

**SOP APPLICATION – page 1**

Permit Number: SOP-\_\_\_\_\_

Type of application:     New Permit             Permit Reissuance             Permit Modification

|   |  |
|---|--|
| <b>Permittee Identification:</b> (Name of city, town, utility, 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):/Facility Name   | <b>Tennessee Wastewater Systems, Inc. / Nolensville-Dove Lake Treatment Facility</b> |
| Permittee Address:  | <b>851 Aviation Parkway Smyrna, TN 37167</b>   |

|  |  |                     |                      |
|--|--|---------------------|----------------------|
| Official Contact:<br><b>Charles Hyatt</b>    | Title or Position:<br><b>President</b> |                     |                      |
| Mailing Address:<br><b>851 Aviation Pkwy</b> | City:<br><b>Smyrna</b>                 | State:<br><b>TN</b> | Zip:<br><b>37167</b> |
| Phone number(s): <b>(615) 220-7200</b>       | E-mail:                                |                     |                      |

|  |                                       |                     |                      |
|--|---------------------------------------|---------------------|----------------------|
| Optional Contact:<br><b>Jesse Hutcherson</b>     | Title or Position:<br><b>Operator</b> |                     |                      |
| Address:<br><b>849 Aviation Pkwy</b>             | City:<br><b>Smyrna</b>                | State:<br><b>TN</b> | Zip:<br><b>37167</b> |
| Phone number(s):<br><b>office (615) 220-7200</b> | E-mail:                               |                     |                      |

|  |   |                        |
|--|---|------------------------|
| <b>Application Certification</b> (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<br><b>Charles Hyatt - President</b>  | Signature<br> | Date<br><b>2-12-15</b> |

**OFFICIAL STATE USE ONLY**

|               |                             |              |          |
|---------------|-----------------------------|--------------|----------|
| Received Date | Permit Number<br><b>SOP</b> | Field Office | Reviewer |
|---------------|-----------------------------|--------------|----------|

| <b>Facility Identification:</b>  |   | <b>Existing Permit No.</b>   |                     |               |
|--|---|--|---------------------|---------------|
| Facility Name:   | <b>Nolensville-Dove Lake Treatment Facility</b> | County:  | <b>Williamson</b>   |               |
| Facility Address or Location:  | <b>At Nolensville Road and Big Oak Lane</b>     | Latitude:  | <b>N 35° 54'09"</b> |               |
|  |   | Longitude:   | <b>W 86° 39'10"</b> |               |
| Name of Engineer for the project: <b>Mark P. Lee P.E.</b>  |   |  |                     |               |
| Engineer address and phone number:   |   | <b>850 Middle Tennessee Blvd.</b>                                      | <b>615-890-7901</b> |               |
| Name and distance to nearest receiving waters: <b>Arrington Creek east side of the property</b>  |   |  |                     |               |
| If any other State or Federal Water/Wastewater Permits have been obtained for this site, list their permit numbers:<br><b>None</b>   |   |  |                     |               |
| Name of company, utility, or governmental entity that will operate the permitted system: <b>Tennessee Wastewater</b>   |   |  |                     |               |
| Operator address: <b>851 Aviation Pkwy<br/>Smyrna TN 37167</b>   |   |  |                     |               |
| 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)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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. <b>Tennessee Wastewater Systems Inc. will own the facility and site.</b> |   |  |                     |               |
| Name of Public Water Provider: <b>Nolensville College Grove Utility District<br/>Charles Strasser 615-776-2511<br/>ncgud@aol.com</b>   |   |  |                     |               |
| List Standard Industrial Codes (SIC)/ North American Industrial Code (s) (NAIC) for proposed activity (these are located at <a href="http://www.census.gov/epcd/www/naicstab.htm">http://www.census.gov/epcd/www/naicstab.htm</a> ) <b>4941 - water system, 4959 – Sewage treatment, 4971 - Irrigation</b>                               |   |  |                     |               |
| <b>Complete the following information explaining the entity type, number of design units, and daily design wastewater flow:</b>  |   |  |                     |               |
| Entity Type  |   | Number of Design Units   |                     | Flow (gpd)    |
| <input type="checkbox"/> City, town or county  | No. of connections:                             |  |                     |               |
| <input checked="" type="checkbox"/> Subdivision  | No. of homes: <b>165</b>                        | Avg. No. bedrooms per home: <b>3-4 @ 300gpd/home</b>                   |                     | <b>49,500</b> |
| <input type="checkbox"/> School  | No. of students:                                | Size of cafeteria(s):<br>No. of showers: <b>0</b>                      |                     |               |
| <input type="checkbox"/> Apartment   | No. of units:                                   | No. units with Washer/Dryer hookups:<br>No. units without W/D hookups: |                     |               |
| <input type="checkbox"/> Commercial Business   | No. of employees:                               | Type of business:  |                     |               |
| <input type="checkbox"/> Industry  | No. of employees:                               | Product(s) manufactured:   |                     |               |
| <input type="checkbox"/> Resort  | No. of units:                                   |  |                     |               |
| <input type="checkbox"/> Camp  | No. of hookups:                                 |  |                     |               |
| <input type="checkbox"/> RV Park   | No. of hookups:                                 | No. of dump stations:  |                     |               |
| <input type="checkbox"/> Car Wash  | No. of bays:                                    |  |                     |               |
| <input type="checkbox"/> Other   |   |  |                     |               |
| Describe the type and frequency of activities that result in wastewater generation.<br><b>The treatment and land application of typical domestic waste.</b>  |   |  |                     |               |

Permit Number: SOP-\_\_\_\_\_

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| <b>Engineering Report (required for collection systems and/or land application treatment systems):</b>   | <input type="checkbox"/> N/A |
| <input checked="" type="checkbox"/> Prepared in accordance with Rule 1200-4-2-.03 and Section 1.2 of the Tennessee Design Criteria (see <a href="#">website</a> for more information)<br><input checked="" type="checkbox"/> Attached, or<br><input type="checkbox"/> Previously submitted and entitled: _____ |                              |
| Approved? <input type="checkbox"/> Yes. Date: _____  | <input type="checkbox"/> No  |

|   |                                       |
|---|---------------------------------------|
| <b>Wastewater Collection System:</b>  | <input type="checkbox"/> N/A          |
| System type (i.e., gravity, low pressure, vacuum, combination, etc.): <b>Watertight effluent pressure collection system</b>   |                                       |
| System Description: <b>2", 3", and 4" diameter SDR 21 PVC pressure pipe and required fittings</b>   |                                       |
| Describe methods to prevent and respond to any bypass of treatment or discharges (i.e., power failures, equipment failures, heavy rains, etc.):<br><b>Each home has a minimum of 24-36 hours storage in the STEP tank. Heavy rains have a minimal impact on the watertight collection system. Small generators can be connected to the pump stations and treatment system as necessary during an extended power outage.</b> |                                       |
| In the event of a system failure describe means of operator notification: <b>All pumps have redundancy &amp; alarms.</b>  |                                       |
| List the emergency contact(s) (name/phone): <b>Jesse Hutcherson /615-220-7200</b>   |                                       |
| For low-pressure systems, who is responsible for maintenance of STEP/STEG tanks and pumps or grinder pumps (list all contact information)?<br><b>STEP tanks – Tennessee Wastewater, 851 Aviation Parkway, Smyrna, TN 37167 (615) 220-7200</b>   |                                       |
| Approximate length of sewer (excluding private service lateral): <b>8,000 linear feet</b>   |                                       |
| Number/hp of lift stations: _____ / _____   | Number/hp of lift pumps _____ / _____ |
| Number/volume of low pressure and or grinder pump tanks <b>Proposed 1-5000 gal Recirc Tank, 1-3,000 gal Final Dose Tank</b><br>Number/volume septic tanks <b>165~1,500 STEP tanks</b>   |                                       |
| Attach a schematic of the collection system. <input checked="" type="checkbox"/> Attached   |                                       |
| If this is a satellite sewer and you are tying in to another sewer system complete the following section, listing tie-in points to the sewer system and their location (attach additional sheets as necessary):   |                                       |
| <u>Tie-in Point</u>   | <u>Latitude (xx.xxx°)</u>             |
| <b>None</b>   | _____                                 |
| _____   | _____                                 |
| _____   | _____                                 |

