

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

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In re: Application for original certificates for proposed water and wastewater system, in Hernando and Pasco Counties, and request for initial rates and charges, by Skyland Utilities, LLC.

DOCKET NO. 090478-WS

DATED: MAY 24, 2010

COMMISSION CLERK

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the Direct Testimony of Paul M. Williams, on behalf of the Florida Public Service Commission, has been furnished by electronic and U.S. mail, on this 24th day of May, 2010, to the following:

William H. Hollimon  
Pennington, Moore, Wilkinson  
Bell & Dunbar, P.A.  
215 South Monroe Street, 2<sup>nd</sup> Floor  
Tallahassee, Florida 32301

Darrill Lee McAteer, Esquire  
City Attorney  
20 South Broad Street  
Brooksville, Florida 34601

Frederick T. Reeves, Esquire  
Frederick T. Reeves, P.A.  
5709 Tidalwave Drive  
New Port Richey, Florida 34652

Michael Minton, Esquire  
1903 South 25<sup>th</sup> Street, Suite 200  
Fort Pierce, Florida 34947

Geoffrey Kirk, Esquire  
Jon Jouben, Esquire  
Garth Coller, Esquire  
20 North Main Street, Suite 462  
Brooksville, Florida 34601

Joseph Richards, Esquire  
West Pasco County Government Center  
7530 Little Road, Suite 34  
New Port Richey, Florida 34654

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PAGE 2

Ronald Edwards  
Manager  
660 Beachland Boulevard, Suite 301  
Vero Beach, Florida 32963-1708

John L. Wharton, Esquire  
F. Marshall Deterding, Esquire  
Rose Sundstorm & Bentley, LLP  
2548 Blairstone Pines Drive  
Tallahassee, Florida 32301

A handwritten signature in black ink, appearing to read 'Caroline Klancke', written over a horizontal line.

CAROLINE KLANCKE  
SENIOR ATTORNEY  
FLORIDA PUBLIC SERVICE COMMISSION  
Gerald L. Gunter Building  
2540 Shumard Oak Boulevard  
Tallahassee, Florida 32399-0850  
Telephone: (850) 413-6220

**DOCKET NO.:** 090478-WS - Application for original certificates for proposed water and wastewater system, in Hernando and Pasco Counties, and request for initial rates and charges, by Skyland Utilities, LLC.

**WITNESS:** Direct testimony of Paul M. Williams,  
Appearing on Behalf of the Staff of the Florida Public Service Commission.

**DATE FILED:** May 24, 2010

DIRECT TESTIMONY OF PAUL M. WILLIAMS

1  
2 Q. Please state your name and business address.

3 A. My name is Paul M. Williams. My business address is 2379 Broad St., Brooksville,  
4 Florida 34604.

5 Q. By whom are you employed?

6 A. I am employed by the Southwest Florida Water Management District (SWFWMD) as  
7 a Water Use Manager in the Brooksville Service Office.

8 Q. Please summarize your educational background.

9 A. I have a bachelor's degree in geology from Earlham College in Richmond, Indiana. I  
10 have taken additional courses from the University of Delaware and the U.S. Geological  
11 Survey. I have 36 years experience as a professional hydrogeologist and am currently licensed  
12 in Florida.

13 Q. Please describe your work experience.

14 A. My work experience includes six years of employment with the State of Delaware  
15 water regulatory agency; 24 years of employment consulting for Camp, Dresser, & McKee,  
16 Roy F. Weston, Weston & Sampson, and as an independent groundwater consultant; three  
17 years of employment as a water use permit evaluator with the SWFWMD; and three years of  
18 employment as the Brooksville Water Use Manager with the SWFWMD. In my current  
19 position my responsibilities include managing three professionals who review water use  
20 permit (WUP) applications, conducting pre-application meetings for new permit applications,  
21 coordinating with other SWFWMD personnel, as well as with county, city, and private water  
22 companies on water use and related issues. Please see Exhibit PMW-1, which is my resume,  
23 for additional details.

24 Q. What is the purpose of your testimony?

25 A. In accordance with the Memorandum of Understanding between the SWFWMD and

1 the PSC, I am providing the PSC with information regarding local water use and supply, as  
2 well as SWFWMD permitting procedures with respect to the application for original  
3 certificates that was filed by Skyland Utilities, LLC (Skyland) in Docket No. 090478-WS.

