakeside Estates Waste Water Treatment System

Estimated Costs and Revenues For Year 2013

Assumptions:	2013	2014	2015
Total number of lots in subdivision	200	200	200
Number of non-resident property owners	4	5	6
Number of resident property owners	6	8	10
Commercial Overnight Rental property owners	28	29	30
Number of property owners not attached to System	6	6	6
Unsold lots	156	152	148
Annual residents providing tap fee	2	2	2

Estimated Expenses

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Routine Maintenance						
Maintenance Operator Cost (Non-resident)	Lots	4	$ 5.00	$ 20	$ 240	Cost based on the amount DSH & Associates will charge to maintain the wastewater system wastewater components for non-resident services.
Maintenance Operator Cost (resident & rental)	Homes	34	$ 16.71	$ 568	$ 6,818	Cost based on the amount DSH & Associates will charge to maintain the wastewater system wastewater components for residence service.
Accounting, tax preparation books setup	Hours	2	$ 50.00	$ 100	$ 1,200	Amount furnished by DSH's CPA - Roger Goins and book keeper.
Tax Cost (Franchise - Excise and Federal)	Homes	34	$ 1.92	$ 65	$ 783	Cost projection includes property tax and income tax. Based on project income, property value, and operating costs
Plant operator salary and testing	Sampling and Testing	12	$ 300.00	$ 300	$ 3,600	Based on pricing provided by our operator, Herb Norton, for monthly and quarterly sampling and testing requirements per our SOP.
Performance Bond	Event	1	$ 400.00	$ 33	$ 400	Set at 2% of the amount from Athens Insurance.
Insurance	Coverage	12	$ 150.00	$ 150	$ 1,800	Based on verbal quote from Athens Insurance.
Office telephone Line	Line	12	$ 55.00	$ 55	$ 660	Office phone line based on experience.
Plant Control System phone line	Line	12	$ 55.00	$ 55	$ 660	The telephone line is necessary for the computer (PLC) automation to call in and report any problem. Based on estimate by local phone company.
Local Managaement Fee	Month	34	$ 2.00	$ 68	$ 816	Based on experience hours and hourly rates on similar projects.
Corporate Management Fee	Month	34	$ 2.80	$ 95	$ 1,142	Based on experience hours and hourly rates on similar projects.
TRA Inspection Fee	Inspection	1	$ 250	$ 21	$ 250	Based on TRA published rates.

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Subtotal				**$ 1,531**	**$ 18,369**	

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Non Routine Maintenance						
Septic tank pumping	Pumping Events	4	$ 240	$ 80	$ 960	Pumping of holding tanks associated with centralized treatment system. Based on $240 per pumping event.
Replacing pump & alarm systems	Replacement	2	$ 1,400	$ 233	$ 2,800	Replacement cost for pumps and alarms associated with centralized treatment system. Assume 1 pump and alarm system will have to be replace once a year for a total event cost of $1400.
Normal wear/tear items, hoses, float switches, lights	Replacement	10	$ 20	$ 17	$ 200	Based on experience hours and hourly rates on similar projects.
UV lamps	Lamp	4	$ 350	$ 117	$ 1,400	Replacement cost for UV lamps associated with the system. The system utilizes 4 lamps. Assume each lamp required replacement once every year. Lamp and labor is approx. $350.
Subtotal		**14**			**$ 5,360**	
Anticipated Electrical Usage & Costs						
Treatment Pumps				55	$ 656	Based on 18 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Effluent Pumps				5	$ 62	Based on 4 hours/day of operation, 365 days per year, $0.13 per kWatthr.
UV Lamps & Solenoids				4	$ 47	Based on 2 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Misc.				4	$ 47	Based on 6 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Subtotal				**68**	**$ 811**	
Anticipated Annual Billing Cost						
Postage	postage	38	$ 0.64	$ 24.32	$ 292	
Printing	page	152	$ 0.10	$ 15.20	$ 182	
Paper	page	152	$ 0.05	$ 7.60	$ 91	
Labor	page	152	$ 0.50	$ 76.00	$ 912	
Misc.	page	152	$ 0.05	$ 7.60	$ 91	
Subtotal					**$ 1,569**	
TOTAL ESTIMATED EXPENSES					**$ 26,109**	

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Estimated Revenue						
Fees Charged to Customers						
Non Resident Customer Access Fee	Access Fee	4	$ 10.00	$ 40	$ 480	These are billings for non-resident customers billed yearly. Based on $120 per year per non-resident property owner.
Resident Customer Monthly Fee	Monthly Fee	6	$ 44.53	$ 267	$ 3,206	These are billings for resident customers billed monthly. Based on $45 per month per resident customer.
Commercial Overnight Rental property owners	Monthly Fee	28	$ 69.53	$ 1,947	$ 23,362	These are billings for commercial customers billed monthly. Based on $102.53 per month per resident customer.
Tap Fees Collected and escrowed	Tap Fee	2	$ 3,750.00	$ 625	$ 7,500	A one time tap fee required at purchase of property. This fee is transferable to subsequent property owners.
Tap fees that will be collected from unpaid lot owners	Tap Fee	0	$ 3,750.00	$ -	$ -	Estimate based on experience
Return Check Fee	Returned check	3	$ 25.00	$ 6	$ 75	Estimate based on experience
Late Fees and Back Payment	Late fee	3	$ 2.00	$ 1	$ 6	Estimate based on experience
Disconnect Fees	Disconnect	1				
Reconnect Fees	Reconnect	1	$ 40.00	$ 3	$ 40	Estimate based on experience

Subtotal				**$ 2,889**	**$ 34,669**	

Estimated Escrow Requirements						

Escrow Calculations						
Number of years included in calculation					1	
Number of customers					34	
Estimated Annual Non Routine Maintenance					$ 5,360	
Annual Escrow $ per customer					$ 158	

Montly Escrow $ per customer					**$ 13.14**	

Estimated Yearly Income	***2013***				**$ 8,560**	

Lakeside Estates Waste Water Treatment System

Estimated Costs and Revenues For Year 2014

Assumptions:	2014	2015
Total number of lots in subdivision	200	200
Number of non-resident property owners	5	6
Number of resident property owners	8	10
Commercial Overnight Rental property owners	29	30
Number of property owners not attached to System	6	6
Unsold lots	152	148
Annual residents providing tap fee	2	2

Estimated Expenses

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Routine Maintenance						
Maintenance Operator Cost (Non-resident)	Lots	5	$ 5.00	$ 25	$ 300	Cost based on the amount DSH & Associates will charge to maintain the wastewater system wastewater components for non-resident services.
Maintenance Operator Cost (resident & rental)	Homes	37	$ 16.71	$ 618	$ 7,419	Cost based on the amount DSH & Associates will charge to maintain the wastewater system wastewater components for residence service.
Accounting, tax preparation books setup	Hours	2	$ 50.00	$ 100	$ 1,200	Amount furnished by DSH's CPA - Roger Goins and book keeper.
Tax Cost (Franchise - Excise and Federal)	Homes	37	$ 1.92	$ 71	$ 852	Cost projection includes property tax and income tax. Based on project income, property value, and operating costs
Plant operator salary and testing	Sampling and Testing	12	$ 300.00	$ 300	$ 3,600	Based on pricing provided by our operator, Herb Norton, for monthly and quarterly sampling and testing requirements per our SOP.
Performance Bond	Event	1	$ 400.00	$ 33	$ 400	Set at 2% of the amount from Athens Insurance.
Insurance	Coverage	12	$ 150.00	$ 150	$ 1,800	Based on verbal quote from Athens Insurance.
Office telephone Line	Line	12	$ 55.00	$ 55	$ 660	Office phone line based on experience.
Plant Control System phone line	Line	12	$ 55.00	$ 55	$ 660	The telephone line is necessary for the computer (PLC) automation to call in and report any problem. Based on estimate by local phone company.
Local Managaement Fee	Month	37	$ 2.00	$ 74	$ 888	Based on experience hours and hourly rates on similar projects.
Corporate Management Fee	Month	37	$ 2.80	$ 104	$ 1,243	Based on experience hours and hourly rates on similar projects.
TRA Inspection Fee	Inspection	1	$ 250	$ 21	$ 250	Based on TRA published rates.

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Subtotal				**$ 1,606**	**$ 19,273**	

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Non Routine Maintenance						
Septic tank pumping	Pumping Events	4	$ 240	$ 80	$ 960	Pumping of holding tanks associated with centralized treatment system. Based on $240 per pumping event.
Replacing pump & alarm systems	Replacement	2	$ 1,400	$ 233	$ 2,800	Replacement cost for pumps and alarms associated with centralized treatment system. Assume 1 pump and alarm system will have to be replace once a year for a total event cost of $1400.
Normal wear/tear items, hoses, float switches, lights	Replacement	10	$ 20	$ 17	$ 200	Based on experience hours and hourly rates on similar projects.
UV lamps	Lamp	4	$ 350	$ 117	$ 1,400	Replacement cost for UV lamps associated with the system. The system utilizes 4 lamps. Assume each lamp required replacement once every year. Lamp and labor is approx. $350.
Subtotal		**14**			**$ 5,360**	
Anticipated Electrical Usage & Costs						
Treatment Pumps				57	$ 684	Based on 18 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Effluent Pumps				5	$ 65	Based on 4 hours/day of operation, 365 days per year, $0.13 per kWatthr.
UV Lamps & Solenoids				4	$ 49	Based on 2 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Misc.				4	$ 49	Based on 6 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Subtotal				**71**	**$ 846**	
Anticipated Annual Billing Cost						
Postage	postage	42	$ 0.64	$ 26.88	$ 323	
Printing	page	168	$ 0.10	$ 16.80	$ 202	
Paper	page	168	$ 0.05	$ 8.40	$ 101	
Labor	page	168	$ 0.50	$ 84.00	$ 1,008	
Misc.	page	168	$ 0.05	$ 8.40	$ 101	
Subtotal					**$ 1,734**	
TOTAL ESTIMATED EXPENSES					**$ 27,213**	

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Estimated Revenue						
Fees Charged to Customers						
Non Resident Customer Access Fee	Access Fee	5	$ 10.00	$ 50	$ 600	These are billings for non-resident customers billed yearly. Based on $120 per year per non-resident property owner.
Resident Customer Monthly Fee	Monthly Fee	8	$ 44.53	$ 356	$ 4,275	These are billings for resident customers billed monthly. Based on $45 per month per resident customer.
Commercial Overnight Rental property owners	Monthly Fee	29	$ 69.53	$ 2,016	$ 24,196	These are billings for commercial customers billed monthly. Based on $102.53 per month per resident customer.
Tap Fees Collected and escrowed	Tap Fee	2	$ 3,750.00	$ 625	$ 7,500	A one time tap fee required at purchase of property. This fee is transferable to subsequent property owners.
Tap fees that will be collected from unpaid lot owners	Tap Fee	0	$ 3,750.00	$ -	$ -	Estimate based on experience
Return Check Fee	Returned check	4	$ 25.00	$ 8	$ 100	Estimate based on experience
Late Fees and Back Payment	Late fee	4	$ 2.00	$ 1	$ 8	Estimate based on experience
Disconnect Fees	Disconnect	1				
Reconnect Fees	Reconnect	1	$ 40.00	$ 3	$ 40	Estimate based on experience

Subtotal				**$ 3,060**	**$ 36,719**	

Estimated Escrow Requirements						

Escrow Calculations						
Number of years included in calculation					1	
Number of customers					37	
Estimated Annual Non Routine Maintenance					$ 5,360	
Annual Escrow $ per customer					$ 145	

Montly Escrow $ per customer					**$ 12.07**	

Estimated Yearly Income	***2014***				**$ 9,507**	

Lakeside Estates Waste Water Treatment System

Estimated Costs and Revenues For Year 2015

Assumptions:	2015
Total number of lots in subdivision	200
Number of non-resident property owners	6
Number of resident property owners	10
Commercial Overnight Rental property owners	30
Number of property owners not attached to System	6
Unsold lots	148
Annual residents providing tap fee	2

Estimated Expenses

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Routine Maintenance						
Maintenance Operator Cost (Non-resident)	Lots	6	$ 5.00	$ 30	$ 360	Cost based on the amount DSH & Associates will charge to maintain the wastewater system wastewater components for non-resident services.
Maintenance Operator Cost (resident & rental)	Homes	40	$ 16.71	$ 668	$ 8,021	Cost based on the amount DSH & Associates will charge to maintain the wastewater system wastewater components for residence service.
Accounting, tax preparation books setup	Hours	2	$ 50.00	$ 100	$ 1,200	Amount furnished by DSH's CPA - Roger Goins and book keeper.
Tax Cost (Franchise - Excise and Federal)	Homes	40	$ 1.92	$ 77	$ 922	Cost projection includes property tax and income tax. Based on project income, property value, and operating costs
Plant operator salary and testing	Sampling and Testing	12	$ 300.00	$ 300	$ 3,600	Based on pricing provided by our operator, Herb Norton, for monthly and quarterly sampling and testing requirements per our SOP.
Performance Bond	Event	1	$ 400.00	$ 33	$ 400	Set at 2% of the amount from Athens Insurance.
Insurance	Coverage	12	$ 150.00	$ 150	$ 1,800	Based on verbal quote from Athens Insurance.
Office telephone Line	Line	12	$ 55.00	$ 55	$ 660	Office phone line based on experience.
Plant Control System phone line	Line	12	$ 55.00	$ 55	$ 660	The telephone line is necessary for the computer (PLC) automation to call in and report any problem. Based on estimate by local phone company.
Local Managaement Fee	Month	40	$ 2.00	$ 80	$ 960	Based on experience hours and hourly rates on similar projects.
Corporate Management Fee	Month	40	$ 2.80	$ 112	$ 1,344	Based on experience hours and hourly rates on similar projects.
TRA Inspection Fee	Inspection	1	$ 250	$ 21	$ 250	Based on TRA published rates.