|  |                              |
|--|------------------------------|
| <b>Land Application Treatment System:</b>  | <input type="checkbox"/> N/A |
| Type of Land Application Treatment System: <input checked="" type="checkbox"/> Drip <input type="checkbox"/> Spray <input type="checkbox"/> Other, explain: _____  |                              |
| Type of treatment facility preceding land application (recirculating media filters, lagoons, other, etc.): <b>Recirculating media filter</b>   |                              |
| Attach a treatment schematic. <input checked="" type="checkbox"/> Attached   |                              |
| Describe methods to prevent and respond to any bypass of treatment or discharges (i.e., power failures, equipment failures, heavy rains, etc.):<br><b>The existing septic tank and proposed STEP tanks are sized for peak daily flow storage for the purpose of power failures and equipment failures.</b> |                              |
| For New or Modified Projects: <b>Enclave at Dove Lake</b><br>Name of Developer for the project: <b>Himanshu Amin</b><br>Developer address and phone number: <b>6046 FM 2920 Rd # 512<br/>Spring, Tx 77379 (281)-376-1500</b>   |                              |
| For land application, list: <input checked="" type="checkbox"/> Proposed acreage involved: <b>approx. 11.3 acres total, 5.68 acres plus reserve</b> <input checked="" type="checkbox"/><br>Inches/week gpd/sq.ft loading rate to be applied: <b>approximately 0.2 gpd/sf loading rate</b>                  |                              |
| Is wastewater disinfection proposed?   |                              |
| <input type="checkbox"/> Yes Describe land application area access: _____  |                              |
| <input checked="" type="checkbox"/> No Describe how access to the land application area will be restricted <b>fence with access gates</b>  |                              |

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| <b>Attach required additional Engineering Report Information (see <a href="#">website</a> for more information)</b>  |   |
| <input checked="" type="checkbox"/>  | Topographic map (1:25,000 scale presented at a six inch by six inch minimum size) showing the location of the project including quadrangle(s) name(s) GPS coordinates, and latitude and longitude in decimal degrees should also be included.   |
| <input checked="" type="checkbox"/>  | 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.                                 |
| <input checked="" type="checkbox"/>  | Soils information for the proposed land disposal area in the form of a Water Pollution Control (WPC) Soils Map per Chapter 16 and 17 State of Tennessee Design Criteria for Sewage Work. The soils information should include soil depth (borings to a minimum of 4 feet or refusal) and soil profile description for each soil mapped.   |
| <input checked="" type="checkbox"/>  | Topographic map of the area where the wastewater is to be land applied with no greater than ten foot contours presented at a minimum size of 24 inches by 24 inches.  |
| <input checked="" type="checkbox"/>  | 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.  |
| <b>For Drip Dispersal Systems Only:</b> Unless otherwise determined by the Department, sewage treatment effluent wells, i.e. large capacity treatment/drip dispersal systems after approval of the SOP Application, will be issued an UIC tracking number and will be authorized as Permit by Rule per UIC Rule 1200-4-6-.14(2) and upon issue of a State Operating Permit and Sewage System Construction Approval by the Department. Describe the following:  |   |
| The area of review (AOR) for each Drip Dispersal System shall, unless otherwise specified by the Department, consist of the area lying within a one mile radius or an area defined by using calculations under 1200-4-6-.09 of the Drip Dispersal System site or facility, and shall include, but not be limited to general surface geographic features, general subsurface geology, and general demographic and cultural features within the area. Attach to this part of the application a general characterization of the AOR, including the following: (This can be in narrative form) <a href="#">see 2.0</a> |   |
| <input checked="" type="checkbox"/>  | A general description of all past and present groundwater uses as well as the general groundwater flow direction and general water quality. <a href="#">see 3.0</a>   |
| <input checked="" type="checkbox"/>  | A general description of the population and cultural development within the AOR; i.e. <input checked="" type="checkbox"/> agricultural, <input type="checkbox"/> commercial, <input type="checkbox"/> residential or <input type="checkbox"/> mixed. <a href="#">see 4.0</a>  |
| <input checked="" type="checkbox"/>  | Nature of injected fluid to include physical, chemical, biological or radiological characteristics. <a href="#">see 5.0</a>   |
| <input checked="" type="checkbox"/>  | If groundwater is used for drinking water within the area of review, then identify and locate on a topographic map all groundwater withdrawal points within the AOR, which supply public or private drinking water systems. Or supply map showing general location of publicly supplied water for the area( this can be obtained from the water provider) <a href="#">see 6.0</a> |
| <input type="checkbox"/>   | If the proposed system is located within a wellhead protection area or source water protection area designated by Rule 1200-5-1-.34, show the boundary of the protection area on the facility site plan.  |
| <input checked="" type="checkbox"/>  | Description of system, Volume of injected fluid in gallons per day based upon design flow, including any monitoring wells <a href="#">see 7.0</a>   |
| <input checked="" type="checkbox"/>  | Nature and type of system, including installed dimensions of wells and construction materials <a href="#">see 8.0</a>   |

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| <b>Pump and Haul:</b>   | <input checked="" type="checkbox"/> 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.): |   |

|   |   |
|---|---|
| <b>Holding Ponds (for non-domestic wastewater only):</b>  | <input checked="" type="checkbox"/> N/A |
| Pond use: <input type="checkbox"/> Recirculation <input type="checkbox"/> Sedimentation <input type="checkbox"/> Cooling <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No  |                   |
| If so, describe disposal plan:  |                   |
| Is the pond ever dewatered? <input type="checkbox"/> Yes <input type="checkbox"/> No  |                   |
| If so, describe the purpose for dewatering and procedures for disposal of wastewater and/or sludge:   |                   |
| Is(are) the pond(s) aerated? <input type="checkbox"/> Yes <input type="checkbox"/> 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.)? <input type="checkbox"/> Yes <input type="checkbox"/> No   |                   |
| Describe the liner material (if soil liner is used give the compaction specifications):   |                   |
| Is there an emergency overflow structure? <input type="checkbox"/> Yes <input type="checkbox"/> No  |                   |
| <i>If so, provide a design drawing of structure.</i>  |                   |
| Are monitoring wells or lysimeters installed near or around the pond(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No   |                   |
| <i>If so, provide location information and describe monitoring protocols (attach additional sheets as necessary):</i>   |                   |
| <b>Attach required additional Information</b>   |                   |
| <input checked="" type="checkbox"/> 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 quadrangle name should also be included.   |                   |
| <input checked="" type="checkbox"/> Scaled layout of facility showing the following: lots, buildings, etc. being served, the wastewater collection system routes, the pretreatment system location, roads, property boundaries, and sensitive areas such as streams, lakes, springs, wells, wellhead protection areas, sinkholes and wetlands.  |                   |
| The area of review (AOR) for each holding pond shall, unless otherwise specified by the Department, consist of the area lying within and below a one mile radius of the holding pond site or facility, and shall include, but not be limited to surface geographic features, subsurface geology, and demographic and cultural features within the area. Attach to this part of the application a complete characterization of the AOR, including the following: (This can be in narrative form) |                   |
| <input checked="" type="checkbox"/> Description of all past and present uses of groundwater within the AOR, as documented by public record.   |                   |
| <input checked="" type="checkbox"/> Description of the groundwater hydrology within the AOR, including characteristics of all subsurface aquifers, presence or absence of solution development features, general direction of groundwater movement, and chemical characteristics of the ground waters in the AOR..  |                   |
| <input checked="" type="checkbox"/> Description of the population and cultural development within the AOR, including the number of persons living within one mile of the well or facility, land uses within the AOR, and the existence of any community, state, regional or national parks, wildlife refuges, natural or wilderness areas, recreational or other public-use areas, or any other environmentally sensitive features within the area of review.                                   |                   |
| <input checked="" type="checkbox"/> If groundwater is used for drinking water within the area of review, then identify and locate on a topographic map all groundwater withdrawal points within the AOR, which supply public or private drinking water systems..  |                   |
| <input type="checkbox"/> Identify any surface water intake, which supplies a public water distribution system and is located within the AOR or within three miles topographically down gradient from the well or facility. If any such intake(s) wells or springs exist, then locate on map   |                   |

