ACCESS AND USE LICENSE

Licensor: Westchester County
Licensee: Algonquin Gas Transmission, LLC
Site: Blue Mountain Reservation, Town of Cortland, NY
Westchester County Tax ID: 44.11-1-1

This LICENSE AGREEMENT ("License Agreement") made as of the 12 day of August, 2015 between **ALGONQUIN GAS TRANSMISSION, LLC**, a Delaware limited liability company, having an office located at 1490 Highland Avenue, Building 4, Cheshire, CT 06410 ("Licensee") and **THE COUNTY OF WESTCHESTER**, a municipal corporation of the State of New York, having an office in the County Office Building located at 148 Martine Avenue, White Plains NY 10601, acting by and through its Department of Parks, Recreation and Conservation ("Licensor"). Licensee and Licensor are sometimes referred to herein individually as a "Party" and collectively as the "Parties."

WITNESSETH:

Whereas, Licensor is the owner of Blue Mountain Reservation, a 1583-acre park, a portion of which is located between Washington Street and Maple Avenue in the Town of Cortlandt (Westchester County Tax Id 44.11-1-1);

Whereas, in 1952, Licensor granted an easement and license for the construction, maintenance and operation of a below-grade interstate natural gas pipeline by Licensee in Blue Mountain Reservation, which easement was recorded with the Westchester County Clerk at Liber 5118, Page 441. The easement, based on as-built drawings recorded with the Westchester County Clerk pursuant to an Indenture dated March 30, 1966, provides for a permanent right-of-way of three feet on either side of the centerline of the existing natural gas pipeline and a temporary construction and maintenance easement of 37.5 feet on either side of the centerline of the existing pipeline (the 1952 easement and 1966 Indenture together referred to as the "Easement" and the 75-feet-wide temporary construction and maintenance right-of-way authorized under the Easement, the "Easement Area");

Whereas, on March 3, 2015, Licensee received a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission ("FERC") for the Algonquin Incremental Market Project (the "AIM Project") that authorizes the replacement of the existing 26-inch diameter natural gas pipeline with a new 42-inch diameter natural gas pipeline within Licensee's permanent right-of-way that crosses Blue Mountain Reservation (hereafter, the "FERC Certificate");

Whereas, for initial construction of the replacement pipeline, Licensee requires additional temporary work space beyond the Easement Area of approximately 4.38 acres and the use of Montrose Station Road, as shown on the plat attached hereto as Exhibit A (together, the "Work Site");

Whereas, while the additional temporary work space beyond the Easement Area was authorized in the FERC Certificate, the area of additional temporary workspace was reduced by Licensee per the request of Licensor to reduce the number of trees removed, which is reflected as the Work Site in Exhibit A;

NOW, THEREFORE, for and in consideration of the sum of Two Million Dollars ($2,000,000) and other good and valuable consideration and the mutual promises contained herein, Licensor and Licensee hereby agree as follows:

1. **Effective Date of License Agreement and Term for Permitted Use.** This License Agreement is effective on the date signed by all Parties but the term for the Permitted Use, as defined below, shall commence November 1, 2015 so long as Licensee has received a notice to proceed from FERC and run through and including October 1, 2016 (the "Term") unless this License Agreement is terminated prior to such time in accordance herewith; provided, however that the Hazardous Substances, Assumption of Risk and Indemnification, No Liens Against Blue Mountain Reservation, and Conflict of Interest provisions of paragraphs 3, 7, 12, and 16 below shall survive any expiration or termination of this License Agreement. After the expiration of the Term, Licensee shall have the right of access to the Work Site granted in this License Agreement for the sole purpose of completing and monitoring restoration required by this License Agreement, the Easement, the FERC Certificate, and other governmental approvals issued for the AIM Project, including the time period for monitoring required by the U.S. Army Corps of Engineers, provided that Licensee provides one week advance notice to the Director of Park Facilities for Westchester County ("Director of Park Facilities") prior to entering the Work Site.

2. **Permitted Use**. This License Agreement grants Licensee access to the Work Site and use of the Work Site for the purposes of: (a) clearing of trees and other vegetation to allow for pipeline construction activity; (b) constructing a new 42-inch diameter natural gas pipeline that will replace the existing 26-inch diameter natural gas pipeline in compliance with the FERC Certificate, the Easement, and all other governmental approvals for the AIM Project and (c) restoring the Work Site after pipeline construction is complete in accordance with the requirements of the FERC Certificate, the Easement and other governmental approvals for the AIM Project (hereafter, the "Permitted Use").

(A) Licensee acknowledges and agrees that: (a) the Licensor has made no representations or warranties regarding either the Work Site's physical condition or the presence or absence of conditions, including contamination, that might pose a danger to persons entering thereon; and (b) Licensee knowingly and intentionally assumes, for itself and for its contractors, subcontractors, employees, agents, representatives, and all other persons associated with or involved in the Permitted Use, all risk of loss or injury that might occur during the Permitted Use as a result of any Work Site conditions or otherwise. The Permitted Use shall be open at all times to the reasonable inspection of Licensor and all governmental entities with oversight authority over any portion of the Permitted Use. Licensor, and its agents, employees, contractors, consultants and designees have the right, without the imposition of any obligations or responsibilities as a result thereof, to accompany and observe the Licensee during the performance of the Permitted Use.

(B) Licensee shall provide a Health and Safety Plan ("HASP") with respect to construction within the Blue Mountain Reservation, including the Work Site and Easement Area, to the Director of Facilities prior to commencing any construction within the park.

(C) Licensee shall use the Work Site and Easement Area in compliance with, and shall not cause or permit the Work Site or Easement Area to be used in violation of, applicable federal and state environmental, health and/or safety-related laws, regulations, standards, permits or permit conditions, currently existing or as amended or adapted in the future which are to become applicable to Licensee or the Work Site and Easement Area (collectively "Environmental Laws"), including, but not limited to, any provisions governing the use, storage, handling or disposal of Hazardous Substances.

3. Hazardous Substances.

(A) Licensee shall not cause or permit the use, disposal, storage, or release of any Hazardous Substances on or in the Work Site or Easement Area other than fuel and fluids for vehicles, radioactive material necessary to operate x-ray equipment and painting and pipeline coating materials, oils and fluids for equipment and containerized gases (i.e. acetylene and oxygen cylinders) necessary for welding activities; provided, however, that any such permitted substances, materials and activities shall be used, disposed of and/or stored, as applicable, in compliance with all applicable Environmental Laws.

(B) During the Term of this License Agreement, Licensee (i) will not cause, or permit to be caused by Licensee or by its agents, servants, employees or by an individual or entity acting at the direction or request of Licensee (such agents, servants, employees or individual or entity acting at the direction or request of Licensee are hereinafter collectively referred to as "Licensee's Agent(s)") any act or practice by negligence, omission or otherwise, or do anything or permit anything to be done which would violate any Environmental Law; and (ii) shall be responsible at its sole cost and expense for full and prompt compliance with all applicable Environmental Laws to the extent required as a result of any act or practice by negligence, omission or otherwise of Licensee or by Licensee's Agent(s) and for prompt clean-up of any Contamination of the Work Site and Easement Area to the extent the same arises as a result of any act or practice by negligence, omission or otherwise of Licensee or by Licensee's Agent(s). Licensee will not (in or at the Work Site or Easement Area) refine, transform, treat, store, handle or dispose of a Hazardous Substance, except in compliance with all Environmental Laws. In the event of a Contamination of the Work Site or Easement Area caused by any act or omission of Licensee or by Licensee's Agent(s) which creates any liability for environmental clean-up or compliance under the provisions of any Environmental Law, Licensee shall be responsible for the payment of all costs to comply with and cause the Work Site and Easement Area to comply with Environmental Law to the extent that the Work Site or Easement Area does not comply as a result of such Contamination. In addition, Licensee shall, at its sole cost and expense, bond and discharge any and all liens imposed upon Blue Mountain Reservation arising out of any Contamination and/or violation of any Environmental Law caused by the acts or omissions of Licensee or Licensee's Agent(s).

As used in this License Agreement, "**Hazardous Substances**" means hazardous substances, banned or restricted substances, hazardous waste, toxic pollutants, hazardous air pollutants, asbestos, PCB, radioactive substances, methane, urea formaldehyde foam insulation, volatile hydrocarbons, fuel, oil, gasoline, petroleum products or by-products and banned or restricted pesticides as defined in or pursuant to any federal, state and local laws, statutes, codes, regulations and ordinances, provided that in the event of a conflict, the broadest definition shall control. Hazardous Substances shall not be defined to include standard janitorial cleaning supplies typically found in offices. As used in this License Agreement, "**Contamination**" means the unconfined or improperly confined presence of Hazardous Substances which heretofore or hereafter required or requires remediation or notification of authorities or of any person under Environmental Law; or impairs the use of the Work Site or Easement Area; or causes or constitutes injury to persons or property.

(C) Licensee shall defend, indemnify and hold harmless Licensor from and against any and all claims, demands, penalties, causes of action, fines, liabilities, settlements, damages, costs or expenses of whatever kind or nature, including, without limitation, reasonable counsel and consultant fees and expenses, court costs and litigation expenses, arising out of, or in any way related to Licensee's actions which cause, (i) any breach by it of any of the provisions of this paragraph, (ii) the presence, disposal, spillage, discharge, emission, leakage or release of any Hazardous Substance which is on or from the Work Site or Easement Area, including, without limitation, any damage or injury resulting from any such Hazardous Substance, (iii) any injury, death or property damage resulting from such Hazardous Substance, (iv) any lawsuit brought or threatened, settlement reached, or order or directive of or by any governmental authority relating to such Hazardous Substance, or (v) any violation of any Environmental Law, in each such case for which Licensee is responsible hereunder.

(D) The obligations and liabilities of Licensee under this paragraph 3 shall survive and continue in full force and effect and shall not be terminated, discharged or released, in whole or in part, irrespective of the termination or expiration of this License Agreement.

4. **Additional Licensor Imposed Conditions and Mitigation**. The following additional measures must be undertaken by Licensee when performing the Permitted Use:

(A) Licensee shall conduct the Permitted Use on the Easement Area and Work Site in accordance with the Construction Work Plan attached hereto as Exhibit B. All activities on the Work Site and Easement Area must comply with all applicable governmental approvals including (i) the FERC Certificate; (ii) Licensee's Erosion and Sediment Control Plan, Spill Prevention Control and Countermeasure Plan, Unexpected Contamination Encounters Procedures, and Rock Removal Plan; (iii) the U.S. Army Corps of Engineers, New York District, individual Sections 10 of the Rivers and Harbors Act and 404 of the Clean Water Act permit; and (iv) the New York State Department of Environmental Conservation's Section 401 of the Clean Water Act water quality certification and stream disturbance and freshwater wetlands permit. All permits and

approvals and construction plans listed in this paragraph shall be posted on the AIM Project website at http://www.spectraenergy.com/Operations/New-Projects-and-Our-Process/New-Projects-in-US/Algonquin-Incremental-Market-AIM-Project/ during the entire Term of construction provided under this License Agreement. No construction shall commence on the Work Site or Easement Area without Licensee first obtaining all required governmental approvals, including an order to proceed with construction by FERC.

(B) Licensee shall file a stormwater pollution prevention plan ("SWPPP") with the Westchester County Stormwater Management Officer. Licensee shall conduct the Permitted Use on the Easement Area and Work Site in accordance with the SWPPP that must meet the substantive requirements of the New York State Department of Environmental Conservation's SPDES General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). The SWPPP shall be posted on the AIM Project website during the entire term of construction provided under this License Agreement.

(C) Licensee shall maintain access and minimize the impact to hiking and mountain biking trails during construction to the maximum extent possible. Prior to commencing construction (including both the tree clearing activities and the start of pipeline construction), Licensee shall meet with the Director of Facilities to adopt measures to minimize impacts to such trails including minimizing duration of construction across hiking and biking trails, bridging over the ditch line, providing safety fencing or barricades, and establishing biker/hiker signage and controls.

(D) During a tree count conducted by Licensee with oversight by Licensor, certain specimen trees were identified to be marked as protected so that they will not be removed during the tree removal activities provided for under the Permitted Use. Licensee shall install a fence around each tree to be protected prior to commencing tree clearing activities as provided in the Construction Work Plan.

(E) Licensee shall post signs on each side of Montrose Station Road informing the public the road is closed to vehicular traffic, other than emergency vehicles, during construction activities. If requested by the Director of Facilities, Licensee will provide flag persons at each end of Montrose Station Road during active construction to ensure pedestrians and bicyclists have safe access to the park.

(F) All blasting required must be conducted in accordance with the Rock Removal Plan approved with the FERC Certificate. Licensee is also authorized to provide a portable rock crusher to the Work Site or Easement Area. Licensee shall coordinate with the Director of Facilities the location for the placement within Blue Mountain Reservation of rock removed from the trench or excess rock from the preparation of the Work Site or Easement Area that will remain on the surface of the park after pipeline construction.

(G) All trees cut down in the Easement Area and Work Site that are not needed for construction work and which have been identified by Licensor as property it

wishes to keep shall be limbed and cut into saw log lengths and stacked at a location determined by the Director of Facilities and Licensee. Licensee shall dispose of all stumps, tree limbs and other disposable debris, as well as the cut trees that Licensor does not want to keep, in accordance with all applicable federal, state and local laws.

(H) Other than the temporary pipeline construction activities that must be completed during the Term of this License Agreement within the Easement Area and Work Site, neither the activities involved in the restoration and monitoring of restoration as required by the FERC Certificate, Easement, and other governmental approvals for the AIM Project nor the maintenance and operation of the replacement pipeline shall interfere with the normal use of Blue Mountain Reservation as a park as required by paragraph 6 of the Easement. The public shall have access to the Work Site and Easement Area except when construction activities are occurring within the period provided in the Term of this License Agreement, consistent with the Construction Work Plan attached hereto.

THIS IS A SHORT-TERM REVOCABLE ACCESS AND USE LICENSE, TERMINABLE AT WILL BY EITHER PARTY. NO OWNERSHIP, LEASEHOLD OR OTHER SITE INTEREST SHALL VEST IN LICENSEE BY VIRTUE OF THIS ACCESS AND USE LICENSE. THIS LICENSE IS NOT ASSIGNABLE.

5. **Consideration.** Licensee shall pay Licensor Two Million Dollars ($2,000,000) that will cover the use of the Work Site, damages to both the Work Site and Easement Area of Blue Mountain Reservation, and staff oversight of the Permitted Use. Payment shall be made to Licensor on or before September 1, 2015, which is two months prior to the commencement of the Permitted Use.

6. **Insurance.** Licensee shall submit to the Director of Facilities a copy of an insurance certificate(s) demonstrating that adequate liability coverage in the amounts listed below is in effect prior to Licensee's commencing the Permitted Use and for the full five year period that Licensee may have access to the Work Site for purpose of restoration and monitoring restoration as provided in paragraph 1 of this License Agreement.

(A) Types of Insurance Coverage

1. **Commercial General Liability insurance policy**, issued by a company duly authorized to do business in the State of New York, on an occurrence basis, with no environmental exclusion clause, with a combined single limit per occurrence of not less than Five Million Dollars ($5,000,000) for any policy year for personal injury, bodily injury and death, and for property damage and, if obtainable, sudden and accidental pollution, and shall include coverage for contractual liability (designating all indemnity provisions of any agreements related to the Permitted Use or any aspect thereof), and shall cover Licensee's contractors and subcontractors and shall contain an endorsement that underground operations are covered and shall state that the "XCU Exclusions" have been deleted.

2. **Comprehensive Automobile Liability Insurance**, for all vehicles that are used in connection with this License Agreement, whether owned or not owned, with not less than $1,000,000 per occurrence combined single limit for death, personal or bodily injury and property damage;

3. **Umbrella Liability Policy** shall be maintained with a minimum coverage amount of $5,000,000.

4. **Workers' Compensation insurance** and **Disability Insurance** in such amounts as may be legally required and **Employers Liability Insurance** with a minimum limit of $1,000,000 per occurrence;

5. **Pollution Liability Insurance.** Licensee shall obtain and maintain Pollution Liability Insurance, which insurance coverage may be included in the CGL insurance policy coverage or by a separate insurance policy consisting of Contractor Pollution Liability Insurance with not less than a minimum limit of $5,000,000 to protect Licensor and Licensee and its contractors and subcontractors and covering such Permitted Use performed by Licensee and its contractors and subcontractors, and any work incidental thereto. Such policies shall be for a term of not less than (10) years, on an "Occurrence" basis.

(B) All policies of insurance required by this paragraph 6 shall contain the terms and conditions of policies and endorsements generally available from insurance companies that meet the minimum requirements set forth in paragraph "C" below for such risks and a written waiver of the right of subrogation with respect to all of the named insureds and additional insureds. Licensee further agrees to execute and deliver any additional instruments and to do or cause to be done all acts and things that may be reasonably requested by Licensor properly and fully to insure Licensor against all damage and loss as herein provided for and to effectuate and carry out the intents and purposes of this License Agreement. All policies shall be primary protection and Licensor will be called upon to contribute to a loss that would otherwise be paid by Licensee's insurer.

(C) Policies providing for applicable insurance shall be issued only by insurance companies that are licensed or authorized to do business in the State of New York and that have a rating in the latest edition of "Bests Key Rating Guide" of "A:VII" or better, or another comparable rating reasonably acceptable to Licensor. Licensee shall submit proof of the required insurance in a form acceptable to the Licensor. This shall include Certificates of Insurance evidencing the issuance of all insurance required herein and the effectiveness of such insurance with the specified minimum limits and the status of The County of Westchester as additional insured, and guaranteeing at least ten (10) days prior notice to Licensor of cancellation or non-renewal. At Licensor's request, Licensee shall submit the entire original policy.

(D) The County of Westchester shall be named as additional insureds on all required insurance policies as evidenced by such insurance certificate except for workers' compensation and employers' liability coverage and comprehensive automobile liability insurance.

(E) Licensee, however, shall be, continue and remain liable for any uninsured destruction, loss or damage from any cause arising from breach of the covenants of this License Agreement by Licensee. In the event of any such loss or damage for which Licensee becomes liable as aforesaid, Licensee shall, at its sole cost and expense, promptly repair or replace the property so lost or damaged in accordance with plans and specifications approved by Licensor. Notwithstanding the foregoing, Licensor, at its sole discretion, may elect to receive in cash the value of repairs, restoration or rebuilding by Licensee in lieu of performance of such repairs, restoration to or rebuilding of the Work Site.

7. **Assumption of Risk and Indemnification**. Licensee assumes the risk of, and shall be responsible for and reimburse Licensor for any loss, cost or expense arising out of any personal or bodily injury, death, or loss or damage to any property arising out of this License Agreement or Licensee's operations hereunder or any of the acts, omissions, events, conditions, occurrences or causes described in the next sentence. Licensee shall forever defend, indemnify and hold harmless Licensor and their respective officials, officers, agents, representatives and employees from and against any and all liabilities, claims, demands, penalties, fines, settlements, damages, costs, expenses and judgments of whatever kind or nature, known or unknown, contingent or otherwise:

(A) arising from personal or bodily injury to any person or persons, including death, or any damage to property of any nature, occasioned wholly or in part by any act(s) or omission(s) of Licensee or of the employees, guests, invitees, contractors, independent contractors, subcontractors, representatives, officials, officers, servants or agents of Licensee, occurring on or in proximity to Blue Mountain Reservation arising out of or as a result of this License Agreement, including, without limitation, any personal or bodily injury, including death, or property damage related to any collapse or failure of all or any part of the Work Site or Easement Area (except to the extent such personal or bodily injury or any damage to property are caused by the gross negligence or willful misconduct of Licensor), or

(B) relating to or arising from any and all liens and encumbrances which may be filed or recorded against Blue Mountain Reservation or any public improvement lien filed against any funds of Licensor as a result of actions taken by or on behalf of Licensee, its contractors, independent contractors, subcontractors, agents, representatives, employees, guests or invitees, or

(C) arising out of, or in any way related to the storage, transportation, disposal, release or threatened release of any Hazardous Substances over, under, in, on, from or affecting Blue Mountain Reservation or any persons, real property, personal property, or natural substances thereon or affected thereby in connection with Licensee's use of the Work Site or any work performed on the Work Site or Easement Area by or on behalf of

Licensee under this License Agreement, except that Licensee shall not be liable for any claim, demand, penalty, fine, settlement, damage, cost, expense or judgment arising from a condition existing on the Work Site prior to the Effective Date of this License provided, however, that Licensee shall be liable for any acts or omissions on its part that worsens any condition existing on the Work Site and/or any condition caused by Licensee's use of the Work Site or any work performed at the Work Site.

Notwithstanding the foregoing, Licensee shall not be obligated to indemnify Licensor to the extent any liability arises from the gross negligence or willful misconduct of Licensor or Licensor's employees, agents or contractors. The provisions of this Paragraph 7 entitled "Assumption of Risk Agreement" shall survive the expiration, cancellation and/or termination of this License Agreement.

8. **Utilities, Maintenance and Service**: Licensee understands that there are no utility connections to the Work Site and agrees that Licensee must provide for all of its utilities and pay for utility costs incurred in connection with Licensee's use of the Work Site and Easement Area.

9. **Restoration of Site.** Licensee agrees that, upon the earlier of completion of the Permitted Use or revocation or termination or expiration of this License Agreement, the Work Site on which the Permitted Use is conducted shall be restored by Licensee, at its own expense, to a condition in accordance with the FERC Certificate, the Easement and all other governmental approvals for the AIM Project.

10. **Requirements and Approvals**. Licensee agrees to comply, at its own expense, with all applicable requirements in conducting the Permitted Use and in its operations on the Work Site and Easement Area. Licensee must obtain any and all necessary authorizations, permits or approvals at its sole cost and expense prior to commencing the Permitted Use.

11. **Protection of Work Site Systems**. Licensee shall determine or cause to be determined whether there are any utilities located within the Work Site or Easement Area. Licensee shall be liable for damage, if any, done to any such utilities due to the Permitted Use under this License Agreement or any work or access related to the AIM Project. This License Agreement shall not be construed in any manner as a representation by Licensor as to the part of the Work Site and Easement Area where the Permitted Use may be done without damaging such utilities.

12. **No Liens Against Blue Mountain Reservation**. Licensee shall not create, cause to be created or allow to exist (i) any lien, encumbrance or charge upon Blue Mountain Reservation, (ii) any lien, encumbrance or charge upon any assets of, or funds appropriated to, Licensor, or (iii) any other matter or thing whereby the estate, rights or interest of Licensor in and to Blue Mountain Reservation might be impaired. If any mechanic's, laborer's, vendor's, materialman's or similar statutory lien is filed against Blue Mountain Reservation, or if any public improvement lien is created, or caused or suffered to be created by Licensee, or shall be filed against any assets of, or funds appropriated to, Licensor, then Licensee shall within thirty (30) days after receipt of notice of the filing of such mechanic's, laborer's, vendor's, materialman's or similar statutory lien or public improvement lien, cause it to be vacated or discharged of record by payment, deposit, bond, order of court of competent jurisdiction or

otherwise. The provisions of this paragraph 12 shall survive the expiration, cancellation and/or termination of this License Agreement.

13. **Waiver of Trial by Jury, Venue**: (a) Licensee waives its right to trial by jury; and (b) Licensee hereby irrevocably agrees to bring any action against the Licensor only in the Supreme Court of New York State in Westchester County or the Southern District of New York courthouse located in Westchester County, and hereby irrevocably consents to the jurisdiction of the Supreme Court of New York State in Westchester County or the Southern District of New York courthouse in Westchester County in connection with any action brought by Licensor or any action in which Licensor, is or becomes a party to enforce any of its rights and remedies under this License Agreement. Further, with respect to such an action brought by Licensor, Licensee expressly waives and relinquishes any right it might otherwise have (i) to move to dismiss on grounds of forum non conveniens, or (ii) to move for a change of venue to a New York State or federal court outside of Westchester County. The foregoing consent, however, shall not affect or limit in any manner or to any extent the right of Licensor to enforce such rights and remedies in any other jurisdiction.

14. **Governing Law**: This License Agreement and its performance shall be governed by and construed in accordance with the laws of the State of New York, excluding New York's rules regarding conflict of laws and any rule requiring construction against the party drafting this License Agreement.

15. **Non Discrimination**: Licensee shall not discriminate with respect to its use of the Work Site and Easement Area against any person because of race, creed, color, national origin, sex, sexual orientation, age or disability.

16. **Conflict of Interest**: Licensee warrants and represents that no officer, agent, employee or representative of the County of Westchester has received any payment or other consideration for the granting of this License Agreement and that no officer, agent, employee or representative of Licensor, has any interest, directly or indirectly in Licensee, this License Agreement, or the proceeds thereof. Licensee acknowledges that Licensor is relying on the warranty and representation contained in this paragraph 16 and that Licensor would not enter into this License Agreement absent the same. It is specifically agreed that, in the event the facts hereby warranted and represented prove, in the opinion of Licensor, to be incorrect, Licensor shall have the right to terminate this License upon forty-eight (48) hours' notice to Licensee and to rescind this transaction in all respects.

The provisions of this Paragraph 16 shall survive the expiration, cancellation and/or termination of this License.

17. **Default:** In the event that Licensee fails to comply with any provision of this License Agreement, or if any representation or warranty Licensee has made in this License Agreement is untrue, the same shall constitute a default hereunder and Licensor, upon thirty (30) days' notice (or upon forty-eight (48) hours' notice or less notice if there is an emergency or danger to safety, health or property or as provided in paragraph 16 of this License Agreement) to Licensee, may terminate this License and remove Licensee by summary proceeding and/or any other lawful method including self-help through by force or otherwise. In the case that Licensee

fails to comply with any provision of this License Agreement, Licensee may cure such breach within fourteen (14) days of the notice contained herein (or within twenty-four (24) hours if there is an emergency or danger to safety, health or property) to avoid Licensor's termination of this License Agreement.

