



**Application of Iroquois Gas  
Transmission System, L.P. for a  
Certificate of Public Convenience  
and Necessity**

**Docket No. CP13- -000**

**WRIGHT INTERCONNECT  
PROJECT**

**Wright, New York**

**VOLUME I –  
FERC APPLICATION  
Exhibits A, B, C, D, F, I, J, K, L,  
N, and Z-1  
Public Portions of Exhibits G, G-  
I, and G-II**

**June 2013**



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June 13, 2013

BY ELECTRONIC TRANSMISSION

The Honorable Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

Re: *Iroquois Gas Transmission System, L.P.*, Docket No. CP13-\_\_\_-000;  
Abbreviated Application of Iroquois Gas Transmission System, L.P. for a Certificate of  
Public Convenience and Necessity, Request for Approval of Capacity Lease Agreement,  
and for Expedited Consideration

**CRITICAL ENERGY INFRASTRUCTURE INFORMATION AND PRIVILEGED  
AND CONFIDENTIAL INFORMATION CONTAINED IN VOLUMES III AND  
IV**

Dear Secretary Bose:

Pursuant to Section 7 of the Natural Gas Act ("NGA"), 15 U.S.C. § 717f (2006), and Part 157 of the regulations of the Federal Energy Regulatory Commission ("Commission"), 18 C.F.R. § 157 (2012), Iroquois Gas Transmission System, L.P. ("Iroquois") hereby submits this application for a certificate of public convenience and necessity and for approval of a proposed capacity lease agreement.

As explained in the enclosed application and its accompanying attachments, Iroquois respectfully requests that the Commission authorize it to:

- (1) construct, install, own, operate, and maintain certain new pipeline interconnection and compression facilities to be located in Wright, New York and to modify certain existing facilities at that same location, and
- (2) lease the incremental pipeline capacity associated with these new and modified facilities to Constitution Pipeline Company, LLC ("Constitution"), a proposed new interstate gas pipeline company for which FERC certificates and other necessary authorizations are being sought concurrently with this Certificate Application.



Iroquois' proposed project, which is known as the Wright Interconnect Project ("WIP" or "Project"), will allow Iroquois to establish a new receipt interconnection with Constitution and create an incremental 650,000 dekatherms per day (Dth/d) of primary firm transmission capacity from that new point of interconnection with Constitution to interconnections with Iroquois' mainline system as well as Tennessee Gas Pipeline Company, LLC. That new capacity will be leased to Constitution under a long-term capacity lease, to be operated as part of Constitution's FERC jurisdictional natural gas pipeline system and subject to the terms of Constitution's FERC gas tariff.

In order for Iroquois to meet the Project's proposed in-service date of March 31, 2015, Iroquois must commence construction of the Project facilities by mid-summer 2014. Accordingly, Iroquois respectfully requests that the Commission review this Certificate Application on an expedited basis, and issue a final Certificate Order approving the Project by May 1, 2014.

In accordance with Part 157 of the Commission's regulations, Iroquois is submitting, in electronic form, the following materials:

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| Volume I:<br><b>(Public)</b>                                       | The Application and public exhibits other than the Environmental Resource Reports (Exhibits A, B, C, D, I, J, K, L, N, and Z-1). Volume I also contains the public portions of Exhibits G, G-I, and G-II.   |
| Volume II:<br><b>(Public)</b>                                      | The public portions of Exhibit F and the Environmental Resource Reports in Exhibit F-I, consisting of Appendices A through H.   |
| Volume III:<br><b>(Critical Energy Infrastructure Information)</b> | Appendix J, as well as the non-public portions of Exhibit F-I and the non-public portions of Exhibits G, G-I, and G-II, which include specific technical information pertaining to Iroquois' pipeline facilities and nearby energy infrastructure, the disclosure of which could be useful to a person planning an attack on this infrastructure. Accordingly, and pursuant to the Commission's regulations and filing instructions, Iroquois requests treatment of this Volume as Critical Energy Infrastructure Information, and it is marked "CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION - DO NOT RELEASE." |



**Volume IV:  
(Privileged)**

Appendix I and Appendices L through O of Exhibit F-I, which material comprises privileged cultural resource and landowner identification information that should be treated on a confidential basis and not subject to public disclosure. *See* 18 C.F.R. § 380.12(f)(4) (2012). Volume IV also includes that portion of Exhibit I which contains a copy of the Precedent Agreement between Iroquois and Constitution. The Precedent Agreement contains confidential, proprietary, and commercially sensitive information, the disclosure of which could unnecessarily harm the parties. Accordingly, and pursuant to the Commission's regulations and filing instructions, Iroquois requests treatment of this Volume as Privileged, and it is marked "CONTAINS PRIVILEGED INFORMATION - DO NOT RELEASE."

The person to be contacted regarding these requests for privileged treatment is the undersigned at (203) 925-7201 or [helen\\_gallagher@iroquois.com](mailto:helen_gallagher@iroquois.com).

Please contact the undersigned if there is any additional information you require or if you have any questions about this submission.

Respectfully submitted,

Helen M. Gallagher  
Director of Legal Services and Secretary,  
Iroquois Pipeline Operating Company

As agent for

Iroquois Gas Transmission System, L.P.

Enclosures

cc: Kevin J. Bowman  
Charles T. Brown

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**Iroquois Gas Transmission System, L.P. )      Docket No. CP13-\_\_-000**

**ABBREVIATED APPLICATION OF  
IROQUOIS GAS TRANSMISSION SYSTEM, L.P.  
FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY,  
REQUEST FOR APPROVAL OF CAPACITY LEASE AGREEMENT,  
AND REQUEST FOR EXPEDITED CONSIDERATION**

Pursuant to Section 7 of the Natural Gas Act (“NGA”), 15 U.S.C. § 717f (2006), and Part 157 of the regulations of the Federal Energy Regulatory Commission (“Commission”), 18 C.F.R. Part 157 (2012), Iroquois Gas Transmission System, L.P. (“Iroquois”) hereby submits this application for a Certificate of Public Convenience and Necessity and for approval of a proposed capacity lease agreement (together, “Certificate Application”). Iroquois respectfully requests that the Commission authorize it to (1) construct, install, own, operate, and maintain certain new compression facilities to be located in Wright, New York, and to modify certain existing facilities at that same location, and (2) lease the incremental capacity associated with these new and modified facilities to Constitution Pipeline Company, LLC (“Constitution”), a proposed new interstate gas pipeline company for which FERC certificates and other necessary authorizations are being sought concurrently with this Certificate Application. Iroquois’ proposed project, which is known as the Wright Interconnect Project (“Project” or “WIP”), will allow Iroquois to establish a new receipt interconnection with Constitution

and create an incremental 650,000 dekatherms per day (Dth/d) of primary firm transmission capacity from that new point of interconnection with Constitution to interconnections with Iroquois' mainline system as well as Tennessee Gas Pipeline Company, LLC ("Tennessee" or "TGP"). That new capacity will be leased to Constitution under a long-term capacity lease, to be operated as part of Constitution's FERC-jurisdictional natural gas pipeline system and subject to the service terms of Constitution's FERC gas tariff. Iroquois accordingly also requests the Commission's approval of its proposed Capacity Lease Agreement with Constitution.

Iroquois needs to commence construction of the Project facilities by mid-summer 2014 so that the Project can be placed into service in conjunction with Constitution's proposed in-service date of March 31, 2015. In order to meet this schedule, Iroquois respectfully requests that the Commission conduct its review of this Certificate Application on an expedited basis, and issue a final Certificate Order approving the Project by May 1, 2014.

In support of this Certificate Application, and pursuant to the Commission's applicable regulations and guidelines, Iroquois respectfully states the following:

## **I. EXECUTIVE SUMMARY**

In this Certificate Application, Iroquois requests authority to construct and operate the WIP facilities in order to establish a new point of interconnection with Constitution as well as 650,000 Dth/d of primary firm pipeline capacity from that new receipt point to Iroquois' existing mainline system as well as the Tennessee interstate pipeline system in Wright, New York. Iroquois and Constitution have entered into a precedent agreement pursuant to which Iroquois will construct, own, and operate the WIP

facilities, and then lease the entirety of the new receipt point capacity as well as the full 650,000 Dth/d of primary firm WIP capacity to Constitution so that Constitution can use this capacity as part of its own interstate pipeline system. This Project effectively serves as the last leg of a major new interstate pipeline project being developed by Constitution. The Constitution Pipeline will provide 650,000 Dth/d of new firm natural gas transportation capacity from Susquehanna County, Pennsylvania, to the interstate pipeline systems of Iroquois and Tennessee in Wright Township, Schoharie County, New York, thus bringing substantial new natural gas supply resources to markets in New England and New York.<sup>1</sup>

In order to interconnect Constitution with Iroquois and Tennessee, Iroquois proposes to (1) construct a new receipt point interconnection with Constitution, (2) construct a new transfer compressor station (to be known as the Constitution Transfer Compressor Station) and natural gas cooling facilities at Wright, including two turbo-compressors of approximately 10,900 horsepower (HP) each, (3) modify Iroquois' existing Wright Compressor Station so that its existing Wright compressors can work efficiently and synergistically with the new transfer compressors, (4) modify Iroquois' existing Tennessee metering facilities, and (5) augment Iroquois' existing odorization facilities in order to accommodate the new deliveries of gas from Constitution.

Under its Precedent Agreement with Constitution, Iroquois has committed, subject to the fulfillment of various conditions precedent, to achieve a WIP service commencement date of March 31, 2015, which coincides with the anticipated in-service date of the Constitution Pipeline. In order to meet this target, Iroquois will need to

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<sup>1</sup> Contemporaneous with the filing of this Certificate Application, Constitution is filing its own certificate application for authority to construct, own, and operate the Constitution Pipeline, and to use the leased Iroquois WIP capacity in its provision of jurisdictional service.

commence construction no later than mid-summer 2014. Accordingly, Iroquois respectfully requests that the Commission issue a final Certificate Order approving the Project by May 1, 2014.

Iroquois' WIP proposal provides substantial benefits for both Iroquois' existing customers and Constitution. As a preliminary matter, the interconnection with Constitution will bring a major new supply source to Iroquois' existing system customers. Moreover, by leveraging Iroquois' existing compressor facilities in Wright, New York, the Project allows Constitution to achieve the necessary compression to interconnect with Iroquois and Tennessee with only 21,800 HP, as opposed to 32,000 HP<sup>2</sup> if Constitution were to construct its own compression facilities near Wright, New York. The Project will also be constructed on land that is already owned by Iroquois. At the same time, given Iroquois' intention to operate the new Constitution Transfer Compressor Station in a coordinated manner with its existing Wright Compressor Station, the Project will provide additional benefits to Iroquois' existing system customers at no cost, including improved reliability and lower fuel rates. Thus, the Project will help minimize costs, environmental impacts, fuel consumption, and emissions while enhancing reliability and expanding the operational flexibility of Iroquois' compression facilities at Wright.

The estimated cost of the WIP facilities is approximately \$75,000,000. Iroquois' existing customers will not experience any negative rate impacts associated with those costs. This is because the monthly lease payments that Constitution will make to Iroquois under their long-term capacity lease will fully support both the capital and

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<sup>2</sup> On May 21, 2012, Constitution filed draft Resource Report 1 in FERC Docket No. PF12-9, which indicated, on Page 1-5, Constitution's intention to utilize 32,000 HP of compression to interconnect with the Iroquois system.

associated operating costs of the Project. Moreover, Iroquois will separately account for all WIP costs, and segregate those costs from its mainline system costs of service. The proposed capacity lease will be in place for a fifteen-year primary term with an optional five-year extension term. The fixed monthly lease payments are analogous to a levelized rate that is structured to recover all costs associated with the Project. As such, the monthly lease payments will be no higher than the maximum recourse rate that would be established for this Project if Iroquois were to provide transportation service thereunder.

As demonstrated below, the Project satisfies the Commission's 1999 Policy Statement regarding new natural gas pipeline construction projects because it (1) will not be subsidized by Iroquois' existing customers, (2) will not adversely impact other pipelines, landowners, or the environment, and (3) provides multiple benefits. Furthermore, the Project's proposed capacity lease agreement between Iroquois and Constitution satisfies the Commission's requirements for capacity leases because it (1) offers multiple benefits in terms of minimizing construction, costs, and environmental impacts as well as enhancing reliability and overall system operational efficiencies, (2) contains monthly lease payments that are less than or equal to the stand-alone firm transportation rates that Iroquois would have proposed as initial rates for comparable service, and (3) does not adversely affect Iroquois' existing customers.

Given all the benefits the Project provides and its lack of adverse impacts, Iroquois submits that the Project is in the public interest and should be certificated by the Commission, and the Capacity Lease Agreement should be approved.

## II. CORRESPONDANCE AND COMMUNICATIONS

Communications regarding this Certificate Application should be directed to the following:

Helen M. Gallagher  
Director of Legal Services and  
Secretary  
Iroquois Pipeline Operating Company  
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## III. APPLICANT

The exact legal name of the Applicant is Iroquois Gas Transmission System, L.P. Iroquois is a Delaware limited partnership comprised of affiliates of five United States and Canadian energy companies. Iroquois' principal office is located at One Corporate Drive, Suite 600, Shelton, Connecticut 06484.

Iroquois' general partners are affiliates of National Grid ("National Grid");<sup>3</sup> Iberdrola USA;<sup>4</sup> New Jersey Resources Corporation ("NJ Resources");<sup>5</sup> Dominion Resources, Inc. ("Dominion");<sup>6</sup> and TransCanada PipeLines Limited ("TransCanada").<sup>7</sup> The limited partners are affiliates of National Grid; Iberdrola USA; NJ Resources; and TransCanada. The Iroquois partnership does not itself have employees; rather, its

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<sup>3</sup> The two National Grid Iroquois partners are North East Transmission, Inc. and KeySpan IGTS Corp.

<sup>4</sup> The Iberdrola, USA Iroquois partner is named TEN Transmission.

<sup>5</sup> The NJ Resources Iroquois partner is named NJNR Pipeline Company.

<sup>6</sup> The Dominion Iroquois partner is named Dominion Iroquois, Ltd.

<sup>7</sup> The two TransCanada Iroquois partners are named TransCanada Iroquois Ltd. and TCPL Northeast Ltd.

wholly-owned subsidiary corporation, Iroquois Pipeline Operating Company (“IPOC”), was created for the purpose of conducting the pipeline’s operations under the guidance of the Iroquois Management Committee, a governing body with representatives from the five partner corporate families. IPOC, which has approximately 85 employees, conducts the day-to-day operations of the Iroquois system.

Iroquois is engaged in the business of transporting natural gas in interstate commerce under authorizations granted by, and subject to the jurisdiction of, the Commission. The Iroquois system is 416 miles long and extends from the U.S.-Canadian border at Iroquois, Ontario and Waddington, New York through New York State, western Connecticut and under the Long Island Sound to South Commack, New York, and then extends back under the Sound to a terminus at Hunts Point in the Bronx.

In addition to providing transportation service to shippers in New York, New Jersey, and New England, Iroquois provides upstream transportation service for shippers that receive downstream transportation service from Tennessee, Dominion Transmission Inc. (“DTI”), and Algonquin Gas Transmission, LLC (“Algonquin”). Iroquois has the following U.S. interstate gas pipeline interconnections: (1) with Tennessee at Wright, New York and Shelton, Connecticut, (2) with DTI at Iroquois’ Canajoharie meter station located near Fort Plain, New York, and (3) with Algonquin in the Town of Brookfield, Connecticut.

In its two most recent NGA Section 7(c) certificate proceedings, Iroquois was granted authority to construct and operate facilities that enable it to receive as well as deliver gas at its interconnection with Algonquin at Brookfield. Specifically, in Docket

No. CP02-31-002,<sup>8</sup> Iroquois was authorized to construct a new compressor station at Brookfield and associated facilities for the purpose of receiving from Algonquin and redelivering to a primary point of delivery at Hunts Point, New York, on firm basis, 100,000 Dt/d of natural gas. Those facilities were placed into service on November 1, 2008. In Docket No. CP07-457-000,<sup>9</sup> Iroquois was granted authority to construct and operate approximately 1.6 miles of pipeline loop in Newtown, Connecticut, new compressor facilities at Milford, Connecticut, a second compressor unit at Brookfield, and other associated facilities for the purpose of receiving, at the Algonquin primary receipt point, and redelivering, at the South Commack, New York primary delivery point, an additional firm quantity of 200,000 Dt/d. Those phased facilities were completed and placed into service between November 4, 2008 and November 1, 2009.

#### IV. PROJECT BACKGROUND

The Project serves as the final leg of a major new interstate pipeline project developed by Constitution and for which certificate authority is being sought by Constitution concurrently with the instant Certificate Application. Constitution commenced its FERC review process with a pre-filing proceeding initiated in Docket No. PF12-9-000 on April 5, 2012. In PF12-9, Constitution explained that its new interstate gas pipeline will provide 650,000 Dth/d of new firm natural gas transportation capacity from two receipt points in Susquehanna County, Pennsylvania, to proposed

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<sup>8</sup> *Millennium Pipeline Company, L.L.C., et al.*, 117 FERC ¶ 61,319 (2006), *on reh'g*, 119 FERC ¶ 61,173 (2007).

<sup>9</sup> *Iroquois Gas Transmission System, L.P.*, 122 FERC ¶ 61,242 (2008).

interconnections with Iroquois and Tennessee in Schoharie County, New York.<sup>10</sup> Originally, Constitution proposed to construct and operate its own 32,000 HP gas turbine-driven compressor station in Schoharie County. However, Constitution and Iroquois subsequently negotiated and agreed to an alternative to Constitution's original planned configuration.

On December 11, 2012, Iroquois and Constitution entered into a Precedent Agreement<sup>11</sup> pursuant to which Iroquois has agreed, subject to the satisfaction of various conditions precedent, to (1) construct, own, and operate the Constitution Transfer Compressor Station, (2) modify Iroquois' existing Wright Compressor Station, (3) construct a new point of interconnection between Iroquois and Constitution ("Wright CPL"), (4) modify its existing delivery meter with Tennessee or construct a new meter facility to allow for the delivery of the additional gas from Constitution, and (5) modify its existing odorization facilities to accommodate the odorization of Constitution-delivered gas. All of the Project facilities are to be located on property already owned by Iroquois at 320 Westfall Road in the Town of Wright, New York, where the existing Iroquois Wright Compressor Station is located. The Precedent Agreement also contemplates that, in lieu of Constitution's construction of its originally proposed points of interconnection with Iroquois and Tennessee, Iroquois would lease to Constitution 650,000 Dth/d of primary firm transportation capacity, as well as 100% of the receipt capacity, firm and interruptible, at the new Wright CPL receipt point (together, the

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<sup>10</sup> *Constitution Pipeline Company, LLC*, Docket No. PF12-9-000, Request for Pre-Filing Review, dated April 5, 2012.

<sup>11</sup> A copy of the parties' Precedent Agreement ("PA") is included in Volume IV of this filing. Iroquois hereby seeks protected treatment of the PA given the competitive sensitivity of its terms. This request is consistent with other grants of protected treatment afforded by the Commission for precedent and other similar commercial agreements in other certificate application proceedings. *See, e.g., Tennessee Gas Pipeline Company, L.L.C.*, 140 FERC ¶ 61,120 (2012).

“Wright II Capacity”). The 650,000 Dth/d of leased capacity would extend from the Wright CPL receipt point to any of the following three delivery points:

- (a) Iroquois Zone 1 at Wright, New York (Wright IZ1);
- (b) Iroquois Zone 2 at Wright, New York (Wright IZ2); and
- (c) Iroquois’ existing interconnection with Tennessee at Wright, New York (Wright TGP).

The parties agreed to a proposed in-service date of March 31, 2015 for the Project, which coincides with the anticipated in-service date of the Constitution Pipeline Project.

As detailed below and in the attached Resource Reports, the Project provides multiple benefits for both Iroquois’ existing customers and Constitution. As a preliminary matter, the interconnection with Constitution will bring a major new supply source to Iroquois’ existing system customers. Moreover, by leveraging Iroquois’ existing compressor facilities in Wright, New York, the Project allows Constitution to achieve the necessary compression to interconnect with Iroquois and Tennessee with only 21,800 HP, as opposed to 32,000 HP if Constitution were to construct its own compression facilities near Wright, New York. The Project will also be constructed on land that is already owned by Iroquois, in close proximity to a site that is already being used for Iroquois’ existing compression facilities, thus avoiding the need to develop a new site to house the compression needed by Constitution. Given Iroquois’ intention to operate the new Constitution Transfer Compressor Station in a coordinated manner with its existing Wright Compressor Station, the Project will provide additional benefits to Iroquois’ existing system customers at no cost, including improved reliability and lower fuel rates. Thus, the Project will help minimize costs, environmental impacts, fuel

consumption, and emissions while maintaining reliability and expanding the operational flexibility of Iroquois' compression facilities at Wright.

## V.

### DESCRIPTION OF PROPOSED FACILITIES

#### A. FACILITIES AND OPERATION

Currently, Iroquois owns and operates two mainline compressor units of approximately 7,200 HP each, along with associated natural gas cooling at the Wright Compressor Station. The compressors at the Wright Compressor Station allow Iroquois to transport natural gas on behalf of its firm customers from Iroquois' interconnect with TransCanada at Waddington, New York to points in Iroquois Zone 2 downstream of this facility. The present maximum allowable operating pressure ("MAOP") of Iroquois' system near the Wright Compressor Station is 1,440 pounds per square inch gauge ("psig").

Additionally, at the proposed Project location in Wright, New York, Iroquois owns and operates the Wright Meter Station, which currently delivers gas from the suction side of the Wright Compressor Station to the Tennessee 200 Line. The delivery of natural gas is accomplished with no compression because Iroquois operates its pipeline at a higher pressure (typically 900 – 1,100 psi) than that of the Tennessee 200 Line (typically 600 - 760 psi). Iroquois also has odorization facilities at its Wright Compressor Station and odorizes all gas delivered from Iroquois to Tennessee at Wright, New York, in addition to all Iroquois gas delivered downstream of Wright, New York.

In order to receive natural gas from Constitution and provide the proposed primary firm transmission capacity, Iroquois will construct, adjacent to the existing Wright Compressor Station facilities, a new transfer compressor station that will house

two turbo-compressors of approximately 10,900 HP each in a common building. This new compressor station will increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois' system. Natural gas received from Constitution will be at a higher pressure than Tennessee's prevailing line pressure and therefore will not require compression for redelivery to Tennessee.

In addition, the Project facilities include a local control building, natural gas coolers, gas filters, an emergency generator, and a domestic gas building, in addition to associated paving and access areas. Iroquois will also augment its current natural gas odorization system, the existing Wright Meter Station through which it delivers gas to Tennessee ("Wright TGP"), and gas delivered downstream of its existing Wright Compressor Station. Among such enhancements, a blend valve will be installed to allow commingling of volumes during low flow conditions from both Constitution and Iroquois Zone 1 so that only one compressor will need to be operated at a time. This flexibility will allow Iroquois to operate the minimum amount of compression needed at any time, thereby conserving fuel and reducing emissions. By taking advantage of existing compression to provide backup for the Constitution Transfer Compressor Station, Iroquois will be able to provide similar reliability to that proposed by Constitution in its original, Docket No. PF12-9-000, proposed facility configuration, but with only 21,800 HP, rather than 32,000 HP. All these various facilities are described in greater detail in Exhibit F-I attached to this Certificate Application at Volume II.

**B. PRO FORMA CAPACITY LEASE AGREEMENT**

The *pro forma* Capacity Lease Agreement ("Capacity Lease Agreement") between Iroquois and Constitution - which is the form of agreement that will be entered

into by the two pipelines upon satisfaction of the applicable conditions precedent under the Precedent Agreement - is attached in Exhibit I. The Capacity Lease Agreement is structured as an operating lease. Iroquois will own, operate, and maintain the facilities proposed in this Certificate Application. Constitution will lease and use the Wright II Capacity – comprised of 650,000 Dth/d of primary firm capacity and 100% of the receipt capacity, firm and interruptible, at Wright CPL – as part of its own new interstate pipeline system. The Capacity Lease Agreement includes an initial fifteen-year primary term (“Initial Term”) that Constitution can extend for a subsequent five year term (“Extension Term”) so long as it provides Iroquois 30 months written notice of its election to do so. At the conclusion of the Capacity Lease Agreement, the Wright II capacity will revert back to Iroquois’ control for use as part of its own interstate pipeline system, and the parties agree to cooperate in obtaining whatever regulatory authorizations are necessary to reflect such change.

Under the Capacity Lease Agreement, Constitution will pay a fixed Monthly Lease Rate of \$1,083,333 during its Initial Term. This monthly lease payment will recover both capital and operating costs associated with the Project during the lease term. Moreover, as discussed below, this fixed Monthly Lease Rate is no higher than a maximum recourse rate would be for this Project if Iroquois were to provide transportation service through the Project facilities on a stand-alone basis, as opposed to leasing the capacity to Constitution.

Given that it may be possible for the leased Wright II capacity to accommodate service in excess of 650,000 Dth/d on a non-firm basis, the Capacity Lease Agreement includes, in the leased quantities, the ability for Constitution to use such additional

interruptible capacity. Specifically, if on any day Iroquois is able to accommodate Constitution's nomination at the Wright CPL point of greater than 650,000 Dth/d, Constitution will pay an additional \$0.0548 per Dth to Iroquois ("Supplemental Lease Rate"). If Constitution chooses to extend the Capacity Lease Agreement, the Monthly Lease Rate and Supplemental Lease Rate will decrease to \$791,667 and \$0.0400 per Dth, respectively, during a five-year "Extension Term."

For all capacity utilized by Constitution under the Capacity Lease Agreement, Iroquois will assess Constitution a Measurement Variance/Fuel Use ("MV/FU") factor to account for and recover lost and unaccounted-for gas on Iroquois' system and fuel requirements associated with the Project facilities. This Constitution-specific MV/FU is set forth in the Capacity Lease Agreement in a formula analogous to the current Iroquois system-wide MV/FU.<sup>12</sup> As detailed in Section VII of this Certificate Application, Iroquois' MV/FU factor will properly allocate responsibilities for fuel at all of Iroquois' facilities at Wright, New York between Constitution and Iroquois' system customers.

### C. COST

As detailed in Exhibit K, the total cost of the proposed Project facilities is currently estimated to be approximately \$75.0 million. The allowance for funds used during construction (AFUDC) included in Exhibit K is calculated in compliance with the Commission's AFUDC policy.<sup>13</sup>

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<sup>12</sup> Iroquois estimates that the MV/FU factor specified in the Capacity Lease Agreement would be approximately 0.46 percent assuming 100 percent load factor utilization of the firm capacity under the Capacity Lease Agreement.

<sup>13</sup> *Southern Natural Gas Co.*, 130 FERC ¶ 61,193 (2010).

#### **D. MARKET**

Iroquois has contracted to lease all of the capacity associated with the Project to Constitution.<sup>14</sup> As such, the Project capacity has been fully subscribed for the initial term of the Lease Agreement. The proposed commencement date for the Capacity Lease Agreement is March 31, 2015, and it will continue for a primary term of fifteen years, with a potential five-year extension at an adjusted rate as specified in the Capacity Lease Agreement, at the option of Constitution.

