



REGISTRATION PURSUANT TO

**SECTION 3 of the NEWFOUNDLAND AND LABRADOR
REGULATION 54/03**

Environmental Assessment Regulations, 2003

under the

Environmental Protection Act

(O.C. 2003-220)

FOR THE PROPOSED

Duck Pond Transmission Line

TL 264

**BUCHANS TERMINAL STATION TO
THE DUCK POND MINE SITE**

NAME OF UNDERTAKING

Duck Pond Transmission Line

PROPONENT

(i) Name of Corporate Body:

Newfoundland and Labrador Hydro (Hydro)

(ii) Address:

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(iii) Chief Executive Officer:

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THE UNDERTAKING

(i) Nature of Undertaking

This project involves the construction and operation of approximately 44.1 kilometers of 66 kV standard transmission line to supply power to the Duck Pond Copper – Zinc Mine Project in west central Newfoundland. The line will originate at the Buchans Terminal Station and will run adjacent the existing transmission lines (TL) 205/232 to Buchans Junction for approximately 21 kilometers. A new right of way will be created at this point and run generally south to the Duck Pond site for approximately 23 kilometers. This registration is specific to the clearing of the right of way and all activities associated with construction and operation of the transmission line (TL 264) to the mine site terminal station at Tally Pond (Figures 1 - 5).

(ii) Rationale for the Undertaking

Newfoundland and Labrador Hydro (Hydro), a Provincial Crown Corporation, is the major supplier of electrical power and energy in the Province. On the Island of Newfoundland, Hydro owns and operates hydroelectric generating plants at Bay D'Espoir (616 MW), Hinds Lake (75 MW), Upper Salmon (84 MW), Cat Arm (127 MW), Paradise River (8 MW) and Granite Canal (40 MW). In addition, it operates an oil-fired generating station (490 MW) at Holyrood and three gas turbines (123 MW). Hydro also operates 23 diesel-generating plants in isolated communities throughout the province with a total installed capacity of 33.4 MW. In Labrador, Hydro is the majority owner of the Churchill Falls hydroelectric generating plant (5,400 MW). The Hydro Group maintains and operates approximately 3,800 km of transmission lines and 3,600 km of distribution lines on the Island and in Labrador (Appendix 1).

The Duck Pond site is in close proximity to existing power facilities in the Buchans region. The mining proponent, A.U.R. Resources, has entered into an agreement with Hydro to purchase power for the site. A supply of power is required during camp construction and the operation of the mining and milling complex for the expected life of the project. The mine is estimated to have a load requirement of 10 MW with an operating life of 7 to 10 years. Due to the proximity to the existing electrical grid and terminal station at Buchans, it has been determined that a wood

pole transmission line to the site is the most feasible option. The mine will be a customer of Hydro, who will construct, own and maintain the transmission line and associated infrastructure.

DESCRIPTION OF THE UNDERTAKING

(i) Geographical Location

The Duck Pond mine site is located approximately 25 km south of Millertown in west central Newfoundland (Figure 1). The transmission line will originate at Buchans Terminal Station and run parallel the existing lines for 21 kilometres (Figure 2 - 5). The new line will traverse Mary March Brook near the northeast end of Red Indian Lake, follow a generally southern direction, approximately 3 km east of Millertown, for approximately 15 km., the line then turns southeast for 2 km before turning south towards Tally Pond. The approximate linear distance of this portion of the transmission line is 23 km. The total length of the transmission line will be 44.1 kilometres.

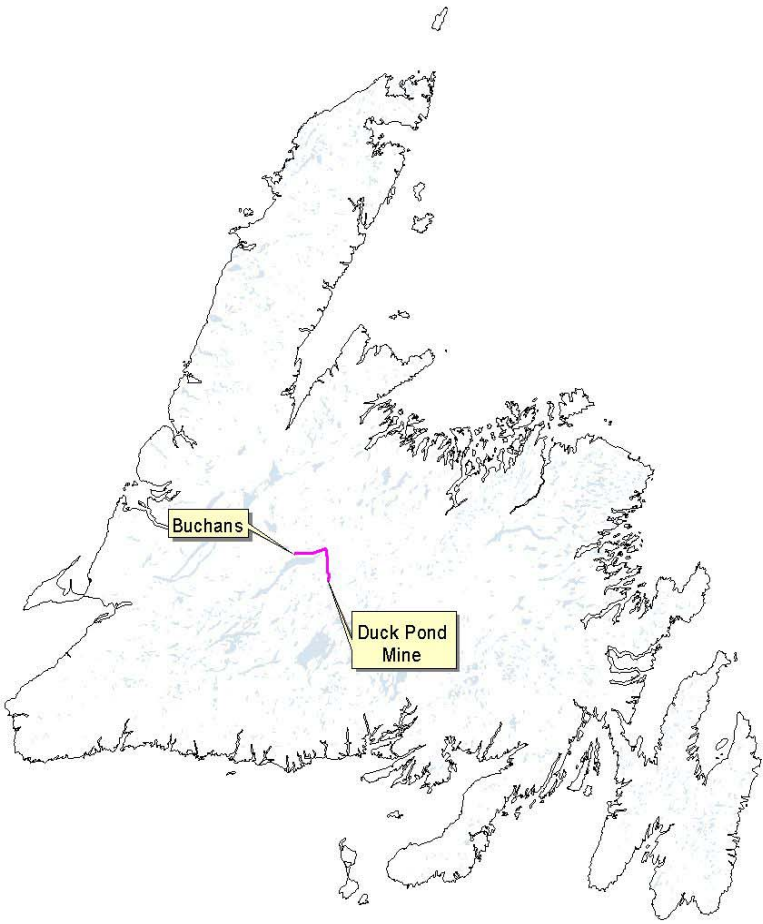
The proposed route for the transmission line will cross Mary March Brook and the Exploits River, as well as 31 other small watercourses. Segments of the line will traverse boreal forest, timber lease land, cut overs, wetlands and a parcel of private property adjacent to Mary March Brook near Buchans Junction.

