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ROBERT M. C. ROSE
*OF COUNSEL*

ORIGINAL

August 7, 2001

VIA HAND DELIVERY

Ms. Blanca Bayo, Director
Division of Commission Clerk & Administrative Services
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

RE: North Sumter Utility Company, LLC; Docket No. 010859-WS
Our File No. 34078.01

Dear Ms. Bayo:

The following are responses to the PSC Staff's letter of July 17, 2001 requesting certain information regarding the above-referenced application:

1. This perceived deficiency is the result of the Staff's lack of understanding of the nature of a limited liability company. Limited liability companies do not have officers or directors, but have members and may or may not have a manager. The members of North Sumter Utility Company, LLC are clearly set forth in Part I D (2) of the Application. Since North Sumter Utility Company, LLC does have a manager, which is a Florida corporation, that entity is identified under Part I D (1), and the officers are also set forth therein. The problem with this purported deficiency appears to be the fact that the rule in question does not contemplate a limited liability company. (This type of corporate entity did not become prevalent until after the Rule was adopted.) The information provided in the original Application complies with the intent of that rule.

APP
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2. A limited liability company cannot make an election under Section 1362 of the Internal Revenue Code to be treated as an S-corporation, so obviously it has not done so.

3. The growth projections referenced in the Special Report prepared by Cronin, Jackson, Nixon & Wilson were derived from the Preliminary Engineers Report

prepared by Farner, Barley & Associates, Inc. dated March, 2001, a copy of which is enclosed.

Part IV of the Application clearly identifies the professionals who have been retained by North Sumter Utility Company, LLC to assist in the permitting, construction and regulation of the Utility's system. These professionals happen to be the same ones who represent Little Sumter Utility Company and the management team of Little Sumter Utility Company will also provide day to day management of North Sumter Utility Company, LLC.

Should the Staff need any additional information or clarification, they should not hesitate to contact me.

Very truly yours,

MARTIN S. FRIEDMAN
For The Firm

MSF/brm
Enclosure
cc: Mr. John Wise
Robert C. Nixon, CPA
Ms. Stephanie Clapp (w/ enclosure)

# Preliminary Engineer's Report

# North Sumter Utility Company

# Water and Wastewater Systems

Prepared for:

North Sumter Utility Company
1100 Main Street
The Villages, Florida 32159
(352) 753-6690

Prepared by:

Farner, Barley & Associates, Inc.
350 N. Sinclair Avenue
Tavares, Florida 32778
(353) 343-8481

March 2001
FBA# 921141.197

## SECTION 1
## GENERAL INFORMATION

On May 9, 2000, The Villages of Lake-Sumter, Inc. (Developer) received approval from the Department of Community Affairs for The Villages of Sumter (development), a proposed development in Sumter County, based on their Development of Regional Impact (DRI) Application for Development Approval (ADA). The development will encompass approximately 5,428 acres adjacent and to the south of the existing Tri-County Villages development. The development is positioned to meet the demands of the emerging retirement population that is becoming a significant component of Florida's growth. The development will complement and continue the successful multi-use community development program created by the Developer. The residential land uses within The Villages of Sumter will consist of approximately 12,700 total dwelling units with a mix of housing types including single family detached and attached homes. Residential neighborhoods will be supported with two Village Commercial Centers and a Town Center. The Village Centers and Town Center will serve both The Villages and the surrounding regional shopping needs. Additional supporting uses allocated to the Town Center include: hotel, theater, convention/performing arts center, institutional/educational uses, and office space. The development program is projected to begin in 2004 and be completed in 2014. Water and wastewater services for the development will be provided by the newly formed North Sumter Utility Company (NSU). Figure 1 presents a map of the NSU service area.

The Villages development is presently served by two utility companies, The Village Center Community Development District (VCCDD) and the Little Sumter Utility Company (LSU). Due to the limited capacities of these existing utilities and the remote locations from the proposed Villages of Sumter development, it has become evident that it is more cost effective to establish a new utility company, such as NSU, on-site within the development and centrally located within its service area.

Construction of Phase I of the NSU water and wastewater systems is anticipated to begin in 2003 and be substantially complete in 2007. Upon the completion of the Phase I improvements NSU will have sufficient capacity to service approximately 4,074 dwelling units and various commercial land uses. The estimated cost of the Phase I capital water and wastewater improvements is approximately $22,759,774. Construction of the Phase II water and wastewater systems is projected to begin in 2007 and be substantially complete by build-out in 2014. Upon completion of Phase II water and wastewater improvements, NSU will have sufficient capacity to provide water and wastewater service to approximately 12,700 dwelling units and various commercial land uses. The estimated total capital cost for Phase II water and wastewater improvements is approximately $31,892,.691. See Table D for itemized costs.

The NSU master plan provides for two water supply and treatment facilities (WTF) and one wastewater treatment facility (WWTF). The development program for Phase I includes Water Treatment Facility No. 1 which is planned for a design capacity of 2.80 mgd and will have sufficient capacity to serve the 4,074 dwelling units planned for Phase I. Phase I will also include a wastewater

treatment facility with a planned design capacity of 1.125 mgd (MMADF) which will have sufficient capacity to serve the 4,074 dwelling units planned for Phase I. Phase II capital improvements will consist of Water Treatment Facility No. 2 which is planned for a design capacity of 2.80 mgd and a 1.125 mgd (MMADF) expansion of the Phase I wastewater treatment facility. Upon completion of the water and wastewater improvements in Phase II the NSU system will have sufficient capacity to provide services for 12,700 dwelling units and various commercial land uses.

NSU will be responsible for providing wastewater collection, wastewater treatment and treated wastewater disposal (via reuse) for the development. NSU will also be responsible for providing water supply, treatment, and distribution to meet all domestic potable and fire flow demands for the development. Irrigation for all residential yards, commercial and common landscape areas shall be provided by the developer through a separate water supply and distribution system. At build-out of the service area NSU will serve approximately 12,700 dwelling units with an estimated population of 24,130 persons based on 1.9 people per dwelling unit. The estimate of 1.9 people per dwelling unit has been provided by the Developer based upon historic data collected from The Villages and has been accepted by the Florida Department of Community Affairs.

Capital costs associated with the development of the water distribution system have been estimated by year through buildout of the project and is itemized in Table M. Development costs for the wastewater collection/transmission system have been estimated by year through buildout of the project and are itemized in Table N. The total estimated capital costs to develop the entire water and wastewater systems for the NSU service area have been estimated at $54,652,465. These costs have been estimated for each year of development through buildout of the project and are tabulated in Table O.

In order to substantiate the viability of NSU, all water and wastewater used within the NSU service area will be required to connect to the water and wastewater system by the developments deed restrictions and FPCS decree.

## SECTION 2
## WATER AND WASTEWATER FLOW PROJECTIONS

### WATER SYSTEM FLOWS

In order to properly plan and design all of the components required to comprise the NSU water system, water demand projections as shown in Table B were itemized on an annual basis beginning in year 2004 through build-out in 2014. These projections include residential and commercial demands and water losses in the water system based upon historic Villages flows and domestic water demand estimates taken from the "American Water Works Association Manual of Water Supply Practices" for utilities utilizing dual water systems. The estimated average daily flows (ADF) were based upon an estimated 65.8 gallons per capita per day (GCD). Total water demand as shown in Table B includes all project domestic potable water demands including: residential, commercial, and new home construction. Also included but not itemized within Table B is unaccounted water loss, and construction water. A net residential average daily flow is estimated to be 125 gallons per day. As required by the Sumter County Comprehensive Plan, the ratio of maximum daily demand to average day water demand is 2.5. The ratio of peak hour demand (PHD) to average day demand (ADD) is 3.5. The planned capacities for each of the proposed NSU Water Treatment Facilities No. 1 and No. 2 is 2.80 mgd for a total of 5.60 mgd, based on maximum daily demands. Water Treatment Facility No. 1, which shall consist of Wells 1, 2, 3, and 4 is planned to begin construction in 2003 and be placed into service in 2004. This facility will have sufficient capacity to provide service for the projected Phase I demands. WTF No. 2 is planned to begin construction in 2007 and be brought into service in 2008. WTF No. 2 will have sufficient capacity to serve the remaining portion of the NSU service area.

For the purposes of NSU, an Equivalent Residential Connection (ERC) equates to a typical detached residential dwelling unit as constructed within the Development. This definition is intended to reflect the annual average consumption per detached residential unit without regard to actual consumption. One (1) water ERC is hereby established and determined to be equal to a flow of one hundred twenty five (125) gallons per day (GPD) average annual basis. For all establishments other than detached residential dwelling units, a total ERC value shall be determined as follows:

$$\text{Total ERC Value} = \frac{\text{Total Annual Average Daily Water Demand}}{125 \text{ GPD}}$$

Note: The Total Annual Average Daily Water Demand shall be calculated by the project engineer by using accepted engineering water demand standards.

### WASTEWATER SYSTEM FLOWS

In order to properly plan and design all of the components required to comprise the NSU wastewater system, wastewater demand projections as shown in Table C were itemized on an annual basis beginning in year 2004 through build-out in 2014. Wastewater flow projections were based upon historical flows documented within The Villages development. Documentation shows an annual average daily flow (AADF) of 61 gcd, peaking factors of 1.25 for maximum month average daily

establishing the total wastewater flow projections for NSU. Also required for the design of the individual components of the NSU wastewater treatment facility are loading projections for biochemical oxygen demand $(BOD)_5$ and total suspended solids (TSS). Documentation from the two existing utilities servicing The Villages indicate average loadings of 240 milligrams per liter for $BOD_5$ and 400 milligrams per liter for total suspended solids. Table C is a compilation of the above information based upon an annual basis beginning in 2004 through build-out in 2014. Total build-out of the proposed NSU service area is anticipated to generate wastewater flows of 2.215 mgd (MMADF). The wastewater treatment facility is planned to be constructed in two phases. Each phase is planned to be designed and permitted to a capacity of 1.125 mgd (MMADF), for a total treatment facility capacity of 2.250 mgd (MMADF) at build-out.

For the purposes of NSU, an Equivalent Residential Connection (ERC) equates to a typical detached residential dwelling unit as constructed within the Development. This definition is intended to reflect the annual average wastewater flow per detached residential unit without regard to actual flows. One (1) wastewater ERC is hereby established and determined to be equal to a flow of one hundred sixteen (116) gallons per day (GPD) average annual basis. For all establishments other than detached residential dwelling units, a total ERC value shall be determined as follows:

$$\text{Total ERC Value} = \frac{\text{Total Annual Average Daily Flows}}{116 \text{ GPD}}$$

Note: The Total Annual Average Daily Wastewater Flows shall be calculated by the project engineer by using accepted engineering wastewater flows standards.

## SECTION 3
## PROPOSED WATER AND WASTEWATER SYSTEMS

### WATER SYSTEM

The major water mains which are proposed to be installed within the NSU service area were sized to provide sufficient pressures at all points in the system during peak hour flows. All water mains within the NSU service area will be either polyvinyl chloride (PVC) or ductile iron pipe (DIP). Figure 5 also illustrates the proposed locations of Water Treatment Facilities No. 1 and No. 2.