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| <b>Mobile Wash Operations:</b>   |               | <input checked="" type="checkbox"/> N/A |
| <input type="checkbox"/> Individual Operator <span style="float: right;"><input type="checkbox"/> Fleet Operation Operator</span>  |               |   |
| <b>Indicate the type of equipment, vehicle, or structure to be washed during normal operations (check all that apply):</b>   |               |   |
| <input type="checkbox"/> Cars <span style="float: right;"><input type="checkbox"/> Parking Lot(s):          sq. ft.</span>   |               |   |
| <input type="checkbox"/> Trucks <span style="float: right;"><input type="checkbox"/> Windows:          sq. ft.</span>  |               |   |
| <input type="checkbox"/> Trailers (Interior washing of dump-trailers, or tanks, is prohibited.) <span style="float: right;"><input type="checkbox"/> Structures (describe):</span>             |               |   |
| <input type="checkbox"/> Other (describe):<br>   |               |   |
| <b>Wash operations take place at (check all that apply):</b>   |               |   |
| <input type="checkbox"/> Car sales lot(s) <span style="float: right;"><input type="checkbox"/> Public parking lot(s)</span>  |               |   |
| <input type="checkbox"/> Private industry lot(s) <span style="float: right;"><input type="checkbox"/> Private property(ies)</span>   |               |   |
| <input type="checkbox"/> County(ies), list: <span style="float: right;"><input type="checkbox"/> Statewide</span>  |               |   |
| <b>Wash equipment description:</b>   |               |   |
| <input type="checkbox"/> Truck mounted <span style="float: right;"><input type="checkbox"/> Trailer mounted</span>   |               |   |
| <input type="checkbox"/> Rinse tank size(s) (gal.): <span style="float: right;"><input type="checkbox"/> Mixed tanks size(s) (gal.):</span>  |               |   |
| <input type="checkbox"/> Collection tank size(s) (gal.): <span style="float: right;">Number of tanks per vehicle:</span>   |               |   |
| Pressure washer:          psi (rated)          gpm (rated) <span style="float: right;">Pressure washer: <input type="checkbox"/> gas powered          <input type="checkbox"/> electric</span> |               |   |
| Vacuum system manufacturer/model: <span style="float: right;">Vacuum system capacity:          inches Hg</span>  |               |   |
| 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? <input type="checkbox"/> Yes <input type="checkbox"/> No  |               |   |
| <b>Describe all soaps, detergents, or other chemicals used in the wash operation (attach additional sheets as necessary):</b>  |               |   |
| Chemical name:   | Manufacturer: | Primary CAS No. or Product No.          |
|  |               |   |
|  |               |   |
|  |               |   |
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## APPLICATION FOR A STATE OPERATION PERMIT (SOP) INSTRUCTIONS

**Purpose of this form** A completed SOP application must be submitted to obtain SOP coverage. This permit is required to operate a domestic sewage, industrial waste or other waste collection and/or treatment system that does not have a point source discharge to any surface or subsurface waters. This form must be submitted at least 180 days before starting any new activity, or 180 days prior to the expiration date, or when renewing a permit.

**Complete the form** Type or print clearly, using black or blue ink; not markers or pencil. Answer each item or enter "N/A," for not applicable. If you need additional space, attach a separate piece of paper to the SOP application. Applicants may be required to submit engineering reports, plans and specifications. Contact the division for the applicable items, or visit the Division of Water Pollution Control World Wide Web site at: <http://www.state.tn.us/environment/wpc> for more information. **The application will be considered incomplete absent any of the required information, Engineering Reports, and an original signature.**

**Permittee Identification/Facility Identification** Describe and locate the project, use the legal or official name of the facility or site. Provide the latitude and longitude (expressed in decimal degrees) of the center of the site, which can be located on USGS quadrangle maps. The quadrangle maps can be obtained at 1-800-USA-MAPS, or at the Census Bureau World Wide Web site: <http://www.census.gov/cgi-bin/gazetteer>. Attach a copy of a portion of a 7.5 minute quad map, showing location of site, with boundaries at least one mile outside the site boundaries. If business is mobile give the owner of operations' home, or business office address of the owner, and list all current areas of operation by city and county.

**Wastewater Collection System** These types of systems require engineering reports, refer to the website ( <http://www.tdec.net/wpc/> ) for more information.

**Land Application Treatment System** These types of systems require engineering reports, refer to the website (<http://www.tdec.net/wpc/>) for more information. Public access to the land application and treatment area must be restricted, if disinfection is not part of the treatment. Applicants completing this section of the application must also complete the Wastewater Collection System section.

**Pump and Haul** These types of systems may require engineering reports, refer to the website (<http://www.tdec.net/wpc/>) for more information.

**Holding Ponds** Given that annual rainfall onto open ponds exceeds annual evaporation (in Tennessee), the permittee must develop a written plan (to be retained on site and be available to the division upon request) that addresses how excess rainfall will be disposed of in compliance with the no discharge requirement of this permit. Wastewater treatment ponds are not to be used for stormwater treatment or storage. All new and existing point source industrial stormwater discharges associated with industrial activity require coverage under the Tennessee industrial stormwater multi-sector general permit TMSF, refer to the website (<http://www.tdec.net/permits/strmh2o.shtml>) for more information. Describe the system for re-routing surface runoff away from ponds in the rainfall disposal plan.

**Mobile Wash Operations** Indicate whether the operation is run by an individual or a corporation with a fleet of vehicles equipped to wash and collect waste waters. If a corporation, indicate the home office as the "Official Contact". Indicate if operations take place at specific sites and list those counties in which such sites are located. Note that this permit covers operations within the State of Tennessee. Operations indicated as "statewide" generally apply as a fleet type operation and each office location shall be individually permitted. Equipment may be truck or trailer-mounted, or both, indicate all that apply. Soaps, detergents, and other chemicals used should be non-toxic and biodegradable. All "chemically enhanced" (soaps, detergents, and other chemicals) waste-wash waters must be collected for proper disposal. If no chemically enhanced washwaters are used, clear-wash waters may travel by sheet flow to a gravel or grassy area where there is no opportunity to enter waters of the state. There should be no discharge to a storm water inlet, ditch, conveyance, stream, etc. If you are unsure of your wash area drainage, contact the area Environmental Field Office (EFO) prior to setting up your wash operation.

**Fees** There is a \$250 authorization fee for residential SFDS and \$500 fee for commercial SFDS and commercial holding lagoons. An annual maintenance fee is required and you will be invoiced at a later date.