This line route has been altered from that included in the E.I.S. prepared for Thundermin Resources Inc. (original mine proponent) by Jacques Whitford Environment Limited (JWEL) and approved by the Provincial Department of Environment and Conservation in January 2002 (Figure 6). The original line route was along the Buchans Road, turned south in the area of Mary March Brook, followed adjacent the road to Millertown and then the resource roads to the mine site. This current proposed route is a more practical, economical and environmentally acceptable alternative for the delivery of power to the mine site.

(ii) Physical Features

The proposed 44.1 km long 66 kV transmission line consists of single wooden pole structures (Figure 7) at most locations. Poles will typically measure 18 to 20 m high, with an average span length of 100 to 125 meters. All poles will be pressure treated with Chromated Copper Arsenate

(CCA) or Pentachlorophenol (Penta) depending on location. Wooden log anchors will be required at some structures. Cross arms will be used to suspend the conductor wire. Post type and suspension type insulators will be used. There will be some H Frame type structures (Figure 8) installed at large angles, across large valleys or at wide water body crossings



Proposed Transmission Line to Duck Pond Mine

Site Location Map

Figure 1: Location of the Duck Pond Mine Site and the Proposed Transmission Line in the West-Central region of the Island of Newfoundland.

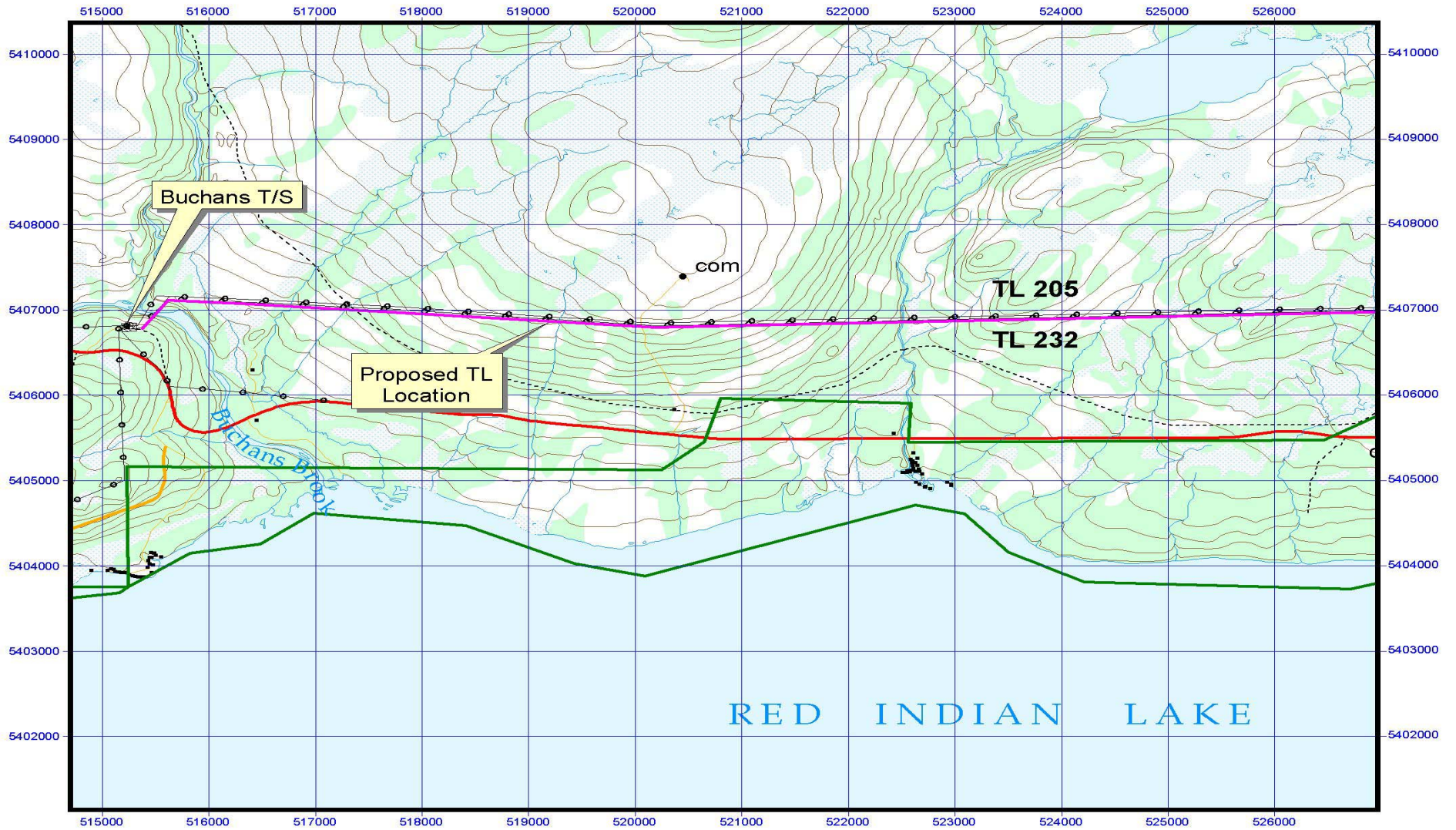


Figure 2: Map # 1 of the proposed transmission line (TL) route. The first section follows existing TL 205/232 right of way.