WTF No. 1 will consist of a 0.50 mg elevated storage tank, four 8" production wells each equipped with a 650 gallon per minute vertical turbine pump, a mechanical building which shall house the chlorination system, water meter, and motor control center. WTF No. 1 shall also be equipped with an auxiliary generator to provide one half maximum day demand as required by the FDEP. Due to the water source being the Upper Floridan Aquifer and historical water quality data in the region, it is anticipated that water treatment will only require disinfection.

In order to properly design the water supply and distribution components of the NSU water system, design criteria were established for each component and are summarized in Table E. Phase I shall consist of WTF No. 1 which is planned for a design capacity of 2.80 mgd which shall be sufficient in size to service the anticipated 4,074 dwelling units and associated commercial land uses. The Phase II WTP is planned for a design capacity of 2.80 mgd which in conjunction with WTP No. 1 shall be sufficient in size to provide adequate service for 12,700 dwelling units at build-out in 2014. Capital costs associated with the design and construction of the proposed NSU water treatment facilities are summarized in Table F. Capital costs for the water distribution system are summarized in Table J.

It is anticipated that the NSU water treatment facilities will be contract operated by Operations Management International, Inc. Of Englewood, CO (OMI). OMI certified operators shall perform routine daily maintenance and equipment adjustments as required by FDEP. In addition, operators shall be on call 24 hours per day 7 days per week, the offices shall be manned on-site 20 hours per day 7 days per week. The lead operator for each shift also carries a pager which may be linked to the NSU central control panel via a pager alarm software package so that if the operator is away from the central control panel he will be automatically notified of the specific alarm condition at the NSU facilities. Operations and Maintenance Expense associated with the NSU water system have been itemized in Table K. These values have been prepared by OMI, based upon facilities of similar size and complexity.

### WASTEWATER SYSTEM

This section discusses the proposed system to collect and treat wastewater generated within the NSU service area. Construction of the treatment facility will occur in two phases, each phase being permitted for approximately 1.125 mgd (MMADF) for a total capacity of 2.250 mgd (MMADF). Figure 6 shows the location of the major wastewater transmission system components including lift stations and force mains. Gravity collection systems have not been shown due to the scale and size

of the figure. In order to adequately design all of the components required for the NSU wastewater system, design criteria have been established for the wastewater collection and transmission system and for each of the wastewater treatment facility components. Tables G and H summarizes the design criteria used in planning the design for the NSU wastewater system. All wastewater treatment facility components shall meet Class I reliability requirements.

It is anticipated that the NSU service area will be served by a total of 13 lift stations to ensure total service area coverage. All lift stations will be designed with dual pumps, with each pump capable of pumping peak hour flows for the area served.

## WASTEWATER TREATMENT FACILITY

Phase I of the NSU wastewater treatment facility shall begin construction during year 2003 and be placed into service in 2004. Phase I WWTF will treat an estimated maximum month average daily flow of 1.125 mgd. Phase II expansion is planned to be designed, permitted, and constructed in 2007 and placed into service in 2008. This expansion will bring the total capacity to 2.250 mgd, which shall be adequate to provide service through build-out of the NSU service area.

The WWTF process train will consist of the following:

- Headworks with Screening/Odor Control
- Denitrification
- Oxidation Ditch Aeration
- Clarification
- Filtration
- High Level Disinfection
- Sludge Holding
- Sludge Dewatering
- Effluent Disposal via Irrigation of Golf Courses and Landscaped Areas

Construction of the required Phase I and Phase II wastewater treatment facility components are itemized by phase in Table H.

The WWTF will be located within the development as shown on Figure 6. The waste activated sludge is anticipated to be dewatered by a filter press facility with the residuals being hauled to the

Sumter County Compost Facility for disposal. Treated effluent will be land applied via irrigation of golf courses and landscaped areas.

The anticipated effluent limitations that will be established by the FDEP operating permit for the disposal of effluent via the reuse irrigation system are as follows:

| Effluent Parameter | Effluent Limitation |
|---|---|
| Biochemical Oxygen Demand (BOD) | 20 mg/L |
| Total Suspended Solids (TSS) | 5 mg/L |
| Fecal Coliforms | No Detectable Fecal Coliforms Present |

Effluent limitations as set by the FDEP operating permit for disposal of the effluent via the RIBS are as follows:

| Effluent Parameter | Effluent Limitation |
|---|---|
| Biochemical Oxygen Demand (BOD) | 20 mg/L |
| Total Suspended Solids (TSS) | 20 mg/L |
| Nitrates | 12 mg/L |
| Fecal Coliforms | <200 coliform/100 ml sample |

The anticipated capital costs associated with the NSU wastewater system to include wastewater treatment and disposal and wastewater collection and transmission systems are illustrated in Tables I and J respectively.

It is anticipated that the NSU WWTF will be contract operated by OMI, Inc. Certified operators shall perform routine daily maintenance and equipment adjustments as required by FDEP. In addition, an operator shall be on call 24 hours per day 7 days per week, the office shall be manned with an operator 20 hours per day 7 days per week. A certified operator for each shift may also carry a pager which will be linked to the NSU central control panel via pager alarm software package so that if the operator is away from the central control panel he may be automatically notified of the specific alarm condition at the NSU WWTF. Operations and Maintenance Expense associated with the NSU wastewater collection and transmission system have been itemized in Table L. These values have been prepared by OMI, based upon facilities of similar size and complexity.

## WASTEWATER REUSE FACILITY

The NSU wastewater reuse facility shall be constructed at the wastewater treatment facility site (see Figure 5). This facility shall be utilized to transfer treated effluent to four (4) lined lakes located throughout the development. The treated effluent generated shall be utilized as a source of irrigation water for all golf courses and common landscaped areas within the development. The wastewater

reuse facility shall consist of the following components:

- 1.0 million gallon lined holding pond
- Pumping station consisting of four (4) turbine pumps (low pressure)
- Reuse force mains to be constructed from the pump station to the four (4) lined lakes within the development. Each of the receiving lakes shall be sized to meet the minimum wet weather storage requirements of the FDEP (lakes shall be constructed by the developer, not NSU)

Based upon a water balance study as prepared by the project's hydrogeologist, the estimated wastewater reuse to be generated by the NSU facility will satisfy approximately 70% of the total project's build-out irrigation demand. Therefore, wastewater reuse shall be utilized only for the golf courses and common landscaped areas.

The rapid infiltration basins (RIBS) located at the wastewater treatment facility site will only be utilized on limited occasions when the treated effluent does not meet public access reuse requirements as outlined by the FDEP.

## SECTION 4
## WATER SYSTEM PERMITTING

State and local permits will be required for the construction and operation of the water supply and treatment facilities. The following is a list of the permits that will be obtained from the agencies having jurisdiction over water supply and treatment facilities.

| AGENCY |
|---|
| **PHASE I: WATER TREATMENT FACILITY NO. 1** |
| SWFWMD Water Use Permit |
| SWFWMD Well Construction Permit, Wells No. 1, No. 2, and No. 3 |
| SWFWMD Environmental Resource Permit |
| Sumter County Site Plan Approval Permit |
| Florida Department of Environmental Protection Public Drinking Water Facility Construction Permit |
| **PHASE II: WATER TREATMENT FACILITY NO. 2** |
| SWFWMD Water Use Permit |
| SWFWMD Well Construction Permits, Wells No. 4, No. 5, and No. 6 |
| SWFWMD Environmental Resource Permit |
| Sumter County Site Plan Approval Permit |
| Florida Department of Environmental Protection Public Drinking Water Facility Construction Permit |

The SWFWMD Water Use Permit, which allocates the total amount of water use for the development, will be required prior to the construction of each water treatment facility. Stormwater management and site drainage for the water treatment facilities will be reviewed and approved by SWFWMD through the Environmental Resource Permitting process. Sumter County also has jurisdiction over the site development for each of the water treatment facilities and will require the approval of these projects through the site plan process. Finally, a permit to construct Water Treatment Facilities No. 1 and No. 2 will be obtained from the Florida Department of Environmental Protection through the Public Drinking Water Facility Construction Permit process. Upon final completion of each water treatment facility, a "Request for a Letter of Release to Place a Water Supply System into Service" will be submitted to FDEP. Each extension of the water distribution

system will be submitted to FDEP for approval prior to beginning construction. Upon completion of construction of the line extensions, each will be cleared for service in accordance with FDEP's requirements.

## SECTION 5
## WASTEWATER SYSTEM PERMITTING

State and local permits will be required for the construction and operation of the wastewater treatment facility. The following is a list of the permits that will be obtained from the agencies having jurisdiction over wastewater collection, transmission, and treatment facilities.

| AGENCY |
| --- |
| **PHASE I: WASTEWATER TREATMENT FACILITY** |
| Florida Department of Environmental Protection Domestic Wastewater Facility Permit |
| SWFWMD Environmental Resource Permit |
| Sumter County Site Plan Approval Permit |
| **PHASE II: WASTEWATER TREATMENT FACILITY EXPANSION** |
| Florida Department of Environmental Protection Domestic Wastewater Facility Permit Modification |
| SWFWMD Environmental Resource Permit |
| Sumter County Site Plan Approval Permit |

The FDEP Domestic Wastewater Facility Permit, which requires review of the design of each of the individual wastewater treatment plant components and effluent disposal system, will be required prior to the construction of each phase of the wastewater treatment facility. Stormwater management and site drainage for the WWTF will be reviewed and approved by SWFWMD through the Environmental Resource Permitting process. Sumter County also has jurisdiction over the site development of the WWTF and will require approval through the site plan process. Upon final completion of each phase of the WWTF, the design engineer shall submit the "Notification of Completion of Construction for Domestic Wastewater Facilities" to FDEP prior to placing the facility into operation. All wastewater collection and transmission systems shall be submitted to FDEP for approval prior to beginning construction. Upon completion of construction of the wastewater collection system extensions, each will be cleared for service in accordance with FDEP's requirements.

## SECTION 6
## IMPLEMENTATION PLAN

The implementation plan includes a schedule for design, permitting, and construction of the water supply, water treatment, and wastewater treatment facilities. The proposed schedule of capital improvements is as follows:

**Phase I**

Water Supply and Treatment:

| | |
|---|---|
| Design | July 2001 - December 2001 |
| Permitting | January 2002 - June 2002 |
| Bidding/Award | October 2002 - December 2002 |
| Construction | January 2003 - December 2003 |
| Start Up | January 2004 |

Wastewater Treatment:

| | |
|---|---|
| Design | July 2001 - December 2001 |
| Permitting | January 2002 - June 2002 |
| Bidding/Award | October 2002 - December 2002 |
| Construction | January 2003 - December 2003 |
| Start Up | January 2004 |

**Phase II**

Water Supply and Treatment:

| | |
|---|---|
| Design | January 2006 - July 2006 |
| Permitting | August 2006 - December 2006 |
| Bidding/Award | January 2007 - May 2007 |
| Construction | June 2007 - May 2008 |
| Start Up | June 2008 |

Wastewater Treatment:

| | |
|---|---|
| Design | January 2006 - July 2006 |
| Permitting | August 2006 - December 2006 |
| Bidding/Award | January 2007 - May 2007 |
| Construction | June 2007 - May 2008 |
| Start Up | June 2008 |

## SECTION 7
## CONCLUSION

As Project Engineer for North Sumter Utility Company and Consulting Engineer for the Developer, Farner, Barley & Associates, Inc., has the background knowledge and experience necessary to confirm the validity of the contents of this report. Anticipated growth rate projections are based upon actual historical sales within The Villages and conversations with representatives of both NSU and the Developer. In addition, anticipated water and wastewater flows appear reasonable based upon historical data obtained from The Villages. Based upon past experience with the contract operator, OMI, Inc., it is also our belief that the system will be operated and maintained in a fashion which will serve to enhance the value and integrity of the utility in the years to come. In regards to permit acquisition for the construction of the utilities as outlined in this report, we see no reason that all of the required permits will not be issued as part of the normal course of business. It is our belief that the information contained in this report is an accurate representation of the future of the North Sumter Utility Company.