**Submitting the form and obtaining more information** Note that a responsible corporate officer, owner, general partner or proprietor, principal governmental executive officer, or highest ranking elected official must sign this form. (See Regulation 1200-4-5-.05(a) for exact authorized signatures.). For more information, contact your local EFO at the toll-free number 1-888-891-8332 (TDEC). Submit three complete applications (keep a copy for your records) to the appropriate EFO for the county(ies) where the facility is located, addressed to **Attention: WPC, Permit Section Manager.**

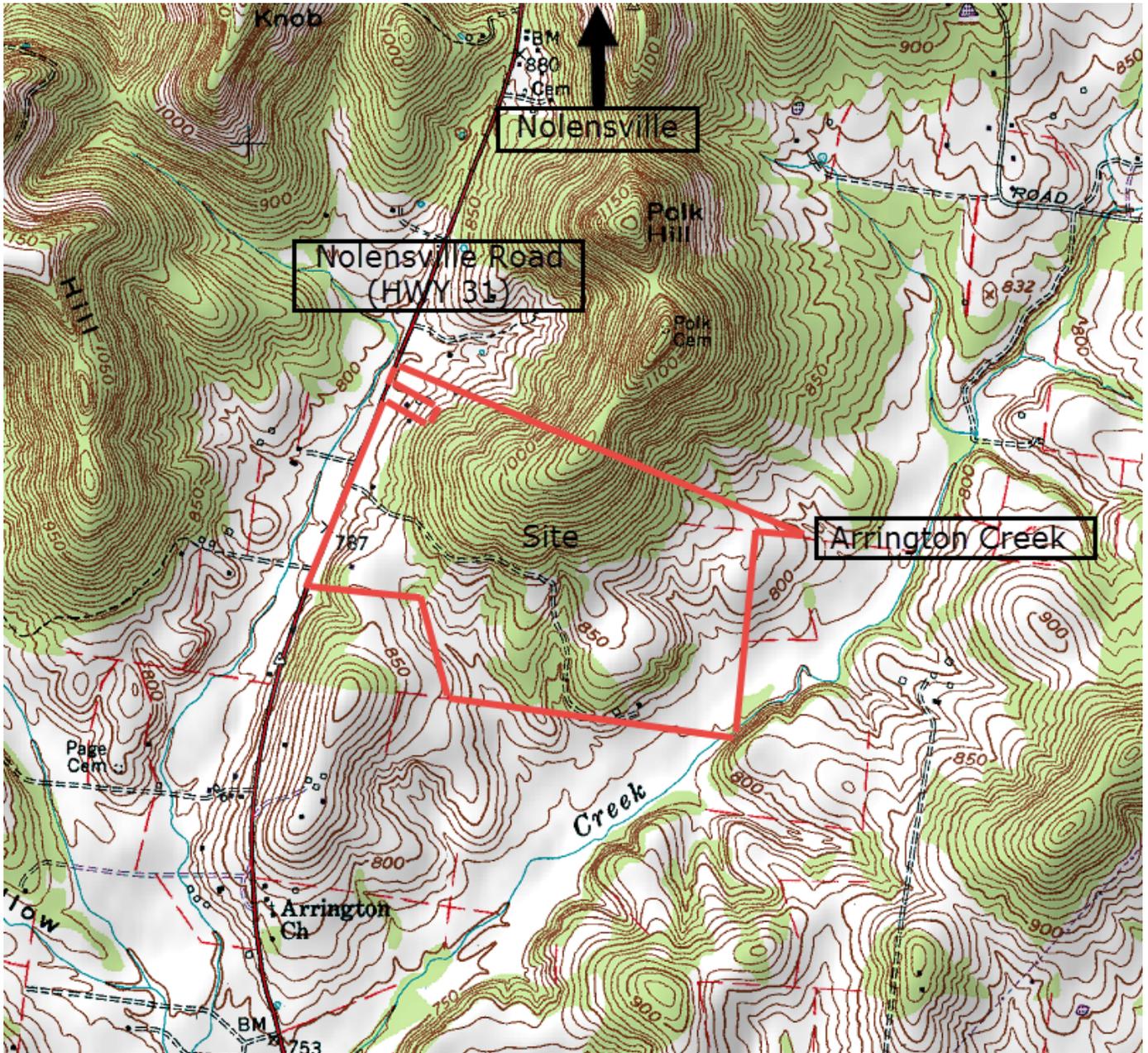
| EFO       | Street Address                 | Zip Code   | EFO          | Street Address              | Zip Code   |
|-----------|--------------------------------|------------|--------------|-----------------------------|------------|
| Memphis   | 2510 Mt. Moriah Road STE E-645 | 38115-1520 | Cookeville   | 1221 South Willow Ave.      | 38506      |
| Jackson   | 1625 Hollywood Dr              | 38305-4316 | Chattanooga  | 540 McCallie Avenue STE 550 | 37402-2013 |
| Nashville | 711 R S Gass Boulevard         | 37243      | Knoxville    | 3711 Middlebrook Pike       | 37921      |
| Columbia  | 2484 Park Plus Drive           | 38401      | Johnson City | 2305 Silverdale Road        | 37601      |

Upon receipt of the required items, the division conducts a review of the material, and the applicant is notified of any deficiencies. When all the deficiencies have been corrected, the division will publish a draft permit or provide the applicant with a Notice of Intent to Deny the permit application. When a draft permit is generated, a public notice is issued and published in a local newspaper. The draft permit is then reviewed by the applicant, and division field staff. The general public also has an opportunity to review the permit. Based on public response, a public hearing may be held. After considering public comments and a final review, the permit may be issued or denied for cause. Permits are normally valid for five (5) years, except those for pump and haul systems, which are generally valid for one (1) year.

The division has the right to inspect a facility when deemed necessary. In addition, the division has the right to revoke or suspend any permit for violation of permit conditions or any other provisions of the Tennessee Water Quality Control Act and other water pollution control rules.

The division is responsible for regulating any activity, which involves a potential discharge in order to protect waters of the State from pollution and to maintain the highest possible standards in water quality.