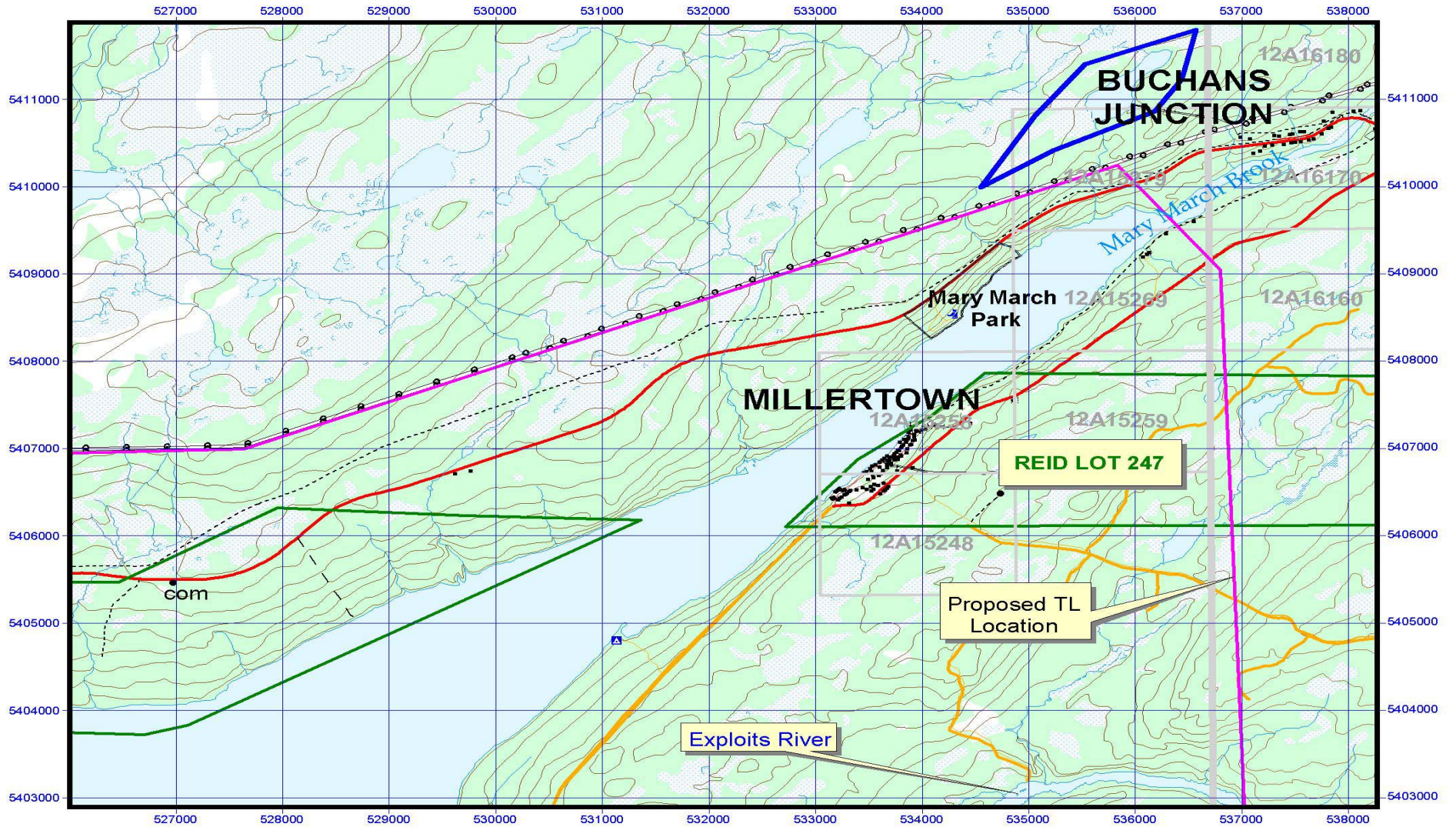


Figure 3: Map # 2 showing proposed route and turn in the line across Mary March Brook.