18. **Termination; Expiration:** (a) In addition to Licensor's right to terminate this License Agreement under paragraphs 16 and 17 above and notwithstanding any other provision of this License, Licensor may terminate this License Agreement at will for any reason or no reason at any time by giving Licensee thirty (30) days' written notice; (b) Upon the expiration of the Term, Licensee shall vacate the Work Site. In the event that Licensee fails to vacate the Work Site, Licensee shall be liable for any and all damages to Licensor resulting therefrom, including, without limitation, reasonable attorney's fees, and any other monies paid or incurred by Licensor, for service of process, marshal's fees, and all other costs incurred in summary proceedings and the like, excluding however access obtained after the Term for the Permitted Use for the purposes of restoration or monitoring of restoration as provided in paragraph 1 as long as Licensee provides advance notice to the Director of Facilities as required herein; and (c) In the event that Licensee leaves any of its property including, without limitation, trade fixtures, in or upon the Work Site at the end of the Term, Licensor may, in its sole discretion, dispose of same and charge Licensee for the cost of such disposal, or keep the property as abandoned property. Termination or expiration of this License Agreement for any reason shall not preclude Licensee from having access to the Easement Area to perform all work, including construction activities related to the replacement of the existing pipeline with the FERC-approved AIM Project pipeline, and ongoing maintenance activities after construction of the AIM Project pipeline, which are existing rights that have been granted to the Licensee pursuant to the Easement, so long as all such work is carried out in accordance with all applicable federal, state and local laws, governmental approvals for the AIM Project, and the Easement. In the event that Licensor terminates this License Agreement, this Agreement does not preclude Licensee from seeking access to the Work Site by other lawful means provided under the Natural Gas Act, including commencing an eminent domain proceeding in federal court, which proceeding can take into account any consideration paid to Licensor pursuant to Paragraph 5 of this Agreement.

19. **Notices**: Notices and communications hereunder required to be in writing shall be personally delivered, mailed by registered or certified mail, return receipt requested, or transmitted by facsimile, as provided below. A party may change its address/facsimile number for receipt of written notices by notifying the other party in writing of such change pursuant to this Section.

If to Licensor:

Commissioner of Parks, Recreation and Conservation
County of Westchester
Department of Parks, Recreation and Conservation
450 Saw Mill River Road
Ardsley, New York 10502

with a copy to:

County Attorney
Michaelian Office Building, Room 600
148 Martine Avenue
White Plains, New York 10601

If to Licensee:

Algonquin Gas Transmission, LLC
1490 Highland Avenue, Building 4
Cheshire, CT 06410
Attention: Ed Harney

Facsimile No.: 203-439-9370

with a copy to:

Christine Fazio, Esq.
Carter Ledyard & Milburn LLP
2 Wall Street
New York, New York 10005

Such notice or other communication shall be deemed duly given when received or when receipt is refused by the addressee.

20. **Prior Understandings; No Oral Modification, Signature in Counterparts and Survival**: This License Agreement states the entire and integrated agreement between Licensor and Licensee regarding the Work Site and supersedes all prior negotiations, representations and agreements, whether written or oral. This License Agreement may not be altered, modified or amended in any manner whatsoever except by a written instrument signed by Licensor and Licensee. This License Agreement may be executed in one or more counterparts, each of which shall be deemed an original and which collectively shall constitute one and the same agreement. Any and all obligations, liabilities, covenants, representations, and warranties of Licensee under this License Agreement which accrue prior to the expiration of the Term or which survive by the express terms of this License shall survive the expiration or termination of this License Agreement.

[END OF TEXT ON THIS PAGE, SIGNATURE PAGE IS THE NEXT PAGE.]

Dated as of 8/12, 2015

LICENSOR:

WESTCHESTER COUNTY

DEPARTMENT OF PARKS, RECREATION AND CONSERVATION

By: _____
Name:
Title: Commissioner

LICENSEE:

ALGONQUIN GAS TRANSMISSION, LLC

By: _____
Name:
Title:

Authorized by the Westchester County Board of Acquisition and Contract on 7/2/2015

Approved as to form
and manner of execution

_____
Assistant County Attorney
County of Westchester
S:d/prc/BlueMtnaccess use license 5.14.15

Dated as of _____, 2015

LICENSOR:

WESTCHESTER COUNTY

DEPARTMENT OF PARKS, RECREATION AND CONSERVATION

By: _____
Name:
Title:

LICENSEE:

ALGONQUIN GAS TRANSMISSION, LLC

By: Tina Faraca
Name: TINA FARACA
Title: VICE PRESIDENT

Authorized by the Westchester County Board of Acquisition and Contract on _____.

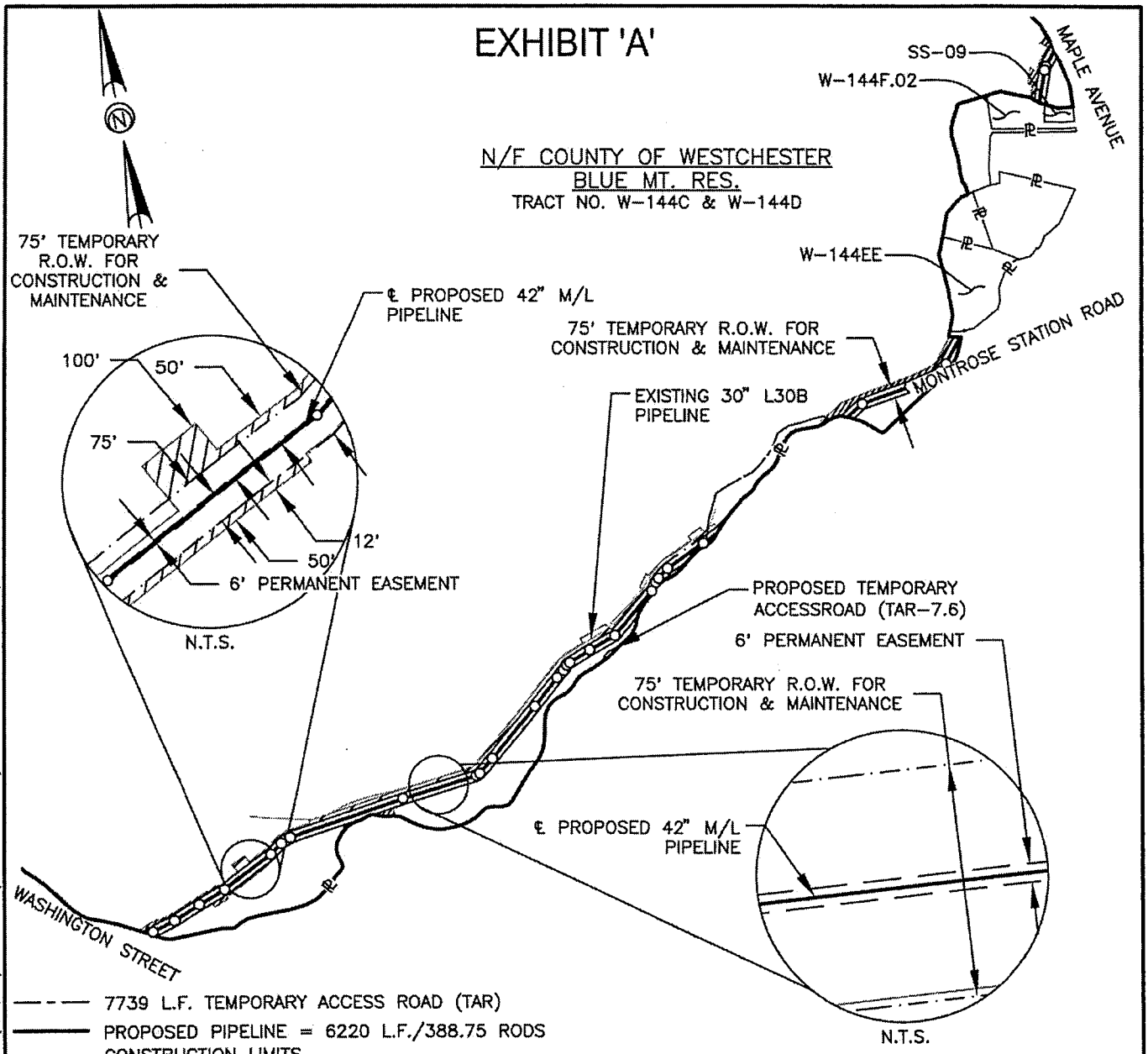
Approved as to form
and manner of execution

_____
Assistant County Attorney
County of Westchester
S:d/prc/BlueMtnaccess use license 5.14.15

EXHIBIT A

PLAT

EXHIBIT 'A'



7739 L.F. TEMPORARY ACCESS ROAD (TAR)

PROPOSED PIPELINE = 6220 L.F./388.75 RODS

CONSTRUCTION LIMITS

PERMANENT R.O.W. LIMITS

TEMPORARY R.O.W. FOR CONSTRUCTION & MAINTENANCE

PROPOSED PERMANENT EASEMENT = 0.00 ACRES ±

PROPOSED TEMPORARY WORKSPACE = 4.38 ACRES ±

GRAPHIC SCALE

1000' 500' 0 1000'

*THIS PLAN WAS COMPILED FROM OTHER MAPS, RECORD RESEARCH OR OTHER SOURCES OF INFORMATION. IT IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD SURVEY, AND IS SUBJECT TO SUCH CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE.

*ACTUAL LOCATION OF NEW PERMANENT EASEMENT IS DETERMINED BY THE PIPELINE AS INSTALLED

P:\SPECTRA\AIM\DATAPROD\WORK\DRAFTING\LAND_PLATS\RAMAPO_STONYPOINT\S7-P-9111.DWG

I.G.

TITLE: STONY POINT DISCHARGE
ALGONQUIN INCREMENTAL MARKET PROJECT
LANDOWNER: COUNTY OF WESTCHESTER BLUE MT. RES. - TRACT NO. W-144C & W-144D

LOC.: TOWN OF CORTLANDT, WESTCHESTER COUNTY, NEW YORK			REV. 2
CKD. BY: HMM	DATE: 3/2/2015	ALIGNMENT SHEET: S7-A-2130 TO S7-A-2136	
DRN. BY: HMM	SCALE: 1" = 1000'	DWG. NO. S7-P-9111	

Spectra Energy Partners.

Algonquin Gas Transmission, LLC
5400 Westheimer Ct. Houston, TX 77056-5310 713/627-5400

EXHIBIT B

CONSTRUCTION WORK PLAN

Algonquin Gas Transmission, LLC
AIM Project
Construction Work Plan – Blue Mountain Reservation, Westchester County, N.Y.

Project Introduction

Algonquin Gas Transmission, LLC ("Algonquin") is proposing to expand its interstate natural gas pipeline system with the AIM Project (the "Project"). The Project includes a new 42" diameter pipeline to replace an existing 26" diameter pipeline that was installed in the early 1950's. The Project will include constructing the new pipeline in the Blue Mountain Reservation ("Reservation") between Washington Street and Maple Avenue in the Town of Cortlandt, N.Y., as depicted on Project alignment sheets S7-A-2130 thru S7-A-2136, attached in Appendix A.

Algonquin has awarded the pipeline construction to Henkels & McCoy, Inc. ("Contractor"). The Contractor will also utilize various subcontractors to support the work. On March 3, 2015, Algonquin received a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission ("FERC") for the Project.

All work will be performed in accordance with the "Access and Use License" between Algonquin and the County of Westchester and all governmental approvals for the Project.

Work Area

Algonquin will be required to limit all work, equipment storage, construction parking, etc. to the limits identified and granted under the FERC Certificate. The Project construction limits within the Reservation are shown on the alignment sheets drawings, which area has been reduced from the limits granted under the FERC Certificate per comments made before the County. (The Project construction limits shown in Appendix A are referred to hereafter as the "Project Limits" and include both permanent easement and temporary workspace areas required for the construction and maintenance of the pipeline as provided for in the existing Easement [the "Easement Area"] and the additional temporary workspace provided under the Access and Use License [the "Work Site"].)

The Project Limits will be identified on all "issued for construction" drawings provided to the Contractor. To aid in field identification, the approved boundaries for the Project Limits will be established and marked with standard land surveying techniques. Algonquin will require the Contractor to maintain and preserve the markings throughout the construction duration.

Pipeline Construction Description

The work will consist of the excavation and removal of the existing 26" diameter pipe and the installation of a new 42" diameter pipeline. This work will generally be

performed beginning at 7:00 am through 5:00 pm, Monday through Saturday each week. Work will be completed in two phases:

I. Clearing, chipping, and disposal of trees and vegetation within the Project Limits. This work will be performed during a two-month period to be scheduled between November, 2015 and March, 2016 in order to avoid impacts to the Indiana and northern long-eared bat species and as required by the Access and Use License.

II. Preparation of construction workspace, removal of the existing 26" diameter pipeline and the installation of the new 42" diameter pipeline. This work will be tentatively performed from May, 2016 through August, 2016.

Tree clearing work in Phase I will be performed using tree shear machines, log skidders, trucks, and other miscellaneous equipment. Specimen trees will be protected from damage by the use of temporary fencing. The trees to be protected are identified in the Alignment Sheets at Appendix A and discussed below in the section under Environmental. For those trees that have been identified to remain as property of Westchester County for later sale, the trees will be cut into logs and stored at a location in the Reservation determined by the Director of Facilities and Algonquin. All other trees, stumps, tree limbs and disposable debris will be disposed of by the Contractor in accordance with all applicable laws. About two weeks before tree clearing commences, Algonquin will arrange a walk of the Reservation with the Director of Facilities so that trees to be protected during construction (including the trees identified in Appendix A and any other trees identified during the walk-through), and trees that are to be cut into logs, can be properly tagged and marked. Algonquin will also discuss Contractor plans for the use of Montrose Station Road with the Director of Facilities during that walk-through.

The existing 26" diameter pipeline will be taken out of service in April, 2016 so that the removal work can begin. Construction work through the Reservation will likely occur in multiple locations simultaneously during the May to August 2016 construction time period.

Construction of the pipeline in Phase II will be completed using bulldozers for the workspace preparation along with rock removal equipment and controlled blasting as required. Backhoes will be used to excavate and remove the 26" diameter pipeline and to deepen and widen the trench. Qualified welders will weld 40-foot long steel pipe sections together, followed by non-destructive testing of the welds. Sideboom tractors will place the new 42" diameter steel pipe into the ditch and backhoes will fill the trench with backfill material.

Final site restoration will include re-grading the disturbed areas with bulldozers to the contours prior to construction and seeding and mulching the areas for vegetative growth. Restoration will follow the construction of the pipeline. (Restoration is described below under the Environmental section). Algonquin will monitor the restoration for a

period of five years after the effective date of the Access and Use License. Algonquin may need access to the Work Site for additional seeding and replanting after the expiration of the Term of the Access and Use License and will coordinate such access with the Director of Facilities for Westchester County in accordance with the License.

Algonquin will repair Montrose Station Road to a drivable condition with grading, gravel placement and tree limbing in coordination with the Director of Facilities.

Environmental

Wetlands

Within the Blue Mountain Reservation, the AIM Project facilities will require 12 separate individual wetland crossings of five wetland systems resulting in approximately 4.1 acres of temporary impact. These wetlands are primarily palustrine emergent wetlands dominated by *Phragmites australis* in the right-of-way ("ROW") and palustrine forested wetlands located outside of the maintained ROW. Table 1 list the wetlands crossed. More detailed information is provided in Appendix B.

Table 1

Wetlands Crossed by the AIM Project in the Blue Mountain Reservation

Facility, State, Wetland ID	Wetland Type(s)	Hydrology	Enter Milepost	Exit Milepost	Town	County	Approx. Crossing Lengths (feet)
B13-SPLR-W8	PFO/PEM	SAT	6.83	6.84	Cortlandt	Westchester	58.35
B13-SPLR-W10	PFO/PEM	SF	7.02	7.04	Cortlandt	Westchester	77.37
			7.04	7.04			5.25
			7.04	7.05			65.38
B13-SPLR-W12	PFO/PEM	SF	7.34	7.36	Cortlandt	Westchester	103.39
			7.37	7.51			769.95
B13-SPLR-W13	PFO/PEM/PSS	SF	7.56	7.62	Cortlandt	Westchester	303.99
			7.64	7.85			1,077.77
			7.85	7.86			34.62
			7.90	7.90			112.44
B13-SPLR-W15	PFO/PEM	SF/SAT	8.42	8.45	Cortlandt	Westchester	36.43
			8.46	8.58			129.86

Waterbodies

The pipeline route across the Blue Mountain Reservation will cross 3 intermittent streams. Table 2 provides a list of the waterboides crossed. Additional details regarding the waterbodies crossed is provided in Appendix B, including representative photographs.

Table 2

Waterbodies (Streams) Crossed by the AIM Project in the Blue Mountain Reservation

Stream ID*	MP	Municipality	Crossing Width (Feet)	Flow Type	Fishery Type	NYS Water Quality Classification	Proposed Crossing Method
B13-SPLR-S13	7.59	Cortlandt	2	Int	Warmwater	C	Dry Crossing
B13-SPLR-S13A	7.61	Cortlandt	3	Int	Warmwater	C	Dry Crossing
B13-SPLR-S13B	7.89	Cortlandt	1	Int	Warmwater	C	Dry Crossing

* Unnamed Trib to Hunter Brook in Westchester County

As provided for in the Stormwater Pollution Prevention Plan, the AIM Project will employ a green infrastructure approach for stormwater management and water quality by replicating predevelopment hydrology conditions and maintaining the pre-construction infiltration within the pipeline alignment.

The following green infrastructure planning practices and runoff reduction techniques will be implemented in the construction of the pipeline.

- **Reduction of Land Clearing and Grading**
  The amount of land clearing and grading will be kept to the minimum necessary and required to construct the new pipeline.

- **Topsoil Segregation**
  During construction in wetlands, topsoil will be segregated and stockpiled for pipeline installation as well as grading purposes (except in areas where standing water is present or soils are saturated or frozen). In unsaturated wetlands, twelve inches of topsoil will be excavated and segregated from subsoil spoil piles.

Wetland Restoration

Per requirement from the U.S. Army Corps of Engineers ("ACOE"), Algonquin has committed to restoring forested wetlands that will be temporarily impacted during construction. Restoration procedures include restoring segregated topsoil, subsoil, site contours, and surface hydrologic patterns. Based on several years and hundreds of projects' worth of experience, Algonquin's goal with its efforts to provide quick onsite restoration is to limit the opportunities for site establishment by invasive plant species, to promote the rapid re-establishment of hydrophilic vegetation, to limit erosion or sedimentation concerns, and to facilitate a full and fast recovery of wetland functions and values. Onsite restoration for temporarily impacted (cleared) forested wetlands will include select re-planting efforts, as necessary, combined with invasive plant species control and post construction monitoring. In forested wetland areas, trees will be

replanted with like species in order to jumpstart the recovery process to forested conditions. Monitoring and invasive plant species control will commence within the first year following restoration and continue for at least five years after construction to ensure that forested areas are recovering to pre-construction conditions (i.e., species makeup, diversity, density, etc.). Copies of Algonquin's Wetland Mitigation Plan and Invasive Species Control Plan are provided in Appendix C.

Seed Mixes

Through consultation with the ACOE and New York State Department of Environmental Conservation ("NYSDEC"), Algonquin has committed to using the following permanent seed mixes for the AIM Project as shown in Table 3 until permanent stabilization is achieved.

Table 3

Recommended Seed Mixtures and Uses

Use	Species	% by weight	Application Rate
Residential and commercial lawns	Kentucky Bluegrass ('Volt', 'Clearwater', 'Corsair')	60%	6 lbs./1000 ft^2
	Perennial Ryegrass ('Nobility', 'Amazing GS')	20%	
	Hard Fescue 'Harpoon'	10%	
	Chewings Red Fescue	10%	
	**Apply Annual Rye for quick cover*		
Work areas within and outside the permanent easement	Autumn bentgrass, Albany Pine Bush – NY ecotype	40%	75 lbs./acre Pure Live Seed (PLS)
	Redtop (*Agrostis gigantean Roth*)	5%	
	Perennial Ryegrass ('Nobility')	25%	
	Deertongue 'Tioga' (*Panicum clandestinum*)	5%	
	Little Bluestem 'Camper' (*Schizachyrium scoparium*)	10%	
	Bottlebrush Grass (*Elymus hystrix*), MN ecotype	10%	
	White Clover, Dutch (*Trifolium repens*)	5%	
	**Apply Annual Rye for quick cover*		
Wetlands Mix	Fox Sedge (*Carex vulpinoidea*), PA ecotype	25%	30 lbs./acre
	Lurid Sedge (*Carex lurida*), PA ecotype	15%	
	Hop Sedge (*Carex lupulina* ex Willd.), PA ecotype	8%	
	Soft Rush (*Juncus effusus*)	10%	
	Blunt Broom Sedge (*Carex tribuloides*), PA ecotype	7%	
	Deertongue 'Tioga' (*Panicum clandestinum*)	15%	
	Green Bulrush (*Scirpus atrovirens*), PA ecotype	5%	
	Eastern Bur Reed (*Sparganium americanum*)	5%	
	Giant Bur Reed (*Sparganium eurycarpum*), PA ecotype	5%	
	Woolgrass (*Scirpus cyperinus*), PA ecotype	5%	
	Annual Ryegrass (*Lolium perenne* var. multiflorum)		40 lbs./acre PLS

Note: Existing wetlands soils will be stockpiled and reused within all disturbed wetlands areas. Wetland soils contain root stock of the native wetlands species which will be supplemented by the seed mix. The use of the annual ryegrass is considered a temporary stabilization method which will permit the native wetland species to reestablish themselves

Notes:

1) Use certified seed for annual ryegrass (*Lolium perenne* var. aristatum or var. multiflorum) to minimize the introduction of weed seed into the mix.
2) The optimal seeding for ryegrass is during the fall.
3) On residential/commercial lawns and work areas, apply annual ryegrass at an application of thirty (30) pounds per acre immediately after initial seeding.

Algonquin will also consult with the Director of Facilities regarding other seed mix options for the upland areas that may enhance the restoration of the Work Site.

Tree Survey within Blue Mountain Reservation

To determine the degree of tree clearing necessary to facilitate construction within the Blue Mountain Reservation, a tree count survey was completed. This survey was conducted on December 12 - 14, 2014, by Algonquin's environmental consultant. Civil survey crews had staked the limits of workspace prior to the tree survey. Table 4 provides a summary of specimen trees that were avoided by reducing the additional temporary work space, those that will be protected (trees fenced) (as shown on the alignment sheets provided in Appendix A) and those that will be removed.

Table 4

Specimen Trees in the Blue Mountain Reservation

Alignment Sheet #	Trees Avoided	Trees Removed	Trees Fenced
2130	8	10	2
2131	7	1	3
2132	2	0	1
2133	2	0	2
2134	3	2	0
2136	0	1	1
Subtotals	**22**	**14**	**9**

Notes:
Specimen trees affected by original workspace - 45
Specimen trees affected by the current workspace - 23
Specimen trees avoided through workspace reductions – 22
Additional specimen trees to be protected by fencing – 9

Total Specimen trees avoided through workspace reductions and fencing - 31

Environmental Inspection

Algonquin will have a full time environmental inspector ("EI") onsite during active construction or restoration. The EI will have the authority to stop activities that violate the environmental conditions of the FERC Certificate, other federal and state permits, or landowner requirements including the conditions in the Access and Use License, and to order corrective action. In addition to the independent inspection provided by the EIs,

the AIM Project will also be attended by a full-time FERC inspector who has authority to enforce applicable requirements.

Construction Inspection Staff

Algonquin's field inspection staff, including an environmental monitor, will be onsite throughout the course of the work to oversee the work. Inspection staff will ensure that the pipeline installation is completed in accordance with all applicable requirements, including the conditions of the Access and Use License between Westchester County and Algonquin. Field inspectors are required to familiarize themselves with all contractual requirements, applicable codes, permit conditions, right-of-way agreements, on-site safety requirements, environmental requirements and specifications before construction begins. During construction the inspector will provide daily oversight to ensure all requirements and obligations are fulfilled.

Construction Equipment Access

Access for the mobilization of equipment will include public roads and the Montrose Station Road in the Reservation. Neither construction equipment and materials nor Contractor vehicles will be stored or parked without being attended by a driver at the entrances to the Park on Montrose Station Road located adjacent to Maple Avenue and Washington Street, which is the area that is outside of the gates into the Reservation. The Contractor may store equipment and vehicles on Montrose Station Road within the portion of the road between the two gates during active construction; however such equipment and vehicles must be quickly moved if an emergency occurs that requires first responders to have access to the road. During periods when no active construction is occurring, the Montrose Station Road must be cleared of equipment and vehicles to such an extent as to allow access by emergency vehicles.

Public Safety

Public Safety will be a priority during construction. At no time will the public be allowed to have access around the construction equipment and open ditch. Access will be blocked when construction work is not active (i.e., holidays, nights, and Sundays). The duration that the public will not have access to the Work Site and Easement Area will be short-term based on the time frames described under the Pipeline Construction Description section above, and public access to the Work Site and Easement Area will be provided as soon as construction is completed. The public will have access to the Work Site and Easement Area during the period between tree clearing and pipeline construction if the tree clearing occurs in 2015 or early 2016.

Pedestrian, bicycle, and horseback riding access through existing park roads and trails will be maintained throughout construction. Earthen trench plugs will be utilized to

span any open trench accompanied by signs and fencing to safely direct the public. Temporary closures will be minimized to the extent possible.

Contact Information

Algonquin will provide a "hot-line" phone number for any concerns that need to be addressed during construction.

APPENDIX A

Project alignment sheets S7-A-2130 thru S7-A-2136

[SEPARATELY FILED]

APPENDIX B

Wetland and Waterbodies within the Blue Mountain Reservation

Spectra Energy Partners

ALGONQUIN INCREMENTAL MARKET PROJECT
NEW YORK

WETLAND AND WATERBODIES WITHIN BLUE MOUNTAIN RESERVATION

Prepared for:
Algonquin Gas Transmission, LLC

Prepared by:

TRC
Results you can rely on

6 Ashley Drive
Scarborough, ME 04074

April 2015

Spectra Energy Partners

TABLE 1

WETLANDS SURVEYED WITHIN BLUE MOUNTAIN RESERVATION FOR AIM PROJECT FACILITIES

Wetland ID	Milepost a/	Municipality	County	Cowardin Class b/	Associated Waterbody(s)	Associated Vernal Pool	NYSDEC Mapped Wetland
PIPELINE FACILITIES							
Stony Point to Yorktown Take-up & Relay							
B13-SPLR-W8	6.21	Cortlandt	Westchester	PEM/PFO	--	B13-SPLR-VP8	--
B13-SPLR-W10	6.4	Cortlandt	Westchester	PFO	--	--	--
B13-SPLR-W12	6.71	Cortlandt	Westchester	PEM/PFO	--	--	--
B13-SPLR-W13	6.93	Cortlandt	Westchester	PEM/PFO/PSS	B13-SPLR-S13,A,B	--	P-3
B13-SPLR-W15	7.74	Cortlandt	Westchester	PEM/PFO	B13-SPLR-S15	--	100-foot Adjacent Area for Wetland P-1

a/ The milepost is where the pipeline and/or workspace crosses the wetland. In some cases, a milepost is not available because the resource is located outside of the construction work area for the Project.

b/ NWI Classifications:
PEM – Palustrine emergent wetland
PSS – Palustrine scrub-shrub wetland
PFO – Palustrine forested wetland

Spectra Energy Partners

TABLE 2

WATERBODIES SURVEYED WITHIN THE BLUE MOUNTAIN RESERVATION FOR AIM PROJECT FACILITIES

Waterbody Name	Municipality	Waterbody ID	Associated Wetland	Stream Class/ Flow Status	Average Width (ft)	Water Depth at Time of Survey (in)	Bottom Substrate	Potential Impact to riffle and pool complexes, special aquatic sites, etc.
PIPELINE FACILITIES								
Stony Point to Yorktown Take-up & Relay Pipeline								
UNT to Furnace Brook	Cortlandt	B13-SPLR-S13	B13-SPLR-W13	Intermittent	3	2	Gravel/cobble, sand	No
UNT to Furnace Brook	Cortlandt	B13-SPLR-S13A	B13-SPLR-W13	Intermittent	4	4	Gravel/cobble, sand	No
UNT to Furnace Brook	Cortlandt	B13-SPLR-S13B	B13-SPLR-W13	Intermittent	2	2	Sand, gravel/cobble	No

*Waterbody was identified along an access road.