### **VI.** **PUBLIC CONVENIENCE AND NECESSITY**

#### **A. THE PROJECT SATISFIES THE REQUIREMENTS OF THE COMMISSION'S 1999 POLICY STATEMENT.**

In its 1999 Policy Statement,<sup>15</sup> the Commission established a three-part analysis for balancing the public benefits of a new natural gas pipeline construction project against its potential adverse impacts. The threshold question is whether a project can proceed without subsidies from the pipeline's existing customers. The Commission next determines whether an applicant has taken steps to minimize or eliminate adverse impacts of the project on its existing customers, other existing pipelines, and landowners and

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<sup>14</sup> The Commission generally requires pipelines proposing to construct incremental capacity to conduct an open season or preliminary request period for potential customers. Here, however, Iroquois is not proposing to provide any incremental service; rather, it is proposing to lease the Wright II Capacity to Constitution, which will use that capacity to provide its own FERC-jurisdictional interstate service. As such, Iroquois did not conduct an open season with regard to the WIP. However, Constitution did hold an open season for the 650,000 Dth/d of firm natural gas transportation service it will provide on the Constitution Pipeline, which will include the facilities leased from Iroquois. *See Constitution Pipeline Company, LLC*, Docket No. PF12-9, Draft Resource Report 1 at 1-1, dated May 21, 2012. This is consistent with other cases involving the construction of capacity to be leased to a FERC-jurisdictional pipeline. *See, e.g., Tennessee Gas Pipeline Co.*, 136 FERC ¶ 61,173 at PP 15, 33-39 (2011).

<sup>15</sup> *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227 (1999), *clarified*, 90 FERC ¶ 61,128, *further clarified*, 92 FERC ¶ 61,094 (2000) ("1999 Policy Statement").

communities along the route of the project. Finally, the Commission balances the public benefits to be achieved against the residual adverse effects of the project to determine if the facilities should be approved. As demonstrated by the following discussion, the Project is consistent with and fulfills the goals of the 1999 Policy Statement, and should be approved by the Commission through the issuance of the requested certificate.

*1. The Project Meets the No-Subsidy Test.*

Consistent with the Commission's 1999 Policy Statement, the schedule set forth at Exhibit N hereto details the anticipated annual costs of the Project and the system revenues associated with the capacity lease described above. As demonstrated in Section V.B. above and Section VI.B.2 below, Constitution's monthly lease payments to Iroquois will fully support the costs of the Project during the Initial Term of the Lease Agreement and Iroquois will separately account for the costs associated with the Project and segregate those costs from its other system costs. As such, the Project will not result in any subsidization by Iroquois' existing shippers, and its costs and revenues will be accounted for separately by Iroquois in the same manner that the Commission prescribes for new service projects that use incremental rate treatment.

In addition, the Project will provide several non-rate benefits to Iroquois' existing system customers at no cost, as detailed below, including new access to increased supplies of natural gas, improved reliability of service, and lower fuel rates. Thus, the Project meets the Commission's no-subsidy test.

*2. The Project Will Not Adversely Impact Other Pipelines, Other Landowners, or the Environment.*

The Project will have no significant adverse impacts on any of the other interests identified in the 1999 Policy Statement – the interests of existing pipelines (and their

customers) and of landowners. While Iroquois' capacity to be leased to Constitution will be incremental to its own existing capacity, the Project represents the final leg of the proposed new Constitution Pipeline and will therefore not create any additional incremental capacity on Iroquois' pipeline system. Furthermore, as described more fully in the Environmental Report attached hereto at Volume II, all of the new construction and modifications that will take place under the Project will be located entirely on property already owned by Iroquois and on which an Iroquois compressor station and other above-ground facilities already exist. This represents a significant benefit over the original Constitution proposal, which would have called for the placement of a new compressor station on other, previously undisturbed, property in Schoharie County, New York. As such, the Project minimizes the impact on landowners and the environment.

Minimal tree clearing will take place at the construction site, and the remaining trees and foliage will provide natural screening to minimize potential visual and/or noise impacts of the Project. Iroquois will clear trees only to the extent necessary to (i) construct the compressor station buildings, (ii) provide a suitable safety buffer around the buildings, (iii) construct the gas coolers, and (v) construct temporary work areas and other facilities, as set forth herein.

Iroquois commits to follow Commission Staff's Upland Erosion Control, Revegetation, and Maintenance Plan ("Plan") and the Wetland and Waterbody Construction and Mitigation Procedures ("Procedures") (2013),<sup>16</sup> and to use the same

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<sup>16</sup> The Commission Staff's updated Plan and Procedures documents were recently issued, for effectiveness as of May 31, 2013. Iroquois is still reviewing the changes from the prior, 2003, version of the Plan and Procedures and will follow the Plan and Procedures variance request process if there are any issues. Also in this regard, Iroquois confirms that its intended construction timeframe for this Project does not include winter construction; thus, no project-specific winter construction plan is included with this Application.

approach toward building design that has been accepted and implemented successfully by Iroquois for its other compressor stations and received favorably by the local communities. As outlined in greater detail in the attached Resource Reports, the Project has been developed to minimize community and environmental impacts, in response to feedback received by Constitution during its Pre-Filing Process in Docket No. PF12-9. Iroquois' proposed facilities will not significantly affect any cultural resources, public recreational areas, important wildlife habitat, or surface water resources.

3. *The Benefits of the Project Outweigh Any Potential Adverse Impacts.*

The benefits of the Project are both numerous and substantial. First, Iroquois' existing customers in both its Zone 1 and Zone 2 will have access to a substantial new supply of natural gas – at no additional cost for such access – as a result of the Project. Second, the transfer compression facilities that Iroquois will build under the Project – again, at no additional cost to Iroquois' existing customers – will be available to work in harmony with Iroquois' existing compressors that support its existing customer service, and their presence will enhance reliability for Iroquois' existing customers (just as the existing Iroquois compressors will act to enhance reliability for the capacity leased to Constitution to the extent compression is required). By way of example, if one set of compressors must be taken out of service for maintenance or repairs, the other set of compressors can be used to help Iroquois maintain service levels and avoid interruptions or curtailments. Third, Iroquois plans to use its new and existing compression facilities at Wright on a coordinated basis in order to minimize their operation for the benefit of its existing customers and Constitution, as well as the surrounding community and the environment. This flexibility will allow Iroquois to minimize the amount of compression

it needs to successfully and reliably deliver gas on its system from Wright, thereby conserving fuel for both Constitution and Iroquois' existing customers, and reducing emissions. As noted below, moreover, Iroquois will update its current tariff fuel retention mechanism (its Measurement Variance/Fuel Use Factor tariff protocol set forth at Section 2.27 of the General Terms and Conditions of Iroquois' FERC Gas Tariff) to ensure that gas requirements at Wright are allocated, as between Constitution and Iroquois' mainline shippers, so that there is no subsidization, and each customer group is responsible for only those gas requirements incurred to provide its service.

Thus, there will be no adverse impacts on Iroquois' existing shippers. Furthermore, Iroquois has configured the proposed facilities to minimize disturbance to the environment and to landowners, and to maximize economic efficiencies. In light of these benefits and the demonstrated market need, the Project satisfies all the requirements of the 1999 Policy Statement, and should be approved as required by the present and future public convenience and necessity.

**B. THE PROJECT SATISFIES THE COMMISSION'S REQUIREMENTS FOR CAPACITY LEASES.**

The Commission will approve a capacity lease if it finds that: (1) there are benefits from using a capacity lease arrangement; (2) the lease payments are less than, or equal to, the lessor's firm transportation rates for comparable service over the term of the capacity lease; and (3) the lease arrangement does not adversely affect existing customers.<sup>17</sup> Iroquois respectfully submits that its proposed capacity lease with Constitution meets all of these criteria.

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<sup>17</sup> See, e.g., *Tennessee Gas Pipeline Co.*, 136 FERC ¶ 61,173 at P 33; *Texas Gas Transmission, LLC*, 113 FERC ¶ 61,185 at P 10 (2005); *Islander East Pipeline Co., L.L.C.*, 100 FERC ¶ 61,276 at P 69 (2002); *Midcontinent Express Pipeline LLC*, 124 FERC ¶ 61,089 (2008), *order denying rehearing and granting clarification*, 127 FERC ¶ 61,164 (2009), *order on remand*, 134 FERC ¶ 61,155 at PP 4, 13–17 (2011).

As relevant to the following discussion, Iroquois notes at the outset that Constitution will be a natural gas company under the NGA and, in its companion certificate application, is seeking NGA Section 7(c) certificate authorization from the Commission to acquire, via the long-term Capacity Lease Agreement, Iroquois' capacity that will be created through the instant Project. Iroquois recognizes that once acquired, Constitution in essence will control the Iroquois capacity created by the Project, and the capacity will be subject to Constitution's tariff.<sup>18</sup> Thus, this capacity will be dedicated to interstate transportation and regulated by the Commission under the NGA.

*1. The Project Demonstrates Significant Benefits from Using a Capacity Lease Arrangement.*

The Commission has found that capacity leases can promote efficient use of existing facilities, avoid construction of duplicative facilities, reduce the risk of overbuilding, reduce costs, and minimize environmental impacts.<sup>19</sup> Additionally, leases can also result in administrative efficiencies for shippers.<sup>20</sup>

In this instance, the proposed lease between Iroquois and Constitution provides all of these recognized benefits. As described above, leasing the WIP capacity to Constitution not only helps avoid duplicative facilities in the vicinity of Iroquois' Wright Compressor Station in Schoharie County, New York, but it also decreases the amount of compression originally envisioned for the Constitution Pipeline Project. As a result, the

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<sup>18</sup> See, e.g., *Tennessee Gas Pipeline Co.*, 136 FERC ¶ 61,173 at P 33.

<sup>19</sup> See, e.g., *Dominion Transmission, Inc.*, 104 FERC ¶ 61,267 at P 21 (2003); *Texas Gas*, 113 FERC ¶ 61,185 at P 9; *Islander East*, 100 FERC ¶ 61,276 at P 70.

<sup>20</sup> *Wyoming Interstate Co., Ltd.*, 84 FERC ¶ 61,007 at 61,027 (1998).

Project helps reduce the risk of overbuilding, decreases costs, and minimizes environmental impacts.<sup>21</sup>

Using the Capacity Lease Agreement also results in administrative and operational efficiencies for both Constitution and Iroquois' existing customers by allowing Constitution's customers to access Iroquois Zone 1 or Zone 2 transportation paths without having to hold a separate Iroquois transportation service agreement. Rather, transportation service on Iroquois can be undertaken with Iroquois' existing transportation service agreements that utilize Wright IZ1 or Wright IZ2 as receipt points. Moreover, Constitution customers seeking to reach the Tennessee system will not require an Iroquois transportation service agreement but can reach the Wright TGP delivery point on Iroquois through Constitution's leased Iroquois capacity under their Constitution transportation service agreements.

Further, and as discussed extensively in the previous sections, by having Iroquois construct, own, and operate the Constitution Transfer Compressor Station compressors, those compressors are able to operate in a coordinated, synergistic fashion with Iroquois' existing Wright Compressor Station compressors, which will both enhance reliability of service to Constitution's and Iroquois' customers, and minimize fuel and emissions.

2. *The Payments under the Capacity Lease Agreement are Less than Iroquois Firm Transportation Rates would be for Comparable Service.*

With regard to lease payments, the Commission has previously determined that this requirement is met if the payments under the lease agreement will be less than, or

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<sup>21</sup> *Tennessee Gas Pipeline Co.*, 136 FERC ¶ 61,173 at P 35 (approving proposed lease arrangement that enables shippers to transport natural gas from the supply area into the relevant markets with the overall construction of fewer, less costly facilities than would have been needed without the proposed lease).

equal to, the lessor's firm transportation rates for comparable service.<sup>22</sup> As demonstrated below, the Iroquois/ Constitution lease payment was derived to be a levelized cost-based rate that allows Iroquois to recover both capital and operating costs associated with the Project over the term of the lease on a levelized basis, and this amount compares favorably to the cost-based rate that would be established by Iroquois if it were to be providing transportation service through the Project, as opposed to leasing the capacity to Constitution.

The rate negotiated by Iroquois and Constitution and set forth in the pro forma Capacity Lease Agreement is \$1,083,333 per month for the 15 year initial term of the lease. As demonstrated in Exhibit N, this monthly lease payment under the Capacity Lease Agreement represents a levelized rate that includes all capital and operation and maintenance costs associated with the Project.

The capacity being leased to Constitution under the Capacity Lease Agreement is not comparable to any transportation service currently provided by Iroquois under its FERC Gas Tariff. This is because Constitution will have no rights, either secondary or through Extended Receipt/Extended Delivery, to points elsewhere on the Iroquois pipeline system. Rather, Constitution's capacity is limited to the capacity between the Wright CPL receipt point (that is, the point of interconnection between Iroquois and Constitution) and the three delivery points Wright IZ1 (which will allow further deliveries, under separate Iroquois transportation service agreements, into Iroquois Zone 1), Wright IZ2 (which will allow further deliveries, under separate Iroquois transportation service agreements, into Iroquois Zone 2), and Wright TGP (Iroquois' interconnection

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<sup>22</sup> *Id.* at P 36.

with Tennessee). As such, the leased capacity is analogous to a lateral facility that would have its own, stand-alone cost-based rate for service solely on the lateral.<sup>23</sup>

Iroquois does not currently have a lateral-only transportation service rate schedule, and because 100% of the capacity being created by this project will be leased to Constitution, it has no need to develop one for this Project. However, as Exhibit N demonstrates, the annual cost of service for the WIP – which would be used to generate such an incremental lateral recourse rate if one were needed for this Project – is higher than the annual lease payment that Constitution will pay Iroquois under the Capacity Lease Agreement. Thus, the Commission’s policy that a capacity lease rate must be no higher than the transportation rate for comparable service is satisfied by the Constitution Capacity Lease Agreement’s lease rate.

3. *The Lease Agreement Does Not Adversely Affect Iroquois’ Existing Customers.*

Iroquois’ capacity lease to Constitution will not adversely affect any of Iroquois’ existing customers since none of Iroquois’ existing customers will bear any of the costs associated with the Project. Instead, these costs will be paid entirely by Constitution, and Iroquois’ existing customers will receive numerous non-rate benefits from the Project, as previously discussed in this Certificate Application. Furthermore, as described below, the proposed lease fuel rate for the Project will accurately capture the fuel responsibility of Constitution, thus ensuring that fuel responsibility lies with the appropriate customer group.

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<sup>23</sup> See, e.g., *Northern Border Pipeline Co.*, 133 FERC ¶ 62,159 (2010).

**C. THE PROJECT SERVES THE PRESENT AND FUTURE PUBLIC CONVENIENCE AND NECESSITY.**

Iroquois submits that the Project serves the present and future public convenience and necessity. As demonstrated above, the Project satisfies the Commission's three-part analysis discussed in its 1999 Policy Statement, as well as the Commission's precedent and requirements concerning capacity lease agreements. As further demonstrated by the Capacity Lease Agreement between Iroquois and Constitution, the capacity that will be made available through the Project is required to meet the needs of Constitution. The Project (1) will not be subsidized by Iroquois' existing customers, (2) will not adversely impact other pipelines, landowners, or the environment, and (3) provides several, substantial benefits. Furthermore, the proposed lease agreement between Iroquois and Constitution (1) offers several benefits in terms of construction, costs, environmental impact, and administrative efficiencies for Constitution and its shippers through its administration of the lease capacity as part of its own interstate pipeline capacity, (2) contains monthly lease payments that are less than, or equal to, Iroquois' firm transportation rates for comparable service, and (3) does not adversely affect Iroquois' existing customers. Because the Project's public benefits will more than outweigh any potential adverse impacts that result from constructing the facilities, the Project is the public interest and should be accepted by the Commission.

**VII.**  
**FUEL USE – ANTICIPATED TARIFF UPDATE**

To achieve the benefits of enhanced reliability, operational flexibility, and reduced fuel costs and emissions, Iroquois plans to operate its existing Wright Compressor Station compressors in a coordinated manner with the new Constitution

Transfer Compressor Station, as discussed above. A detailed example showing the benefit of such coordinated operation is provided for the Commission's convenience in Exhibit Z-1.

In light of the fact that Iroquois will at times be operating one set of compressors for the benefit of both its system customers and the leased Constitution capacity, Iroquois has determined that it will need to modify its current MV/FU Factor tariff provision to ensure that its customers and Constitution, respectively, remain responsible for the appropriate fuel (whether associated with the Constitution or the Wright compressors) used to provide their service into Iroquois' Zone 2 (or Iroquois Zone 1 if, in the future, compression is needed for such deliveries). Stated otherwise, this tariff change is needed to ensure that the principle of cost responsibility following cost incurrence is honored, and that Iroquois' customers and Constitution do not subsidize each others' fuel requirements.

Iroquois faced a similar situation when it commissioned its Brookfield, Connecticut interconnection with Algonquin as the second physical receipt point into the Iroquois system (which also requires the operation of compression). In that case, Iroquois modified its MV/FU Factor tariff provision in a tariff change filing made in conjunction with the commencement of service at that new receipt point. Iroquois explained that the purpose of the change was to more accurately assign fuel responsibility associated with the new compressor station among its customer constituencies. The filing was supported or not opposed by all Iroquois shippers, and was approved by the Commission.<sup>24</sup>

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<sup>24</sup> *Iroquois Gas Transmission System, L.P.*, 125 FERC ¶ 61,107 (2008).

In conjunction with the commissioning of Iroquois' third physical receipt point into its pipeline system (at which new compression will be installed but which in this case will be operated in a coordinated manner with existing system compression facilities for the benefit of both existing customers and Constitution), Iroquois anticipates making a similar tariff change filing to update its MV/FU Factor tariff provision. Iroquois will make such filing shortly before the commencement date of the WIP facilities and Capacity Lease Agreement.

### **VIII.** **PUBLIC OUTREACH**

As noted above, this Project is partly the result of Iroquois and Constitution working together to address feedback Constitution received during its FERC Pre-Filing process in Docket No. PF12-9. Constitution's public participation and outreach efforts to date have included open houses, presentations, publishing information in local newspapers, and website postings. Notably, Constitution's public outreach efforts have always included plans for new compression facilities in Wright, New York. As a result, Constitution's public participation efforts have already addressed the types of issues raised by Iroquois' Project regarding the installation of new compression facilities at Wright, New York. Further, Iroquois' Project will be sited on Iroquois-owned property at Wright that already houses existing compression facilities and therefore avoids any siting or land acquisition issues. Iroquois' Project also reduces the size of the compression facilities originally proposed by Constitution in Docket No. PF12-9, and otherwise minimizes environmental impacts. Thus, in light of the extensive public outreach already conducted by Constitution that included the evaluation of compression

and various alternate sites in the vicinity of Iroquois' Project site, Iroquois did not conduct additional open houses for the Project.

Iroquois has been working with regulatory agencies, non-governmental organizations, and other stakeholders in the planning process to solicit input and receive guidance to ensure sound environmental siting criteria are utilized for the Project. Iroquois will continue to communicate with government agencies, private entities, community groups, and landowners in the area to discuss the Project. Additionally, Iroquois will coordinate with all cooperating federal agencies relative to compliance with Order No. 687.<sup>25</sup>

Consistent with § 157.6 of the Commission's regulations (18 C.F.R. § 157.6 (2012)), Iroquois will notify all affected landowners and towns, communities, and local state and federal governments and agencies regarding the Project. As discussed in the attached Resource Reports, such notification will both explain the Project and describe its proposed schedule. Iroquois has also developed a community outreach plan for this Project that will include the following:

- Placing advertisements in newspapers about the Project prior to commencement of construction;
- Notification to businesses potentially affected by the construction;
- Continuing to post information about the Project on Iroquois' web page – [www.iroquois.com](http://www.iroquois.com);
- Establishing a toll-free informational telephone number for the Project; and
- Designating a pipeline representative who is available to talk with stakeholders about the Project.

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<sup>25</sup> *Regulations Implementing the Energy Policy Act of 2005; Coordinating the Processing of Federal Authorizations for Applications under Sections 3 and 7 of the Natural Gas Act and Maintaining a Complete Consolidated Record*, 117 FERC ¶ 61.076 (2006). See Federal Authorizations attached in Exhibit J.

Iroquois' public outreach efforts to date are set forth in greater detail in Volume II of this Certificate Application.

**IX.**  
**RELATED APPLICATIONS**

Iroquois does not have any other applications or filings pending before the Commission at this time that would directly affect this Certificate Application. The instant Certificate Application is, however, related to the Constitution Pipeline Project.

**X.**  
**EXHIBITS**

In accordance with Section 157.14 of the Commission's Regulations, 18 C.F.R. § 157.14 (2012), the following Exhibits are attached to this Certificate Application:

- |                |  |
|----------------|--|
| Exhibit A --   | <u>Articles of Incorporation and Bylaws.</u> Attached. Provides specific references to information previously supplied in other Iroquois CP dockets.   |
| Exhibit B --   | <u>State Authorizations.</u> Attached.   |
| Exhibit C --   | <u>Company Officials.</u> Attached.  |
| Exhibit D --   | <u>Subsidiaries and Affiliation.</u> Attached.   |
| Exhibit E --   | <u>Other Pending Applications and Filings.</u> Omitted; there are no other pending applications under Sections 1, 3, 4 or 7 of the Natural Gas Act filed by Iroquois which directly and significantly affect this Application. |
| Exhibit F --   | <u>Location of Facilities.</u> Attached in Volumes II and III.   |
| Exhibit F-I -- | <u>Environmental Report.</u> Attached in Volumes II, III, and IV.  |
| Exhibit G --   | <u>Flow Diagrams Showing Daily Design Capacity and Reflecting Operation With and Without Proposed Facilities Added.</u> Attached and in Volume III.  |
| Exhibit G-I -- | <u>Flow Diagrams Reflecting Maximum Capabilities.</u> Attached   |

- and in Volume III.
- Exhibit G-II -- Flow Diagram Data. Attached in Volume III.
- Exhibit H -- Total Gas Supply Data. Omitted; not applicable.
- Exhibit I -- Market Data. Attached. The Pro Forma Capacity Lease Agreement is attached in Volume I. The Precedent Agreement between Iroquois and Constitution is attached in Volume IV.
- Exhibit J -- Federal Authorizations. Attached.
- Exhibit K -- Cost of Facilities. Attached.
- Exhibit L -- Financing. Attached.
- Exhibit M -- Construction, Operation, and Management. Omitted. The proposed facilities will be installed and modified by one or more independent pipeline construction firms. The facilities will be operated and maintained by Iroquois. The capacity will be managed pursuant to the Capacity Lease Agreement.
- Exhibit N -- Schedule of revenues, expenses and income. Attached.
- Exhibit O -- Depreciation and Depletion. Omitted. Iroquois intends to depreciate the proposed facilities at the rate authorized by the Commission from time to time for similar Iroquois facilities.
- Exhibit P -- Tariff. Omitted; not applicable.
- Exhibit Z-1 Description and illustration of anticipated fuel savings. Attached.

**XI.**  
**NOTICE**

A form of notice suitable for publication in the Federal Register is attached.

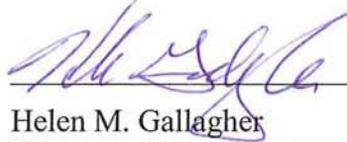
**XII.**  
**REQUESTED AUTHORIZATIONS AND CONCLUSION**

WHEREFORE, in consideration of the foregoing, Iroquois Gas Transmission System, L.P. respectfully requests that the Commission:

- (a) Find that Iroquois' proposed construction, ownership, and operation of the Project is required by the present and future public convenience and necessity;
- (b) Issue to Iroquois a Certificate of Public Convenience and Necessity pursuant to Section 7 of the Natural Gas Act and Part 157 of the Commission's regulations authorizing the proposed construction, ownership, and operation of the Project;
- (c) Approve the capacity lease associated with the Project between Iroquois and Constitution, as more fully described herein; and

(d) Grant the aforementioned authorizations on or before May 1, 2014.

Respectfully submitted,



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June 13, 2013

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

FERC DOCKET NO. CP 13-\_\_\_\_

EXHIBIT A

## **EXHIBIT A**

### **Articles of Incorporation and Bylaws**

## **EXHIBIT A**

### **Articles of Incorporation and Bylaws**

Iroquois Gas Transmission System, L.P. is a limited partnership established under the laws of the State of Delaware. The Amended and Restated Limited Partnership Agreement and the First Amendment to Amended and Restated Limited Partnership Agreement were included in Iroquois' certificate application filed in Docket No. CP00-232-000. The Second Amendment to Amended and Restated Limited Partnership Agreement was included in Iroquois' certificate application filed in Docket No. CP02-20-000. The Third Amendment to Amended and Restated Limited Partnership Agreement was included in Iroquois' certificate application filed in Docket No. CP02-31-002.

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

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EXHIBIT B

## **EXHIBIT B**

### **State Authorizations**

**EXHIBIT B****State Authorizations**

Iroquois Gas Transmission System, L.P. is a limited partnership established under the laws of the State of Delaware and is qualified to conduct business as a limited partnership in the State of New York as of February 2, 1990 and in the State of Connecticut as of February 5, 1990. Iroquois Gas Transmission System, Inc. is a corporation, also organized under the laws of the State of Delaware, and is qualified to conduct business as a corporation in the State of New York as of December 26, 1990 and in the State of Connecticut as of December 12, 1989. Iroquois Pipeline Operating Company is a corporation, also organized under the laws of the State of Delaware, and is qualified to conduct business as a corporation in the State of New York as of April 17, 1989 and in the State of Connecticut as of April 14, 1989.

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

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EXHIBIT C

**EXHIBIT C**  
**Company Officials**

## EXHIBIT C

### Company Officials

Iroquois Gas Transmission System, L.P. (“Iroquois”) is a limited partnership managed by a Management Committee which is comprised of a Representative of each of Iroquois’ partners. The following is a list of the Representatives who currently comprise the Management Committee and their addresses:

Mr. Donald R. Raikes  
Dominion Transmission, Inc.  
120 Tredegar Street  
Richmond, VA 23219

Mr. Richard R. Gardner  
NJR Clean Energy Ventures Corporation  
1415 Wyckoff Road  
Wall, NJ 07719

Ms. Teresa Bradford  
Energetix, Inc. /NYSEG Solutions (Iberdrola USA)  
31 Lewis Street, Suite 401  
Binghamton, NY 13901-3058

Mr. Timothy F. Small  
National Grid  
175 East Old Country Road  
Hicksville, NY 11801

Mr. Stephen M. V. Clark  
TransCanada Corporation  
450 – 1<sup>st</sup> Street S.W., 14<sup>th</sup> Fl.  
Calgary, Alberta T2P 5H1

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

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EXHIBIT D

## **EXHIBIT D**

### **Subsidiaries and Affiliation**

## EXHIBIT D

### Subsidiaries and Affiliation

Neither Iroquois Gas Transmission System, L.P. (“Iroquois”) nor any of its officers or management committee members directly or indirectly owns, controls, or holds with power to vote, ten percent (10%) or more of the outstanding voting securities of any other person or organized group of persons engaged in the production, transportation, distribution, or sale of natural gas, or of any person or organized group of persons engaged in the construction or financing of those enterprises or operations. Iroquois, however, does own, control, and hold one hundred percent (100%) of the stock of Iroquois Gas Transmission System, Inc., a corporation organized under the laws of the State of Delaware for the purpose of exercising Iroquois’ right of eminent domain in Connecticut state courts. Iroquois also owns controls, and holds one hundred percent (100%) of the stock of Iroquois Pipeline Operating Company, a corporation organized under the laws of the State of Delaware for the purpose of operating the Iroquois system.