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Subtotal				**$ 1,681**	**$ 20,176**	

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Non Routine Maintenance						
Septic tank pumping	Pumping Events	4	$ 240	$ 80	$ 960	Pumping of holding tanks associated with centralized treatment system. Based on $240 per pumping event.
Replacing pump & alarm systems	Replacement	2	$ 1,400	$ 233	$ 2,800	Replacement cost for pumps and alarms associated with centralized treatment system. Assume 1 pump and alarm system will have to be replace once a year for a total event cost of $1400.
Normal wear/tear items, hoses, float switches, lights	Replacement	10	$ 20	$ 17	$ 200	Based on experience hours and hourly rates on similar projects.
UV lamps	Lamp	4	$ 350	$ 117	$ 1,400	Replacement cost for UV lamps associated with the system. The system utilizes 4 lamps. Assume each lamp required replacement once every year. Lamp and labor is approx. $350.
Subtotal		**14**			**$ 5,360**	
Anticipated Electrical Usage & Costs						
Treatment Pumps				59	$ 712	Based on 18 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Effluent Pumps				6	$ 67	Based on 4 hours/day of operation, 365 days per year, $0.13 per kWatthr.
UV Lamps & Solenoids				4	$ 51	Based on 2 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Misc.				4	$ 51	Based on 6 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Subtotal				**73**	**$ 881**	
Anticipated Annual Billing Cost						
Postage	postage	46	$ 0.64	$ 29.44	$ 353	
Printing	page	184	$ 0.10	$ 18.40	$ 221	
Paper	page	184	$ 0.05	$ 9.20	$ 110	
Labor	page	184	$ 0.50	$ 92.00	$ 1,104	
Misc.	page	184	$ 0.05	$ 9.20	$ 110	
Subtotal					**$ 1,899**	
TOTAL ESTIMATED EXPENSES					**$ 28,316**	

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Estimated Revenue						
Fees Charged to Customers						
Non Resident Customer Access Fee	Access Fee	6	$ 10.00	$ 60	$ 720	These are billings for non-resident customers billed yearly. Based on $120 per year per non-resident property owner.
Resident Customer Monthly Fee	Monthly Fee	10	$ 44.53	$ 445	$ 5,344	These are billings for resident customers billed monthly. Based on $45 per month per resident customer.
Commercial Overnight Rental property owners	Monthly Fee	30	$ 69.53	$ 2,086	$ 25,031	These are billings for commercial customers billed monthly. Based on $102.53 per month per resident customer.
Tap Fees Collected and escrowed	Tap Fee	2	$ 3,750.00	$ 625	$ 7,500	A one time tap fee required at purchase of property. This fee is transferable to subsequent property owners.
Tap fees that will be collected from unpaid lot owners	Tap Fee	0	$ 3,750.00	$ -	$ -	Estimate based on experience
Return Check Fee	Returned check	5	$ 25.00	$ 10	$ 125	Estimate based on experience
Late Fees and Back Payment	Late fee	5	$ 2.00	$ 1	$ 10	Estimate based on experience
Disconnect Fees	Disconnect	1				
Reconnect Fees	Reconnect	1	$ 40.00	$ 3	$ 40	Estimate based on experience

Subtotal				**$ 3,231**	**$ 38,769**	

Estimated Escrow Requirements						

Escrow Calculations						
Number of years included in calculation					1	
Number of customers					40	
Estimated Annual Non Routine Maintenance					$ 5,360	
Annual Escrow $ per customer					$ 134	

Montly Escrow $ per customer					**$ 11.17**	

Estimated Yearly Income	***2015***				**$ 10,453**	

Lakeside Estates Waste Water Treatment System

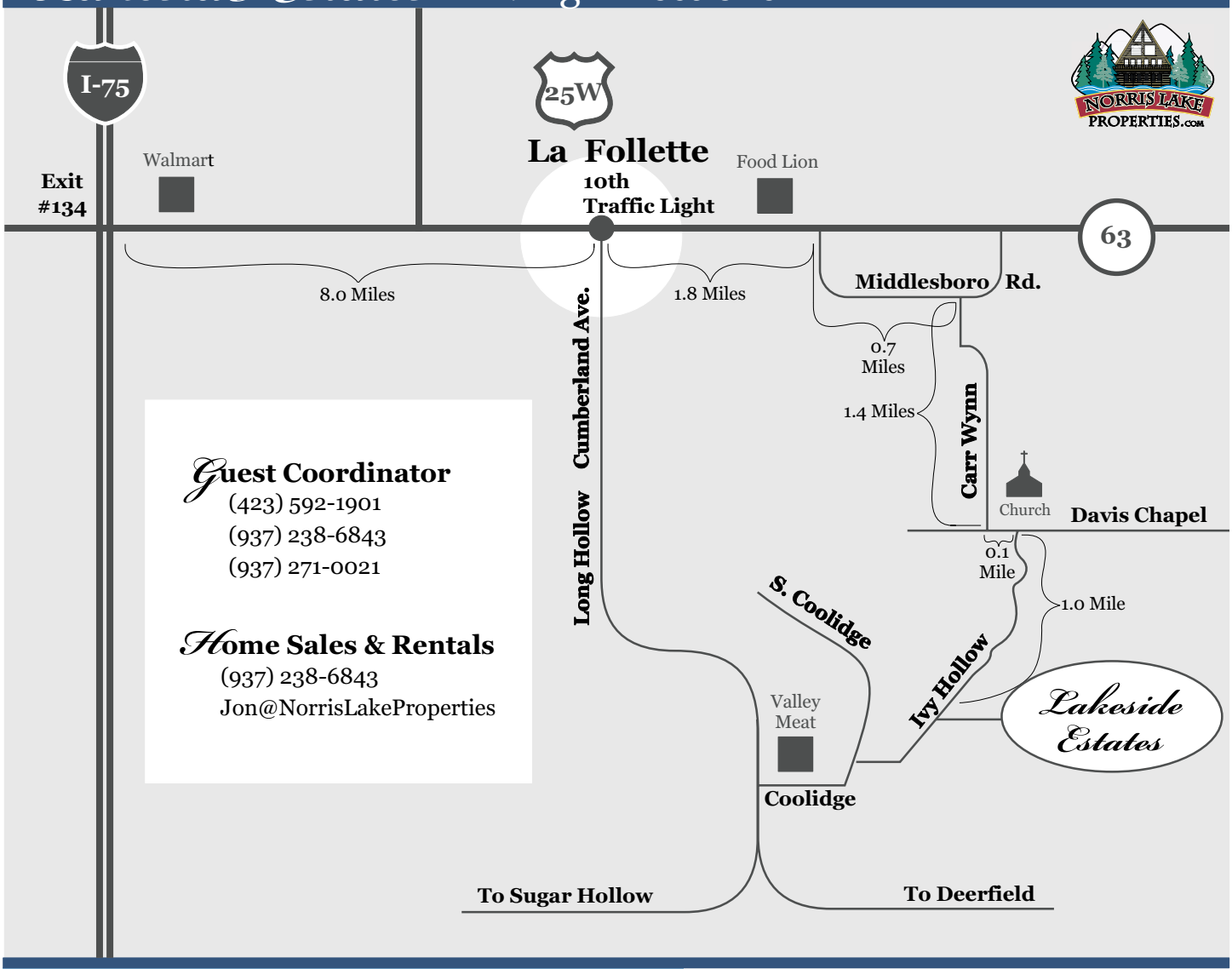
Estimated Costs and Revenues For 5 Years

	2011	2012	2013	2014	2015	Total
Revenue: Monthly Fees	$ 23,119	$ 25,119	$ 27,169	$ 29,219	$ 31,269	**$ 135,896**
Revenue: Placed in Escrow for Future Treatment System Expansion	$ 7,500	$ 7,500	$ 7,500	$ 7,500	$ 7,500	**$ 37,500**
Estimated Expenses	$ 23,902	$ 25,005	$ 26,109	$ 27,213	$ 28,316	**$ 130,545**
Estimate Profit	$ (783)	$ 114	$ 1,060	$ 2,007	$ 2,953	**$ 5,351**

ATTACHEMENT 10:

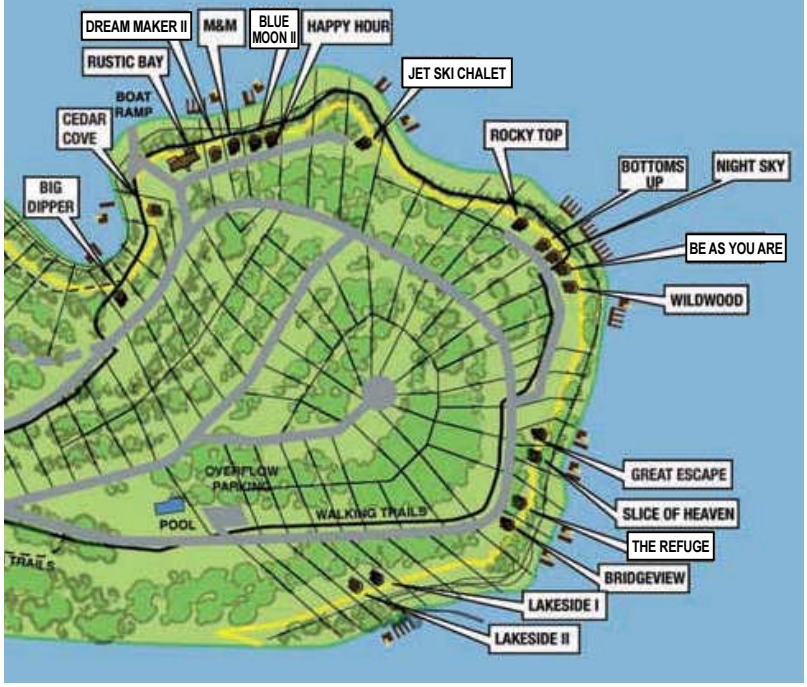
Lakeside Estates Subdivision Plans

Lakeside Estates Driving Directions



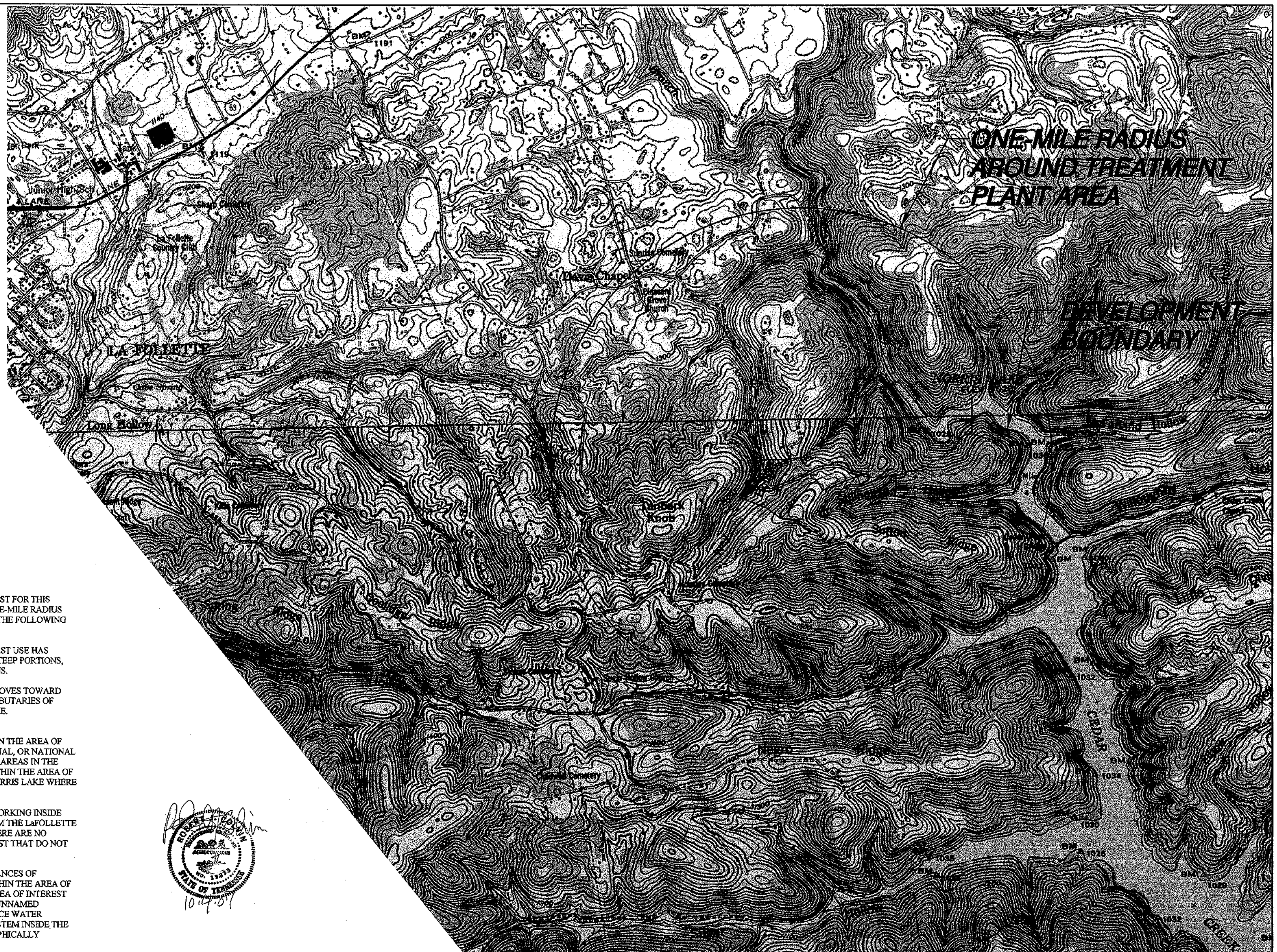
Guest Coordinator
(423) 592-1901
(937) 238-6843
(937) 271-0021

Home Sales & Rentals
(937) 238-6843
Jon@NorrisLakeProperties



DIRECTIONS FROM I-75, EXIT 134:

1. Take SR-63 East for 8 miles to the 10th traffic light in LaFollette.
2. Continue East, through the light for 1.8 miles to Middlesboro Rd.
3. Turn Right on Middlesboro for 7/10 of a mile to Carr Wynn.
4. Turn Right on Carr Wynn for 1.4 miles to Davis Chapel.
5. Turn Left on Davis Chapel for 1/10th of a mile to Ivy Hollow.
6. Turn Right on Ivy Hollow for 1 mile to Lakeside Estates.



AS BEST AS CAN BE DETERMINED, THE AREA OF INTEREST FOR THIS DRIPFIELD (THE AREA LYING WITHIN AND BELOW A ONE-MILE RADIUS OF THE INJECTION WELL PUMP SITE OR FACILITY) HAS THE FOLLOWING CHARACTERISTICS:

BASED ON PUBLIC RECORD, THE AREA'S HISTORICAL PAST USE HAS BEEN AGRICULTURAL (FARMLAND) ALONG THE LESS STEEP PORTIONS, AND WAS UNUSED LAND ALONG THE STEEPER PORTIONS.

THE GROUNDWATER WITHIN THE AREA OF INTEREST MOVES TOWARD CEDAR CREEK, OR TOWARD ONE OF THE UNNAMED TRIBUTARIES OF CEDAR CREEK. THESE ALL FLOW TOWARD NORRIS LAKE.

THERE ARE APPROXIMATELY XX PEOPLE LIVING WITHIN THE AREA OF INTEREST. THERE ARE NO COMMUNITY, STATE, REGIONAL, OR NATIONAL PARKS, WILDLIFE REFUGES, NATURAL OR WILDERNESS AREAS IN THE AREA OF INTEREST. A PORTION OF NORRIS LAKE IS WITHIN THE AREA OF INTEREST, PARTICULARLY BEING THAT PORTION OF NORRIS LAKE WHERE CEDAR CREEK FLOWS INTO NORRIS LAKE.

WATER IS SUPPLIED TO THOSE PERSONS LIVING AND WORKING INSIDE THE AREA OF INTEREST BY PUBLIC SATER SUPPLY FROM THE LaFOLLETTE UTILITY BOARD. AS BEST AS CAN BE DETERMINED, THERE ARE NO INHABITED STRUCTURES WITHIN THE AREA ON INTEREST THAT DO NOT HAVE ACCESS TO A PUBLIC DRINKING WATER SUPPLY.

AS BEST AS CAN BE DETERMINED, THERE ARE NO INSTANCES OF GROUNDWATER BEING USED AS DRINKING WATER WITHIN THE AREA OF INTEREST. THE ONLY BODIES OF WAER WITHIN THE AREA OF INTEREST ARE A PORTION OF NORRIS LAKE, CEDAR CREEK, AND UNNAMED TRIBUTARIES TO CEDAR CREEK. THERE ARE NO SURFACE WATER INTAKES SUPPLYING PUBLIC WATER DISTRIBUTION SYSTEM INSIDE THE AREA OF INTEREST OR WITHIN THREE MILES TOPOGRAPHICALLY DOWNGRADIENT FROM THE FACILITY.

