

**STATE OF MAINE  
LAND USE REGULATION COMMISSION**

<b>IN THE MATTER OF</b>	)	
<b>FISH RIVER CHAIN OF LAKES</b>	)	<b>Pre-Filed Direct Testimony of</b>
<b>CONCEPT PLAN</b>	)	<b>Roger St. Amand</b>
<b>ZONING PETITION ZP 768</b>	)	

On behalf of Aroostook Timberlands LP, Allagash Timberlands LLC, and Maine Woodlands Realty Company (collectively, Irving), Roger St. Amand is submitting this pre-filed direct testimony in support of a Concept Plan for the Fish River Chain of Lakes in northern Aroostook County.

**I. QUALIFICATIONS AND BACKGROUND**

My name is Roger St. Amand. I am a Professional Soil Scientist, Licensed Site Evaluator, Licensed Forester, and environmental scientist. I am owner and Principal at Atlantic Resource Co, LLC, in Bass Harbor, Maine. Prior to that, I was employed at CES, Inc. as a Senior Project Scientist. I received a Bachelor of Science degree in Forestry/Forest Engineering from University of Maine, Orono in 1996. I am licensed by the Maine State Board of Licensure for Geologists and Soil Scientists as a Certified Soil Scientist (#471). I am licensed by the State of Maine Department of Health and Human Services as a Site Evaluator (#360). I am licensed by the Maine State Board of Licensure for Foresters as a Licensed Forester (#3523). I also hold a Professional Wetland Scientist certification from the Society of Wetland Scientists (PWS #2659) and am a Certified Professional in Erosion and Sediment Control (CPESC #5829). I have been employed in the soil science and natural resource consulting field since 1997. I specialize in natural resource assessment, environmental permitting, and soil science. I have extensive experience in wetland mitigation, vernal pool surveys, erosion control, forest soils, onsite waste water engineering and Geographical Information Systems (GIS). I have completed over 250,000 acres of detailed soil surveys and been involved in the application of soil and environmental science for residential and commercial land development, utility projects, onsite wastewater disposal, environmental compliance and forest management.

## II. INVOLVEMENT WITH THE FISH RIVER LAKES CONCEPT PLAN

I authored the following reports, which can be found in Volume 1 of the application for the Fish River Lakes Concept Plan:

- *Soil Suitability Evaluation for the Fish River Chain of Lakes Concept Plan, December 2014;*
- *Class D Medium and Class C Medium-High Intensity Soils Report for Square Lake East (Yexas Camps), Fish River Chain of Lakes Concept Plan, December 2014;*
- *Soil Suitability Evaluation Update for the Fish River Chain of Lakes Concept Plan, March 2017;*
- *Community and Economic Development Areas Fish River Chain of Lakes Concept Plan, March 2017; and*
- *Soil Suitability Analysis for Camp Lots within the Plan Area, Fish River Chain of Lakes Concept Plan, March 2017.*

## III. SUMMARY OF THE SOIL ASSESSMENTS

### Overall Conditions

The results of the soil suitability evaluation of the residential development areas indicate the soils within the Plan area are dominated by Plaisted and/or Howland soils that could reasonably be expected to have areas suitable for development. This analysis is a broad level review based largely on existing soil surveys and available data for the Plan area. The assessment was completed as part of the Concept Plan planning process and is not meant to substitute for detailed site-specific investigations that may be required through the LUPC permitting and approval process.