Wetlands: B13-SPLR-W8, B13-SPLR-W10

Wetlands B13-SPLR-W8, B13-SPLR-W10 are located along Algonquin's existing pipeline ROW east of Washington Street in Cortlandt, where the pipeline enters the Blue Mountain Reservation. These wetlands are characterized as either PEM or PFO wetlands or consist of a combination of the two wetland classes. There are no waterbodies within the wetlands; however, a vernal pool (B13-SPLR-VP8) was identified in Wetland B13-SPLR-W8. Dominant species within the wetlands include common reed, fringed sedge (*Carex crinita*) and spotted touch-me-not. According to soil survey information acquired from the USDA-NRCS digital SSURGO database, Charlton fine sandy loam soils are underlying Wetland B13-SPLR-W8 and Chatfield-Hollis-Rock outcrop complex soils are underlying Wetland B13-SPLR-W10. The wetland soils were saturated to the surface and contained a depleted matrix.

Wetlands B13-SPLR-W12 and B13-SPLR-W13

Wetlands B13-SPLR-W12 and B13-SPLR-W13 are located along Algonquin's existing pipeline ROW south of Montrose Station Road in the Blue Mountain Reservation. Both wetlands are associated with a large wetland system within and on the outskirts of the state regulated NYSDEC-mapped wetland (Wetland P-3). Streams are associated with both wetlands (see Table 2, Appendix B). Dominant species within the wetlands include green ash, red maple, speckled alder (*Alnus incana*), and the invasive species common reed. Common reed is the dominant herbaceous species within the cleared portions of the existing ROW. According to soil survey information acquired from the USDA-NRCS digital SSURGO database, Chatfield-Hollis-Rock outcrop complex soils are underlying both wetlands. Both wetlands contained over an inch of surface water at the time of delineation and exhibited dark organic soils.

Wetland B13-SPLR-W15

Wetland B13-SPLR-W15 is located to the northwest of the Maple Avenue crossing where the corridor parallels Montrose Station Road in the Blue Mountain Reservation. This wetland is classified as a PEM/PFO wetland and is surrounded by residential and commercial development. Stream B13-SPLR-S15 is associated with this wetland. Dominant species within the wetland include red maple, black willow, northern red oak (*Quercus rubra*), and skunk-cabbage. According to soil survey information acquired from the USDA-NRCS digital SSURGO database, Chatfield-Hollis-Rock outcrop complex soils and Paxton fine sandy loam soils are underlying the wetland. The hydric soils observed in Wetland B13-SPLR-W15 were inundated with less than an inch of surface water at the time of delineation and soils were found to be depleted below a dark surface layer.

Algonquin Incremental Market Project
Blue Mountain Reservation Photo Log

PHOTO ID: BMR-1
Wetland B13-SPLR-W8: Cortlandt, NY

PHOTO ID: BMR-2
Wetland B13-SPLR-W10: Cortlandt, NY

Algonquin Incremental Market Project
Blue Mountain Reservation Photo Log

PHOTO ID: BMR-3
Wetland B13-SPLR-W12: Cortlandt, NY

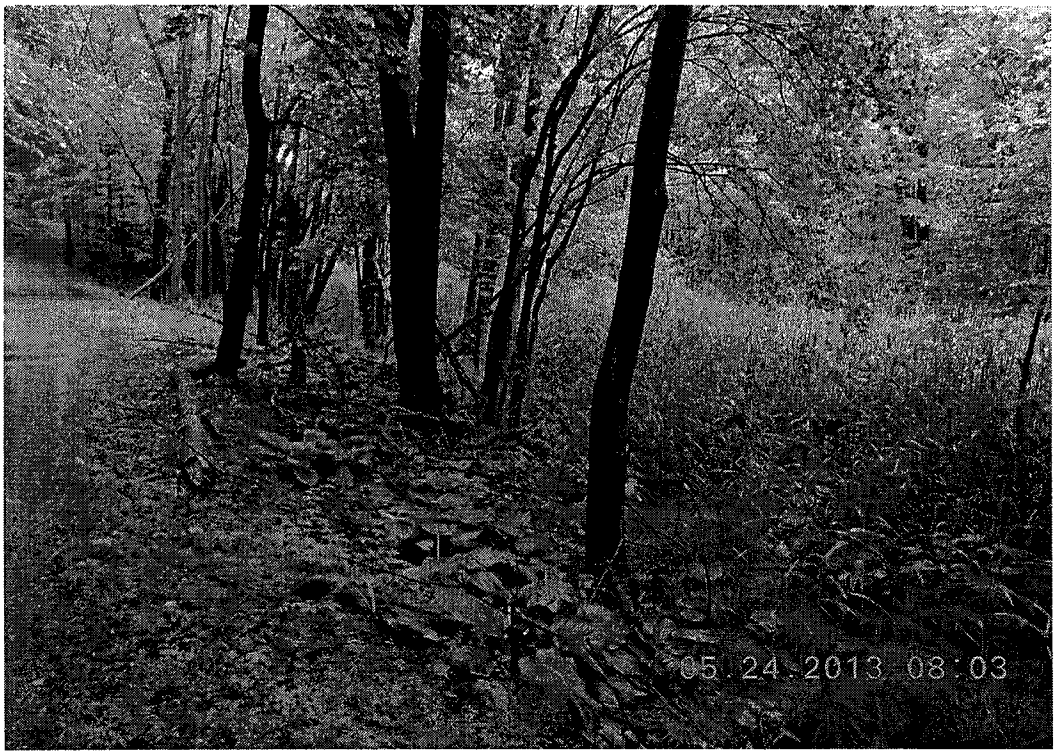


PHOTO ID: BMR-4
Wetland B13-SPLR-W13: Cortlandt, NY

Algonquin Incremental Market Project
Blue Mountain Reservation Photo Log

PHOTO ID: BMR-5
Stream B13-SPLR-S13: Cortlandt, NY

PHOTO ID: BMR-6
Stream B13-SPLR-S13A: Cortlandt, NY

Algonquin Incremental Market Project
Blue Mountain Reservation Photo Log

PHOTO ID: BMR-7
Stream B13-SPLR-S13B: Cortlandt, NY

PHOTO ID: BMR-8
Wetland B13-SPLR-W15: Cortlandt, NY

Algonquin Incremental Market Project
Blue Mountain Reservation Photo Log

PHOTO ID: BMR-9
Stream B13-SPLR-S15: Cortlandt, NY

APPENDIX C

Algonquin's Wetland Mitigation Plan and NY Invasive Species Control Plan

Algonquin Gas Transmission, LLC
890 Winter Street, Suite 300
Waltham, MA 02451

December 22, 2014

Mr. Jun Yan, P.E.
Project Manager, Eastern Section
New York District Regulatory Branch - U.S.
Army Corps of Engineers
26 Federal Plaza, Room 1937
New York, New York 10278

Mr. Michael Higgins, Project Manager
Major Projects Management Section
New York State Department of Environmental Conservation
Division of Environmental Permits
625 Broadway
Albany, NY 12233-1750

Ms. Cori Rose
Senior Project Manager/PWS
New England District Regulatory Branch - U.S.
Army Corps of Engineers
696 Virginia Road
Concord, Massachusetts 01742

Mr. Doug Hoskins
Inland Water Resources Division,
Bureau of Water Protection and Land Reuse
Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

Re: **Algonquin Gas Transmission, LLC - Algonquin Incremental Market Project**
Final Consolidated Wetland Mitigation P lan
Application Numbers. NAN-2014-00402-EYA, NAE-2013-01233,
CT WQC-201402949, NY DEC ID #3-9903-00099/00002, 3 & 4

Dear Jun, Cori, Doug and Mike:

At the request of the Federal Energy Regulatory Commission ("FERC"), Algonquin has consolidated the various AIM Project Wetland Mitigation Plans that have been filed into one Project-wide document. This consolidated Plan outlines the agreed-upon mitigation approaches and provides updated wetland and water body impact numbers based on recently filed Project modifications made to minimize wetland impacts.

This Mitigation Plan ("Plan") describes the methods that will be implemented during construction of the AIM Project to minimize, avoid, and mitigate for temporary and permanent impacts to wetlands and waterbodies. This Plan includes a brief description of the Project, a listing of the types and area of temporary and permanent impacts to wetlands and waterbodies, and a description of the mitigation provided for the Project.

The U.S. Army Corps of Engineers ("USACE") New England District and the Connecticut Department of Energy and Environmental Protection ("CTDEEP") have agreed to accept payment to the State of Connecticut's in-lieu-fee ("ILF") program in lieu of a permittee-supplied mitigation project. The details of this arrangement are further described in Section 3.2.2. The New York District of the USACE and the State of New York Department of Environmental Conservation do not have an ILF program established for the Project area, thus, Algonquin will implement on- and off-site mitigation measures to offset forested conversion impacts. These mitigation measures are described in detail in Appendix A of the enclosed Plan.

Algonquin Gas Transmission, LLC
890 Winter Street, Suite 300
Waltham, MA 02451

To reiterate, the enclosed Plan does not introduce any new information regarding compensating for wetland impacts associated with construction of the AIM Project. Rather, the information filed to date with the FERC and other regulatory agencies has been consolidated into a single document.

Please contact me at (603) 801-4140 if you have questions or require additional information.

Algonquin Gas Transmission, LLC

Mike Tyrrell
Environmental Lead

cc:

Maggie Suter, FERC
Jennifer Lee, NRG
Rick Paquette, TRC

Spectra Energy Partners

ALGONQUIN INCREMENTAL MARKET PROJECT

Algonquin Gas Transmission, LLC

Final Wetland Mitigation Plan

Revised December 2014

Spectra Energy Partners

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS

AIM	Algonquin Incremental Market
Algonquin	Algonquin Gas Transmission, LLC
BMPs	best management practices
CFR	Code of Federal Regulations
E&SCP	Erosion and Sediment Control Plan
FERC	Federal Energy Regulatory Commission
FERC Procedures	FERC's Wetland and Waterbody Construction and Mitigation Procedures
HDD	horizontal directional drill
hp	horsepower
MLV	mainline valve
MP	milepost
M&R	metering and regulating
NGA	Natural Gas Act
NYSDEC	New York State Department of Environmental Conservation
PAR	permanent access road
PEM	palustrine emergent
PFO	palustrine forested
Plan	Final Mitigation Plan
Project	AIM Project
PSS	palustrine scrub-shrub
ROW	right-of-way
TAR	temporary access road
U.S.	United States
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey

1.0 INTRODUCTION

This Mitigation Plan ("Plan") describes the methods that will be implemented during construction of the Algonquin Gas Transmission, LLC ("Algonquin") Incremental Market Project ("AIM Project" or "Project") to minimize, avoid, and mitigate for temporary and permanent impacts to wetlands and waterbodies. This Plan includes a brief description of the Project, a listing of the types and area of temporary and permanent impacts to wetlands and waterbodies, and a description of the mitigation provided for the Project. Several versions have been filed with the Federal Energy Regulatory Commission ("FERC" or "Commission") and other agencies to satisfy their respective regulatory requirements. This Plan consolidates the mitigation approach on a Project-wide basis and provides updated wetland and water body impact numbers based on recent Project modifications made to minimize wetland impacts.

The Project will result in impacts, both temporary and permanent, to freshwater wetland functions and values in Connecticut and New York; however, there is no permanent wetland fill proposed and no wetland area will be lost due to the Project. As part of their review under Section 404 of the Clean Water Act[1], the U.S. Army Corps of Engineers ("USACE") are requiring the preparation of mitigation plans for Connecticut and New York. Compensatory mitigation is being required for permanent conversion of forested wetlands to non-forested conditions for maintenance of new project right-of-ways. The USACE New England District and The Connecticut Department of Energy and Environmental Protection ("CTDEEP") have agreed to accept payment to the State of Connecticut's in-lieu-fee ("ILF") program in lieu of a permittee-supplied mitigation project. The details of this arrangement are further described in Section 3.2.2. The State of New York does not have an ILF program established for the project area, thus, Algonquin will implement on- and off-site mitigation measures to offset forested conversion impacts. These mitigation measures are described in detail in Algonquin's Proposed Mitigation Plan for the AIM Project Facilities in New York in Appendix A.

2.0 PROJECT DESCRIPTION

Algonquin, an indirect, wholly-owned subsidiary of Spectra Energy Partners, LP, is seeking authorization from the FERC pursuant to Section 7(c) of the Natural Gas Act[2] ("NGA") to construct, install, own, operate, and maintain the AIM Project which will involve expansion of its existing pipeline system located in New York, Connecticut, Rhode Island and Massachusetts. Algonquin is also seeking authorization pursuant to Section 7(b) of the NGA[3] to abandon certain segments of existing mainline pipeline as a related component of the AIM Project. The AIM Project will create 342,000 dekatherms per day of firm transportation capacity to deliver natural gas to the Northeast markets to meet immediate and future supply and load growth requirements of the Project Shippers. Specifically, the Project will create additional pipeline capacity from the Ramapo, New York receipt point on the Algonquin system to various Algonquin city gate delivery points in Connecticut, Rhode Island, and Massachusetts. The target in-service date for the AIM Project is November 1, 2016.

The AIM Project includes the construction of approximately 37.4 miles of take-up and relay, loop and lateral pipeline facilities, modifications to six existing compressor stations resulting in the addition of 81,620 horsepower ("hp") of compression, modifications to 24 existing metering and regulating ("M&R") stations, the construction of three new M&R stations and the removal of one existing M&R station. These proposed Project facilities are located in New York, Connecticut, Rhode Island and Massachusetts. A complete discussion of the proposed Project facilities follows.

1 33 U.S.C. §§ 1251-1387

2 15 U.S.C. §§ 717f(b) and 717f(c) (2006).

3 15 U.S.C. § 717P(b) (2006).

Proposed Pipeline Facilities

The proposed AIM Project includes approximately 37.4 miles of pipeline composed of the following facilities:

- Construction of approximately 20.1 miles of mainline pipeline, comprised of the following:
  - Haverstraw to Stony Point Take-up & Relay - Take-up and relay 3.3 miles of 26-inch diameter pipeline with 42-inch diameter pipeline in Rockland County, New York upstream of Algonquin's existing Stony Point Compressor Station;
  - Stony Point to Yorktown Take-up & Relay - Take-up and relay 9.4 miles of 26-inch diameter pipeline with 42-inch diameter pipeline and the installation of an approximately 2.9-mile section of new pipeline right-of-way ("ROW") that includes a 0.7-mile horizontal directional drill ("HDD") crossing of the Hudson River. This 12.3-mile segment is located in Rockland County, New York and Westchester County, New York downstream of Algonquin's existing Stony Point Compressor Station; and
  - Southeast to MLV 19 Take-up & Relay - Take-up and relay 4.5 miles of 26-inch diameter mainline pipeline with 42-inch diameter pipeline (including a new 0.7-mile long, 42-inch diameter HDD pipeline crossing of Interstate 84 and the Still River) located in Putnam County, New York and Fairfield County, Connecticut downstream of and between Algonquin's existing Southeast Compressor Station and mainline valve ("MLV") 19;

- Line-36A Loop Extension - Installation of 2.0 miles of 36-inch diameter pipeline loop extension in Middlesex County, Connecticut and Hartford County, Connecticut downstream of Algonquin's existing Cromwell Compressor Station;

- E-1 System Lateral Take-up & Relay - Take-up and relay 9.1 miles of 6-inch diameter pipeline with 16-inch diameter pipeline on Algonquin's existing E-1 System in New London County, Connecticut;

- E-1 System Lateral Loop - Installation of 1.3 miles of 12-inch diameter pipeline loop on Algonquin's existing E-1 System in New London County, Connecticut; and

- West Roxbury Lateral - Installation of 4.09 miles of new 16-inch diameter pipeline and 0.81 miles of new 24-inch diameter pipeline off of Algonquin's existing I-4 System in Norfolk and Suffolk Counties, Massachusetts.

Modifications to Existing Algonquin Compressor Stations

Algonquin will modify six existing Algonquin compressor stations to add an additional 81,620 hp to its pipeline system as part of the AIM Project. This increase in horsepower will be achieved with the installation of six new compressor units. The proposed compressor modifications include the following:

Stony Point Compressor Station - Rockland County, New York
- Install two (2) Solar Mars 100 (15,900 hp each) natural gas-fired compressor units;
- Restage one (1) existing compressor driven by a Solar Taurus 60 natural gas-fired turbine;
- Install gas cooling for the new units; and
- Station piping modifications.

Southeast Compressor Station - Putnam County, New York
- Install one (1) Solar Taurus 70 (10,320 hp) natural gas-fired turbine compressor unit;

- Restage one (1) existing compressor driven by a Solar Taurus 70 natural gas-fired turbine;
- Replace the compressor body driven by an existing Solar Mars 90 natural gas fired turbine;
- Install gas cooling for the new unit; and
- Station piping modifications.

Oxford Compressor Station – New Haven County, Connecticut
- Restage one (1) existing compressor driven by a Solar Taurus 60 natural gas-fired turbine;

Cromwell Compressor Station - Middlesex County, Connecticut
- Install one (1) Solar Mars 100 (15,900 hp) natural gas-fired turbine compressor unit;
- Install gas cooling for the new unit and two (2) existing turbine compressor units; and
- Station piping modifications.

Chaplin Compressor Station - Windham County, Connecticut
- Install one (1) Solar Taurus 60 (7,700 hp) natural gas-fired turbine compressor unit;
- Restage two (2) existing compressors driven by Solar Taurus 60 natural gas-fired turbines;
- Install gas cooling for the new unit and two (2) existing turbine compressor units; and
- Station piping modifications.

Burrillville Compressor Station - Providence County, Rhode Island
- Install one (1) Solar Mars 100 (15,900 hp) natural gas-fired turbine compressor unit;
- Restage two (2) existing compressors driven by Solar Taurus 60 natural gas-fired turbines;
- Install gas cooling for the new unit; and
- Station piping modifications.

Modifications to Existing Algonquin M&R Stations

The AIM Project will include modifications to 24 existing Algonquin M&R stations in New York, Connecticut and Massachusetts, to accept the new gas flows associated with the AIM Project. Three M&R stations are located in New York, 13 are located in Connecticut and eight are located in Massachusetts. The types of modifications will include the replacement of existing heaters and metering facilities, piping modifications, and facility uprates. In addition, one existing M&R station (Greenville) will be removed in Connecticut.

Modifications at 21 of these existing stations are minor in nature and will take place within the existing fenced facilities. Three of the remaining M&R stations will require complete reconstruction and one will be decommissioned and removed (Greenville M&R). The stations requiring reconstruction are all in Connecticut and include the Willimantic M&R Station, Guilford M&R Station and Glastonbury M&R Station. The Glastonbury and Guilford M&R stations will be rebuilt within the same station footprint while the Willimantic M&R Station will be rebuilt on a new parcel of land being acquired by Algonquin adjacent to the existing station property.

Construction of New Algonquin M&R Stations

Algonquin will construct three new M&R stations: two are located in Bristol and Suffolk counties in Massachusetts and one is located in New London County, Connecticut.

- Construct one (1) new M&R station in Connecticut:
  - Oakland Heights M&R Station – construct a new M&R station, including regulation, in the City of Norwich, New London County.

- Construct two (2) new M&R stations in Massachusetts:
  - Assonet M&R Station – construct a new M&R station, including regulation, in the Town of Freetown, Bristol County; and
    West Roxbury M&R Station – construct a new M&R station, including regulation, in the City of Boston, Suffolk County.

3.0 WETLANDS

Wetlands are defined by the USACE as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and bottomlands. Algonquin delineated wetland boundaries using the methodology described in the USACE's Wetlands Delineation Manual (Environmental Laboratory, 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2). The 1987 Manual and more recent supplements identify three environmental factors to consider when making wetland determinations: indicators of hydrophytic vegetation, hydric soil, and wetland hydrology.

3.1 Wetlands within the Project Area

Field surveys were conducted within a 300-foot wide study area across the Project area to identify and map wetlands, except for the West Roxbury Lateral where the study corridor was variable due to the developed nature of that route. Based on this survey, a total of 160 wetland crossings were identified in the AIM Project construction workspace; 76 in New York and 84 in Connecticut. The AIM Project facilities proposed in Rhode Island and Massachusetts will not cross any wetlands.

3.1.1 Pipeline Facilities

New York

The AIM Project facilities in New York will cross 76 wetland areas. These wetlands are primarily characterized as palustrine emergent ("PEM") wetlands that are generally dominated by *Phragmites australis* in the ROW and as palustrine forested ("PFO") wetlands off the maintained ROW. Wetlands along the Haverstraw to Stony Point Take-up and Relay segment were located in areas of topographic relief given that this survey area is extremely hilly. Sloping stream drainages were often associated with bordering wetlands. A particularly large wetland system in the Town of Haverstraw is associated with tributaries to Minisceongo Creek. In the Town of Cortland, there is a large wetland system encountered in the drainage area of Dickey Brook and its tributaries, and within the Blue Mountain Reservation there are also a few large wetland systems crossed by the Project. Wetlands within the maintained pipeline ROW along the Stony Point to Yorktown Take-up & Relay segment are also often dominated by *Phragmites australis* while the off-ROW sections are primarily wooded.

New York State has mapped wetland areas that are regulated under its Freshwater Wetlands Act. There are five New York State Department of Environmental Conservation ("NYSDEC") mapped wetlands that are crossed or are in close proximity to the pipeline ROW along the Stony Point to Yorktown Take-up & Relay pipeline. Algonquin discussed and confirmed these crossings in a meeting with NYSDEC on December 5, 2013. These NYSDEC wetlands are as follows:

- Town of Cortlandt

- NYSDEC Wetland P-3 – This is a Class 1 wetland that is crossed by the Stony Point to Yorktown Take-up & Relay pipeline between milepost ("MP") 7.70 and MP 7.85. This NYSDEC mapped wetland has been field delineated as B13-SPLR-W13 for the AIM Project.
- NYSDEC Wetland P-1 – This is a Class 2 wetland that is crossed between MP 8.50 and MP 8.75. This NYSDEC mapped wetland has been field delineated as A13-SPLR-W2 for the AIM Project.
- NYSDEC Wetland A-35 – This is a Class 2 wetland that is crossed in two areas north of Crompond Road. The first wetland crossing occurs between MP 10.63 and MP 10.68 and the second is crossed between MP 10.79 and MP 10.81. These wetlands have been assigned the following identification numbers for the AIM Project: B13-SPLR-W23 and B13-SPLR-W25.

➢ Town of Yorktown
- NYSDEC Wetland A-10 – This is a Class 2 wetland that is crossed between MP 11.04 and MP 11.12 on the east side of Lexington Avenue. This wetland has been field delineated as B13-SPLR-W26 for the AIM Project.

➢ Town of Southeast
- NYSDEC Wetland BR-36 – This is a Class 2 wetland that is located along the western edge of the existing Southeast Compressor Station in Putnam County. The proposed work at the compressor station will not impact this wetland but construction workspace is located within the 100-foot Adjacent Area. This wetland has been field delineated as A13-SECS-W1 for the AIM Project.

Connecticut

The AIM Project facilities in Connecticut will cross a total of 84 wetland areas. These wetlands vary greatly between segments but generally consist of PEM/Palustrine Scrub-Shrub ("PSS") wetlands within the existing ROW and PFO wetlands outside the existing ROW.

The Southeast to MLV 19 Take-up & Relay pipeline segment crosses 23 wetland areas. Notable are three large wetland systems, one associated with the Sawmill River, one located at MP 0.17 in Danbury, and a third associated with the Still River at MP 1.74. The wetland system associated with the Still River will be crossed by utilizing the HDD method. The majority of the remaining small wetlands are located within heavy residential areas, most often represented in the ROW as PEM wetlands, with many of the wetlands dominated by the aggressive invasive grass species, *Phragmites australis*.

The Line-36A Loop Extension pipeline segment crosses 11 wetland areas, all associated with streams. This segment of the pipeline is located in an area of relatively flat topography. There is a PEM/PFO wetland system associated with Coles Brook between MP 0.03 and MP 0.14. A tributary to Dividend Brook is associated with a large wetland system dominated by *Phragmites australis* that contains several small intermittent streams and an open water area. The remaining wetlands are generally associated with Dividend Brook and often dominated by *Phragmites australis* and an assortment of other invasive and native shrubs and forbs in the ROW.

The E-1 System Lateral Take-up & Relay pipeline segment runs northwest to southeast in a generally parallel orientation with Susquetonscut Brook from MP 0.0 to MP 6.0. As a result of this alignment, there are numerous wetland crossings along this stretch that are associated with minor tributaries of Susquetonscut Brook. Outside the maintained ROW, the wetland cover type is primarily PFO with pockets of PSS, and the floodplain of the Susquentonscut Brook in this area is generally PEM. On ROW wetlands are primarily classified as PEM/PSS. South of MP 6.0, the wetlands crossed by the pipeline are associated with small intermittent and ephemeral streams and drainages, the largest wetlands being located at MP 7.3

and between MP 8.7 and 8.9. These wetlands were classified as PEM wetlands within the ROW and most often classified as PFO wetlands outside the ROW.

