LAKE NORMAN STATE PARK

IREDELL COUNTY HEALTH DEPARTMENT

STATESVILLE 704-878-5305 MOORESVILLE 704-664-5281

IMPROVEMENT PERMIT / AUTHORIZATION TO CONSTRUCT / OPERATION PERMIT / EXISTING SYSTEM INSPECTION

PERMIT# N/A (Exempt) PIN# N/A (Exempt From Zoning) 4720-56-9709.204 DATE 7/26/00

OWNER OR CONTRACTOR Duke Power State Park (Community Building) PHONE: Business _____ Home _____

ADDRESS _____

LOCATION State Park Road, Lf on Group Camp Lane, Rear Lf to Community Building

SUBDIVISION _____ BLOCK / SECTION _____ LOT _____ LOT AREA _____ SITE CLASS. _____ DESIGN FLOW _____ L.T.A.R. _____

Septic Tank: Existing Gallons; STB _____ Date _____

Pump Tank: _____ Gallons; PT _____ Date _____

Pump Make: _____ Model _____ Serial No. _____

Nitrification Field: No Fields _____ Square Feet _____ Linear Feet _____

No Lines _____ Trench Width _____ Max Trench Bottom Depth _____ Gravel Depth _____

☐ New System ☐ Repair System Type: I, II, III, IV, V, VI

System Description: Connection To Exist System

Repair System Description: TYPE IV-B

Maintenance Agreement Required: ☐ Yes ☐ No

☐ House/Mod. Home No. Bedrooms _____

☐ Mobile Home No. Bathrooms _____

☐ Business No. Employees _____

☑ Other Community Bldg

☐ Slab ☐ Crawl Space ☐ Basement w/plumbing ☐ Basement wo/plumbing

Water Supply: ☐ Individual ☑ Public ☐ Community

Comments:/Conditions:

Pre Construction Conference Completed 7/26/00

Comments:/Conditions:

INITIAL SITE SKETCH

System to be installed accordg to approved plans/specifications prepared by HSMM Charlotte and approved by Steven Berkowitz 7/5/00.

AS BUILT SKETCH

Approval Dates and Staff Signatures

Septic Tank / Dosy Chamber Approval 9/1/00 KCM

Force Main / Air Release / Manhole Connection 8/17/00 KCM

Exist Septic / Dosy Tank Retrofit 8/19/00 KCM CEF

Management Agreement 10/2/00 KCM

Engineer Sign Off 8/31 - 9/6/2000 KCM

Permit can be suspended or revoked if any false information is supplied toward securing the permit/any unauthorized changes are made to the site/any unauthorized changes are made in the installation of the system. Improvement Permit with plat valid without expiration. Improvement Permit with site plan valid for sixty months. Authorization to Construct is valid for a period equal to that of Improvement Permit – not to exceed sixty months.

Signed: Chad Cordle date 7/26/00 Installed by: Mid-South Utilities

Improvement Permit by: [signature] date 7/26/00 Operation Permit by: [signature] date 10/2/00

Authorization to Construct by: [signature] date 7/26/00 Existing System Inspection by: _____ date _____

HEALTH DEPT. COPY: WHITE OWNER COPY (FINAL): YELLOW OWNER COPY (INITIAL): PINK

State of North Carolina
Department of Environment
and Natural Resources
Division of Environmental Health

James B. Hunt, Jr., Governor
Bill Holman, Secretary
Linda C. Sewall, Director

NCDENR
North Carolina Department of
Environment and Natural Resources

July 5, 2000

Kelly Richard Sheeks
Iredell County Health Department
318 Turnersburg Highway
Statesville, North Carolina 28625
(Courier 09-36-07)
(704) 878-5305, Fax: (704) 871-3483

Subject: Approval of Revised Plans and Specificaitons for Duke Power State Park Visitor's Center Wastewater System, Troutman, Iredell County, NC, Project No. 99-05.

Dear Mr. Sheeks:

We have reviewed the revised plans, specifications and other supporting materials received June 29 and June 30, 2000 for the subsurface system to serve the above-referenced facility. It appears that our previous technical comments have been adequately addressed by the proposed revisions. Enclosed is one copy of the plans and specifications, stamped "Approved by the On-Site Wastewater Section, Division of Environmental Health, Department of Environment and Natural Resources." The Authorization to Construct to be issued for this project must include the approved plans, specifications, and any other conditions deemed appropriate by the health department. The approved plans and specifications are for the following facilities and system components:

Facilities: New 1500 square foot visitors center; Existing picnic area.