TABLE A
NSU REUSE WATER FLOW GENERATION PROJECTIONS

| YEAR | ANNUAL HOME SALES | AVERAGE YEARLY DWELLING UNITS (D.U.) | DWELLING UNITS AADF (MGD) | COMMERCIAL AADF (MGD) | TOTAL AADF (MGD) |
|---|---|---|---|---|---|
| 2004 | 536 | 268 | 0.031 | 0.005 | 0.036 |
| 2005 | 1,163 | 1,118 | 0.129 | 0.010 | 0.139 |
| 2006 | 1,550 | 2,474 | 0.287 | 0.015 | 0.302 |
| 2007 | 1,650 | 4,074 | 0.472 | 0.03 | 0.502 |
| 2008 | 1,750 | 5,774 | 0.669 | 0.075 | 0.744 |
| 2009 | 1,750 | 7,524 | 0.872 | 0.09 | 0.961 |
| 2010 | 1,750 | 9,274 | 1.075 | 0.12 | 1.195 |
| 2011 | 1,750 | 11,024 | 1.278 | 0.150 | 1.428 |
| 2012 | 750 | 12,274 | 1.423 | 0.21 | 1.633 |
| 2013 | 51 | 12,675 | 1.469 | 0.27 | 1.739 |
| 2014 | 0 | 12,700 | 1.472 | 0.300 | 1.772 |

NOTES: AADF = 61 G/C/D = 115.9 GPD/D.U.
Commercial Flows based upon Chapter 64E-6 F.A.C., estimated sewage flows.
All reuse water is anticipated to be utilized for irrigation of golf courses and common areas within the NSU service area.

TABLE B
*NSU WATER DEMAND PROJECTIONS*

| | | | | | | | TOTAL WATER DEMAND | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| YEAR | ANNUAL HOME SALES | AVERAGE YEARLY DWELLING UNITS (D.U.) | AVG. DAILY FLOW/DWELLING UNIT (GPD) | TOTAL DWELLING UNITS DEMAND (MGD) | COMMERCIAL DEMAND (MGD) | NEW HOME CONSTRUCTION DEMANDS (MGD) | ADF (MGD) | MDD (MGD) | PHF (MGD) | MDD PLUS FIRE FLOWS (MGD) |
| 2004 | 536 | 268 | 125 | 0.033 | 0.010 | 0.001 | 0.044 | 0.110 | 0.154 | 2.270 |
| 2005 | 1,163 | 1,118 | 125 | 0.140 | 0.020 | 0.003 | 0.163 | 0.407 | 0.570 | 2.567 |
| 2006 | 1,550 | 2,474 | 125 | 0.309 | 0.030 | 0.007 | 0.346 | 0.865 | 1.211 | 3.025 |
| 2007 | 1,650 | 4,074 | 125 | 0.509 | 0.060 | 0.007 | 0.376 | 0.940 | 1.316 | 3.100 |
| 2008 | 1,750 | 5,774 | 125 | 0.722 | 0.150 | 0.007 | 0.879 | 2.197 | 3.076 | 4.357 |
| 2009 | 1,750 | 7,524 | 125 | 0.940 | 0.180 | 0.007 | 1.127 | 2.817 | 3.945 | 4.977 |
| 2010 | 1,750 | 9,274 | 125 | 1.159 | 0.240 | 0.007 | 1.406 | 3.515 | 4.921 | 5.675 |
| 2011 | 1,750 | 11,024 | 125 | 1.378 | 0.300 | 0.007 | 1.685 | 4.212 | 5.897 | 6.372 |
| 2012 | 750 | 12,274 | 125 | 1.534 | 0.420 | 0.005 | 1.959 | 4.897 | 6.856 | 7.057 |
| 2013 | 51 | 12,675 | 125 | 1.584 | 0.540 | 0.002 | 2.126 | 5.315 | 7.441 | 7.475 |
| 2014 | 0 | 12,700 | 125 | 1.587 | 0.600 | 0.001 | 2.188 | 5.470 | 7.658 | 7.630 |

NOTES: MDD = ADD X 2.5
PHD = ADD X 3.5
COMMERCIAL DEMANDS BASED UPON CHAPTER 64-6 F.A.C. ESTIMATED DESIGN FLOWS MULTIPLIED BY A FACTOR OF 2.0
HOME CONSTRUCTION WATER DEMAND BASED UPON 1500 GALLONS/PER HOME: THESE DEMANDS PROVIDED BY THE VILLAGES
FIRE FLOW DEMAND IS 1500 GPM

TABLE C
NSU WASTEWATER FLOW AND LOAD PROJECTIONS

| YEAR | ANNUAL HOME SALES | AVERAGE YEARLY DWELLING UNITS (D.U.) | DWELLING UNITS AADF (MGD) | COMMERCIAL AADF (MGD) | TOTAL AADF (MGD) | MMADF MGD | BOD (LB/DAY) | T.S.S. (LB/DAY) |
|---|---|---|---|---|---|---|---|---|
| 2004 | 536 | 268 | 0.031 | 0.005 | 0.036 | 0.045 | 90 | 150 |
| 2005 | 1,163 | 1,118 | 0.129 | 0.010 | 0.139 | 0.174 | 348 | 580 |
| 2006 | 1,550 | 2,474 | 0.287 | 0.015 | 0.302 | 0.378 | 757 | 1,261 |
| 2007 | 1,650 | 4,074 | 0.472 | 0.03 | 0.502 | 0.627 | 1,255 | 2,092 |
| 2008 | 1,750 | 5,774 | 0.669 | 0.075 | 0.744 | 0.930 | 1,862 | 3,102 |
| 2009 | 1,750 | 7,524 | 0.872 | 0.09 | 0.961 | 1.201 | 2,404 | 4,006 |
| 2010 | 1,750 | 9,274 | 1.075 | 0.12 | 1.195 | 1.494 | 2,990 | 4,984 |
| 2011 | 1,750 | 11,024 | 1.278 | 0.150 | 1.428 | 1.785 | 3,573 | 5,955 |
| 2012 | 750 | 12,274 | 1.423 | 0.21 | 1.633 | 2.041 | 4,085 | 6,808 |
| 2013 | 51 | 12,675 | 1.469 | 0.27 | 1.739 | 2.174 | 4,351 | 7,252 |
| 2014 | 0 | 12,700 | 1.472 | 0.300 | 1.772 | 2.215 | 4,433 | 7,389 |

NOTES: AADF = 61 G/C/D = 115.9 GPD/D.U.
MMADF = 1.25 X AADF = 144.9 GPD/D.U.
Commercial Flows based upon Chapter 64E-6 F.A.C., estimated sewage flows.
MMADF BOD Projected at 240 MG/L
MMADF TSS Projected at 400 MG/L

TABLE D
NORTH SUMTER UTILITY COMPANY
SUMMARY OF TOTAL
ESTIMATED CAPITAL COSTS

| | PHASE I<br>4,074. D.U. | PHASE II<br>8,626 D.U. | TOTAL<br>12,700 D.U. |
|---|---|---|---|
| Water Treatment Facilities | $2,745,485 | $3,059,700 | $5,805,185 |
| Wastewater Treatment Facilities | $9,500,304 | $4,025,826 | $13,526,130 |
| Water Distribution Systems | $4,124,600 | $9,898,600 | $14,023,200 |
| Wastewater Collection and Transmission Systems | $6,389,385 | $14,908,565 | $21,297,950 |
| TOTAL ESTIMATED COST | $22,759,774 | $31,892,691 | $54,652,465 |

Note: All figures are based upon 2001 dollars, with an annual inflation rate of 3% compounded annually.

TABLE E
NORTH SUMTER UTILITY COMPANY
SUMMARY OF WATER SYSTEM DESIGN CRITERIA AND BUILDOUT REQUIREMENTS

Phase I

| Component | Design Criteria | Equipment Requirements |
|---|---|---|
| Water Supply | Well capacities shall meet max daily flow demands with largest well out of service<br>MDD = 0.940 MGD | Well No. 1 = 0.936 MGD<br>Well No. 2 = 0.936 MGD<br>Well No. 3 = 0.936 MGD<br>Well No. 4 = 0.936 MGD<br>Total provided = 3.744 MGD |
| Storage | 30 minutes chlorine contact time @ MDD = 0.02 MG<br>or<br>Peak Demand Rate for 6 hour period = 0.329 MG<br>or<br>Maximum Daily Demand Plus Fire Flows for 2 Hrs = 0.258MG | Storage provided - 0.500 MG Elevated Steel Storage Tank |
| Chlorination | Provide: 3 mg/l @ MDF | 170 lb/day Required<br>WTF No. 1; 2-100 lb/day chlorinators<br>200 lb/day provided |
| Distribution System | Provide 40 psi minimum during PHF; 20 psi minimum during fire flow conditions | Requirement satisfied, verified by Water CAD Analysis |

**TABLE E (continued)**
**NORTH SUMTER UTILITY COMPANY**
**SUMMARY OF WATER SYSTEM DESIGN CRITERIA AND BUILDOUT REQUIREMENTS**
**(continued)**

**Phase II**

| Component | Design Criteria | Equipment Requirements |
|---|---|---|
| Water Supply | Well capacities shall meet max daily flow demands with largest well out of service<br>MDD = 5.470 MGD | Well No. 1 = 0.936 MGD<br>Well No. 2 = 0.936 MGD<br>Well No. 3 = 0.936 MGD<br>Well No. 4 = 0.936 MGD<br>Well No. 5 = 0.936 MGD<br>Well No. 6 = 0.936 MGD<br>Well No. 7 = 0.936 MGD<br>Well No. 8 = 0.936 MGD<br>Total provided = 7.48 MGD |
| Storage | 30 minutes chlorine contact time @ MDD = 0.11 MG<br><br>or<br>Peak Demand Rate for 6 hour period = 1.91 MG<br><br>or<br>Maximum Daily Demand Plus Fire Flows for 2 Hrs = 0.635MG | 0.5 MG Elevated Steel Storage Tank<br>1.5 MG Concrete Ground Storage Tank<br><br>Total storage provided = 2.0 MG |
| High Service Pumps | Pumps shall meet PHF demands with largest pump out of service<br><br>or<br>MDD Plus Fire Flows | 4,404 GPM Required<br>WTF No. 2 High Service Pumps:<br>4 @ 1,500 GPM ea. = 6,000 GPM |
| Chlorination | Provide 3 mg/L @ MDF | 113 lb/day Required<br>WTF No. 2 - 2-150 lb/day chlorinator<br>300 lb/day provided |
| Distribution System | Provide 40 psi minimum during PHF and 20 psi minimum during fire flow conditions | Requirement satisfied, verified by Water CAD Analysis |