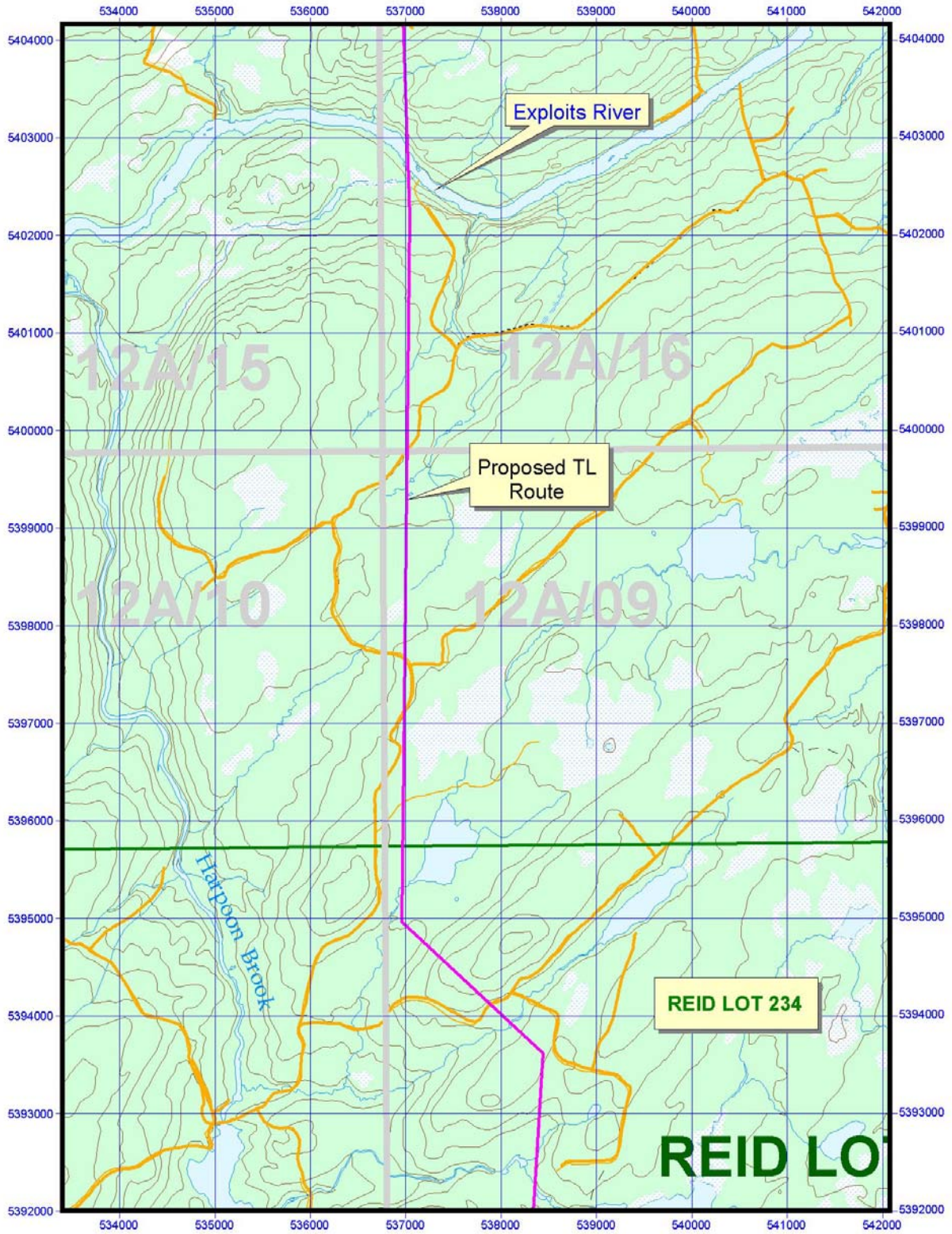


Figure 4: Map # 3 showing the line route across timber lease land and resource roads.

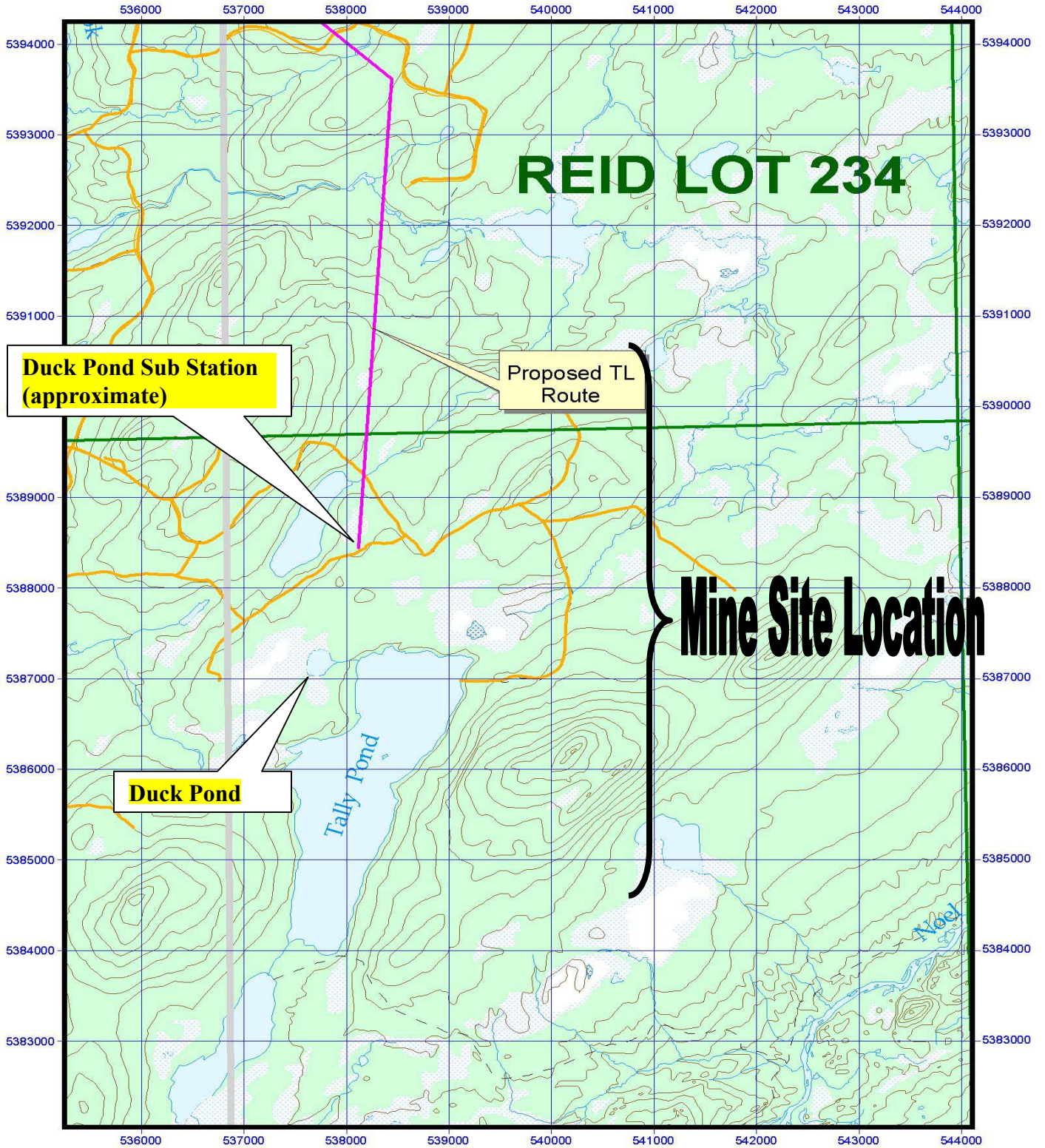


Figure 5: Map # 4 at the southern end of the line at Tally Pond.