ROBERT G. BOWIN — STATE OF TENNESSEE — NO. 19873 — 10-4-07

NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

RGC&A — **ROBERT G. CAMPBELL & ASSOC., L.P.** CONSULTING ENGINEERS KNOXVILLE, TENNESSEE

LAKESIDE ESTATES SANITARY SEWER SYSTEM

LOCATION MAP & AREA OF INTEREST

DESIGNED BY	CHECKED BY	SCALE	SHEET
AWO	RJC	1"=1000'	NO. 4
DRAWN BY	DATE	FILE NO.	
AWO	10/4/2007	06106	OF 5 SHEETS

L:\GENERAL\2006\06106\06106_wotew.dgn 10/3/2007 5:53:56 PM

LAFOLLETTE UTILITIES BOARD

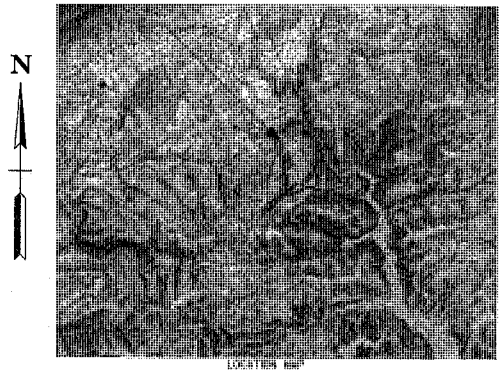
CAMPBELL COUNTY, TENNESSEE

4008
Tallulena Ave
Knoxville 37919

SANITARY SEWER SYSTEM

FOR

LAKESIDE ESTATES



APPROVED BY:

Eddie G. Troxell

EDDIE TROXELL
SUPERINTENDENT OF WATER OPERATIONS
LAFOLLETTE UTILITIES BOARD

RGC&A

ROBERT G. CAMPBELL & ASSOCIATES , L.P.
CONSULTING ENGINEERS
KNOXVILLE , TENNESSEE

ATTACHEMENT 11:

Chart of Accounts

DSH & Associates, LLC	9:03 AM
Account Listing	1/1/2011
January 1, 2011	
Account	**Balance**
131.10 BB&T CHECKING	$ 100.00
131.50 PETTY CASH	
132.00 SPECIAL DEPOSITS	
141.00 - CUSTOMER ACCOUNTS RECEIVABLE	
143.00 • ACC PROVIS UNCOLLECTIBLE ACCTS	
151.00 PLANT MATERIAL & SUPPLIES	
174.00 - MISC CURRENT & ACCRUED ASSETS	
186.00 • MISC DEFERRED DEBITS	
190.00 • ACC DEFERRED INCOME TAXES	
101.00 • UTILITY PLANT IN SERVICE	
101.00 UTILITY PLANT IN SERVICE:351.00 ORGANIZATION (DUES & FEES)	
101.00 UTILITY PLANT IN SERVICE:353.00 LAND & LAND RIGHTS	
101 00 UTILITY PLANT IN SERVICE:354.00 STRUCTURES & IMPROVEMENTS	
101.00 UTILITY PLANT IN SERVICE:355.00 - POWER GENERATION EQUIPMENT	
101 00 UTILITY PLANT IN SERVICE:360.00 • COLLECTING SEWERS - FORCE	
101.00 UTILITY PLANT IN SERVICE!361_00 COLLECTING SEWERS • GRAVITY	
101.00 - UTILITY PLANT IN SERVICE:361.00 • COLLECTING SEWERS - GRAVITY:361.10 MANHOLES	
101.00 • UTILITY PLANT IN SERVICE:362.00 • SPECIAL COLLECTING SERVICES	
101.00 UTILITY PLANT fN SERVICE:362 00 SPECIAL COLLECTING SERVICES:362.10 UNDERGROUND TANKS	
101.00 • UTILITY PLANT IN SERVICE:363.00 SERVICES TO CUSTOMERS	
101.00 UTILITY PLANT IN SERVICE:364.00 FLOW MEASURING DEVICES	
101.00 • UTILITY PLANT IN SERVICE:365.00 • FLOW MEASURING INSTALLATIONS	
101 00 • UTILITY PLANT IN SERVICE:370.00 RECEIVING WELLS	
101 00 • UTILITY PLANT IN SERVICE:380.00 • TREATMENT & DISPOSAL EQUIP	
101.00 • UTILITY PLANT IN SERVICE:381.00 • PLANT SEWERS	
101.00 UTILITY PLANT IN SERVICE:382.00 • OUTFALL SEWER LINES	
101.00 UTILITY PLANT IN SERVICE:389.00 • OTHER PLANT & MISC EQUIP	
101.00 • UTILITY PLANT IN SERVICE:390.00 - OFFICE FURNITURE *&* EQUIPMENT	
101.00 UTILITY PLANT IN SERV10E:391 00 TRANSPORTATION EQUIPMENT	
101.00 - UTILITY PLANT IN SERVICE:393.00 TOOLS, SHOP & GARAGE EQUIP	
101.00 • UTILITY PLANT IN SERVICE:395.00 • POWER OPERATED EQUIPMENT	
101.00 - UTILITY PLANT IN SERVICE:398.00 OTHER TANGIBLE PLANT	
105.00 CONSTRUCTION WORK IN PROGRESS	
108.00 • ACC DEPREG(PLANT IN SERVICE)	
114 00 UTILITY PLANT ACQUISITION ADJ	Page 1 of (;

DSH & Associates, LLC	9:03 AM
Account Listing	1/1/2011
January 1, 2011	

Account	Balance
115.00 ACC AMORT UTILITY PLANT ACQ ADJ	
121.00 NONUTILITY PROPERTY	
122.00 • ACC DEP & AMORT NONUTILITY PROP	
103.00 PROPERTY HELD FOR FUTURE USE	
124.00 . UTILITY INVESTMENTS	
231.00 - ACCOUNTS PAYABLE	
232.00 • NOTES PAYABLE	
232.10 - BB&T CREDIT CARD 1 (Doug Hodge)	
232.20 - BB&T CREDIT CARD 2 (Bert Ballowe)	
232 00 - NOTES PAYABLE:232.50 LOAN FROM Doug Hodge	
235.00 - CUSTOMER DEPOSITS	
236.00 • ACCRUED TAXES	
236.00 - ACCRUED TAXES:236.10 • PAYROLL LIABILITIES	
236.00 • ACCRUED TAXES:236.20 PROPERTY TAXES	
236.00 - ACCRUED TA.XES:236.50 - STATE TAXES	
235.00 - ACCRUED TAXES:236.60 - FEDERAL TAXES	
237.00 ACCRUED INTERST	
241.00 , MISC CURRENT & ACCRUED LIABIL	
252 00 • ADVANCES FOR CONSTRUCTION	
253 00 OTHER DEFERRED CREDITS	
255.00 - ACC DEFERRED INVESTMENT TAX CR	
271.00 • CONTRIB IN AID OF CONSTRUCTION	
272.00 - ACC AMORT OF 271.00	
412.00 - INVESTMENT TAX CREDITS	
412.00 - INVESTMENT TAX CREDITS:412.10 DEFERRED TO FUTURE, UTILITY CPS	
412.00 - INVESTMENT TAX CREDITS:412.11 RESTORED TO OPERATING INCOME	
412.00 - INVESTMENT TAX CREDITS:412 20 NET. NONUTILITY OPERATIONS	
412.00 • INVESTMENT TAX CREDITS:412.30 RESTORED TO NONOPERATING INCOME	
224.00 OTHER LONG-TERM DEBT	
265.00 MISC OPERATING RESERVES	
201.00 COMMON STOCK ISSUED	
204.00 • PREFERRED STOCK ISSUED	
211.00 OTHER PAID-IN CAPITAL	
215.00 . RETAINED EARNINGS	
400.00 - OPERATING REVENUES	Page 1 of (;

DSH & Associates, LLC	9:03 AM
Account Listing	1/1/2011
January 1, 2011	

Account	Balance
400.00 • OPERATING REVENUES: 521.00 FLAT RATE REVENUES	
400.00 - OPERATING REVENUES 521.00 FLAT RATE REVENUES:521 10 RESIDENTIAL REVENUES	
400.00 - OPERATING REVENUES:521.00 • FLAT RATE REVENUES:521.20 • COMMERCIAL REVENUES	
400.00 • OPERATING REVENUES:521.00 • FLAT RATE REVENUES:521.30 - INDUSTRIAL REVENUES	
400.00 • OPERATING REVENUES:521.00 - FLAT RATE REVENUES:521.40 PUBLIC AUTHORITIES	
400.00 • OPERATING REVENUES:521.00 FLAT RATE REVENUES:521.50 MULTIPLE FAMILY DWELLING	
400.00 - OPERATING REVENUES:521.00 FLAT RATE REVENUES:521.60 OTHER REVENUES	
400.00 - OPERATING REVENUES:522.00 • MEASURED REVENUES	
400,00 • OPERATING REVENUES:522.00 - MEASURED REVENUES522.10 • RESIDENTIAL REVENUES	
400.00 • OPERATING REVENUES:522.00 - MEASURED REVENUES:522.20 • COMMERCIAL REVENUES	
400.00 OPERATING REVENUES:522.00 - MEASURED REVENUES:522.30 • INDUSTRIAL REVENUES	
400.00 • OPERATING REVENUES:522.00 • MEASURED REVENUES:522.40 • PUBLIC AUTHORITIES	
400.00 OPERATING REVENUES:522.00 • MEASURED REVENUES:522.50 MULTIPLE FAMILY DWELLING	
419.00 INTEREST & DIVIDEND INCOME	
421.00 • NON UTILITY INCOME	
524.00 REVENUES FROM OTHER SYSTEMS	
530.00 • GUARANTEED REVENUES	
536 00 • OTHER WASTEWATER REVENUES	
401.00 - OPERATING EXPENSES	
401.00 - OPERATING EXPENSES:701.00 SALARIES & WAGES - EMPLOYEES	
401.00 - OPERATING EXPENSES:703.00 - SALARIES & WAGES - OFFICERS	
401.00 • OPERATING EXPENSES:704.00 EMPLOYEE PENSIONS & BENEFITS	
401.00 OPERATING EXPENSES:710.00 - PURCHASED WASTEWATER TREATMENT	
401.00 • OPERATING EXPENSES:711.00 • SLUDGE REMOVAL EXPENSE	
401.00 - OPERATING EXPENSES-715.00 POWER PURCHASED(Electric)	
401.00 OPERATING EXPENSES:716.00 FUEL FOR POWER PRODUCTION	
401.00 - OPERATING EXPENSES:718.00 CHEMICALS	
401.00 • OPERATING EXPENSES:720.00 MATERIALS & SUPPLIES	
401.00 - OPERATING EXPENSES:730.00 • CONTRACT SERVICES - BILLING	
401.00 • OPERATING EXPENSES:731.00 • CONTRACT SERVICES-PROFESSIONAL	
401.00 OPERATING EXPENSES:735.00 • CONTRACT SERVICES-TESTING	
401.00 • OPERATING EXPENSES:736.00 • CONTRACT SERVICES-OTHER	
401.00 OPERATING EXPENSES:740.00 RENTS	
401.00 - OPERATING EXPENSES:750.00 TRANSPORTATION EXPENSES	
401.00- OPERATING EXPENSES:755.00 INSURANCE EXPENSE	Page 1 of (;

DSH & Associates, LLC	9:03 AM
Account Listing	1/1/2011
January 1, 2011	
Account	**Balance**
401.00 • OPERATING ExRENSES:755.00 - INSURANCE EXPENSE:755.10 INSURANCE BOND	
401.00 - OPERATING EXPENSES.755.00 - INSURANCE EXPENSE˙755.20 LIABILITY INSURANCE	
401.00 - OPERATING EXPENSES:755.00 • INSURANCE EXPENSE:755.40 TRANSPORATION INSURANCE	
401.00 - OPERATING EXPENSES:755.00 • INSURANCE EXPENSE:755.80 - WORKER'S COMPENSATION	
401.00 OPERATING EXPENSES:765.00 • REGULATORY COMMISSION EXPENSES	
401.00 OPERATING EXPENSES:770.00 • BAD DEBT EXPENSE	
401.00 • OPERATING EXPENSES:775.00 • MISCELLANEOUS EXPENSES	
403.00 - DEPRECIATION EXPENSES	
406.00 • AMORT OF UTILITY PLANT ACQ ADJ	
407.00 AMORTIZATION EXPENSE - OTHER	
408.00 • TAXES (NOT INCOME)	
408.00 • TAXES (NOT INCOME):408.10 • LOCAL TAXES	
408.00 TAXES (NOT INCOME):408.10 LOCAL TAXES:408.101 JEFFERSON CO BUSINESS TAX	
408.00 - TAXES (NOT INCOME):408.10 - LOCAL TAXES:408.102 PROPERTY TAX	
408.00 • TAXES (NOT INCOME):408 20 STATE TAXES	
408.00 TAXES (NOT INCOME):408.20 STATE TAXES:408.201 - CORPORATE ANNUAL REPORT	
408.00 - TAXES (NOT INCOME):408.20 • STATE TAXES:408.202 • FRANCISE & EXCISE	
408.00 TAXES (NOT INCOME):408.20 STATE TAXES:408.203 • STATE UNEMPLOYMENT (SUTA)	
408.00 • TAXES (NOT INCOME):408.20 - STATE TAXES:408.204 - TENN SALES TAX	
408.00 • TAXES (NOT INCOME)-408.30 FEDERAL TAXES	
408.00 • TAXES (NOT INCOME):408.30 - FEDERAL TAXES:408.301 FEDERAL UNEMPLOYMENT (FUTA)	
408.00 - TAXES (NOT INCOME).408.30 FEDERAL TAXES-408.302 • PAYROLL TAXES	
409.00 • INCOME TAXES	
409.00 • INCOME TAXES:409.10 - UTILITY OPERATING INCOME	
409.00 • INCOME TAXES˙409.20 OTHER INCOME & DEDUCTIONS	
410.00 PROVISION DEFERRED INCOME TAX	
410.00 PROVISION DEFERRED INCOME TAX:410.10 • DEFERRED INCOME TAXES	
410 00 . PROVISION DEFERRED INCOME TAX:410.20 • OTHER INCOME & DEDUCTIONS	
411.00 • PROV DEFERRED INCOME TAXES-CR	
411.00 • PROV DEFERRED INCOME TAXES-CR:411.10 UTILITY, OPERATING INCOME	
411.00 • PROV DEFERRED INCOME TAXES-CR:411 20 OTHER INCOME & DEDUCTIONS	
426.00 MISC NON UTILITY EXPENSES	
427 00 - INTEREST EXPENSE	

ATTACHEMENT 12:

Performance Bond

CORPORATE SURETY BOND

Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, Tennessee 37243-0505

REFERENCE: DSH & Associates, LLC

Company ID: _____
Corporate Surety Bond #: 0010226
Effective Date: 1/31/11
Expiration Date: 1/31/12

DSH & Associates, LLC, as Principal, and Companion Property and Casualty Insurance Company, a corporation created and existing under the laws of _____, as Surety, (Hereinafter called "Surety") are bound to the State of Tennessee in the sum of exactly Twenty Thousand and 00/100 Dollars ($20,000), and Principal and Surety hereby bind themselves, their successors and assigns, to pay in accordance with the following terms:

THE CONDITION OF THIS BOND IS:

The Principal is or intends to become a public wastewater utility subject to the laws of the State of Tennessee and the rules and regulations of the Tennessee Regulatory Authority ("Authority"), relating to the operation of a public wastewater utility: (describe utility and location Lakeside Estates Wastewater Collection and Treatment System, LaFollette TN).

Tennessee Code Annotated § 65-4-201 requires the holder of a franchise for wastewater service to furnish a bond with sufficient surety, as approved by the Authority, conditioned as prescribed in Tenn. Comp. R. & Regs. Chapter 1220-4-13.

The Principal and Surety have delivered to the Authority a Surety Bond with an endorsement as required by the Authority.