The E-1 System Lateral Loop pipeline segment crosses six wetland areas consisting of one large wetland system and three smaller wetland systems along the maintained pipeline ROW. The largest wetland system is crossed between MP 0.31 and MP 0.49 and is predominantly a PFO wetland with a minor stream.

Rhode Island

There are no wetland impacts in Rhode Island.

Massachusetts

There are no wetland impacts in Massachusetts.

3.1.2 Aboveground Facilities

As proposed, the aboveground facilities will not impact wetlands.

3.2 Waterbodies within the Project Area

A total of 102 surface waterbody crossings will occur during construction of AIM Project pipeline facilities. These include 36 perennial stream crossings, 62 intermittent stream crossings, three ephemeral stream crossings and one ponded waterbody crossing. Of these 102 waterbody crossings, 85 are minor crossings (less than 10 feet wide), 16 are intermediate crossings (10 to 100 feet wide), and one is a major crossing, the Hudson River (greater than 100 feet wide). Two of the 102 waterbodies are classified as estuarine waterbodies at the pipeline crossing while the remaining 100 are freshwater waterbodies.

In accordance with the FERC's Waterbody Construction and Mitigation Procedures ("FERC Procedures"), all waterbody crossings will be completed within 24 to 48 hours. Stream bed and bank contours will be restored in accordance with the FERC Procedures and waterbody banks will be stabilized as soon as possible after construction activities have been completed to prevent sloughing. Stream functions should be quickly restored following restoration activities.

3.3 Wetland Impacts and Mitigation

Construction of the AIM Project will result in temporary impacts to 52.5 acres of wetlands. Of this amount, 23.9 acres will be impacted by the New York pipeline facilities and 28.6 acres will be impacted by the Connecticut pipeline facilities. Impacts to wetlands associated with the Hudson River in New York and the Still River in Connecticut will be avoided as Algonquin intends to cross these areas utilizing the HDD method. Algonquin is also evaluating the feasibility of performing an HDD crossing of the Susquetonscut Brook in Franklin, CT (the technical feasibility is yet to be determined. As a result, the impacts discussed in this Plan assume an HDD will not be used). No wetlands will be affected in Rhode Island or Massachusetts and based on current design no wetlands will be affected during construction at existing and proposed aboveground facilities.

In Connecticut and New York, construction of the proposed pipeline segments will result in temporary impacts to 35.5 acres of emergent and scrub-shrub wetlands and 17.0 acres of forested wetlands. Approximately 2.4 acres of forested wetland will be permanently converted to non-forested cover types and maintained by means of mechanical cutting and mowing as part of pipeline operation and maintenance.

The remaining 14.6 acres of forested wetland will be restored or otherwise allowed to revert to a forested state following construction and restoration of the ROW as further discussed below.

3.3.1 Onsite Mitigation and Restoration Measures

Construction and mitigation activities in wetlands will be conducted in accordance with the procedures and best management practices ("BMPs") in the AIM Project Erosion and Sediment Control Plan ("E&SCP") and the conditions of related permits. The AIM Project E&SCP was developed using the FERC's Upland Erosion Control, Revegetation, and Maintenance Plan and Wetland and Waterbody Construction and Mitigation Procedures. Also reflected in the AIM Project E&SCP is Algonquin's significant experience and practical knowledge of pipeline construction and effective environmental protection measures. Lessons and insights gained from past construction projects have been incorporated into the AIM Project E&SCP. Recommended practices include, wherever practical:

- A reduction of construction corridor widths where possible;
- A 50-foot setback for additional temporary workspace for wetlands;
- Minimization of riparian clearing to the extent practicable while ensuring safe construction conditions;
- Expedited construction in and around wetlands;
- Confinement of stump removal to the trench-line to minimize soil disturbance (unless safety or access considerations require stump removal elsewhere);
- Return of wetland bottoms and drainage patterns to their original configurations and contours to the extent practicable;
- Permanent stabilization of upland areas near wetlands as soon as practicable after trench backfilling to reduce sediment run-off;
- Segregation of topsoil in unsaturated wetlands to preserve the native seed source (which will facilitate re-growth of herbaceous vegetation once pipeline installation is complete);
- Utilization of recommended seed mixes as specified by relevant land management agencies;
- Periodic inspection of the construction corridor during and after construction;
- Post-construction wetland monitoring to evaluate the progress of wetland revegetation; and
- Documentation of invasive species prior to construction and post-construction monitoring to compare pre- and post-construction occurrences.

In accordance with the AIM Project E&SCP, Algonquin will conduct post-construction maintenance and monitoring of the ROW in affected wetlands to assess the success of restoration and revegetation. Monitoring efforts will include documenting occurrences of exotic invasive species to compare to pre-construction conditions.

To assist with these periodic monitoring and surveillance efforts, and to comply with the U.S. Department of Transportation Safety Standards (49 CFR Part 192), a 30-foot corridor centered on the pipeline will routinely be cleared of woody growth greater than 15 feet in height, with a 10-foot strip centered over the pipeline being maintained in an herbaceous state. Because of this vegetation maintenance restriction within wetlands, 40 feet of Algonquin's 50-foot wide permanent ROW easement within wetlands will be allowed to revert to PSS and up to 20 feet will be allowed to periodically return to a PSS/PFO state.

3.3.2 Compensatory Mitigation

Federal

The USACE will usually require compensatory mitigation (e.g., purchase of mitigation credits, payment of in-lieu fee, development of a site-specific mitigation plan) for loss of "waters of the U.S." greater than 0.10 acre. As previously noted, no permanent loss of "waters of the U.S." will occur as a result of the AIM Project. During pipeline trenching operations, fill placement (side-cast material) will be placed back in the pipeline trench. The USACE considers this permanent fill placement even though wetland side-cast material is being replaced in the same trench where it was excavated. The wetland impacts resulting from the fill placement are temporary since the wetland will continue to function as a wetland.

PEM wetlands impacted during construction will be restored in accordance with the FERC Procedures. These areas should quickly recover following construction. Compensatory mitigation for temporary effects to PEM wetlands is not proposed.

PSS wetlands impacted during construction will be restored in accordance with the FERC Procedures. Although the herbaceous understory within these areas should quickly recover following construction, there may be a temporal lag before the sub-canopy reaches maturity. Compensatory mitigation for temporary effects to PSS wetlands is not proposed.

PFO wetland areas not within the maintained permanent ROW impacted during construction will also be restored in accordance with the FERC Procedures. Although these areas will remain in a wetland state, there is a temporal time lag associated with these areas regaining their wetland canopy function. Similarly, forested wetland areas that are located within the proposed new permanent ROW areas will remain in a wetland state but will permanently lose their forested canopy.

Algonquin proposes to provide mitigation for the PFO wetland areas that will be temporarily and permanently affected (through conversion to PEM) as a result of the Project. The USACE New England District will accept payment to an in-lieu fee program[4] for PFO wetland impacts in Connecticut. A permit applicant may make a payment to an in-lieu fee program that will conduct wetland, stream or other aquatic resource restoration, creation, enhancement, or preservation activities. In-lieu fee programs are generally administered by government agencies or non-profit organizations that have established an agreement with the regulatory agencies to use in-lieu fee payments collected from permit applicants. On August 21, 2013, the USACE established the final executed instrument for the CT ILF Program. The National Audubon Society is the sponsor.

The USACE New York District has agreed to on-site mitigation for temporary PFO wetland impacts (*e.g.* onsite restoration to include replanting workspace, controlling invasive species and monitoring). However, the USACE New York District will require off-site mitigation for permanent impacts to forested wetlands from the establishment of new maintained ROW.

The state-specific mitigation plans, where applicable, are described below.

Connecticut

The CTDEEP has agreed to accept the In-Lieu payment proposed under the USACE requirements. Algonquin continues to coordinate with the USACE and CTDEEP to finalize the payment requirements to

4 Details on the use of the in-lieu fee program are available at http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/final_mitig_rule.pdf.

the In-Lieu Fee Program. Algonquin has provided the agencies with all the requested Project-related information to establish an appropriate In-Lieu fee amount.

New York

The mitigation plan for New York Facilities of the Project is included as Appendix A.

Massachusetts

There are no wetland impacts associated with proposed Massachusetts Project facilities and, therefore, no compensatory mitigation is proposed in Massachusetts.

Rhode Island

There are no wetland impacts associated with proposed Rhode Island Project facilities and, therefore, no compensatory mitigation is proposed in Rhode Island.

4.0 REFERENCES

Environmental Laboratory. (1987). "Corps of Engineers wetlands delineation manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS., NTIS No. AD A176 912.

Spectra Energy Partners

Attachment A

Proposed Mitigation Plan for AIM Project Facilities in New York

Spectra Energy Partners

ALGONQUIN INCREMENTAL MARKET PROJECT

Appendix A

Mitigation Plan for Facilities in New York

and

Junior Lake Enhancement Project
Yorktown, New York

December 2014

Spectra Energy Partners

TABLE OF CONTENTS

TABLES

APPENDICES

ACRONYMS AND ABBREVIATIONS

Addendum	Addendum to the Preliminary Compensatory Mitigation Plan
AIM	Algonquin Incremental Market
Algonquin	Algonquin Gas Transmission, LLC
E&SCP	Erosion and Sediment Control Plan
FERC	Federal Energy Regulatory Commission
FERC Procedures	FERC's Wetland and Waterbody Construction and Mitigation Procedures
New York Plan	Final Mitigation Plan for AIM Project Facilities in New York
NYSDEC	New York State Department of Environmental Conservation
PEM	palustrine emergent
PFO	palustrine forested
Project	AIM Project
PSS	palustrine scrub-shrub
ROW	right-of-way
TWS	temporary work space
USACE	U.S. Army Corps of Engineers

1.0 INTRODUCTION

This Appendix A to the AIM Project Final Mitigation Plan, focuses on mitigation for those portions of work located in the State of New York. Algonquin submitted to the U.S. Army Corps of Engineers ("USACE") New York District an addendum to the Conceptual Mitigation Plan for AIM New York Facilities in July, 2014. The July Draft Plan included discussion of three potential alternative mitigation projects in New York. Following the release of public notice and review, the USACE New York District requested that Algonquin prepare a final mitigation plan with detailed information on one of the proposed mitigation options. To meet that request, Algonquin has prepared this Proposed Mitigation Plan for AIM Project Facilities in New York ("New York Plan"), describing the onsite wetland restoration and mitigation efforts and the offsite Junior Lake Enhancement Project in Yorktown, New York ("Junior Lake Project"). The Junior Lake Project is an offsite wetland, riparian and upland buffer enhancement project designed to create forested habitat in a wetland in a former manmade pond and reduce competition for native tree and shrub species through invasive plant species removal efforts. This New York Plan is organized based on the *Planning and Documentation* requirements described in 33 CFR, Part 332.4(c).

2.0 MITIGATION PLAN OBJECTIVES

The objective of this Plan is to offset impacts to wetlands affected by the AIM Project facilities located in New York. No permanent loss of wetland area will result from installation of the AIM Project pipeline facilities; however, approximately 23.9 acres of wetland will be temporarily impacted during project construction and 0.83 acre of wetland will be permanently cleared of trees. All wetland areas impacted by the Project will be permanently restored to wetland conditions. As further detailed in Table 1, there are three basic types of wetland impact from construction of the AIM Project. There will be temporary impacts to scrub/shrub and emergent wetlands within the existing and new right-of-way ("ROW") during construction (including mowing, temporary excavation, equipment matting, *etc.*). There will also be temporary impacts to forested wetlands outside of the permanent ROW from clearing and construction activities in temporary work spaces ("TWS"). Finally, there will be permanent conversion of a small area of forested wetland to other wetland types within new ROW. These areas will be restored as wetlands, but due to safety considerations and the requirement to maintain a primarily treeless corridor over the pipeline, portions of the wetlands will be maintained in a non-forested state.

TABLE 1

Summary of Wetland Impacts for AIM Project Facilities in New York

Impact Type	Acres of Impact	Proposed Mitigation
Permanent Wetland Fill	0	None
Temporary Impacts to PEM and PSS (from construction and TWS)	16.78	Onsite Restoration to pre-construction conditions
Temporary Impacts to PFO Wetlands (from clearing and construction for TWS)	7.12*	Onsite Restoration to pre-construction conditions (including tree planting, as necessary)
Permanent Conversion Impacts to PFO (from permanent for new ROW)	0.83	Offsite Mitigation: Junior Lake Enhancement Project

**this acreage includes the 0.83 acres of permanently converted PFO*

2.1 Compensatory Mitigation Sequencing

Mitigation sequencing includes the design steps taken during project planning and implementation that are meant to find the least environmentally damaging practicable alternative to achieve a project need. In planning for the AIM Project, Algonquin sought to avoid wetland impacts, however due to the area of work required to achieve the project needs, total avoidance of impacts was deemed unfeasible. Next, Algonquin employed efforts to minimize wetland impacts to the greatest extent, including collocating with existing facilities, minimizing workspace in wetlands and implementing best management practices for construction. Following efforts to avoid and minimize impacts, Algonquin developed this New York Plan to offset unavoidable wetland impacts. This sequencing is further described in the following sections.

2.1.1 Avoidance

Most of the AIM Project has been designed to fit within Algonquin's existing ROW, with a majority of the project consisting of removal of an existing pipe and replacement with a new pipe in the same location (known as "take-up and relay" or "T&R"). On the east and west sides of the AIM Project crossing of the Hudson River, collocation and L&R within existing corridors was not feasible and a new section of ROW is required. An analysis of alternatives for this route was performed based on achieving the project need while avoiding and minimizing impacts to wetlands and streams. Several alternatives were reviewed prior to selecting the proposed route. Due to residential, commercial and industrial development, feasible alternative corridors are limited in this area. The proposed section of new ROW avoids wetlands to the greatest extent practicable, however, some wetland impact and new PFO clearing was required to achieve connection to the existing ROW.

The Project in this area (west of the Hudson River) will result in 0.83 acres of permanent, forested wetland conversion; of that, 0.75 acres are relegated to one large wetland (B13-SPLR-W16), with the remaining 0.08 acres in sections of four other forested wetlands along the new ROW (further described in Section 4.1).

2.1.2 Minimization

To minimize impacts at wetland and waterbody crossings during construction, operation and maintenance, Algonquin will construct the Project in accordance with the best management practices outlined in its AIM Project Erosion and Sediment Control Plan ("E&SCP") and with all federal and state regulations and permit requirements. The AIM Project E&SCP was developed using the Federal Energy Regulatory Commission ("FERC") *Upland Erosion Control, Revegetation, and Maintenance Plan and Wetland and Waterbody Construction and Mitigation Procedures* and the *Wetland and Waterbody Construction and Mitigation Procedures* ("FERC Procedures"). Also reflected in the AIM Project E&SCP is Algonquin's significant experience and practical knowledge of pipeline construction and effective environmental protection measures. Lessons and insights gained from past construction projects have been incorporated into the AIM Project E&SCP.

Algonquin also sought to minimize workspace in and near wetlands to the extent practicable. Due to the environmental and safety measures standard in current pipeline installation methodologies (*e.g.*, adequate space to allow for topsoil segregation and storage, and to maintain safe working and travel distances from pipeline installation equipment,) additional TWS is needed along the existing and permanent ROW during construction.

For both in-ROW work space and TWS, implemented best management practices include, wherever practical:

- A reduction of construction corridor widths (*e.g.*, the typical construction ROW width is 100 feet but in wetlands it is generally reduced to 85 feet when practicable);
- A 50-foot setback for additional TWS for wetlands;
- Minimization of riparian clearing to the extent practicable while ensuring safe construction conditions;
- Expedited construction in and around wetlands;
- Confinement of stump removal to the trench-line to minimize soil disturbance (unless safety or access considerations require stump removal elsewhere);
- Return of wetland bottoms and drainage patterns to their original configurations and contours to the extent practicable;
- Permanent stabilization of upland areas near wetlands as soon as practicable after trench backfilling to reduce sediment run-off;
- Segregation of topsoil in unsaturated wetlands to preserve the native seed source (which will facilitate re-growth of herbaceous vegetation once pipeline installation is complete);
- Utilization of recommended seed mixes as specified by relevant land management agencies;
- Periodic inspection of the construction corridor during and after construction;
- Post-construction wetland monitoring to evaluate the progress of wetland revegetation; and
- Documentation of invasive species prior to construction and post-construction monitoring to compare pre- and post-construction occurrences.

2.1.2.1 Design Modifications – Fall 2014

A fall 2014 redesign of the entry/exit point for the horizontal direction drill ("HDD") under the Hudson River allowed Algonquin to reduce temporary wetland impacts by 0.10 acre by avoiding a small PEM wetland on the west side of the river.

2.1.3 Compensatory Mitigation

There will be no permanent loss of wetland as a result of construction of the AIM Project Facilities in New York; however, there will be approximately 23.9 acres of wetland impact, the majority of which will be temporary in nature. The goal of the mitigation plan is to mitigate and off-set temporary and permanent impacts and alterations to wetland functions and values affected by the AIM Project. Compensatory mitigation will be accomplished through onsite mitigation and restoration and an offsite mitigation project, further described in Section 3.0.

3.0 MITIGATION SELECTION

3.1 Onsite Mitigation

3.1.1 Restoration within existing and permanent ROW

Within the permanent ROW, final restoration (including final grading) of PEM and PSS wetlands will be completed within 20 days after the trench is backfilled, weather and soil conditions permitting. In conjunction with backfilling and restoration of segregated topsoil, all construction debris will be removed from the ROW. The ROW will be seeded within six working days following final grading, weather and soil conditions permitting. Wetlands will be treated in one of two ways, they may be seeded with a quick-growing and inert cover crop (*e.g.*, winter rye [*Secale cereale],)* or they may be left uncovered to allow native seed stock in the restored topsoil to grow and proliferate. Any soil disturbance that occurs outside the permanent seeding season or any bare soil left unstabilized will be mulched in accordance with the AIM Project E&SCP. Additionally, Algonquin will conduct post-construction maintenance and monitoring of

the ROW in affected wetlands to assess the success of restoration and revegetation and to provide data for suggesting additional remediation efforts.

3.1.2 Restoration of PFO in Construction-affected TWS

Onsite restoration for temporarily converted PFO wetlands will include restoration within small areas of forested wetland located in TWS outside the permanent pipeline ROW. Restoration will include select re-planting efforts, as necessary, combined with invasive species control and post construction monitoring. The details of the replanting plan will be finalized following final restoration of these TWS areas in PFO wetlands. Plant species that readily resprout from stumpage (*e.g.,* red maple) will be allowed to grow in place. Where construction has removed stumps or where resprouting does not appear feasible or likely, a plan will be initiated to re-establish the PFO to a similar species composition and density as existed prior to construction, or, if difficult to ascertain, to a composition and density similar to adjacent, reference PFO wetlands. When planting, Algonquin will seek to install 1.5 times the pre-construction number of trees cleared from each wetland (rounded up to the nearest whole number).

3.2 Offsite Compensatory Mitigation

3.2.1 Mitigation Opportunities Search

The Department of Defense and Environmental Protection Agency Joint Compensatory Mitigation for Losses of Aquatic Resources; Final Rule (Fed. Reg. Vol. 73, No. 70, April 10, 2008) established this hierarchy of preferred wetland mitigation options for impacts to USACE-regulated wetlands:

1. Mitigation Banks
2. In-lieu-fee Programs
3. Permittee-responsible compensatory mitigation (developed using a watershed approach)
    a. On-site and/or in-kind permittee-responsible mitigation
    b. Off-site and/or out-of-kind permittee-responsible mitigation.

For smaller scale, secondary impacts such as this, mitigation banks or in-lieu-fee programs often provide the most logical choice for mitigation. These types of compensatory mitigation accept fees from applicants with smaller impacts and pool those assets to fund larger projects with higher ecological value. However, there are no established mitigation banks or in-lieu-fee programs currently in effect in southern New York State. Therefore, Algonquin began evaluating options for compensatory mitigation.

In 2013 and 2014, Algonquin met with the USACE New York District and the New York State Department of Environmental Conservation ("NYSDEC"). The USACE requested compensation for certain impacts, agreeing to on-site mitigation for temporary impacts but requesting off-site mitigation for permanent conversion of forested wetlands. The USACE suggested that off-site mitigation be "in-kind" (*i.e.*, of the same wetland type) and should be located in the same watershed as the impacts (Algonquin and USACE New York District meeting minutes, January 13, 2014). Thus, Algonquin is proposing on-site mitigation for temporary impacts and off-site compensation for permanent PFO conversion impacts.

During early Project discussions, the USACE suggested reaching out to New York municipalities along the Project route for assistance in finding suitable, nearby off-site compensation opportunities. The Town of Yorktown responded to Algonquin's outreach request by suggesting that Algonquin meet with the Yorktown Wetland Planner ("Wetland Planner"). Algonquin talked with the Wetland Planner and requested a listing of potential mitigation opportunities that met some of the following criteria: contains forested wetlands; contains degraded or impacted wetlands; offers opportunity for wetland restoration or enhancement; town-owned; and/or has been noted by the Wetland Planner as having important natural

resources or providing important wetland values. The Wetland Planner presented Algonquin with approximately seven possible properties in Yorktown. In July 2014, representatives from Algonquin met with the Wetland Planner and the Yorktown Town Supervisor and toured several sites. In August 2014, Algonquin prepared and submitted to the USACE the "*Addendum to the Conceptual Mitigation Plan: Compensatory Mitigation Plan for New York Facilities*". This plan contained preliminary details on three conceptual offsite mitigation options in the Town of Yorktown, New York (the potential projects were named Mill Pond, Sparkle Lake and Junior Lake[1]).

In August, and pursuant to the outline in the Addendum, Algonquin performed detailed site investigations of the three offsite mitigation options. Mill Pond is an approximately 7.9-acre parcel of land on a former manmade pond that drained several years ago when a dam failed during a storm event. The site offers opportunity for wetland, stream and upland buffer enhancements, but there is a significant population of invasive plants on the site (*e.g.* mile-a-minute vine [*Persicaria perfoliatum)*, mugwort (*Artemisia vulgaris*), purple loosestrife (*Lythrum salicaria)*, *Phragmites australis*, *etc.*] and the property has a complicated ownership history and status. Sparkle Lake is an approximately 3.3-acre, town-owned property below the dam of Sparkle Lake. The Sparkle Lake site offer an opportunity for forested wetland restoration/enhancement that would primarily be achieved through an intensive herbicide-driven Phragmites and multiflora rose (*Rosa multiflora)* control program, followed by planting and monitoring. The extent of the invasive species control necessary for this wetland (which sits within a residential setting) may be difficult to permit given the proximity to streams and homes, and the many vectors present for continued invasive species colonization. Junior Lake is an approximately 3.4-acre site with a manmade pond and wetlands, and a fringe of riparian trees and shrubs. The site is located within Memorial Park, a recreation park of the Town of Yorktown. Enhancement opportunities at the park include forested wetland enhancement in a wetland peninsula of the pond that is currently dominated by purple loosestrife. There are also opportunities for mixed forest and shrub wetland enhancement in some seasonally flooded, sediment-formed terrestrial wetland areas within the pond, and opportunity for enhancements of the riparian wetlands and upland buffers around the pond.

While seeking alternative off-site mitigation options in the region (primarily Westchester County, in the lower Hudson River watershed), Algonquin also reached out to representatives of agency and non-governmental organizations in the region. Algonquin's outreach included contacts with the Natural Resource Conservation Service ("NRCS"); Soil and Water Conservation Districts in Westchester, Rockland, Putnam, and Dutchess Counties; Ducks Unlimited; the Westchester Land Trust ("WLT"); the Rockland County Division of Environmental Resources; the Watershed Agricultural Council ("WAC"); and the Dutchess Land Conservancy to request assistance and suggestions for any known or potential forested wetland mitigation opportunities in or adjacent to Westchester County or the lower Hudson River watershed. Of these contacts, only the WLT and WAC could suggest a potentially suitable mitigation opportunities within their service area. WLT provided Algonquin representatives a tour of the Hunter Brook Preserve, an approximately 46-acre, primarily forested parcel of land in Yorktown, New York located west of and along Hunter Brook. WLT is working to restore trees to a stretch of the riparian floodplain and wetlands on the western bank of Hunter Brook, and are planning future projects designed to curb erosion concerns and invasive species control elsewhere on the property. While this option appears potentially suitable, the extent of the mitigation credit potential is currently unknown and WLT's immediate priorities for the site include work outside of forested wetland and riparian habitat restoration. WAC has been involved with a small replanting effort on the southwest corner of the riparian area of Junior Lake and is also as supporter of WLT's efforts at Hunter Brook Preserve. WAC works with landowners, municipalities and farmers on environmental education and water quality improvement projects within the watershed of the New York City drinking water supply watershed (including Westchester County). WAC is privy to some privately-owned riparian areas for which WAC would potentially welcome financial

[1] Known as "Junior Pond" in the addendum, Algonquin has since learned that the town refers to this as "Junior Lake".

support for riparian plantings and protection, but they are not aware of strictly forested wetland restoration or enhancement opportunities that could be used by outside entities for mitigation.

In recognition of its inherent ecological value, its proximity to the Project area, its location within the watershed of the Croton Lake Reservoir, its high likelihood of success, and its potential for forested wetland habitat enhancement and wetland buffer restoration, Algonquin proposes the Junior Lake site as the preferred site for off-site compensatory mitigation for the AIM Project facilities in New York. Details and an environmental baseline for the site are provided in Section 4.3.

4.0 BASELINE INFORMATION

4.1 Baseline Information: AIM New York Facilities

Within the existing confines of Algonquin's existing maintained permanent ROW easement in the AIM Project area in New York, the wetlands are primarily characterized as palustrine emergent ("PEM") wetlands generally dominated by the invasive grass *Phragmites australis.* There are also several pockets of palustrine scrub/shrub ("PSS") wetlands within and along the edges of the existing ROW, mostly dominated by speckled alder (*Alnus incana*), highbush blueberry (*Vaccinium corymbosum*), sweet pepperbush (*Clethra alnifolia*), spice bush (*Lindera benzoin*), northern arrowwood (*Viburnum recognitum*), southern arrowwood (*Viburnum dentatum*), and silky dogwood (*Cornus amomum)* and the invasive species discussed below. Outside of the maintained ROW, wetlands are generally characterized as palustrine forested ("PFO") wetlands, with common trees including red maple (*Acer rubrum)*, yellow birch (*Betula allegheniensis*), black birch (*Betula nigra*), green ash (*Fraxinus pennsylvanica*), slippery elm (*Ulmus rubra*), and American elm (*Ulmus americana*). All wetland and many upland areas along the Project routes through New York show signs of invasive species infestation both on and off the ROW. Within the wetlands needed to be permanently converted from forested cover types, notable invasive plants include common reed, Japanese stiltgrass (*Microstegium vimineum),* Asiatic bittersweet (*Celastrus orbiculatus),* and multiflora rose. Additional information on the baseline environmental condition of the AIM New York facilities is available in the attachments for the USACE/NY Joint Application for a Section 404/10 Permit, submitted to USACE in March, 2014.