(iii) **Line Alternatives**

The original line route (Figure 6) that was included in the Environmental Impact Statement (EIS) prepared for Thundermin Resources departed Buchans Terminal Station and followed route 370 to Buchans Junction, Millertown and along the gravel road to the mine site camp. This route was longer, would entail significantly more removal of trees and would require more structures (especially tangent structures). Tangent (angle) structures require a combination of anchors and side guys, depending on the angle, which in turn create larger areas of ground disturbance. It also meant a significant amount of construction equipment and activities along the main road between the communities. In addition to being more economic the proposed route also has the following advantages over the original route:

1) A reduction in the length of the line from 58 km to 44.1 km.

This means a reduction in the amount of cutting required and less physical ground disturbance due to the fewer number of structures;

2) The line is straighter and has less angle structures.

Angle structures result in a much larger footprint, require the installation of anchors and side guys, and require more hardware. Reducing the number of these types of structures also results in less ground disturbance;

3) The line route follows an existing power line corridor (TL 232/205) for approximately half of its length. Building the line along the existing right of way means that the corridor to be cut in this section is reduced from 20 meters to 10 meters. It also means that existing access trails, travel routes and ford sites will be used in this section. This again reduces the amount of physical ground disturbance, habitat loss, and trees to be cut. This routing will eliminate any potential conflicts with Mary March Provincial Park and the historic resources potential at Indian Point. Once across Mary March Brook, much of the route traverses previously disturbed land due to forest harvesting activities. No new access will be required in this area.

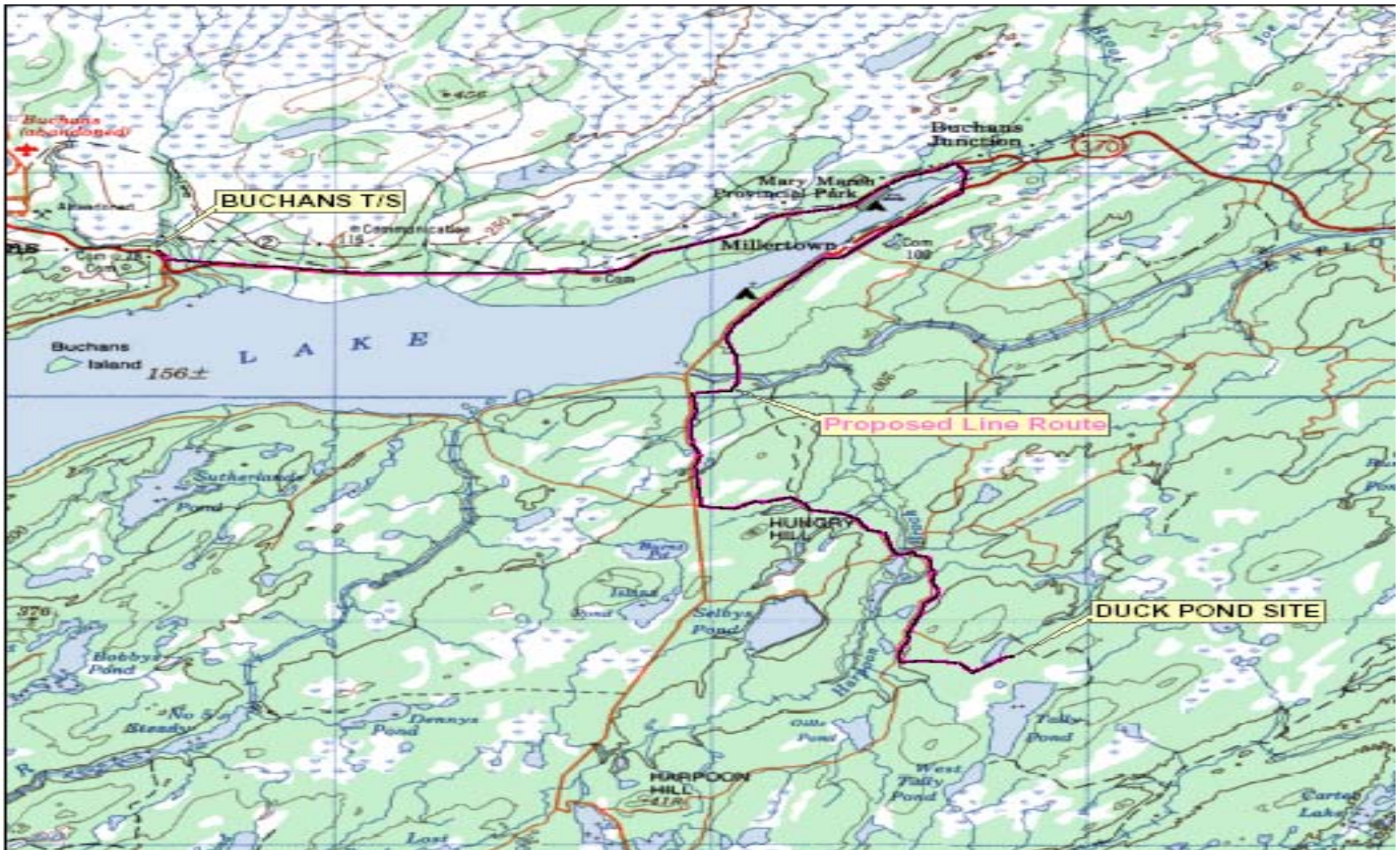


Figure 6: Original Line Route to the Duck Pond Site as included in the EIS from Thundermin Resources in 2001.