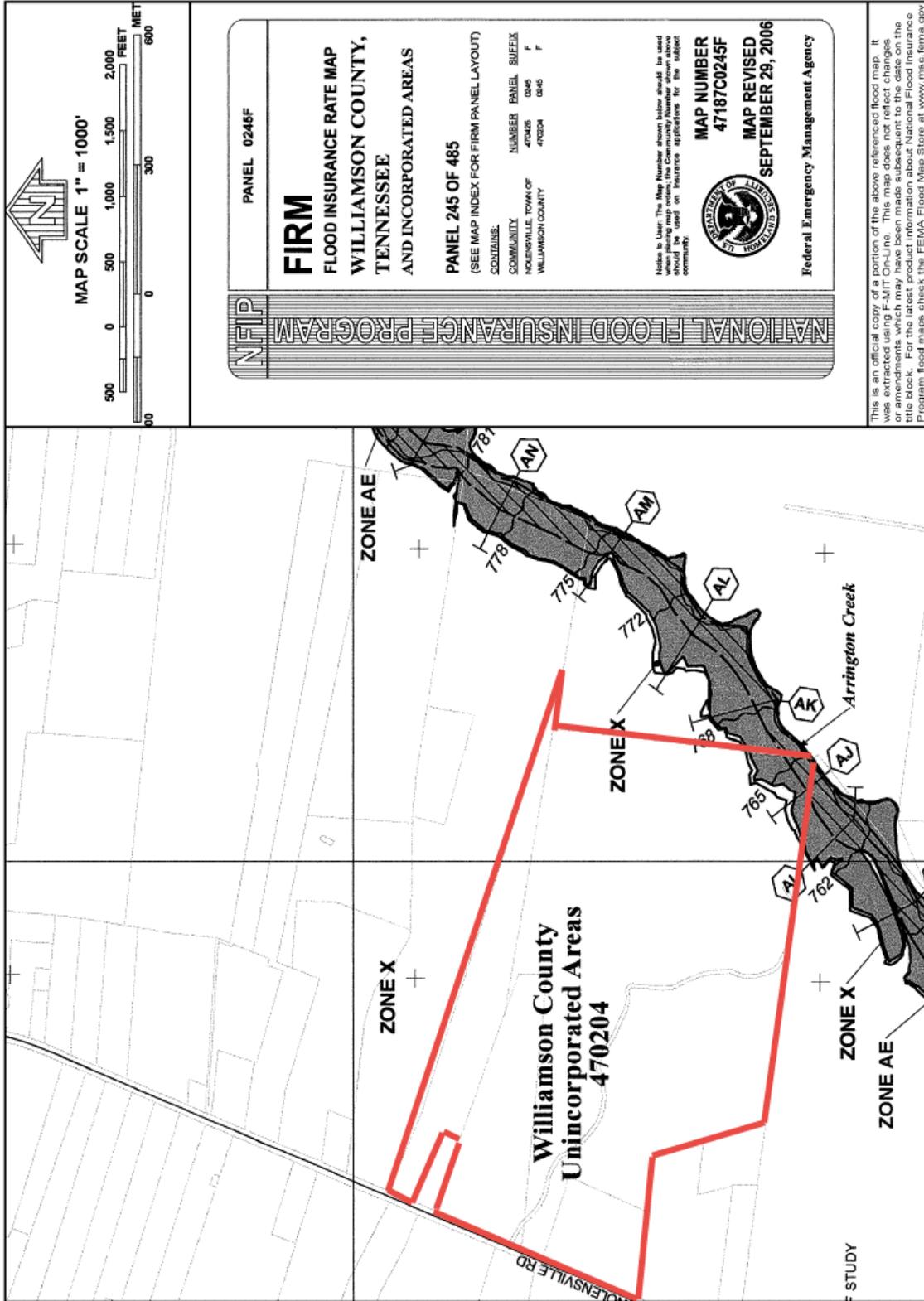
## 2.0 Area of Review



**Area of Review**

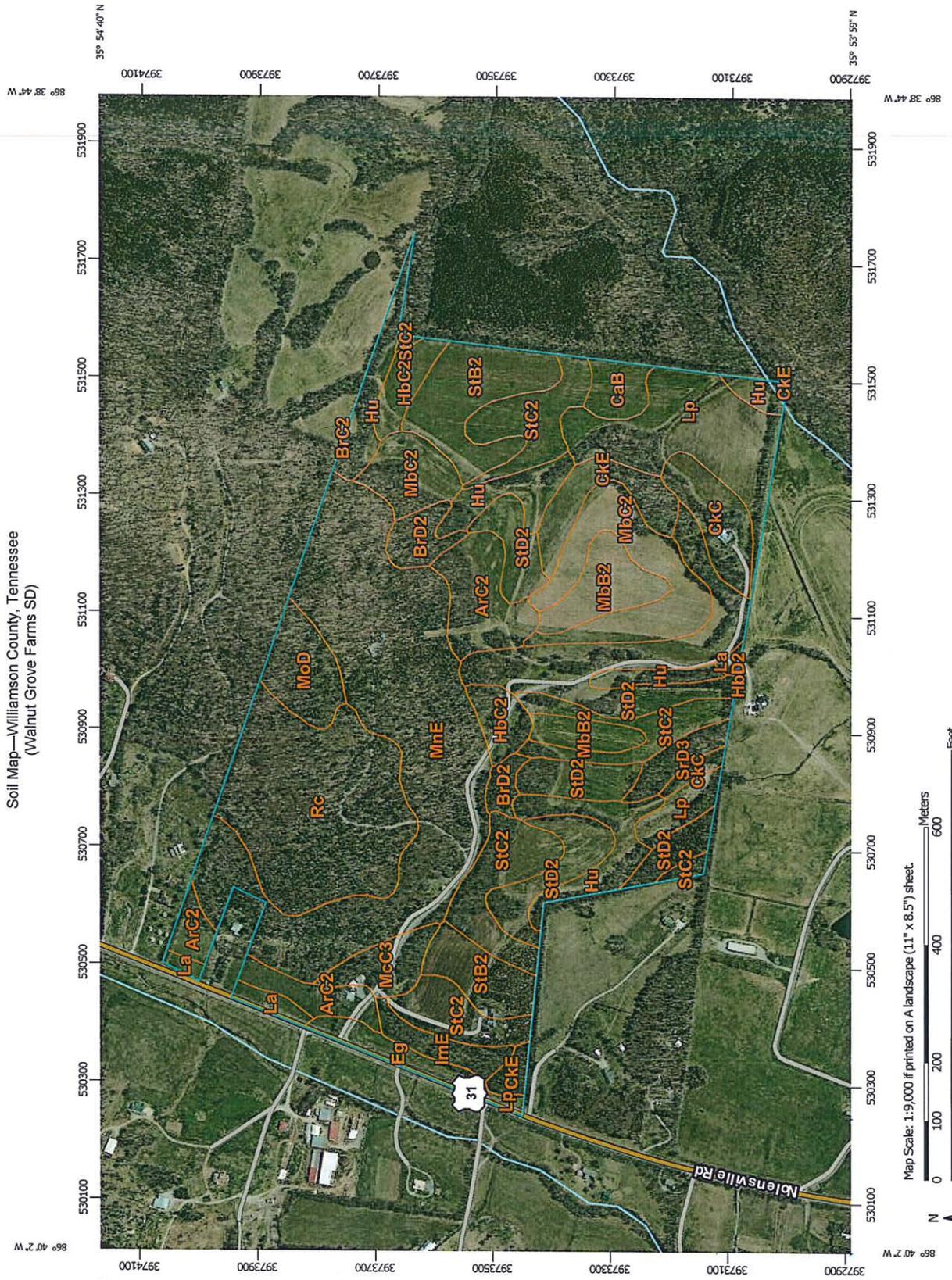


**Aerial Map**



## FEMA MAP 100-Year Floodplain and Elevations

Soil Map—Williamson County, Tennessee  
(Walnut Grove Farms SD)



# NRCS MAP National Cooperative Soil Survey

SEC Project No. 14204



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

## Map Unit Legend

| Williamson County, Tennessee (TN187) |  |              |                |
|--------------------------------------|--|--------------|----------------|
| Map Unit Symbol                      | Map Unit Name  | Acres in AOI | Percent of AOI |
| ArC2                                 | Armour silt loam, 5 to 12 percent slopes, eroded                 | 10.2         | 4.7%           |
| BrC2                                 | Braxton cherty silt loam, 5 to 12 percent slopes, eroded         | 0.0          | 0.0%           |
| BrD2                                 | Braxton cherty silt loam, 12 to 20 percent slopes, eroded        | 3.4          | 1.6%           |
| CaB                                  | Captina silt loam, phosphatic, 2 to 5 percent slopes             | 2.3          | 1.1%           |
| CkC                                  | Culleoka silt loam, 5 to 12 percent slopes                       | 5.4          | 2.5%           |
| CkE                                  | Culleoka silt loam, 20 to 35 percent slopes                      | 5.4          | 2.5%           |
| Eg                                   | Egam silt loam, phosphatic                                       | 2.8          | 1.3%           |
| HbC2                                 | Hampshire silt loam, 5 to 12 percent slopes, eroded              | 4.8          | 2.2%           |
| HbD2                                 | Hampshire silt loam, 12 to 20 percent slopes, eroded             | 0.0          | 0.0%           |
| Hu                                   | Huntington silt loam, phosphatic                                 | 13.8         | 6.4%           |
| ImE                                  | Inman flaggy silty clay loam, 20 to 30 percent slopes, eroded    | 2.6          | 1.2%           |
| La                                   | Lanton silt loam, phosphatic                                     | 1.8          | 0.8%           |
| Lp                                   | Lindell silt loam, 0 to 2 percent slopes, occasionally flooded   | 14.8         | 6.8%           |
| MbB2                                 | Maury silt loam, 2 to 5 percent slopes, eroded                   | 6.8          | 3.1%           |
| MbC2                                 | Maury silt loam, 5 to 12 percent slopes, eroded                  | 13.5         | 6.2%           |
| McC3                                 | Maury silty clay loam, 5 to 12 percent slopes, severely eroded   | 3.2          | 1.5%           |
| MnE                                  | Mimosa-Rock outcrop complex, 20 to 40 percent slopes             | 39.9         | 18.4%          |
| MoD                                  | Mimosa and Ashwood very rocky soils, 5 to 20 percent slopes      | 4.7          | 2.2%           |
| Rc                                   | Rockland   | 22.0         | 10.1%          |
| SrD3                                 | Stiversville clay loam, 12 to 20 percent slopes, severely eroded | 2.2          | 1.0%           |
| StB2                                 | Stiversville silt loam, 2 to 5 percent slopes, eroded            | 12.4         | 5.7%           |
| StC2                                 | Stiversville silt loam, 5 to 12 percent slopes, eroded           | 20.2         | 9.3%           |

| Williamson County, Tennessee (TN187) |   |              |                |
|--------------------------------------|---|--------------|----------------|
| Map Unit Symbol                      | Map Unit Name   | Acres in AOI | Percent of AOI |
| StD2                                 | Stiversville silt loam, 12 to 20 percent slopes, eroded | 24.8         | 11.4%          |
| Totals for Area of Interest          |   | 217.2        | 100.0%         |



### 3.0 Groundwater General Description

The attached USGS map (Section 2) indicates that the surface drainage flow path from the Nolensville-Dove Lake Treatment Facility is to the southeast, discharging into Arrington Creek watershed. The subdivision development is comprised of approximately 220 acres. The topography is mainly rolling slopes of 5 - 15 % with moderately steep slopes at the northern portion of the property. This moderately steep portion makes up approximately 35-40% of the property. Roughly 40-45% of the site is wooded and the 11.4 acres required for drip dispersal is mostly cleared and farmed.