4 Q. Are you familiar with the application for original certificates that was filed by Skyland  
5 in Docket No. 090478-WS?

6 A. I have reviewed relevant portions of the Skyland application and the supporting  
7 documentation.

8 Q. Please describe the hydrogeology in the area encompassed within the Skyland  
9 application.

10 A. The area covered by the Skyland application includes the Floridan aquifer, which  
11 consists of a thick sequence of limestone and dolomite containing hundreds of feet of fresh  
12 groundwater. This aquifer is highly productive and capable of producing millions of gallons  
13 of fresh water to large diameter wells. The aquifer is recharged by rainfall throughout its  
14 extent in the area. The recharge that is not used for consumptive purposes discharges to the  
15 streams, rivers and springs near the Gulf coast.

16 Q. Please describe the water use permits currently held by Skyland in Pasco and  
17 Hernando Counties.

18 A. Skyland does not hold any water use permits in either Pasco or Hernando Counties.  
19 However, Evans Properties Inc. (Evans), the parent company of Skyland, holds 20 water use  
20 permits for separate parcels in Pasco and Hernando Counties. All of these permits are for  
21 agricultural water use and include quantities for annual average day, peak month day, and crop  
22 (freeze) protection use. The map attached as Exhibit PMW-2 shows the Evans permits in the  
23 proposed service areas of Skyland. These permits currently authorize the use of 841,350  
24 gallons per day (gpd) on an annual average day basis for agricultural operations. These  
25 permits also include larger quantities for peak month day and crop protection uses.

1 Q. What is the current groundwater availability in the area?

2 A. Groundwater quantities that can be permitted in the area are generally constrained by  
3 limitations associated with the Pasco County portion of the Northern Tampa Bay Water Use  
4 Caution Area (NTBWUCA) and limitations associated with the Weeki Wachee spring shed  
5 (located in Pasco and Hernando Counties). Neither of the two general constraints described  
6 above individually precludes additional permitted quantities in the area. There are some  
7 locations within the NTBWUCA where no new groundwater quantities can be permitted, and  
8 there are other areas where new quantities can be authorized if conditions and cautions are  
9 included with the permit. These conditions may include, for example, environmental  
10 monitoring, water-level collection, and wetland hydration. The Evans permits in Pasco  
11 County are in an area where additional groundwater quantities may be permitted if the  
12 NTBWUCA conditions and cautions are included with the permits.

13 Two of the three Evans permits located in Hernando County are within the Weeki  
14 Wachee spring shed area as noted on Exhibit PMW-2. Additional groundwater quantities are  
15 currently not constrained in this area; however, the SWFWMD is currently reviewing the  
16 potential for additional groundwater development in this area. Both Hernando County and  
17 Tampa Bay Water currently pump large quantities of groundwater from wells in the spring  
18 shed area. Hernando County will likely develop future new supplies outside of the spring  
19 shed area to minimize additional impacts to the area.

20 Q. How do the constraints described above affect potential permitting by Evans Properties  
21 or Skyland?

22 A. On a gross water use basis, neither of the constraints described above should affect the  
23 use of water by Evans if the development for housing (as described in the application) is a  
24 replacement for the agricultural use on the properties. For seven of the eight water use permit  
25 areas included in the Skyland application (except the 9081 water use permit area), the

1 | proposed annual average day water use (based on 350 gallons per day per residential  
2 | connection) would be expected to be about a quarter of the total current permitted agricultural  
3 | use. The area included in the 9081 permitted area shows 1847 dwelling units on Figure 3(a)  
4 | of Appendix I of the application. These dwelling units do not seem to be reflected on Table  
5 | D-1 of the Skyland application and are therefore not included in the calculation of annual  
6 | average day use estimated for the public supply for that reason.