After notice to the Principal and Surety and a contested case hearing that results in the suspension or revocation of the Principal's Certificate of Public Convenience and Necessity (CCN), the replacement of an operator by the Authority, or the appointment of a receiver by a court, the Authority may assess a sum sufficient of this bond, up to its maximum sum, to enable the continued operation of the public wastewater utility.

The Principal and the Surety are held and firmly bound to the State of Tennessee, in accordance with the provisions of Tenn. Comp. R. & Regs. Chapter 1220-4-13, in the amount of Twenty Thousand Dollars ($ 20,000) lawful money of the United States of America to be used for the full and prompt payment of any monetary obligation imposed against the Principal, its representatives, successors or assigns, in any contested case proceeding brought under Chapter 1220-4-13, by or on behalf of the Authority, for which obligation the Principal and the Surety bind themselves, their representatives, successors and assigns, each jointly and severally, firmly and unequivocally by these presents.

Upon entry of an Order that finds a monetary obligation pursuant to Chapter 1220-4-13, and delivery to the Surety of a Bond Notice, substantially in the form set forth below ("Notice"), the Surety promises to pay, by wire transfer of immediately available funds, the amount of the monetary obligation as stated in the Order and Notice.

If for any reason, the Surety Bond is not to be renewed upon its expiration, the Surety shall, at least sixty (60) days prior to the expiration date of the Surety Bond, provide written notification by means of certified mail, return receipt requested, to the Tennessee Regulatory Authority, that the Surety Bond will not be renewed beyond the then current maturity date for an additional period. Before the date of expiration, the public wastewater utility shall provide the Tennessee Regulatory Authority with a replacement Surety Bond or petition consistent with Rule 1220-4-13-.07(5). Failure to have approved financial security in effect will subject the public wastewater utility to daily penalties pursuant to Tenn. Code Ann. § 65-4-120.

The bond shall become effective after execution by the Principal and Surety and upon filing with the Authority, and shall continue from year to year unless the obligations of the Principal under this bond are expressly released by the Authority in writing.

The Principal and Surety consent to the conditions of this Bond and agree to be bound by them.

This 31st day of January 20 11.

_____
(Principal)

Companion Property and Casualty Insurance Co.
(Surety)

By: David R. Brett
David R. Brett, Attorney-in-Fact

June, 2006

COMPANION PROPERTY AND CASUALTY INSURANCE COMPANY

P.O. Box 100165 (29202)
51 Clemson Road
Columbia, SC 29229

GENERAL POWER OF ATTORNEY

Know all men by these Presents, that the COMPANION PROPERTY AND CASUALTY INSURANCE COMPANY had made, Constituted and appointed, and by these presents does make, Constitute and appoint Andrew C. Heaner of Atlanta, Georgia; Richard L. Shanahan of Atlanta, Georgia; Stefan E. Tauger of Parker, Colorado; Arthur S. Johnson of Atlanta, Georgia; Martha G. Ross of Charlotte, North Carolina; James E. Feldner of West Lake, Ohio; Jeffery L. Booth of Parma, Ohio; Cheryl L. Torrao of Lutz, Florida; Melanie J. Stokes of Atlanta, Georgia; Garry W. Black of Murfreesboro, Tennessee; David R. Brett of Columbia, South Carolina; Donald J. Kersey of Birmingham, Alabama; Donald H. Gibbs of Atlanta, Georgia; Diane L. McLain of Fitchburg, Wisconsin; Julie Deupree of Birmingham, Alabama; Jason S. Centrella of Jacksonville, Florida; or Brian Clark of Charlotte, North Carolina, EACH as its true and lawful attorney for it and its name, place and stead to execute on behalf of the said company, as surety, bonds, undertakings and contracts of suretyship to be given to all obligees provided that no bond or undertaking or contract of suretyship executed under this authority shall exceed in amount of the sum of **$1,000,000 (One Million dollars).**

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted pursuant to due authorization by the Executive Committee of the Board of Directors of the COMPANION PROPERTY AND CASUALTY INSURANCE COMPANY on the 19th day of May, 2008.

RESOLVED, that the Chairman, President or any Vice President of the Company be, and that each or any of them hereby is, authorized to execute Powers of Attorney qualifying the attorney named in the given Power of Attorney to execute in behalf of the COMPANION PROPERTY AND CASUALTY INSURANCE COMPANY bonds, undertakings and all contracts of suretyship; and that any Officer, Secretary or any Assistant Secretary be, and that each or any of them hereby is, authorized to attest the execution of any such Power of Attorney, and to attach thereto the seal of the Company.

FURTHER RESOLVED, that the signature of such officers and the seal of the Company may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be valid and binding upon the Company when so affixed and in the future, with respect to any bond undertaking or contract of suretyship to which it is attached.

In Witness Whereof, the COMPANION PROPERTY AND CASUALTY INSURANCE COMPANY has caused its official seal to be hereto affixed, and these presents to be signed by its President and attested by its Vice President this 16th day of AUGUST, 2010.

Attest: COMPANION PROPERTY AND CASUALTY INSURANCE COMPANY

By: _____
Charles M. Potok, President

_____
Curtis C. Stewart, Vice President & CFO

STATE OF SOUTH CAROLINA
COUNTY OF RICHLAND
On this 16th day of August, 2010, before me personally came the above named officers to me known, who being by me duly sworn, did depose and say that they reside in Columbia, in the County of Richland, State of SC, at Columbia; that they are the President and Vice President & CFO of COMPANION PROPERTY AND CASUALTY INSURANCE COMPANY, the corporation described in and which executed the above instrument; that they know the seal of the said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed and that they signed their names thereto pursuant to due authorization.

_____ Notary Public, State of SC, qualified in Richland County Commission Expires: 7/16/14

STATE OF SOUTH CAROLINA
COUNTY OF RICHLAND
I, the undersigned, an officer of COMPANION PROPERTY AND CASUALTY INSURANCE COMPANY, a South Carolina Corporation DO HEREBY CERTIFY that the foregoing and attached Power of Attorney remains in full force and has not been revoked; and furthermore, that the Resolution of the Executive Committee of the Board of Directors set forth in the Power of Attorney is now in force.

Signed and sealed at the City of Columbia, Dated the 31st. day of January, 2011.

Bond No. 0010226

_____
Curtis C. Stewart, Vice President & CFO

Number 28876

ATTACHEMENT 13:

Pro Forma Income Statement (2-yr)

Lakeside Estates Waste Water Treatment System

Estimated Costs and Revenues For Year 2011

Assumptions:	2011	2012	2013	2014	2015	Total
Total number of lots in subdivision	200	200	200	200	200	
Number of non-resident property owners	2	3	4	5	6	
Number of resident property owners	2	4	6	8	10	
Commercial Overnight Rental property owners	26	27	28	29	30	
Number of property owners not attached to System	6	6	6	6	6	
Unsold lots	164	160	156	152	148	
Annual residents providing tap fee	2	2	2	2	2	10

Estimated Expenses

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Routine Maintenance						
Maintenance Operator Cost (Non-resident)	Lots	2	$ 5	$ 10	$ 120	Cost based on the amount DSH & Associates will charge to maintain the wastewater system wastewater components for non-resident services.
Maintenance Operator Cost (resident & rental)	Homes	28	$ 16.71	$ 468	$ 5,615	Cost based on the amount DSH & Associates will charge to maintain the wastewater system wastewater components for residence service.
Accounting, tax preparation books setup	Hours	2	$ 50	$ 100	$ 1,200	Amount furnished by DSH's CPA - Roger Goins and book keeper.
Tax Cost (Franchise - Excise and Federal)	Homes	28	$ 1.92	$ 54	$ 645	Cost projection includes property tax and income tax. Based on project income, property value, and operating costs
Plant operator salary and testing	Sampling and Testing	12	$ 300	$ 300	$ 3,600	Based on pricing provided by our operator, Herb Norton, for monthly and quarterly sampling and testing requirements per our SOP.
Performance Bond	Event	1	$ 400	$ 33	$ 400	Set at 2% of the amount from Athens Insurance.
Insurance	Coverage	12	$ 150	$ 150	$ 1,800	Based on verbal quote from Athens Insurance.
Office telephone Line	Line	12	$ 55	$ 55	$ 660	Office phone line based on experience.
Plant Control System phone line	Line	12	$ 55	$ 55	$ 660	The telephone line is necessary for the computer (PLC) automation to call in and report any problem. Based on estimate by local phone company.
Local Managaement Fee	Month	28	$ 2.00	$ 56	$ 672	Based on experience hours and hourly rates on similar projects.
Corporate Management Fee	Month	28	$ 2.80	$ 78	$ 941	Based on experience hours and hourly rates on similar projects.
TRA Inspection Fee	Inspection	1	$ 250	$ 21	$ 250	Based on TRA published rates.
Subtotal				**$ 1,380**	**$ 16,562**	

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Non Routine Maintenance						
Septic tank pumping	Pumping Events	4	$ 240	$ 80	$ 960	Pumping of holding tanks associated with centralized treatment system. Based on $240 per pumping event.
Replacing pump & alarm systems	Replacement	2	$ 1,400	$ 233	$ 2,800	Replacement cost for pumps and alarms associated with centralized treatment system. Assume 1 pump and alarm system will have to be replace once a year for a total event cost of $1400.
Normal wear/tear items, hoses, float switches, lights	Replacement	10	$ 20	$ 17	$ 200	Based on experience hours and hourly rates on similar projects.
UV lamps	Lamp	4	$ 350	$ 117	$ 1,400	Replacement cost for UV lamps associated with the system. The system utilizes 4 lamps. Assume each lamp required replacement once every year. Lamp and labor is approx. $350.
Subtotal		**14**			**$ 5,360**	
Anticipated Electrical Usage & Costs						
Treatment Pumps				50	$ 599	Based on 18 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Effluent Pumps				5	$ 57	Based on 4 hours/day of operation, 365 days per year, $0.13 per kWatthr.
UV Lamps & Solenoids				4	$ 43	Based on 2 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Misc.				4	$ 43	Based on 6 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Subtotal				**62**	**$ 741**	
Anticipated Annual Billing Cost						
Postage	postage	30	$ 0.64	$ 19.20	$ 230	
Printing	page	120	$ 0.10	$ 12.00	$ 144	
Paper	page	120	$ 0.05	$ 6.00	$ 72	
Labor	page	120	$ 0.50	$ 60.00	$ 720	
Misc.	page	120	$ 0.05	$ 6.00	$ 72	
Subtotal					**$ 1,238**	
TOTAL ESTIMATED EXPENSES					**$ 23,902**	

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Estimated Revenue						
Fees Charged to Customers						
Non Resident Customer Access Fee	Access Fee	2	$ 10.00	$ 20	$ 240	These are billings for non-resident customers billed yearly. Based on $120 per year per non-resident property owner.
Resident Customer Monthly Fee	Monthly Fee	2	$ 44.53	$ 89	$ 1,069	These are billings for resident customers billed monthly. Based on $45 per month per resident customer.
Commercial Overnight Rental property owners	Monthly Fee	26	$ 69.53	$ 1,808	$ 21,693	These are billings for commercial customers billed monthly. Based on $102.53 per month per resident customer.
Tap Fees Collected and escrowed	Tap Fee	2	$ 3,750.00	$ 625	$ 7,500	A one time tap fee required at purchase of property. This fee is transferable to subsequent property owners. $ are in an Escrow
Tap fees that will be collected from unpaid lot owners	Tap Fee	0	$ 3,750.00	$ -	$ -	A one time tap fee required at purchase of property. This fee is transferable to subsequent property owners.
Return Check Fee	Returned check	1	$ 25.00	$ 2	$ 25	Estimate based on experience
Late Fees and Back Payment	Late fee	1	$ 2.00	$ 0	$ 2	Estimate based on experience
Disconnect Fees	Disconnect	1	$ 40.00	$ 3	$ 40	Estimate based on experience
Reconnect Fees	Reconnect	1	$ 50.00	$ 4	$ 50	Estimate based on experience

Subtotal				**$ 2,552**	**$ 30,619**	

Estimated Escrow Requirements						

Escrow Calculations						
Number of years included in calculation					1	
Number of customers					28	
Estimated Annual Non Routine Maintenance					$ 5,360	
Annual Escrow $ per customer					$ 191	

Montly Escrow $ per customer					**$ 15.95**	

Estimated Yearly Income	***2011***				**$ 6,717**	

Lakeside Estates Waste Water Treatment System

Estimated Costs and Revenues For Year 2012

Assumptions:	2012	2013	2014	2015
Total number of lots in subdivision	200	200	200	200
Number of non-resident property owners	3	4	5	6
Number of resident property owners	4	6	8	10
Commercial Overnight Rental property owners	27	28	29	30
Number of property owners not attached to System	6	6	6	6
Unsold lots	160	156	152	148
Annual residents providing tap fee	2	2	2	2

Estimated Expenses

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Routine Maintenance						
Maintenance Operator Cost (Non-resident)	Lots	3	$ 5.00	$ 15	$ 180	Cost based on the amount DSH & Associates will charge to maintain the wastewater system wastewater components for non-resident services.
Maintenance Operator Cost (resident & rental)	Homes	31	$ 16.71	$ 518	$ 6,216	Cost based on the amount DSH & Associates will charge to maintain the wastewater system wastewater components for residence service.
Accounting, tax preparation books setup	Hours	2	$ 50.00	$ 100	$ 1,200	Amount furnished by DSH's CPA - Roger Goins and book keeper.
Tax Cost (Franchise - Excise and Federal)	Homes	31	$ 1.92	$ 60	$ 714	Cost projection includes property tax and income tax. Based on project income, property value, and operating costs
Plant operator salary and testing	Sampling and Testing	12	$ 300.00	$ 300	$ 3,600	Based on pricing provided by our operator, Herb Norton, for monthly and quarterly sampling and testing requirements per our SOP.
Performance Bond	Event	1	$ 400.00	$ 33	$ 400	Set at 2% of the amount from Athens Insurance.
Insurance	Coverage	12	$ 150.00	$ 150	$ 1,800	Based on verbal quote from Athens Insurance.
Office telephone Line	Line	12	$ 55.00	$ 55	$ 660	Office phone line based on experience.
Plant Control System phone line	Line	12	$ 55.00	$ 55	$ 660	The telephone line is necessary for the computer (PLC) automation to call in and report any problem. Based on estimate by local phone company.
Local Managaement Fee	Month	31	$ 2.00	$ 62	$ 744	Based on experience hours and hourly rates on similar projects.
Corporate Management Fee	Month	31	$ 2.80	$ 87	$ 1,042	Based on experience hours and hourly rates on similar projects.
TRA Inspection Fee	Inspection	1	$ 250	$ 21	$ 250	Based on TRA published rates.