The property has mainly been used for row crops and woodlands. Groundwater was used historically to provide potable water. At this time the area is served by Nolensville College Grove Utility District with potable water.

It is assumed that the groundwater movement and surface flows are to the southwest along Arrington Creek and ultimately into the Harpeth River.

See attached maps and USDA soils information under Section 2, Area of Review.

### 4.0 Population General Description

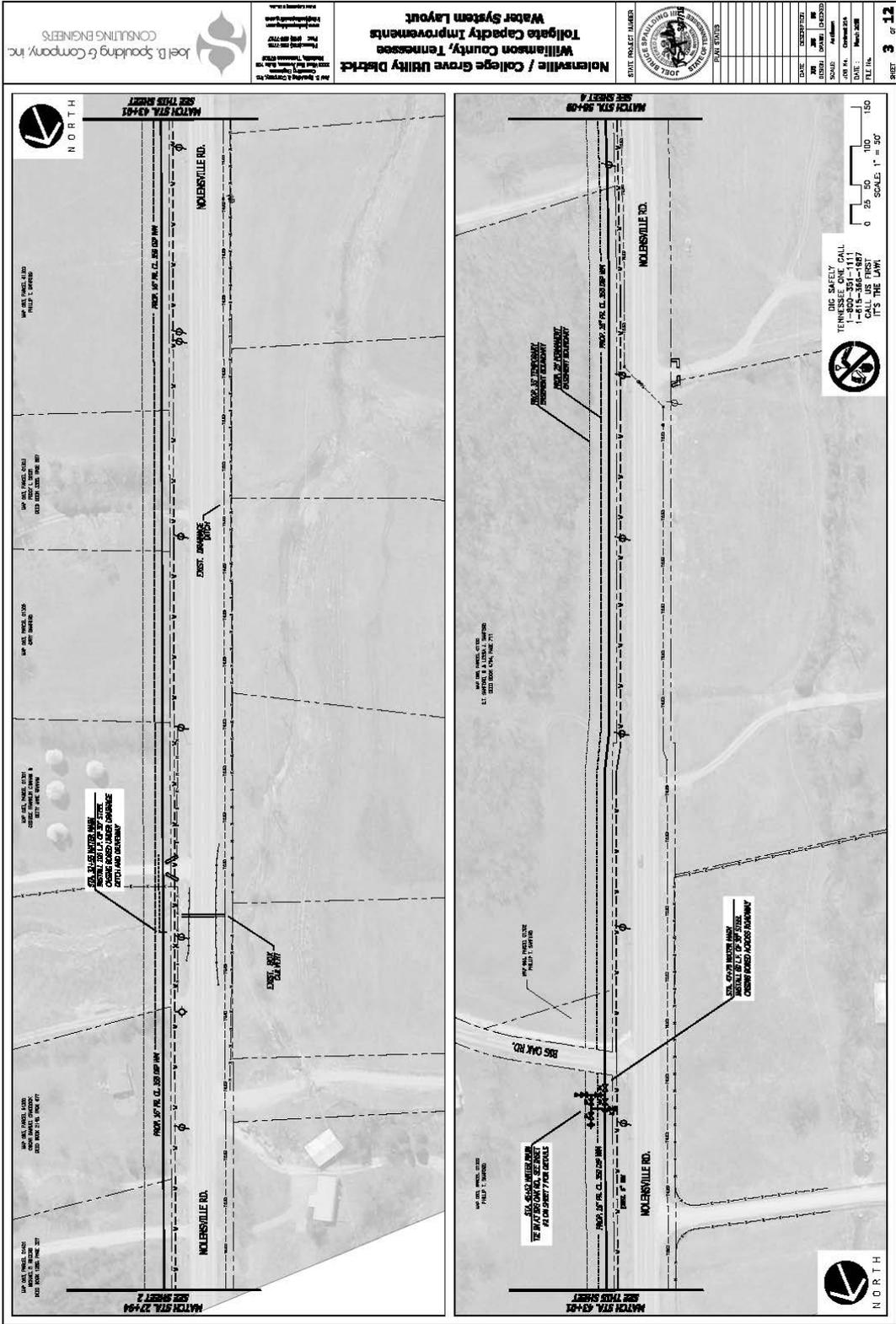
The majority of the Area of Review is agriculture land used primarily for pasture and row crops. See attached aerial map of property under Section 2, Area of Review.

### 5.0 Nature of Fluid

Nolensville-Dove Lake Treatment Facility will receive waste water from septic tanks at Enclave at Dove Lake subdivision (~165 lots). The peak design discharge will be approximately 49,500 gpd of domestic wastewater. The effluent quality is typical domestic residential treated wastewater that meets State Operating Permit limits.

## 6.0 General Location of Publicly Supplied Water

The development will be served with potable water by Nolensville College Grove Utility District (NCGUD). See the next page with existing and proposed water lines. NCGUD has planned a new 16" water main to be built soon along Nolensville Road. The proposed development will connect to this water line for potable service.



Nolensville College Grove Utility District Existing & Proposed Waterlines

## 7.0 Description of System

Wastewater will be treated using a recirculating sand filter, pumped through Arkal filter units and then distributed to HDPE drip lines with pressure compensating emitters. Waste water design flow is projected to be approximately 49,500 gpd at build out of the development. The drip lines are to be installed on 2-foot centers along the contours with the emitters spaced at 2-foot centers along the drip lines. Drip lines are plowed into the soils that have been approved by a certified soil scientist and placed at an approximate depth of 7-8 inches below the ground surface. Distribution of the treated wastewater is managed through solenoid valves and controlled by a programmable PLC.

## 8.0 Nature and Type of System

Treated wastewater from the development will first be pumped from the water tight septic tanks at each lot. Grey water is pumped from the septic tank via a small diameter common collection line force main to a recirculating sand filter (RSF). The wastewater will then cycle through the RSF 5 times before discharging into the final dose tank. From the final dose tank, the treated wastewater is pumped through Arkal filter units and then distributed through the drip dispersal lines within the approved soil sites.