7 |         A comparison of the currently permitted quantities for agricultural use with the  
8 | estimated use for public supply is shown in Exhibit PMW-3. It is assumed in this comparison  
9 | that the public supply quantities will replace the agricultural use and that the public supply  
10 | quantities for the proposed dwelling units constitute all of the water use in the permitted area.  
11 | The total annual average day quantities for public supply in the permit areas (212,800 gpd) is  
12 | approximately one-quarter of the permitted agricultural use (841,350 gpd) as shown in Exhibit  
13 | PMW-3. The table also indicates that on an individual basis some permitted areas may  
14 | experience an increase in water demand while other areas may see a reduction of demand as a  
15 | result of the conversion from agricultural to public supply.

16 | Q.     Would Evans Properties or Skyland be required to modify their permit to use the  
17 | existing wells for public supply?

18 | A.     The SWFWMD permitting process requires the permittee to modify their permit to  
19 | convert the use type from agricultural to public supply. The process to modify an existing  
20 | permit is similar to the process of applying for a new permit.

21 | Q.     Has Skyland or Evans requested a new WUP, an increase to an existing WUP, or a  
22 | transfer of a WUP from Evans to Skyland?

23 | A.     There have been no applications from Skyland or Evans to request a new WUP, to  
24 | modify an existing WUP either in quantity or use type, or to transfer a WUP from Evans to  
25 | Skyland.

1 Q. What process does the SWFWMD utilize in evaluating whether to approve or deny a  
2 WUP modification or to increase an existing WUP?

3 A. Modification or application for WUP is governed by Part II of Ch. 373, Florida  
4 Statutes (F.S.), which provides the Water Management Districts the authority to issue water  
5 use permits. Chapter 40D-2, Florida Administrative Code (F.A.C.), and the Basis of Review,  
6 which is incorporated by reference in Chapter 40D-2, F.A.C., provide the regulatory  
7 framework and criteria for reviewing water use applications. Pursuant to Rule 40D-2.041,  
8 F.A.C., a WUP is required for three types of withdrawals, namely a withdrawal capacity from  
9 a source or sources in excess of 1 million gallons per day, a withdrawal exceeding 100,000  
10 gallons per day on an annual average day basis from all sources or any well 6" or larger in  
11 diameter, or a surface water withdrawal of 4" or larger.

12 Pursuant to Rule 40D-2.301, F.A.C., in order to obtain, modify, or renew a WUP the  
13 applicant must demonstrate that the water use is reasonable and beneficial, is in the public  
14 interest, and will not interfere with any existing legal use of water by providing reasonable  
15 assurances, on both an individual and a cumulative basis, that the water use:

- 16 (a) Is necessary to fulfill a certain reasonable demand
- 17 (b) Will not cause quantity or quality changes
- 18 (c) Will not cause adverse environmental impacts
- 19 (d) Will not interfere with a Reservation of water
- 20 (e) Complies with Minimum Flows and Levels
- 21 (f) Utilizes the lowest water quality available
- 22 (g) Will not cause salt water intrusion
- 23 (h) Will not cause pollution
- 24 (i) Will not harm offsite land uses
- 25 (j) Will not harm an existing legal withdrawal



- 1 (k) Incorporates water conservation measures
- 2 (l) Incorporate alternative water supplies
- 3 (m) Will not cause water to go to waste
- 4 (n) Will not otherwise be harmful to the water resources within the District.

5 All WUPs are required to be renewed by the permittees periodically, with most WUPs having  
6 a duration ranging from 6 to 20 years. This is done to assure that the use remains reasonable  
7 and beneficial, in the public interest, and does not interfere with any existing legal use of  
8 water.

9 Q. What are the major differences between agricultural use and public supply use  
10 evaluations?

11 A. There are different standards by which agricultural and public supply are judged.  
12 These differences are based on the different ways and conditions under which water is used.  
13 Agricultural water use quantities are based, at a minimum, on crop(s) type, acres, soil type,  
14 irrigation method, and effective rainfall.

15 Public supply quantities are evaluated on a different set of criteria and standards,  
16 which include users (single family residential, commercial use, and other uses), per capita  
17 water use including both indoor and outdoor use, demand projections, use of reclaimed water,  
18 and conservation and water fees and structures (rates).

19 Within the Pasco County portion of the Northern Tampa Bay Water Use Caution Area,  
20 additional standards and permit requirements exist to protect and manage the water resources.  
21 All permit applications receive an evaluation commensurate with the potential for impacts  
22 associated with the quantity, location, and other factors of the proposed use.