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Subtotal				**$ 1,455**	**$ 17,466**	

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Non Routine Maintenance						
Septic tank pumping	Pumping Events	4	$ 240	$ 80	$ 960	Pumping of holding tanks associated with centralized treatment system. Based on $240 per pumping event.
Replacing pump & alarm systems	Replacement	2	$ 1,400	$ 233	$ 2,800	Replacement cost for pumps and alarms associated with centralized treatment system. Assume 1 pump and alarm system will have to be replace once a year for a total event cost of $1400.
Normal wear/tear items, hoses, float switches, lights	Replacement	10	$ 20	$ 17	$ 200	Based on experience hours and hourly rates on similar projects.
UV lamps	Lamp	4	$ 350	$ 117	$ 1,400	Replacement cost for UV lamps associated with the system. The system utilizes 4 lamps. Assume each lamp required replacement once every year. Lamp and labor is approx. $350.
Subtotal		**14**			**$ 5,360**	
Anticipated Electrical Usage & Costs						
Treatment Pumps				52	$ 627	Based on 18 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Effluent Pumps				5	$ 59	Based on 4 hours/day of operation, 365 days per year, $0.13 per kWatthr.
UV Lamps & Solenoids				4	$ 45	Based on 2 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Misc.				4	$ 45	Based on 6 hours/day of operation, 365 days per year, $0.13 per kWatthr.
Subtotal				**65**	**$ 776**	
Anticipated Annual Billing Cost						
Postage	postage	34	$ 0.64	$ 21.76	$ 261	
Printing	page	136	$ 0.10	$ 13.60	$ 163	
Paper	page	136	$ 0.05	$ 6.80	$ 82	
Labor	page	136	$ 0.50	$ 68.00	$ 816	
Misc.	page	136	$ 0.05	$ 6.80	$ 82	
Subtotal					**$ 1,404**	
TOTAL ESTIMATED EXPENSES					**$ 25,005**	

	Units	# of Units	Unit Rate	Monthly Cost	Yearly Cost	Comments
Estimated Revenue						
Fees Charged to Customers						
Non Resident Customer Access Fee	Access Fee	3	$ 10.00	$ 30	$ 360	These are billings for non-resident customers billed yearly. Based on $120 per year per non-resident property owner.
Resident Customer Monthly Fee	Monthly Fee	4	$ 44.53	$ 178	$ 2,137	These are billings for resident customers billed monthly. Based on $45 per month per resident customer.
Commercial Overnight Rental property owners	Monthly Fee	27	$ 69.53	$ 1,877	$ 22,528	These are billings for commercial customers billed monthly. Based on $102.53 per month per resident customer.
Tap Fees Collected and escrowed	Tap Fee	2	$ 3,750.00	$ 625	$ 7,500	A one time tap fee required at purchase of property. This fee is transferable to subsequent property owners.
Tap fees that will be collected from unpaid lot owners	Tap Fee	0	$ 3,750.00	$ -	$ -	Estimate based on experience
Return Check Fee	Returned check	2	$ 25.00	$ 4	$ 50	Estimate based on experience
Late Fees and Back Payment	Late fee	2	$ 2.00	$ 0	$ 4	Estimate based on experience
Disconnect Fees	Disconnect	1				
Reconnect Fees	Reconnect	1	$ 40.00	$ 3	$ 40	Estimate based on experience

Subtotal				**$ 2,718**	**$ 32,619**	

Estimated Escrow Requirements						

Escrow Calculations						
Number of years included in calculation					1	
Number of customers					31	
Estimated Annual Non Routine Maintenance					$ 5,360	
Annual Escrow $ per customer					$ 173	

Montly Escrow $ per customer					**$ 14.41**	

Estimated Yearly Income	***2012***				**$ 7,614**	

Lakeside Estates Waste Water Treatment System

Estimated Costs and Revenues For 2 Years

	2011	2012	Total
Estimated Revenue	$ 30,619	$ 32,619	**$ 63,238**
Estimated Expenses	$ 23,902	$ 25,005	**$ 48,907**
Estimated Income	$ 6,717	$ 7,614	**$ 14,331**
Estimated Escrow Requirements	$ 5,360	$ 5,360	**$ -**

ATTACHEMENT 14:

Operation and Maintenance Contract (DSH and Norris Lake Properties, LLC)

WASTEWATER SERVICE AGREEMENT

This Agreement is entered into this 2nd day of November, 2010, by and between DSH & Associates, LLC ("DSH") and Trimbach Development, LLC ("Developer"). Services outlined in this agreement will commence on the 1st of January, 2011.

WITNESSETH:

Whereas, DSH is a utility company that provide wastewater services. Whereas, the Developer has requested DSH to make a commitment to provide wastewater services to Lakeside Estates (at Lakeside Estates Subdivision); and Whereas, the DSH is willing and able to provide wastewater services to Lakeside Estates upon the terms, provisions and conditions hereinafter set out, all of which are acceptable to the Developer.

NOW, THEREFORE, for and in consideration of the mutual covenants of the parties, and other good and valuable consideration, the receipt and legal sufficiency of which is hereby acknowledged, the parties do hereby agree as follows:

1. Developer has a subdivision in Campbell County, Tennessee, which development will be known as Lakeside Estates ("Development"). The Development consists of two hundred (200) residential units. DSH hereby agrees to and will provide wastewater services to the Development.

2. DSH will provide wastewater services to the Development using a wastewater disposal system ("System") commonly referred to as an "onsite wastewater treatment system." The System consists of two fundamental sections: (a) the collection lines, and (b) the treatment plant. The treatment plant as defined for this Agreement includes the drip fields. Each of the 200 separate units will have a Septic Tank Efficient Pumping ("STEP") unit and pump.

From the STEP units, the wastewater will be pumped to the treatment plant.

3. Developer agrees to engage the services of a DSH & Associates, LLC to design any future modifications to the System for the Development. DSH & Associated, LLC costs will be limited to 10% of estimated total cost of installation (equipment, labor, material) of the modified system for the detailed engineering component of services. The design modifications shall be approved by DSH and its consulting engineers. The System will be designed in accordance with sound engineering practices and will be licensed, permitted and approved by all necessary and prudent governmental authorities. The Developer will further engage the services of DSH to build the System in accordance with the plans and specifications created by Developer's licensed engineer as approved by DSH and its consulting engineers. Developer will place in the HOA for Lakeside Estates that all Septic Tank Efficient Pumping ("STEP") unit and pumps shall be installed by DSH. DSH will provide a lump sum price for these systems based on volume of required STEP tank.

4. Developer will cause to be provided to DSH a 6 month warranty on the design and construction of the current system in such that any failure or defect in design, material, workmanship, functionality, or operation which occurs within 6 months of the Commencement Date (as defined in section 8) will be rectified, repaired or replaced at no charge to DSH. Developer warrants to DSH that the materials, equipment, functionality, and workmanship of the System will be good quality, that the work will be free from defects and that the work will conform to the requirements of the design plans and specifications. Work not conforming to these requirements, including substitutions not properly approved and authorized by DSH, may at DSH's option be considered defective.

5. On or before the execution of this Agreement, Developer will provide the following to DSH

for DSH to obtain the necessary permit and approvals to construct the modifications and operate the System for the Development:

a. Developer shall submit three (3) sets of complete Tennessee Department of Environment and Conservation (TDEC) approved, stamped plans and specifications, together with all calculations, engineering reports, approval letters, and discharge permits; and

b. Developer shall submit two complete sets of all other surveying and engineering documents for the Development including, without limitation, road profiles, storm water drainage and utility drawings, and survey plats.

c. Developer will provide all legal support required to transfer existing CCN and State Operating Permit (SOP-07073) currently held by LaFollette Utility Board to DSH.

6. Upon the completion of the construction modifications of the System and its acceptance for use by DSH, DSH will own, operate and maintain the System beginning on the Commencement Date as set forth in section 7.

7. The Commencement Date shall be the date when DSH assumes formal responsibility for the operation of the System. DSH will execute a Memorandum of Commencement establishing the Commencement Date for purposes of this Agreement. Effective with the Commencement Date, ownership of any and all components, parts and equipment of the System will immediately become the property of DSH.

8. Developer shall provide documents which are a current representation of the utility easement areas which are to be DSH easements. Such easements shall also reflect all current as-built conditions and any possible future areas. These as-built easements shall be indicated on the final subdivision plat with metes and bounds before DSH will approve the final plat. Developer shall provide a ten (10) foot easement for all collection lines, and these

easements shall be shown on the final plat. The easements may be included in the easements dedicated for other utility easements as specified in the County Zoning and Subdivision Regulations. Developer will be responsible for transferring property and easements from owned currently by LaFollette Utility to DSH within 2 months of commencement of this agreement. This will require legal transfer and recording of PLAT information with the County. The area transferred will be adequate for the final extent of the treatment system required to treat effluent from 200 home units (treatment system, pipelines, drip field areas).

9. Developer shall provide as-built drawings of all components of the System. As-built drawings shall be presented in AutoCAD format or similarly compatible format.
10. Developer shall provide all finalized construction documents including approved shop drawings, operation and maintenance manuals, vendor information, warranty information, instructional manuals, and other relevant materials regarding the design, construction, and operation of the System.
11. Developer's design engineer of record shall certify the inspection and construction of the System based upon the design engineer's observation of the construction. The engineer shall also certify that the System has been designed in accordance with sound engineering practices and in compliance with all laws, regulations, rules, ordinances, and engineering practices applicable to such systems, that the System is fully operational and that the System is ready to be used as designed and intended. Developer shall provide documents stating that all components of the treatment plant and drip field area shall have a permanent ingress/egress easement. Said ingress/egress shall be, at a minimum, a roadbed which is drivable during wet weather conditions in order to provide access for repair and maintenance purposes. Developer's engineer shall provide a document stating that all federal, state, and local permits have been obtained.

12. Developer agrees that DSH may require additional equipment and appurtenances to be constructed and to be paid for by HOA tap fees listed in this contract, although such additional equipment and appurtenances may not be included on the plans. The developer certifies that the phase I system has been installed and is currently operating. The design flowrate of the Phase I system is 12,000 gallons per day. The phase II System is currently being designed and will increase the design flowrate to 16,000 gallons per day and improve the overall performance. The Phase I and II systems should support 35 homes at an average flowrate of 450 gallons per day (current average flowrate per unit at Lakeside Estates, based on historical information provide by LaFollette Untility). Prior to the 36th home being tied and or the total system measured flowrate exceeding the design flowrate into the sewer force main and treatment facility, additional capacity will be required, such equipment and appurtenances may include, but are not limited to, treatment Pods, tanks, maintenance/equipment building for the plant, fencing with lockable gates around the plant and maintenance building, signage, and gravel surface within the boundaries of the plant fencing. All future design and construction costs will be the responsibility of the Developer and Lakeside Estates HOA. To support future expansion costs of the system DSH has agreed to establish an escrow fund. Funds derived from tap fees from future homes that tie into the system will be placed into the escrow fund and will be used to support expansion of the system. Tap fees for each new unit will be derived based on the number of bedrooms as listed in the table below:

a.

Daily Flowrate	Number of Bedrooms	Estimate Tap Fee
300	3	$3,750.00
400	4	$5,000.00
500	5	$6,250.00
600	6	$7,500.00
700	7	$8,750.00
800	8	$10,000.00
900	9	$11,250.00
1000	10	$12,500.00

b. The tap fees may change base on inflation, cost of goods/materials, etc., and do not include the cost to expand the existing sewer force main. Force main extensions will have to be cover by others.

13. DSH will operate and maintain the System and provide wastewater service ("service") to the Development in accordance with the following:

a. All applicable building structures in the Development will be required to install the wastewater service line and connectors as specified by DSH.

b. Each residential unit will be charged the published wastewater rates and charges of DSH. The furnishing of service will be governed by DSH rules, regulations and policies. As of the date of this Agreement, DSH's monthly service rate for wastewater service is $44.53.

c. If a home is rented out at anytime or daily flowrate exceed 300 gallons per day at anytime during a 12 month period, DSH’s monthly rate for wastewater service will be a minimum of $69.53 (see attachment 1 for estimated service rates based on monthly usage – Commercial Rate – Overnight Rental Units).

d. Each residential unit (lot) that does not contain a structure will be charged and annual service rate of $120. This is only for lots that are not owned by the

Developer and not on a leach field.

e. The maintenance, repair or replacement of the wastewater service lines from each of the STEP units and the maintenance, repair or replacement of the STEP unit and pump for each unit to the sewer main shall be the responsibility of the owner of the residential/commercial unit. DSH will install the STEP system for owners for a fix price of $5500 per unit (based on a 3 bedroom unit) if system is not pre-existing.

f. The maintenance, repair or replacement of the wastewater service lines from the pool STEP unit shall be the responsibility of the HOA.

14. Upon the execution of this Agreement, Developer agrees to pay DSH $8,000 to cover DSH's legal, permitting, engineering and administrative expenses related to this submittal of the CCN package to Tennessee Regulatory Authority. This application package will require substantial information from the developer and includes but is not limited to:

- Owners User Manual
- Lakeside Letter Requesting DSH System Takeover
- LaFollette Utility Board Letter Releasing SOP
- Sworn Pre-filed Testimony
- SOP – Lakeside Estates
- DSH Articles of Incorporation
- DSH State of TN Business License
- Degrees & Certificates of DSH Staff
- Lakeside Estates Decentralized System Engineering Drawings
- Build-out Cost Analysis (5-yr)
- Lakeside Estates Subdivision Plans
- Chart of Accounts
- Performance Bond
- Pro Forma Income Statement (2-yr)
- Operation and Maintenance Contract (DSH and Trimbach Development, LLC)
- TDEC Letter of Acceptance of Transfer of WWTS
- LaFollette Letter stating no service line in area of subdivision

15. When Developer closes on a residential unit in the development, Developer will collect at the closing on each residential unit DSH's wastewater disposal deposit in the amount of $120 to cover the O&M annual fees on an empty lot. These fees will be promptly tendered to DSH by the agent conducting the closing. Developer will include DSH's Wastewater

Service Agreement with the closing documents for each residential unit and will be responsible for causing the residential unit owner to execute such Agreement at or prior to closing. Developer shall deliver the fully executed Wastewater Service Agreement and fees to DSH within ten (10) business days of the residential unit closing. Developer agrees that failure on the part of Developer or the closing agent to collect such fees from residential unit purchasers shall not absolve Developer of the responsibility of tendering such fees to DSH within the ten (10) business day time period specified herein.

16. Once construction of commences on a residential unit, the owner will be required to pay a onetime sewer tap fee of according to the table listed in section 12a. No connection will be provided to the force main sewer collection system until these fees are provided. Developer certifies that as of the date of this contract, 37 units have been sold. Units 23 and 24 have been sold and tap fees collected prior to this agreement. These fees have been used to expand the system as part of Phase II.

    a. Sold lots/units = 37 as outlined below:
        i. Non-resident property owners = 2
        ii. Resident property owners = 2
        iii. Commercial overnight rental property owners = 27
        iv. Number of property owners not attached to system = 6

17. Developer agrees to provide to each Residential/Commercial Unit Purchaser DSH's STEP System Policy as shown in Attachment 1.

18. Developer will cause to be installed in the water supply line serving each residential unit or units, on the owner's side of the water meter, prior to any branch in the water supply line, a lockable valve to which DSH will have access. DSH will provide in its Wastewater Service Agreement (referred to in section 13) that DSH shall have the authority to turn off the water supply to the home in the event the monthly wastewater bill is not paid for a period of sixty (60) days. Additionally, Developer will incorporate into the disposal line, prior to the STEP

unit, a locked valve box which valve will be closed and locked as of completion of the construction. The valve will be opened by DSH personnel upon receipt by DSH of the account balance plus all late fees and reconnection fees.

19. Performance pursuant to the terms and conditions of this Agreement is contingent on the receipt of a letter or other written acknowledgement from each necessary governmental authority, utility district, or other public utility to the effect that no such entity plans or intends to extend sewer service to the Development within the next twelve (12) months. The letters should be in substantially the form attached hereto as collective Exhibit 3. Developer shall bear the responsibility for procuring these letters which shall be addressed directly to DSH.
20. Developer will further cause the following language, or similar language as agreed in advance between DSH and Developer, to be incorporated into all restrictions and protective covenants for Lakeside Estates and, to the extent restrictions or protective covenants are already of record, Developer will cause such recorded restrictions or protective covenants to be amended, in order to include such language as a lien on all real property within the Development:
    a. Developer has contracted with a utility ("Utility") to operate and maintain the wastewater system ("System") serving the Development. There is hereby created and shall be a lien in favor of the Utility against any individual residential/commericial units or building structures for default in the payment of any fee or charge imposed by the Utility in the operation of the System which lien shall also secure fees and costs (including attorney fees) incurred by the Utility incident to the collection of such fees or charges or enforcement of such lien, regardless of whether legal action is commenced.