**TABLE F**
**NORTH SUMTER UTILITY COMPANY**
**WATER TREATMENT FACILITY**
**ESTIMATED CAPITAL COST**

| | PHASE I (2003) | PHASE II (2007) | |
|---|---|---|---|
| | WTF No. 1<br>4,074 D.U. | WTF No. 2<br>8,626 D.U. | TOTAL |
| 8" Water Supply Wells: 4 ea. | $160,000 | $180,000 | $340,000 |
| 650 GPM Well Pumps: 4 ea. | $135,000 | $155,000 | $290,000 |
| Electrical/Instrumentation System | $125,000 | $250,000 | $375,000 |
| 0.5 MG Elevated Storage Tank | $1,200,000 | - - - - - - - | $1,200,000 |
| Mechanical Buildings | $140,000 | $280,000 | $420,000 |
| Yard Piping/Raw Water Main | $125,000 | $225,000 | $350,000 |
| Site Work | $87,500 | $99,000 | $186,500 |
| Generator | $75,000 | $110,000 | $185,000 |
| 1.500 mgal Ground Storage Tank | - - - - - - - - - - - - | $900,000 | $900,000 |
| 1,500 GPM High Service Pumps: 4 ea. | - - - - - - - - - - - - | $150,000 | $150,000 |
| Operations/Laboratory/ Administration Building | $116,000 | $58,000 | $174,000 |
| General Conditions | $65,000 | $72,000 | $137,000 |
| Contingency (10%) | $222,850 | $248,000 | $470,850 |
| Engineering (10%) | $245,135 | $272,700 | $517,835 |
| Contract Administration (2%) | $49,000 | $60,000 | $109,000 |
| Total Estimated Capital Cost | $2,745,485 | $3,059,700 | $5,805,185 |

Note: All figures are based upon year 2001 dollars with an annual inflation rate of 3% compounded annually.

Note: The operations/laboratory/administration building will be utilized by both water and wastewater utilities. Forty (40%) percent of the costs is apportioned to water, sixty (60%) percent to wastewater.

# TABLE G
# NORTH SUMTER UTILITY COMPANY
# SUMMARY OF DESIGN CRITERIA AND BUILDOUT REQUIREMENTS
# WASTEWATER COLLECTION AND TRANSMISSION SYSTEM

| ITEM | CRITERIA |
|---|---|
| Force Mains | Minimum 4-inch diameter<br>Velocity = 2.5 - 6 ft/sec<br>Material = PVC or DIP |
| Gravity Pipe | Minimum 8-inch diameter (excluding laterals)<br>Maintain the following minimum slopes:<br><br>8-inch - 0.40%<br>10-inch - 0.33%<br>12-inch - 0.33%<br><br>Minimum 2.0 ft/sec @ PHF, flowing full or half full<br>Material = PVC or DIP |
| Manholes | Maximum spacing = 400 ft |
| Flow | ADF = 61 gal/cap/day<br>PHF = 3.0 x ADF |
| Pump Stations | Submersible pumps, manifolded pump stations. |

**Table H**
**NSU WWTF**
**Design Criteria and Unit Process Sizing**

| Process | Phase 1 (1.125 mgd) | Phase 2 (+1.125 mgd) | Total (2.250 mgd) | Process Design Criteria |
|---|---|---|---|---|
| Flows and Loads | | | | |
| Wastewater Flows | | | | |
| AADF, mgd | 0.900 | 0.960 | 1.680 | |
| MMADF, mgd | 1.125 | 1.125 | 2.250 | MMADF = 1.25 x AADF |
| PHF, mgd | 2.700 | 2.880 | 5.040 | PHF = 3.0 x AADF |
| MMADF Loading | | | | |
| BOD, lb/d | 2,252 | 4,203 | 4,203 | BOD = 240 mg/L |
| TSS, lb/d | 3,753 | 7,006 | 7,006 | TSS = 400 mg/L |
| Estimated Population Served | 12,065 | 12,065 | 24,130 | |
| Screening | 1 Manual | – | 1 Manual | PHF |
| | 1 Hycor Screen | – | 1 Hycor Screen | Max Velocity (clean) = 4 fps |
| Width | 2.5 | – | 2.5 | |
| Opening, in. | 0.5 | – | 0.5 | |
| Anaerobic Basin | | | | |
| Number | 1 | 1 | 2 | |
| Volume, gal. | 170,000 | 170,000 | 340,000 | |
| Detention Time, hr. | 3.6 | 3.6 | 3.6 | |
| Mixers | 1 | 1 | 2 | |
| Oxidation Ditches | | | | |
| Number | 1 | 1 | 2 | MLSS = 3,500 mg/l |
| Total Volume, MG | 0.67 | 0.67 | 1.34 | Influent TKN = 40 mg/l |
| Design SRT, days | 10 | 10 | 10 | |
| Sidewater Depth, ft | 10 | 10 | 10 | |
| Aerators per Basin | 2 (40 hp ea.) | 2 (40 hp ea.) | 4 (40 hp ea.) | Aerator Type: Submerged Turbine. |

**Table H (continued)**
**NSU WWTF**
**Design Criteria and Unit Process Sizing**

| Process | Phase 1 (1.125 mgd) | Phase 2 (+1.125 mgd) | Total (2.250 mgd) | Process Design Criteria |
|---|---|---|---|---|
| Secondary Clarifier | | | | |
| Number | 2 | – | 2 | SLR < 25 lb/sf/d @ MMADF |
| Type | RSR | – | RSR | HOR < 600 gal/sf/d @ MMADF |
| Diameter, ft. | 60 | – | 60 | |
| SWD, ft | 15 | – | 15 | |
| SLR, lb/sf/day | 8 | 11.6 | 11.6 | |
| HOR, gal/sf/day | 200 | 400 | 400 | |
| Return Activated Sludge Pump | | | | |
| Number | 3 | 2 | 5 | RAS @ 0.75 to 0.9% Solids |
| Type | Non-clog Centrifugals | Non-clog Centrifugals | Non-clog Centrifugals | SRT = 12 days |
| Capacity each, mgd | 0.6 | 0.6 | 0.6 | Firm Cap. = 100% MMADF |
| Firm Capacity, mgd | 1.125 | 1.125 | 2.250 | |
| Waste Activated Sludge Pumps | | | | |
| Number | 2 | – | 2 | Operate between 5 to 10 min. |
| Type | Non-clog Centrifugals | – | Non-clog Centrifugals | per hour. |
| Capacity each, gpm | 225 | – | 225 | |
| Firm Capacity, gpm | 450 | – | 450 | |
| Operation Time, min/hr | 7 | 7 | 7 | |
| Filters | | | | |
| Type | Traveling Bridge | Traveling Bridge | Traveling Bridge | Filtration rate < 2 gpm/sf |
| Number | 2 | 2 | 4 | @ MMADF |
| Filter Area Each, sf | 220 | 220 | – | Filtration rate < 6 gpm/sf @ PHF |
| Total Filter Area, sf | 440 | 440 | 880 | |
| Filter Rates, gpm/sf | | | | |
| AADF | 1.42 | 1.42 | 1.42 | |
| MMADF | 1.77 | 1.77 | 1.77 | |
| PHF | 4.26 | 4.26 | 4.26 | |

**Table H (continued)**
**NSU WWTF**
**Design Criteria and Unit Process Sizing**

| Process | Phase 1 (1.125 mgd) | Phase 2 (+1.125 mgd) | Total (2.250 mgd) | Process Design Criteria |
|---|---|---|---|---|
| Disinfection | | | | |
| Chlorine Contact Basins | | | | |
| Number | 2 | -- | 2 | 30 min. @ AADF: 37,500 |
| Volume Each, gal | 56,250 | -- | 56,250 | 15 min. minimum @ PHF: 56,250 |
| Total Volume | 112,500 | -- | 112,500 | |
| Detention Time | | | | |
| AADF, minutes | 90 | 45 | 45 | |
| PHF, minutes | 30 | 15 | 15 | |
| Sodium Hypochlorite Feed System | | | | |
| Demands per lb chlorine: | | | | |
| MMADF, lb/d | 95 | 188 | 188 | 10 mg/L dose @ MMADF |
| PHF, lb/d | 225 | 450 | 450 | 10 mg/L dose @ PHF |
| Clarifier, lb/d | 45 | 90 | 90 | 6 mg/L dose @ AADF |
| RAS/filter, lb/d | 45 | 90 | 90 | 6 mg/L dose @ AADF |
| Effluent Storage | | | | |
| Number of Ponds | 1 | – | 1 | |
| Volume Each, MG | 1.0 | – | 1.0 | |
| Total Volume | 1.0 | – | 1.0 | |
| Active Water Depth, ft | 7.5 | – | 7.5 | |
| Total Water Depth, ft. | 9.5 | – | 9.5 | |
| Free board, ft. | 3 | – | 3 | |
| Waste Activated Sludge Holding | | | | |
| Number | 2 | -- | 2 | WAS concentration of 1.5% TSS |
| Volume Each, gal | 100,000 | -- | 100,000 | |
| Total Volume | 200,000 | -- | 200,000 | |
| Side Water Depth, ft | 14 | -- | 14 | |
| Total Air Required, cfm | 600 | -- | 600 | |

**Table H (continued)**
**LSU WWTF**
**Design Criteria and Unit Process Sizing**

| Process | Phase 1 (1.125 mgd) | Phase 2 (+1.125 mgd) | Total (2.250 mgd) | Process Design Criteria |
|---|---|---|---|---|
| Aerobic Digester Blowers | | | | |
| Number | 3 | | 3 | |
| Capacity Each, cfm | 450 | | 450 | |
| Firm Capcity, cfm | 450 | | 450 | |
| Total Capacity, cfm | 1,350 | | 1,350 | |
| Sludge Loading Facility | | | | |
| Number of Pumps | 2 | – | 2 | Fill 3,500 gal tank in 10-25 min. |
| Type | Recessed Impeller Centrifugal | – – | Recessed Impeller Centrifugal | |
| Capacity Each, gpm | 200 | – | 200 | |
| Rapid Infiltration Basins | | | | |
| Number | 2 | | 2 | Provide for out-of compliance effluent. |
| Aera Each, sq. ft. | 121,500 | | – | |
| Effluent Pumps | | | | |
| Number of Pumps | 2 | 2 | 4 | |
| Type | Vertical Turbine | Vertical Turbine | Vertical Turbine | Transfer to golf course storage lakes |
| Capacity Each, gpm | 625 | 625 | 625 | |
| Total Capacity, gpm | 1,350 | 2,500 | 2,500 | |
| Plant Recycle Pumps | | | | |
| Number of Pumps | 2 | – | 2 | |
| Type | Submersible | – | Submersible | Recycles supernatant from Sludge holding basins, Backwash water from filters, and Sludge Dewatering. |
| Capacity Each, gpm | 500 | – | 500 | |
| Total Capacity, gpm | 1,000 | – | 1,000 | |
| Sludge Dewatering Facility | – | 1 | 1 | |
| Type | – | Belt Filter Press | Belt Filter Press | Based on MMADF Loadings |
| Number | – | 1 | 1 | 0.8% solids |
| Size | – | 2.0 meter | 2.0 meter | Loading rates to be confirmed during final design. |
| Capacity, lb/hr of solids | – | 1,000 | 1,000 | |
| Operation Time, hrs/day | – | 6.5 | 6.5 | |