23 Q. Does this conclude your testimony?

24 A. Yes it does.

25

***Resume of Paul M. Williams, P.G. CPG***

**Summary**

Over 30 years of hydrogeologic experience including groundwater allocation permitting, groundwater supply exploration and development, groundwater flow and contaminant transport analysis and digital modeling; groundwater remediation system design and construction, hazardous waste investigation & remediation, pumping test design, conduct, and aquifer analysis; hydrogeologic evaluations in support of water supply, wastewater disposal, and other groundwater studies; state and federal regulations compliance.

Licensed Professional Geologist in Florida PG2368  
Certified Professional Geologist with AIPG CPG 10576

**Education**

University of Delaware and USGS 1972 – 1980 Numerous post-graduate studies in hydrogeology, computer programming, aquifer analysis, digital aquifer modeling (with the USGS), and water resources evaluation.

Earlham College, Richmond Indiana 1968 – 1972 B.A. Geology

**Experience**

**Water Use Manager** - Brooksville Southwest Florida Water Management District, May 2007 – Present

Water Use Manager in the Brooksville Regulation Department. Conducted permit reviews and approvals for numerous water supply applications including major wellfields. Coordination and interaction with other SWFWMD departments to facilitate permit evaluations regarding groundwater modeling, groundwater availability, and other technical issues. Extensive contact and interaction with the public regarding permitting issues. Supervision of 3 professional permit evaluators.

**Permit Evaluator** - Southwest Florida Water Management District, 2004 - 2007

Hydrologist and senior professional geologist in the Brooksville Regulation Department. Conducted permitting for numerous water supply applications including major wellfields. Reviewed hydrologic data including groundwater, lake and river levels, spring flows and other pertinent information. Hydrologic, geologic and hydrogeologic data have been analyzed and interpreted to provide accurate and calibrated digital models. Numerous interaction with other SWFWMD departments to resolve complicated hydrologic issues regarding groundwater modeling, evapotranspiration, groundwater availability, and other technical issues. Extensive contact and interaction with the public regarding permitting issues.

**Independent Groundwater Consultant** 2000 - 2004

Senior hydrogeologist and modeler for numerous projects including a Zone II determination for

Dedham-Westwood, Massachusetts. The area of contribution for Dedham-Westwood's 6 well public supply wellfield was completed. Field data was previously collected and served as the basis for the revision and calibration of a single-layer finite difference model, incorporating the Charles River, the wellfield, and numerous no flow boundaries. The hydrologic, geologic, and hydrogeologic data was analyzed and interpreted to provide an accurate and calibrated digital model.

**Team Leader Water Resources, Permitting & Environmental Science** Weston & Sampson Engineers, Inc. 1998 - 2000

Started a new Water Resources, Permitting and Environmental Science team of 4 people. Team focus was on groundwater supply development, subsurface wastewater disposal, environmental permitting and included scientists and geologists. Responsibilities included team leadership, new business development, project management and technical leadership.

**Senior Consultant** Weston & Sampson Engineers, Inc. 1991 – 1998

Provided senior groundwater consulting services to WSE. Services including hazardous waste investigations, groundwater supply, subsurface wastewater disposal, and other technical services.

Projects included the design of a groundwater recovery system at a fire training site operated by Barnstable County, Massachusetts. The Fire Training Academy site, was a priority disposal site and was located upgradient of numerous municipal wells which serve Barnstable County. The training area was the location of 20 years of releases of No. 2 fuel oil. During the remedial system design, the investigation team was notified that a plume of chloroform from an adjacent property had migrated onto the site. A 3 dimensional digital model investigation was performed to assess the movement of both contaminants and assist in the design the recovery system for the BTEX and chloroform plumes. Due to the different sorption and transport characteristics (velocities, densities, solubility, etc.) between the BTEX and chloroform compounds, digital Method of Characteristics (MOC) modeling techniques were used for the system design. The modeling evaluation was developed into a presentation titled "Double Plume Groundwater Recovery Design with MODMOC-3D" and was awarded an ACEC design award for "Design/Build Groundwater Remediation at a Multiple Plume Site".