TransCanada Iroquois Ltd. (“TCIL”), a Delaware corporation, is a partner in Iroquois and has a percentage interest of twenty-nine percent (29.0%) in the partnership. TCIL is an affiliate of TransCanada PipeLines Limited. TCPL Northeast Ltd., also an affiliate of TransCanada PipeLines Limited, has a fifteen and forty-eight hundredths percent (15.48%) interest in the partnership.

North East Transmission Company is a partner in Iroquois and has a percentage interest of nineteen and four-tenths percent (19.4%) in the partnership. North East Transmission Company is an affiliate of National Grid, which also owns one percent (1.0%) in the partnership through KeySpan IGTS Corp.

Dominion Iroquois, Inc. is a partner in Iroquois and has a percentage interest of twenty-four and seventy-two hundredths percent (24.72%) in the partnership. Dominion Iroquois is an affiliate of Dominion Resources, Inc.

TEN Transmission Company is a partner in Iroquois and has a percentage interest of four and eighty-seven-hundredths percent (4.87%) in the partnership. TEN Transmission is an affiliate of Iberdrola USA.

NJNR Pipeline Company is a partner in Iroquois and has a percentage interest of five and fifty-three-hundredths percent (5.53%) in the partnership. NJNR Pipeline is an affiliate of New Jersey Resources Corporation.

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

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EXHIBIT F

## **EXHIBIT F**

### **Location of Facilities**

## **EXHIBIT F**

### **Location of Facilities**

The public portions of Exhibit F are submitted in Volume II under Appendix F and Appendix G. The remainder of Exhibit F contains: Critical Energy Infrastructure Information and is included separately in Volume III under Appendix F. This information has been removed for privileged treatment and is marked **“CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION – DO NOT RELEASE.”**

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

FERC DOCKET NO. CP13-\_\_\_\_

EXHIBIT F-I

## **EXHIBIT F-I**

### **Environmental Report**

## **EXHIBIT F-I**

### **Environmental Report**

The public portions of Exhibit F-I are submitted in Volume II. The remainder of Exhibit F-I contains:

- (a) Critical Energy Infrastructure Information and is included separately in Volume III. This information has been removed for privileged treatment and is marked **“CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION – DO NOT RELEASE.”**
- (b) Privileged and Confidential cultural resources and landowner information and is included separately in Volume IV. This information has been removed for privileged treatment and is marked **“CONTAINS PRIVILEGED INFORMATION – DO NOT RELEASE.”**

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

FERC DOCKET NO. CP13-\_\_\_\_

EXHIBIT G

## **EXHIBIT G**

### **Flow Diagrams Reflecting Existing Authorized and Proposed Facilities**

## EXHIBIT G

### Flow Diagrams Reflecting Existing Authorized and Proposed Facilities

#### SUMMARY

Exhibit G shows the daily design capacity of Iroquois Gas Transmission System, L.P.'s ("Iroquois") interstate pipeline and reflects operation with and without the proposed facilities added for the portion of the system affected.

Because the Wright Interconnect Project ("WIP") does not include any capacity rights on the Iroquois mainline other than at Wright, NY, the portion of the system affected and therefore the Exhibit G diagrams included herein show only those facilities located at Wright, NY.

After the WIP facilities are placed into service, Iroquois' contractual commitments into Wright from Zone 1 and CPL will exceed Iroquois' contractual commitments away from Wright to Zone 2. The Exhibit G diagrams reflect the design capacity for each capacity path independent of the other capacity path.

The Capacity Lease Agreement provides that Constitution may deliver up to 650,000 Dth/d in any combination into either Iroquois or Tennessee Gas Pipeline. This optionality is reflected on the diagrams.

The following flow diagrams are being submitted as Exhibit G:

- (1) Prior to Wright Interconnect Project – Winter. This flow diagram reflects Iroquois' contractual primary receipts and deliveries on a November peak day prior to implementing this Project. November conditions are the most conservative during the winter period.
- (2) Prior to Wright Interconnect Project – Summer. This flow diagram reflects Iroquois' contractual primary receipts and deliveries on a July peak day prior to implementing this Project. July conditions are the most conservative during the summer period.

- (3) After Wright Interconnect Project – Winter. This flow diagram reflects Iroquois' contractual primary receipts and deliveries on a November peak day after implementing this Project.
- (4) After Wright Interconnect Project – Summer. This flow diagram reflects Iroquois' contractual primary receipts and deliveries on a July peak day after implementing this Project.

Flow diagrams are included separately in Volume III. This information has been removed for privileged treatment and is marked **“CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION – DO NOT RELEASE”**

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

FERC DOCKET NO. CP13-\_\_\_\_

Exhibit G-I

## **EXHIBIT G-I**

### **Flow Diagrams Reflecting Maximum Capabilities**

**EXHIBIT G-I****Flow Diagrams Reflecting Maximum Capabilities****SUMMARY**

Exhibit G-1 reflects the maximum deliveries that Iroquois' existing and proposed facilities would be capable of achieving under summer (July) and winter (November) design conditions.

The Constitution Transfer Compressor Station is at design capacity during summer. Compression capability that exceeds the CPL lease of 650,000 Dth/d may be available in the winter, but is subject to availability of upstream capacity on Constitution.

The Wright Mainline Compressor Station is at design capacity during winter due to winter-only contracts and capacity paths on the Iroquois mainline. Capacity from Zone 1 to Zone 2 in excess of Iroquois' current mainline contracts may be available during the summer. Excess capacity from Zone 1 into TGP at Wright is subject to availability of downstream capacity on TGP.

The following flow diagrams are being submitted as Exhibit G-1:

- (1) After Wright Interconnect Project – Winter. This flow diagram reflects the maximum deliveries that Iroquois' existing and proposed facilities would be capable of achieving under a November design day.
- (2) After Wright Interconnect Project – Summer. This flow diagram reflects the maximum deliveries that Iroquois' existing and proposed facilities would be capable of achieving under a July design day.

Flow diagrams are included separately in Volume III. This information has been removed for privileged treatment and is marked **“CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION – DO NOT RELEASE”**

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

FERC DOCKET NO. CP13-\_\_\_\_

Exhibit G-II

## **EXHIBIT G-II**

### **Flow Diagram Data**

## **EXHIBIT G-II**

### **Flow Diagram Data**

Flow diagram data is included separately in Volume III. This information has been removed for privileged treatment and is marked **“CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION – DO NOT RELEASE”**

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

FERC DOCKET NO. CP13-\_\_\_\_

Exhibit I

## **EXHIBIT I**

### **Market Data**

**EXHIBIT I****Market Data**

The Precedent Agreement between Iroquois Gas Transmission System, L.P. (“Iroquois”) and Constitution Pipeline Company, LLC (“Constitution”) has been removed consistent with Iroquois’ request for privileged and confidential treatment, and is contained in Volume IV and marked “CONTAINS PRIVILEGED INFORMATION - DO NOT RELEASE.” The pro forma Capacity Lease Agreement anticipated to be entered into between Iroquois and Constitution pursuant to the terms of the Precedent Agreement is attached hereto.

**EXHIBIT B****CAPACITY LEASE AGREEMENT**

This Capacity Lease Agreement ("Agreement") is made as of the \_\_\_ day of \_\_\_\_\_, 20\_\_\_, by and between the IROQUOIS GAS TRANSMISSION SYSTEM, L.P., a Delaware limited partnership, herein called "Lessor", and CONSTITUTION PIPELINE COMPANY, LLC, a Delaware limited liability company, herein called "Lessee" (individually, "Party," together, the "Parties"), pursuant to the following recitals and representations:

WHEREAS, Lessor has received a Certificate of Public Convenience and Necessity issued by the Federal Energy Regulatory Commission, herein called "Commission" or "FERC," authorizing Lessor to own, construct and operate a natural gas transmission system, herein called "Lessor's System," which system extends from a point on the international border between the United States and Canada near Iroquois, Ontario where it interconnects with the system of TransCanada PipeLines Limited at Waddington, New York, through the States of New York and Connecticut, to South Commack, New York and extending to Hunts Point, New York; and

WHEREAS, Lessee is proposing to construct, install, and operate a new natural gas pipeline from Susquehanna County, Pennsylvania, to points of interconnection with Lessor's existing mainline facilities at Wright, New York and Tennessee Gas Pipeline Company, LLC's ("TGP") 200 Line, all located in Schoharie County, New York, collectively referred to herein as the "Constitution Pipeline"; and

WHEREAS, in lieu of building the Constitution Pipeline to the aforementioned points of interconnection with Lessor and TGP, Lessee desires to lease from Lessor, and Lessor desires to lease to Lessee, 650,000 Dth/d of firm transportation capacity on Lessor's System from the Receipt Point to the Delivery Points as hereinafter further described as well as 100% of the receipt capacity, firm and interruptible, that may be available at the Receipt Point; and

WHEREAS, in order to create the lease capacity, Lessor is proposing to build a new point of interconnection between the Constitution Pipeline and Lessor's existing mainline system near Lessor's existing compressor station at Wright, New York ("Wright Compressor Station") (such new interconnection being referred to herein as "Wright CPL"), a new compressor station to be known as the "Constitution Transfer Station," modifications to the Wright Compressor Station, modifications to an existing meter station or construction of a new meter station at an existing point of interconnection between Lessor and TGP at Wright, New York, and other facilities adjacent to the Wright Compressor Station (collectively, the "Proposed Facilities") (the subject lease of capacity and the Proposed Facilities are collectively referred to herein as the "Project"); and

WHEREAS, Lessor is pursuing all necessary regulatory and governmental approvals to construct and operate the Project in coordination with Lessee, which is pursuing all necessary regulatory and governmental approvals to construct and operate the Constitution Pipeline; and

WHEREAS, Lessor and Lessee have entered into a Precedent Agreement dated \_\_\_\_\_ 2012 (the "Precedent Agreement") wherein Lessor has agreed to lease to Lessee and Lessee has agreed to lease from Lessor (1) 650,000 Dth/d of firm capacity (to be made available by the construction of the Proposed Facilities), and (2) 100% of the receipt capacity, firm and interruptible, at Wright CPL (collectively referred to herein as the "Wright II Capacity").

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein assumed, Lessor and Lessee agree as follows:

#### ARTICLE I – LEASE OF CAPACITY

1. On the Commencement Date (as hereinafter defined) and each day thereafter, Lessor agrees to lease to Lessee and Lessee agrees to lease from Lessor the Wright II Capacity.
2. The Parties agree that it is their understanding and intention that this Agreement is to be classified as an operating lease agreement. To the extent that the Agreement cannot be classified, by operation of law or regulation, as an operating lease agreement, the Parties agree to (1) negotiate in good faith for up to ninety (90) days to amend this Agreement to allow it to be classified as an operating lease or, if such efforts are unsuccessful, (2) to convert the Agreement into a firm transportation agreement pursuant to any necessary FERC authorizations and Lessor's then existing FERC Gas Tariff to preserve the commercial terms hereof.

#### ARTICLE II – TERM

1. The "Commencement Date" shall mean the date on which the natural gas facilities required to enable Lessor to provide the Wright II Capacity to Lessee are constructed and have been made available for service. As further described in the Precedent Agreement, the proposed in-service date of such facilities is March 31, 2015.
2. This Agreement shall be effective as of the date first herein above written; provided, however, that Lessor shall be under no obligation to provide the Wright II Capacity prior to the Commencement Date.
3. This Agreement shall continue in force and effect for fifteen (15) years ("Initial Term") from the Commencement Date. If Lessee provides written notice of its election to extend the term of this Agreement no later than thirty (30) months prior to the termination of the Agreement, Lessee shall have the right to extend the term for a subsequent five (5) year term ("Extension Term").
4. Upon termination of this Agreement and receipt from the FERC of any necessary authorizations, the Wright II Capacity shall revert automatically to Lessor without any further obligations to Lessee. The Proposed Facilities utilized to provide service under this Agreement are, and shall remain at all times, the property of Lessor. Lessee shall have no right, title, or interest in the Proposed Facilities except as provided in this Agreement. Lessee agrees to reasonably cooperate with Lessor upon termination of this Agreement in any filings for

regulatory authorizations required at that time to place full custody, control, and utilization of the facilities and capacity back to Lessor. All outstanding payment obligations arising out of the Precedent Agreement and/or this Agreement shall survive termination.

5. Nothing contained herein shall be construed to permit Lessee to construct, or cause to be constructed, any modifications or additions, or any expansion of Lessor's pipeline system or the Proposed Facilities, or prevent Lessor's construction of additional facilities adjacent to or connecting to those facilities, nor shall anything contained herein be construed to create a joint venture or partnership between the Parties.

### ARTICLE III – RATE

1. Beginning on the Commencement Date and continuing for each month thereafter during the term of this Agreement, Lessee shall pay to Lessor for the Wright II Capacity a fixed monthly lease charge of \$1,083,333 (the "Monthly Lease Rate"). If the Commencement Date occurs after the first day of a month, then the Monthly Lease Rate for the initial month of the term of the Agreement shall be pro-rated for the number of days in the month that remain from the Commencement Date through the end of the month in which it occurs. If Lessee elects to exercise its right to extend this Agreement in accordance with the terms set forth in Article II Section 3, the fixed monthly lease charge during such five (5) year extension period shall be \$791,667 (the "Extended Monthly Lease Rate").

2. The ACA Adjustment (as such rate is defined and established in Lessor's FERC Gas Tariff, General Terms and Conditions Section 12, as amended from time to time) shall not apply to Lessee unless Lessor is required by the FERC to collect the ACA Adjustment from Lessee, in which case the requirements for ACA Adjustments shall be the same as set forth in Lessor's FERC Gas Tariff for firm Shippers (as such term is defined in Lessor's FERC Gas Tariff).

3. If Lessee's Scheduled Equivalent Quantity on any day exceeds the Maximum Firm Equivalent Quantity of 650,000 Dth/d, Lessee's Monthly Lease Rate for the month in which any such excess is scheduled shall be adjusted upward by the inclusion of a "Supplemental Lease Rate" equal to such excess daily quantity multiplied by \$0.0548 per Dth during the Initial Term and \$0.0400 per Dth thereafter.

4. Lessee shall pay the Monthly Lease Rate, Supplemental Lease Rate, and ACA Adjustment, if applicable, each month beginning one month after the Commencement Date, and month-to-month thereafter, for the prior month's service under this Agreement. Each such payment shall be due on the twentieth (20<sup>th</sup>) day of the month. All payments to Lessor shall be made by electronic transfer to a bank designated by Lessor. If Lessee fails to pay such amounts when due, the provisions applicable to firm Shippers as set forth in Lessor's FERC Gas Tariff shall apply.

## ARTICLE IV – USE OF WRIGHT II CAPACITY

1. During the Initial Term of this Agreement and during any Extension Term, Lessee shall have the right to utilize the Wright II Capacity on the following basis:

a) Subject to the conditions set forth in Articles VI and VII, up to an aggregate total of 650,000 Dth/d shall be considered primary firm, regardless of whether Lessee nominates deliveries to Wright TGP (as hereinafter defined), Iroquois Zone 1 (Wright IZ1, as hereinafter defined) or Iroquois Zone 2 (Wright IZ2, as hereinafter defined);

b) Any volume in excess of 650,000 Dth/d nominated by Lessor for receipt at Wright CPL, whether for delivery to Wright IZ1, Wright IZ2, or Wright TGP, shall be considered interruptible; and

c) Except for the foregoing, Lessee shall have no access to firm or interruptible points of receipt or delivery on Lessor's currently existing system.

2. Except as expressly provided for otherwise in this Agreement, Lessee shall have the right to use the Wright II Capacity as if it were Lessee's own capacity used to perform services comparable to the services provided by Lessee, including the right to transport gas for and on behalf of third parties on a firm or interruptible basis pursuant to Lessee's FERC Gas Tariff as approved by FERC and in effect during the term of this Agreement. Lessee shall use the leased capacity in a manner that shall comply with all laws, rules, regulations, and orders relating to Lessee's performance of transportation service using or relying upon the Wright II Capacity.

3. In the event of a conflict between Lessor's FERC approved Gas Tariff and Lessee's FERC approved Gas Tariff, and such conflict impacts Lessee's ability to use the Wright II Capacity as if it were Lessee's own capacity used to perform transportation services under Lessee's Rate Schedules, this Agreement shall control if the Agreement addresses the conflict in question. However, if the Agreement does not address the conflict in question, Lessor and Lessee shall attempt, in good faith, to resolve the conflict such that it does not impact Lessee's ability to use the Wright II Capacity. Should the Parties fail to reach a mutually acceptable resolution of the conflict within thirty (30) days of notice of such conflict, then Lessor's FERC approved Gas Tariff shall control.

## ARTICLE V – RECEIPT AND DELIVERY POINTS

1. The "Receipt Point" shall mean the point of interconnection between the Constitution Pipeline and Lessor's pipeline in Wright, NY ("Wright CPL").

2. The "Delivery Points" shall mean:

a) The point of interconnection between Lessor and TGP (either TGP Meter 12181, as modified, or a new meter to be constructed by Lessor) in Wright, NY ("Wright TGP");

b) The southernmost point of Iroquois Zone 1 at Wright, NY ("Wright IZ1"); and

c) The northernmost point of Iroquois Zone 2 at Wright, NY ("Wright IZ2").

3. Lessee shall have no rights to secondary points or extended receipt and/or delivery points.

## ARTICLE VI - INPUT AND EQUIVALENT QUANTITIES

1. **Input Quantity.** The "Input Quantity" for each day shall mean the quantity of natural gas which is delivered to Lessor at Wright CPL by Lessee.
2. **Maximum Firm Input Quantity.** The "Maximum Firm Input Quantity" at Wright CPL shall mean 650,000 Dth/d plus the applicable Fuel Use Quantity, provided that Lessee shall provide gas to Lessor at (a) a minimum pressure of 835 psig, (b) a maximum temperature of sixty (60) degrees Fahrenheit, and (c) a minimum heating value of 1,000 Btu. If Lessee fails to meet the specifications set forth in the immediately preceding sentence, then Lessee shall not be in breach of this Agreement, but Lessor shall be relieved of its obligation to provide firm capacity to Lessee through the Wright II Capacity; provided, however, that Lessor shall nevertheless use reasonable efforts to accept up to 650,000 Dth/d from Lessor.
3. **Scheduled Input Quantity.** The "Scheduled Input Quantity" shall mean the quantity of natural gas, firm and interruptible, which is nominated by Lessee for receipt by Lessor at Wright CPL and determined through application of Lessor's FERC Gas Tariff General Terms and Conditions Section 4.
4. **Equivalent Quantity.** The "Equivalent Quantity" for each day shall mean the quantity of natural gas to be made available on behalf of Lessee at Wright TGP, Wright IZ1, and/or Wright IZ2, which quantity shall be the thermal equivalent of the Input Quantity delivered to Lessor at Wright CPL on that day, adjusted by the applicable Fuel Use Quantity.
5. **Maximum Firm Equivalent Quantity.** The "Maximum Firm Equivalent Quantity" on each day shall mean 650,000 Dth/d (subject to Article VI, Section 2) at the following pressures: (a) for delivery into Wright TGP, such pressure as may be necessary to deliver into TGP, provided that Lessor shall not be obligated to deliver at a pressure higher than 750 psig, and (b) for delivery into Wright IZ1 or Wright IZ2, such pressure as may be necessary to deliver into Lessor's mainline.
6. **Scheduled Equivalent Quantity.** The "Scheduled Equivalent Quantity" shall mean the quantity of gas, firm and interruptible, which is nominated by Lessee for delivery by Lessor at each Delivery Point and determined through application of Lessor's FERC Gas Tariff General Terms and Conditions Section 4.
7. **Interruptible Overrun Quantity.** Lessee may nominate quantities in excess of the Maximum Firm Input Quantity on an interruptible basis, subject to the provisions of Article VII.
8. Lessee shall deliver gas at Wright CPL in uniform hourly quantities during any day.

**ARTICLE VII – NOMINATIONS, ALLOCATIONS, & CURTAILMENT**

1. The requirements for nomination, scheduling, and curtailment of gas shall be the same as set forth for firm and interruptible Shippers in Lessor's FERC Gas Tariff, General Terms and Conditions Sections 4 and 5.
2. Allocation of Capacity. Lessee shall have the following rights:
  - a) Lessee shall have exclusive rights to all available receipt capacity at Wright CPL with no allocation to other shippers.
  - b) Except as provided below, Lessee's delivery nominations up to the Maximum Firm Equivalent Quantity to Wright TGP, Wright IZ1, and/or Wright IZ2 shall be allocated the same as set forth for Primary Firm Reserved Service.
  - c) Lessee's delivery nominations to Wright IZ1, Wright IZ2, and/or Wright TGP in excess of the Maximum Firm Equivalent Quantity shall be allocated the same as set forth for Interruptible Service. Lessee's right to deliver to Wright TGP shall be limited to the Maximum Firm Equivalent Quantity.
  - d) In the event of an outage of the Constitution Transfer Station:
    1. Lessee's delivery nominations, up to the Maximum Firm Equivalent Quantity, shall be allocated the same as for Primary Firm Reserved Service, provided that no compression is necessary for such deliveries.
    2. If compression is necessary for such deliveries, Lessee's delivery nominations up to the Maximum Firm Equivalent Quantity shall be allocated the same as Extended Receipt/Extended Delivery Service.
  - e) In the event Lessee's deliveries to Lessor at the Receipt Point fail to meet the conditions set forth in Article VI, Section 2, Lessee's delivery nominations shall be the same as Extended Receipt/Extended Delivery Service.
3. Curtailment of Capacity. Lessee shall have the following rights:
  - a) Lessee shall have exclusive rights to all available receipt capacity at Wright CPL.
  - b) Except as provided below, Lessee's delivery nominations, up to the Maximum Firm Equivalent Quantity to Wright TGP, Wright IZ1, and/or Wright IZ2 shall be curtailed the same as set forth for Primary Firm Reserved Service.
  - c) Lessee's delivery nominations to Wright IZ1, Wright IZ2, and/or Wright TGP in excess of the Maximum Firm Equivalent Quantity shall be curtailed the same as set forth for Interruptible Service. Lessee's right to deliver to Wright TGP shall be limited to the Maximum Firm Equivalent Quantity.

d) In the event of an outage of the Constitution Transfer Station:

1. Lessee's delivery nominations, up to the Maximum Firm Equivalent Quantity, shall be curtailed the same as for Primary Firm Reserved Service, provided that no compression is necessary for such deliveries.
2. If compression is necessary for such deliveries, Lessee's delivery nominations up to the Maximum Firm Equivalent Quantity, shall be curtailed the same as for Extended Receipt/Extended Delivery Service.

e) In the event Lessee's deliveries to Lessor at the Receipt Point fail to meet the conditions set forth in Article VI, Section 2, Lessee's delivery nominations shall be curtailed the same as for Extended Receipt/Extended Delivery Service.

#### ARTICLE VIII – BALANCING AND PENALTY PROVISIONS

The Balancing and Penalty Provisions shall be the same as set forth for Shippers in Lessor's FERC Gas Tariff, General Terms and Conditions Section 6, as may be amended from time to time.

#### ARTICLE IX – FUEL CALCULATION AND REIMBURSEMENT

1. Fuel Calculation Mechanism - In Kind Fuel Reimbursement. The fuel reimbursement method is fuel in-kind, and the results of the fuel reimbursement calculations for the nomination process should be rounded to the nearest dekatherm. The standard fuel calculation mechanism, as this is related to the nomination process, should be  $(1 - \text{fuel \%}/100)$  multiplied by receipt quantity = delivery quantity. Lessor will not reject a nomination for reasons of rounding differences due to fuel calculation of less than 5 Dth. Fuel rates shall be made effective only at the beginning of the month. "Fuel" as referred to in this calculation refers to the Measurement Variance/Fuel Use Factor as defined further below.

2. Measurement Variance/Fuel Use Factor. The Measurement Variance/Fuel Use Factor shall be the applicable percentage, as determined on a monthly basis pursuant to this paragraph, to account for and recover lost and unaccounted-for gas on Lessor's system and transportation fuel requirements. At least ten (10) days prior to the beginning of each month (Applicable Month), Lessor shall notify Lessee of the Measurement Variance/Fuel Use Factor. The monthly Measurement Variance/Fuel Use Factor shall be calculated in the following manner:

Receipts-Deliveries +/- Line Pack Change +/- Accumulated Measurement Variance (MV)  
 Imbalance

-----  
 Forecasted Systemwide Deliveries For The Applicable Month

(Constitution Wright Fuel Forecast +/- Accumulated Constitution Wright  
 Fuel Imbalances) x (Transportation Factor)

+-----  
 Forecasted Nominations to Wright IZ1 and Wright IZ2 For the Applicable  
 Month

Where:

Receipts = Actual measured volumes received by Lessor at Receipt Points during the month ending one month prior to the Applicable Month ("Measurement Month").

Deliveries = Actual measured volumes delivered by Lessor to Delivery Points during the Measurement Month.

Line Pack Change = The change in linepack gas contained within Lessor's system that occurred during the Measurement Month.

Accumulated MV Imbalance = Measurement Variance which has been over or under collected during the month(s) prior to the Measurement Month.

Accumulated Constitution Wright Fuel Imbalance = Compressor fuel gas for the Constitution Transfer Station and the Wright Compressor Station which has been over or under collected from Lessee during the month(s) prior to the Measurement Month.

Constitution Wright Fuel Forecast = (Compressor fuel forecast at the Constitution Transfer Station and the Wright Compressor Station for the Applicable Month) X (Transportation Factor)

Transportation Factor for deliveries to:

Wright TGP = 0

Wright IZ1 = 0, until the such time as compression is needed for such deliveries (the "Flow Reversal Date")

Wright IZ2 (as well as Wright IZ1 after the Flow Reversal Date) =

The Sum of Lessee's Scheduled Equivalent Quantities for the Previous Month to Wright IZ2 (as well as Wright IZ1 after the Flow Reversal Date)

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The Sum of the Net Daily Scheduled Equivalent Quantities through the Constitution Transfer Station and the Wright Compressor Station for the Previous Month

Flow Reversal Date = the first date on which Lessor requires compression in order to deliver Lessee's gas into Wright IZ1

**ARTICLE X - QUALITY**

The requirements for gas quality shall be the same as set forth for Shippers in Lessor's FERC Gas Tariff, General Terms and Conditions Section 9, as may be amended from time to time.

**ARTICLE XI - MEASUREMENT**

1. The requirements for gas measurement shall be the same as set forth for Shippers in Lessor's FERC Gas Tariff, General Terms and Conditions Section 10, as may be amended from time to time.

2. The requirements for measuring equipment at Wright CPL shall be set forth in the Interconnect Agreement to be negotiated by the Parties ("Interconnect Agreement").