4.1.1 AIM New York Facilities Wetland Impacts

4.1.1.1 Temporary Impacts to PEM and PSS Wetlands from Construction

Approximately 16.78 acres of temporary impact will occur in PEM and PSS wetlands from Project construction. These impacts include temporary disturbance to soil, hydrology, and vegetation. These impacts may result in temporary changes in current wetland functions and values of the impacted area; however, the physical and hydrologic composition of the impacted wetland areas will be restored following the completion of construction.

4.1.1.2 Temporary Impacts to PFO Wetlands from Construction and Clearing in TWS

Clearing of approximately 6.29 acres of PFO wetlands will be required for the establishment of TWS adjacent to the existing permanent ROW to facilitate construction of the new pipeline. TWS generally consists of areas disturbed parallel to and within the pipeline ROW that are not planned to be permanently maintained. TWS also includes small "bump-out areas" along the project ROW that are used for equipment staging on either side of difficult or dangerous construction areas where additional staging room is required (*e.g.,* steep slopes, roads, streams, wetlands, *etc.*). These bump out TWS will not be permanently maintained, they are also commonly referred to as additional temporary work space ("ATWS"). For the

most part, Algonquin has sited the TWS to avoid wetlands, however in some circumstances and locations, placement of the TWS in wetlands is unavoidable. In general, the impacts to wetlands from creation of TWS are minimal and temporary in nature. In many instances, conversion in wetlands due to TWS will include removal of one or a few trees from any individual PFO wetland. These minor, and discrete conversion impacts generally take place in a very small portion of the remaining PFO wetland outside of the ROW. During construction, unless grading is required for safety reasons, wetland vegetation will be cut off at ground level, leaving existing root systems and stumps intact. This methodology will promote stump sprouting and improve short- and long-term soil stabilization.

4.1.1.3 Permanent PFO Wetland Conversion for Creation of New ROW

No loss of wetland area will result from the AIM Project. The primary long-term impact to wetlands from the Project will be permanent conversion of 0.83 acre of PFO wetland to PSS and PEM wetland for new ROW. All of the permanent conversion wetland impacts occur in the Town of Cortlandt, Westchester County, New York, where new ROW is being acquired for the project. Of the 0.83 acres of PFO wetland conversion, 0.75 acres will occur within a single wetland: Wetland B13-SPLR-W16. The remaining 0.08 acres of forested wetland conversion will occur within Wetlands B13-SPLR-W50, B13-SPLR-W202, and B13-SPLR-W205. Three of these wetlands are located within the fenced portion of the Indian Point power production facility; the fourth wetland is located adjacent to electric transmission ROWs associated with a large electrical substation. These wetlands and their functions and values are further detailed in Table 2.

4.2 Baseline Information: Junior Lake Wetland Enhancement Site

4.2.1 Location

The Junior Lake Wetland Enhancement Site ("Junior Lake site") is located northwest of the corner of Halyan Road and Edgewater Street in the Town of Yorktown, Westchester County, New York. Maps of the site are included as Figures 1 and 2.

4.2.2 Watershed

The Junior Lake site is fed by a small stream channel that flows through the property and into Hallocks Mill Brook, north of Junior Lake. The watershed of Hallocks Mill Brook is approximately 7,200 acres, Hallocks Mill Brook drains into Muscoot River and then to the Croton Reservoir (EDC, 2007). The Croton Reservoir is a component of the public drinking water supply system for New York City (EDC 2007).

4.2.3 General Site Description

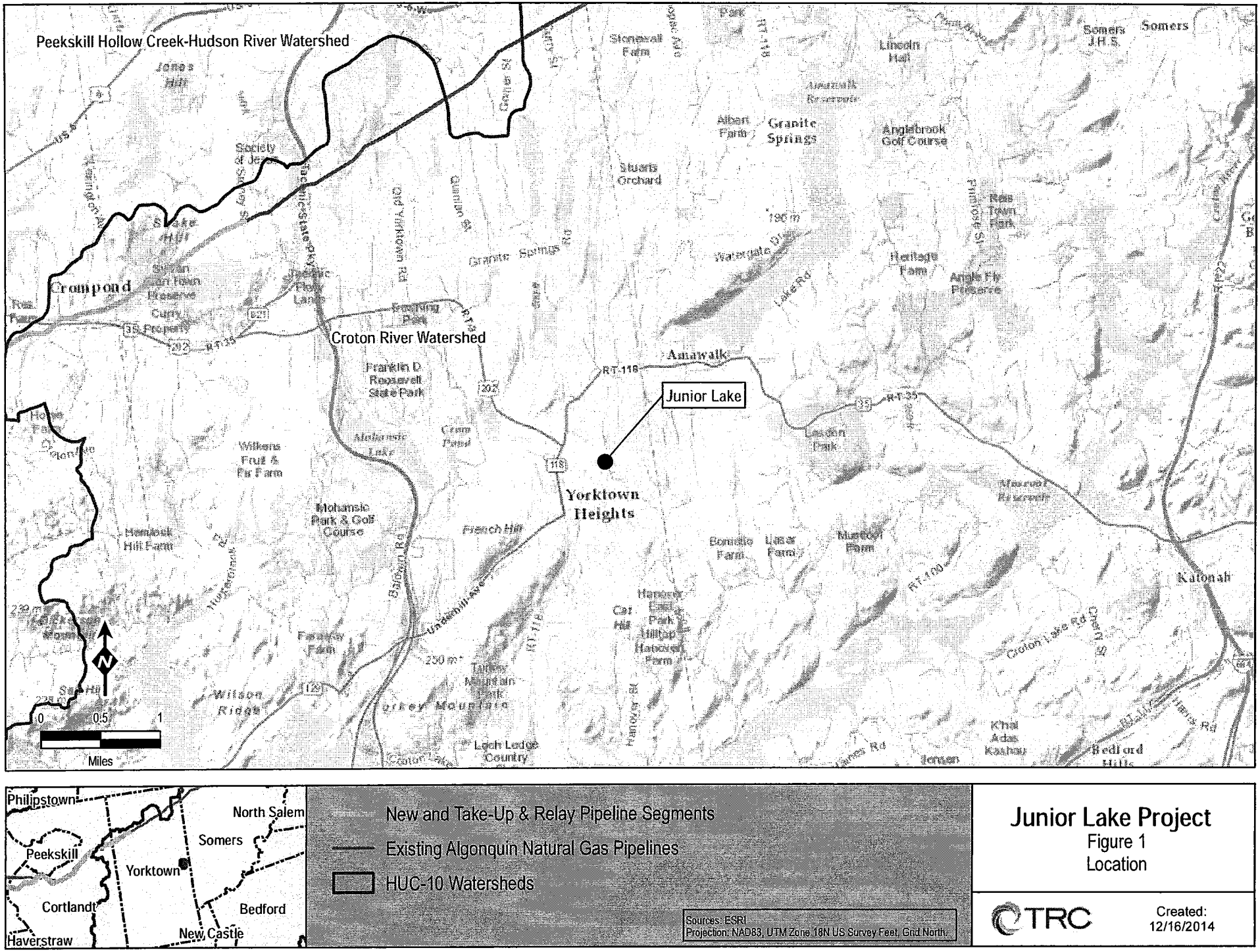
Junior Lake (actually a small pond) is located within Memorial Park, a town-owned parcel. East of the pond, the park includes a playground and a public swimming pool owned and operated by the town. The eastern and southern edges of the pond are buffered with shrubs and herbaceous wetland plants, with mature trees at the southern end. There is a narrow strip of trees on the west side of the pond, with a maintained, mowed lawn beyond the trees. There is an approximately 0.34-acre of area southwest of the pond where the Croton Trees-for-Tribs program sponsored a planting effort designed to restore some woody species to the riparian zone of the wetland. Many of the smaller planted shrubs and trees installed during that 2012 effort have succumbed to deer browse.

TABLE 2

AIM Summary of Permanent Forest Conversion Impacts

Wetland Name	Area Converted (Acres)	Wetland and Crossing Description	Principal Functions/Values*; those underlined may be lost or altered	Discussion of Functions/Values Lost or Altered by Conversion
B13-SPLR-W16	0.75	This is a large wetland that transitions from forested to scrub/shrub and emergent and occurs partially within existing, maintained electric transmission and pipeline ROWs. The new Project ROW crosses through forested portions of this wetland in three areas, generally, adjacent to an existing cleared electric transmission corridor. There are large pockets of common reed throughout this wetland.	Groundwater recharge/discharge; floodflow alteration; sediment/toxicant retention; nutrient removal; wildlife habitat; uniqueness/heritage	The wetland will continue to provide the functionality of wildlife habitat; however the composition of species that utilize the wetland for habitat (i.e., shelter and food) may change with the removal of overstory vegetation in the areas required to be permanently maintained. All trees, including red maple and chestnut oak, must be removed from the wetland within the new permanent corridor footprint over the pipeline. This function will not be significantly impacted because of the size of the overall wetland. There are several acres of forested wetland that extend beyond the proposed construction ROW and that will remain undisturbed.
B13-SPLR-W50	0.05	This partially forested and partially ponded wetland is located partially within a former sand/gravel extraction area, and hydrology is backed up and by an earthen berm at the southern end. There is a large infestation of common reed dominating parts of this wetland. The Project ROW will cross through the outer edge of a small portion of this larger wetland. This wetland resides within the fenced-in property of the Indian Point power production facility.	Groundwater recharge/discharge nutrient removal; sediment/shoreline stabilization	The ability of the wetland to provide these functions will not be impeded or reduced by the proposed conversion to scrub/shrub or emergent.
B13-SPLR-W202	0.03	This wetland contains poorly drained soils, a diffuse intermittent stream and a primarily forested canopy with little understory. The Project ROW will cross through the outer edge of a small portion of this larger wetland. This wetland resides within the fenced-in property of the Indian Point power production facility.	No identified principal functions or values. Secondarily may provide: floodflow alteration, sediment/toxicant retention and nutrient removal.	The ability of the wetland to provide or potentially provide these functions will not be impeded or reduced by the proposed conversion to scrub/shrub or emergent.
B13-SPLR-205	>0.01	Small, partially forested wetland adjacent to partially cleared roads and development within the fenced-in property of the Indian Point power production facility. The Project ROW will cross an edge of a small portion of this small wetland.	No identified principal functions or values. Secondarily may provide: sediment/toxicant retention and nutrient removal.	The ability of the wetland to provide or potentially provide these functions will not be impeded or reduced by the proposed conversion to scrub/shrub or emergent.

*Functional Assessment performed pursuant to The Highway Methodology Workbook Supplement: Wetland Functions and Values: A Descriptive Approach (USACE, 1999)



Junior Lake Project

Figure 1
Location

TRC

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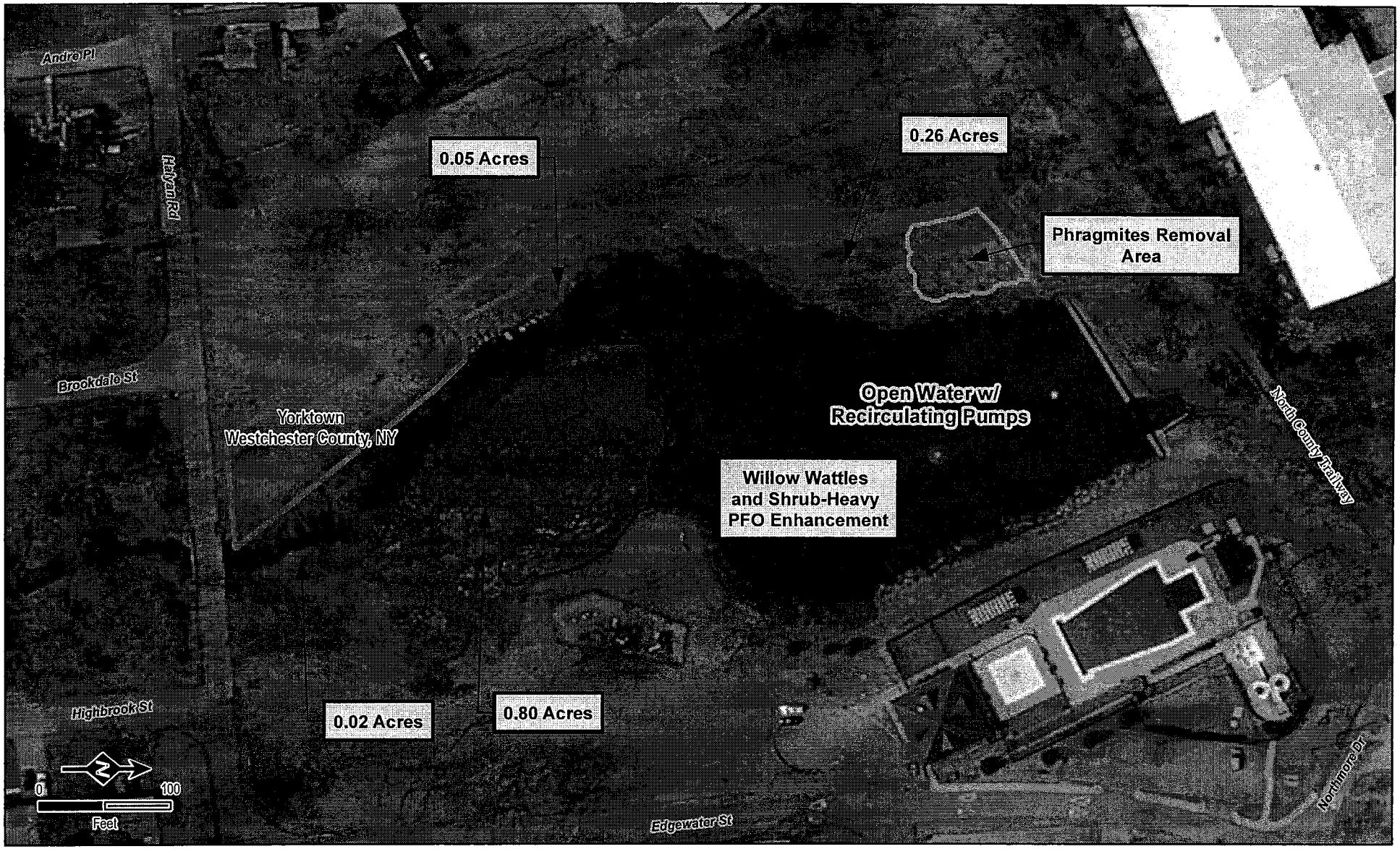
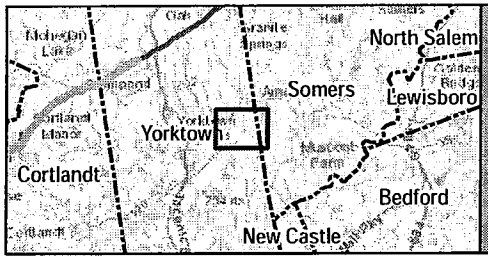




New and Take-Up & Relay Pipeline Segments

Existing Algonquin Natural Gas Pipelines

'Trees For Tribs' Program Riparian Planting Area (0.34 Acres)

PFO Enhancement Planting Areas With Pocket of Shrubs (1.13 Acres)

Invasive Species Removal on Riparian Fringe (0.98 Acres)

Sources: ESRI
Projection: NAD83, UTM Zone 18N US Survey Feet, Grid North

Junior Lake Project

Figure 2
Enchacement Plan

TRC

Created:
12/16/2014

Junior Lake was constructed in 1927 by a private resident who dammed the stream (Postcripts 2010). Pond hydrology comes from an unnamed, perennial stream channel (NYDEC Class B stream – 6 NYCRR part 935) that runs south to north and enters the park under the Halyan Road bridge. The stream originates in a forested wetland approximately 0.75 mile south of the Junior Lake site. After crossing under Halyan Road, the stream runs approximately 100 feet through a narrow, mixed forested and shrubby wetland before draining into the pond. The enhancement area is east of where the stream enters the pond. The dam is located on the north end of the pond. The land northwest of the pond is vegetated with a mix of trees and shrubs, and there is a patch of the invasive grass, common reed, to the west of the dam.

The extents of the pond were historically larger than they are today. The enhancement area has been slowly filling in by sediment released during housing and road construction over the last few decades and presumably through erosion of the stream channel itself due to increased stormwater runoff. Development and sedimentation has slowed in recent years (B. Barber, personal communication). The islands formed by the sediments have stabilized, but have become overrun with purple loosestrife. The purple loosestrife is forming a monoculture to the detriment of native species, wherein the shading the loosestrife provides is preventing the establishment of woody plants.

4.2.4 Dominant Vegetation

Dominant trees around the pond include red maple and willow species (*Salix sp.*). Within the proposed PFO and PSS enhancement area, some native sedges and forbs (*e.g. Carex stricta, C. cyperinus, Alisma triviale, Solidago spp.,* and *Polygonum spp.)* comingle with the dominant, invasive purple loosestrife. Along the frequently ponded portions of the enhancement site, black, pussy and goat willow (*S. nigra, S. bicolor* and *S. caprea*) grow in patches as well. Between the enhancement area and the playground, a hedgerow of shrubs provides a buffer. A line of cattails (*Typha latifolia*) creates a vegetated buffer along the eastern shore of the pond, between the pond and the public pool.

4.2.5 Invasive Plant Species

As noted, the enhancement area is dominated by purple loosestrife. There are also several large multi-flowered rose bushes mixed in with native shrubs and broadleaved cattails along portions of the pond edge. Northwest of the pond is vegetated with a mix of trees and shrubs, and there is a patch of the invasive grass Phragmites, west of the dam. There are also some examples of Asiatic bittersweet growing on the western side of the pond and intermingled sporadically throughout the riparian fringe habitat.

4.2.6 Current Functions and Values

Functions and values were assessed pursuant to USACE (1999); a copy of the functional assessment checklist and descriptors of the indicators is included in Attachment 1. The principal functions of the enhancement area and adjacent pond at Junior Lake are fish and shellfish habitat, wildlife habitat and uniqueness/heritage (due to proximity to public park and schools). Wildlife habitat is limited within the wetland due to lack of structural diversity and food sources, thus adding berry and nut-producing tree and shrubs in this enhancement area will increase the wetlands ability to provide wildlife habitat. The fish and shellfish functionality of the site will be improved as well, due to increased shading and thermal regulation from the trees, and due to the additional filtering capabilities provided by the planted species. The uniqueness/heritage value of the park will remain unchanged, however the introduction of visually pleasing shrubs such as red osier dogwood may enhance the aesthetic appeal of the enhancement area.

4.2.7 Photographs

(all photographs taken between July and October, 2014)

Panoramic view facing south/southwest across PSS/PFO enhancment area from southern edge of pond.

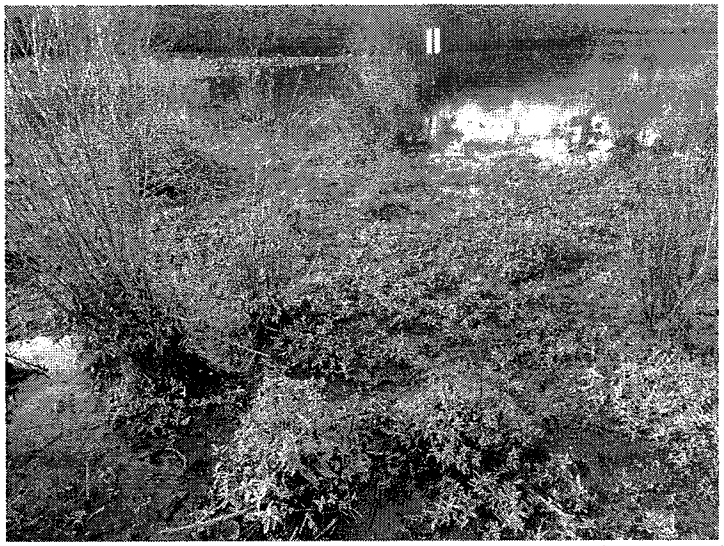
Facing south across PFO planting area into hummocks of purple loosestrife.

Facing southeast across PSS/PFO enhancement area past the southern end of the pond.

Facing southeast toward purple loosestrife-dominated area of PSS/PFO enahncement site.

Facing northeast across the pond from western shore.

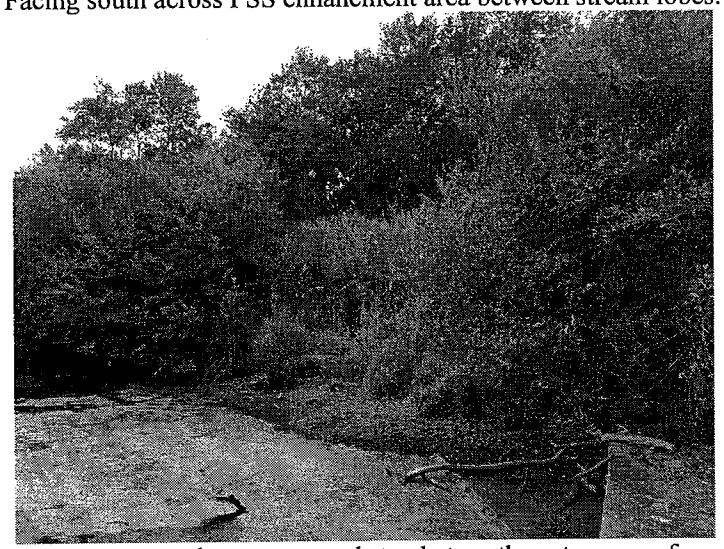
Facing northwest across PSS enhancement area near edge of pond.



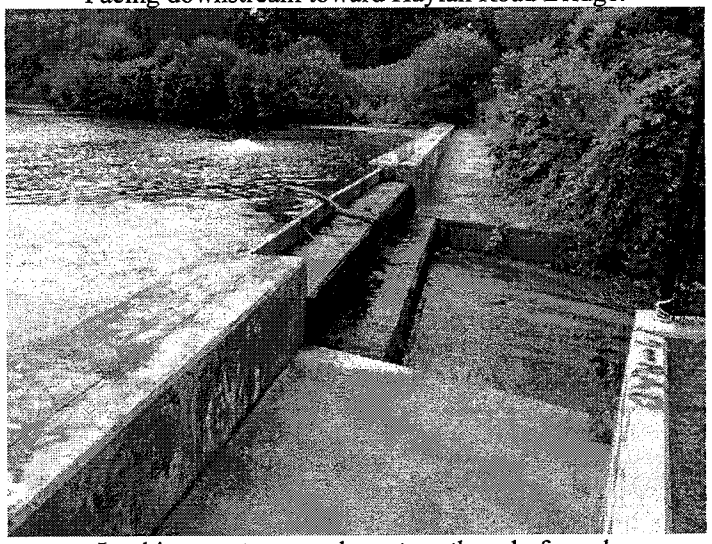
Facing northwest across PSS enhancement area near edge of pond.

Facing south across PSS enhancment area between stream lobes.

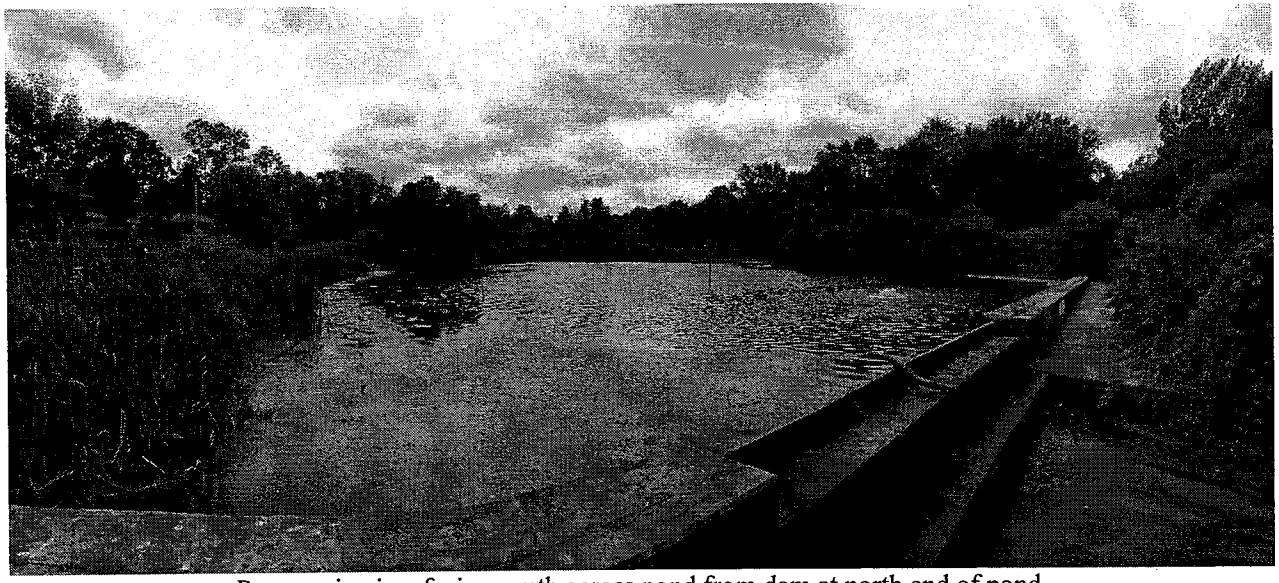
Facing downstream toward Haylan Road Bridge.



Facing west toward common reed stand at northwest corner of pond.



Looking west across dam at north end of pond.



Panoramic view facing south across pond from dam at north end of pond.

5.0 DETERMINATION OF CREDITS

Temporarily impacted wetlands will be restored to their pre-construction functionality and there will be no permanent loss or alteration of wetland functions or values compared with pre-construction conditions. Onsite restoration provides 1:1 compensatory mitigation for temporary impacts associated with the project.

There will be approximately 0.83 acres of unavoidable, permanent change in wetland functions and values due to permanent conversion of PFO wetlands to PSS and PEM wetland types. The primary functionality altered will be wildlife habitat, due to removal of overstory vegetation along certain portions of the new ROW. The proposed compensatory mitigation for these alterations is via wetland and buffer enhancements at Junior Lake, which includes planting effort to establish trees and shrubs in currently herbaceous invasive species-dominated wetland area. Planting and invasive species control at the park will enhance the wildlife habitat of the park by providing stratigraphic, nesting and food source diversity.