Figure 7: Example of a 66 kV standard single pole transmission line.



Figure 8: Example of a 66 kV standard “H Frame Structure”.

(a) Physical Environment

(i) Climate

The climate in this region of the island is typified by cold winters with snow cover from November to April annually. Summers are warm with most precipitation occurring from July to October. Winter months are the wettest when most precipitation falls in the form of snow accounting for a significant percentage of the annual precipitation of the area (Environment Canada 2000).

(ii) Geology and Topography

The area is comprised of rolling hills and valleys with elevations that are typically between 150 to 400 meters above sea level. Alluvial and glacial deposits represent a small portion of the area. A large portion is comprised of undulating to hummocky moraine of stony till. Bedrock outcrops are uncommon. The Duck Pond/Tally Pond area is underlain by Cambrian aged Tally Pond volcanics, a sub unit of the Victoria Lake Group. The Tally Pond Volcanic Belt consists mainly of pillowed basalt and rhyolite flows and their associated pyroclastic and sedimentary products (JWEL 2001).

(b) Biological Environment

(i) Vegetation

The Buchans, Millertown and Duck Pond area is located within the Red Indian Lake sub region of the Central Newfoundland and Labrador Ecoregion (Damman 1983). This ecoregion is generally heavily forested with gentle rolling topography, dominated by black spruce and balsam fir wood stands with a mixture of white pine, trembling aspen and tamarack (JWEL 2001). Alder thickets are also common in the area. Domed or raised bogs are common in the region with lesser amounts of fen bogs (JWEL 2001). No species of plants in the project area are listed by the Committee on the Status of Endangered Wildlife In Canada (COSEWIC) as being of special concern (COSEWIC November 2004) or are listed in the Endangered Species List Regulations NLR 57/02.

(ii) Avifauna

Component studies were conducted in the project area for the 1991 E.I.S. (NORANDA, 1991), and additional component studies for the 2001 E.I.S. (JWEL, 2001). These studies identified 58 species of passerines, raptors, waterfowl, and shorebirds as being residents or migrants in this region. Additional waterfowl studies were conducted near the project area by the Canadian Wildlife Service (CWS) between 1990 and 1995 as part of the Black Duck Joint Venture program between Canada and the United States. These surveys were designed to provide indices of the species present in the area, hence population estimates were not conducted. All species identified were typical for the “altered forest ecosystem” in central Newfoundland and there were no species of concern as designated by COSEWIC (2004) or the Endangered Species List Regulations NLR 57/02. In addition, there are no important bird areas (IBA’s) identified in this region of central Newfoundland (CEC 1999 from JWEL 2001).

(iii) Furbearers

There are a number of trappers who take mink, otter and beaver, which are common to the region, as well as muskrat, which are less common. JWEL (2001) conducted a furbearer component study and confirmed the presence of these animals in the project area year round. Snowshoe Hare were not included as a valued environmental component in the E.I.S. but are a common species that are taken recreationally by a large number of hunters from all over the province. Anecdotal information indicates numbers of rabbits in this region are lower than in previous years.

(iv) Land Use

The Buchans Junction - Millertown area is a popular hunting areas for big game such as moose, caribou and black bear. The project area has a long tradition of recreational and commercial activities. The region has a history of commercial forest harvesting, as well as mining and mining exploration. The area around Red Indian Lake and south has a number of cabins and outfitting operators catering to anglers and hunters from Canada and the United States. Locals, wood harvesters, outfitters, as well as a number of companies with particular interests in the region use the resource roads, including Hydro. Much of the proposed transmission line will traverse areas where previous logging activity and related development has occurred.

The Trailway Provincial Park will be crossed by the power line at two locations. Hydro will obtain permission to use sections of the Trailway to access segments of the transmission line for construction and long term maintenance. The line does not traverse the former Mary March Provincial Park.

Existing access roads will be used wherever possible to gain access to the right of way. It is not anticipated that any new access roads will be created for this undertaking.

(v) Historic Resources

The areas surrounding the Exploits River, Mary March Brook and Red Indian Lake are known to have been important for the Beothuk. The Beothuk are direct descendants of “recent Indian” people and are referred to by archeologist as members of the Little Passage Complex. They have been named this after the location of the first site where their remains were excavated. The area surrounding the north end of Red Indian Lake from Mary March Brook to Indian Point was utilized for hunting and over wintering with bands of 35 to 50 Beothuk dispersed over a large geographic area. It is believed that they came together in larger numbers to capture caribou during the migration across Red Indian Lake. One of the last of the Beothuk people, Damasduit (Mary March) was captured near Red Indian Lake by a local merchant in the early 1800’s.

A portion of the proposed line route will cross near the mouth of Mary March Brook where it enters Red Indian Lake. Most of the line route is likely outside of the area that may have been utilized by the Beothuks.

(vi) Fisheries Resources

Previous component studies have been undertaken in this region to address concerns relating to the Duck Pond mine development. The E.I.S (JWEL, 2001) provides detailed information on the fishery resources within the study area, and has identified anadromous and non-anadromous (ouananiche) Atlantic salmon, brook trout, arctic char, and American eels as occupying water bodies in the study area.