**ARTICLE XII - POSSESSION OF GAS**

The provisions for Possession of Gas shall be the same as set forth for firm Shippers in Lessor's FERC Gas Tariff, General Terms and Conditions Section 15, as may be amended from time to time.

### ARTICLE XIII – WARRANTY OF TITLE TO GAS

Except as otherwise provided herein, it is expressly understood that title to all natural gas transported by Lessee through the Wright II Capacity shall be held by Lessee or its shippers. It is further understood that Lessee will indemnify Lessor and save it harmless from all suits, actions, debts, accounts, damages, costs, losses and expenses arising from or out of claims of any or all persons to the said gas or to royalties, taxes, license fees or charges thereon resulting from breach of this warranty. Lessor hereby expressly disclaims that it has or will have title to any gas to be transported through the Wright II Capacity by or on behalf of Lessee or its shippers.

### ARTICLE XIV – OTHER OPERATING CONDITIONS

The provisions set forth for Shippers in Lessor's FERC Gas Tariff, General Terms and Conditions Section 18 shall apply to Lessee.

### ARTICLE XV – COORDINATION OF ACTIONS

1. The design basis of Lessor's and Lessees' facilities at Wright CPL shall be set forth in the Interconnect Agreement.
2. Responsibility for operation and maintenance of the facilities at Wright CPL shall be set forth in the Interconnect Agreement.
3. Lessor and Lessee agree to coordinate operation of their respective facilities to the extent possible. Day to day operation of the Proposed Facilities shall be managed by Lessor.
4. Management of daily imbalances at Wright CPL shall be set forth in the Operational Balancing Agreement to be negotiated by the Parties.

### ARTICLE XVI – CONSTRUCTION AND MODIFICATION OF FACILITIES

1. Lessor shall construct, at its own expense, all facilities necessary to provide the lease capacity contemplated for the Initial Term of this Agreement.
2. Lessor reserves the right to construct modifications and additions to its facilities to provide services for customers other than Lessee, provided that such activity shall in no way impair Lessee's ability to utilize the Wright II Capacity. Lessee shall not be responsible for any of the costs and expenses incurred in connection with any such modifications and additions.

**ARTICLE XVII- OPERATION AND MAINTENANCE**

Subject to the terms and conditions of this Agreement, Lessor shall be solely responsible for and will have sole and exclusive control over all aspects of the operation and maintenance of the Proposed Facilities, and Lessor shall operate and maintain the Proposed Facilities in accordance with its FERC approved Gas Tariff, its standard operating and maintenance policies applicable to its entire pipeline system, and the applicable requirements of federal, state, or other governmental agencies having jurisdiction and in accordance with sound and prudent industry practice. So long as this Agreement shall be in effect, Lessee shall have no right or duty to operate or maintain the Proposed Facilities or supervise, direct or otherwise control in any manner the operation and maintenance of the Proposed Facilities.

**ARTICLE XVIII – FORCE MAJEURE**

1. As used in this Agreement, the term “Force Majeure” shall mean, acts of God, strikes, lockouts, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lighting, earthquakes, fires, storms, floods, washouts, arrests and restraints of rulers and peoples, civil disturbances, explosions, breakage or accident to machinery or lines of pipe, line freezeups, the binding order of any court or governmental authority which has been resisted in good faith by all reasonable legal means, and any other cause, whether of a kind herein enumerated, or otherwise, not reasonably within the control of the Party claiming excuse and which by the exercise of due diligence such party is unable to prevent or overcome. A failure to settle or prevent any strike or controversy with employees or with anyone purporting or seeking to represent employees shall not be considered to be a matter within the control of the party claiming excuse. Under no circumstances will lack of finances be construed to constitute force majeure.

2. If by reason of Force Majeure, either Party is rendered unable, wholly or in part, to carry out its obligations under this Agreement (other than the obligation to make payment of amounts accrued and due hereunder at the time), and if the Party provides written notice and a complete description of the Force Majeure to the other Party within five days after the occurrence of the event giving rise to the Force Majeure then the Party giving such notice shall be relieved of its obligations under the Agreement and shall not be liable for any damages to the other Party associated with its failure to perform its obligations to the extent that it is affected by the Force Majeure; provided however, that the Party giving notice of the Force Majeure will not be relieved of its obligations or liability in the event of its negligence or willful misconduct in creating the condition or if it fails to act with due diligence to remedy the cause of the Force Majeure with all reasonable dispatch and, provided further, that the existence of Force Majeure shall not relieve a Party from its obligations to make payments accrued and due under this Agreement during the time of the event.

**ARTICLE XIX -- NOTICES**

Notices to Lessor shall be addressed to:

Iroquois Gas Transmission System, L.P.  
c/o Iroquois Pipeline Operating Co.  
One Corporate Drive, Suite 600  
Shelton, Connecticut 06484  
Attention: Marketing, Development and Commercial Operations  
Contract Administration

Notices to Lessee hereunder shall be addressed to:

Constitution Pipeline Company, LLC  
c/o Williams Gas Pipeline Company, LLC, its operator  
2800 Post Oak Blvd.  
Houston TX 77056  
Attention: Vice President, Commercial Operations

Either party may change its address under this Article by written notice to the other party.

**ARTICLE XX – INDEMNIFICATION**

1. With respect to third party claims that might be brought against either Party, each Party (the “Indemnitor”) shall indemnify and hold harmless the other Party (the “Indemnitee”) against such third party claims, demands or causes of action, and all costs, actions, damages, losses, expenses or liabilities reasonably and necessarily incurred by the Indemnitee in connection therewith, to the extent such claims, demands, or causes of action arise out of the Indemnitor’s acts or omissions associated with the performance of the Indemnitor’s obligations under this Agreement; provided, however, that this contractual obligation shall not apply to the extent that the Indemnitee is negligent or otherwise at fault or to the extent that strict liability is imposed upon the Indemnitee as a matter of law.

2. In connection with Article XX Section 1, in the event that both Lessor and Lessee are adjudicated negligent or otherwise at fault or strictly liable without fault with respect to damage or injuries sustained by the third party claimant, this contractual obligation of indemnification shall continue but Lessor and Lessee shall each indemnify the other only for the percentage of responsibility for the damage or injuries adjudicated to be attributed to the Indemnitor. In such a situation, it is intended that, to the extent either Lessor or Lessee pays such third party claimant for its costs, losses, liabilities, expenses and/or judgments attributed to the percentage of negligence, fault or liability of the other, these obligations of indemnification shall function as a contractual arrangement of contribution. This contractual arrangement of contribution shall survive settlement of the underlying third party claim and, provided that notice and the right to participate in the investigation, defense, and resolution (including settlement) of such third party claim has been provided, shall apply to voluntary settlements made by either Lessor or Lessee with the third party.

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3. In connection with Article XX Section 1 and 2, it is a condition precedent to the Indemnitor's contractual obligation of indemnification under this Agreement that the Indemnitee shall provide written notice of the third party claim, demand or cause of action within thirty (30) days after the Indemnitee reasonably determines that such third party claim, demand or cause of action involves a claim for indemnity under this Agreement, or with such lesser time if necessary for Indemnitor to defend itself timely against such claim, demand or cause of action. It is further a condition precedent to the Indemnitor's contractual obligation of indemnification under this Agreement that the Indemnitor shall have had the right to participate in the investigation, defense and resolution of the third party claim.

4. The indemnity provisions set forth in this Article shall survive the termination of the Agreement for six years.

#### **ARTICLE XXI - TRANSFER AND ASSIGNMENT OF AGREEMENT**

Any entity which shall succeed by purchase, merger or consolidation to the properties, substantially as an entirety, of either Lessor or Lessee, as the case may be, shall be entitled to the rights and shall be subject to the obligations of its predecessor in title under this Agreement. Any party may, without relieving itself of its obligations under this Agreement, assign any of its rights hereunder, but no assignment of this Agreement or of any of the rights or obligations hereunder shall be made unless there first shall have been obtained the written consent thereto of Lessee in the event of an assignment by Lessor or Lessor in the event of an assignment by Lessee, which consents shall not be unreasonably withheld. Nothing herein shall prevent either Party ("First Party") from pledging, granting a security interest in, or assigning as collateral all or any portion of First Party's interest in this Agreement to secure any debt or obligation of First Party under any mortgage, deed of trust, security, credit agreement, indenture or similar instrument ("Security Interest") and the other Party ("Second Party") shall negotiate in good faith with the secured person(s) to provide a written consent to the Security Interest as reasonably requested by the secured person(s), provided such written consent does not change any of the rights or obligations under this Agreement or impose any additional obligations upon Second Party.

#### **ARTICLE XXII - NONRECOURSE OBLIGATION OF PARTNERSHIP AND OPERATOR**

Lessee acknowledges and agrees that (a) Lessor is a Delaware limited partnership; (b) Lessee shall have no recourse against any Partner in Lessor or Partner's affiliates with respect to Lessor's obligations under this Agreement and that its sole recourse shall be against the partnership assets, irrespective of any failure to comply with applicable law or any provision of this Agreement; (c) no claim shall be made against any Partner or Partner's affiliate under or in connection with this Agreement; (d) Lessee shall have no right of subrogation to any claim of Lessor for any capital contributions from any Partner to Lessor; (e) no claims shall be made against the operator of Lessor ("Operator"), its officers, employees, and agents, under or in connection with this Agreement and the performance of Operator's duties as Operator (provided that this shall not bar claims resulting from the gross negligence or willful misconduct of

Operator, its officers, employees or agents) and, upon specific request by Lessor, Lessee shall provide Operator with a waiver of subrogation of Lessee's insurance company for all such claims; and (f) these covenants are made expressly for the benefit of the Partners in Lessor and Operator. Likewise, Lessor acknowledges and agrees that (a) Lessee is a Delaware limited liability company; (b) with the exception of any guarantee established by a member or its parent for the benefit of Lessor pursuant to Section 8 of the Precedent Agreement, Lessor shall have no recourse against the members of Lessee or their affiliates with respect to Lessee's obligations under this Agreement and that its sole recourse shall be against the limited liability company assets, irrespective of any failure to comply with applicable law or any provision of this Agreement; (c) no claim shall be made against any members of the limited liability company or their affiliates under or in connection with this Agreement; (d) Lessor shall have no right of subrogation to any claim of Lessee for any capital contributions from any member to Lessee; (e) no claims shall be made against the operator of Lessee, its officers, employees, and agents, under or in connection with this Agreement and the performance of such operator's duties as operator of Lessee (provided that this shall not bar claims resulting from the gross negligence or willful misconduct of the operator, its officers, employees or agents) and, upon specific request by Lessee, Lessor shall provide such operator with a waiver of subrogation of Lessor's insurance company for all such claims; and (f) these covenants are made expressly for the benefit of the members of Lessee and Lessee's operator.

#### **ARTICLE XXIII - LAW OF AGREEMENT**

The interpretation and performance of this Agreement shall be in accordance with and controlled by the laws of the State of New York without reference to that State's conflicts of laws provisions.

#### **ARTICLE XXIV - EFFECT OF AGREEMENT AND MODIFICATION**

This Agreement shall inure to the benefit of and be binding upon each of the Parties and their successors and permitted assignees. This Agreement, including its attachments, when executed, supersedes all prior agreements and understandings, whether oral or written, with respect to the subject matter of this Agreement; provided, however, that this Agreement does not supersede, and is without prejudice to any rights or obligations the Parties have to each other under separate and distinct agreements, including, but not limited to, the Precedent Agreement, any interconnection agreements, operational balancing agreements, and any construction, operation and maintenance agreements between Lessor and Lessee. No modification of the terms and provisions of this Agreement shall be made except as mutually agreed in writing by the Parties, and neither Party shall have the right, absent such mutual agreement, to file with the FERC to alter any provisions of this Agreement.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed in duplicate counterparts by their proper officers thereunto duly authorized, as of the date first hereinabove written.

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.  
FERC DOCKET NO. CP13-\_\_\_\_  
Exhibit I, Page 16 of 16

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.  
By Its Agent,  
IROQUOIS PIPELINE OPERATING CO.

By \_\_\_\_\_  
Name:  
Title:

By \_\_\_\_\_  
Name:  
Title:

CONSTITUTION PIPELINE COMPANY, LLC  
By Williams Gas Pipeline Company, LLC, its operator

By \_\_\_\_\_  
Name:  
Title:

*Raw*  
*HR*

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

FERC DOCKET NO. CP13-\_\_\_\_

Exhibit J

## **EXHIBIT J**

### **Federal Authorizations**



Docket No. CP13-\_\_\_\_-000  
 Exhibit J  
 Wright Interconnect Project

The subsequent table details the following information:

- Federal authorizations required for the Project
- Issuing Agency for each authorization
- Date the request(s) for each authorization was submitted; or
- If a request has not yet been submitted, an explanation as to why the request has not been submitted and an expected submittal date; and
- Date of expected authorizations or requested authorization dates

<b>POTENTIAL ENVIRONMENTAL PERMITS AND APPROVALS REQUIRED FOR THE WRIGHT INTERCONNECT PROJECT</b>				
<b>Agency</b>	<b>Permit/Approval</b>	<b>Activity</b>	<b>Request/ Application Filed</b>	<b>Agency Approval/ Clearance Received</b>
<b>Federal</b>				
Federal Energy Regulatory Commission	Certificate of Public Convenience and Necessity	Construct and Operate Compressor Station	6/13/2013	
U.S. Fish and Wildlife Service	Clearance under Section 7 of Endangered Species Act	General construction and operation of compressor station	2/22/2013	Yes
U.S. Army Corps of Engineers	Nationwide 12 or Individual Permit	Construction through or under wetlands	Not Applicable	
<b>New York</b>				
New York State Department of Environmental Conservation	State Environmental Quality Review Act (SEQRA)	Activities involving a state action.	Not Applicable	
	Joint Permit Freshwater Wetlands 401 Water Quality Certificate	Construction through or under wetlands & waterbodies	Not Applicable	
	Article 15 Stream Disturbance Permit	Disturbance of bed or banks of a stream	Not Applicable	
	Article 24 Freshwater Wetlands Permit	Activities in freshwater wetlands	Not Applicable	



Docket No. CP13-\_\_\_\_-000  
 Exhibit J  
 Wright Interconnect Project

<b>POTENTIAL ENVIRONMENTAL PERMITS AND APPROVALS REQUIRED FOR THE WRIGHT INTERCONNECT PROJECT</b>				
	State Pollution Discharge Elimination System (SPDES) – General Permit for Stormwater Discharges from Construction Activities (GP-02-01)	Land disturbances greater than one acre and hydrostatic test discharges.	Prior to Construction	
	Air State Facility Permit	Construction and operation of a source of air pollutant emissions	7/31/2013	
	Major Title V Greenhouse Gas Operating Permit	Operation of a major potential source of greenhouse gases. Not required for construction.	To be filed after start-up of proposed turbines	
	Consultation (Rare Species)	General construction and operation of compressor station	2/22/2013	Yes
NYS Historic Preservation Office	Clearance under National Historic Preservation Act and State Historic Act	General construction and operation of compressor station and associated facilities involving ground disturbance, including temporary workspace utilization	5/22/2013	
<b>Local</b>				
Town of Wright, NY	Wetland Permit	Construction within 150 feet of locally jurisdictional wetlands and watercourses.	Not Applicable	
	Land Clearing Permit	Land disturbances and tree clearing.	Not Applicable	
	Local Approvals for Compressor site buildings and structures	Construction of compressor building and associated equipment. May include site plan review, building permit, and SEQRA review	December 31, 2013	

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

FERC DOCKET NO. CP13-\_\_\_\_

Exhibit K

## **EXHIBIT K**

### **Cost of Facilities**

*IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**FERC DOCKET NO. CP13-\_\_\_\_**EXHIBIT K, Page 1 of 1***Cost of Facilities (Dollars in \$000's)**

RIGHT OF WAY	\$	-
RIGHT OF WAY DAMAGES	\$	-
SURVEYS	\$	50
MATERIALS	\$	24,591
LABOR	\$	17,925
ENGINEERING AND INSPECTION	\$	9,765
OVERHEAD	\$	1,666
AFUDC	\$	5,546
CONTINGENCY	\$	8,684
LEGAL FEES	\$	973
OTHER SERVICES	\$	<u>5,800</u>
PROJECT TOTAL	\$	75,000

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

FERC DOCKET NO. CP13-\_\_\_\_

Exhibit L

## **EXHIBIT L**

### **Financing**

**EXHIBIT L****Financing**

The financing for the facilities proposed herein has not yet been determined, but it is anticipated that either (i) the Iroquois Gas Transmission System, L.P. (“Iroquois”) partners will furnish the required funds as equity, or (ii) the Iroquois partners will furnish a portion of the required capital as equity and the remaining amount will consist of debt held by lenders. The specific terms and conditions applicable to the construction period debt, if any (such as price, maturity, and rate), will depend upon the financial market conditions at the time the debt is raised.

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

FERC DOCKET NO. CP13-\_\_\_\_

Exhibit N

**EXHIBIT N**

**Revenues, Expenses and Income**

**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.****FERC DOCKET NO. CP13-\_\_\_\_\_****EXHIBIT N, Page 1 of 2****TOTAL LEASE REVENUES, EXPENSES, AND INCOME**

<b>Line #</b>	<b>Description</b>	<b>Notes</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
1	<b>ANNUAL LEASE REVENUE</b>	1/	\$ 13,000,000	\$ 13,000,000	\$ 13,000,000
2	Operation and Maintenance		\$ 1,366,396	\$ 1,407,388	\$ 1,449,609
3	Taxes Other than Income		\$ 1,500,000	\$ 1,500,000	\$ 1,500,000
4	<b>TOTAL OPERATING EXPENSES</b>		\$ 2,866,396	\$ 2,907,388	\$ 2,949,609
5	<b>DEPRECIATION</b>	2/	\$ 2,077,500	\$ 2,077,500	\$ 2,077,500
6	<b>EARNINGS BEFORE INT &amp; INC TAXES</b>		\$ 8,056,104	\$ 8,015,112	\$ 7,972,891
7	Interest Charges		\$ 2,110,120	\$ 2,011,749	\$ 1,897,994
8	<b>EARNINGS BEFORE INCOME TAXES</b>		\$ 5,945,985	\$ 6,003,364	\$ 6,074,897
9	Current Income Taxes		\$ 1,723,069	\$ 385,404	\$ 701,526
10	Deferred Income Taxes		\$ 674,352	\$ 2,035,152	\$ 1,747,872
11	<b>TOTAL INCOME TAXES</b>		\$ 2,397,421.0	\$ 2,420,556.2	\$ 2,449,398.4
12	<b>NET INCOME</b>		\$ 3,548,563.6	\$ 3,582,807.4	\$ 3,625,498.4

1/ The annual lease revenue is set forth in the lease agreement.

2/ Used Iroquois system depreciation rate of 2.77% consistent with the rates approved in Docket No. RP97-126.

**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**FERC DOCKET NO. CP13-\_\_\_\_\_**

**EXHIBIT N, Page 2 of 2**

Line	INCREMENTAL WIP COST OF SERVICE			Year 1	Year 2	Year 3	
1	Total Plant			\$ 75,000,000	\$ 75,000,000	\$ 75,000,000	
2	Accumulated Depreciation			\$ 1,038,750	\$ 3,116,250	\$ 5,193,750	
3	Net Plant			\$ 73,961,250	\$ 71,883,750	\$ 69,806,250	
4	Accumulated Deferred Income Taxes			\$ 337,176	\$ 1,691,928	\$ 3,583,440	
5	<b>Rate Base</b>			\$ 73,624,074	\$ 70,191,822	\$ 66,222,810	
		%Funded	Cost	Weighted			
6	Debt	49.33%	5.81%	2.87%	2,110,120	2,011,749	1,897,994
7	Equity	50.67%	12.38%	6.27%	4,618,398	4,403,095	4,154,121
8			Return	9.14%	\$ 6,728,518	\$ 6,414,844	\$ 6,052,115
9	Composite Tax Rate	40.32%	Taxes		\$ 3,120,659	\$ 2,975,178	\$ 2,806,946
10			Depreciation	2.77%	\$ 2,077,500	\$ 2,077,500	\$ 2,077,500
11			Property Tax	2%	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000
12			Operation & Maintenance		\$ 1,366,396	\$ 1,407,388	\$ 1,449,609
13	Total Cost of Service			\$ 14,793,072	\$ 14,374,909	\$ 13,886,170	
14	Annual Lease Payment			\$ 13,000,000	\$ 13,000,000	\$ 13,000,000	
15	Net Financial Benefit			\$ (1,793,072)	\$ (1,374,909)	\$ (886,170)	

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

FERC DOCKET NO. CP13-\_\_\_\_

EXHIBIT Z-1

## **EXHIBIT Z-1**

### **Description and Illustration of Anticipated Fuel Savings**

## EXHIBIT Z-1

### Description and Illustration of Anticipated Fuel Savings

The Wright Interconnect Project will be designed to take advantage of Iroquois' multiple supply sources and delivery options in order to reduce overall fuel consumption and emissions. In particular, Iroquois will minimize fuel by physically delivering all scheduled volumes to Tennessee Gas Pipeline, LLC ("TGP") from the gas stream Iroquois receives from Constitution rather than from Iroquois Zone 1 whenever possible, regardless of which pipeline the gas was actually nominated from. As such, Iroquois can aggregate both Constitution and Iroquois deliveries at Wright to TGP. Because more gas will be delivered from Constitution to TGP than Constitution's shippers nominated, the amount of gas that will need to be compressed from Constitution into Iroquois is reduced. Furthermore, the Constitution pressure at Wright is expected to be lower than Iroquois' Zone 1 pressure at Wright. As a result, less gas will be compressed from the lower pressure Constitution Pipeline and more gas will be compressed from the higher pressure Iroquois Zone 1, resulting in less compression overall.

The following example illustrates the fuel savings afforded to Iroquois' customers by aggregating deliveries to TGP with those of Constitution:

**\*Typical Operating Pressures:**

TGP typical operating pressure =	700 psig
Constitution typical operating pressure =	850 psig
Iroquois typical Zone 1 operating pressure =	1,100 psig
Iroquois typical Zone 2 operating pressure =	1,400 psig

\*Note – Constitution is being designed in Wright, New York as a delivery only pipeline and therefore will not take receipts from either TGP or Iroquois. Additionally, TGP does not have compression services and therefore cannot deliver gas to Iroquois. As such, the only currently proposed compression service for pipeline deliveries from a lower operating pressure pipeline to a higher operating pressure pipeline is from Iroquois Zone 1 to Zone 2 and from Constitution to Iroquois.

IROQUOIS GAS TRANSMISSION SYSTEM, L.P.  
 FERC DOCKET NO. CP13-\_\_\_\_  
 EXHIBIT Z-1, Page 2 of 2

**Daily Scheduled Non-aggregated Deliveries:**

	<u>TGP</u>	+	<u>Iroquois Z2</u>	=	<u>Totals</u>	<u>HP</u>
Constitution Deliveries to:	300,000 Dth		250,000 Dth		550,000 Dth	6,328 HP
Iroquois Z1 Deliveries to:	200,000 Dth		400,000 Dth		600,000 Dth	4,574 HP
	_____		_____		_____	_____
Totals	500,000 Dth		650,000 Dth		1,150,000 Dth	10,902 HP

**Daily Aggregated Physical Deliveries:**

	<u>TGP</u>	+	<u>Iroquois Z2</u>	=	<u>Totals</u>	<u>HP</u>
Constitution deliveries to:	500,000 Dth (300K+200K)		50,000 Dth (250K-200K)		550,000 Dth	1,266 HP
Iroquois Z1 deliveries to:	0 Dth (200K-200K)		600,000 Dth (400K+200K)		600,000 Dth	6,861 HP
	_____		_____		_____	_____
Totals	500,000 Dth		650,000 Dth		1,150,000 Dth	8,127 HP

**Result:**

Compression required for deliveries to Iroquois Zone 2 is now 2,775 HP less (10,902HP – 8,127 HP).

**UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION**

Iroquois Gas Transmission System, L.P.

Docket No. CP13-\_\_\_-000

NOTICE OF APPLICATION

(DATE)

Take notice that on June 13, 2013, Iroquois Gas Transmission System, L.P. (Iroquois), One Corporate Drive, Shelton, Connecticut 06484, filed with the Federal Energy Regulatory Commission (Commission) an application under Section 7(c) of the Natural Gas Act and Part 157 of the Commission's regulations for a certificate of public convenience and necessity to construct, install, own, operate, and maintain certain new pipeline interconnection and compression facilities to be located in Wright, New York, and to modify certain existing interconnection and compression facilities, all to be known as the Wright Interconnect Project (WIP). Iroquois also proposes to lease the incremental pipeline capacity associated with these new and modified facilities to Constitution Pipeline Company, LLC (Constitution), a proposed new interstate gas pipeline company for which FERC certificates and other necessary authorizations are being sought concurrently with this application.

The WIP will allow Iroquois to establish a new receipt interconnection with Constitution and create an incremental 650,000 dekatherms per day (Dth/d) of primary firm transmission capacity from that new point of interconnection with Constitution to interconnections with Iroquois' mainline system as well as Tennessee Gas Pipeline Company, LLC.

Any questions regarding this application should be directed to Helen M. Gallagher, Director of Legal Services and Secretary, Iroquois Pipeline Operating Company, One Corporate Drive, Suite 600, Shelton, CT 06484 (phone: (203) 925-7201; email: [helen\\_gallagher@iroquois.com](mailto:helen_gallagher@iroquois.com)).

Pursuant to section 157.9 of the Commission's rules, 18 CFR 157.9, within 90 days of this Notice the Commission staff will either: complete its environmental assessment (EA) and place it into the Commission's public record (eLibrary) for this proceeding; or issue a Notice of Schedule for Environmental Review. If a Notice of Schedule for Environmental Review is issued, it will indicate, among other milestones, the anticipated date for the Commission staff's issuance of the final environmental impact statement (FEIS) or EA for this proposal. The filing of the EA in the Commission's public record for this proceeding or the issuance of a Notice of Schedule for Environmental Review will serve to notify federal and state agencies of the timing for the completion of all necessary reviews, and the subsequent need to complete all federal authorizations within 90 days of the date of issuance of the Commission staff's FEIS or EA.

There are two ways to become involved in the Commission's review of this project. First, any person wishing to obtain legal status by becoming a party to the proceedings for this

project should, on or before the comment date stated below file with the Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426, a motion to intervene in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.214 or 385.211) and the Regulations under the NGA (18 CFR 157.10). A person obtaining party status will be placed on the service list maintained by the Secretary of the Commission and will receive copies of all documents filed by the applicant and by all other parties. A party must submit seven copies of filings made in the proceeding with the Commission and must mail a copy to the applicant and to every other party. Only parties to the proceeding can ask for court review of Commission orders in the proceeding.

However, a person does not have to intervene in order to have comments considered. The second way to participate is by filing with the Secretary of the Commission, as soon as possible, an original and two copies of comments in support of or in opposition to this project. The Commission will consider these comments in determining the appropriate action to be taken, but the filing of a comment alone will not serve to make the filer a party to the proceeding. The Commission's rules require that persons filing comments in opposition to the project provide copies of their protests only to the party or parties directly involved in the protest.