Each such fee or charge, together with interest, costs, and attorney fees, shall also be the personal obligation of the person or persons who were the Owner or Owners of the residential unit or building structure at the time when the fees or charges were incurred. In the event of the occurrence of a catastrophic event, an act of God, or any other event beyond the control of the Utility that renders the System inoperable or substantially impairs the operation of the System, the Utility shall have the authority to impose a special assessment on the owners of all building structures or residential units in order to repair and remediate the System. There shall also be a lien in favor of the Utility against each individual residential unit or building structure to secure the payment of such special assessment, including collection costs and fees (including attorney fees) incurred by the utility. Notwithstanding any other provision of these covenants this lien shall be subordinate to only a first priority purchase money mortgage or first priority purchase money deed of trust.

b. The maintenance, repair or replacement of the Septic Tank Efficient Pumping ("STEP") units shall be the obligation of the homeowners for individual STEP systems and the HOA association for community owned STEP systems.

21. Developer may terminate the Agreement prior to the Commencement Date at Developer's discretion following written notice to DSH of its intent to so terminate subject to the conditions set forth in this section. This Agreement shall not terminate unless and until such time as DSH has received, in a form satisfactory to DSH, its engineers and its counsel, written authorization from the Tennessee Department of Environment and Conservation and the Campbell County Planning Commission

acknowledging that DSH has no obligation to provide wastewater service to the Development and releasing DSH from any liability arising as a result of the termination. Developer shall execute a written release releasing DSH from any liability arising as a result of the termination of this Agreement. Developer will forfeit all monies paid to DSH if the Agreement is terminated.

22. Notwithstanding any other provision of this Agreement and notwithstanding the payment by Developer of the amounts set forth in this Agreement, DSH shall not be obligated to accept the System or commence operations unless and until all of the obligations of Developer and the criteria set forth in this Agreement have met to the sole satisfaction of DSH, DSH's engineers and DSH's consultants. In the event DSH, for whatever reason, fails or refuses to accept the System and commence operations, DSH shall refund the tap fees and wastewater disposal deposits tendered by the Developer, but shall have no other or further liability to Developer or to the owners or units within the Development.
23. Failure to perform any obligation of this Agreement after fourteen (14) calendar days' notice of the failure to perform or within any time period set forth in this Agreement shall constitute an Event of Default by Developer, and DSH may at that time, terminate the Agreement. Such termination will release DSH from any liability to Developer and from any obligation to provide wastewater service to the Development.
24. Any notice or communication required or permitted hereunder shall be in writing and be sent either by: (i) personal delivery service with charges therefore billed to shipper: (ii) overnight delivery service with charges therefore billed to shipper; or (iii) United States Mail, postage prepaid, registered or certified mail, return receipt

requested, addressed to Utility or Developer at the respective addresses set forth below:

Utility:	DSH & Associates, LLC Douglas S. Hodge, Ph.D., PMP Operations Manager 4028 Taliluna Ave Knoxville, TN 37725 865-755-8066
Developer	Jon Trimbach President Trimbach Development, LLC 320 Echo Valley Drive Vandalia, OH 45377 937-238-6843

Any notice or communication sent as provided herein shall be deemed given or delivered: (i) upon receipt if personally delivered; (ii) upon delivery by an overnight delivery service; or (iii) if sent by the U.S. Postal Service Registered or Certified Mail, on the date appearing on the return receipt, or if there is no date on such return receipt, the receipt date shall be presumed to be the postmark date appearing on such return receipt. If delivery is refused or cannot be made, the notice date shall be the date of attempted delivery as evidenced by the appropriate notations made by the Postal Service. Either party may change its address by notice to the other party in the manner set forth above at least ten (10) days prior to such change.

This Agreement contains the entire agreement of the parties, and any and all other prior agreements, discussions, or understandings are merged herein. This Agreement may not be modified except in writing signed by all parties hereto. This provision may not be orally waived.

IN WITNESS THEREOF, the parties have hereunto set their hands, effective the year and date first above written.

Trimbach Development, LLC/Lakeside Estates

By: _____

Title: Managing Member

Date: 11/2/10

DSH & ASSOCIATES, LLC

By: Douglas S. Holz

Title: Managing Member

Date: 11/2/10

Attachment #1

Governing the sewage collection

and treatment systems of DSH & Associates (DSH)

Statement of Purpose

The general purpose of these rules and regulations is:

1. To establish procedures for furnishing sewage collection and treatment services on a uniform basis to customers within the Company's service area.
2. To provide standards and procedures for:
3. Acceptable sewage characteristics
4. Protection of the integrity of the water tight system
5. Engineering design standards
6. Construction standards and inspection requirements
7. Quality of materials

Authorization of Rules and Regulations

DSH & Associates, LLC is a corporation organized and engaged in business as a public utility in the State of Tennessee. The Company is regulated Under a Certificate of Convenience and Necessity issued the Tennessee Public Service Commission (PSC) on ?, under Docket No. ?, and subsequent certificates issued by the PSC and the TRA.

Effect of Rules and Regulations

All provisions of these rules and regulations shall be incorporated in each contract with each sewage system customer of the Company

Utility Facilities on Private Property

The Company shall maintain all septic pump and septic gravity tanks, control systems and service lines required to provide sewer services on the Customer's premises. The Customer must execute an agreement that acknowledges the Company to have a perpetual easement in, over, under and upon the specified land of Customer as shown on the property plat, with the right to operate and repair all components of the sewer system on the Customer's property, including but not limited to the septic tank and septic pump tank systems. The Customer must grant the Company permission to enter upon Customer's property for any reason connected with the provision or removal of sewer service or collection therefore. The Customer must agree to allow the Company to install an approved cut off valve between the house and water supply and grant the Company exclusive rights to use such valve to cut off water in order to safely stop wastewater flow. The Customer understands there will be a charge of $100.00 for installation of this valve. The Customer's Building and Pluming outfall line shall be maintained by the Customer.

Discontinuance of Service

Service under any application may by dis-continued for the following reason:

1. Non-payment of bill as hereinafter set forth below
2. For misrepresentation of application
3. For adding to the property without notice of the Company
4. For tampering any service pipe, tank, control system, filter or any other facilities of the Company in any way whatsoever.
5. For violation of any rules of the Company.
6. For disconnecting or reconnecting service by any party, other than a duly authorized agent of the Company without the consent of the Company.

Non-Payment Penalties

The Customer agrees to promptly pay for service at the then current schedule or rates and fees and agrees to abide by and be subject to the Company's billing and cutoff procedures. Should the Customer not pay in accordance with the Company's rules, the Customer agrees to pay all reasonably incurred cost of collection of delinquent fees including attorney fees.

A non-payment penalty of five percent (5%) of the total bill amount will be due after the due date shown on the bill. If payment is not received within fifteen days after the due date, a 2nd notice will be sent to the customer. If payment is not received within 30 days, service will be turned off from the customer's property as per the Sewer Service Contract Agreement (Attachment 1) executed by the customer with no additional notice being sent. No service shall be reconnected if disconnected for non-payment (or any other valid reason) until all charges have been paid, including disconnection and reconnection fees. The disconnection fee is $40. The reconnection fee is $50 plus all back payments.

Returned Checks

A check returned by the bank will incur a fee of $25.

Changes in Ownership, Tenancy of Service

A new application and contract must be made and approved by the Company on any change in ownership of property, or tenancy, or in the service as described in the application. In the event of a failure of a new owner or tenant to make such application, the Company shall have the right to discontinue service until such new application is made an approved.

Sewer System Access Fee

The owner of each property parcel, which is provided a service connection when the sewer system is built, will be required to pay a sewer access fee of $120.00 per year. This fee will be payable each July 1st. As each Customer attaches to the Service Connection and signs up for service, they will pay a pro-rated access fee for that year and thereafter the fee will not be charged.

Engineering, Material and Construction Standards

General: This specification covers the type of sewer system required for various design conditions of sewers constructed by developers.

1. The requirements called for are a minimum in all cases. Bedding conditions, material specifications, sealing requirements and installation methods are the responsibility of the design engineer and must be approved by the Company Engineer.
2. Design and construction of sewer lines shall meet the requirements of the State of Tennessee Department of Environment. Any conflicts between company and state requirements shall be resolved so that the more restrictive shall govern.
3. All sewage collection system components are to be watertight. This includes Building Outfall lines, all tanks, Collector Lines, Service Lines and Main Lines.
4. Collector Lines and Main Lines are to be tested to 100 pounds per square inch of water pressure. Risers and lids are to be watertight.
5. Septic Pump and Septic Gravity Tanks are to be installed near the customer's building to be served. The tanks are to be set in a level condition and tested for water tightness before backfilling.
6. STEP septic tanks must meet the specifications outlined in this document. Size of STEP tanks must be approved by DSH and will be based on the number of bedrooms in the home and the intended use of the home.
7. All pipe is to be PVC. Classes and sizes will be per Engineer's design and in all cases Schedule 40 will be the minimum allowable.
8. Only wastewater drains are to be connected to the sewer system. No water sources such as roof drains, sump pumps, condensate lines and swimming pools shall be connected to the sewer system.

Special Pretreatment Sewage Requirements

For all sewage connections the Company reserves the right to require any non-residential user to provide special pre-treatment for any high strength effluent before discharge into its sewage system. The Company may, upon the basis of recognized engineering standards and treatment costs, increase the rate charged to cover the cost of treatment of high strength effluent or industrial waste, and may impose recognized engineering standards as to the maximum size of solids and constituents in such waste discharged into its sewage system.

Additionally, if excessive volumes of sewage are received, the Company may require the Customer to monitor flow volume and increase surge holding capacity at the Customer's expense. All customers will be required to follow the Owners User Manual for an effluent collection system supplied to them by the Company (Attachment 1). These requirements prohibit the dumping of any toxic chemicals that kill tank bacteria and disposal of an excessive amount of grease, among other things. All requirements (and notification of repair costs associated with the system abuse) are established in the Customer's Sewer Subscription Contract with the Company.

Damages

The Company shall in no event be responsible for maintaining any Building Outfall Line owned by the Customer, nor for damages created by sewage escaping there from, nor for defects in Customer's building lines or fixtures. The customer shall at all times comply with all regulations of the TRA and of the Company.

All leaks in any building pipe or fixture on the premises of the Customer shall be immediately repaired by the Customer. On failure to repair any such leak, the service may be discontinued until repairs are made. Any customer found introducing prohibited substances into the waste water system is liable to pay the full cost of cleanup and the repair of any damage caused.

Inspection

All pipes, valves and fixtures shall be at all reasonable hours, be subject to inspection by the Company or it’s duly agent.

In Event of Emergency

The Company shall not be liable to the Customer for interruption in service, or for damages or inconvenience as a result of any interruption, stoppage, etc., which was beyond the reasonable control of the Company. In case of emergency, call 865-851-

8351.

Service Area

The Company will provide service within its current service area. Additions to the service area must be approved by TRA.

Extension Plan

The Company may furnish sewer service to property owners whose lands abut the Main Line of existing sewer systems. The sewer service charges listed in the sewer billing monthly rates do not include costs for constructing extensions to the sewer system. Any sewer system facilities required to service such abutting properties shall be constructed at the cost of those parties desiring same, and these facilities shall become the property of the Company to be credited to the account for Contributions in Aid of Construction. In addition, treatment system facility costs will be paid by the Customer desiring to connect onto the system. Sewer service to new areas within a service territory will be made available where it is technically feasible and the developer or property owner is willing the bear the expense of designing and building the sewer system.

Contributions in Aid of Construction

Sewer system facilities furnished by developers and property owners to the Company will be recognized as Contributions in Aid of Construction in the amount of the actual cost of construction. Capital contributions from developers will be treated in like manner.

Contracts for Service

Each Customer before installation of service shall be required to execute on the appropriate forms furnished by the Company, a Sewer Subscription Contract.

Customer Billing Forms

Customer billings will be sent monthly or annually to Customers for payment of a flat fee.

Individual Septic Tank and Pump Tank Requirements

Only the configurations listed on the Individual Septic Tank and Pump Tank requirements list may be used. This list may be added to or taken from as needed.

Public Contact

Doug Hodge

4028 Taliluna Ave

Knoxville, TN 37919

865-851-8351

Tennessee Regulatory Authority Regulations

The Company, in its operation, shall conform to all the applicable rules and regulations promulgated from time to time by the Tennessee Regulatory Authority. The TRA can be reached by phone at 1-800-342-8359 or 615-741-2904.

RESIDENTIAL RATE SHEET/EXPLANATION

FEES:	TOTAL	
Non-Payment	5%	
Tap Fee	See section 12a	
Disconnection	$ 40.00	
Reconnection	$ 50.00	
Returned Check	$ 25.00	
Access Fee	$120/yr	
Monthly sewer reate	$ 44.53	

COMMERICAL RATE SHEET without food service

The monthly sewer charge per customer is based on design daily flow expected from the type of establishment being served. A minimum of $102.15 per month will be charged for up to the first (I) 300 gallons per day of design flow expected. For each additional 100 gallons per day of design flow expected, up to a total of 1,000 gallons per day, an additional charge of $20.45 per month per 100 (I) gallons will be levied. For design flows expected over 1,000 gallons per day, the monthly rate will be $157.95 per 1,000 gallons of daily flow.

COMMERCIAL W/O FOOD	FLOWRATE BETWEEN (GPD)		TOTAL	
Tier 1	0	300	$ 102.53	
Tier 2.1	301	400	$ 122.98	
Tier 2.2	401	500	$ 143.43	
Tier 2.3	501	600	$ 163.88	
Tier 2.4	601	700	$ 184.33	
Tier 2.5	701	800	$ 204.78	
Tier 2.6	801	900	$ 225.23	
Tier 2.7	901	1000	$ 245.68	
Tier 3.1	1001	2000	$ 403.63	
Tier 3.2	2001	3000	$ 561.58	
Tier 3.3	3001	4000	$ 719.53	
Each additional tier			$ 157.95	

Additional surcharges will apply when customers exceed their expected design flows. For any month that a customer's water meter exceeds the expected design flow, the following surcharges will apply:

Excess Water Usage	Surcharge
1 gallon to 1,000 gallons above expected design flow	$ 175.00
1,001 gallons to 2,000 gallons above expected design flow	$ 200.00
Over 2,000 gallons above expected design flow	$200/1000 gallons

If the water meter readings exceed the design for any three consecutive months, the monthly charge will be revised to reflect the increased usage and ay capital costs associated with increasing the capacity of the system will be paid by the customer.

FEES:	TOTAL
Non-Payment	5%
Tap Fee	See section 12a
Disconnection	$ 40.00
Reconnection	$ 50.00
Returned Check	$ 25.00
Access Fee	$120/yr

COMMERICAL RATE SHEET Overnight Rental Units

The monthly sewer charge per customer is based on the monthly average daily flow monitored from the unit being served. A minimum of $69.15 per month will be charged for up to the first 300 gallons per day of average daily flow. (I) For each additional 100 gallons per day of average daily flow, up to a total of 1,000 gallons per day, an additional charge of $15.00 per month per 100 gallons will be levied. For average daily flows over 1,000 gallons per day, an additional monthly charge of $157.95 per 1,000 gallons of average daily flow will apply.