**Section Manager** Roy F. Weston 1990 - 1991

Project management, hydrogeology section manager.

Projects included litigation support of a groundwater contamination investigation in the Meredith Center, New Hampshire. The Meredith Center site, was a New Hampshire Department of Environmental Services (NHDES) priority site and was located in a primarily residential area. The investigation consisted of monitoring well construction, field data collection, and analysis of new and historical data and flow system analysis. The spill site consisted of two potential gasoline station sites, one an active convenience store, the other the location of an old village store. Both locations were active gasoline stations in the past. The investigations were conducted for the NHDES and the New Hampshire Attorney Generals Office. A significant result of the investigation

was that one of the two potential sites appeared to be responsible for the BTEX and MTBE contamination. On the strength of this investigation, the potential responsible party settled with NHDES for the costs of the investigation, a remediation system and the extension of a water system to the area.

**Independent Groundwater Consultant** 1986 – 1990

Principal Hydrogeologist of Aquifer Simulation Inc., a small company that developed and marketed MODMOC-3D. MODMOC-3D is a three-dimensional digital groundwater flow and solute transport finite difference model.

**Hydrogeologist** Camp Dresser & McKee 1980 – 1986

Duties included field investigations, office work, groundwater modeling, and other general groundwater investigations.

**Geohydrologist** State of Delaware 1972 – 1980

Duties included groundwater modeling, hazardous waste investigations, pumping test analysis, and other regulatory functions.

**Publications**

Williams, P.M., Desai, M. "New Groundwater Supply – Building a Bridge Over Troubled Water" Massachusetts Municipal Association 2000 Annual Meeting and Trade Show, January 2000.

Williams, P.M., "Double Plume Groundwater Recovery Design with MODMOC-3D," (with Weston & Sampson Engineers, Inc.) NWWA FOCUS Eastern Regional Conference, September 1993.

Williams, P.M., "Preserving Water Quality Without Sewers: A Case study of On-site Wastewater Disposal Hydrogeology," (with Normandeau Engineers) NWWA FOCUS Eastern Regional Conference, March 1989.

Williams, P. M., Henderson, J.M and Ditullio, W.A., "Risk Driven Site Investigations: Two Case Studies of Leaking Underground Storage Tanks," NWWA Eastern Regional Issues Conference, July 1987. Co-sponsored by Environment Canada, National Water Inter State Water Pollution Control Commission and the Vermont Department of Water Resources and Environmental Engineering.

Williams, P.M., "Private Well Sampling in the vicinity of RESOLVE, INC. Hazardous Waste, " Management of Toxic and Hazardous Waste, 1985.