**ENCLAVE AT DOVE LAKE**

**CONCEPTUAL SITE PLAN 'C'**

CURRENT ZONING: RD-1  
 PROPOSED ZONING: RD-1 CONSERVATION

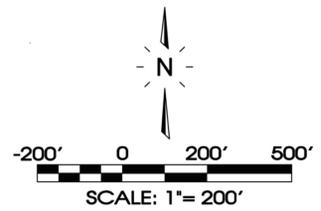
|                                      |                           |
|--------------------------------------|---------------------------|
| <b>LAND USE DATA:</b>                |                           |
| TOTAL LAND AREA:                     | ±222.33 ACRES (PER DEEDS) |
| S.T.E.P. SYSTEM AREAS:               | ±15.35 ACRES              |
| DEVELOPABLE LAND AREA:               | ±206.98 ACRES             |
| ALLOWABLE LOT YIELD: (206.98 X .80)= | 165 LOTS                  |
| TOTAL NUMBER OF LOTS:                | 162 LOTS                  |
| 60' W X 170' (10,200 SF):            | 56 LOTS                   |
| 75' W X 135' D (10,125 SF):          | 65 LOTS                   |
| 90' W X 150' D (13,500 SF):          | 21 LOTS                   |
| 90' W X 200' D (18,000 SF):          | 20 LOTS                   |
| GROSS YIELD: 162 LOTS/206.98 ACRES=  | ±0.78 LOTS/ACRE           |

|   |   |
|---|---|
| <b>TOTAL OPEN SPACE:</b>                | ±135.65 ACRES (±111.165 ACRES REQUIRED, 50% OF GROSS ACREAGE) |
| OPEN SPACE:                             | ±120.00 ACRES   |
| AMENITY CENTER:                         | ±2.50 ACRES   |
| COMMUNITY SQUARE:                       | ±0.50 ACRES   |
| STORMWATER DETENTION:                   | ±12.65 ACRES  |
| NET DEVELOPABLE AREA (206.98 - 135.65): | ±71.33 ACRES  |
| NET YIELD: 162 LOTS/71.33 ACRES=        | ±2.27 LOTS/ACRE   |

|                                     |           |
|-------------------------------------|-----------|
| MINIMUM LOT SIZE:                   | 10,000 SF |
| MINIMUM LOT WIDTH AT FRONT SETBACK: | 60 FEET   |
| LENGTH OF NEW ROADWAY:              | ±9,040 LF |

**\*\*NOTES:**

1. DRAWING BASE IS COMPILED FROM COUNTY GIS DOCUMENTS AND IS NOT DEEMED ACCURATE TILL PROPERTY HAS BEEN SURVEYED BY A LICENSED SURVEYOR. THERE MAY OR MAY NOT BE ERRORS IN BOUNDARIES AND PHYSICAL GROUND FEATURES DISPLAYED ON THESE PLANS.
2. THIS PLAN IS CONCEPTUAL IN NATURE AND IS SUBJECT TO CHANGE BY THE OWNER AT ANY POINT IN TIME.



**SEC, Inc.**  
 SITE ENGINEERING CONSULTANTS  
 ENGINEERING • SURVEYING • LAND PLANNING  
 850 MIDDLE TENNESSEE BOULEVARD  
 MURFREESBORO, TENNESSEE 37129  
 PHONE: (615) 890-7901 F-MAIL:  
 NO PORTION OF THIS DRAWING MAY BE REPRODUCED WITHOUT THE EXPRESSED WRITTEN CONSENT OF S.E.C. INC.

The site as shown on these construction drawings is intended to achieve specific engineering design criteria and objectives. It is the responsibility of the engineer to ensure that the design as noted, described, and illustrated. The engineer assumes no administrative liability of responsibility in the assurance that the site is constructed in accordance with the construction plans.

**Enclave at Dove Lake**  
 Williamson County, TN

**Conceptual Site Plan 'C'**  
 CSP 'C'  
 SHEET: 14

Enclave at Dove Lake

Gibi Soil Mapping, LLC  
 John Gibi  
 Soil Consultant  
 2103 Donna Kaye Court  
 Mt. Juliet, TN 37122  
 754-6093 w or 351-4512 c



TDEC - WATER RESOURCES MAP

February 1, 2015

Soil Map Notes:

I John Gibi affirm that this soil map has been prepared in accordance with accepted standards of the soil science practice and the standards and methodologies established in the NRCS Soil Survey manual and USDA Soil Taxonomy. No other warranties are made or implied.

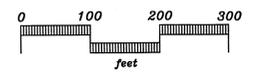
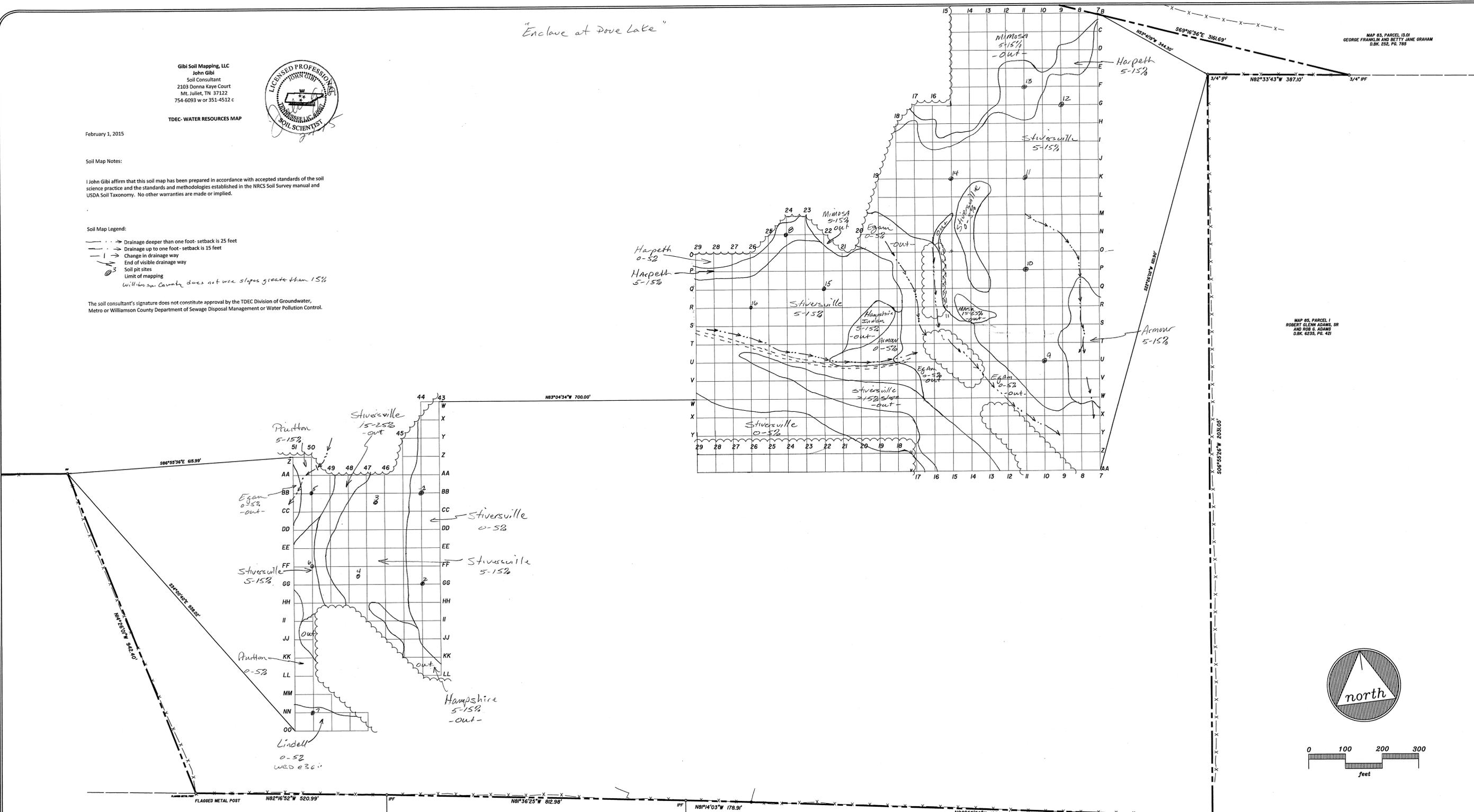
Soil Map Legend:

- - - - - Drainage deeper than one foot - setback is 25 feet
  - - - - - Drainage up to one foot - setback is 15 feet
  - - - - - Change in drainage way
  - - - - - End of visible drainage way
  - Soil pit sites
  - Limit of mapping
- Williamson County does not use slopes greater than 15%

The soil consultant's signature does not constitute approval by the TDEC Division of Groundwater, Metro or Williamson County Department of Sewage Disposal Management or Water Pollution Control.