COMMERCIAL W/O FOOD	FLOWRATE BETWEEN (GPD)		TOTAL**	
Tier 1	0	300	$ 69.53	
Tier 2.1	301	400	$ 84.53	
Tier 2.2	401	500	$ 99.53	
Tier 2.3	501	600	$ 114.53	
Tier 2.4	601	700	$ 129.53	
Tier 2.5	701	800	$ 144.53	
Tier 2.6	801	900	$ 159.53	
Tier 2.7	901	1000	$ 174.53	
Tier 3.1	1001	2000	$ 332.48	
Tier 3.2	2001	3000	$ 490.43	
Tier 3.3	3001	4000	$ 648.38	
Each additional tier			$ 157.95	

Each customer will be billed the minimum monthly charge unless DSH determines that the customer's measured usage exceeds an average of 300 gallons per day over a thirty day period. Unless otherwise stated in this tariff, measured usage will be based on a customer's actual or estimated usage, averaged over a thirty-day period.

Actual usage may be measured in any of the following ways:

- Effluent flow meter.
- STEP pump. Usage will be measured by multiplying the period of elapsed pumping time shown on the pump times the capacity of the pump.
- In the absence of an effluent flow meter or a STEP pump, usage will be assumed to be equal to the customer's usage of potable water as shown on the customer's potable water meter.

If a customer is charged in excess of the minimum monthly fee, DSH will measure the customer's actual usage at least once every ninety days using one of the methods described above and display on the customer's statement the usage and measurement method used. In any month in which DSH does not measure the company's actual usage, the customer's monthly bill will be based on the customer's estimated monthly usage. No less than once every ninety days DSH will bill (or credit) the customer for any differences between an estimated bill and actual measured usage.

If a customer's usage exceeds the average daily design flow for three consecutive months, the customer may be required to pay any capital costs associated with increasing the capacity of that portion of the system designed and dedicated to serve that customer. For purposes of this section, DSH must measure actual usage for three consecutive months using one of the methods described above.

If DSH determines that a customer's usage meets the criteria described above, DSH will notify the customer in writing of any proposed construction work, the reasons for the work, and the estimated cost to the customer. The notice will also state that if the customer believes that his usage does not meet the criteria described above or that the charge to the customer is unjust and unreasonable, the customer

may file a written complaint with the Tennessee Regulatory Authority, located at 460 James Robertson Parkway, Nashville, TN, 37243. Unless the TRA orders otherwise, the filing of a complaint will not delay the proposed construction work but may initiate a proceeding in which the TRA will determine whether, under the terms of this tariff, the customer is responsible for the cost of the construction work.

SEWER SERVICE CONTRACT

DATE:_____.

PRINTED NAME:_____.

ADDRESS OF PROPERTY:_____.

MAILING ADDRESS:_____.

TELEPHONE NUMBER:_____.

EMAIL ADDRESS:_____.

I hereby make application to DSH & Associates, LLC (DSH) for sewer service at the address of property stated above. In consideration of the undertaking on the part of DSH to furnish sewer service, I understand, covenant and agree as follows:

1. I understand that the components of a sewer system have been installed on the property referred to above, which is owned or occupied by me, and which is to be connected with a wastewater disposal system owned and/or maintained by DSH. I warrant that any connection to and/or subsequent use to this system by the components on my property shall be in accordance with the Rules, Regulations and Plans of DSH. Regarding my usage of the system components on my property, which are owned by me, I covenant to follow the guidelines set forth in the Owners User Manual. Should I violate these Rules and/or abuse or damage my components, I understand that I must bear the expense to repair or replace the same in accordance with the Plans of DSH.
2. I acknowledge DSH, its successors and assigns, have a perpetual easement in, over, under and upon the above specified land as shown on the property plat, with the right to operate and repair all components of the sewer system on my property, including but not limited to the septic tank and septic pump tank systems. I further grant DSH permission to enter upon my property for any reason connected with the provision or removal of sewer service or collection therefore.
3. For all other plumbing and structures on the property, including the outfall line to the septic tank, I agree that I am responsible for all operation and repair thereof.
4. I agree to promptly pay for service at the then current schedule or rates and fees and agree to abide by and be subject to DSH's billing and cutoff procedures. Should I not pay in accordance with DSH's rules, I agree to pay all reasonably incurred cost of collection of delinquent fees including attorney fees.
5. I accept the current Rules and Regulations and the Rates and Fees Schedule and agree to abide by any amendments to such Schedules as approved by the Tennessee Regulatory Authority.
6. I agree that this Agreement shall remain in effect for as long as I own, reside upon or rent the above-described property. When such circumstances no longer exist, I agree to provide notice to DSH at least thirty (30) days in advance of my vacating the property.
7. I agree to allow DSH to install an approved cut off valve between the house and water supply and grant DSH exclusive rights to use such valve to cut off water in order to safely stop wastewater flow. I understand there will be a charge of $100.00 for installation of this valve.

SUBSCRIBERS SIGNATURE:_____

OWNERS USER MANUAL

Welcome! You are hooked up to a state of the art fixed film wastewater treatment system. This environmentally friendly system does an excellent job of treating wastewater and returning it to the soil. It will do best if you follow the guidelines listed below:

Proper Use:

Direct all wastewater from the home into the septic tank. Any wastewater can contain disease causing organisms and pollutants.

Practice water conservation to avoid overloading the onsite sewage system. Repair dripping faucets and leaking toilets. Run dishwashers when full. Do not do all your laundry in one day. Space out the washing machine use over the week. Replace old fixtures with water saving fixtures.

Do not direct water from gutter downspouts, sump pumps or subsurface drains into the septic tank. The sewage management system is designed based on an estimated daily water use. Excess water directed into the septic tank will cause a hydraulic failure.

Use commercial bathroom cleaners and anti-bacterial soaps in moderation. Treatment in the wastewater system depends on natural bacteria. The Utility does not recommend the use of septic tank additives. These products are not necessary for proper system operation.

Do not plant trees or bushes on top of the septic or pump tank. Root intrusion may damage and block the line.

Do not dig without knowing the location of your septic and pump tank. Landscape the site to allow surface water to drain off of these tanks. Divert roof drains from these tanks. Standing water over these tanks will cause increased load saturations and potential pump failure.

Do not park or drive over the septic and pump tank. This can damage or compromise the tanks.

Do not pour grease, oil, paint or other chemical products down the drain. Do not put not-biodegradable items such as cigarette butts, feminine hygiene products, condoms, disposable diapers or other similar solid waste into the septic tank. Remember living microbes clean the wastewater.

Do not enter your septic or pump tank. Gases from inside the tank can be fatal. Keep the lids secure and screwed down.

Do not turn off the main circuit breaker to the wastewater pumps when going on vacation. The pumps will need to handle any infiltration into the system.

If there is a power failure, your alarm might go off when the power comes back on. Wait at least 2 hours; if the alarm is still going off please call the customer service number. If you have had no power failure and the alarm goes off, call customer service without delay.

Customer Service: 865-851-8351

Jon Trimbach

320 Echo Valley Drive
Vandalia, OH 45377
877-204-0785

Lakeside Estate HOA

Attn: Lakeside Estate Property Owners

(Address Stamp Here)

Trimbach Development, LLC has engaged DSH & Associates (DSH), LLC (a waste water utility company) to replace LaFollette Utility District for waste water utility services. Their rate sheets and other pertinent information are attached. This transition will be effective January 1st, 2011.

Please contact me by phone if you have any transitional questions. The DSH point of contact is Doug Hodge who can be reached at 865-851-8351 or hodge.dsh@gmail.com.

Jon Trimbach
Managing Member
Trimbach Development, LLC
11/1/10

DSH & Associates, LLC

4028 Taliluna Avenue, Knoxville, TN 37919

Dear DSH Utility Services Customers

I would like to welcome you to DSH & Associates, LLC and Lakeside Estates. We at DSH & Associates, LLC look forward to providing the best and most environmentally friendly wastewater treatment service. First of all I would like to explain our rates for Lakeside Estates.

We have 3basic rates, one if you have not built your home yet and the other as your home is built. First, the rate if you have not built your home yet is referred to as an access fee. The access fee is $120.00 dollars per year and is due on July 1st. What this fee pays for is the maintenance of the lines in the streets and the treatment plant components. Even if no homes are built in the subdivision, maintenance and test records must be maintained to meet state requirements. We use this fee to offset these costs so that when you are ready to connect, the system will be ready for you.

Our next rate is for when you build your home and tie on, this rate is $44.53 per month. If you rent your home during any period of time, you will pay a minimum rate of $69.53 per month and your rate will be prorated based on usage. For this payment we will treat the wastewater to the highest standards and dispose of it into a drip emitter field. We use the fixed film system of treating the wastewater because of it's reliability and it can be maintained more cost effectively than other systems. This is a fully automated PLC controlled system for the utmost reliability. You will additionally install a septic and pump tank at your home at your expense. We will pump and maintain the septic tank, pump tank and components at no additional cost to you. It should be noted that we do not maintain any plumbing or unstop any blockages in your home or the outfall line to the septic tank.

Additional charges are as follows:

- Service disconnect $40.00
- Service reconnect all past due amounts with late fees and $50.00
- Returned Check Fee $25.00
- A 5% late fee will be added to the total bill on the lot of any month in which we have not received your payment.

A complete copy of our tariff or billing amounts is available for viewing at our office during normal business hours by appointment.

Now for connecting, we have a set of specifications that must be followed and are included in this packet. You must get a permit from Jefferson County Environmental Health before starting work. Before you can connect to the DSH & Associates, LLC Service Connection you must sign and return your Sewer Service Contract Agreement.

You will need to install a cut off valve between the house and water supply and grant DSH & Associates, LLC exclusive rights to use such valve to cut off water in order to safely stop wastewater flow.

You will have an alarm post next to your pump tank or on your house. If there is a power failure, this alarm might go off after the power comes back on due to residual water needing to be pumped out. Wait at least 2 hours and if the alarm is still going off please call the customer service number. If you have had no power failure and the alarm goes off, call customer service without delay. If you need additional assistance, please call our Customer Service number: 865-851-8351.

All payments will be sent to:

DSH & Associates, LLC
4028 Taliluna Avenue
Knoxville, TN 37919

Again I would like to welcome you to DSH & Associates, LLC and Lakeside Estates. We at DSH & Associates, LLC will do our best to handle your wastewater service needs in an honest and professional manner.

Sincerely,

Douglas S. Hodge, Ph.D. PMP
Operations Manager
DSH & Associates, LLC

Individual STEP septic tank requirements.

Only configurations and equipment approved by DSH may be used. Not following these configurations shall be cause for disconnect until the specifications are met.

All connections to the septic and dosing will be:

- 4" schedule 40 PVC at not less than 1/8" fall per 1'
- Have an Inspection port relief valve between the septic tank and pump tank. The Inspection port relief valve will be on an elevation of not less than 6" below the elevation where the building outfall line leaves the home. (see approved products)
- Foam core pipe is approved if it meets local code requirements

The line from the pump tank to the main line will be:

- Pressure rated Schedule 40 PVC minimum 1.25 inch
- Have a piece of single strand insulated copper wire included in the ditch turned up in the utility box at the road and alarm post for future locating needs.
- Pumped line from pump tank to service connection should be buried at least 18"deep.

The STEP septic must meet the Utility's design requirements:

- All tanks must be on the Utility's approved list. Other tanks may be added to approved list if they meet all requirements. Contact the Utility for details on adding additional equipment to approved list.
- Shall be of a watertight design and all joints must be sealed to stop ground water intrusion and sewage leaks. Concrete/Fiberglass tanks must be l piece tanks with sealed lid.
- The STEP septic tank will be a two chamber design at least 1500 gallon capacity.
- The septic tank will have PVC tees in each end at least 1/3 the water depth.
- The outlet tee will include a septic tank filter.
- The top of the tanks shall not be buried deeper than 24" from the surface.
- The septic tank will include two approved risers to the surface.
- The dosing tank will include one approved riser to the surface.
- The risers will have two forms of entry security. Safety screws in outer lid and a riser pan with cement lid or a safety screen.
- The dosing tank will have a 1.5 inch metal pipe entering at least 46"on center from the bottom of the tank at the riser end. The total length of the installed pump and piping shall be 46" from center of the line entering the tank to the bottom of the pump.
- The pipe in the tank will have a 1/16 hole pointed downward in the tank to relieve air after pump cycle.
- The pump tanks will have an EZ pull adapter for quick pump service.
- A1 pipes in the dosing tank will be galvanized water pipe, aluminum or stainless steel
- Metal pipe must extend at least 3' from tank toward Utility connection before converting to using PVC.

- The metal elbow shall have a 1/16 hole at a 30 degree downward angle drilled into it'
- A non spring check valve shall be connected to the Utility service just inside the Utility service box. This will make a total of two check valves at the service box.

Electrical Connections

- All connections shall meet the national electrical code.
- All connections shall be located outside of the tank.
- An approved alarm post with a high level alarm shall be located at the pump tank riser.
- No electrical connections are allowed inside the pump tank or riser.
- Two 110 volt electrical circuits are required from the house to the alarm post. One l2 gauge dedicated for the pump and one 14 gauge for the alarm, so the alarm will work even if the pump throws a circuit breaker. Wire in PVC conduit or direct burial wire is required.
- The conduit connecting the riser to the alarm post must be sealed so as to keep corrosive gasses from entering the alarm post.

Approved Materials: (contact the Utility in advance to recommend an addition to this list)

Risers: Can use either Orenco System or Polylok System risers as outlined below:

- Orenco: Jeff Brownfield at 423-331-2036
  - 2.000 FL24G-4BU Fiberglass Lid, 24" W/ Urethane Gasket, Angled Core; 4 bolts, Inlet & outlet
  - 2.000 RR2436 Pvc Access Riser, 24" Dia.
  - 2.000 MA320 200 G Epoxy Kit
  - 1.000 SB4 Pvc Splice Box W/4 Cord Grips
  - 1.000 PV55-1817 Simplex Biotube Pump Vault for 24" Riser, 18" Cartridge
- Polylok: www.polvlok.com 877-POLYLOK
  - Polylok 3008 HD Heavy Cover or
  - Polylok 3008 RC Light Duty Cover
  - Polylok 3008-RP 24" Riser Pan or
  - Polylok 3008-SS 24" Safety Screen
  - Polylok 3008 24" Riser 6" tall
  - Polylok 3008-R12 24" Riser 1,2" tall
  - Polylok PL-68 Filter Cartridge (septic tank filter)
  - Polylok 3009-AR (adapter ring for plastic tanks)

Alarm Post:

- SJE Rhombus model PSPL20V6HL7 A www.sierhombus.com 1-888-DIALSJE
- Septic Products Inc. - Observer 100 www.septicproducts.com 419-282-5933

EZ pull adapter -EZ-Puller 1.5 inch www.webtrol.com 800-769-7867

lnspection Port Relief Valve 562-304 www.Plum.com 800-462-6991

STEP Septic Tank: 1 piece 2 chamber

- Orenco Step Tank: Jeff Brownfield 423-331-2036
- Norwesco 1050 Septic tanks part number 42250,42248,42283, 42293 www.norwesco.com
- Ashley Cement Tanks: Must be L piece 2 chamber poured tanks with two Polylok 24" risers and sealant between lid and tank.
- Watson Septic, Madisonville, TN
- Dixie Concrete, LaFollette, TN
- Tays Septic, Crossville, TN
- Morrison Tank & Vault, Morrison, TN

Approved Pumps:

- Myers 2NFLs1-8E www.femvers.com 419-289-1144
- Orenco: Jeff Brownfield at 423-331-2036
    - 1.000 PF100511 Effluent Pump; 1/2Hp, 10gpm, 115V, 60Hz, 10' Lead
    - 1.000 HV100BCFCPRX Hose & Valve Assembly, 1" Pressure, w/B,C,FC,X
    - 1.000 MF3A-Y,B,R-27V Fl. Assem.;(Y,B,R);27" step pump vault
    - 1.000 S1ETM Simplex Panel, 115V W/Etm

Some local Installers: (if an installer does poor work, the Utility reserves the right to not allow him/her to do further work) To add your installer, please call the Utility first:
Doug Hodge at 865-851-8351.