**TABLE I**
**NORTH SUMTER UTILITY COMPANY**
**WASTEWATER TREATMENT FACILITY**
**ESTIMATED CAPITAL COST**

| | PHASE I (2003) 1.125 mgd | PHASE II (2007) 1.125 mgd | TOTAL 2.250 mgd |
|---|---|---|---|
| Headworks/Odor Control | $320,000 | ---------- | $320,000 |
| Oxidation Ditch | $1,091,000 | $1,155,000 | $2,246,000 |
| Secondary Clarifier | $683,000 | ---------- | $683,000 |
| RAS/WAS Pump Station | $180,000 | $33,000 | $213,000 |
| Effluent Filters | $420,000 | $445,500 | $865,500 |
| Chlorination System | $90,000 | ---------- | $90,000 |
| Sodium Hypochlorite Generator | $325,000 | $385,000 | $710,000 |
| Chlorine Contact Basin | $275,000 | ---------- | $275,000 |
| Aerobic Digesters | $408,000 | ---------- | $408,000 |
| Sludge Filter Press | $537,000 | ---------- | $537,000 |
| Plant Recycle Station | $116,000 | ---------- | $116,000 |
| Digestion Blowers | $108,000 | ---------- | $108,000 |
| Rapid Infiltration Basins | $220,000 | $110,000 | $330,000 |
| Standby Generator | $130,000 | ---------- | $130,000 |
| Effluent Pump Station | $70,000 | $53,000 | $123,000 |
| Effluent Force Mains | $225,000 | $100,000 | $325,000 |
| Effluent Storage | $75,000 | ---------- | $75,000 |
| Mechanical Building | $160,000 | ---------- | $160,000 |
| Operation/Laboratory/ Administration Building | $175,000 | $85,000 | $260,000 |
| Sitework | $310,000 | $132,000 | $442,000 |
| Electrical and I&C | $682,000 | $290,000 | $972,000 |
| Yard Piping | $800,000 | $330,000 | $1,130,000 |
| General Conditions | $222,000 | $93,555 | $315,555 |
| Contingency (10%) | $762,200 | $321,205 | $1,083,405 |
| Engineering (10%) | $838,420 | $353,326 | $1,191,746 |
| O & M Manual Preparation | $110,000 | $75,000 | $185,000 |
| Contract Administration (2%) | $167,684 | $64,240 | $231,924 |
| TOTAL ESTIMATED COST | $9,500,304 | $4,025,826 | $13,526,130 |

Note:
Phase I figures are based upon year 2001 dollars assuming an annual inflation rate of 3% compounded annually.

Phase II figures are based upon year 2001 dollars assuming an annual inflation rate of 3% compounded annually.

The operations/laboratory/administrative building will be utilized by bothwater and wastewater utilities. Forty (40%) percent of the costs is apportioned to water, sixty (60%) percent to wastewater.

TABLE J
NORTH SUMTER UTILITY COMPANY
INFRASTRUCTURE
ESTIMATED CAPITAL COST

## POTABLE WATER DISTRIBUTION SYSTEM

| | PHASE I 4,074 D.U. | PHASE II 8,626 D.U. | TOTAL 12,700 D.U. |
|---|---|---|---|
| Distribution Mains | $2,172,500 | $5,212,500 | $7,385.000 |
| Service Lines | $1,170,000 | $2,809,000 | $3,979,000 |
| Sub-Total | $3,342,500 | $8,021,500 | $11,364,000 |
| Contingency (10%) | $334,250 | $802,150 | $1,136,400 |
| Engineering (10%) | $367,500 | $882,000 | $1,249,500 |
| Contract Admin (2%) | $80,350 | $192,950 | $273,300 |
| Total Cost | $4,124,600 | $9,898,600 | $14,023,200 |

Note: All figures are based upon 2001 dollars, with an annual inflation rate of 3% compounded annually.

## WASTEWATER COLLECTION AND TRANSMISSION SYSTEM

| | PHASE I 4,074 D.U. | PHASE II 8,626 D.U. | TOTAL 12,700 D.U. |
|---|---|---|---|
| Force Mains | $336,375 | $785,220 | $1,121,595 |
| Gravity Mains | $2,328,750 | $5,436,165 | $7,764,915 |
| Service Laterals | $983,250 | $2,295,270 | $3,278,520 |
| Manholes | $983,250 | $2,295,270 | $3,278,520 |
| Lift Stations | $545,060 | $1,268,440 | $1,813,500 |
| Sub-Total | $5,176,685 | $12,080,365 | $17,257,050 |
| Contingency (10%) | $517,670 | $1,208,000 | $1,725,500 |
| Engineering (10%) | $579,120 | $1,328,400 | $1,907,520 |
| Contract Admin (2%) | $115,910 | $291,800 | $407,710 |
| Total Cost | $6,389,385 | $14,908,565 | $21,297,950 |

Note: All figures are based upon 2001 dollars, with an annual inflation rate of 3% compounded annually.

TABLE K

NORTH SUMTER UTILITIES

PROJECTED POTABLE WATER OPERATIONS AND MAINTENANCE EXPENSE

| | Year 2004 | Year 2005 | Year 2006 | Year 2007 | Year 2008 | Year 2009 | Year 2010 | Year 2011 | Year 2012 | Year 2013 | Year 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Contractual Operations Services | | | | | | | | | | | |
| a. Electrical Power | $2,100 | $9,000 | $20,400 | $34,620 | $50,520 | $67,860 | $86,160 | $105,480 | $120,900 | $128,640 | $132,720 |
| b. Chemicals | $660 | $2,760 | $6,300 | $10,680 | $15,540 | $20,880 | $26,520 | $32,460 | $37,200 | $39,588 | $40,860 |
| c. Labor & Benefits | $103,080 | $159,240 | $273,120 | $337,680 | $405,840 | $477,720 | $553,560 | $696,840 | $782,760 | $806,520 | $830,280 |
| d. Repairs | $11,820 | $16,200 | $20,880 | $25,800 | $29,520 | $36,480 | $40,740 | $48,360 | $58,140 | $59,880 | $61,680 |
| e. Laboratory Testing | $10,920 | $16,920 | $17,460 | $20,040 | $26,580 | $33,480 | $40,740 | $54,840 | $59,760 | $61,620 | $63,420 |
| f. Vehicle Expense | $11;820 | $24,360 | $30,600 | $37,260 | $45,780 | $54,720 | $56,400 | $58,080 | $59,760 | $61,620 | $63,420 |
| g. Supplies | $8,760 | $13,560 | $23,280 | $28,800 | $34,560 | $40,680 | $47,160 | $59,340 | $66,660 | $68,700 | $70,740 |
| h. Miscellaneous | $14,640 | $24,540 | $40,920 | $53,160 | $67,320 | $83,460 | $99,960 | $127,680 | $147,660 | $157,440 | $166,920 |
| Total Contractual Operations Services | $163,800 | $266,580 | $432,960 | $548,040 | $675,660 | $815,280 | $951,240 | $1,183,080 | $1,332,840 | $1,384,008 | $1,430,040 |
| 2. Accounting | $9,300 | $9,550 | $9,850 | $10,150 | $10,450 | $10,750 | $11,100 | $11,400 | $11,750 | $11,100 | $12,500 |
| 3. Legal | $2,200 | $2,250 | $2,300 | $2,400 | $2,450 | $2,550 | $2,600 | $2,700 | $2,750 | $2,850 | $2,950 |
| 4. Insurance | $3,300 | $3,400 | $3,500 | $3,600 | $3,700 | $3,800 | $3,900 | $4,000 | $4,150 | $4,300 | $4,400 |
| 5. Administration | $37,500 | $38,650 | $39,800 | $41,000 | $42,200 | $43,450 | $44,800 | $46,100 | $47,500 | $48,900 | $50,400 |
| 6. Billing / Collections | $41,000 | $42,200 | $43,450 | $44,800 | $46,100 | $47,500 | $48,900 | $50,400 | $51,900 | $53,450 | $55,050 |
| **Grand Totals** | **$257,100** | **$362,630** | **$531,860** | **$649,990** | **$780,560** | **$923,330** | **$1,062,540** | **$1,297,680** | **$1,450,890** | **$1,504,608** | **$1,555,340** |

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TABLE L
NORTH SUMTER UTILITIES
PROJECTED WASTEWATER OPERATIONS AND MAINTENANCE EXPENSE

| | Year 2004 | Year 2005 | Year 2006 | Year 2007 | Year 2008 | Year 2009 | Year 2010 | Year 2011 | Year 2012 | Year 2013 | Year 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Contractual Operations Services | | | | | | | | | | | |
| a. Electrical Power | $7,380 | $31,740 | $72,360 | $127,800 | $190,380 | $255,540 | $324,420 | $412,740 | $473,220 | $503,520 | $519,360 |
| b. Chemicals | $900 | $3,960 | $12,060 | $25,560 | $37,320 | $55,140 | $69,960 | $93,480 | $116,040 | $123,480 | $127,380 |
| c. Labor & Benefits | $162,420 | $278,880 | $401,880 | $532,260 | $670,200 | $815,880 | $840,300 | $931,980 | $1,028,280 | $1,059,480 | $1,090,680 |
| d. Repairs | $15,720 | $20,280 | $34,800 | $42,960 | $56,100 | $68,400 | $81,420 | $112,920 | $132,840 | $136,920 | $140,940 |
| e. Laboratory Testing | $14,280 | $16,200 | $21,600 | $27,240 | $33,960 | $41,040 | $48,540 | $66,120 | $76,380 | $78,720 | $81,000 |
| f. Vehicle Expense | $30,180 | $37,800 | $50,040 | $57,300 | $66,420 | $77,520 | $87,720 | $106,440 | $117,900 | $133,440 | $147,960 |
| g. Supplies | $13,140 | $36,120 | $52,020 | $68,940 | $86,760 | $105,660 | $108,780 | $120,660 | $133,140 | $137,160 | $141,240 |
| h. Miscellaneous | $15,840 | $27,600 | $41,880 | $57,360 | $74,160 | $92,220 | $101,460 | $119,880 | $135,060 | $141,240 | $146,160 |
| i. Solids Handling | $0 | $13,200 | $36,180 | $66,480 | $97,080 | $130,260 | $165,360 | $218,040 | $250,020 | $265,980 | $274,380 |
| Total Contractual Operations Services | $259,860 | $465,780 | $722,820 | $1,005,900 | $1,312,380 | $1,641,660 | $1,827,960 | $2,182,260 | $2,462,880 | $2,579,940 | $2,669,100 |
| 2. Accounting | $9,300 | $9,550 | $9,850 | $10,150 | $10,450 | $10,750 | $11,100 | $11,400 | $11,750 | $11,100 | $12,500 |
| 3. Legal | $2,200 | $2,250 | $2,300 | $2,400 | $2,450 | $2,550 | $2,600 | $2,700 | $2,750 | $2,850 | $2,950 |
| 4. Insurance | $3,300 | $3,400 | $3,500 | $3,600 | $3,700 | $3,800 | $3,900 | $4,000 | $4,150 | $4,300 | $4,400 |
| 5. Administration | $37,500 | $38,650 | $39,800 | $41,000 | $42,200 | $43,450 | $44,800 | $46,100 | $47,500 | $48,900 | $50,400 |
| 6. Billing / Collections | $41,000 | $42,200 | $43,450 | $44,800 | $46,100 | $47,500 | $48,900 | $50,400 | $51,900 | $53,450 | $55,050 |
| **Grand Totals** | **$353,160** | **$561,830** | **$821,720** | **$1,107,850** | **$1,417,280** | **$1,749,710** | **$1,939,260** | **$2,296,860** | **$2,580,930** | **$2,700,540** | **$2,794,400** |