The proposed transmission line will cross a number of streams and other water bodies along the route. A number of small streams will have to be forded by heavy equipment for this construction

and for long-term maintenance. Buchans Brook, Exploits River and Mary March Brook, and two other unnamed streams will not be forded.

(iii) **Construction**

a) **Construction Schedule**

Contractual forces will carry out construction activities over a seven to eight month period (Table 1). Final engineering design, contract preparation, tendering and contract award will take place from January to the end of April. Staking of structures, right-of-way clearing, and material distribution will be conducted between May 1 and July 15. Pole erection, framing and stringing will begin July 1 and be completed by mid September. Final clean-up and rehabilitation will be completed during the last two weeks of September with commissioning scheduled for October or November 2005.

b) **Construction Activities**

The major construction activities associated with the construction of the proposed line include:

- Surveying
- Right-of-way clearing
- Material handling
- Pole erection
- Crib installation (where required)
- Structure framing
- Stringing of conductor
- Clean up and rehabilitation

Material distribution will entail the delivery of poles, insulators, hardware and conductor by transport and boom trucks to roadside locations, and delivery to work sites by all terrain-tracked equipment such as Nodwells and Go Tracks.

The right of way will be cleared to a width of 20 m throughout most of its length. The corridor will be widened beyond 20 meters in areas of potential danger trees, and around H Frame structures, to allow for the installation of guy wires. Vegetated buffer zones will be retained around water bodies and at road crossings, however, danger trees will be removed from these locations as

well. A combination of manual cutting and mechanical harvesters may be employed to complete the right of way clearing for the section of line south of Red Indian Lake. The harvesters have been used extensively for logging operations in this area.

Excavators and boom Nodwells will be used for the erection of poles. In areas of rock, holes will be drilled and blasted to reach the required pole setting depths. Excavators will also be used to assist with mitigation when required, and for final clean up of disturbed areas.

Equipment to be used for construction of the line will include (estimated number):

- Excavators (2)
- Nodwells (includes Go Tracks and Muskegs) (6)
- Drill rigs and compressors (1)
- ATV Bikes (6)
- Boom Trucks (1)
- Transport trucks (low beds and flat beds) (2)
- Fuel trucks (1)

c) Potential Sources of Pollutants During Construction

The potential sources of pollutants associated with the construction of the proposed project include: sediment run-off from pole excavations; hydrocarbon leakage from temporary fuel storage facilities; loss of fuels, hydraulics or oils from construction equipment; domestic, industrial and human waste.

Table 1: Schedule of Events for the TL 264 Line Clearing and Construction: Duck Pond Copper-Zinc Mine Project 2005.

Date	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Activity												
Project ENV. Registration		→										
Project ENV. Release Prepare EPP				→								
Brush Clearing					→							
Structure Staking					→							
Structure Erection						→						
Complete Brush Clearing Install Conductor							→					
Complete Line Construction									X			
Final Inspection Commissioning										X		
Clean Up and Rehabilitation									→			

d) Potential Resource Conflicts

Prior to final route selection, Hydro's Environmental Services Department will undertake a ground survey to assess the location of structures in relation to water bodies and wetlands. An assessment will also be conducted of all stream crossings along the proposed route to confirm that they are conducive to fording, have stable approaches and do not contain spawning habitat either at the ford site or in a nearby downstream location. All fording activities will be done in accordance with the terms and conditions of fording permits issued by the Department of Environment and Conservation and letters of advice received from the Department of Fisheries and Oceans Canada. Mitigation measures to be implemented to minimize impacts to fish and fish habitat will be determined through the field assessment of each site.

Prior to the start of clearing a raptor survey will be conducted by experience personnel with Hydro's Environmental Services Department to determine the presence of raptors and / or active nests along the proposed route. This survey will be conducted according to standards acceptable to the Newfoundland and Labrador Wildlife Division. Mitigation measures will be implemented to avoid conflicts with raptors along the right-of-way.

Sections of the proposed route will require the removal of commercial stands of balsam fir and black spruce, and will impact on immature stands of these species in some silviculture areas. A.U.R Resources is negotiating with Abitibi Price for the removal of this timber. The impact of the line clearing will be long term as the minimum mine life expectancy is 10 years.

All commercial pulp wood will be delivered to the Abitibi mill in Grand Falls-Winsor. All other salvagable timber will be stockpiled in accessible locations in accordance with the Forestry Act. All small brush and slash shall be stockpiled along the edge of the right of way in accordance with the Forestry Act.

Hydro will prepare a project specific Environmental Protection Plan (EPP) for the proposed project that will address specific concerns related to all environmental aspects of construction. This in combination with Hydro's Environmental Protection Plan for the Construction, Maintenance, and

Upgrade of Transmission and Distribution Lines (2004) and clauses in Tender and Contract Documents will identify specific mitigation measures to be implemented through all phases of the project. The project specific EPP will be provided to all supervisors on the project and will be available to all workers at the site. An environmental coordinator with Hydro's Environmental Services Department will monitor the project. Hydro will employ full time inspectors on site to ensure compliance with all safety, engineering and construction standards.

The contractors for clearing and line erection will be required to staff a full time safety and environmental coordinator for the duration of the project. Hydro requires Contractors to complete the Newfoundland and Labrador Construction Safety Association (NLCSA) Environmental Awareness Training program prior to the award of contracts.

An environmental awareness orientation session will be held with all personnel to be employed on this project. This session will focus on a number of issues related to the construction of the line in this region of the province. Site-specific information relating to potential resource conflicts will be discussed in detail as well as environmental emergency response to accidents and unforeseen incidents.