For additional technical assistance call DSH & Associates, LLC. 865-851-8351

ATTACHEMENT 15:

TDEC Letter of Acceptance of Transfer of WWTS

ATTACHEMENT 16:

DSH Subcontracts

SUBCONSULTANT AGREEMENT No. 001_
FOR
PROFESSIONAL SERVICES

THIS AGREEMENT, entered into this **20th** day of **January**, **2011**, by and between **DSH & Associates, LLC** with offices at *4028 Taliluna Avenue, Knoxville, TN 37919 865-755-8066* hereinafter referred to as "**DSH**" and **Pete Dayton** located at **545 Farragut Commons Drive, Farragut, TN 37934**, hereinafter referred to as **SUBCONSULTANT**.

WHEREAS, **DSH** may enter into future contracts with **Subdivisions that require Wastewater Utility Service** (**CLIENT**) for the purposes of furnishing certain professional services in connection with **Wastewater Utility**; and

WHEREAS, **DSH** desires **SUBCONSULTANT** to perform certain professional services in connection with **CLIENT** requirements and **SUBCONSULTANT** desires to perform such services.

NOW, THEREFORE, in consideration of the mutual covenants hereinafter contained, the parties hereto agree as follows:

I. SCOPE OF WORK

SUBCONSULTANT shall perform in a proper manner, satisfactory to **DSH**, the technical services as more fully described in Attachment A. "Scope of Work" which is attached hereto and incorporated herein by reference.

II. TIME OF PERFORMANCE

The services to be performed hereunder shall commence upon receipt by **SUBCONSULTANT** of a written "Notice to Proceed" and shall be completed in accordance with the schedule set forth in Attachment A. This Agreement will remain in effect for one year from the date of the Notice To Proceed. The Agreement can be renewed for an additional year upon written notification signed by both parties, prior to the expiration of the period of performance, that the Agreement will be extended for an additional year. This option to extend the contract for an additional one year period will continue indefinitely at the mutual approval of both parties.

III. COMPENSATION AND PAYMENT

For satisfactory performance of the services described above, **DSH** shall pay to **SUBCONSULTANT** the compensation provided for in Attachment B. "Payment" which is attached hereto and incorporated herein by reference. After receipt and approval by **DSH** of **SUBCONSULTANT's** invoice prepared in such form and supported by such documents as **DSH** may reasonably require, **DSH** will include **SUBCONSULTANT's** invoice with **DSH's** regular billings to the **CLIENT**. **DSH** will make payment to the **SUBCONSULTANT** within ten (10) days after receipt of payment from the **CLIENT** for work performed by **SUBCONSULTANT**.

IT IS UNDERSTOOD AND AGREED TO BY THE SUBCONSULTANT THAT PAYMENT FROM CLIENT TO DSH FOR WORK PERFORMED BY SUBCONSULTANT IS A CONDITION PRECEDENT FOR PAYMENT TO SUBCONSULTANT FROM DSH.

IV. COMPLIANCE WITH LAWS

SUBCONSULTANT shall observe and abide by all applicable laws, ordinances and regulations of federal, state and local governments, in connection with the work performed hereunder.

V. SUBCONTRACT AND ASSIGNMENT

This Agreement may not be assigned or subcontracted, in whole or part, without the prior written consent of **DSH**. Approval by **DSH** of any subcontractor shall not relieve the **SUBCONSULTANT** of any liability or responsibility for the proper performance of the work under this Agreement.

VI. INSPECTIONS

All work performed by **SUBCONSULTANT** shall be subject to the quality inspection and approval by **DSH** at all times, but such approval shall not relieve **SUBCONSULTANT** of responsibility for the proper performance of the work. **SUBCONSULTANT** shall provide sufficient, safe and proper facilities at all times for such inspection of the work, and shall furnish all information concerning the

work, and grant **DSH's** duly authorized representatives free access at all reasonable times to **SUBCONSULTANT's** facilities where the work under this Agreement is to be performed.

VII. CHANGES

DSH shall have the right, at any time prior to completion of the work to direct changes in this Agreement, including but not limited to, change in the Scope of Work. If the change causes an increase or decrease in the cost of, or the time required for the **SUBCONSULTANT's** performance under this Agreement; the **SUBCONSULTANT** must submit to **DSH** within ten (10) days after receipt of the change notice any request for adjustment. **DSH** will issue an addendum to this Agreement for equitable adjustments.

VIII. TERMINATION FOR CONVENIENCE

a) **DSH** shall have the right at any time to terminate this Agreement in whole, or in part, by written notice to **SUBCONSULTANT**. Upon receipt of this notice the **SUBCONSULTANT** shall immediately discontinue performance, will not place any further orders and will promptly cancel all orders to subcontractors.

b) In the event of termination for convenience **DSH** shall pay, in accordance with Article III above, the **SUBCONSULTANT** for all work performed and accepted by **DSH** prior to termination, plus the profit due for the work performed. However, in no event shall **DSH** be obligated to pay more than the Agreement value less any previously paid funds.

SUBCONSULTANT shall have the right at any time to terminate this Agreement in whole, or in part, by written notice to **DSH**. Prior to termination and cessation of work **SUBCONSULTANT** will complete all work and reports that comprise the approved **PROJECT**, and submit same to **DSH** and **CLIENT** prior to cessation of work.

IX. DEFAULT

a) Should the **SUBCONSULTANT** breach any provisions of this Agreement **DSH** shall have the rights and remedies provided by law or under these terms and conditions.

b) **DSH** shall have the right at any time to terminate this Agreement in whole, or in part, if the **SUBCONSULTANT** fails to perform any of its obligations or if the **SUBCONSULTANT** fails to give **DSH** assurance of adequate performance within ten (10) working days after written request by **DSH** for such assurances.

c) In the event of a breach of the Agreement **DSH** may:

1) Declare the **SUBCONSULTANT** to be in default.

2) Cancel this Agreement in whole or in part.

3) Withhold payment of any further funds which may be due the **SUBCONSULTANT** until the default is corrected.

4) Pursue any and all other remedies afforded by law.

X. INDEMNIFICATION AND INSURANCE

a) **SUBCONSULTANT** shall indemnify, defend and hold harmless **DSH** and **CLIENT**, and their respective officers, agents, servants and employees from and against all claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from the **SUBCONSULTANT's** negligent acts, errors or omissions in the performance of the services under this Agreement.

b) With respect to its indemnification obligation hereunder, **SUBCONSULTANT** hereby assumes the entire responsibility and liability for any and all damages or injury (including death resulting therefrom) to employees of the **SUBCONSULTANT** caused by, resulting from, arising out of or occurring in connection with the performance of the services under this Agreement, and if any claims for such damage or injury (including death resulting therefrom) be made or asserted, whether or not such claims are based upon **DSH's** or **CLIENT's** alleged or actual negligent acts, errors or omissions, **SUBCONSULTANT** agrees to indemnify, defend and hold harmless **DSH** and **CLIENT**, and their respective officers, agents, servants and employees from and against all such claims, damages, losses and expenses, including but not limited to attorneys' fees, that they may directly or indirectly sustain, suffer or incur as a result thereof.

XI. INDEPENDENT CONTRACTOR

The **SUBCONTRACTOR** is an independent contractor and shall not be regarded as an employee or agent of **DSH**. At times, DSH may provide **SUBCONSULTANT** business tools, such as email accounts, marketing materials, etc., for use in accomplishing work. However, use of these business tools must always include a disclaimer to identify that **SUBCONSULTANT** is not an DSH employee or agent.

XII. CONFIDENTIALITY

No publicity releases (including news releases and advertising) relating to this Agreement or the Work hereunder shall be issued by the **SUBCONSULTANT** without the prior written approval of **DSH**. The **SUBCONSULTANT** will comply at all times with the confidentiality terms established in the Mutual Non-Disclosure Agreement included as Attachment D to this Agreement.

XIII. CONFLICT OF INTEREST

Conflicts can occur from the standpoint of the organization or from personnel. Such conflicts could potentially jeopardize the quality of work due to inadvertent or intentional bias placed on Task Order performance. To avoid such conflicts the SUBCONTRACTOR represents, warrants and confirms, for the duration of the Project, that neither SUBCONTRACTOR nor any of SUBCONTRACTOR's subcontractors has or has had any commitment to perform services for others or any other obligations or circumstances which conflict with the interest of DSH's or SUBCONTRACTOR's obligations hereunder as specified in the Agreement.

Further, SUBCONTRACTOR warrants that, for the duration of the Project, SUBCONTRACTOR will not propose to or enter into any agreement or engage in any conduct that would conflict with the interest of DSH's or SUBCONTRACTOR's obligations under this Agreement.

XIV. EXAMINATION OF RECORDS

The **SUBCONSULTANT** agrees that **DSH** will have access to and the right to examine any books, documents, papers and records of any and all the transactions relating to this Agreement. The **SUBCONSULTANT** shall maintain all records for a period of three (3) years after completion of the Work.

XV. OWNERSHIP OF DOCUMENTS

Upon completion and payment in full of all monies due to **SUBCONSULTANT**, all drawings, specifications, reports, information or data prepared by or furnished to **SUBCONSULTANT** in connection with any or all work to be performed under this Agreement shall be the property of **the Client and are considered Works Made for Hire.** The **SUBCONSULTANT** shall have no liability for any claim, liability or cost arising out of any unauthorized DSH or modification by the **SUBCONSULTANT** of any work products without the written authorization of **CLIENT**.

XVI. PARTIAL INVALIDITY

If any term, covenant, condition or provision of this Agreement is found by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the provisions hereof shall remain in full force and effect, and shall in no way be affected, impaired or invalidated thereby.

XVII. HEADINGS

Headings in this Agreement are for convenience only and are not intended to be used in interpreting or construing the terms, covenants, and conditions of this Agreement.

XVIII. GOVERNING LAWS

The validity or construction of this Agreement, as well as the rights and duties of the parties hereinunder, shall be governed by the laws of the State specified in the Choice of Law or other applicable clause in the Prime Agreement or, if no such State is specified, then the State of Tennessee.

XIX. COMPLIANCE WITH PRIME AGREEMENT

SUBCONSULTANT hereby agrees to abide and be bound by the terms of Prime Agreement between **DSH** and its client, which is incorporated herein by reference and included as Attachment C to this Agreement. In the event of any conflict between this Agreement and any other document(s), the stricter terms and conditions shall control.

XX. SUPPLEMENTS TO AGREEMENT

The following exhibits, supplements or addendums form an integral part of this Agreement.

- Attachment "A" Scope of Work
- Attachment "B" Compensation and Payment
- Attachment "C" Prime Agreement Terms and Conditions
- Attachment “D” Mutual Non-Disclosure Agreement

XXI. ENTIRE AGREEMENT

This Agreement constitutes the whole agreement between the parties with respect to the subject matter contained herein and there are no terms other than those contained herein. No modification or amendment of this Agreement shall be valid unless in writing and signed by the parties hereto.

DSH & Associates, LLC

Signature

Name: Douglas S. Hodge, Ph.D., PMP

Title: Operations Manager

SUBCONSULTANT

Signature

Name: Pete Dayton

Title: Consultant

Date: 1/20/11

Attachment A
Scope of Work

For the purposes of this Contract, the Scope of Work includes:

- Providing a contracting and legal support and be a member of the board of directors.

Attachment B
Compensation and Payment

A. For the performance of services as set forth by this agreement, the SUBCONSULTANT shall be paid **$75 per hour.**

C. All services should be invoiced within 30 days of final performance. DSH will provide a Subconsultant Invoice Transmittal form to be included with each invoice. ***The completed form may be attached, if so desired***. Please send the invoice along with the completed Subconsultant Invoice Transmittal form to:

4028 Taliluna Avenue
Knoxville, TN 37919
865-755-8066

Or submit via e-mail to:

hodge.dsh@gmail.com

BORING & GOINS, P.C.
CERTIFIED PUBLIC ACCOUNTANTS

2927 ESSARY DRIVE
KNOXVILLE, TN 37918
PHONE (865) 525-6233
FAX (865) 251-1492

MEMBERS
AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS
TENNESSEE SOCIETY OF CERTIFIED PUBLIC ACCOUNTANTS

To the Members
DSH & Associates, LLC
Knoxville, TN 37919

Dear Members:

As we discussed, I would be happy to serve your accounting, tax, and management advisory services needs.

In accordance with standards established by the American Institute of Certified Public Accountants, an engagement letter is necessary to set forth our understanding of the terms and objetives of our relationship, and the nature and limitations of the services to be provided.

I will provide the following services:

> I will perform general accounting services and tax preparation for the company each year end. And if found necessary, perform an audit.

Our fees range from $60 - $175 per hour based upon the complexity of the service. Our invoices for these fees will be rendered each month as work progresses and are payable on presentation.

I look forward to working with you and will be happy to discuss this letter and our arrangements with you at any time.

If the foregoing is agreeable to you, please sign this letter in the space provided and return it to me in the enclosed envelope. The second copy is for your files.

Sincerely,

Roger L. Goins, CPA
Boring & Goins, PC

Acknowledged:

Douglas S. Hodge

President

1/21/11

Date

ATTACHEMENT 17:

DSH Financial Reports

(CONFIDENTIAL – NOT FOR PUBLICATION)

DSH & Associates, LLC
Profit & Loss
January through December 2010

	Jan - Dec 10
Ordinary Income/Expense	
Income	
42600 · Construction Income	27,601.24
42700 · Consulting Income	2,035.15
Total Income	29,636.39
Cost of Goods Sold	
53500 · Subcontracted Services	1,305.75
53600 · Subcontractors Expense	4,508.85
Total COGS	5,814.60
Gross Profit	23,821.79
Expense	
51900 · Other Construction Costs	-400.00
64300 · Meals and Entertainment	11,160.42
68000 · Taxes - Property	28.18
Total Expense	10,788.60
Net Ordinary Income	13,033.19
Net Income	**13,033.19**

DSH & Associates, LLC
Balance Sheet
As of December 31, 2010

	Dec 31, 10
ASSETS	
Current Assets	
Checking/Savings	
BB&T DSH Checking	19,870.19
DSH & Associates	1,057.28
Hodge Personnal	-26.23
Money Market	328.38
Total Checking/Savings	21,229.62
Accounts Receivable	
11000 · Accounts Receivable	17,546.00
Total Accounts Receivable	17,546.00
Total Current Assets	38,775.62
Fixed Assets	
15000 · Furniture and Equipment	7,485.68
Total Fixed Assets	7,485.68
TOTAL ASSETS	**46,261.30**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Other Current Liabilities	
24000 · Payroll Liabilities	9.69
Total Other Current Liabilities	9.69
Total Current Liabilities	9.69
Total Liabilities	9.69
Equity	
30300 · Doug's Draws	-103,820.75
32000 · Retained Earnings	137,039.17
Net Income	13,033.19
Total Equity	46,251.61
TOTAL LIABILITIES & EQUITY	**46,261.30**

DSH & Associates, LLC
Statement of Cash Flows
January through December 2010

	Jan - Dec 10
OPERATING ACTIVITIES	
Net Income	13,033.19
Adjustments to reconcile Net Income to net cash provided by operations:	
11000 · Accounts Receivable	-10,586.00
Net cash provided by Operating Activities	2,447.19
FINANCING ACTIVITIES	
30300 · Doug's Draws	-30,000.00
Net cash provided by Financing Activities	-30,000.00
Net cash increase for period	-27,552.81
Cash at beginning of period	48,782.43
Cash at end of period	**21,229.62**