TABLE M
NSU WATER DISTRIBUTION SYSTEM
ESTIMATED CAPITAL COST BY YEAR

| YEAR | NO. OF LOTS DEVELOPED | COST PER LOT | TOTAL COST |
|---|---|---|---|
| 2003 | 1,000 | $935 | $935,000 |
| 2004 | 1,500 | $1022 | $1,533,000 |
| 2005 | 1,750 | $1053 | $1,842,750 |
| 2006 | 1,750 | $1084 | $1,897,000 |
| 2007 | 1,750 | $1116 | $1,953,000 |
| 2008 | 1,750 | $1150 | $2,012,500 |
| 2009 | 1,750 | $1185 | $2,073,750 |
| 2010 | 1,250 | $1220 | $1,525,000 |
| 2011 | 200 | $1256 | $251,200 |
| 2012 | 0 | 0 | 0 |
| **GRAND TOTAL** | | | **$14,023,200** |

Note: All figures are based upon 2001 dollars, with an annual inflation rate of 3% compounded annually.

TABLE N

NSU WASTEWATER COLLECTION AND TRANSMISSION SYSTEM
ESTIMATED CAPITAL COST BY YEAR

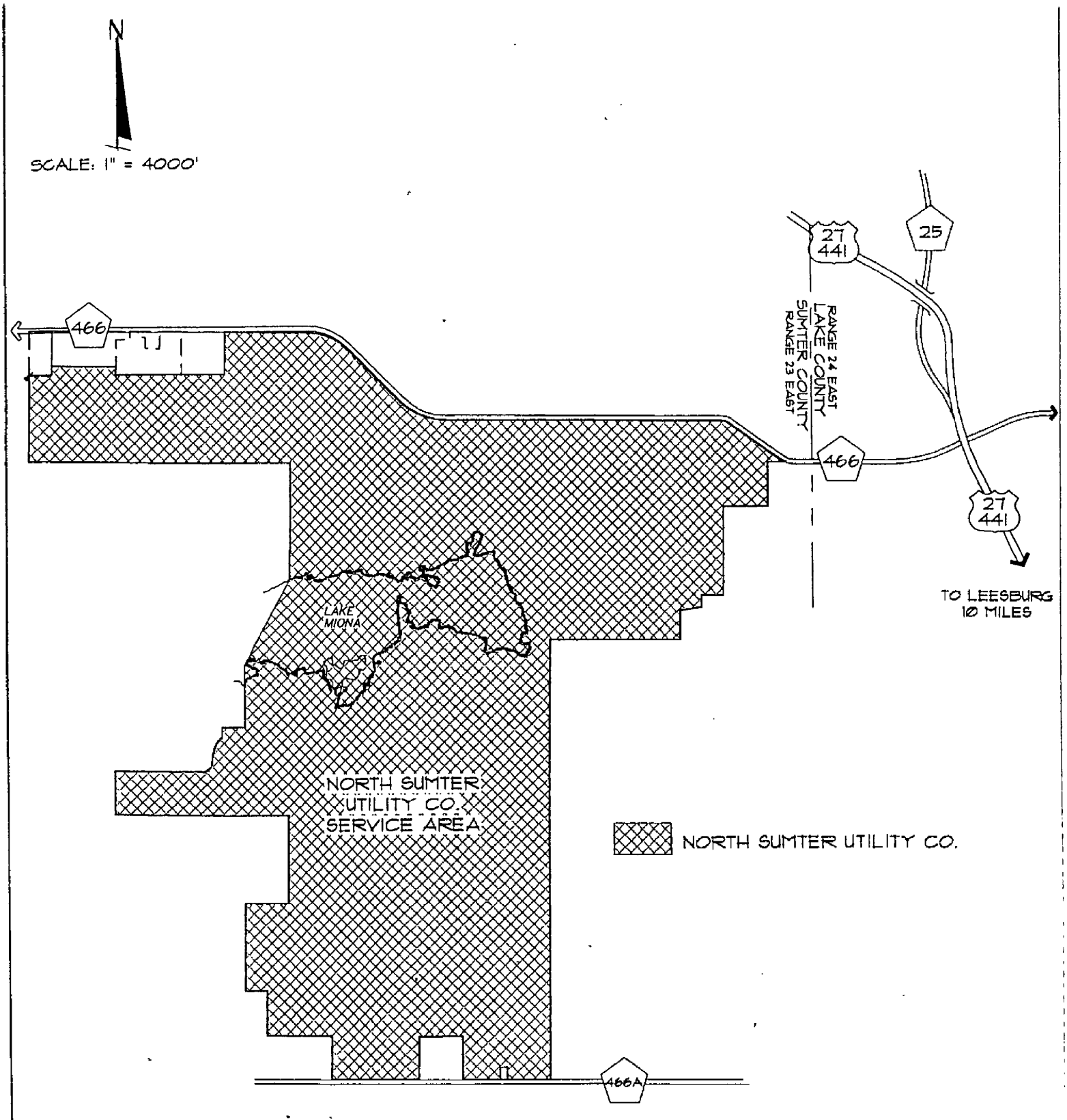
| YEAR | NO. OF LOTS DEVELOPED | COST PER LOT | TOTAL COST |
|---|---|---|---|
| 2003 | 1,000 | $1,500 | $1,500,000 |
| 2004 | 1,500 | $1,545 | $2,317,500 |
| 2005 | 1,750 | $1,590 | $2,782,500 |
| 2006 | 1,750 | $1,640 | $2,870,000 |
| 2007 | 1,750 | $1,690 | $2,957,500 |
| 2008 | 1,750 | $1,740 | $3,045,000 |
| 2009 | 1,750 | $1,793 | $3,137,750 |
| 2010 | 1,250 | $1,846 | $2,307,500 |
| 2011 | 200 | $1,901 | $380,200 |
| 2012 | 0 | 0 | 0 |
| **GRAND TOTAL** | **12,700** | | **$21,297,950** |

Note: All figures are based upon 2001 dollars, with an annual inflation rate of 3% compounded annually.

# TABLE O
# NSU TOTAL ESTIMATED CAPITAL COST BY YEAR

| YEAR | WATER DISTRIBUTION SYSTEM | WASTEWATER COLLECTION & TRANSMISSION SYSTEM | WATER TREATMENT FACILITY | WASTEWATER TREATMENT FACILITY | TOTAL |
|---|---|---|---|---|---|
| 2003 | $935,000 | $1,500,000 | $2,745,485 (PHASE I) | $9,500,304 (PHASE I) | $14,680,789 |
| 2004 | $1,533,000 | $2,317,500 | | | $3,850,500 |
| 2005 | $1,842,750 | $2,782,500 | | | $4,625,250 |
| 2006 | $1,897,000 | $2,870,000 | | | $4,767,000 |
| 2007 | $1,953,000 | $2,957,500 | $3,059,700 (PHASE II) | $4,025,826 (PHASE II) | $11,996,026 |
| 2008 | $2,012,500 | $3,045,000 | | | $5,057,500 |
| 2009 | $2,073,750 | $3,137,750 | | | $5,211,500 |
| 2010 | $1,525,000 | $2,307,500 | | | $3,832,500 |
| 2011 | $251,200 | $380,200 | | | $631,400 |
| 2012 | 0 | 0 | | | 0 |
| TOTAL | $14,023,200 | $21,297,950 | $5,805,185 | $13,526,130 | $54,652,465 |

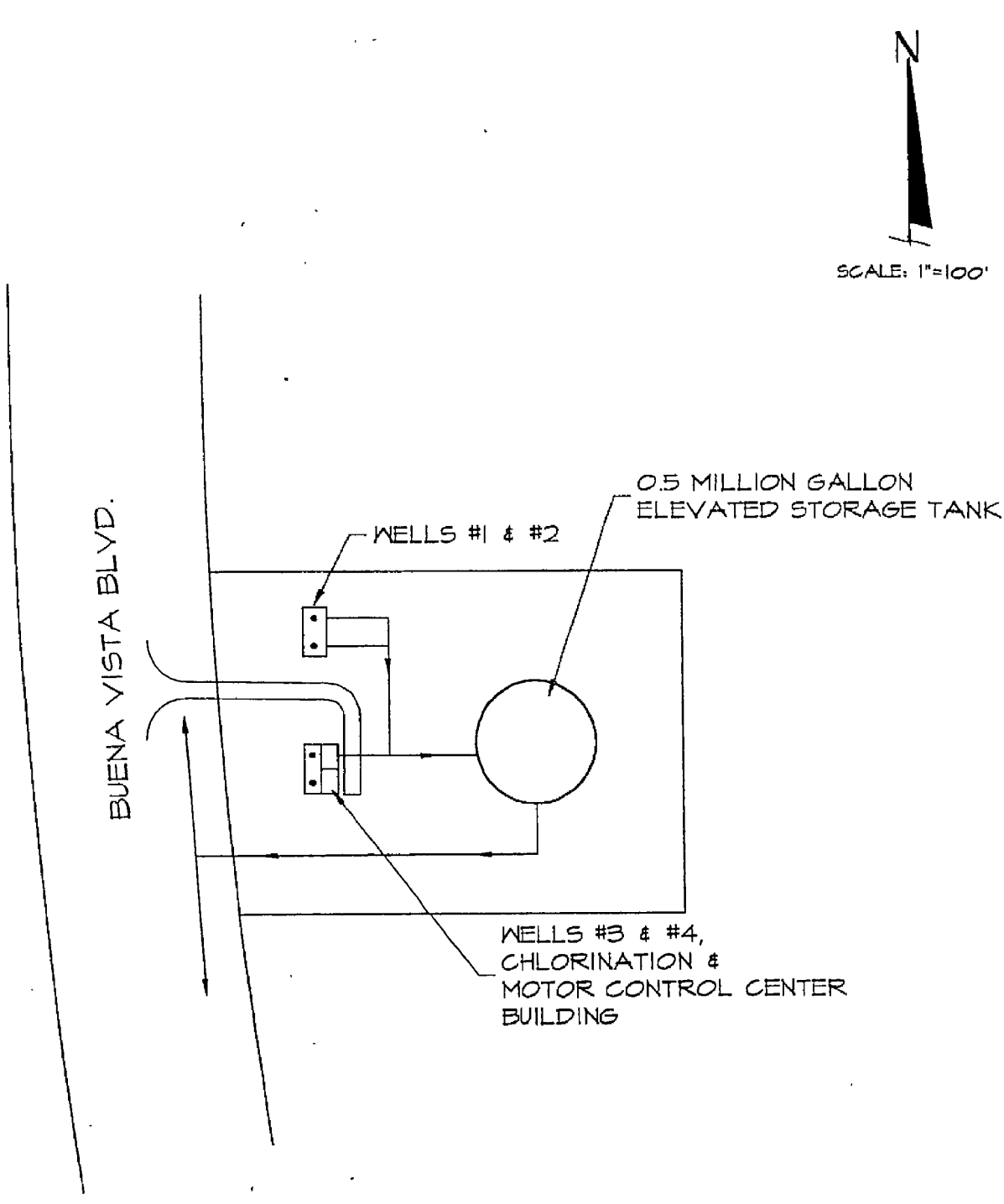
Note: All figures are based upon 2001 dollars, with an annual inflation rate of 3% compounded annually.