TABLE 3

Wetland Mitigation Credits

Offsite Mitigation Activity Type	Acres	Mitigation Ratio	Mitigation Acre-Credits Provided	Mitigation Acre- Credits Required for PFO Conversion Impacts
PFO Enhancement [a]	1.08	1.5:1	0.72	-
PFO Riparian Supplemental Planting	0.34	3:1	0.11	-
Riparian PFO/PSS Buffer Enhancement [b]	0.97	5:1	0.19	-
		Total	**1.02**	0.83

[a] removal of invasive plants and installation of trees and shrubs
[b] invasive species control

6.0 MITIGATION WORK PLAN

6.1 Onsite Restoration: Temporary Impacts to PEM and PSS

Following construction, segregated topsoil, subsoil, site contours, and surface hydrologic patterns will be replaced to pre-construction conditions, thereby promoting the re-establishment of hydrophytic vegetation. Construction may result in some temporary short-term changes in current wetland functions and values of the impacted area; however, PEM and PSS wetlands impacted during construction will be restored quickly after initial impacts (*i.e.* within 20 days after the trench is backfilled where weather permits) and allowed to recover following construction. These restoration measures, in combination with the mitigation measures described elsewhere in the mitigation plan and in permit application documents previously submitted, will provide full, *in situ* replacement of any temporary impacts to wetland functions and values.

6.2 Onsite Restoration: Temporary Impacts to PFO

Onsite restoration for temporarily impacted PFO wetlands will include restoration of approximately 6.29 acres distributed amongst several wetlands where they are located in TWS outside the permanent pipeline ROW. Algonquin is proposing to restore these impacted PFO wetlands to pre-construction, forested conditions of similar species composition. Thus, the functions and values of the cleared PFO wetlands will be fully restored in place following construction. Assessing the overall impact from these minor clearing

impacts will require assessing as-built conditions, in order to fully ascertain the area and number of mature trees removed from each wetland area.

The site replanting plan will be finalized following final restoration of these TWS areas in PFO wetlands. Plant species that readily resprout from stumpage (*e.g.,* red maple) will be allowed to grow in place. Where construction has removed stumps or where resprouting does not appear feasible or likely, a plan will be initiated to re-establish the PFO wetland to a similar species composition and density as existed prior to construction, or, if difficult to ascertain, to a composition and density similar to adjacent, reference PFO wetlands.

6.2.1 As-Built Planning

The quantity of plants restored in the temporarily cleared PFO wetlands will be determined based upon comparison of pre- and post-construction conditions. Prior to clearing, trees within permitted TWS of each PFO wetland will be tallied. Information to be collected in the study will include percent aerial coverage by trees in the TWS; tree species present; number of each species present; and presence, type and extents of invasive species [*e.g. sparse (1-10% aerial cover), moderate (10-50%)* or *dominant (>50%)]*. For this study, the term "trees" will include all living woody, non-vine vegetation over six inches in diameter-at-breast height (approximately 4.5 feet above ground level). Invasive tree species (*e.g. Acer platanoides, Ailanthus altissima*) will be noted but not counted for replacement. Following clearing, the pre-construction data will be compared with post-construction conditions to determine how many trees were actually cleared from each wetland. Only trees that are cut off at the stump will be counted and restored (*i.e.* limbed or trimmed trees will not be included). The difference between pre- and post-construction tree data will provide the basis for post-construction restoration work, including planting specifications (*i.e.,* species, number of plants, *etc.*) and invasive species control.

6.2.2 Planting Guidelines

When replanting is deemed necessary based on the pre- and post-construction assessment, the following guidelines will be followed by the landscaping contractor:

- Native, locally-sourced plant materials will be used.
- All trees will be potted nursery stock, at least 24-inches tall.
- Each planted tree will be surrounded with a clean, organic mulch layer (at least four inches thick) or commercially available, slowly biodegradable weed suppression material with a radius of at least four-feet centered on the plant.
- Rodent and deer guards will be placed around each tree, to a height of at least 12 inches above the ground.

6.2.3 Invasive Species Control and Management

The mitigation area invasive species plan will follow the guidance of the AIM Project Invasive Control Plan (Appendix G of the USACE/NY Joint Application Form 09/10 for a Section 404/10 Permit, submitted to USACE in March, 2014). For the purposes of onsite restoration of temporarily cleared forested wetlands, the goal of invasive species control will be to prevent target invasive species from climbing, choking, girdling, crowding, or otherwise negatively affecting the success of planted and resprouting trees in the restoration areas.

6.3 Offsite Mitigation Workplan

6.3.1 Invasive Species Management

Purple loosestrife in the enhancement area: The Junior Lake enhancement area currently has a robust population of purple loosestrife that is dominant throughout most of the area to be planted. Mature clumps of loosestrife plants are growing on hummocks of presumed tussock sedge (*Carex stricta)* and loosestrife seedlings are present throughout the flooded pond fridge area. Due to the proximity of the pond and frequent flooding, application of herbicide is not being proposed at this time. The soil is soft enough and the site is small enough for hand removal to be an effective initial control solution for purple loosestrife. Initial control of the purple loosestrife will allow the planted woody species growth time to shade out and control the spread of the invasive plants. Prior to planting trees and shrubs, purple loosestrife will be hand-cut or pulled, bagged and removed from the site. Care will be taken to remove the entire root mass of the plants in order to discourage resprouting. During site monitoring, to take place in late summer prior to the loosestrife going to seed, flower heads will be removed from any remaining purple loosestrife plant on the site.

Woody invasive plant species around the pond: Mixed in with the thick bordering vegetation around the pond is pockets and individual examples of woody invasive species. Most notably present are multi-flowered rose and Asiatic bittersweet. During the initial planting effort then during the once per year annual monitoring period these species will be hand cut at ground level and removed from the site.

Patch of common reed in the wetland on the northwest corner of pond: This stand will be cut and mulched in place in spring and again in fall; the few native shrubs that are growing within the patch will be avoided and left in place. Native tree species will be planted within the former patch. Trees will be surrounded with burlap covered by mulch and the understory will be thickly planted with quick growing grasses. The common reed will be cut back from the trees at least two times per year.

Broadleaved cattails between the pool and the pond: The cattails are relegated to small stand along eastern edge of the pond. They are not a dominant feature and provide habitat for red-winged blackbirds and refugia for other species of birds, aquatic insects, mammals, and amphibians. No control or eradication plans are being proposed for this small stand.

6.3.2 Planting Specifications

Native plants have been chosen that tolerate a range of hydrologic conditions and exposure that provide wildlife food sources, that are not preferred deer browse, and that tend to grow quickly. Table 4 provides additional detail on species, quantities, approximate location, and stocktype. For stocking and planting the woody species, the following specifications will be adhered to:

- Native plant species will be use;
- All trees will be potted nursery stock, at least 48-inches tall;
- Shrubs will consist of a mix of potted nursery stock and live stakes; and
- Plants will be installed as directed by Algonquin's wetland specialist who will flag out planting locations and be on hand during installation to oversee installation and make recommendations for placement and adjustments.

TABLE 4

Target[a] Wetland Plant Specifications for PFO and PFO/PSS Enhancement Area

Common Name	Scientific Name	Plant type	Minimum Height at Planting (inches)	Number
Trees:				
red maple	*Acer rubrum*	Potted/burlap	48	75
black willow	*Salix nigra*	Potted/burlap	48	75
yellow birch	*Betula allegheniensis*	Potted/burlap	48	50
silver maple	*Acer saccharinum*	Potted/burlap	48	50
black gum	*Nyssa sylvatica*	Potted/burlap	48	50
balsam fir	*Abies balsamea*	Potted/burlap	48	25
sycamore	*Platanus occidentalis*	Potted/burlap	48	25
			Total	350
Shrubs:				
buttonbush	*Cephalanthus occidentalis*	Potted/burlap	24	25
pussy willow	*Salix discolor*	Live stake or Bare Root	24	100
red osier dogwood	*Cornus sericea*	Live stake or Bare Root	24	100
willow wattles	*Salix sp.*	Wattles	NA	25
			Total	250 (not including wattles)

[a] *Plant species may vary depending on availability at the time of planting; native species similar growth patterns (e.g. swamp white oak in place of red maple) will be used if necessary; all changes will be reported in annual monitoring reports.*

6.3.3 Coarse Woody Debris

Due to the risk of flooding and dislodgement and the deleterious impacts that could have on the dam and plantings, no additional woody debris will be added to the site. However, rack lines indicate that the stream provides fairly consistent source of branches and organic debris, and this material is anticipated to be regularly deposited. Additionally, 25 bundled willow wattles will be staked into place around the site in the more flood prone areas of the enhancement site to help provide additional structural heterogeneity, provide some immediate sediment retention and provide opportunities for additional woody plant growth.

6.3.4 Buffers

The Yorktown Parks Commission maintains an approximately 10 foot, uncleared/unmowed buffer between the pond and the mowed areas of the park on the east side of the wetland and pond. Algonquin will continue to work with the Parks Commission to establish long-term protocols for setbacks and maintenance. A *Croton-Trees-for-Tribs* sponsored riparian planting area in a section of the upland on the southwest side of the pond is currently protected and unmowed, and the vegetated strip around the remainder of the pond will remain in place. The shrub layer maintained around the pond and enhancement area will provide both wildlife habitat and a visual buffer for the habitat.

6.3.5 Schedule

Dependent up on AIM Project initiation and seasonal timing (for planting), this New York Plan will be implemented during or immediately following Project construction. Monitoring will be begin during the first growing season after implementation.

7.0 PERFORMANCE STANDARDS

7.1 Onsite Mitigation

Success of the onsite mitigation efforts will be determined based on achieving a trend toward restoration of forested conditions in the temporarily cleared TWS areas in wetlands. This trend will be assessed based on survivorship of planted and stump-sprouted tree species in these areas and achievement of pre-construction tree stem density and/or percent aerial cover by trees. In calculating this assessment, all trees over three feet tall located within the cleared TWS in the wetland will be counted. Reporting requirements are discussed in Section 8.

7.2 Offsite Mitigation Site

Success of the offsite mitigation site will be calculated based on survivorship of the planted woody species, control of the invasive species and a trend toward a forested overstory in the PFO enhancement areas with an understory of shrubs in the PFO/PSS planting zones. These criteria will be assessed by completing stem counts and charting the percent aerial coverage of native woody species in the enhancement areas. The project success goal for the enhancement areas will be 75% aerial cover during the growing season by native woody species; with at least 50% survivorship of planted tree species.

8.0 MONITORING REQUIREMENTS

8.1 Monitoring Reports

Onsite and offsite mitigation will be described in a single, annual monitoring report. The monitoring procedures and reports will be completed by a field scientist experienced in wetlands, wildlife biology, invasive species control, horticulture, and/or wetland restoration. Mitigation monitoring reports will be submitted to the district engineer on or by December 31st of the year of the inspection. Monitoring reports will include the following elements:

- A restatement of the goals, objectives and performance standards for the compensation site plan.
- A narrative summary of the results and conclusions of the monitoring.
- Identification of any structural failures or external disturbances on the site.
- A description of management activities and corrective actions implemented during the past year.
- A summary of and full presentation of the data collected during the past year.
- An assessment of the presence and level of occurrence of invasive species.
- A vegetative cover map sketch (actual, not proposed) of the mitigation site.
- Photographs showing all representative areas of the mitigation site.
- An assessment of the degree to which performance standards are being met.
- Proposed corrective actions to attain performance standards.
- The first year monitoring report will also include:
    - As-built plans;
    - Description of problems encountered during site establishment and corrective actions; and

- Follow-up corrective actions and schedule for implementation.

8.2 Monitoring Schedule

8.2.1 Onsite Mitigation Monitoring

Onsite restored PFO wetlands will be monitored for the first four years following pipeline construction and ROW restoration, or until the success criteria are achieved (whichever comes first).

8.2.2 Offsite Mitigation Monitoring

The Junior Lake Enhancement area will be monitored for five years, starting during the first growing season after planting. The site will be monitored twice during the first year (early and late in the growing season) then once during subsequent years.

9.0 LONG-TERM MANAGEMENT PLAN

Algonquin will monitor the Junior Lake mitigation site for the first five years following implementation. The Yorktown Parks and Recreation department provides onsite and regular routine review of the project site during their normal park maintenance activities. They will be provided contact information for Algonquin's wetland mitigation management team and advised to contact the team to report any concerns with the enhancement area.

10.0 MAINTENANCE AND ADAPTIVE MANAGEMENT

Potential maintenance activities include plant replacement, pruning dead or broken branches, invasive species control, and herbivory control. Follow-up and corrective actions will be discussed and documented in each year's monitoring report. For example, if invasive species are not effectively being controlled through mechanical means, Algonquin will seek to permit alternate methods, including natural and/or chemical herbicide application. Additionally, if certain planted woody species are not performing as well as others, the poorly performing species may be replaced by a different species. For both onsite and offsite mitigation, replanting (as necessary) will begin in the third growing season after initial planting. The replanting effort will seek to achieve the project goals through installation of species determined to be successful through the initial seasons. All planted species adaptations and remediation (including number of plants installed) will be reported in the annual monitoring report of the year during which the work takes place.

11.0 OFFSITE MITIGATION SITE PROTECTION

The Junior Lake site is a designated parkland in the Town of Yorktown, see Figure 1. In New York State, the Public Trust Doctrine requires state legislative approval "when there is a substantial intrusion on parkland for non-park purposes....." Parkland in New York is inalienable under this public trust doctrine. Thus, the Junior Lake parcel already is inalienable parkland in perpetuity and cannot be converted to a non-park use without the consent of both the New York State Senate and Assembly. Algonquin would obtain an access agreement with the Yorktown Department of Parks & Recreation in order to plant the trees and carry out the other mitigation work described above. Algonquin will monitor the compensatory mitigation project for five years after completion of the work.

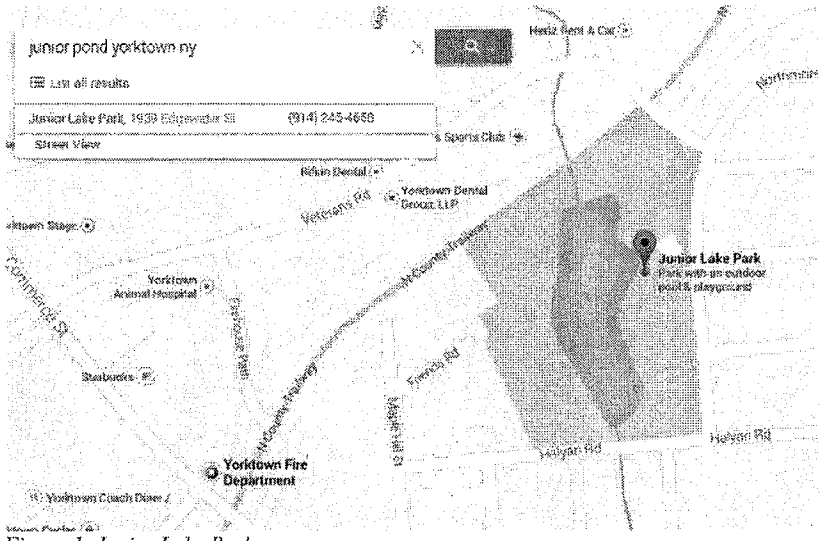


Figure 1. Junior Lake Park.

12.0 FINANCIAL ASSURANCES

The estimated cost for performing the compensatory mitigation activities described herein ranges from $200,000 to $250,000. Spectra's current market capitalization is currently estimated at over $22 billion. These figures demonstrate that Spectra is more than financially capable of undertaking the mitigation activities, and thus provide a high level of confidence that the compensatory mitigation project will be successfully completed in accordance with applicable performance standards.

13.0 REFERENCES

EDC (Environmental Design Consulting). 2007. Freshwater Wetland Functional Assessment Study for the Town of Yorktown New York. 41 pp.

Postscripts. May 12, 2012. *Of Ponds and Lakes: A Catalog of Water Resources.* Available online: http://notorc.blogspot.com/2010/05/of-ponds-and-lakes-catalog-of-water.html; Accessed November, 2014.

USACE. 1999. They Highway Methodology Workbook Supplement: *Wetland Functions and Values, A Descriptive Approach.* NAEEP-360-1-30a.

Spectra Energy Partners

ATTACHMENT 1

Functions and Values Checklist – Junior Lake Enhancement Site

Wetland Description: Junior Lake pond and associated riparian fringe; including wetland peninsulas apparently created as a buildup of sediments over preceding half century of development near and adjacent to the property. Includes forested fringe on west side of pond, shrub and emergent wetland on east side, and partially forested/shrub habitats on south side of area. Hydrology by unnamed brook, dammed.	File number: 140092
	Wetland identifier: Junior Lake
	Preparer(s): REJ
	Date: July 2014

13.1.1.1 Function/Value	**Capability? Y**	**N**	**Summary (Rational Reference #)**	**Principal Yes/No**
Groundwater Recharge/Discharge	X		1, 2, 7, 15	
Floodwater Alteration	X		2, 4, 5, 7, 9, 11, 13	
Fish and Shellfish Habitat	X		1, 3, 4, 10, 12, 14, 17	**X**
Sediment/Toxicant Retention	X		1, 3, 5, 6, 8, 10, 12	
Nutrient Removal	X		2, 5, 9, 14	
Production Export	X		1, 2, 4, 5, 6, 7, 12	
Sediment/Shoreline Stabilization	X		9	
Wildlife Habitat	X		9, 12, 16, 17, 20, 21,	**X**
Recreation	X		1, 8, 10, 11, 12	
Education/Scientific Value	X		3, 8, 9, 13	
Uniqueness/Heritage	X		1, 3, 8, 9, 12, 17, 19, 21, 22, 23	**X**
Visual Quality/Aesthetics	X		2, 6, 7, 9	
ES Endangered Species Habitat		X	NA	
Other				

Wildlife Observations: great blue heron; Canada geese; American goldfinch; aquatic snails; painted turtle; snapping turtle; small unidentified fish; green frogs; northern chickadee; downy woodpecker; mallards

Wetland Function and Value Code Descriptions

GROUNDWATER RECHARGE/DISCHARGE

This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. It refers to the fundamental interaction between wetlands and aquifers, regardless of the size or importance of either.

1. Public or private wells occur downstream of the wetland.
2. Potential exists for public or private wells downstream of the wetland.
3. Wetland is underlain by stratified drift.
4. Gravel or sandy soils present in or adjacent to the wetland.
5. Fragipan does not occur in the wetland.
6. Fragipan, impervious soils, or bedrock does occur in wetland.
7. Wetland is associated with a perennial or intermittent watercourse.
8. Signs of groundwater recharge are present of piezometer data demonstrates recharge.
9. Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet.
10. Wetland contains only an outlet, no inlet.
11. Groundwater quality of stratified drift aquifer within or downstream of wetland meets drinking water standards.
12. Quality of water associated with the wetland is high.
13. Signs of groundwater discharge are present (e.g. springs).
14. Water temperature suggests it is a discharge site.
15. Wetland shows signs of variable water levels.
16. Piezometer data demonstrates discharge.
17. Other.

FLOODFLOW ALTERATION

This function considers the effectiveness of the wetland in reducing flood damage by water retention for prolonged periods following precipitation events and the gradual release of floodwaters. It adds to the stability of the wetland ecological system or its buffering characteristics and provides social or economic value relative to erosion and/or flood prone areas.

1. Area of the wetland is large relative to its watershed.
2. Wetland occurs in the upper portions of its watershed.
3. Effective flood storage is small or non-existent upslope of or above the wetland.
4. Wetland watershed contains a high percent of impervious surfaces.
5. Wetland contains hydric soils which are able to absorb and detain water.
6. Wetland exists in a relatively flat area that has flood storage potential.
7. Wetland has an intermittent outlet, ponded water, or signs are present of variable water level.
8. During flood events, this wetland can retain higher volumes of water than under normal or average rainfall conditions.
9. Wetland receives and retains overland or sheet flow runoff from surrounding uplands.
10. In the event of a large storm, this wetland may receive and detain excessive flood water from a nearby watercourse.
11. Valuable properties, structures, or resources are located in or near the floodplain downstream from the wetland.
12. The watershed has a history of economic loss due to flooding.
13. This wetland is associates with one or more watercourses.
14. The wetland watercourse is sinuous or diffuse.
15. This wetland outlet is constricted.
16. Channel flow velocity is affected by this wetland.
17. Land uses downstream are protected by this wetland.
18. This wetland contains a high density of vegetation.
19. Other

FISH AND SHELLFISH HABITAT (freshwater)

This function considers the effectiveness of seasonal or permanent watercourses associates with the wetland in question for fish and shellfish habitat.

1. Forest land dominant in the watershed above this wetland.
2. Abundance of cover objects present

STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE

3. Size of wetland is able to support large fish/shellfish populations.
4. Wetland is part of a larger, contiguous watercourse.
5. Wetland has sufficient size and depth in open water areas so as not to freeze solid and retain some open water during winter.

6. Stream width (bank to bank) is more than 50 feet.
7. Quality of the watercourse associates with the wetland is able to support healthy fish/shellfish populations.
8. Streamside vegetations provides shade for watercourse.
9. Spawning areas are present (submerged vegetation or gravel beds).
10. Food is available to fish/shellfish populations within this wetland.
11. Barrier(s) to anadromous fishes (such as dams, including beaver dams, waterfalls, road crossings) are absent from the stream reach associates with this wetland.
12. Evidence of fish is present.
13. Wetland is stocked with fish.
14. The watercourse is persistent.
15. Man-made streams are absent.
16. Water velocities are not too excessive for fish usage.
17. Defined stream channel is present.
18. Other

FISH AND SHELLFISH HABITAT (Marine)

This function considers the effectiveness of wetlands, embayments, tidal flats, vegetated shallows, and other environments in supporting marine resources such as fish, shellfish, marine mammals, and sea turtles.

1. Special aquatic sites (tidal marshes, mud flats, eelgrass beds) are present.
2. Suitable spawning habitat is present at the site or in the area.
3. Commercially or recreationally important species are present or suitable habitat exists.
4. The wetland/waterway supports prey for higher trophic level marine organisms.
5. The waterway provides migratory habitat for anadromous fish.
6. Essential fish habitat, as defined by the 1996 amendments to the Magnuson-Stevens Fishery & Conservation Act, is present.
7. Other.

SEDIMENT/TOXICANT/PATHOGEN RETENTION

This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants or pathogens in runoff water from surrounding uplands or upstream eroding wetland areas.

1. Potential sources of excess sediment are in the watershed above the wetland.
2. Potential or known sources of toxicants are in the watershed above the wetland.
3. Opportunity for sediment trapping by slow moving water or deepwater habitat are present in this wetland.
4. Fine grained mineral or organic soils are present.
5. Long duration water retention time is present in this wetland.
6. Public or private drinking water sources occur downstream.
7. The wetland edge is broad and intermittently aerobic.
8. The wetland is known to have existed for more than 50 years.
9. Drainage ditches have not been constructed in wetland.

STOP HERE IF THE WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.

10. Wetland is associated with an intermittent of perennial stream or a lake.
11. Channelized flows have visible velocity decreases in the wetland.
12. Effective floodwater storage in wetland is occurring. Areas of impounded open water are present.
13. No indicators of erosive forces are present. No high water velocities are present.
14. Diffuse water flows are present in the wetland.
15. Wetland has a high degree of water and vegetation interspersion.
16. Dense vegetation provides opportunity for sediment trapping and/or signs of sediment accumulations by dense vegetation is present.
17. Other.

NUTRIENT REMOVAL/ RETENTION/TRANSFORMATION

This function considers the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands and the ability of the wetland to process these nutrients into other forms or trophic levels. One aspect of this function is to prevent ill effects of nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers or estuaries.

1. Wetland is large relative to the size of its watershed.
2. Deep water or open water habitat exists
3. Overall potential for sediment trapping exists in the wetland.
4. Potential sources of excess nutrients are present in the watershed above the wetland.
5. Wetland saturated for most of the season. Ponded water is present in the wetland.

6. Deep organic/sediment deposits are present.
7. Slowly drained fine grained mineral or organic soils are present.
8. Dense vegetations is present.
9. Emergent vegetation and/or dense woody stems are dominant.
10. Opportunity for nutrient attenuation exists.
11. Vegetation diversity/abundance sufficient to utilize nutrients.

STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.

12. Water flow through this wetland is diffuse.
13. Water retention/detention time in this wetland is increased by constricted outlet or thick vegetation.
14. Water moves slowly through this wetland.
15. Other.

PRODUCTION EXPORT (Nutrient)

This function evaluates the effectiveness of the wetland to produce food or usable products for humans or other living organisms.

1. Wildlife food sources grow within this wetland.
2. Detritus development is present within this wetland.
3. Economically or commercially used products found in the wetland.
4. Evidence of wildlife use found within this wetland.
5. Higher trophic level consumers are utilizing this wetland.
6. Fish or shellfish develop or occur in this wetland.
7. High vegetation density is present.
8. Wetland exhibits high degree of plant community structure/species diversity.
9. High aquatic vegetative diversity/abundance is present.
10. Nutrients exported in wetland watercourses (permanent outlet present).
11. "Flushing" of relatively large amounts of organic plant material occurs from this wetland.
12. Wetland contains flowering plants that are used by nectar-gathering insects.
13. Indications of export are present.
14. High production levels occurring, however, no visible signs of export (assumes export is attenuated).
15. Other.

SEDIMENT/SHORELINE STABILIZATION

This function considers the effectiveness of a wetland to stabilize stream banks and shorelines against erosion.

1. Indications of erosion or siltation are present
2. Topographical gradient is present in wetland.
3. Potential sediment sources are present up-slope.
4. Potential sediment sources are present upstream.
5. No distinct shoreline or bank is evident between the water body and the wetland or upland.
6. A distinct step between the open waterbody or stream and the adjacent land exists (i.e. sharp bank) with dense roots throughout.
7. Wide wetland (>10') borders watercourse, lake, or pond.
8. High flow velocities in the wetland.
9. The watershed id of sufficient size to produce channelized flow.
10. Open water fetch is present.
11. Boating activity is present.
12. Dense vegetation is bordering watercourse, lake or pond.
13. High percentage of energy-absorbing emergents and/or shrubs border a watercourse, lake or pond.
14. Vegetation is comprised of large trees and shrubs that withstand major flood events or erosive incidents and stabilize the shoreline on a large scale (feet).
15. Vegetation is comprised of a dense resilient herbaceous layer that stabilizes sediments and the shoreline on a small scale (inches) during minor flood events or potentially erosive events.
16. Other.