Persons who wish to comment only on the environmental review of this project should submit an original and two copies of their comments to the Secretary of the Commission. Environmental commentators will be placed on the Commission's environmental mailing list, will receive copies of the environmental documents, and will be notified of meetings associated with the Commission's environmental review process. Environmental commentators will not be required to serve copies of filed documents on all other parties. However, the non-party commentators will not receive copies of all documents filed by other parties or issued by the Commission (except for the mailing of environmental documents issued by the Commission) and will not have the right to seek court review of the Commission's final order.

The Commission encourages electronic submission of protests and interventions in lieu of paper using the "eFiling" link at <http://www.ferc.gov>. Persons unable to file electronically should submit an original and 14 copies of the protest or intervention to the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426.

This filing is accessible on-line at <http://www.ferc.gov>, using the "eLibrary" link and is available for review in the Commission's Public Reference Room in Washington, D.C. There is an "eSubscription" link on the web site that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email [FERCOnlineSupport@ferc.gov](mailto:FERCOnlineSupport@ferc.gov), or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Comment Date: 5:00 pm Eastern Time on June \_\_, 2013

Kimberly D. Bose  
Secretary



**Application of Iroquois Gas  
Transmission System, L.P. for a  
Certificate of Public Convenience  
and Necessity**

**FERC Docket No. CP13- -000**

**WRIGHT INTERCONNECT  
PROJECT**

**Wright, New York**

**APPENDIX A  
PRE-FILING AGENCY  
CONSULTATION  
MATRIX AND  
CORRESPONDENCE**

**June 2013**

## Wright Interconnect Project - Agency Consultation

Agency Correspondence Tracking Sheet - Federal Agencies										
Agency	Region/Division	Contact Name	Contact Address	Contact Phone	Contact Email	Permit/Clearance/Approval	Date Sent	Response Type/Date	Responding Contact	Additional Comments
US EPA	Region 2	Mr. Lingard Knutson	Regional Administrator 290 Broadway, 25th Floor New York, NY 10007-1866	(212) 637-3747	Knutson.Lingard@epamail.epa.gov	Consultation - Drinking Water Resources	3/22/2013 Letter	4/4/2013 Letter	Mr. Lingard Knutson	Recommend using EPA online mapping tool to locate aquifers, but does not locate private or public drinking water wells
USFWS	New York Field Office		Fish and Wildlife Services New York Ecological Services Field Office 3817 Luker Road Cortland, NY 13045					2/22/2013 Letter		There are no listed species identified for the vicinity of your project
USGS	Minerals Information	Mr. Michael S. Baker	State Minerals Specialist 991 National Center Reston, VA 20192	(703) 648-4959	mbaker@usgs.gov	Consultation - Mineral Resources & Geologic Hazards	3/22/2013 Letter	3/27/2013 Phone Call	Mr. Michael S. Baker	Cannot comment on private party projects
USDA NRCS	Schoharie Service Center	Mr. Thomas Lacko	District Conservationist 108 Holiday Way Schoharie, NY 12157	(518) 295-8600	thomas.lacko@ny.usda.gov	Consultation - Schoharie County Soils	3/22/2013 Letter	5/14/2013 Phone Call	Mr. Thomas Lacko	Sent information request to the state office, he will follow up with them and have someone get back to us
USDA NRCS	Schoharie Service Center	Mr. Thomas Lacko	District Conservationist 108 Holiday Way Schoharie, NY 12157	(518) 295-8600	thomas.lacko@ny.usda.gov	Consultation - Schoharie County Soils	3/22/2013 Letter	5/21/2013 Letter	Mr. Karl D. Strause	Provided list of resources to find seed mix recommendations
US NPS	Northeast Region	Mr. Dennis Reidenbach	Regional Director U.S. Custom House 200 Chestnut St., Fifth Floor Philadelphia, PA 19106	(215) 597-7013	Dennis_Reidenbach@nps.gov	Consultation - National Parks, Wild & Scenic Rivers, Trails, Landmarks	3/22/2013 Letter Left message 5/10/2013			
Agency Correspondence Tracking Sheet - New York State Agencies										
Agency	Region/Division	Contact Name	Contact Address	Contact Phone	Contact Email	Permit/Clearance/Approval	Date Sent	Response Date/Type	Responding Contact	Additional Comments
NYSDOH	Bureau of Public Water Supply Protection	Ms. Jane Thapa	Wellhead Protection Program Flanigan Square 547 River Street Troy, NY 12180-2216	(518) 402-7711	jct02@health.state.ny.us	Consultation - Drinking Water Resources	3/22/2013 Letter	4/30/2013 Email	Ms. Jane Thapa	No record of public water systems near project, no well recharge areas or public watersystems within 1/2 mile, major unconfined aquifer 800 feet west of site, any residences in area likely to have private wells
NYSDOH	Bureau of Public Water Supply Protection	Mr. Lloyd Wilson	Source Water Assessment Program Flanigan Square 547 River Street, Room 400 Troy, NY 12180-2216	(518) 402-7711	lrw0301@health.state.ny.us	Consultation - Drinking Water Resources	3/22/2013 Letter	5/17/2013 Phone Call	Mr. Lloyd Wilson	No public water supply within 0.25 miles
NYSDEC	Natural Heritage Program	Program Staff	Information Services New York Natural Heritage Program NYSDEC 625 Broadway, 5th Floor Albany, NY 12233-4757			Consultation - Rare Plants, Animals, Natural Communities	2/12/2013	2/22/2013 Letter	Ms. Jean Pietrusiak	No records of rare state listed animals or plants, or significant natural communities, on or in the immediate vicinity of the project site
NYSDEC	Division of Environmental Remediation (Region 4)	Mr. Keith Goertz	1150 North Westcott Road Schenectady, NY 12306-2014	(518) 357-2399	kdgoertz@gw.dec.state.ny.us	Consultation - Hazardous Sites	3/22/2013 Letter	3/27/2013 Email	Mr. Keith Goertz	Files are not GIS based, but no active spill or hazardous waste remediation projects in the Town of Wright
NYSDEC	Division of Mineral Resources (Region 4)	Ms. Patricia Evans	Regional Mined Land Staff 1130 North Westcott Road Schenectady, NY 12306-2014	(518) 357-2162		Consultation - Mineral Resources	3/22/2013 Letter	3/26/2013 Letter	Ms. Patricia Evans	The closest permitted mine appears to be 4 miles away, the Cobleskill Stone Quarry
New York State Geological Survey		Dr. Langhorne B. Smith	Acting State Geologist Office of the State Geologist 3000 Cultural Education Center Albany, NY 12230	(518) 473-6262	lsmith@mail.nysed.gov	Consultation - Geologic Resources and Hazards	3/22/2013 Letter Left message 5/10/2013			

## Wright Interconnect Project - Agency Consultation

Agency Correspondence Tracking Sheet - Federal Agencies										
Agency	Region/Division	Contact Name	Contact Address	Contact Phone	Contact Email	Permit/Clearance/Approval	Date Sent	Response Type/Date	Responding Contact	Additional Comments
NYSDEC	Division of Lands and Forests	Mr. Robert Davies	Director NYSDEC Division of Lands and Forests 625 Broadway, 5th Floor Albany, NY 12233-4250	(518) 402-9405		Consultation - State Forests & Parks, Recreation, Trails, Scenic Roads, Rivers and Open Land	3/22/2013 Letter Left message 5/10/2013			
Agency Correspondence Tracking Sheet - New York County and Local Agencies										
Agency	Region/Division	Contact Name	Contact Address	Contact Phone	Contact Email	Permit/Clearance/Approval	Date Sent	Response Date/Type	Responding Contact	Additional Comments
SWCD	Schoharie County	Mr. Stephen Hoertz	District Manager 108 Holiday Way, Suite 2, Schoharie, NY 12157-5206	(518) 295-8811/8600	district@schohariesoilandwater.org	Consultation - Soils	3/22/2013 Letter Left message 5/10/2013			
Planning and Development	Schoharie County	Ms. Alicia Terry	276 Main Street, Suite 2 PO Box 396 Schoharie, NY 12157	(518) 295-8770		Consultation - Planned Developments, Open Space, Schools, Parks	3/22/2013 Letter	4/18/2013 Email	Ms. Lillian Bruno Planner	NYS Unconsolidated Aquifer, Critical Environmental Area within 0.25 miles, no proposals or building permits for developments, no schools, trails or parks
Public Health	Schoharie County	Mr. William Goblet	1215 Cotton Hill Road Berne, NY 12023	(518) 872-2318		Consultation - Drinking Water Resources	3/22/2013 Letter			Deceased during consultation process
Public Health	Schoharie County	Amber Bleau		(518) 702-5026	amberbleau@aol.com	Consultation - Drinking Water Resources	5/09/2013 Email			
Planning Board	Wright	Mrs. Trudie Boulia	Planning Board Chair 105-3 Factory Street PO Box 130 Gallupville, NY 12073	(518) 872-0147		Consultation - Planned Developments, Open Space, Schools, Parks	3/22/2013 Letter	4/23/2013 Email	Mrs. Trudie Boulia	The Board is working to provide comments. Asked if they should consider the 0.25 mile radius from the property line, responded yes
Planning Board	Wright	Mrs. Trudie Boulia	Planning Board Chair 105-3 Factory Street PO Box 130 Gallupville, NY 12073	(518) 872-0147		Consultation - Planned Developments, Open Space, Schools, Parks	3/22/2013 Letter	5/22/2013 Letter	Mrs. Trudie Boulia	Provided information about water resources, karst terrain, and agricultural lands in Wright



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

March 22, 2013

US Environmental Protection Agency – Region 2  
Attn: Lingard Knutson - Environmental Scientist  
290 Broadway, 25th Floor  
New York, NY 10007

**Subject: Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York**

Dear Mr. Knutson,

Iroquois Gas Transmission System L.P, (“Iroquois”) is proposing to construct the Wright Interconnect Project (“Project” or “WIP”), in the Town of Wright in Schoharie County, New York. The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York. The purpose of the Project is to provide 650,000 dekatherms per day (“Dth/d”) of firm natural gas transportation services from the terminus of the Constitution Pipeline in Wright, New York to three delivery points including Iroquois Zone 1 at Wright, New York, Iroquois Zone 2 at Wright, New York, and Iroquois existing interconnect with Tennessee Gas Pipeline at Wright, New York. In order to receive natural gas from Constitution and provide transportation services, Iroquois will need to construct the proposed Project to increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois’ system.

The proposed Project is sited within the property line of Iroquois’ existing 53.22 acre Wright Compressor Station which currently serves as a mainline compressor facility and metering station. The proposed facilities will include two turbo-compressors of approximately 10,900 horsepower (hp) each housed in a common building approximately 88 feet wide by 100 feet long. The proposed cooling facilities will have a footprint of approximately 40 feet by 20 feet, and the units will have a height dimension of approximately 20 feet to 25 feet.

An Environmental Report which is required as part of the Federal Energy Regulatory Commission (FERC) Section 7(C) application and review process is currently being prepared for the Project. As part of the FERC National Environmental Policy Act review, it is necessary to identify whether the proposed facilities will cross or be within 0.25-miles of the following sensitive environmental areas:

- US EPA, State, or Municipal designated aquifers
- State or municipal designated aquifer protection areas
- Surface waters that provide public drinking water supplies

- State or municipal designated surface water protection areas
- Any known existing or proposed public or private drinking water wells, reservoirs or springs within 300 feet of the proposed alignment

On behalf of Iroquois, AECOM respectfully requests that the US EPA review its records relative to any of the above-referenced areas and provide written comments pertaining to the identified resources. We have enclosed for your review a USGS location map depicting the proposed Project location. If you have any questions or comments regarding the Project, please do not hesitate to contact me via phone at 401-274-5685 ext 35 or e-mail at Eileen.banach@aecom.com. Thank you for your attention to this request.

Yours sincerely,



Eileen Banach  
Environmental Scientist

Attachment: USGS location map

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 2  
290 BROADWAY  
NEW YORK, NY 10007-1866

APR - 4 2013

Eileen Banach  
Environmental Scientist  
AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

Dear Ms. Banach:

I received your letter dated March 22, 2013 requesting any background information on environmentally sensitive areas within 0.25 miles of the proposed Wright Interconnect Project. The information requested is to be used in the preparation of an Environmental Report for a Federal Energy Regulatory Commission license for the facility.

While regional EPA staff is unfamiliar with specific information for the area, we recommend that you utilize EPA's online mapping tool, NEPAAssist, located on the web at <http://nepassisttool.epa.gov/nepassist/entry.aspx>. NEPAAssist facilitates the environmental review process and project planning in relation to environmental considerations. The web-based application draws environmental data dynamically from EPA Geographic Information System databases and web services and provides immediate screening of environmental assessment indicators for a user-defined area of interest. For example, NEPAAssist will locate federal and state aquifers and water monitoring data near the proposed project site. Unfortunately, NEPAAssist does not provide a listing of private or public drinking water wells.

If you have any other questions, please contact Lingard Knutson of my staff at (212) 637-3747.

Sincerely,

A handwritten signature in blue ink that reads "Lingard Knutson".

Grace Musumeci, Chief  
Environmental Review Section



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

March 22, 2013

Natural Resources Conservation Service  
Schoharie Service Center  
Attn: Mr. Thomas Lacko – District Conservationist  
108 Holiday Way  
Schoharie, NY 12157

**Subject: Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York**

Dear Mr. Lacko,

Iroquois Gas Transmission System L.P, ("Iroquois") is proposing to construct the Wright Interconnect Project ("Project" or "WIP"), in the Town of Wright in Schoharie County, New York. The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York. The purpose of the Project is to provide 650,000 dekatherms per day ("Dth/d") of firm natural gas transportation services from the terminus of the Constitution Pipeline in Wright, New York to three delivery points including Iroquois Zone 1 at Wright, New York, Iroquois Zone 2 at Wright, New York, and Iroquois existing interconnect with Tennessee Gas Pipeline at Wright, New York. In order to receive natural gas from Constitution and provide transportation services, Iroquois will need to construct the proposed Project to increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois' system.

The proposed Project is sited within the property line of Iroquois' existing 53.22 acre Wright Compressor Station which currently serves as a mainline compressor facility and metering station. The proposed facilities will include two turbo-compressors of approximately 10,900 horsepower (hp) each housed in a common building approximately 88 feet wide by 100 feet long. The proposed cooling facilities will have a footprint of approximately 40 feet by 20 feet, and the units will have a height dimension of approximately 20 feet to 25 feet.

An Environmental Report which is required as part of the Federal Energy Regulatory Commission (FERC) Section 7(C) application and review process is currently being prepared for the Project. As part of the FERC National Environmental Policy Act review, it is necessary to identify whether the proposed facilities will cross or be within 0.25-miles of any of the following sensitive environmental areas:

- Land currently in agricultural use
- Land with agricultural restrictions
- Land with Specialty crops
- Land with Grazing allotments
- Conservation Resource Protection lands
- Soils highly susceptible to compaction
- Soils with severe erosion potential
- Soils with poor re-vegetation potential
- Soils classified as prime farmlands or farmlands of statewide importance
- Noxious weeds potentially present or having the potential to colonize the restored workspace
- Recommended seed mixes for restoration activities

On behalf of Iroquois, AECOM respectfully requests that the Natural Resources Conservation Service Schoharie Service Center (NRCS) review its records relative to any of the above-referenced areas and provide written comments pertaining to the identified resources. We have enclosed for your review a USGS location map depicting the proposed Project location. If you have any questions or comments regarding the Project, please do not hesitate to contact me via phone at 401-274-5685 ext 35 or e-mail at [Eileen.banach@aecom.com](mailto:Eileen.banach@aecom.com). Thank you for your attention to this request.

Yours sincerely,



Eileen Banach  
Environmental Scientist

Attachment: USGS location map



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

## Telephone Call Summary

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By:	<u>Eileen Banach</u>	Date:	<u>5/14/2013</u>
Talked with:	<u>Thomas Lacko</u>	Project number:	<u>60256120-007</u>
From (company):	<u>NRCS</u>	Project name:	<u>Wright Interconnect Project</u>
Phone number:	<u>518-295-8600</u>	Subject:	<u>3/22/2013 Correspondence</u>

Distribution: WIP file

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Mr. Lacko had sent the information request to the state office and asked if I had heard from them. I said I had not. He will follow up with them and make sure someone gets back to me.

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Signature



Natural Resources Conservation Service  
441 S. Salina Street, Suite 354  
Syracuse, NY 13202-2450

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May 21, 2013

Ms. Eileen Banach  
AECOM  
10 Orms Street, Suite 406  
Providence, RI, 02904

Re: Information Request  
Iroquois Gas Transmission System L.P.  
Wright Interconnect Project

Dear Ms. Banach:

Thank you for contacting the USDA Natural Resources Conservation Service (NRCS) provide comments for the sensitive environmental areas located within a 0.25 mile radius of the proposed Wright Interconnect Project site. We appreciate your compliance with the National Environmental Policy Act review as required by the Federal Energy Regulatory Commission.

To aid your review of the potential impacts to the agricultural, soil, and ecological resources in close proximity to the project site, we are providing the following lists of open source information and field offices that can be contacted to obtain the information requested in your letter dated March 22, 2013.

**Land Currently in Agricultural Use:** The United States Department of Agriculture (USDA) NRCS Geospatial Data Gateway, <http://datagateway.nrcs.usda.gov/> will provide the most recently available National Agriculture Imagery Program (NAIP) aerial photography for Schoharie County. NAIP imagery is taken during the agricultural growing seasons in the continental U.S. and will provide an accurate representation of the land currently in agricultural use.

**Land with Agricultural Restrictions / Conservation Resource Protection Lands:** The USDA provides Farm Bill program assistance to participating producers that may include producer obligations to remove enrolled lands from agricultural production or restrict use to a specified set of approved practices. NRCS Conservation Resource Protection easement programs include: Wetlands Reserve Program (WRP), Healthy Forest Reserve Program (HFRP), Grassland Reserve program (GRP), Farm and Ranchland Protection Program (FRPP). The Farm Service Agency (FSA) administers the Conservation Reserve Program (CRP) and Conservation Reserve Enhancement Program (CREP) that also employs long-term conservation practice contracts to protect sensitive environmental areas. The NRCS Geospatial Data Gateway can be accessed for information on the locations of the Conservation Resource Protection programs administered by NRCS; however, please note that the GIS website is updated quarterly. The most recent

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An Equal Opportunity Provider and Employer

information on easement lands can be obtained through an in-person visit to the respective County's USDA service center. The locations of CRP/CREP lands administered by the FSA cannot be obtained through any current publically accessible information source. In order to determine CRP/CREP activity in the vicinity of the proposed Wright Interconnect Project, you will need to contact the Schoharie County USDA service center and speak with a FSA representative.

Once you have the specific easement areas where there is potential for direct impacts from constructing or operating the proposed Wright Interconnect Project, please identify the easement location and easement type (WRP, GRP, etc.) along with a depiction of the specific area that potentially may be disturbed within the easement. This information can be added to the site location map in your letter cited above. Please also provide a brief narrative describing the type and extent of disturbance at each easement location you identify on the site location map. I will be happy to discuss NRCS recommended strategies to avoid, minimize, and mitigate potential impacts to these protected resources after receiving the results of your preliminary review.

**Land with Specialty Crops:** The NRCS does not keep cropping records for NRCS program participants. Cropping records for FSA program participants may be obtained by contacting the Schoharie County USDA service center. Additional information on non-participant cropping histories may be available from the New York State (NYS) Department of Agriculture and Markets and the Schoharie County Soil and Water Conservation District.

**Land with Grazing Allotments:** USDA administered grazing allotments are not present in Schoharie County.

**Soils Highly Susceptible to Compaction / Soils with Severe Erosion Potential / Soils with Poor Re-vegetation Potential:** Soil mapping and soil property summaries can be obtained by referencing the NRCS Web Soil Survey, <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm> or the NRCS Field Office Technical Guide, [http://efotg.sc.egov.usda.gov//efotg\\_locator.aspx](http://efotg.sc.egov.usda.gov//efotg_locator.aspx).

**Soils Classified as Prime Farmlands or Farmlands of Statewide Importance:** The Farmland Protection Policy Act (FPPA) of 1981 requires the NRCS to provide project site review of Federal agency actions that may adversely impact prime and locally unique farmlands. The Wright Interconnect Project is not a recipient of federal financing, management or technical assistance and does not fall within the scope of farmland conversion projects the NRCS is obligated to review under administration of the FPPA. The protection of important farmland is a critical role of this Agency, however, and we will be pleased to fulfill your request for review and comment specific to the Project's potential impacts to agriculturally important soil resources. This review will be completed by the New York State FPPA contact and State GIS specialist, Ms. Cathy Crotty. To complete this review, Ms. Crotty ([Cathy.Crotty@ny.usda.gov](mailto:Cathy.Crotty@ny.usda.gov)) requires that AECOM provide to NRCS a GIS ESRI format shape file (.shp) in "NAD-1983 UTM Zone 18N" for the project site and contiguous assessment area of interest (0.25 mile ). A review for potential impacts to prime and other unique farmlands will be completed for the specific areas you identify on the Shape Files you provide. Alternately, you may access the publically available information identifying these important farmlands that is included in the soil descriptions provided on the NRCS Web Soil Survey. The geographic boundaries of lands under

the protection of NYS Agricultural District Law, as administered by the New York State Department of Agriculture and Markets may also be accessed on the New York State GIS Clearinghouse Website <http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=400>.

**Noxious Weeds Potentially Present or Having the Potential to Colonize the Restored Workspace:** Information specific to the locations of invasive and noxious plants can be accessed at the I Map Invasives website, <http://www.imapinvasives.org/>, which includes all NYS sites where documented populations of invasive species are located.

**Recommended Seed Mixes for Restoration Activities:** NRCS provides guidance on seeding mixtures and soil suitability guidelines for re-vegetating critical areas in the following technical resource: A Guide to Conservation Plantings on Critical Areas of the North East. This publication is available on the NRCS NYS Plant Materials Center (PMC) website, <http://plant-materials.nrcs.usda.gov/nypmc/>. Additionally, recommendations for wild (non-agricultural) lands seeding for wildlife habitat restoration are available from the NRCS Plant Materials Technical Note No. NY 36 – Seed Mixtures and Soil Suitability Recommendations for Wildlife, available on the Field Office Technical Guide website.

Thank you for contacting us with your concerns for protecting NYS's agricultural and environmental resources.

Sincerely,



Karl D. Strause, Ph.D.  
State NEPA Compliance Coordinator

Cc: Edward Henry, State Resource Conservationist, NRCS Syracuse NY  
Cathy Crotty, State GIS Specialist, NRCS Syracuse NY  
Virginia Green, CRP/CREP Program Coordinator, FSA Syracuse NY  
Thomas Lacko, District Conservationist, NRCS, Schoharie NY

**TOWN OF WRIGHT PLANNING BOARD  
105-3 FACTORY STREET  
P.O. BOX 130  
GALLUPVILLE, NEW YORK 12073**

May 22, 2013

AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

Attn: Eileen Banach-Environmental Scientist

RE: Proposed Wright Interconnect Project  
Iroquis Gas Transmission System  
320 Westfall Road  
Wright, New York

Dear Ms. Banach:

I write on behalf of the Town of Wright Planning Board responding to your March 22, 2013 letter request regarding the above Project. According to information available to the Wright Planning Board, the Project will cross or be within 0.25 miles of the following sensitive environmental areas:

- N.Y.S. designated aquifer;
- Municipal designated aquifer protection area; and
- Surface waters that provide public drinking water supplies and/or a municipal designated surface water protection area.

More particularly, there is a New York State Unconsolidated Aquifer that crosses or is within 0.25 miles of the Project. I refer you to Attachment One enclosed with the Schoharie County Planning & Development Agency's letter response dated April 17, 2013. Additionally, the Project crosses or is within 0.25 miles of lands designated by the Town of Wright as a Critical Environmental Area, known as the Karst Area. The Karst Area comprises a total estimated twenty square miles and plays an important role in the water quality of the Town. Copy of the Resolution adopted by the Town Board of the Town Wright designating the Karst Area as a Critical Environmental Area pursuant to 6 NYCRR 61.4(j) is enclosed, as is Map 5 depicting the Wright Karst Area Critical Environmental Area and Appendix Q depicting potential Karst topography. Further, the Project crosses or is within 0.25 miles of

AECOM

May 22, 2013

Page 2

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the Barton Hill Watershed. The Barton Hill Watershed is the principal source of water for the Town of Schoharie and serves the people who live within the Barton Watershed, including residents of the Town of Wright. Map 4 depicting the Barton Hill Watershed area is enclosed.

Further, I have inquired whether the Town of Wright has any records of private water wells and if such records exist, I will provide that information separately. There are no existing or proposed public wells, springs or reservoirs in the Town of Wright. A groundwater study for the Town was conducted in 2004, and I enclose copy of the Report for your information. Nor is there any pending or known planned residential subdivision, commercial or industrial developments which will cross or be within 0.25 miles of the Project.

Lastly, farming, scenic open space, agricultural land, and natural areas are highly valued by the residents of Wright. For this reason, I also enclose for your information the Town of Wright Agricultural and Farmland Protection Plan and updated, draft of the Town of Wright's Comprehensive Plan. I believe copy of the Town's Comprehensive Plan has already been provided to you by Schoharie County Planning & Development.

Should you have any questions or require further follow-up information, please contact me.

Very truly yours,

TOWN OF WRIGHT PLANNING BOARD

By:



Trudy Boulia

Planning Board Chair

TB:kpb

Enclosures

cc: Wright Town Board



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

March 22, 2013

National Park Service-Northeast Region  
Attn: Mr. Dennis Reidenbach – Regional Director  
U.S. Custom House  
200 Chestnut St., Fifth Floor  
Philadelphia, PA 19106

**Subject: Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York**

Dear Mr. Reidenbach,

Iroquois Gas Transmission System L.P, (“Iroquois”) is proposing to construct the Wright Interconnect Project (“Project” or “WIP”), in the Town of Wright in Schoharie County, New York. The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York. The purpose of the Project is to provide 650,000 dekatherms per day (“Dth/d”) of firm natural gas transportation services from the terminus of the Constitution Pipeline in Wright, New York to three delivery points including Iroquois Zone 1 at Wright, New York, Iroquois Zone 2 at Wright, New York, and Iroquois existing interconnect with Tennessee Gas Pipeline at Wright, New York. In order to receive natural gas from Constitution and provide transportation services, Iroquois will need to construct the proposed Project to increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois’ system.

The proposed Project is sited within the property line of Iroquois’ existing 53.22 acre Wright Compressor Station which currently serves as a mainline compressor facility and metering station. The proposed facilities will include two turbo-compressors of approximately 10,900 horsepower (hp) each housed in a common building approximately 88 feet wide by 100 feet long. The proposed cooling facilities will have a footprint of approximately 40 feet by 20 feet, and the units will have a height dimension of approximately 20 feet to 25 feet.