# PUBLIC SERVICE COMMISSION SERVICE AREA

FIG. 1

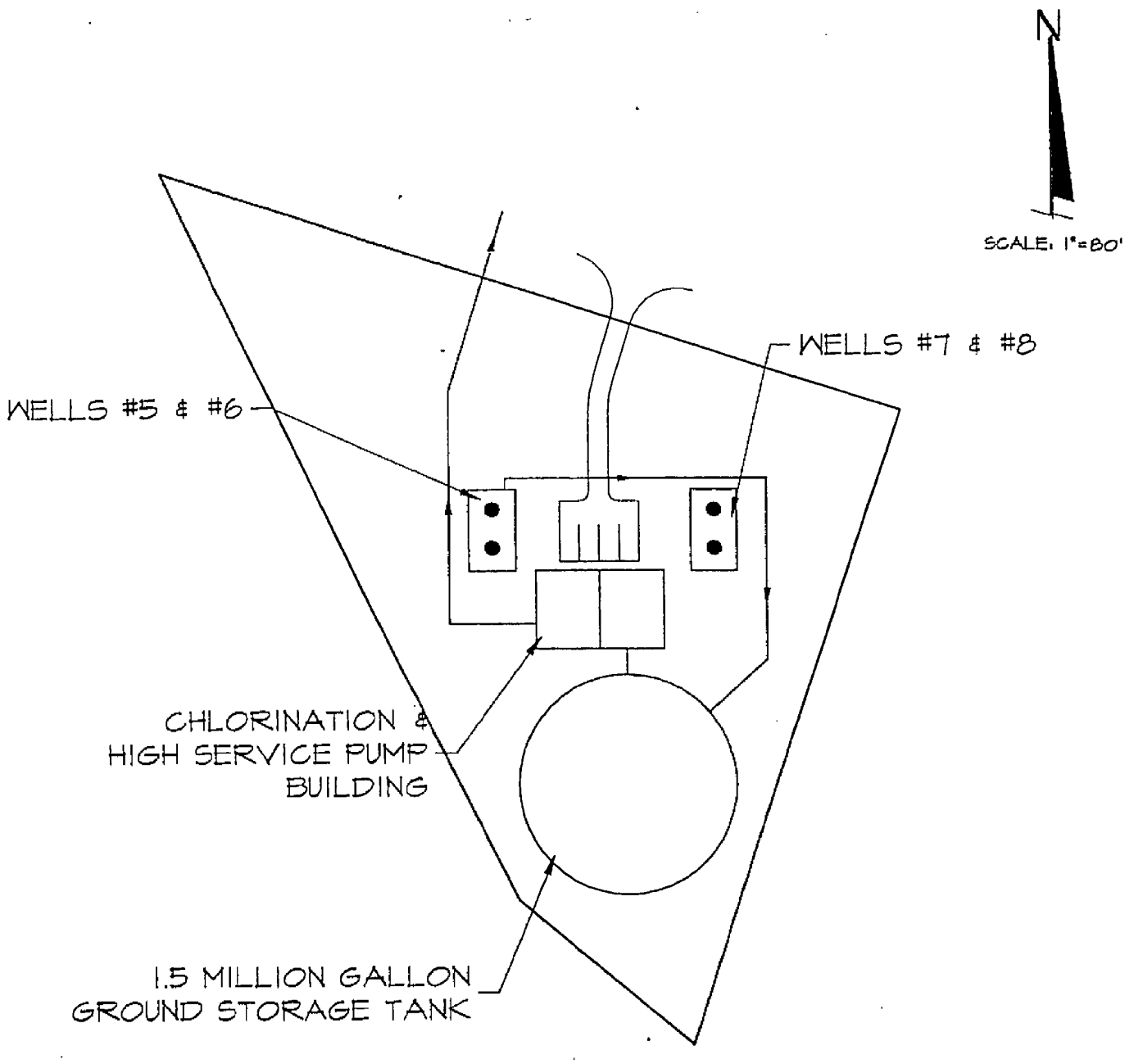
FARNER BARLEY AND ASSOCIATES, INC.
▲ ENGINEERS
▲ SURVEYORS
▲ PLANNERS
360 North Sinclair Avenue ◇ Tavares, Florida 32778 ◇ (352) 343-8481