MAP 83, PARCEL 13.01  
 GEORGE FRANKLIN AND BETTY JANE GRAHAM  
 D.B.K. 232, PG. 785

MAP 85, PARCEL 1  
 ROBERT GLENN ADAMS, SR  
 AND ROBERT G. ADAMS  
 D.B.K. 4235, PG. 421



LEGEND

- IRON PIN (FOUND)
- IRON PIN SET (NEW)

GENERAL NOTES

THE PROPERTY LINES SHOWN HEREON ARE BASED ON PRELIMINARY FIELD WORK ONLY. THIS SOIL MAP IS NOT A GENERAL PROPERTY SURVEY AS DEFINED UNDER RULE 0800-3-07 05, OF T.C.A. 62-10-01, AND IS ONLY INTENDED TO BE USED FOR SOIL MAPPING PURPOSES.



I HEREBY CERTIFY THAT THIS MAP IS BASED ON A FIELD SURVEY DONE UNDER MY DIRECT SUPERVISION AND THAT IT CORRECTLY REPRESENTS THE SOILS GRID STAKED ON THE GROUND AS SHOWN.

DATE: 1-8-16  
 David A. Parker  
 DAVID A. PARKER - TN R.L.S. #2381

50' SOILS GRID

MAP 85, PARCEL 1.01  
 SANFORD PROPERTY

DEED BOOK 1385, PAGE 241  
 18th CIVIL DISTRICT OF WILLIAMSON COUNTY, TENNESSEE

**SEC, Inc.** SITE ENGINEERING CONSULTANTS  
 ENGINEERING • SURVEYING • LAND PLANNING  
 850 MIDDLE TENNESSEE BLVD • MURFREESBORO, TENNESSEE 37059  
 PHONE (615) 890-7901 • FAX (615) 895-2567

|         |          |           |                  |           |         |
|---------|----------|-----------|------------------|-----------|---------|
| PROJ. # | DATE:    | DRAWN BY: | FILE:            | SCALE:    | SHEET 1 |
| 14204   | 01-08-15 | DP        | WALNUTGROVESOILS | 1" = 100' | OF 1    |



# DWR Soil Pedon Description

Described By: Terry Henry - John Gib. Date: 1-22-15

Site Location: Big Oak Lane off Nolensville Rd, Williamson Co "Enclave at Dove Lake"

Stop or Pit #: 2 GG-44 File # (office use only):

Soil Series: Stinsonville Drainage Class: well

Soil Classification: fine-loamy Ground Water: none

Parent Material: Residuum

Climate: Thermic Land Cover:

Slope of Map Unit: 0-5 Slope of Pit: 4% Erosion:

Geomorphic Description: upland

Physiographic Location: Nashville Basin

## Soil Pedon Description

| Horizon | Depth | Color(s) | Depletions/Concentrations<br>Redox/Mottles | Texture | Grade | Size | Type | State Design Criteria              |  |
|---------|-------|----------|--|---------|-------|------|------|------------------------------------|--|
|         |       |          |  |         |       |      |      | Texture & Structure (Grade & Type) | Maximum Hydraulic<br>Loading Rate GPD/SF<br>(Table 17-2 or 16-1) |
| Ap1     | 0-2   |          |  | Sil     | 1     | f    | gr   |                                    |  |
| Ap2     | 2-4   |          |  | Sil     | 1     | m    | SBK  |                                    |  |
| B/A     | 6-11  |          |  | Siel    | 2     | m    | SBK  |                                    |  |
| Bt1     | 11-17 |          |  | Siel    | 2     | m    | SBK  |                                    |  |
| Bt2     | 17-27 |          |  | CL      | 2     | m    | SBK  |                                    |  |
| Bt3     | 27-35 |          |  | CL      | 2     | m    | SBK  |                                    |  |
| Bt4     | 35-41 |          |  | CL      | 2     | m    | SBK  |                                    |  |

↳ 41-50





# DWR Soil Pedon Description

Described By: Terry Henry & John Gibb Date: 1-22-2015

Site Location: Big Oak Cr. off Nolensville Rd. Williamson Co. "Enclave at Dove Lake"

Stop or Pit #: 5 BB-50 File # (office use only): \_\_\_\_\_

Soil Series: Purinton - c Drainage Class: Well

Soil Classification: Silt-loamy Ground Water: None

Parent Material: Alluvium

Climate: Thermic Land Cover: \_\_\_\_\_

Slope of Map Unit: 5-15 Slope of Pit: 10% Erosion: \_\_\_\_\_

Geomorphic Description: Floodplain

Physiographic Location: Central Basin (17" recent overwash)

## Soil Pedon Description

| Horizon    | Depth        | Color(s) | Depletions/Concentrations<br>Redox/Mottles | Texture    | Grade    | Size       | Type          | State Design Criteria              |  |
|------------|--------------|----------|--|------------|----------|------------|---------------|------------------------------------|--|
|            |              |          |  |            |          |            |               | Texture & Structure (Grade & Type) | Maximum Hydraulic Loading Rate GPD/SF (Table 17-2 or 16-1) |
| <u>Ap</u>  | <u>0-4</u>   |          |  | <u>sil</u> | <u>1</u> | <u>fin</u> | <u>gr/SBK</u> |                                    |  |
| <u>A/B</u> | <u>4-8</u>   |          |  | <u>sil</u> | <u>2</u> | <u>m</u>   | <u>SBK</u>    |                                    |  |
| <u>B1</u>  | <u>8-11</u>  |          |  | <u>l</u>   | <u>2</u> | <u>m</u>   | <u>SBK</u>    |                                    |  |
| <u>B2</u>  | <u>11-17</u> |          |  | <u>l</u>   | <u>2</u> | <u>m</u>   | <u>SBK</u>    |                                    |  |
| <u>Bw1</u> | <u>17-22</u> |          |  | <u>l</u>   | <u>1</u> | <u>m</u>   | <u>SBK</u>    |                                    |  |
| <u>Bw2</u> | <u>22-27</u> |          |  | <u>l</u>   | <u>1</u> | <u>m</u>   | <u>SBK</u>    |                                    |  |
| <u>Bw3</u> | <u>27-33</u> |          |  | <u>l</u>   | <u>1</u> | <u>m</u>   | <u>SBK</u>    |                                    |  |

Bw4 33-41 l 1 m SBK

Bw5 41-51 sil 1 m SBK







# DWR Soil Pedon Description

Described By: Terry Nancy & John [unclear] Date: 1-22-15  
 Site Location: Big Oak (n off Nolensville Rd, Williamson Co. "Enclave at Dove Lake"  
 Stop or Pit #: 9 U-10 File # (office use only): \_\_\_\_\_  
 Soil Series: Stiversville Drainage Class: Well  
 Soil Classification: fine-loamy Ground Water: none  
 Parent Material: Rosidum  
 Climate: Thermo Land Cover: \_\_\_\_\_  
 Slope of Map Unit: 5-15% Slope of Pit: 10% Erosion: \_\_\_\_\_  
 Geomorphic Description: Upland side slope  
 Physiographic Location: Nashville Basin

## Soil Pedon Description

| Horizon | Depth | Color(s) | Depletions/Concentrations<br>Redox/Mottles | Texture | Grade | Size | Type | State Design Criteria              |  |
|---------|-------|----------|--|---------|-------|------|------|------------------------------------|--|
|         |       |          |  |         |       |      |      | Texture & Structure (Grade & Type) | Maximum Hydraulic<br>Loading Rate GPD/SF<br>(Table 17-2 or 16-1) |
| Ap1     | 0-3   |          |  | Sil     | 1     | f    | gn   |                                    |  |
| Ap2     | 3-8   |          |  | Sil     | 1     | m    | SBK  |                                    |  |
| B/A     | 8-12  |          |  | Sil     | 2     | m    | SBK  |                                    |  |
| Bt1     | 12-16 |          |  | Sil     | 2     | m    | SBK  |                                    |  |
| Bt2     | 16-24 |          |  | Vg Sil  | 2     | m    | SBK  |                                    |  |
| Bt3     | 24-41 |          |  | Sil     | 2     | m    | SBK  |                                    |  |
| Bt4     | 41-50 |          |  | Sil     | 2     | m    | SBK  |                                    |  |