WILDLIFE HABITAT

This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and/or migrating species must be considered. Species lists of observed and potential animals should be included in the wetland assessment report.

1. Wetland is not degraded by human activity.
2. Water quality of the watercourse, pond, or lake associates with this wetland meets or exceeds Class A or B standards.

3. Wetland is not fragmented by development.
4. Upland surrounding this wetland is undeveloped.
5. More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g. brushland, woodland, active farmland, or idle land) and at least 500 feet in width.
6. Wetland is contiguous with other wetland systems connected by a watercourse or lake.
7. Wildlife overland access to other wetlands is present
8. Wildlife food sources are within this wetland or are nearby.
9. Wetland exhibits a high degree of interspersion of vegetation classes and/or open water.
10. Two or more islands or inclusion of upland within the wetland are present.
11. Dominant wetland class includes deep or shallow marsh or wooded swamp.
12. More than three acres of shallow permanent open water (less than 6.6 feet deep), including streams in or adjacent to wetland, are present.
13. Density of the wetland vegetation is high.
14. Wetland exhibits a high degree of plant species diversity.
15. Wetland exhibits a high degree of diversity in plant community structure (e.g. tree/shrub/vine/grasses/mosses).
16. Plant/animal indicator species are present. (List species for project)
17. Animal signs observed (tracks, scats, nesting areas, etc.)
18. Seasonal uses vary for wildlife and wetland appears to support varied population diversity/abundance during different seasons.
19. Wetland contains or has potential to contain a high population of insects.
20. Wetland contains or has potential to contain large amphibian populations.
21. Wetland has a high avian utilization or its potential.
22. Indications of less disturbance-tolerant species are present.
23. Signs of wildlife habitat enhancement are present (birdhouses, nesting boxes, food sources, etc).
24. Other

RECREATION

This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals, or other resources that are intrinsic to the wetland. Non-consumptive opportunities do not consume or diminish the resources of the wetland.

1. Wetland is part of a recreation area, park, forest or refuge.
2. Fishing is available within or from the wetland.
3. Hunting is permitted in the wetland.
4. Hiking occurs or has potential to occur within the wetland.
5. Wetland is a valuable wildlife habitat.
6. The watercourse, pond, or lake associated with the wetland is unpolluted.
7. High visual/aesthetic quality of the potential recreation site.
8. Access to water is available at this potential recreation site for boating, canoeing, or fishing.
9. The watercourse associated with this wetland is wide and deep enough to accommodate canoeing and/or non-powered boating.
10. Off-road public parking available at the potential recreation site.
11. Accessibility and travel ease is present at this site.
12. The wetland is within a short drive or safe walk from highly populated public and private areas.
13. Other.

EDUCATIONAL/SCIENTIFIC VALUE

This value considers the suitability of the wetland as a site for an "outdoor classroom" or as a location for scientific study or research.

1. Wetland contains or is known to contain threatened, rare, or endangered species.
2. Little or no disturbance is occurring in this wetland.
3. Potential educational site contains a diversity of wetland classes which are accessible or potentially accessible.
4. Potential educational site is undisturbed and natural.
5. Wetland is considered to be a valuable wildlife habitat.
6. Wetland is located within a nature preserve or wildlife management area.
7. Signs of wildlife habitat enhancement present (birdhouses, nesting boxes, food sources, etc).
8. Off-road parking at potential educational site suitable for school bus access in or near wetland.
9. Potential educational site is within safe walking distance or a short drive to schools.
10. Potential educational site is within safe walking distance to other plant communities.
11. Direct access to perennial stream at potential educational site is available.

12. Direct access to pond or lake at potential educational site is available
13. No known safety hazards exist within the potential educational site.
14. Handicap accessibility is available.
15. Site is currently used for educational or scientific purposes.
16. Other

UNIQUENESS/HERITAGE

This value considers the effectiveness of the wetland or its associates waterbodies to provide certain special values. These may include archaeological sites, critical habitat for endangered species, its overall health and appearance, its role in the ecological system of the area, its relative importance as atypical wetland class for this geographic location. These functions are clearly valuable wetland attributes relative to aspects of public health, recreation and habitat diversity.

1. Upland surround wetland is primarily urban.
2. Upland surrounding wetland is developing rapidly.
3. More than 3 acres of shallow permanent open water (less than 6.6 feet deep), including streams occur in wetlands.
4. Three or more wetland classes are present.
5. Deep and/or shallow marsh or wooded swamp dominate.
6. High degree of interspersion of vegetation and or open water occur in this wetland.
7. Well vegetated stream corridor (15 feet on each side of the stream) occurs in this wetland.
8. Potential educational site is within a short drive or a safe walk from schools.
9. Off-road parking at potential educational site is suitable for school buses.
10. No known safety hazards exist within this potential educational site.
11. Direct access to perennial stream or lake exists at potential educational site.
12. 2 or more wetland classes are visible from primary viewing locations.
13. Low-growing wetlands (marshes, scrub-shrub, bogs, and open water) are visible from primary viewing locations.
14. Half an acre of open water or 200 feet of stream is visible from the primary viewing locations.
15. Large area of wetland is dominated by flowering plants or plants that run vibrant colors in different seasons.
16. General appearance of the wetland visible from primary viewing locations is unpolluted and/or undisturbed.
17. Overall view of the wetland is available from the surrounding upland.
18. Quality of the water associated with the wetland is high.
19. Opportunities for wildlife observations are available.
20. Historical buildings are found within the wetland.
21. Presence of pond or pond site and remains of a dam occur within the wetland.
22. Wetland is within 50 yards of the nearest perennial watercourse.
23. Visible stone or earthen foundations, berms, dams, standing structures, or associates features occur within the wetland.
24. Wetland contains critical habitat for a state- or federally-listed threatened or endangered species.
25. Wetland is known to be a study site for scientific research.
26. Wetland is a natural landmark or recognized by the state natural heritage inventory authority as an exemplary natural community.
27. Wetland has local significance because its serves several functional values.
28. Wetland has local significance because it has biological, geological, or other features that are rare or unique.
29. Wetland is known to contain an important archaeological site.
30. Wetland is hydrologically connected to a state or federally designated scenic river.
31. Wetland is locates in an area experiencing a high wetland loss rate.
32. Other.

VISUAL QUALITY/AESTHETICS

This value considers the visual and aesthetic quality or usefulness of the wetland.

1. Multiple wetland classes are visible from primary viewing location.
2. Emergent marsh and/or open water are visible from primary viewing locations.
3. A Diversity of vegetative species is visible from primary viewing locations.
4. Wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.
5. Land use surrounding the wetland is undeveloped as seen from primary viewing locations.
6. Visible surrounding land use form contrasts with wetland.
7. Wetland views absent of trash, debris, and signs of disturbance.
8. Wetland is considered to be a valuable wildlife habitat.
9. Wetland is easily accessed.
10. Low noise level at primary viewing locations.

11. Unpleasant odors absent at primary viewing locations.
12. Relatively unobstructed sight line exists through wetland.
13. Other.

ENDANGERED SPECIES HABITAT

This value considers the suitability of the wetland to support threatened or endangered species.

1. Wetland contains or is known to contain threatened or endangered species.

Wetland contains critical habitat for a state or federally listed threatened or endangered species

Algonquin Gas Transmission, LLC

Algonquin Incremental Market Project

Invasive Plant Species Control Plan Addendum

Targeted Approach for New York Pipeline Facilities

Spectra Energy Partners

February 2015

Spectra Energy Partners

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ATTACHMENTS

1.0 ADDENDUM SUMMARY

Algonquin Gas Transmission, LLC ("Algonquin") developed and submitted an Invasive Plant Species Control Plan as part of its permit applications filed with the required regulatory agencies for the proposed Algonquin Incremental Market Project ("AIM Project" or "Project"). Following submission of applications, in a formal request for additional information provided on January 21, 2015, the New York District of the U.S. Army Corps of Engineers ("USACE") requested additional information that identifies a targeted approach for invasive plant species management in Project-affected wetlands in New York. Pursuant to that request, Algonquin developed this addendum to the original plan ("New York Addendum"), which describes a targeted approach for invasive plant species management for AIM pipeline facilities in New York. The primary focus of this Addendum is to present an efficacious strategy for prevention of the introduction and spread of invasive species in New York wetlands as a result of construction of the Project.

2.0 INVASIVE SPECIES MANAGEMENT PLAN SUMMARY

Invasive plant species are species that display rapid growth and spread, becoming established over large areas. Most commonly they are exotic species that have been introduced from another part of the United States ("U.S."), another region, or another continent; although native species that exhibit rapid growth and spread are sometimes considered invasive. The U.S. Fish & Wildlife Service ("USFWS") defines invasive species as "organisms that are introduced into a non-native ecosystem and which cause, or are likely to cause, harm to the economy, environment or human health" (USFWS, 2009). Invasive plant species can change or degrade natural vegetation communities, which can reduce the quality of habitat for wildlife and native plant species. Recognizing the inherent threat posed by invasive plant species to wetlands in New York, the USACE has requested the completion of this Addendum. As such, this Addendum provides and describes the following:

- Baseline Data: the scope of invasive species on and adjacent to Project components in New York.
- Prioritization: a plan for defining the greatest invasive species threats on the Project to help guide efforts of the Addendum to achieve the most effective results of management.
- Prevention: mitigation measures to be employed during construction to prevent spreading or allowing new species onto wetlands on the right-of-way ("ROW").
- Monitoring and Control: a post-construction invasive species monitoring plan including a means of identifying new infestations so effective control efforts can be implemented, and implementation of post-construction management efforts to control infestations.
- Adaptive Management: a procedure for implementing adaptive management as post-construction data becomes available and as conditions, solutions or priorities change during the monitoring period.
- Project Schedule: a tentative Project and Addendum implementation schedule.

3.0 EXISTING CONDITIONS – INVASIVE SPECIES BASELINE DATA

3.1 Invasive Plant Species in New York

New York State ("NYS") has listed 69 nonnative plants as prohibited, invasive species (6 NYCRR Part 575 Prohibited and Regulated Invasive Species Express Terms). The list provides a system to "restrict the sale, purchase, possession, propagation, introduction, importation, and transport of invasive species in New York." New York State defines invasive species as "a species that is nonnative to the ecosystem under consideration, and whose introduction causes or is likely to cause economic or environmental harm or harm to human health. For the purposes of this Part, the harm must significantly outweigh any benefits."

Using wetland indicator status designations of the USACE can be a helpful tool to describe the habitat variety of the invasive plants (Lichvar *et al*, 2014). Wetland indicator statuses are used by wetland scientists to predict a plant's likelihood of being a wetland inhabiting plant (or "hydrophytic"). Table 1 provides a description of the indicator statuses and meanings. Table 2 provides a listing of the indicator status for New York's 69 listed invasive species ("NYS state list") (the complete list of NYS state list plants is included in Attachment 1).

TABLE 1

Wetland Indicator Status Descriptions a/

Indicator Status	Indicator Code	Description
Obligate Wetland	OBL	Almost always occur in wetlands
Facultative Wetland	FACW	Usually occur in wetlands, but may occur in non-wetlands
Facultative	FAC	Occur in wetlands and non-wetlands
Facultative Upland	FACU	Usually occur in non-wetlands, but may occur in wetlands
Obligate Upland	UPL	Almost never occur in wetlands
No Indicator Status	NI	No indicator status designated (common for weedy and introduced species for which habitat data are scarce or inconclusive)

a/ (Lichvar, 2012).

TABLE 2 Wetland Indicator Status of Plants on New York's Invasive Plants List a/		
Indicator Status Code	**Number of Species From NYS List of Invasives with this indicator status**	**Examples of Common Invasive Species With this Indicator Status**
OBL	15	Purple loosestrife
FACW	6	Common reed
FAC	6	Common buckthorn, mile-a-minute vine
FACU	14	Garlic mustard, Japanese knotweed, multi-flora rose
UPL	5	Mugwort, Asiatic bittersweet
NI	23	Black swallowwort, autumn olive
a/ Status per USACE, 2014.		

3.2 Invasive Plant Species in and Adjacent to Project Wetlands

3.2.1 Preliminary Invasive Plant Species Survey Methods

Natural resource surveys for the Project began in 2013 and were conducted throughout the summer of 2013. Surveys were included for wetlands, streams, vernal pools, and rare plants and animals. The natural resource survey area for the AIM Project generally included a 300-foot wide survey corridor, centered along the existing pipeline ROWs or above-ground facilities. Invasive plants were generally identified during the wetland delineation if they made up a significant or dominant portion of the plants within the wetland boundaries. Note that for some wetlands, this vegetation data was gathered in early spring and may not fully represent all invasive species occurrences that may occur in each wetland. For example, *Lythrum salicaria* ("purple loosestrife") was not recorded, although it is well-established in the area. Purple loosestrife is most like present in wetlands on the AIM project, but early seedlings may not have provided significant aerial cover early in the growing season and the species was therefore not recorded.

3.2.2 Exceptions

Reed canary grass was observed in and adjacent to several wetlands in the Project area. This plant is common in herbaceous wetlands, and has become well-established and semi-naturalized throughout wetlands across New England. It is prolific along roadsides and in many emergent swamps throughout the region; furthermore it is not included on the New York State list of banned species. Monitoring, control or management of this species is not proposed as part of this Addendum. Additionally, there are 11 aquatic species (*i.e.,* plants that live in or on the water's surface) listed by New York State as invasive. Because there will be limited in-water work on the Project, aquatic species are also not being considered as part of this Addendum.

3.2.3 Invasive Plant Species Findings

A total of 46 individual wetlands were identified within the pipeline portion of the AIM project in New York (several of the wetlands are crossed more than once by the pipeline). Every wetland found within the pipeline ROW contains at least one invasive plant species (of at least traceable aerial coverage). Based on the preliminary data, *Phragmites australis* ("Phragmites") was identified in the majority of sites, and was

documented in 40 of the 46 wetlands. The next prevalent species was *Microstegium vimineum* ("Japanese stiltgrass") which was observed in 26 wetlands. The third most prevalent species was *Rosa multiflora* ("multiflowered rose") which was observed in 23 wetlands.

Table 3 provides a complete listing of all wetlands crossed by the pipeline components of the AIM project in New York and the invasive species observed and recorded within each (per the NYS state list). Representative photographs of the wetlands, invasive species and population types are included as Attachment 2.

TABLE 3

Invasive Species Identified on the New York State Portions of the AIM Project ROW.

Wetland ID	*Alliaria petiolata* (garlic mustard)	*Berberis thunbergii* (barberry)	*Celastrus orbiculatus* (Asiatic bittersweet)	Elaeagnus spp. (autumn olive)	*Reynoutria japonica* (*Fallopia japonica*, *Polygonum cuspidatum*) (Japanese knotweed)	*Lonicera tatarica*, *morrowii or maackii* (Honeysuckles)	*Lythrum salicaria* (Purple loosestrife)	*Microstegium vimineum* (Japanese stilt grass)	*Phragmites australis* (Common reed)	*Polygonum perfoliatum* (mile-a-minute vine)	*Rhamnus & Frangula* (buckthorn)	*Rosa multiflora* (multi-flowered rose)	*Rubus phoenicolasius* (wineberry)
B13-RLR-W1					X				X			X	
B13-RLR-W2								X	X				
B13-RLR-W3									X				
B13-RLR-W4						X			X				
B13-RLR-W5								X	X				
B13-RLR-W6									X			X	
B13-RLR-W7			X						X			X	X
B13-RLR-W8									X			X	X
B13-RLR-W9									X				
B13-RLR-W10		X						X	X			X	X
B13-SPLR-W40								X	X				
B13-SPLR-W37								X					
B13-SPLR-W50			X	X		X			X			X	
B13-SPLR-W203								X	X			X	
B13-SPLR-W205								X	X			X	
B13-SPLR-W202													X
B13-SPLR-W16			X			X			X				
B13-SPLR-W17						X			X			X	X
B13-SPLR-W2	X				X			X	X			X	X
B13-SPLR-W3								X	X			X	X
B13-SPLR-W5			X									X	X
B13-SPLR-W7	X								X				
B13-SPLR-W8	X							X	X			X	X
B13-SPLR-W10		X							X			X	
B13-SPLR-W11	X	X							X				
B13-SPLR-W12								X	X				
B13-SPLR-W13								X	X			X	X
B13-SPLR-W14	X					X			X				
B13-SPLR-W15	X	X	X					X	X				
A13-SPLR-W2									X			X	
B13-SPLR-W18		X	X					X	X				
A13-SPLR-W4								X	X			X	
B13-SPLR-W43								X	X			X	X
B13-SPLR-W206		X										X	
B13-SPLR-W20									X			X	
B13-SPLR-W21	X		X						X			X	
B13-SPLR-W22								X	X				
B13-SPLR-W23								X	X			X	
B13-SPLR-W24	X							X				X	
B13-SPLR-W25								X	X				
B13-SPLR-W41								X	X				
B13-SPLR-W26	X							X	X				
B13-SPLR-W27								X	X				
B13-SPLR-W28								X	X				
B13-SPLR-W29	X							X	X				
B13-SPLR-W30								X					
# of Wetlands w/ Species	10	6	7	1	2	5	0	26	40	0	0	23	11

3.2.4 Invasive Species Population Types

The invasive plant species found in and adjacent to Project wetlands were observed in similar habitats (*e.g.* power line corridors, roadsides, disturbed wetlands, agricultural fields) off the ROW and throughout the region surrounding the Project components. On the ROW, however, in most areas where invasive species were observed to provide a dominant or significant portion of the aerial coverage both on and off the ROW, it tends to be a different species on the ROW than off the ROW. This discrepancy is presumably due to the different type of habitat provided by the maintained ROW (treeless) versus the generally forested off the ROW areas adjacent to the pipeline. Many of the invasive plants found throughout this region (*e.g.*, Japanese stiltgrass and Phragmites) compete very well in full sunlight provided by utility corridors and other cleared areas, and are therefore well-represented within the maintained pipeline corridor.

There are three basic colonization types for invasive species on the Project ROW. In the first, Population Type 1, invasive species exist in the midst of larger invasive populations that extend well beyond the limits of the Project (Figure 1). In the second, Population Type 2, invasive species are found both on and off the ROW, with varying comparative densities on and off the ROW (Figure 2). In the third, Population Type 3, invasive species populations exist mainly, or solely, within the confines of the Project ROW and not adjacent to invasive species-dominated off the ROW areas (Figure 3).

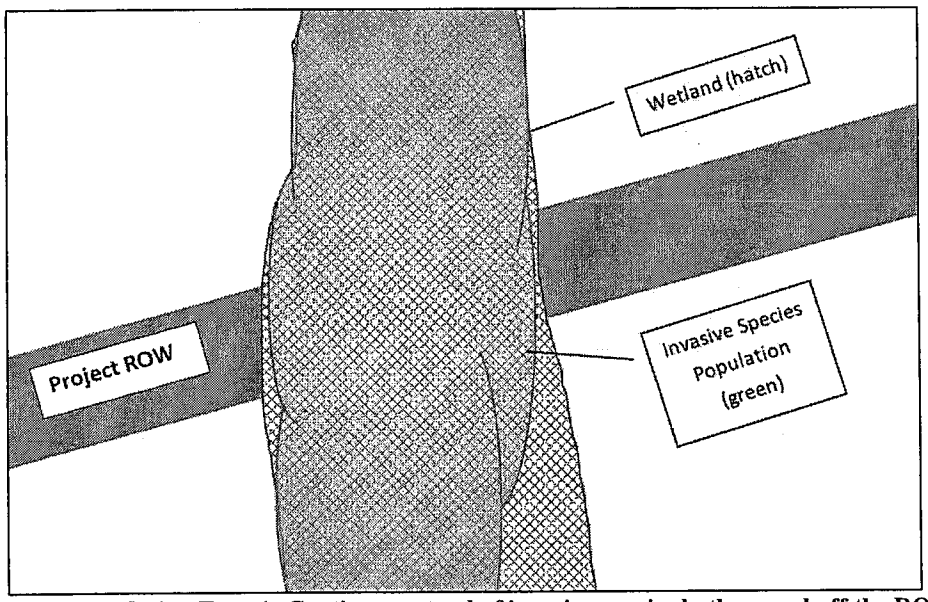

Figure 1. Population Type 1: Contiguous stand of invasive species both on and off the ROW.

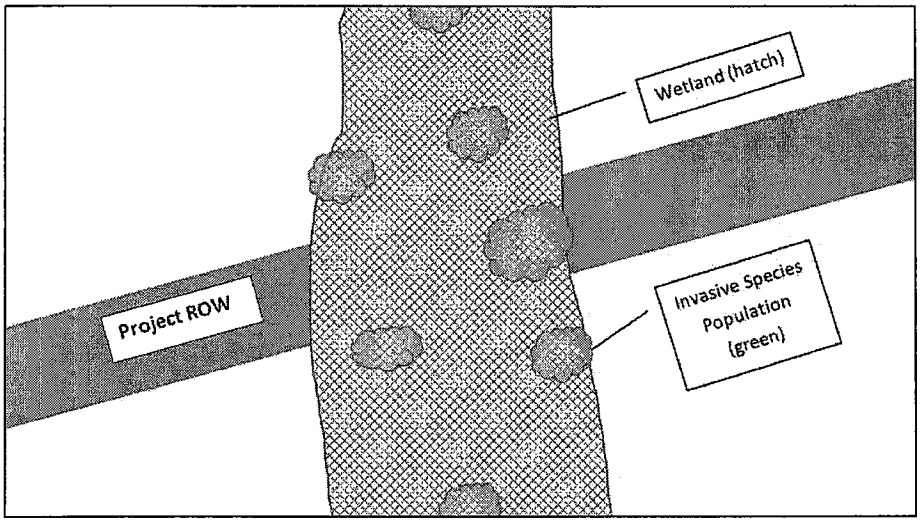

Figure 2. Population Type 2: Invasive species growing both on and off the ROW.

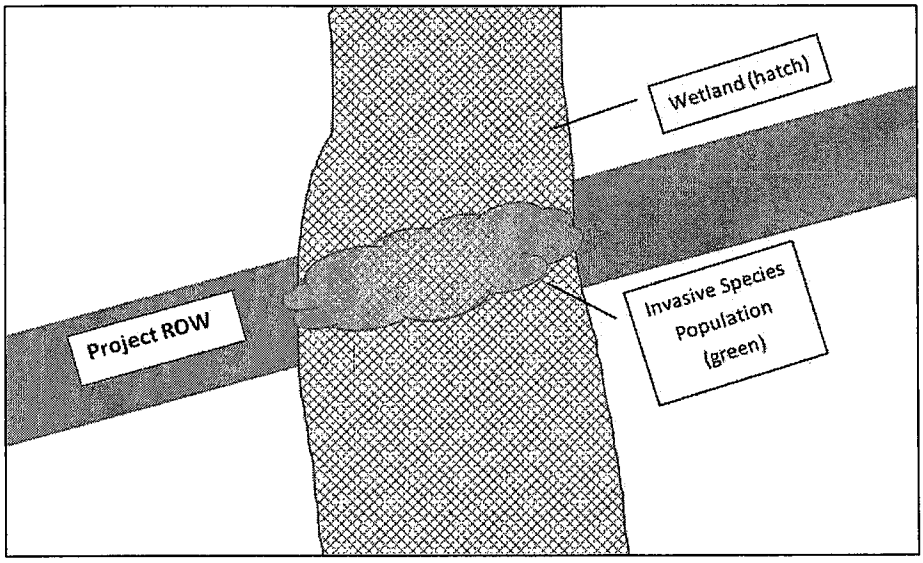

Figure 3. Population Type 3: Invasive species growing just on the ROW.

4.0 PRIORITIZATION OF MANAGEMENT EFFORTS

4.1 Why Prioritize?

Before providing a discussion of the management techniques and the prioritization of efforts, it is important to note why prioritization is important. There are several practicable constraints to eradicating invasive species and additional feasibility constraints to attempting control procedures on some of the larger or more aggressive colonies of invasive species. The legitimate limits on access, management techniques, and budgeting were considered in defining the priority actions for the Addendum. Not all invasive species

populations and incidences that exist on the Project are proposed for management or control. Instead, the priorities of this Addendum will be to prevent new infestations in wetlands from occurring, to slow and prevent the spread of existing populations, and to control those colonies and occurrences in Project wetlands where effective management is feasible and significant, recordable benefits can be derived. In order to account for why prioritization of efforts, is a major goal of the Addendum. The following paragraphs describe some of the constraints associated with managing invasive species on the Project.

Algonquin only has maintenance and management access to its permanent pipeline ROW easement, and thus can only conduct long-term management work within those limits (generally 50 to 75 feet wide). Invasive plant species are prevalent throughout many of the regions through which the Project traverses. While some invasive species populations appear relegated to the cleared ROW, in most other cases the populations extend well beyond the ROW boundaries, and the vectors for spread onto the ROW are continuous and hard to control. For invasive species infestations that extend beyond Algonquin's easement, it's likely that there is little that treating or managing the plants within the ROW will accomplish in terms of having a meaningful impact on the invasive species population.

A readily observable example of this population type is the large herbaceous wetlands crossed by the Project and that consist of monoculture stands of aggressive, hard-to-control common reed, purple loosestrife and/or reed canary grass. Management of a subset of these larger populations would provide no short- or long-term benefits to the environment, and treating the portion of the population just within the ROW would be a constant struggle against the tide of volunteers spreading in from outside the ROW. A second example can be seen in areas where the pipeline collocates with a power line ROW or crosses public roads. In many of these areas, invasive species such as Asiatic bittersweet and Japanese stiltgrass are rampant within the adjacent ROWs. In these areas, and indeed within some areas of the Project ROW, many of the larger invasive species occurrences are considered practicably unmanageable due to their age, spread, species composition, and other factors.

Another constraint is the difficulty of keeping up with a constant influx of new invasive species materials (*e.g.,* seeds and plant fragments) from natural and unnatural vectors. Natural vectors of invasive species materials include birds, deer, wind, and water, and unnatural vectors include off road vehicles ("ORVs"), nearby industrial areas, residential yard wastes, and agricultural inputs. There is little that can be done to stem the influx from natural vectors, and despite many efforts to prohibit (*e.g.* fences, boulders, *etc.*) recreational and agricultural use on and adjacent to the ROW is generally difficult or impossible to prevent.