# NORTH SUMTER UTILITY CO.
# WATER TREATMENT FACILITY NO. 1
# PUBLIC SUPPLY WELLS #1, #2, #3 and #4

FARNER BARLEY AND ASSOCIATES, INC.
▲ ENGINEERS
▲ SURVEYORS
▲ PLANNERS

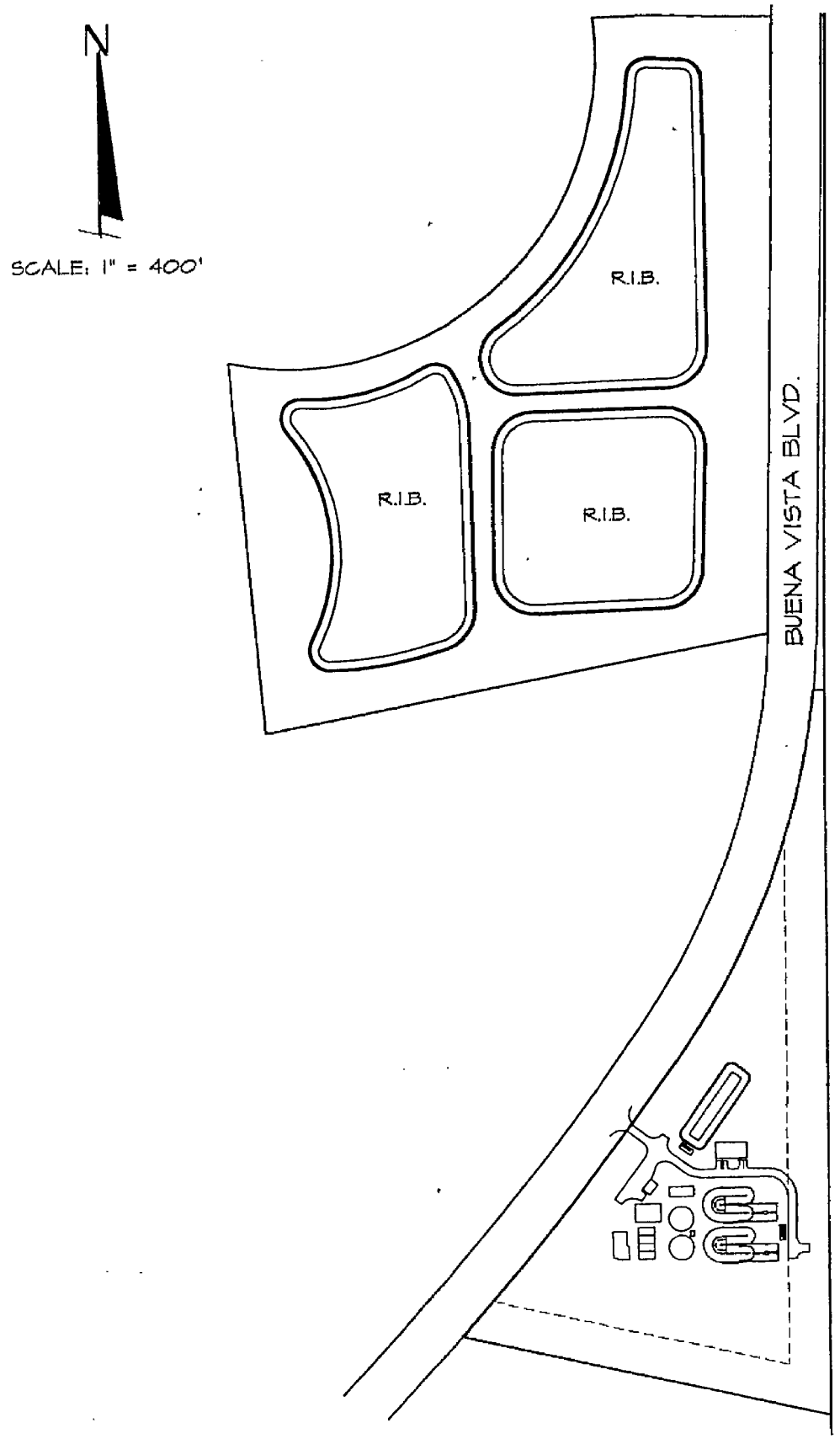
FIG. 2




# NORTH SUMTER UTILITY CO.
# WATER TREATMENT FACILITY NO. 2
# PUBLIC SUPPLY WELLS #5, #6, #7 and #8

FARNER BARLEY AND ASSOCIATES, INC.
▲ ENGINEERS
▲ SURVEYORS
▲ PLANNERS

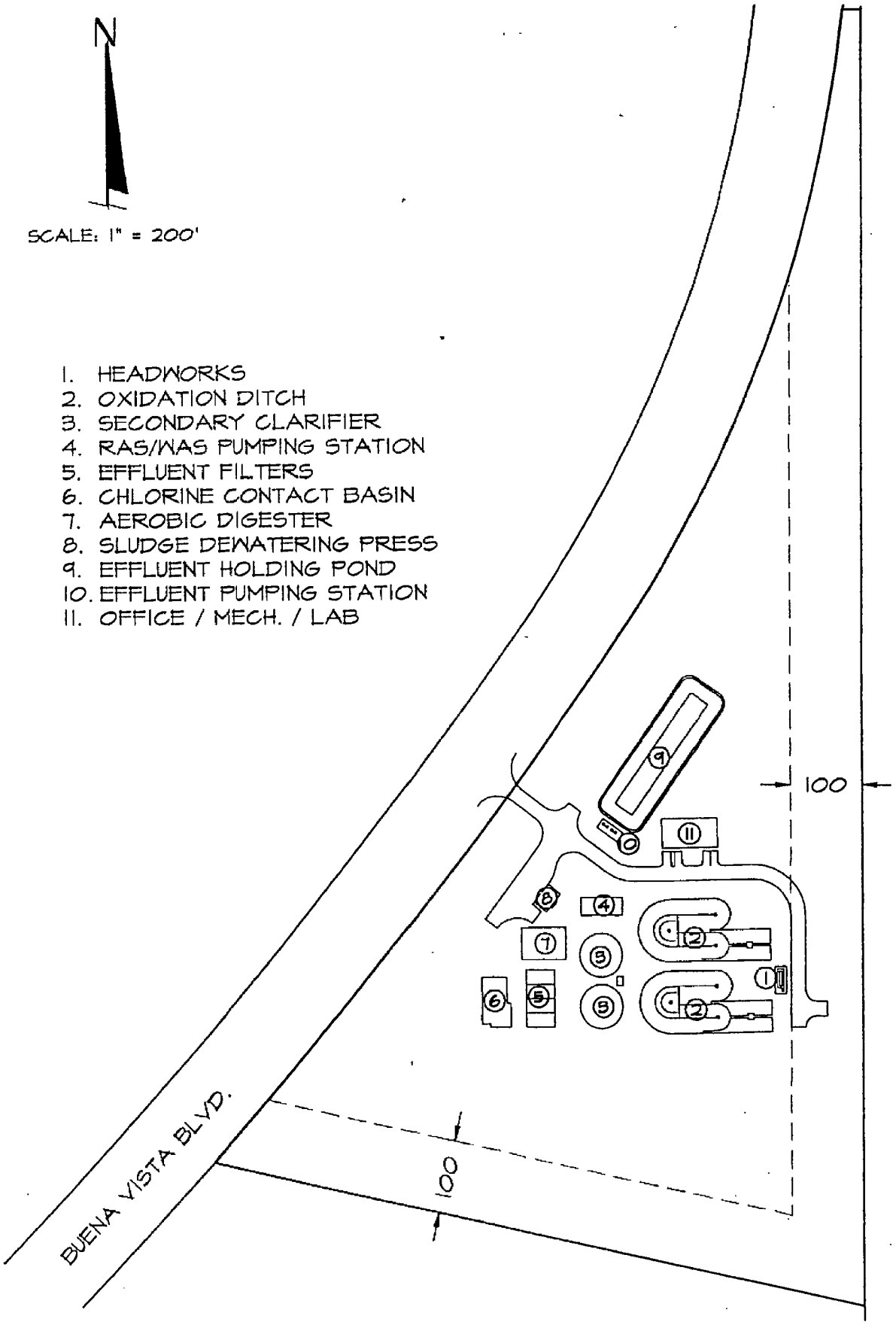
FIG. 3




# NORTH SUMTER UTILITY CO.
# WASTEWATER
# TREATMENT FACILITY

FIG. 4

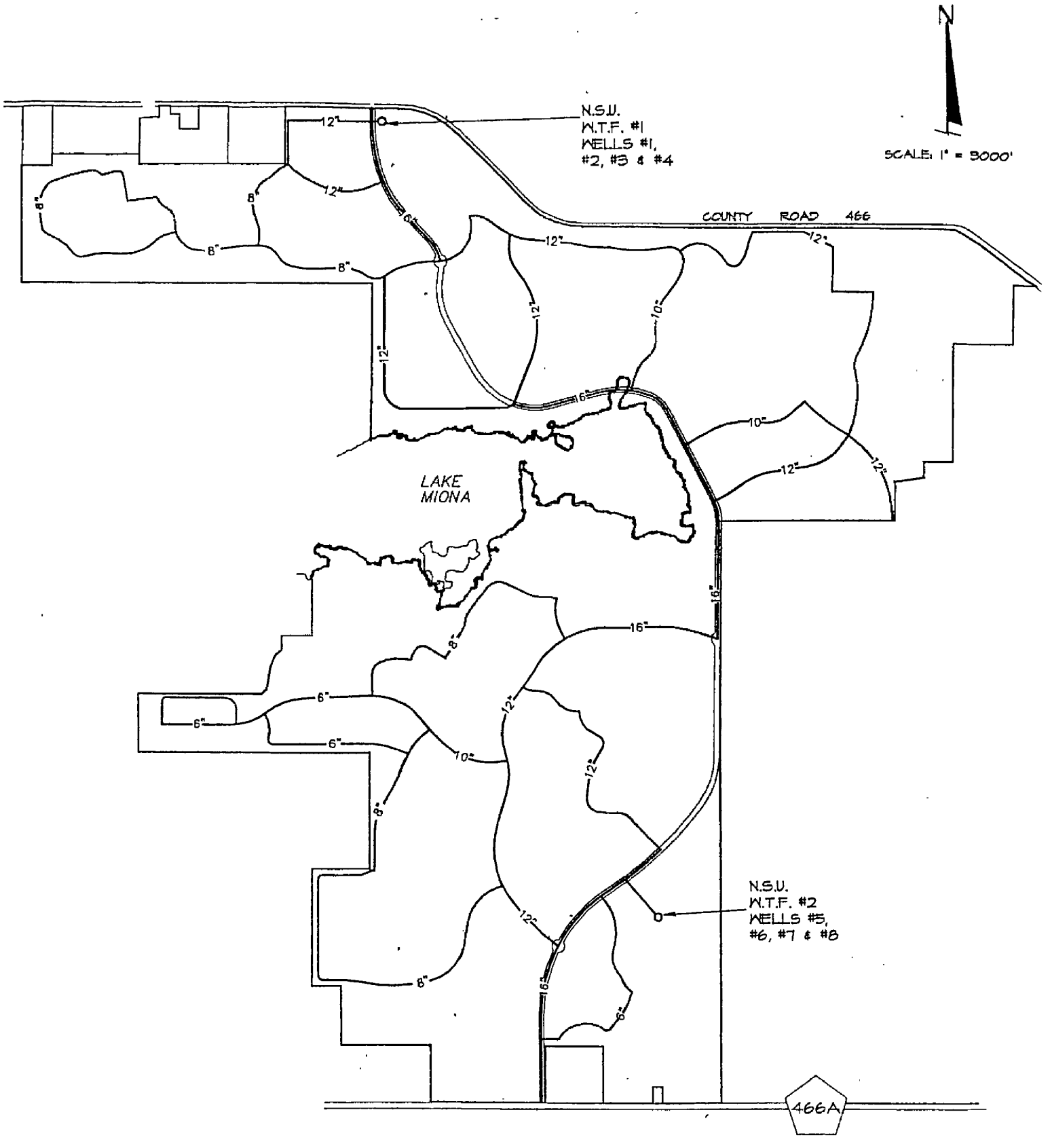
FARNER BARLEY AND ASSOCIATES, INC.
▲ ENGINEERS
▲ SURVEYORS
▲ PLANNERS
350 North Sinclair Avenue ○ Tavares, Florida 32778 ○ (352) 343-8481




# NORTH SUMTER UTILITY CO.
# WASTEWATER TREATMENT FACILITY

FIG. 5

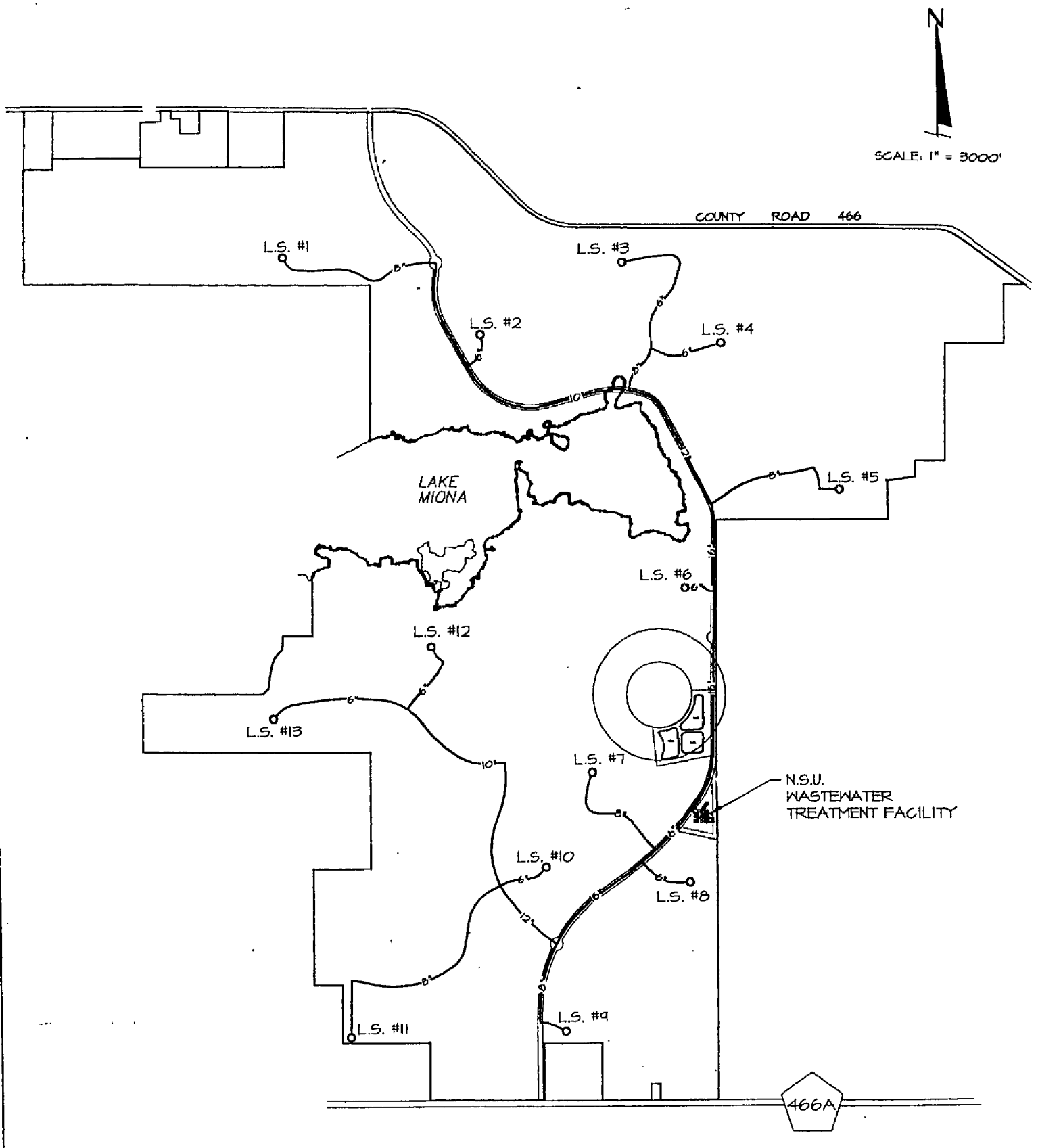
FARNER BARLEY AND ASSOCIATES, INC.
▲ ENGINEERS
▲ SURVEYORS
▲ PLANNERS
350 North Sinclair Avenue ○ Tavares, Florida 32778 ○ (352) 343-8481




# WATER TREATMENT FACILITY LOCATION AND DISTRIBUTION SYSTEM MAP

FIG. 6

FARNER BARLEY AND ASSOCIATES, INC.
▲ ENGINEERS
▲ SURVEYORS
▲ PLANNERS
350 North Sinclair Avenue ◻ Tavares, Florida 32778 ◻ (352) 343-8481




# WASTEWATER TREATMENT FACILITY LOCATION AND TRANSMISSION SYSTEM MAP

FIG. 7

FARNER BARLEY AND ASSOCIATES, INC.
▲ ENGINEERS
▲ SURVEYORS
▲ PLANNERS
350 North Sinclair Avenue ○ Tavares, Florida 32778 ○ (352) 343-8481