An Environmental Report which is required as part of the Federal Energy Regulatory Commission (FERC) Section 7(C) application and review process is currently being prepared for the Project. As part of the FERC National Environmental Policy Act review, it is necessary to identify whether the proposed facilities will cross or be within 0.25-miles of the following sensitive environmental areas:

- Lands administered by federal agencies
- Federal, natural, recreational or scenic areas
- Natural landmarks and visually-sensitive areas

On behalf of Iroquois, AECOM respectfully requests that the U.S. National Park Service (NPS) review its records relative to any of the above-referenced areas and provide written comments pertaining to the identified resources. We have enclosed for your review a USGS location map depicting the proposed Project location. If you have any questions or comments regarding the Project, please do not hesitate to contact me via phone at 401-274-5685 ext 35 or e-mail at Eileen.banach@aecom.com. Thank you for your attention to this request.

Yours sincerely,



Eileen Banach  
Environmental Scientist

Attachment: USGS location map



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
NEW YORK ECOLOGICAL SERVICES FIELD OFFICE  
3817 LUKER ROAD  
CORTLAND, NY 13045  
PHONE: (607)753-9334 FAX: (607)753-9699  
URL: [www.fws.gov/northeast/nyfo/es/section7.htm](http://www.fws.gov/northeast/nyfo/es/section7.htm)

Consultation Tracking Number: 05E1NY00-2013-SLI-0307

February 22, 2013

Project Name: Wright Compressor Station

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project.

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: <http://www.fws.gov/northeast/nyfo/es/section7.htm>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects

should follow the Services wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior  
Fish and Wildlife Service

Project name: Wright Compressor Station

## Official Species List

**Provided by:**

NEW YORK ECOLOGICAL SERVICES FIELD OFFICE  
3817 LUKER ROAD  
CORTLAND, NY 13045  
(607) 753-9334  
<http://www.fws.gov/northeast/nyfo/es/section7.htm>

**Consultation Tracking Number:** 05E1NY00-2013-SLI-0307

**Project Type:** Oil Or Gas

**Project Description:** Iroquois Gas Transmission Company is proposing an expansion of the existing compressor station for the property.



United States Department of Interior  
Fish and Wildlife Service

Project name: Wright Compressor Station

### Project Location Map:



**Project Coordinates:** MULTIPOLYGON (((-74.2337696 42.6993454, -74.2272679 42.7001496, -74.2261521 42.6996292, -74.2273967 42.6972164, -74.2285768 42.697453, -74.2292206 42.696286, -74.2299501 42.6964752, -74.2303793 42.6956394, -74.2349498 42.6968853, -74.2337696 42.6993454)))

**Project Counties:** Schoharie, NY



United States Department of Interior  
Fish and Wildlife Service

Project name: Wright Compressor Station

## Endangered Species Act Species List

Species lists are not entirely based upon the current range of a species but may also take into consideration actions that affect a species that exists in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Please contact the designated FWS office if you have questions.

There are no listed species identified for the vicinity of your project.



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

March 22, 2013

US Geological Survey  
Attn: Mr. Michael S. Baker – State Minerals Specialist  
991 National Center  
Reston, VA 20192

**Subject: Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York**

Dear Mr. Baker,

Iroquois Gas Transmission System L.P, ("Iroquois") is proposing to construct the Wright Interconnect Project ("Project" or "WIP"), in the Town of Wright in Schoharie County, New York. The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York. The purpose of the Project is to provide 650,000 dekatherms per day ("Dth/d") of firm natural gas transportation services from the terminus of the Constitution Pipeline in Wright, New York to three delivery points including Iroquois Zone 1 at Wright, New York, Iroquois Zone 2 at Wright, New York, and Iroquois existing interconnect with Tennessee Gas Pipeline at Wright, New York. In order to receive natural gas from Constitution and provide transportation services, Iroquois will need to construct the proposed Project to increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois' system.

The proposed Project is sited within the property line of Iroquois' existing 53.22 acre Wright Compressor Station which currently serves as a mainline compressor facility and metering station. The proposed facilities will include two turbo-compressors of approximately 10,900 horsepower (hp) each housed in a common building approximately 88 feet wide by 100 feet long. The proposed cooling facilities will have a footprint of approximately 40 feet by 20 feet, and the units will have a height dimension of approximately 20 feet to 25 feet.

An Environmental Report which is required as part of the Federal Energy Regulatory Commission (FERC) Section 7(C) application and review process is currently being prepared for the Project. As part of the FERC National Environmental Policy Act review, it is necessary to identify whether the proposed facilities will cross or be within 0.25-miles of the following sensitive environmental areas:

- Presence of any mineral resources
- Presence of any active and/or inactive mines

On behalf of Iroquois, AECOM respectfully requests that the United States Geological Survey (USGS) review its records relative to any of the above-referenced areas and provide written comments pertaining to the identified resources. We have enclosed for your review a USGS location map depicting the proposed Project location. If you have any questions or comments regarding the Project, please do not hesitate to contact me via phone at 401-274-5685 ext 35 or e-mail at Eileen.banach@aecom.com. Thank you for your attention to this request.

Yours sincerely,



Eileen Banach  
Environmental Scientist

Attachment: USGS location map



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

## Telephone Call Summary

---

By:	<u>Eileen Banach</u>	Date:	<u>3/27/2013</u>
Talked with:	<u>Michael Baker</u>	Project number:	<u>60256120-007</u>
From (company):	<u>USGS</u>	Project name:	<u>Wright Interconnect Project</u>
Phone number:	<u>703-648-4959</u>	Subject:	<u>3/22/2013 Correspondence</u>

Distribution: WIP file

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Mr. Baker left a message stating that federal law prohibits the USGS from providing surveys or comments to private party matters. We would need to contract an in-state geologist to provide project-specific information.

---

Signature



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

March 22, 2013

NY State Department of Public Health  
Bureau of Public Water Supply Protection  
Attn: Ms. Jane Thapa – Wellhead Protection Program  
Flanagan Square, 547 River Street  
Troy, NY 12180-2216

**Subject: Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York**

Dear Ms. Thapa,

Iroquois Gas Transmission System L.P, ("Iroquois") is proposing to construct the Wright Interconnect Project ("Project" or "WIP"), in the Town of Wright in Schoharie County, New York. The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York. The purpose of the Project is to provide 650,000 dekatherms per day ("Dth/d") of firm natural gas transportation services from the terminus of the Constitution Pipeline in Wright, New York to three delivery points including Iroquois Zone 1 at Wright, New York, Iroquois Zone 2 at Wright, New York, and Iroquois existing interconnect with Tennessee Gas Pipeline at Wright, New York. In order to receive natural gas from Constitution and provide transportation services, Iroquois will need to construct the proposed Project to increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois' system.

The proposed Project is sited within the property line of Iroquois' existing 53.22 acre Wright Compressor Station which currently serves as a mainline compressor facility and metering station. The proposed facilities will include two turbo-compressors of approximately 10,900 horsepower (hp) each housed in a common building approximately 88 feet wide by 100 feet long. The proposed cooling facilities will have a footprint of approximately 40 feet by 20 feet, and the units will have a height dimension of approximately 20 feet to 25 feet.

An Environmental Report which is required as part of the Federal Energy Regulatory Commission (FERC) Section 7(C) application and review process is currently being prepared for the Project. As part of the FERC National Environmental Policy Act review, it is necessary to identify whether the proposed facilities will cross or be within 0.25-miles of the following sensitive environmental areas:

- U.S. Environmental Protection Agency (EPA), State or municipal designated aquifers
- State-designated aquifer protection areas
- Surface water that provide public drinking water supplies
- State-designated surface water protection areas

- Any known existing or proposed public or private drinking water wells or springs within 300 feet of the proposed alignment

On behalf of Iroquois, AECOM respectfully requests that the New York State Department of Public Health Wellhead Protection Program review its records relative to any of the above-referenced areas and provide written comments pertaining to the identified resources. We have enclosed for your review a USGS location map depicting the proposed Project location. If you have any questions or comments regarding the Project, please do not hesitate to contact me via phone at 401-274-5685 ext 35 or e-mail at [Eileen.banach@aecom.com](mailto:Eileen.banach@aecom.com). Thank you for your attention to this request.

Yours sincerely,



Eileen Banach  
Environmental Scientist

Attachment: USGS location map

**From:** [Jane C. Thapa](#)  
**To:** [Banach, Eileen](#)  
**Cc:** [Lloyd R. Wilson](#)  
**Subject:** 320 Westfall Rd, Wright NY  
**Date:** Tuesday, April 30, 2013 3:58:08 PM

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Dear Eileen,

I have no record of any public water system sources near the location of the proposed Wright Interconnect project. I do not know of any well recharge areas or public water system wells within 1/2 mile of the site. A major unconfined aquifer has been mapped to be about 800 feet west of the site.

Any residences in the area are likely to have private wells as the nearest public water system service areas are for the villages of Delanson and Schoharie.

Please contact me if you have any questions.

Jane C. Thapa, P.E.  
Public Health Engineer 2

**Note: We have moved. My new address is:**

New York State Department of Health  
Bureau Water Supply Protection  
Empire State Plaza - Corning Tower Room 1119  
Albany, NY 12237

Phone and email have not changed

phone (518)402-7751  
fax (518)402-7599  
[jct02@nyhealth.gov](mailto:jct02@nyhealth.gov)



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

March 22, 2013

NY State Department of Public Health  
Bureau of Public Water Supply Protection  
Attn: Mr. Lloyd Wilson – Source Water Assessment Program  
Flanagan Square, 547 River Street, Room 400  
Troy, NY 12180-2216

**Subject: Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York**

Dear Mr. Wilson,

Iroquois Gas Transmission System L.P, (“Iroquois”) is proposing to construct the Wright Interconnect Project (“Project” or “WIP”), in the Town of Wright in Schoharie County, New York. The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York. The purpose of the Project is to provide 650,000 dekatherms per day (“Dth/d”) of firm natural gas transportation services from the terminus of the Constitution Pipeline in Wright, New York to three delivery points including Iroquois Zone 1 at Wright, New York, Iroquois Zone 2 at Wright, New York, and Iroquois existing interconnect with Tennessee Gas Pipeline at Wright, New York. In order to receive natural gas from Constitution and provide transportation services, Iroquois will need to construct the proposed Project to increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois’ system.

The proposed Project is sited within the property line of Iroquois’ existing 53.22 acre Wright Compressor Station which currently serves as a mainline compressor facility and metering station. The proposed facilities will include two turbo-compressors of approximately 10,900 horsepower (hp) each housed in a common building approximately 88 feet wide by 100 feet long. The proposed cooling facilities will have a footprint of approximately 40 feet by 20 feet, and the units will have a height dimension of approximately 20 feet to 25 feet.

An Environmental Report which is required as part of the Federal Energy Regulatory Commission (FERC) Section 7(C) application and review process is currently being prepared for the Project. As part of the FERC National Environmental Policy Act review, it is necessary to identify whether the proposed facilities will cross or be within 0.25-miles of the following sensitive environmental areas:

- U.S. Environmental Protection Agency (EPA), State or municipal designated aquifers
- State-designated aquifer protection areas
- Surface water that provide public drinking water supplies
- State-designated surface water protection areas

- Any known existing or proposed public or private drinking water wells or springs within 300 feet of the proposed alignment

On behalf of Iroquois, AECOM respectfully requests that the New York State Department of Public Health Source Water Assessment Program review its records relative to any of the above-referenced areas and provide written comments pertaining to the identified resources. We have enclosed for your review a USGS location map depicting the proposed Project location. If you have any questions or comments regarding the Project, please do not hesitate to contact me via phone at 401-274-5685 ext 35 or e-mail at Eileen.banach@aecom.com. Thank you for your attention to this request.

Yours sincerely,



Eileen Banach  
Environmental Scientist

Attachment: USGS location map



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

## Telephone Call Summary

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By:	<u>Eileen Banach</u>	Date:	<u>5/17/2013</u>
Talked with:	<u>Lloyd Wilson</u>	Project number:	<u>60256120-007</u>
From (company):	<u>NYSDOH SWAP</u>	Project name:	<u>Wright Interconnect Project</u>
Phone number:	<u>518-402-7711</u>	Subject:	<u>3/22/2013 Correspondence</u>

Distribution: WIP file

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Mr. Wilson left a message indicating there is no public water supply within 0.25 miles of the Project.

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Signature

February 12, 2012

Information Services  
New York Natural Heritage Program  
NYSDEC  
625 Broadway, 5th Floor  
Albany, NY 12233-4757

**Re: Information request for the Wright Compressor Station, Town of Wright,  
Schoharie County, New York.**

Dear Program Staff:

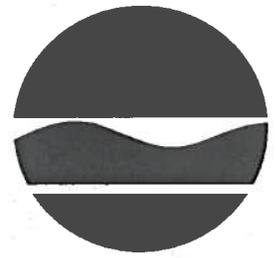
I am writing to request a search of the files of the N.Y. Natural Heritage Program for records of rare animals, plants, and natural communities and/or significant wildlife habitats on a 52-acre site owned by my client, Iroquois Gas Transmission Company. An expansion of the existing compressor station is proposed for the site. This information will be used in preparing an environmental assessment for the project under SEQR.

Enclosed is a portion of the Gallupville 7.5-minute USGS topographic quadrangle, on which the approximate boundary of the site has been marked. The approximate geographic coordinates of the site are 563020 E, 4727580 N. If you should need any additional information concerning this site, please do not hesitate to contact me by phone (518-587-8100) or e-mail ([kholzworth@thelagroup.com](mailto:kholzworth@thelagroup.com)). Your assistance in this matter is greatly appreciated.

Sincerely,

Kelly Holzworth  
for  
the LA group, P.C.

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
**Division of Fish, Wildlife & Marine Resources**  
**New York Natural Heritage Program**  
625 Broadway, 5<sup>th</sup> Floor, Albany, New York 12233-4757  
**Phone:** (518) 402-8935 • **Fax:** (518) 402-8925  
**Website:** [www.dec.ny.gov](http://www.dec.ny.gov)



Joe Martens  
Commissioner

February 22, 2013

**RECEIVED**  
FEB 28 2013

Kelly Holzworth  
The LA Group  
40 Long Alley  
Saratoga Springs, NY 12866

The LA Group

Dear Ms. Holzworth:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Wright Compressor Station, site as indicated on your enclosed map, located in the Town of Wright, Schoharie County.

We have no records of rare or state listed animals or plants, or significant natural communities, On or in the immediate vicinity of your project site.

The absence of data does not necessarily mean that rare or state-listed species, or significant natural communities, do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Databases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at [www.dec.ny.gov/about/39381.html](http://www.dec.ny.gov/about/39381.html).

Sincerely,  
  
Jean Pietrusiak, Information Services  
NYS Department Environmental Conservation

Enc.  
cc: Reg, 4, Wildlife Mgr.

# 155



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

March 22, 2013

NY State Department of Environmental Conservation  
Division of Environmental Remediation – Region 4  
Attn: Mr. Keith Goertz  
1150 North Westcott Road  
Schenectady, NY 12306-2014

**Subject: Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York**

Dear Mr. Goertz,

Iroquois Gas Transmission System L.P, (“Iroquois”) is proposing to construct the Wright Interconnect Project (“Project” or “WIP”), in the Town of Wright in Schoharie County, New York. The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York. The purpose of the Project is to provide 650,000 dekatherms per day (“Dth/d”) of firm natural gas transportation services from the terminus of the Constitution Pipeline in Wright, New York to three delivery points including Iroquois Zone 1 at Wright, New York, Iroquois Zone 2 at Wright, New York, and Iroquois existing interconnect with Tennessee Gas Pipeline at Wright, New York. In order to receive natural gas from Constitution and provide transportation services, Iroquois will need to construct the proposed Project to increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois’ system.

The proposed Project is sited within the property line of Iroquois’ existing 53.22 acre Wright Compressor Station which currently serves as a mainline compressor facility and metering station. The proposed facilities will include two turbo-compressors of approximately 10,900 horsepower (hp) each housed in a common building approximately 88 feet wide by 100 feet long. The proposed cooling facilities will have a footprint of approximately 40 feet by 20 feet, and the units will have a height dimension of approximately 20 feet to 25 feet.

An Environmental Report which is required as part of the Federal Energy Regulatory Commission (FERC) Section 7(C) application and review process is currently being prepared for the Project. As part of the FERC National Environmental Policy Act review, it is necessary to identify whether the proposed facilities will cross or be within 0.25-miles of the following sensitive environmental areas:

- Known instances of any hazardous materials spills

- Sites known to be contaminated with hazardous materials
- Sites with on-going environmental remediation activities

On behalf of Iroquois, AECOM respectfully requests that the NY State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation review its records relative to any of the above-referenced areas and provide written comments pertaining to the identified resources. We have enclosed for your review a USGS location map depicting the proposed Project location. If you have any questions or comments regarding the Project, please do not hesitate to contact me via phone at 401-274-5685 ext 35 or e-mail at Eileen.banach@aecom.com. Thank you for your attention to this request.

Yours sincerely,



Eileen Banach  
Environmental Scientist

Attachment: USGS location map

**From:** [Keith Goertz](#)  
**To:** [Banach, Eileen](#)  
**Subject:** Proposed Wright Interconnect Project  
**Date:** Monday, March 25, 2013 1:24:17 PM

---

Hi Eileen,

I am receipt of your letter dated March 22, 2013. Please be advised the databases we maintain for spill and hazardous waste sites are not GIS based. We can not make determinations on what may or may not exist from a specific radius of a given site. However, I can tell you that we have no active spill or hazardous waste remediation projects within the Town of Wright in Schoharie County. I hope that helps.

Thank You

Keith D. Goertz, P.E.  
Regional Spill Engineer  
Region IV



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

March 22, 2013

NY State Department of Environmental Conservation  
Division of Mineral Resources – Region 4  
Attn: Ms. Patricia Evans – Regional Mined Land Staff  
1130 North Westcott Road  
Schenectady, NY 12306-2014

**Subject: Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York**

Dear Ms. Evans,

Iroquois Gas Transmission System L.P, (“Iroquois”) is proposing to construct the Wright Interconnect Project (“Project” or “WIP”), in the Town of Wright in Schoharie County, New York. The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York. The purpose of the Project is to provide 650,000 dekatherms per day (“Dth/d”) of firm natural gas transportation services from the terminus of the Constitution Pipeline in Wright, New York to three delivery points including Iroquois Zone 1 at Wright, New York, Iroquois Zone 2 at Wright, New York, and Iroquois existing interconnect with Tennessee Gas Pipeline at Wright, New York. In order to receive natural gas from Constitution and provide transportation services, Iroquois will need to construct the proposed Project to increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois’ system.

The proposed Project is sited within the property line of Iroquois’ existing 53.22 acre Wright Compressor Station which currently serves as a mainline compressor facility and metering station. The proposed facilities will include two turbo-compressors of approximately 10,900 horsepower (hp) each housed in a common building approximately 88 feet wide by 100 feet long. The proposed cooling facilities will have a footprint of approximately 40 feet by 20 feet, and the units will have a height dimension of approximately 20 feet to 25 feet.

An Environmental Report which is required as part of the Federal Energy Regulatory Commission (FERC) Section 7(C) application and review process is currently being prepared for the Project. As part of the FERC National Environmental Policy Act review, it is necessary to identify whether the proposed facilities will cross or be within 0.25-miles of any mineral resources and active or inactive mines.

On behalf of Iroquois, AECOM respectfully requests that the NY State Department of Environmental Conservation (NYSDEC) Division of Mineral Resources review its records relative to any of the above-referenced areas and provide written comments pertaining to the identified resources. We have enclosed for your review a USGS location map depicting the proposed Project location. If you have any questions or comments regarding the Project, please do not hesitate to contact me via phone at 401-274-5685 ext 35 or e-mail at Eileen.banach@aecom.com. Thank you for your attention to this request.

Yours sincerely,

A handwritten signature in black ink that reads "Eileen Banach". The signature is written in a cursive, flowing style.

Eileen Banach  
Environmental Scientist

Attachment: USGS location map

**New York State Department of Environmental Conservation  
Division of Mineral Resources, Region 4**

1130 North Westcott Road, Schenectady, New York 12306-2014

Phone: (518) 357-2450 • FAX: (518) 357-2460

Website: [www.dec.state.ny.us](http://www.dec.state.ny.us)



Joe Martens  
Commissioner

March 26, 2013

Ms. Eileen Banach  
AECOM  
10 Ohms Street, Suite 405  
Providence, RI 02904

Proposed Wright Interconnect Project  
Iroquois Gas transmission System  
320 Westfall Road  
Wright, NY

Dear Ms. Banach

I have sent a copy of your letter to Stephen Tomasik of NYS Division of Environmental Permits and Jack Dahl of the NYSDEC Mineral Resources.

The closest permitted mine (4 miles away) to the location shown appears to be the Cobleskill Stone Quarry in Schoharie, NY.

In the future, please check the following databases if you need information regarding mines in NYS:

General Mining information can be reached at: <http://www.dec.ny.gov/lands/5020.html>.  
The Mining database can be reached at <http://www.dec.ny.gov/cfm/xtapps/MinedLand/>

Sincerely,  
Region 4 Division of Mineral Resources

Patricia Evans, P. G.  
Mined Land/Reclamation Specialist I

cc: Stephen Tomasik  
Jack Dahl



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

March 22, 2013

NY State Geological Survey  
Attn: Dr. Langhorne B. Smith – Acting State Geologist  
Office of the State Geologist  
3000 Cultural Education Center  
Albany, NY 12230

**Subject: Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York**

Dear Dr. Smith,

Iroquois Gas Transmission System L.P, ("Iroquois") is proposing to construct the Wright Interconnect Project ("Project" or "WIP"), in the Town of Wright in Schoharie County, New York. The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York. The purpose of the Project is to provide 650,000 dekatherms per day ("Dth/d") of firm natural gas transportation services from the terminus of the Constitution Pipeline in Wright, New York to three delivery points including Iroquois Zone 1 at Wright, New York, Iroquois Zone 2 at Wright, New York, and Iroquois existing interconnect with Tennessee Gas Pipeline at Wright, New York. In order to receive natural gas from Constitution and provide transportation services, Iroquois will need to construct the proposed Project to increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois' system.

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An Environmental Report which is required as part of the Federal Energy Regulatory Commission (FERC) Section 7(C) application and review process is currently being prepared for the Project. As part of the FERC National Environmental Policy Act review, it is necessary to identify whether the proposed facilities will cross or be within 0.25-miles of the following sensitive environmental areas:

- The presence or potential for paleontological resources
- Earthquake hazard
- The presence of any active or currently dormant faults

- Areas susceptible to soil liquefaction
- Areas susceptible to landsliding, slumping or ground subsidence due to karst terrain or underground mining
- Areas susceptible to flash flooding
- Areas susceptible to volcanism
- Bedrock lithology
- Surficial Geology

On behalf of Iroquois, AECOM respectfully requests that the NYSGS review its records relative to any of the above-referenced areas and provide written comments pertaining to the identified resources. We have enclosed for your review a USGS location map depicting the proposed Project location. If you have any questions or comments regarding the Project, please do not hesitate to contact me via phone at 401-274-5685 ext 35 or e-mail at Eileen.banach@aecom.com. Thank you for your attention to this request.

Yours sincerely,



Eileen Banach  
Environmental Scientist

Attachment: USGS location map



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

March 22, 2013

NY State Department of Environmental Conservation  
Division of Lands and Forests  
Attn: Mr. Robert Davies - Director  
625 Broadway, 5<sup>th</sup> Floor  
Albany, NY 12233-4250

**Subject: Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York**

Dear Mr. Davies,

Iroquois Gas Transmission System L.P, ("Iroquois") is proposing to construct the Wright Interconnect Project ("Project" or "WIP"), in the Town of Wright in Schoharie County, New York. The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York. The purpose of the Project is to provide 650,000 dekatherms per day ("Dth/d") of firm natural gas transportation services from the terminus of the Constitution Pipeline in Wright, New York to three delivery points including Iroquois Zone 1 at Wright, New York, Iroquois Zone 2 at Wright, New York, and Iroquois existing interconnect with Tennessee Gas Pipeline at Wright, New York. In order to receive natural gas from Constitution and provide transportation services, Iroquois will need to construct the proposed Project to increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois' system.

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An Environmental Report which is required as part of the Federal Energy Regulatory Commission (FERC) Section 7(C) application and review process is currently being prepared for the Project. As part of the FERC National Environmental Policy Act review, it is necessary to identify whether the proposed facilities will cross or be within 0.25-miles of the following sensitive environmental areas:

- State designated wild or scenic rivers
- Lands administered by state agencies

- Any state-designated natural, recreational or scenic areas
- Any state-designated or administered natural landmarks or visually-sensitive areas

On behalf of Iroquois, AECOM respectfully requests that the NY State Department of Environmental Conservation (NYSDEC) Division of Lands and Forests review its records relative to any of the above-referenced areas and provide written comments pertaining to the identified resources. We have enclosed for your review a USGS location map depicting the proposed Project location. If you have any questions or comments regarding the Project, please do not hesitate to contact me via phone at 401-274-5685 ext 35 or e-mail at Eileen.banach@aecom.com. Thank you for your attention to this request.

Yours sincerely,



Eileen Banach  
Environmental Scientist

Attachment: USGS location map



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

March 22, 2013

Schoharie County Soil and Water Conservation District  
Attn: Mr. Stephen Hoerz – District Manager  
108 Holiday Way, Suite 2  
Schoharie, NY 12157-5206

**Subject: Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York**

Dear Mr. Hoerz,

Iroquois Gas Transmission System L.P, ("Iroquois") is proposing to construct the Wright Interconnect Project ("Project" or "WIP"), in the Town of Wright in Schoharie County, New York. The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York. The purpose of the Project is to provide 650,000 dekatherms per day ("Dth/d") of firm natural gas transportation services from the terminus of the Constitution Pipeline in Wright, New York to three delivery points including Iroquois Zone 1 at Wright, New York, Iroquois Zone 2 at Wright, New York, and Iroquois existing interconnect with Tennessee Gas Pipeline at Wright, New York. In order to receive natural gas from Constitution and provide transportation services, Iroquois will need to construct the proposed Project to increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois' system.

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An Environmental Report which is required as part of the Federal Energy Regulatory Commission (FERC) Section 7(C) application and review process is currently being prepared for the Project. As part of the FERC National Environmental Policy Act review, it is necessary to identify whether the proposed facilities will cross or be within 0.25-miles of the following sensitive environmental areas:

- Land currently in agricultural use
- Land with agricultural restrictions
- Land with Specialty crops
- Land with Grazing allotments

- 
- Conservation Resource Protection lands
  - Soils highly susceptible to compaction
  - Soils with severe erosion potential
  - Soils with poor re-vegetation potential
  - Soils classified as prime farmlands or farmlands of statewide importance
  - Noxious weeds potentially present or having the potential to colonize the restored workspace
  - Recommended seed mixes for restoration activities

On behalf of Iroquois, AECOM respectfully requests that the Schoharie County Soil and Water Conservation District review its records relative to any of the above-referenced areas and provide written comments pertaining to the identified resources. We have enclosed for your review a USGS location map depicting the proposed Project location. If you have any questions or comments regarding the Project, please do not hesitate to contact me via phone at 401-274-5685 ext 35 or e-mail at Eileen.banach@aecom.com. Thank you for your attention to this request.