An additional constraint of invasive plant species control and management is the human and capital expense associated with implementing an effective eradication and prevention program. Pipeline ROW maintenance operations are based on guidelines established by the Federal Energy Regulatory Commission ("FERC"). FERC requires vegetation maintenance within the permanent easement. To facilitate periodic corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. Additionally, trees within 15 feet of the pipeline with roots that could compromise the integrity of pipeline coating may be selectively cut and removed from the permanent ROW. Algonquin does not conduct any routine vegetation mowing or clearing in wetlands that are between HDD entry and exit points. The subcontracted ROW personnel that perform the maintenance work are often transitory in their work, maintaining ROWs for various industries throughout the U.S. While dedicated to safety and quality in the performance of their work, these crews often will not have the local botanical knowledge necessary to identify all invasive species in order to perform targeted control efforts. Due to the requirements for safety and training, hiring new crews for maintenance operations can be time-consuming and costly. Additionally, the potential costs associated with treating invasive species on the ROW is high, including time and expenses for project design, permitting, notifications, safety awareness training, contracting, chemicals, equipment, and monitoring.

Due to the inherent difficulties and constraints associated with invasive species management on a utility ROW, this Addendum focuses on management and control efforts on priority species and population types where control methods may be implemented efficaciously. Goals of the Addendum include prevention of new infestations, prevention of the spread of existing populations due to construction, management and control of those populations that can legitimately be controlled, and monitoring and adaptation should changes be required to meet the goals of the Addendum. Invasive plant prevention, monitoring and management on the Project will be focused on priority management species and population types, based on the Project baseline data, and discussed in the sections below.

4.2 Priority Species for Prevention and Monitoring

While all state-listed invasive species will be noted as they are observed, and managed if they appear to be proliferating on the Project, priority prevention and monitoring species are those on which Algonquin will focus mitigation efforts during construction to prevent the spread and introduction, and those which Algonquin will catalogue and monitor during the post-construction monitoring period. As further described in Section 6.0, as new priority species are identified by post-construction findings (*i.e.* if data indicate new species are proliferating), then the priority list may be amended for future monitoring efforts.

Detailed baseline invasive species data were collected in 2014 on a similar pipeline ROW in nearby Connecticut. Based on those data, data collected incidentally on invasive species occurrences in wetlands on AIM pipeline facilities in New York and focusing on wetland species on the NYS state list, the following species will be considered prevention and monitoring priority invasive species for the AIM pipeline facilities in New York (Table 4).

TABLE 4

AIM New York Pipeline Facilities Invasive Plant Prevention and Monitoring Priority Species List

Invasive Species	Wetland Indicator Status	Percentage of Wetland on AIM Pipeline Facilities in NY in Which Species Observed
Alliaria petiolata (garlic mustard)	FACU	22%
Artemisia vulgaris (mugwort)	UPL	0% a/
Berberis thunbergii (Japanese barberry)	FACU	13%
Celastrus orbiculatus (Asiatic bittersweet)	UPL	15%
Elaeagnus umbellata (autumn olive)	NI	2%
Lonicera spp. (shrubby honeysuckles)	FACU and NI	2%
Lythrum salicaria (purple loosestrife)	OBL	0%
Microstegium vimineum (Japanese stiltgrass)	FAC	57%
Phragmites australis (Phragmites)	FACW	87%
Rhamnus and Frangula (non-native buckthorns)	FAC	0%
Rosa multiflora (multiflowered rose)	FACU	50%
Rubus phoenicolasius (wineberry)	FACU	24%

a/ species not found in wetlands are included as they may have been missed due to early season growth, and because they were strongly represented on a similar project ROW in nearby CT.

5.0 INVASIVE PLANT SPECIES MANAGEMENT

5.1 Prevention of Spread: Pre-Construction and Construction Phase Mitigation

5.1.1 Pre-Construction Baseline Invasive Species Survey

A pre-construction field survey will be conducted in the spring/early summer of 2015 to gather baseline data on priority invasive species within and immediately adjacent to (i.e. within 50 feet of) wetlands on the AIM Project pipeline corridor. This data will form the basis for construction and post-construction phase invasive species mitigation measures.

5.1.2 Pre-Construction Mowing

Due to the threat posed by some of the larger priority invasive species populations, Algonquin is proposing to enact pre-construction control measures in order to reduce the chance of spreading standing populations of invasive plants in certain wetlands. In order to reduce the risk of spreading live fragments of the invasive species and to increase the efficacy of Algonquin's construction-phase mitigation efforts, the priority invasive species will be the focus of the pre-construction control efforts. Pre-construction control efforts will include mowing the work limits of Project wetlands and adjacent (*i.e.*, within 50 feet) uplands where these species are present and providing at least 25 percent aerial coverage.

5.1.3 Construction Phase Mitigation Measures

One of the most practical solutions for managing invasive species is to employ a combination of prevention and control measures (CIPWG, 2001; WDNR, 2012). Following pre-construction mowing (Section 5.1.2) construction phase mitigation measures will be employed to prevent spreading existing populations, and restoration-phase efforts will be designed to inhibit leaving the ROW in a condition that may foster rapid invasive species colonization. The Project Invasive Plant Prevention and Monitoring Priority Species List (Table 4) will form the basis of construction mitigation measures designed to prevent the spread and introduction of these species. This plant list will be included in Project contractor trainings and environmental inspector handbooks, in order to ensure that all Project participants are aware of the species identification, concerns and mitigation.

The following mitigation measures will be implemented during construction:

1) Using the baseline data included in this report, areas where invasive species are already dominant will be noted and avoided as much as practicable.

2) The Environmental Inspector ("EI") will make every effort to ensure that prefabricated equipment mats as well as construction equipment are clean and free of excess dirt and mud prior to entering a wetland area that does not support infestations of common invasive species (*e.g.*, Phragmites, etc.). As necessary, equipment cleaning areas will be designated to ensure that equipment is cleaned to the extent practicable. Equipment and mats leaving and entering wetlands will be visually inspected to ensure that they are not transporting plant materials or soils that could carry seeds or fragments.

3) Sediment/erosion control devices shall be installed across the pipeline ROW on slopes leading into wetlands and along the edge of the construction ROW to prevent spoil from migrating into these areas. This will also help to prevent the dispersion of seeds from invasive plant species into un-infested wetlands during construction.

4) Clearing crews will be trained in identification of the priority invasive species of concern for the project and will be expected to take precautions to prevent the spread of invasive species. The most prevalent invasive species of concern during tree clearing will be Asiatic bittersweet, which can be

observed patchy throughout the region on and off the ROW. All clearing will take place under the supervision of the EI who will make sure that invasive species are not dragged or chipped into areas where they do not currently exist. Brush and tree limbs will be chipped and removed from the ROW for approved disposal.

5) Following pipeline installation, the trench will be backfilled and the area re-contoured to its original grade. Segregated topsoil shall be replaced as the surficial layer and natural drainage patterns restored to facilitate natural re-establishment of native vegetation.

6) Expediting construction in and around wetlands and limiting the amount of equipment and construction activities within wetlands will reduce the amount and duration of disturbances. In addition, equipment used will be tracked or balloon-tired, or will be operating on top of mats.

7) Revegetation of wetlands shall be expedited by stripping the topsoil from over the trench, except in areas with standing water or heavily inundated soils, where no topsoil layer is evident, or where it exceeds the depth of the trench. Topsoil shall then be stockpiled separately from subsoil to ensure preservation of the native seed bank. To help prevent the spread of any invasive species in the seed bank, topsoil from one wetland shall not be stockpiled in a different wetland unless it is stored on a tarp or sheeting and fully separated from making contact with the other wetland.

8) In order to encourage quick establishment of native species and to help prevent invasive species which may colonize disturbed and poorly-vegetated sites, within six days of final re-grading:

    a. Restored upland areas will be seeded with a Project approved, weed-free upland seed mix of upland plant species.

    b. Restored wetland areas will be seeded with a Project approved, weed-free seed mix of native wetland plant species (*e.g.,* New England Wetlands Plants, Inc.'s "New England Wetmix" or "New England Roadside Matrix Wet Meadow Seed Mix").

5.2 Post-Construction Monitoring

Post-construction monitoring will be conducted in areas disturbed by installation and construction of the pipeline portions of the Project. Post construction monitoring will begin during the first growing season following final restoration on the Project (see Project schedule in Section 7.0). Wetland areas will be monitored annually for five growing seasons following pipeline construction and ROW restoration. During monitoring, emphasis will be placed on identifying the presence of the priority species listed in Table 4, however notes on incidental observations of other species, including type, approximate aerial coverage and growth habitat, will be included in the annual monitoring reports. Summaries of post construction monitoring and treatment for invasive species will be incorporated into an Invasive Plant Species Monitoring Report before the end of the growing season during which treatment occurs. The report will include the following information:

- The first season report will include findings from the pre-construction survey of 2015.

Each subsequent annual report will include:

- Brief Statement on Findings from Previous Year's Report;
- Summary of Correspondence About Invasive Plant Species with Agencies;
- Treatments Applied in Previous Year;

- Current Monitoring Year's Findings, Including:
  - wetlands with invasive species coverage ≥25 percent (and off-ROW or adjacent upland invasive species coverage)
  - new species observed within wetlands or adjacent areas
  - new or worsening invasive plant species vectors;

- Recommended Follow-up Action (*e.g.*, treatment or additional monitoring);

- Recommendations for Revisions to the Monitoring Procedures or Treatments (*e.g.* emerging threat species); and

- Schedule for Following Year's Monitoring and Reporting.

5.3 Post Construction Management

5.3.1 Overview of Potential Priority Invasive Plant Species Management Methods

The ultimate control program chosen will depend on several factors. Control programs for invasive species can include manual, mechanical, chemical, and biological methods. The choice of a preferred method or methods depends on the size of the infestation, the species being controlled, the density of the invasive species, the sensitivity of the area, cultural and legal constraints, and human and capital budgets (WDNR, 2012; Tu *et al,* 2001; USFWS, 2009). The following sections provide brief overviews of the various invasive species control and management techniques.

Manual and Mechanical Control: Manual and mechanical controls include hand pulling, digging, cutting, mowing, girdling, flooding, thickly mulching, covering, and otherwise physically damaging plants and their habitats[1]. Mechanical methods are generally preferred for smaller infestations, as multiple, repeat efforts are generally required for success (Tu *et al,* 2001). Multiple visits and implementation of mechanical controls across large sites are labor and resource intensive (WDNR, 2012). For most species, it is crucial to get every piece of the plant out of the ground and off the site, as many invasive species can resprout from fragments. For larger infestations, mowing may be helpful in preventing plants from reaching maturity or going to seed, but for some species mowing may actually increase the growth rate. Mechanical control treatments are typically most effective when used in conjunction with herbicide treatment.

Chemical Control: The choice of control measure depends on the size and nature of the infestation. If dealt with early enough, invasive plant problems can often be eliminated by non-chemical methods. However, an herbicide-based approach may be required to control an infestation that has become well established or widespread (CIPWG, 2001). Additionally, for many species, such as common reed, chemical control or a combination of chemical and mechanical control may be the only effective means of control (Capotosto, pers. comm.). Herbicides can efficiently and effectively suppress and kill unwanted plants, however misuse can result in unintended consequences including herbicide resistance, impacts on non-target organisms, soil and water contamination, and risks to human health (USFWS, 2009). Common herbicides used for invasive species management include tryclopyr, imazapyr and glyphosate, and herbicides may be delivered in a variety of means, such as foliar spray, wicking, basal application (herbicide applied to bark with a penetrant), or cut-and-stump treatment (USFWS, 2009; Ferrell *et al*, 2012). There are numerous regulations governing the use and application of herbicides in wetlands, and applicators must be licensed by the State of New York. Due to environmental concerns and local, state and federal restrictions, Algonquin generally does not apply herbicides for general ROW maintenance.

[1] Mechanical control methods can also include prescribed burning, but do to the inherent safety concerns of intentional burns over the pipeline facilities, this method will not be explored.

Biological Control: Biological controls for invasive species include the use of grazing animals, importation of host-specific insects or the introduction of host-specific pathogens or parasites (USFWS, 2009). Examples of this include introduction of galerucella beetles for purple loosestrife control (MDNR, 2014) and the introduction of mile-a-minute weevils for mile-a-minute vine control (UCONN, 2014). Biological controls are often employed on large or contiguous areas of invasive species infestations or sites with controlled or limited patches of invasive plants and are generally not appropriate for most populations encountered on utility ROWs. Biological controls are not considered as a control methodology as part of this Plan.

Integrated Management: Often, a combination of controls and prevention also known as integrated pest management ("IPM"), is the most effective method of control (WDNR, 2012). Generally, this takes the form of a combination of mechanical and chemical control, where plants are treated before they go to seed, then following a set period of uptake, the above-ground biomass is removed to allow underlying native vegetation to resprout in place.

5.3.2 Recommended Decision Matrix and Controls

Following construction, invasive species monitoring efforts will take place as described in Section 5.2 of this Addendum. Invasive plant control efforts will be implemented according to the decision matrix for treatment (Table 5).

TABLE 5

Decision Matrix for Control and Management Priority Invasive Species and Recommended Post-construction Action

Invasive Plant Coverage Off ROW or in Adjacent Uplands	Invasive Plant Aerial Coverage in Project Wetland	Recommended Management Action
(Regardless of Adjacent Coverage)	Invasive Species not observed or observed as ≤1% aerial coverage in wetland prior to construction but aerial coverage ≥25% following construction	Implement Controls & Management
≥25% (Population Type 1, Figure 1)	≤25%	Monitoring & Report
	≥25%	Monitoring & Report
≤25% (Population Types 2 and 3, Figures 2 and 3)	≤25%	Monitoring & Report
	≥25%	Implement Controls & Management

When control and management procedures are recommended according to Table 5, Algonquin will implement eradication efforts. Control procedures will be based on the species, the type and extent of infestation and the relative access, expense and timing constraints during the time of decision, and ultimately upon discussion with state and regional invasive species experts and contractors regarding the most effective and feasible treatment options available.

5.3.3 Example Control Plan

Current data suggest that control methods such as mowing, burning and flooding are largely ineffective for many of the invasive species noted on the project ROW (CIPWG, 2014a; CIPWG, 2014b; CIPWG, 2014c; CIPWG, 2014d; MDNR, 2014e; Urbatsch, 2003). Hand removal can be effective but only for small populations or individual plants, and care must be taken to remove all subsurface roots or rhizomes for this method to be effective (CIPWG, 2014a; CIPWG, 2014b; MDNR, 2014; Urbatsch, 2003). Herbicides have been used with varying success with some species (Urbatsch, 2003; Capotosto, 2007). As discussed in

Section 5.3, a combination of methods using IPM is often the most effective treatment. Accordingly, Algonquin may utilize the following measures in an effort to control the invasive species that meet the decision matrix in Table 5:

1) Invasive plant species will be treated with an appropriate herbicide (type and concentration to be determined by a New York State-licensed commercial pesticide applicator). Depending on species and recommendations of the herbicide specialist, plant materials may later be cut and mulched in place or removed from the ROW for disposal. Application of the herbicide will only be at the approval of the landowner and appropriate state agencies. If the landowner or state agencies deny permission of the use of herbicide, then the invasive species will be cut at ground level (*i.e.*, snipped, sawed or mowed) prior to forming seed.

6.0 ADAPTIVE MANAGEMENT

This Addendum is designed to provide flexibility in achieving the stated goals of the Project as it is difficult to predict the needs, priorities, goals, and technologies of the future. Following monitoring events and subsequent discussions with the contracted specialists as well as state and federal regulators, it may become apparent that some of the priorities, priority species, management methods, or overall goals of the Addendum may need to be adjusted. For example, the priority species may change depending on future findings or needs, or the methodologies for treatment may change as new technologies and methods of treatment are devised. In each year's monitoring report, Algonquin will provide a description of protocol and treatment changes and recommendations for the following monitoring season. This will provide for an annual look-back opportunity in which Algonquin can adapt procedures to address changes in the environment; to redress changing Project needs and to respond to evolving regional, state and federal invasive species management goals.

7.0 TENTATIVE PROJECT SCHEDULE

Factors such as permitting, contractor schedules, weather, and material availability may require changes in the target in-service dates noted below. Note that in-service dates will generally occur before final restoration; if final construction does not complete before the end of the growing season of any particular year, then final restoration may be put on hold until the following spring (the disturbed sites would be temporarily stabilized for the winter).

Construction:

Haverstraw to Stony Point Take-up & Relay: starting 4th Quarter 2015 with in-service target of 4th quarter 2016

Stony Point to Yorktown Take-up & Relay: starting 4th Quarter 2015 with in-service target of 4th quarter 2016

Invasive Plant Species Monitoring and Management:

Invasive plant species monitoring events will occur once per year starting during growing season after final restoration of a pipeline component. Monitoring procedures will continue for five consecutive years. As needed, post-construction invasive species control procedures would take place in late summer to early fall of the monitoring years (timing will depend on several factors such as the species of concern and the control methodology selected). See Section 5.2 for a description of the annual invasive plant species monitoring and reporting procedures.

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ATTACHMENT 1

Per 6 NYCRR Part 575 Prohibited and Regulated Invasive Species Express Terms: The following plant invasive species are prohibited in New York State

Scientific Name	Common Name	Wetland Indicator Status
(i) *Acer pseudoplatanus*	Sycamore Maple	NI
(ii) *Achyranthes japonica*	Japanese Chaff Flower	NI
(iii) *Alliaria petiolata*	Garlic Mustard	FACU
(iv) *Ampelopsis brevipedunculata*	Porcelain Berry	NI
(v) *Anthriscus sylvestris*	Wild Chervil	NI
(vi) *Aralia elata*	Japanese Angelica Tree	NI
(vii) *Artemisia vulgaris*	Mugwort	UPL
(viii) *Arthraxon hispidus*	Small Carpet Grass	FACW
(ix) *Berberis thunbergii*	Japanese Barberry	FACU
(x) *Brachypodium sylvaticum*	Slender False Brome	NI
(xi) *Cabomba caroliniana*	Fanwort	OBL
(xii) *Cardamine impatiens*	Narrowleaf Bittercress	FAC
(xiii) *Celastrus orbiculatus*	Oriental Bittersweet	UPL
(xiv) *Centaurea stoebe (C. biebersteinii, C. diffusa, C. maculosa misapplied, C. xpsammogena)*	Spotted Knapweed	FACU
(xv) *Cirsium arvense (C. setosum, C. incanum, Serratula arvensis)*	Canada Thistle	FACU
(xvi) *Cynanchum louiseae (C. nigrum, Vincetoxicum nigrum)*	Black Swallow-wort	NI
(xvii) *Cynanchum rossicum (C. medium, Vincetoxicum medium, V. rossicum)*	Pale Swallow-wort	NI
(xviii) *Dioscorea polystachya (D. batatas)*	Chinese Yam	NI
(xix) *Dipsacus laciniatus*	Cut-leaf Teasel	NI
(xx) *Egeria densa*	Brazilian Waterweed	OBL
(xxi) *Elaeagnus umbellata*	Autumn Olive	NI
(xxii) *Euphorbia cyparissias*	Cypress Spurge	NI
(xxiii) *Euphorbia esula*	Leafy Spurge	NI
(xxiv) *Ficaria verna (Ranunculus ficaria)*	Lesser Celandine	FACW
(xxv) *Frangula alnus (Rhamnus frangula)*	Smooth Buckthorn	FAC
(xxvi) *Glyceria maxima*	Reed Manna Grass	OBL
(xxvii) *Heracleum mantegazzianum*	Giant Hogweed	FAC
(xxviii) *Humulus japonicus*	Japanese Hops	FACU
(xxix) *Hydrilla verticillata*	Hydrilla, Water Thyme	OBL
(xxx) *Hydrocharis morus-ranae*	European Frogbit	OBL
(xxxi) *Imperata cylindrica (I. arundinacea, Lagurus cylindricus)*	Cogon Grass	NI
(xxxii) *Iris pseudacorus*	Yellow Iris	OBL
(xxxiii) *Lepidium latifolium*	Broad-leaved Pepper-grass	FACU
(xxxiv) *Lespedeza cuneata*	Chinese Lespedeza	UPL
(xxxv) *Ligustrum obtusifolium*	Border Privet	NI
(xxxvi) *Lonicera japonica*	Japanese Honeysuckle	FACU
(xxxvii) *Lonicera maackii*	Amur Honeysuckle	NI
(xxxviii) *Lonicera morrowii*	Morrow's Honeysuckle	FACU
(xxxix) *Lonicera tatarica*	Tartarian Honeysuckle	FACU
(xl) *Lonicera x bella*	Fly Honeysuckle	FACU
(xli) *Ludwigia hexapetala (L. grandiflora)*	Uruguayan Primrose Willow	NI
(xlii) *Ludwigia peploides*	Floating Primrose Willow	OBL
(xliii) *Lysimachia vulgaris*	Garden Loosestrife	FACW
(xliv) *Lythrum salicaria*	Purple Loosestrife	OBL
(xlv) *Microstegium vimineum*	Japanese Stilt Grass	FAC
(xlvi) *Murdannia keisak*	Marsh Dewflower	NI
(xlvii) *Myriophyllum aquaticum*	Parrot-feather	OBL
(xlviii) *Myriophyllum heterophyllum*	Broadleaf Water-milfoil	OBL
(xlix) *Myriophyllum heterophyllum x M. laxum*	Broadleaf Water-milfoil Hybrid	OBL
(l) *Myriophyllum spicatum*	Eurasian Water-milfoil	OBL

(li) *Nymphoides peltata*	Yellow Floating Heart	OBL
(lii) *Oplismenus hirtellus*	Wavyleaf Basketgrass	NI
(liii) *Persicaria perfoliata (Polygonum perfoliatum)*	Mile-a-minute Weed	FAC
(liv) *Phellodendron amurense*	Amur Cork Tree	NI
(lv) *Phragmites australis*	Common Reed Grass	FACW
(lvi) *Phyllostachys aurea*	Golden Bamboo	NI
(lvii) *Phyllostachys aureosulcata*	Yellow Groove Bamboo	NI
(lviii) *Potamogeton crispus*	Curly Pondweed	OBL
(lix) *Pueraria montana*	Kudzu	UPL
(lx) *Reynoutria japonica (Fallopia japonica, Polygonum cuspidatum)*	Japanese Knotweed	FACU
(lxi) *Reynoutria sachalinensis (Fallopia sachalinensis, Polygonum sachalinensis)*	Giant Knotweed	UPL
(lxii) *Reynoutria x bohemica (Fallopia x bohemica, Polygonum x bohemica)*	Bohemian Knotweed	FACU
(lxiii) *Rhamnus cathartica*	Common Buckthorn	FAC
(lxiv) *Rosa multiflora*	Multiflora Rose	FACU
(lxv) *Rubus phoenicolasius*	Wineberry	FACU
(lxvi) *Salix atrocinerea*	Gray Florist's Willow	FACW
(lxvii) *Silphium perfoliatum*	Cup-plant	FACW
(lxviii) *Trapa natans*	Water Chestnut	OBL
(lxix) *Vitex rotundifolia*	Beach Vitex	NI

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ATTACHMENT 2

Representative Photographs

Attachment 2 - Photo 1. Facing east along northern tree line of existing pipeline corridor in wetland B13-RLR-W2 in Haverstraw, Rockland County, New York. Phragmites is present in large monoculture stands on cleared ROW, with dense stands of multiflowered rose along the southern side of the pipeline where it overlaps with a transmission corridor.

Attachment 2 - Photo 2. Pipeline corridor at Dickey Brook in wetland B13-SPLR-W2 in Peekskill, Westchester County, New York. Large, dominant stands of Phragmites are found bordering the brook in the existing pipeline corridor, but are but not present under the adjacent forested wetland canopy.

Attachment 2 - Photo 3. Facing west across existing pipeline ROW at wetland B13-SPLR-W27 in Yorktown, Westchester County, New York. This small wetland, similar to many of the wetlands delineated in Yorktown, has a large colony of Phragmites in the existing ROW, with Japanese stiltgrass being the dominant herbaceous ground cover in the forested regions (uplands and wetlands) flanking the ROW.

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Spectra Energy Partners

July 27, 2015

Mr. George Oros
Chief of Staff to the County Executive
County of Westchester
148 Martine Ave.
White Plains, NY 10601

Re: Additional Commitments For Construction Work Plan in Blue Mountain Reservation Algonquin Incremental Market Project

Dear Mr. Oros:

By this letter, Algonquin Gas Transmission, LLC ("Algonquin") hereby agrees to the following additional commitments regarding its construction of the Algonquin Incremental Market Project (the "AIM Project") within the Blue Mountain Reservation ("Reservation").

I. Algonquin agrees to arrange a pre-construction meeting between its pipeline contractor and County staff approximately one month prior to the commencement of any construction activities within the Reservation.

II. Algonquin agrees to videotape the hiking/biking trails to be crossed by the replacement pipeline or by its contractor's vehicles and equipment prior to construction and after construction is complete. Algonquin shall repair any damage to such trails to their pre-construction condition.

III. Algonquin agrees that its removal of the existing 26-inch diameter pipeline within the Reservation shall comply with all Standard Operating Procedures as described in Resource Report 12 of Algonquin's application for the FERC Certificate and with all federal and state Environmental Laws. Specifically, any liquids or solids within the pipeline will be carefully collected and controlled and will be handled initially as if they contain Hazardous Substances when collected and removed off-site. All pipe and pipe components excavated for removal will be wrapped with black UV 120 gauge stretch wrap, shrink wrap or equivalent to protect the pipe coating during transportation and storage. Wrapping of the pipe and/or pipe components will occur once the pipe is excavated and cut into < 40-foot joints but prior to loading on trucks to transport to the designated Project pipe yard in Dansville, New York where the pipe will be properly disposed of or recycled.

IV. Algonquin agrees that the boundaries of all wetlands located within the Reservation (regardless of whether the wetland was or was not listed in the construction work plan), will be properly marked and the construction and restoration of all such wetlands will follow the requirements of all governmental approvals, including permits issued by the U.S. Army Corps of Engineers and the New York State Department of Environmental Conservation.

V. Algonquin agrees to provide a copy of its weekly construction reports filed with the Federal Energy Regulatory Commission ("FERC") to the County.

VI. In the event that future modifications are made to the March 3, 2015 Certificate of Public Convenience and Necessity issued by FERC (the "FERC Certificate") that would then require a modification to the Access and Use License executed between the County and Algonquin for the Reservation, Algonquin commits to work with the County to modify such License so that it conforms to the modified FERC Certificate. However, changes to the FERC Certificate or any other governmental approval that do not conflict with the terms of the Access and Use License do not trigger the need to modify the License because the License already requires Algonquin to comply with all governmental approvals.

Sincerely,

James Luskay
Regional Director of Engineering and Construction