System: Existing: gravity sewer (4-inch), septic tank (4279 gallons); siphon dosing tank (3021 gallons; 1931 gallon dose); conventional nitrification field (1750 linear feet, 2-foot wide trenches; 10@175-foot each).

New: septic tank (1200 gallons with effluent filter); lift station (360-gallons; 2 grinder pumps); force main (1600 feet, 2-inch, with air release valve); connection to existing gravity sewer; reconstructed top to existing septic tank/siphon dosing tank; new effluent filter and new highwater alarm and siphon cycle counter.

Design Flow: 1000 gallons per day (500 gpd, picnic area, 500 gpd, visitors center).

System classification: IVb, requiring *semiannual* inspection by the ORC with annual inspection reports submitted to the local health department and a tri-annual inspection by your department.

It is critical that the Health Department require a preconstruction meeting be held prior to system installation. This meeting must be attended by representatives of the Health Department, owner, installer and the engineer certifying the installation. During this meeting, the sequencing of project construction, inspection, and testing activities must be discussed and clearly understood by all parties. Holding such a preconstruction meeting must be listed as a condition in the Authorization to Construct, with attendance required by all key parties prior to the onset of the system installation. It is noted that this meeting has been included in the project specifications.

As you are aware, there are a number of times during the installation of this system when direct supervision by the health department must be provided to insure that this system is installed properly. For this project, make certain that:

1. Water Conservation is practiced to the full extent possible in all existing and new facilties served by this system. Any existing fixtures found to be using an excessive amount of water, or to otherwise need repair, shall be replaced with water-conserving models.

2. New Septic Tank is properly constructed, with proper grade established between the building drain, this tank and the existing (new) lift station, includes approved effluent filter properly installed, and is demonstrated to be watertight by 24-hour leakage test. Tank is specified to be traffic rated and include access manhole rings/covers extended to finished grade (over both compartments).

3. New Lift Station is demonstrated to be watertight by 24-hour leakage test and found to operate properly. All internal materials, hardware, etc., are to be corrosion-resistant (e.g., PVC or Stainless Steel). Control panel is to be in a NEMA 4X enclosure, include audible and visible highwater alarm on a separate circuit, and should include elapsed time clocks and cycle counters for each pump. Pump delivery rates should be measured and determined to be comparable to design parameters.

4. Force Main, including sewage-rated air release valve, is certified by Division of Parks Engineer to have been installed properly, with proper horizontal and vertical separations between adjacent water line maintained. Line must be demonstrated to be watertight by specified hydrostatic leakage test.

5. Force Main-Existing Sewer Connection includes properly grouted invert in existing manhole to accommodate force main entry.

6. Existing Septic Tank/Dosing Tank has newly constructed tops with new access manhole openings properly constructed; Septic Tank has outlet pipe replaced with properly installed effluent filter; and dosing tank has highwater alarm and cycle counter installed and demonstrated to perform properly.

Note that a registered professional engineer or Division of Parks Engineer must certify that the system has been installed in accordance with the approved plans and specifications. This certification is based upon periodic observations of construction and a final inspection for design compliance by the certifying engineer or his representative. The installation must be approved by the health department prior to the issuance of an Operation Permit. The Operation Permit must include the necessary information regarding the proposed management entity and certified operator as well as any additional concerns deemed appropriate by the health department for the O&M of this system. A certified subsurface system operator shall be contracted to operate the system. The operator shall inspect the system and report findings to the health department at least annually. The health department shall review/inspect system operation at least every three years. O&M procedures listed in the operation permit shall include that during each operator visit, flow at the facility must be monitored and recorded, and the pump elapsed time and cycle counter readings shall be recorded at the pump and dosing tanks.

Please contact us for assistance with the final inspection after your staff and the installation-certifying engineer are satisfied that the system has been properly installed and before an operation permit is issued. Also feel free to contact us if you have any questions pertaining to this letter or if we may be of further assistance with this project. We may be reached at the telephone and facsimile numbers or address listed on this letterhead. I can be contacted directly at (919) 715-3271or by email at steven.*berkowitz@ncmail.net*.

Sincerely,

Steven Berkowitz, P.E.
On-Site Wastewater Engineering

Cc: Alan Jeffreys
Jud Burns
Joe Lynn