(iv) **Occupations**

The occupations required to construct the interconnection, and their respective National Occupation Classification Codes are as follows (estimated number):

- Line workers – 7244; (10)
- Equipment Operators – 7421; (10)
- Drillers and Blasters – 7372; (8)
- Labourers – 7612; (24)
- Biologists – 2121; (1)
- Environmental Monitors - 2221; (2)
- Land Surveyors – 2154; (2)
- Civil Engineers Technologist – 2231; (3)
- Construction Inspectors – 2264; (2)

- Contractor Supervisor – 7212. (1)

(v) **Operation**

Hydro's Environmental Management System for Transmission and Rural Operations is ISO 14001 certified. Operation activities associated with the proposed line include maintenance inspection and vegetation management. Regular inspections will be conducted once every five years and will be, for the most part, by helicopter, or in winter by snow machine. Hydro undertakes an integrated vegetation management program on its transmission and distribution system. The program employs several methods including manual cutting as well as the selective use of herbicides which when applied following initial cutting offers long term control of tall (danger) trees. Hydro's vegetation management plan is submitted annually for review and approval to the provincial Pesticides Control Section of the Department of Environment and Conservation.

a) **Potential Sources of Pollution**

Potential sources of pollutants would be sediment run-off from exposed soils and hydrocarbon leakage from maintenance equipment and transport vehicles. All maintenance equipment and transport vehicles will be inspected regularly to ensure that they are free of leaks and in good repair prior to undertaking maintenance activities.

b) **Potential Resource Conflicts**

The loss of potential commercial stands of forest is a resource conflict. Hydro's vegetation management program restricts the regeneration of commercial forest within the right of way during the life of the line. Compensation for this displacement of forest production and silviculture areas is under negotiation between A.U.R Resources and Abitibi Price.

(vi) **Project Related Documents**

Commission for Environmental Co-operation 1999. North American Important Bird Areas: A Directory of 150 Key Conservation Sites. Prepared by the Secretariat of the Commission for Environmental Co-operation, Montreal, QC.

Committee on the Status of Endangered Wildlife in Canada 2004. Canadian Species at Risk.

Damman, A.H.W. 1983. An Ecological Subdivision of the Island of Newfoundland. In Biogeography and Ecology of the Island of Newfoundland. . G.R. South (ed). Dr. W. Junk Publishers, The Hague.

Duck Pond Copper-Zinc Project Environmental Impact Statement: prepared for Thundermin Resources Inc by Jacques Whitford Environmental Limited, August 6, 2001.

Environment Canada 2000. Canadian Daily Climate Data: Temperature and Precipitation. Atlantic Region 1999.

Howley, James. P. 1915. The Beothuks or Red Indians; the Aboriginal Inhabitants of Newfoundland. Cambridge University Press.

Jacques Whitford Environmental Limited (JWEL) 2001. Duck Pond Copper-Zinc Mine Project Environmental Impact Statement. Prepared for Thundermin Resources Incorporated, Toronto, Ontario.

LeDrew, Fudge, and Associates Limited. 1991a. Ecological Land Classification for the proposed Tally Pond/Duck Pond Mine. Prepared for Noranda Minerals Inc., Toronto Ontario.

LeDrew, Fudge, and Associates Limited. 1991b. Historic Resources Component Study for the proposed Tally Pond/Duck Pond Mine. Prepared for Noranda Minerals Inc., Toronto Ontario.

LeDrew, Fudge, and Associates Limited. 1991c. Fisheries Resources Component Study for the proposed Tally Pond/Duck Pond Mine. Prepared for Noranda Minerals Inc., Toronto Ontario.

LeDrew, Fudge, and Associates Limited. 1991c. Raptor Resources Component Study for the proposed Tally Pond/Duck Pond Mine. Prepared for Noranda Minerals Inc., Toronto Ontario.

Mactavish, B. et al 2003. Checklist of Birds of Insular Newfoundland and Its Continental Shelf Waters. Natural History Society of Newfoundland and Labrador, St. John's, NL.

Marshall, Ingeborg 1996. A History and Ethnology of the Beothuk. McGill University Press, Montreal, QC.

NORANDA Minerals Inc. 1991. Tally Pond/Duck Pond Mining Project Environmental Impact Statement.

Newfoundland and Labrador Hydro 2004. Environmental Protection Plan For The Maintenance, Upgrade and Construction of Transmission and Distribution Line Facilities. Environmental Services and Properties, St. John's Newfoundland.

APPROVAL OF THE UNDERTAKING

The following is a list of permits, approvals and authorizations, which may be necessary for the proposed project:

- (1) Authorization for in stream work and infrastructure crossing a water body - Department of Fisheries and Oceans Canada and Transport Canada;
- (2) Approval to ford a watercourse or work within a protected water supply area - Water Resources Division, Department of Environment and Conservation;
- (3) Approval to occupy Crown Land for a temporary camp - Crown Lands Division, Department of Environment and Conservation;
- (4) Approval to acquire leases for permanent structures - Crown Lands Division, Department of Environment and Conservation;
- (5) Quarry Permit - Mineral Lands Division, Department of Mines and Energy;
- (6) Approval to cross over mineral claims - Mineral Development Division, Department of Mines, and Energy;
- (7) Cutting Permits and permits for equipment working in forested lands - Department of Natural Resources, Forestry Division;
- (8) Municipal Permits – Department of Municipal Affairs;
- (9) Aerial Crossing over Navigable Waters – Transport Canada

FUNDING

This proposed development does not depend upon a grant or loan from any government agency.

Date

William E. Wells
President and Chief Executive Officer
Newfoundland and Labrador Hydro



Appendix 1: Newfoundland and Labrador Hydro Provincial Generation and Transmission grid.