Yours sincerely,



Eileen Banach  
Environmental Scientist

Attachment: USGS location map



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

March 22, 2013

Schoharie County Planning and Development  
Attn: Ms. Alicia Terry  
276 Main Street, Suite 2  
PO Box 396  
Schoharie, NY 12157

**Subject: Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York**

Dear Ms. Terry,

Iroquois Gas Transmission System L.P, ("Iroquois") is proposing to construct the Wright Interconnect Project ("Project" or "WIP"), in the Town of Wright in Schoharie County, New York. The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York. The purpose of the Project is to provide 650,000 dekatherms per day ("Dth/d") of firm natural gas transportation services from the terminus of the Constitution Pipeline in Wright, New York to three delivery points including Iroquois Zone 1 at Wright, New York, Iroquois Zone 2 at Wright, New York, and Iroquois existing interconnect with Tennessee Gas Pipeline at Wright, New York. In order to receive natural gas from Constitution and provide transportation services, Iroquois will need to construct the proposed Project to increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois' system.

The proposed Project is sited within the property line of Iroquois' existing 53.22 acre Wright Compressor Station which currently serves as a mainline compressor facility and metering station. The proposed facilities will include two turbo-compressors of approximately 10,900 horsepower (hp) each housed in a common building approximately 88 feet wide by 100 feet long. The proposed cooling facilities will have a footprint of approximately 40 feet by 20 feet, and the units will have a height dimension of approximately 20 feet to 25 feet.

An Environmental Report which is required as part of the Federal Energy Regulatory Commission (FERC) Section 7(C) application and review process is currently being prepared for the Project. As part of the FERC National Environmental Policy Act review, it is necessary to identify whether the proposed facilities will cross or be within 0.25-miles of the following sensitive environmental areas:

- U.S. Environmental Protection Agency (EPA), State, or Municipal designated aquifers
- State or municipal designated aquifer protection areas
- Surface waters that provide public drinking water supplies

- 
- State or municipal designated surface water protection areas
  - Any known existing or proposed public or private drinking water wells, reservoirs, or springs in or within 300 feet of the proposed alignment
  - Planned residential subdivision developments
  - Planned commercial or industrial developments
  - Open space/natural areas
  - Locally significant roads, scenic areas, or rivers
  - Schools, parks, ballfields, trails

On behalf of Iroquois, AECOM respectfully requests that the Schoharie County Planning and Development review its records relative to any of the above-referenced areas and provide written comments pertaining to the identified resources. We have enclosed for your review a USGS location map depicting the proposed Project location. If you have any questions or comments regarding the Project, please do not hesitate to contact me via phone at 401-274-5685 ext 35 or e-mail at Eileen.banach@aecom.com. Thank you for your attention to this request.

Yours sincerely,



Eileen Banach  
Environmental Scientist

Attachment: USGS location map

**From:** [Lillian Bruno](#)  
**To:** [Banach, Eileen](#)  
**Cc:** [Alicia Terry](#)  
**Subject:** Proposed Wright Interconnect Project  
**Date:** Thursday, April 18, 2013 9:23:10 AM  
**Attachments:** [AECOM Letter.pdf](#)  
[Attachment One Unconsolidated Aquifer.pdf](#)  
[Attachment Two CEA.pdf](#)  
[Attachment Three Critical Environmental Area.pdf](#)  
[Attachment Four BartonHill.pdf](#)  
[Attachment Five Private Wells.pdf](#)  
[Attachment Six 2008RevisedComp.pdf](#)  
[Attachment Seven WrightFinalPlanDec2010.pdf](#)

---

Dear Eileen:

Subject: Proposed Wright Interconnect Project, Iroquois Gas Transmission System

Attached please find a response from our Agency in regards to the above referenced project. Please feel free to contact our Agency if there are any questions and/or concerns.

Sincerely,  
Lillian Bruno, Planner  
Schoharie County Planning and Development Agency

# Schoharie County Planning & Development Agency



276 Main Street, Suite 2  
PO Box 396  
Schoharie, NY 12157  
(518) 295-8770 / Fax (518) 295-8788

Alicia A. Terry  
Director

April 17, 2013

Erin Banach, Environmental Scientist  
AECOM  
10 Orms Street, Suite 405  
Providence, Rhode Island 02904

**Subject:** *Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York 12073*

Dear Ms. Banach:

Please find our Agency's response to your request for information related to the sensitive areas listed below that cross or are within 0.25-miles from the Town of Wright Compressor Station located at 320 Westfall Road, Wright, New York 12073:

- Item One:** U.S. Environmental Protection Agency (EPA), State, or Municipal designated aquifers
- Item Two:** State or municipal designated aquifer protection areas
- Item Three:** Surface waters that provide public drinking water supplies
- Item Four:** State or municipal designated water protection areas
- Item Five:** Any known existing or proposed public or private drinking wells, reservoirs, or springs in or within 300 feet of the proposed alignment
- Item Six:** Planned residential subdivision developments
- Item Seven:** Planned commercial or industrial developments
- Item Eight:** Open space/natural areas
- Item Nine:** Locally significant roads, scenic areas, or rivers
- Item Ten:** Schools, parks, battlefields, trails

**Item One:** Please refer to *Attachment One*, a map created by our Agency, which depicts the NYS Unconsolidated Aquifer that crosses or is within 0.25-miles of the above mentioned project area.

**Item Two:** Please refer to *Attachment Two*, a map created by our Agency, which depicts the Critical Environmental Area (CEA) that crosses or is within 0.25-miles of the above mentioned project area. Also, please refer to *Attachment Three* which provides a description of this CEA.

**Item Three and Item Four:** Please refer to *Attachment Four*, a map created by our Agency, which depicts the Barton Hill Watershed. Please be advised that it appears that the Barton Hill Watershed ends at the Town boundary. However, due to the Karst topography which exists in

this area, the Barton Hill Watershed is underground and most likely extends into the above mentioned project vicinity.

**Item Five:** Please refer to *Attachment Five* a map created by our Agency, which depicts private drinking water wells that cross or are within 0.25-miles of the above mentioned project.

**Item Six and Item Seven:** Since discussion with the Town of Wright Code Enforcement Officer (CEO) on April 11, 2013 there have not been any proposals submitted and/or building permits issued by the CEO within this site vicinity for planned residential subdivisions, commercial, and or industrial developments.

In addition, please be advised that the Schoharie County Planning and Development Agency acts as advisor to the Schoharie County Planning Commission which receives referrals in regards to GML 239 L, M, and N. Our Agency has received two (2) GML 239N referrals from the Town of Wright last year. However, these subdivision referrals were approximately two (2) miles away from the project site. No other referrals were reviewed by the Schoharie County Planning Commission from 2012 until present.

**Item Eight ad Item Nine:** Attached please find *Attachment Six-* The Town of Wright's Comprehensive Plan (2008) and *Attachment Seven-* the Town of Wright's Agriculture and Farmland Protection Plan (2010) which provides guidance and information in regards to open space, natural areas, and etc. that the Town believes are important to their Community, as a whole.

**Item Ten:** There appears to be no schools, trails, or parks that cross or are within 0.25-miles from the above mentioned project area.

Should you have any further questions and/or concerns regarding the information provided, please do not hesitate to contact our Agency at 518-295-8770.

Sincerely,



Lillian Bruno, Planner  
Schoharie County Planning and Development Agency

**Seven (7) Attachments-** Four (4) Maps, One (1) CEA Summary, One (1) Town of Wright Comprehensive Plan, and One (1) Town of Wright Agriculture and Farmland Protection Plan

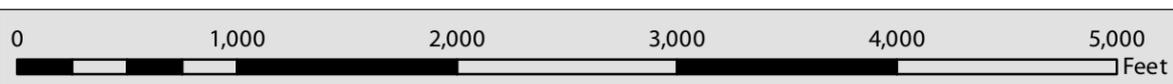
# NEW YORK STATE UNCONSOLIDATED AQUIFER

# ATTACHMENT ONE

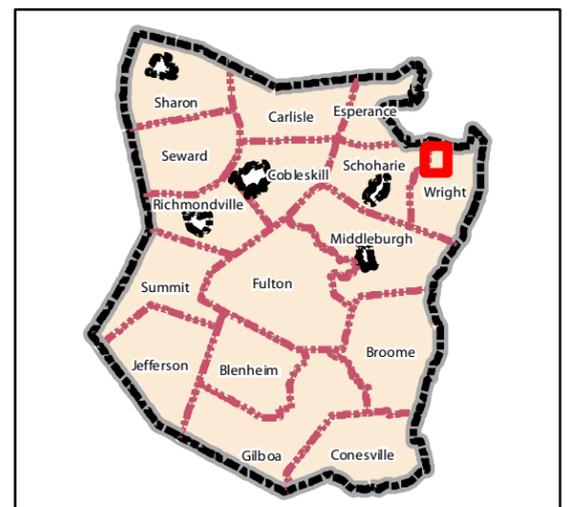
.25-MILES FROM PROPERTY

320 WESTFALL ROAD, TOWN OF WRIGHT

SCHOHARIE COUNTY, NY

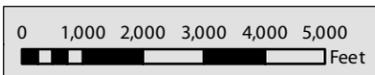
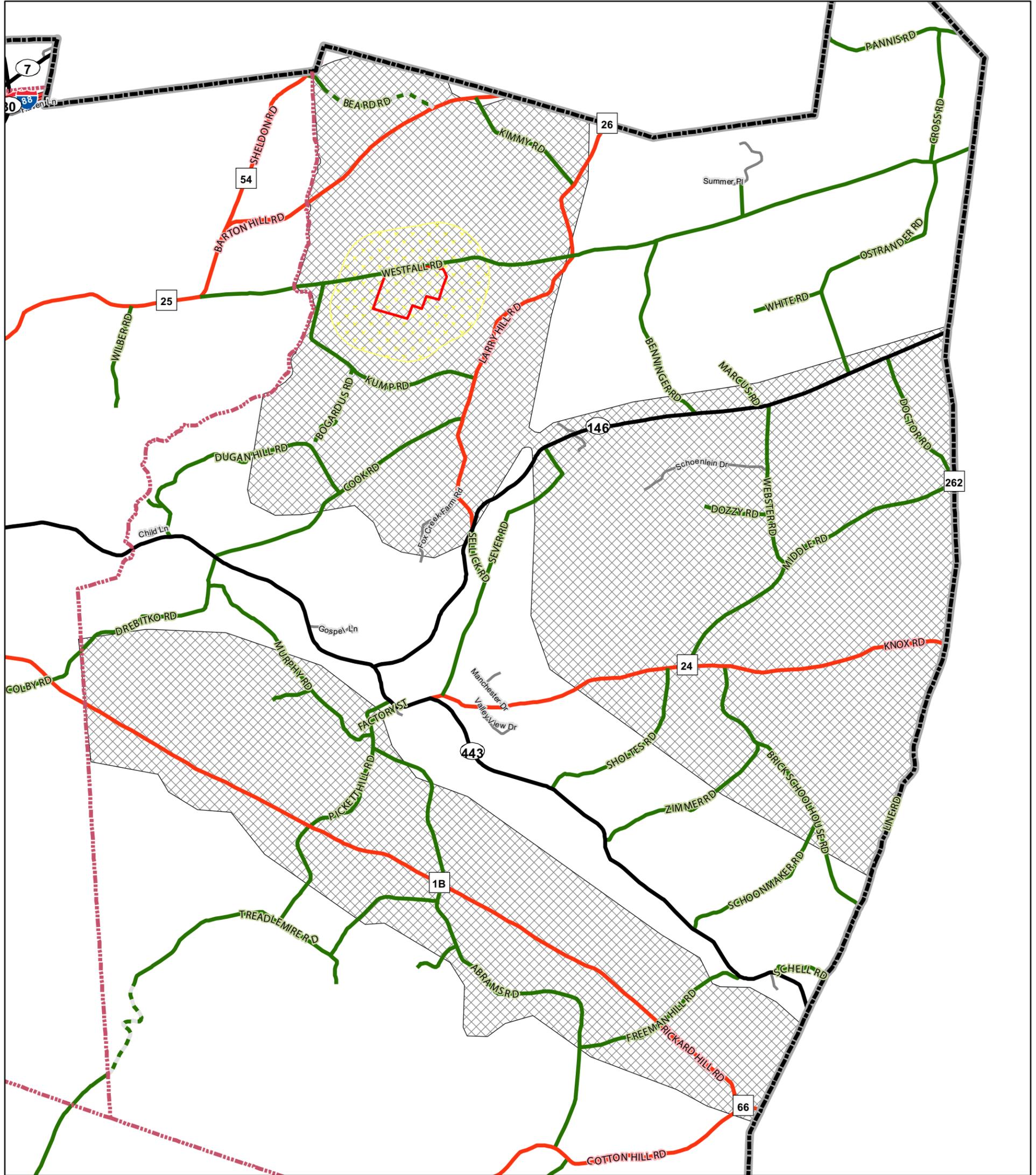


  NYS DEC Unconsolidated Aquifer  
   Real Property Boundary  
 x 1/4 Mile Buffer  
   Town Line

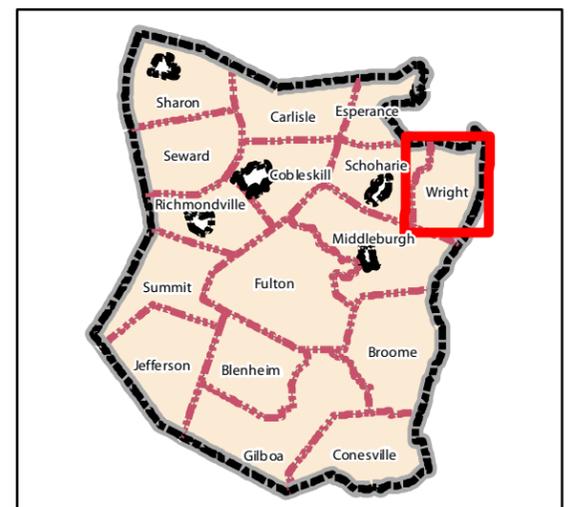


# NEW YORK STATE CRITICAL ENVIRONMENTAL AREA

.25-MILES FROM PROPERTY  
320 WESTFALL ROAD, TOWN OF WRIGHT  
SCHOHARIE COUNTY, NY



- County Line
- Town Line
- Village Line
- Real Property Boundary
- 1/4 Mile Buffer
- Wright Karst Critical Environmental Area



## Town of Wright Gallupville, NY

Charles Finin, Supervisor  
518-872-1931

Carolyn Maroney, Town Clerk  
Fred Martin, Councilman  
Jaqueline Deigel, Councilwoman  
William Fonda, Councilman  
Bud Cross, Councilman

### Memo

To: John P. Cahill, Commissioner, Department of Environmental Conservation  
Alecia Terry, Director, Schoharie County Planning and Development Office ✓  
Carl Stefanik, Schoharie County Department of Health  
Brenda Weaver, Schoharie County Water Quality Strategy Committee

*Nan Stolzenburg*

From: Nan Stolzenburg, Chair Town of Wright Conservation Advisory Council  
Re: Critical Environmental Area Designation in Town  
Date: February 10, 1997

Please be advised that the Town of Wright town board adopted a resolution designating certain portions of the Town of Wright as a Critical Environmental Area. According to NYCRR 617.4(h), this designation was preceded with a written public notice and hearing. According to regulations, this designation includes a map locating boundaries of the CEA.

We are directed to file this notice and map with you according to both the state regulations and the local Resolution #38. Please find enclosed these supporting materials.

Our CAC meets every second Monday of each month. Please feel free to contact us if there are any questions or concerns. You may reach me at 518-872-0679.

TOWN OF WRIGHT  
Gallupville, New York 12073

Resolution No. 38

Title: Designation of Critical Environmental Area

Moved by: *Councilman Stolzenburg*  
Seconded by: *Councilman Wilms*

WHEREAS, this Town Board has directed that a public hearing be held to determine whether proper grounds exist for designation of this area as a Critical Environmental Area pursuant to the State Environmental Quality Review Act Regulations at 6 NYCRR 617.4(j), and

WHEREAS, the regulations at 6 NYCRR 617.4(j) state that to be designated as a critical area, an area should have an exceptional or unique character covering one or more of the following: (1) a benefit or threat to public health or safety, (2) a natural setting (fish and wildlife habitat, forested area, aesthetic open space), or (3) a location having social cultural, historic, archaeological, recreational, or education importance, (4) an inherent ecological, geological, or hydrological sensitivity to change which could be adversely affected by any change, and

WHEREAS, written public notice has been duly published, and

WHEREAS, a public hearing has been held and all persons wishing to express their opinions have had an opportunity to do so, and

WHEREAS, the Wright Conservation Advisory Council is available to advise the Town Board on any possible impacts of proposed actions in these areas, and

WHEREAS, the Wright Town Board, as lead agency, has duly adopted a finding of negative declaration pursuant to the State Environmental Quality Review Act, now therefore be it

RESOLVED, that the Wright KARST AREA, for a total of twenty square miles (estimated), situated in the Town of Wright, as shown on the map attached hereto and made a part thereof, is hereby designated as a Critical Environmental Area pursuant to 6 NYCRR 617.4(j), and be it further

RESOLVED, that the Town Clerk is directed to file certified copies of this resolution together with the report from the Wright Conservation Advisory Council with the Commissioner of Environmental Conservation, and be it further.

RESOLVED, that the Town Clerk is directed to send copies of this resolution and report to Town of Wright's State representatives; Adele Hayes, Schoharie County Planning and

Development Agency; Wright Town Planning Board; Wright Zoning Board of Appeals; Wright Conservation Advisory Council; Carl Stefanik, Schoharie County Health Department, <sup>and</sup> Schoharie County Water Quality Review Committee;

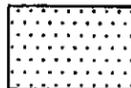
Vote:

Wilms	<u>aye</u>
Landauer	<u>aye</u>
Stolzenburg	<u>aye</u>
Snowdon	<u>aye</u>
Gaydushek	<u>aye</u>

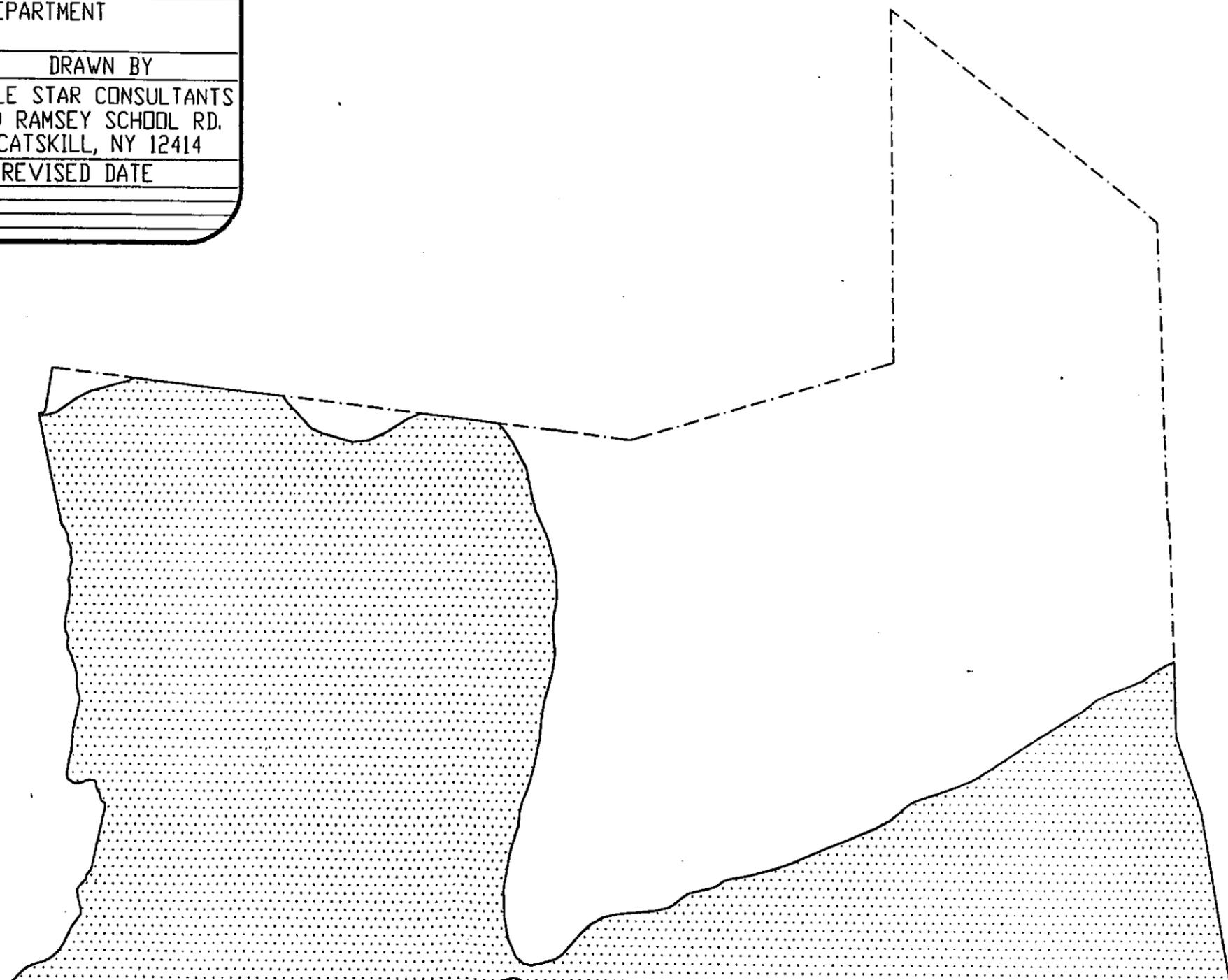
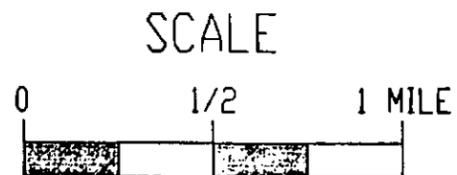
Date: 6/10/93

Clerk: *Donnie Fretts*

EXHIBIT <b>W12</b>		TOWN OF WRIGHT SCHOHARIE COUNTY NEW YORK	
CRITICAL ENVIRONMENTAL AREAS			
SOURCE: SCHOHARIE COUNTY HEALTH DEPARTMENT			
DATE	REVIEWED BY	DRAWN BY	
5-1-95	TOWN OF WRIGHT MASTER PLAN COMMITTEE	POLE STAR CONSULTANTS 29 RAMSEY SCHOOL RD. CATSKILL, NY 12414	
REVISED DATE		REVISED DATE	



CRITICAL ENVIRONMENTAL AREAS



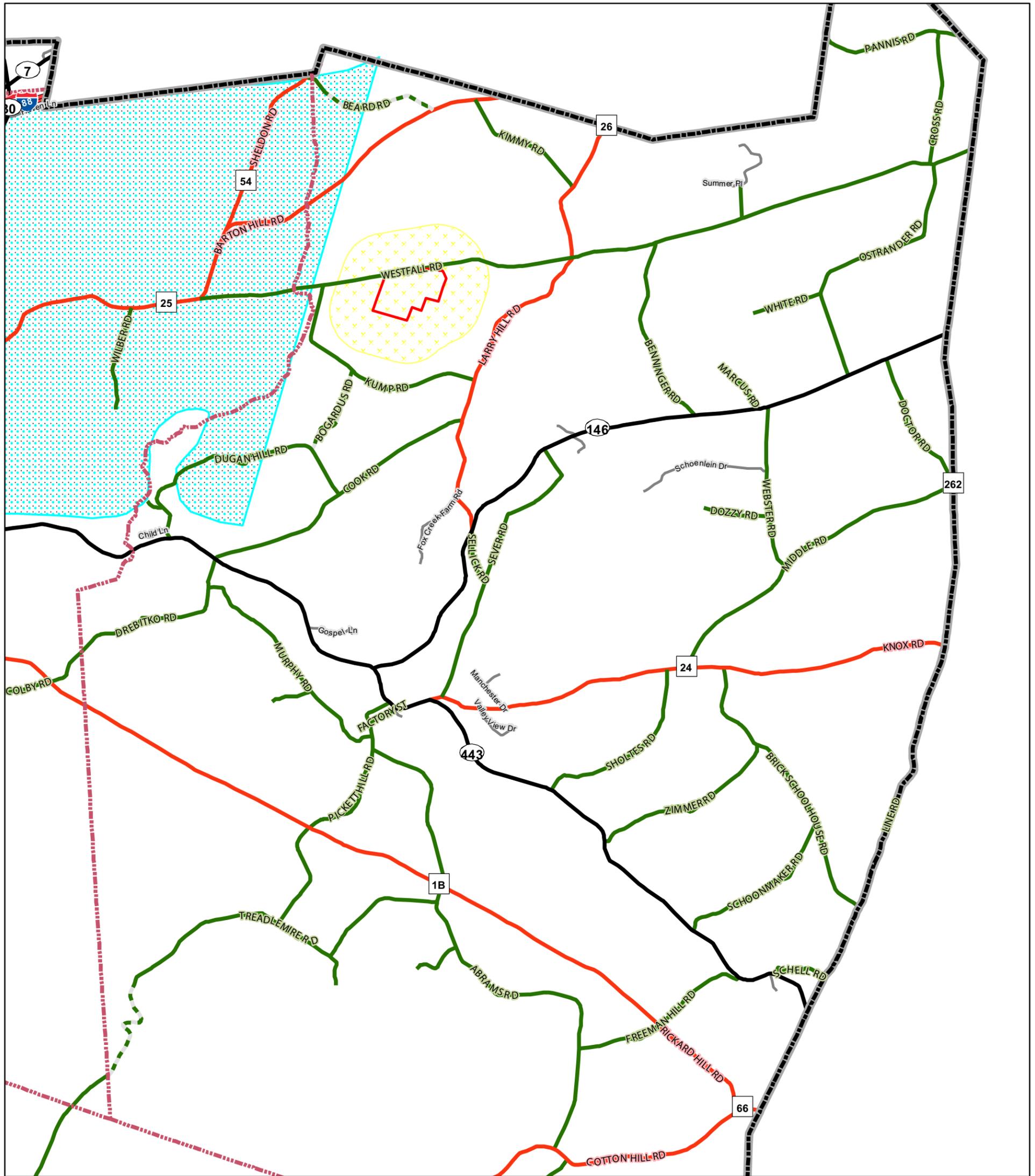


# BARTON HILL NATURAL RESOURCE PROTECTION AREA ATTACHMENT FOUR

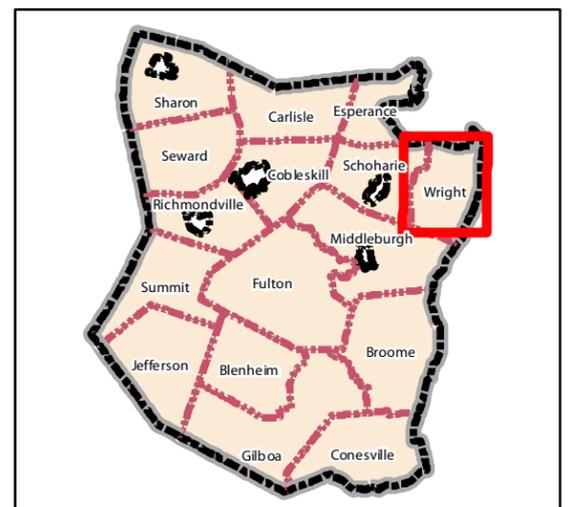
.25-MILES FROM PROPERTY

320 WESTFALL ROAD, TOWN OF WRIGHT

SCHOHARIE COUNTY, NY



- County Line
- Town Line
- Village Line
- Real Property Boundary
- 1/4 Mile Buffer
- Barton Hill Natural Resource Protection Area



# PRIVATE WELLS

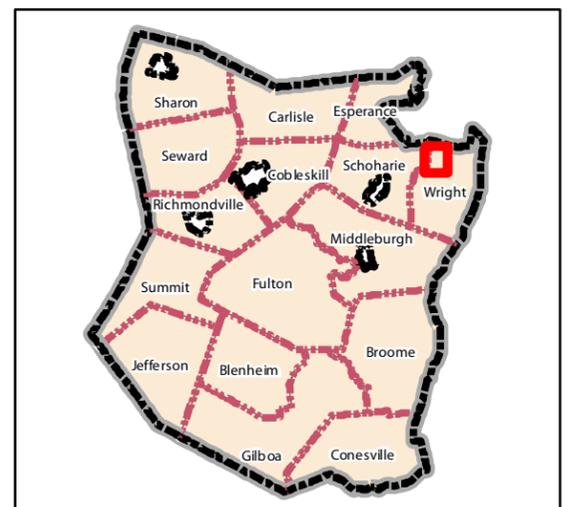
.25-MILES FROM PROPERTY

320 WESTFALL ROAD, TOWN OF WRIGHT

SCHOHARIE COUNTY, NY



- Town Line
- Real Property Boundary
- 1/4 Mile Buffer
- Structures with Possible Drinking Water Well





AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

March 22, 2013

Schoharie County Public Health  
Attn: Mr. William Goblet  
1215 Cotton Hill Road  
Berne, NY 12023

**Subject: Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York**

Dear Mr. Goblet,

Iroquois Gas Transmission System L.P, ("Iroquois") is proposing to construct the Wright Interconnect Project ("Project" or "WIP"), in the Town of Wright in Schoharie County, New York. The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York. The purpose of the Project is to provide 650,000 dekatherms per day ("Dth/d") of firm natural gas transportation services from the terminus of the Constitution Pipeline in Wright, New York to three delivery points including Iroquois Zone 1 at Wright, New York, Iroquois Zone 2 at Wright, New York, and Iroquois existing interconnect with Tennessee Gas Pipeline at Wright, New York. In order to receive natural gas from Constitution and provide transportation services, Iroquois will need to construct the proposed Project to increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois' system.