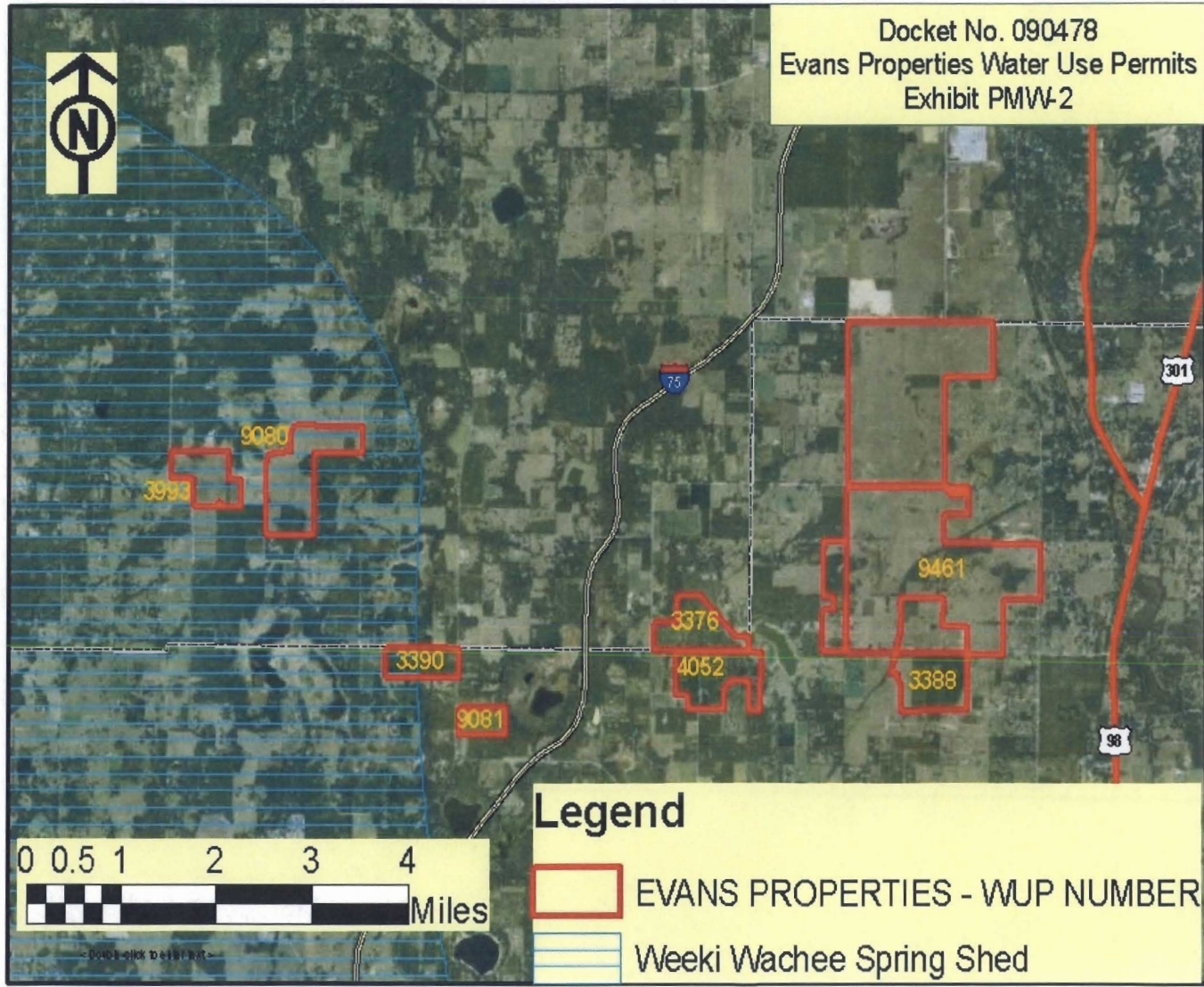
Williams, P.M., "Groundwater Availability, Hockessin, Delaware," Groundwater, 1981.

Williams, P.M., "The Hockessin Experience," The Delaware Conservationist, 1979.

Williams, P.M., "Water Resources, Waste Disposal, and Sanitary Landfills of Wayne County, Indiana," SPUR: Vol.1, 1969.



# Evans Properties Water Use Permits



- 11 -

**TABLE 1 - WATER USE COMPARISON*****Agricultural and Public Supply***

<b>WUP No.<sup>1</sup></b>	<b>Current Agricultural AAD – GPD 2</b>	<b>Acres (WUP)<sup>3</sup></b>	<b>Dwelling Units</b>	<b>Estimated Public Supply AAD GPD<sup>4</sup></b>	<b>Skyland Phase</b>
3993	600	176	22	7,700	II
9080	1,200	357	35	12,250	I
3390	193,000	122	24	8,400	I
9081	93,600	80	N/A	N/A	I
3376	117,000	199	18	6,300	IV
4052	102,150	257	26	9,100	II
9461	81,800 <sup>5</sup>	795	80	28,000	I
9461	N/A	689	211	73,850	II
9461	N/A	646	65	22,750	III
9461	N/A	460	92	32,200	IV
3388	252,000	257	35	12,250	V
<b>TOTALS</b>	<b>841,350</b>		<b>608</b>	<b>212,800</b>	

<sup>1</sup> Water Use Permit.

<sup>2</sup> Annual Average Demand – Gallons Per Day.

<sup>3</sup> Acres in permit slightly different than Figure 3(a) from Appendix I to Skyland's Application for Original Certificates.

<sup>4</sup> Based on 350 Gallons Per Day Per Dwelling Unit from Table D-1 from Skyland's Application for Original Certificates.

<sup>5</sup> Total for 9461 permit area.