### Conditions for Square Lake East and Yexas

The results of the Class D Medium and Class C Medium-High Intensity Soil Report for Square Lake East (Yexas Camps) indicate the moderately well and somewhat poorly drained soil map units would be generally suitable for development. The Telos, Elliottsville, and Chesuncook soils are generally suitable for the intended use of potential residential and recreational lodging development. The poorly drained Monarda and Burnham soils may include

areas of jurisdictional wetlands and have very low development potential. These areas should be avoided. Areas mapped as D slopes (15-35%) have not been included as potential development lands, though it is likely there are suitable areas present. Within the survey area, there are approximately 204 acres of soil identified as “Generally Suitable” or “Limited Suitability.” Using the methodology developed in the soil suitability assessment report, the Yexas site could potentially support over 100 residential development units and a recreational lodging facility. This number does not include development within any of the approximately 98 acres of Telos-Monarda complex (TMB) map units due to a proportionally larger percentage of poorly drained Monarda soils that have very low development potential. It is likely those map units areas have areas of suitable soils for development, especially outside the 250 foot shoreland zone; but in keeping with the conservative approach, they have not been included in the total.

#### **Conditions for CD areas**

The soil evaluation of the Community and Economic Development (CD) areas shows soil conditions consistent with adjacent developed areas. In general, the soils within and surrounding the CD areas are dominated by imperfectly drained soils on flat to gently sloping land. Soil limitations here are correlated to the high water tables. Non-residential development is expected to require roads, parking areas and buildings, as well as wastewater disposal. Within each CD area, development is proposed to be limited as outlined in the Concept Plan. The development potential of these areas is driven primarily by the proximity to existing developed areas and not on the soil suitability of the area. The limitations presented by the Generally Unsuitable soils can be overcome by following a development hierarchy of:

- First, locating and maximizing development within each CD area on areas of better drained soils where practical;
- Next, siting development within the CD areas to maximize use of the existing infrastructure, including existing roads, and municipal wastewater (when feasible) and other utilities and;
- Finally, when development must occur on soils that have limitations, employ the appropriate construction techniques to overcome the limitations.

These techniques are commonly utilized through the region to allow for the development of sites with similar conditions as those found within the CD areas. The relatively large size of the CD areas combined with the limited development proposed and employing the techniques above would indicate there is a reasonable likelihood that these sites could be developed, even considering the presence of the “*Generally Unsuitable*” soil conditions in the region.

**Conditions for back lot additions for camp lots**

The soil analysis for existing camp lots within the Plan Area indicate most the existing camp lots (over 85%) within the Study Area are located on soils that have a reasonable likelihood of being suitable for replacement subsurface wastewater disposal systems. The majority of the remaining camp lots are within a few hundred feet of a potentially suitable soil map unit.

**Soils:** The most common soil map units in the Study Area are the Howland Series. This soil series is silt loam to loam textured glacial till that is deep or very deep to bedrock. A seasonal high water table and/or restrictive layer occurs between 8 and 16 inches of the ground surface. The current Maine Subsurface Wastewater Rules (MSWR) allows new systems outside the shoreland zone to be installed on soils with 9 inches or more of suitable soil. See Section 4.A.3 of the 2015 10-144 CMR 241 MSWR. Map units containing Howland soil series would have a high probability of having suitable soil conditions for new and replacement systems greater than 250 feet from shore. Replacement systems within the 250 foot shoreland zone could be installed in most cases with a replacement system variance.

**Slopes:** Much of the landscape within the Study Area is mapped as “B” and “C” class slopes (3-15%). These gentle and moderate slope ranges are within the acceptable range for wastewater disposal (under 20%).

**Setbacks:** One of the main criteria in siting subsurface wastewater disposal systems is to maintain adequate setback to water bodies. Expanding the available area for existing camp lots to include lands farther from water is a major factor in the siting of future replacement systems. Having access to land beyond the 250 foot Shoreland zone for future replacement

subsurface wastewater disposal systems via back lots or back lands will provide greater protection for water quality than currently exists.

Based upon this analysis of available soil survey data, it is reasonable to expect that sites for replacement systems will be available to the existing camp lots within the Study Area.



Roger St. Amand  
Date: May 2, 2018

STATE OF MAINE  
COUNTY OF Hancock

Personally appeared before me the above-named Roger St. Amand and made oath that the foregoing is true and accurate to the best of his knowledge and belief.

Dated: 5/2/18

Robert Saltus  
Notary Public



My commission expires:

10/28/2022