The proposed Project is sited within the property line of Iroquois' existing 53.22 acre Wright Compressor Station which currently serves as a mainline compressor facility and metering station. The proposed facilities will include two turbo-compressors of approximately 10,900 horsepower (hp) each housed in a common building approximately 88 feet wide by 100 feet long. The proposed cooling facilities will have a footprint of approximately 40 feet by 20 feet, and the units will have a height dimension of approximately 20 feet to 25 feet.

An Environmental Report which is required as part of the Federal Energy Regulatory Commission (FERC) Section 7(C) application and review process is currently being prepared for the Project. As part of the FERC National Environmental Policy Act review, it is necessary to identify whether the proposed facilities will cross or be within 0.25-miles of the following sensitive environmental areas:

- U.S. Environmental Protection Agency (EPA), State, or Municipal designated aquifers
- State or municipal designated aquifer protection areas
- Surface waters that provide public drinking water supplies
- State or municipal designated surface water protection areas

- Any known existing or proposed public or private drinking water wells, reservoirs, or springs in or within 300 feet of the proposed project

On behalf of Iroquois, AECOM respectfully requests that the Schoharie County Public Health review its records relative to any of the above-referenced areas and provide written comments pertaining to the identified resources. We have enclosed for your review a USGS location map depicting the proposed Project location. If you have any questions or comments regarding the Project, please do not hesitate to contact me via phone at 401-274-5685 ext 35 or e-mail at Eileen.banach@aecom.com. Thank you for your attention to this request.

Yours sincerely,



Eileen Banach  
Environmental Scientist

Attachment: USGS location map



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

## Telephone Call Summary

---

By:	<u>Eileen Banach</u>	Date:	<u>5/9/2013</u>
Talked with:	<u>Amber Bleau</u>	Project number:	<u>60256120-007</u>
From (company):	<u>Schoharie Public Health/Wright Supervisors</u>	Project name:	<u>Wright Interconnect Project</u>
Phone number:	<u>518-702-5026</u>	Subject:	<u>3/22/2013 Correspondence</u>

Distribution: WIP file

---

Ms. Bleau is the acting replacement for Mr. William Goblet, our contact on file, who passed away recently. I explained to Ms. Bleau that we were looking for consultation for the WIP and asked if I could send her information pertaining to the Project and receive feedback from her on any issues relating to drinking water near the compressor station. She said yes and provided her email address.

---

Signature

**From:** Banach, Eileen  
**To:** ["amberbleau@aol.com"](mailto:amberbleau@aol.com)  
**Subject:** Wright Compressor Station consultation  
**Date:** Thursday, May 09, 2013 6:29:00 PM  
**Attachments:** [Schoharie County Public Health.docx](#)  
[Site location.pdf](#)

---

Ms. Bleau,

We spoke earlier on the phone, my company had been in consultation with William Goblet concerning the Constitution Pipeline Project that will terminate in Wright, NY. I was hoping to continue that consultation for a separate, but related project. The existing compressor station located at 320 Westfall Road will need to be expanded to accommodate the increased capacity from the Constitution pipeline. To that end, we were looking for information on the following:

- U.S. Environmental Protection Agency (EPA), State, or Municipal designated aquifers
- State or municipal designated aquifer protection areas
- Surface waters that provide public drinking water supplies
- State or municipal designated surface water protection areas
- Any known existing or proposed public or private drinking water wells, reservoirs, or springs in or within 300 feet of the proposed project

I have attached the original letter to Mr. Goblet which explains the project more fully as well as a figure depicting the project area. We would appreciate your response as soon as possible as we are planning to submit our application in the next week. Please call me at the number below with any questions.

Thank you,  
Eileen

Eileen Banach  
Project Specialist  
AECOM Environment  
D 401.274.5685 ext. 35 C 860.888.2249  
[eileen.banach@aecom.com](mailto:eileen.banach@aecom.com)

AECOM  
10 Orms Street  
Providence, RI 02904  
[www.aecom.com](http://www.aecom.com)



AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

401.274.5685 tel  
401.521.2730 fax

March 22, 2013

Wright Planning Board  
Attn: Ms. Trudie Boulia - Planning Board Chair  
105-3 Factory Street  
PO Box 130  
Gallupville, NY 12073

**Subject: Proposed Wright Interconnect Project  
Iroquois Gas Transmission System  
320 Westfall Road  
Wright, New York**

Dear Ms. Boulia,

Iroquois Gas Transmission System L.P, ("Iroquois") is proposing to construct the Wright Interconnect Project ("Project" or "WIP"), in the Town of Wright in Schoharie County, New York. The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York. The purpose of the Project is to provide 650,000 dekatherms per day ("Dth/d") of firm natural gas transportation services from the terminus of the Constitution Pipeline in Wright, New York to three delivery points including Iroquois Zone 1 at Wright, New York, Iroquois Zone 2 at Wright, New York, and Iroquois existing interconnect with Tennessee Gas Pipeline at Wright, New York. In order to receive natural gas from Constitution and provide transportation services, Iroquois will need to construct the proposed Project to increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois' system.

The proposed Project is sited within the property line of Iroquois' existing 53.22 acre Wright Compressor Station which currently serves as a mainline compressor facility and metering station. The proposed facilities will include two turbo-compressors of approximately 10,900 horsepower (hp) each housed in a common building approximately 88 feet wide by 100 feet long. The proposed cooling facilities will have a footprint of approximately 40 feet by 20 feet, and the units will have a height dimension of approximately 20 feet to 25 feet.

An Environmental Report which is required as part of the Federal Energy Regulatory Commission (FERC) Section 7(C) application and review process is currently being prepared for the Project. As part of the FERC National Environmental Policy Act review, it is necessary to identify whether the proposed facilities will cross or be within 0.25-miles of the following sensitive environmental areas:

- U.S. Environmental Protection Agency (EPA), State, or Municipal designated aquifers
- State or municipal designated aquifer protection areas
- Surface waters that provide public drinking water supplies

- 
- State or municipal designated surface water protection areas
  - Any known existing or proposed public or private drinking water wells, reservoirs, or springs in or within 300 feet of the proposed alignment
  - Planned residential subdivision developments
  - Planned commercial or industrial developments
  - Open space/natural areas
  - Locally significant roads, scenic areas, or rivers
  - Schools, parks, ballfields, trails

On behalf of Iroquois, AECOM respectfully requests that the Wright Planning Board review its records relative to any of the above-referenced areas and provide written comments pertaining to the identified resources. We have enclosed for your review a USGS location map depicting the proposed Project location. If you have any questions or comments regarding the Project, please do not hesitate to contact me via phone at 401-274-5685 ext 35 or e-mail at [Eileen.banach@aecom.com](mailto:Eileen.banach@aecom.com). Thank you for your attention to this request.

Yours sincerely,



Eileen Banach  
Environmental Scientist

Attachment: USGS location map

**From:** Banach, Eileen  
**To:** ["Trudy Boulia"](#)  
**Subject:** RE: Proposed Town of Wright Interconnect Project  
**Date:** Tuesday, April 23, 2013 10:11:00 AM

---

Trudy,

Please use the property line of the 53.22 acre site as the basis for your comments. I don't have specific site plans for release right now, so using the property line as the basis for the radius will ensure we encompass all sensitive areas.

Please let me know if you have any additional questions,  
Eileen

---

**From:** Trudy Boulia [mailto:[trudyboulia@gmail.com](mailto:trudyboulia@gmail.com)]  
**Sent:** Monday, April 22, 2013 2:02 PM  
**To:** Banach, Eileen  
**Subject:** Re: Proposed Town of Wright Interconnect Project

Eileen,

The Board is working to provide its comments. In discussing AECOM's request, a question arose. Your March 22 letter states, "The Project involves the addition of a new transfer compressor station and natural gas cooling facilities, odorization enhancements and metering station upgrades at its existing Wright Compressor Station located at 320 Westfall Road, Wright, New York." The letter further states that, "[t]he proposed Project is sited within the property line of Iroquois' existing 53.22 acre Wright Compressor Station..." and that, "[t]he proposed facilities will [be] . . . each housed in a common building approximately 88 feet wide by 100 feet long" and "have a footprint of approximately 40 feet by 20 feet, and the units will have a height dimension of approximately 20 feet to 25 feet". However, the letter does not seem to more particularly indicate where within Iroquois' 53.22 acres, it is proposed that the proposed facilities are to be built. Is it possible to be provided this information so that the Board can be specific in identifying the 0.25 mile radius to determine whether any of the listed sensitive environmental areas are impacted? Or is the Board to assume the entire 53.22 acres is the site of the proposed facilities and extend beyond the 53.22 acres a radius of 0.25 miles?

Trudy Boulia  
Planning Board Chair  
Town of Wright

On Thu, Apr 18, 2013 at 10:02 AM, Banach, Eileen <[eileen.banach@aecom.com](mailto:eileen.banach@aecom.com)> wrote:  
Trudy,

We would accept comments at any point, however our plan is to submit the project filing in mid-May. If possible, we would like to receive comments before then so we can address any issues when we file.

Please let me know if I can help with anything,  
Eileen

---

**From:** Trudy Boulia [mailto:[trudyboulia@gmail.com](mailto:trudyboulia@gmail.com)]  
**Sent:** Wednesday, April 17, 2013 11:30 AM  
**To:** Banach, Eileen  
**Subject:** Proposed Town of Wright Interconnect Project

Eileen,

Greetings.

I am the Planning Board Chair for the Town of Wright Planning Board and am writing regarding your March 22, 2013 letter. Because we are an all volunteer board, I do not receive mail for the Planning Board as it is delivered to the Town Hall, generally stopping by the Town Hall to check for mail only a couple of times a month, and therefore did not receive your March 22, 2013 letter until Monday, April 15th.

The Planning Board is meeting this week and I have added AECOM's request for information and written comments to our agenda for discussion. However, your letter does not indicate any particular time by which written comments must be received. I will need a few weeks, possibly a month. Ideally, I would like to be able to submit the Town of Wright Planning Board's written comments on or about May 20th. Please let me know if this is a problem, or if there is a hard deadline by which you must receive comments.

Trudy Boulia  
Planning Board Chair  
Town of Wright Planning Board

**TOWN OF WRIGHT PLANNING BOARD  
105-3 FACTORY STREET  
P.O. BOX 130  
GALLUPVILLE, NEW YORK 12073**

May 22, 2013

AECOM  
10 Orms Street, Suite 405  
Providence, RI 02904

Attn: Eileen Banach-Environmental Scientist

RE: Proposed Wright Interconnect Project  
Iroquis Gas Transmission System  
320 Westfall Road  
Wright, New York

Dear Ms. Banach:

I write on behalf of the Town of Wright Planning Board responding to your March 22, 2013 letter request regarding the above Project. According to information available to the Wright Planning Board, the Project will cross or be within 0.25 miles of the following sensitive environmental areas:

- N.Y.S. designated aquifer;
- Municipal designated aquifer protection area; and
- Surface waters that provide public drinking water supplies and/or a municipal designated surface water protection area.

More particularly, there is a New York State Unconsolidated Aquifer that crosses or is within 0.25 miles of the Project. I refer you to Attachment One enclosed with the Schoharie County Planning & Development Agency's letter response dated April 17, 2013. Additionally, the Project crosses or is within 0.25 miles of lands designated by the Town of Wright as a Critical Environmental Area, known as the Karst Area. The Karst Area comprises a total estimated twenty square miles and plays an important role in the water quality of the Town. Copy of the Resolution adopted by the Town Board of the Town Wright designating the Karst Area as a Critical Environmental Area pursuant to 6 NYCRR 61.4(j) is enclosed, as is Map 5 depicting the Wright Karst Area Critical Environmental Area and Appendix Q depicting potential Karst topography. Further, the Project crosses or is within 0.25 miles of

AECOM

May 22, 2013

Page 2

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the Barton Hill Watershed. The Barton Hill Watershed is the principal source of water for the Town of Schoharie and serves the people who live within the Barton Watershed, including residents of the Town of Wright. Map 4 depicting the Barton Hill Watershed area is enclosed.

Further, I have inquired whether the Town of Wright has any records of private water wells and if such records exist, I will provide that information separately. There are no existing or proposed public wells, springs or reservoirs in the Town of Wright. A groundwater study for the Town was conducted in 2004, and I enclose copy of the Report for your information. Nor is there any pending or known planned residential subdivision, commercial or industrial developments which will cross or be within 0.25 miles of the Project.

Lastly, farming, scenic open space, agricultural land, and natural areas are highly valued by the residents of Wright. For this reason, I also enclose for your information the Town of Wright Agricultural and Farmland Protection Plan and updated, draft of the Town of Wright's Comprehensive Plan. I believe copy of the Town's Comprehensive Plan has already been provided to you by Schoharie County Planning & Development.

Should you have any questions or require further follow-up information, please contact me.

Very truly yours,

TOWN OF WRIGHT PLANNING BOARD

By:



Trudy Boulia

Planning Board Chair

TB:kp

Enclosures

cc: Wright Town Board

## Town of Wright Gallupville, NY

Charles Finin, Supervisor  
518-872-1931

Carolyn Maroney, Town Clerk  
Fred Martin, Councilman  
Jaqueline Deigel, Councilwoman  
William Fonda, Councilman  
Bud Cross, Councilman

### Memo

To: John P. Cahill, Commissioner, Department of Environmental Conservation  
Alecia Terry, Director, Schoharie County Planning and Development Office ✓  
Carl Stefanik, Schoharie County Department of Health  
Brenda Weaver, Schoharie County Water Quality Strategy Committee

*Nan Stolzenburg*

From: Nan Stolzenburg, Chair Town of Wright Conservation Advisory Council  
Re: Critical Environmental Area Designation in Town  
Date: February 10, 1997

Please be advised that the Town of Wright town board adopted a resolution designating certain portions of the Town of Wright as a Critical Environmental Area. According to NYCRR 617.4(h), this designation was preceded with a written public notice and hearing. According to regulations, this designation includes a map locating boundaries of the CEA.

We are directed to file this notice and map with you according to both the state regulations and the local Resolution #38. Please find enclosed these supporting materials.

Our CAC meets every second Monday of each month. Please feel free to contact us if there are any questions or concerns. You may reach me at 518-872-0679.

TOWN OF WRIGET  
Gallupville, New York 12073

Resolution No. 38

Title: Designation of Critical Environmental Area

Moved by: *Councilman Stolzenberg*  
Seconded by: *Councilman Wilms*

WHEREAS, this Town Board has directed that a public hearing be held to determine whether proper grounds exist for designation of this area as a Critical Environmental Area pursuant to the State Environmental Quality Review Act Regulations at 6 NYCRR 617.4(j), and

WHEREAS, the regulations at 6 NYCRR 617.4(j) state that to be designated as a critical area, an area should have an exceptional or unique character covering one or more of the following: (1) a benefit or threat to public health or safety, (2) a natural setting (fish and wildlife habitat, forested area, aesthetic open space), or (3) a location having social cultural, historic, archaeological, recreational, or education importance, (4) an inherent ecological, geological, or hydrological sensitivity to change which could be adversely affected by any change, and

WHEREAS, written public notice has been duly published, and

WHEREAS, a public hearing has been held and all persons wishing to express their opinions have had an opportunity to do so, and

WHEREAS, the Wright Conservation Advisory Council is available to advise the Town Board on any possible impacts of proposed actions in these areas, and

WHEREAS, the Wright Town Board, as lead agency, has duly adopted a finding of negative declaration pursuant to the State Environmental Quality Review Act, now therefore be it

RESOLVED, that the Wright KARST AREA, for a total of twenty square miles (estimated), situated in the Town of Wright, as shown on the map attached hereto and made a part thereof, is hereby designated as a Critical Environmental Area pursuant to 6 NYCRR 617.4(j), and be it further

RESOLVED, that the Town Clerk is directed to file certified copies of this resolution together with the report from the Wright Conservation Advisory Council with the Commissioner of Environmental Conservation, and be it further.

RESOLVED, that the Town Clerk is directed to send copies of this resolution and report to Town of Wright's State representatives; Adele Hayes, Schoharie County Planning and

Development Agency; Wright Town Planning Board; Wright Zoning Board of Appeals; Wright Conservation Advisory Council; Carl Stefanik, Schoharie County Health Department; Schoharie County Water Quality Review Committee.

Vote:

Wilms	<u>aye</u>
Landauer	<u>aye</u>
Stolzenburg	<u>aye</u>
Snowdon	<u>aye</u>
Gaydushek	<u>aye</u>

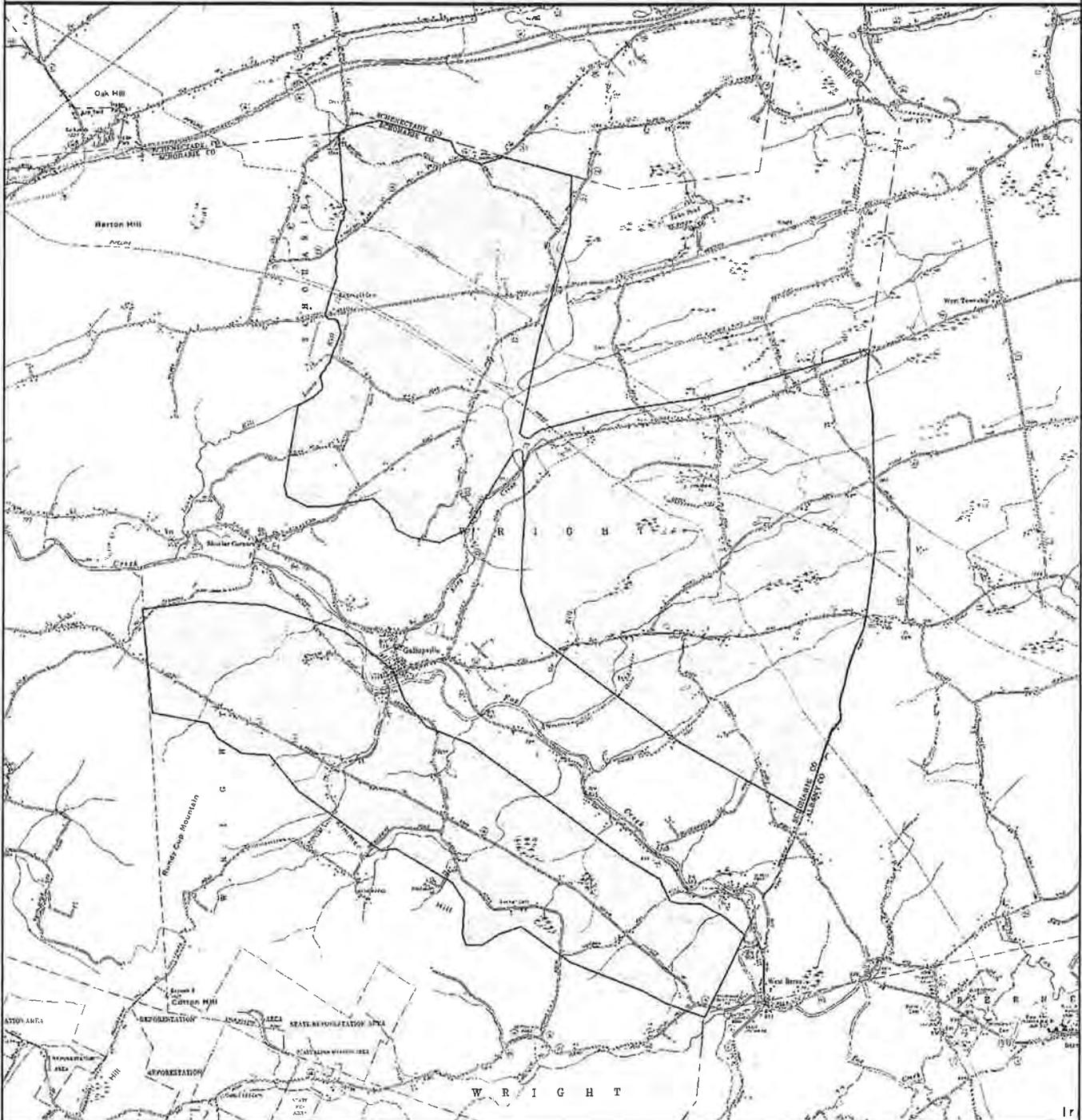
Date: 6/10/93

Clerk: *Donnie Fretts*

# Wright Karst Area Critical Environmental Area (CEA)

Effective Date of Designation: 3-31-97

Designating Agency: Town of Wright



### Legend

 Wright Karst Area CEA



1 inch equals 1 miles



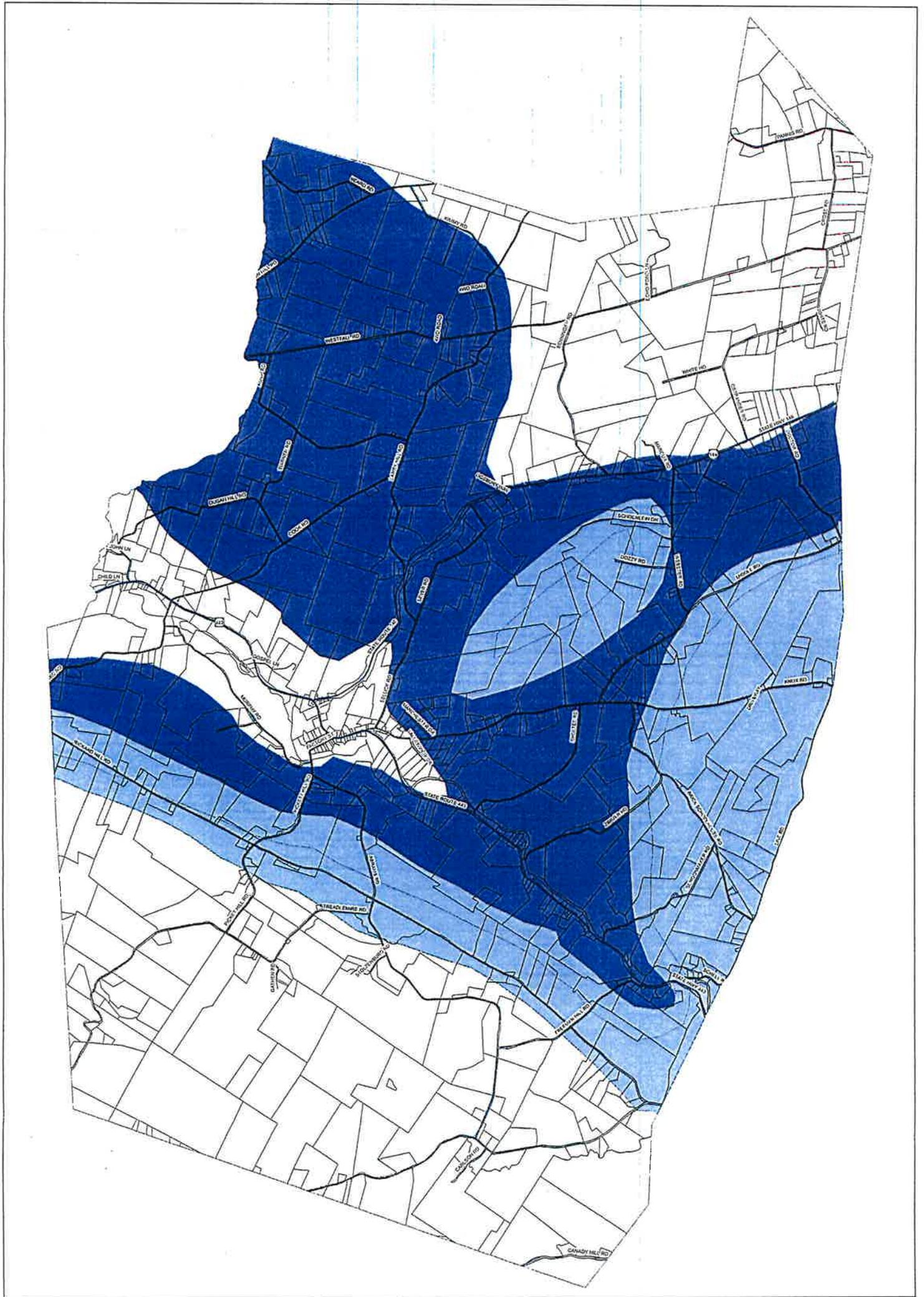
Base Map: DOT 1:24,000 Planimetric Images

Disclaimer: This map was prepared by the New York State Department of Environmental Conservation using the most current data available. It is deemed accurate but is not guaranteed. NYS DEC is not responsible for any inaccuracies in the data. Please contact the designating authority for additional information regarding legal boundary descriptions.



# Town of Wright

## Appendix Q Potential Karst Topography



**Legend**

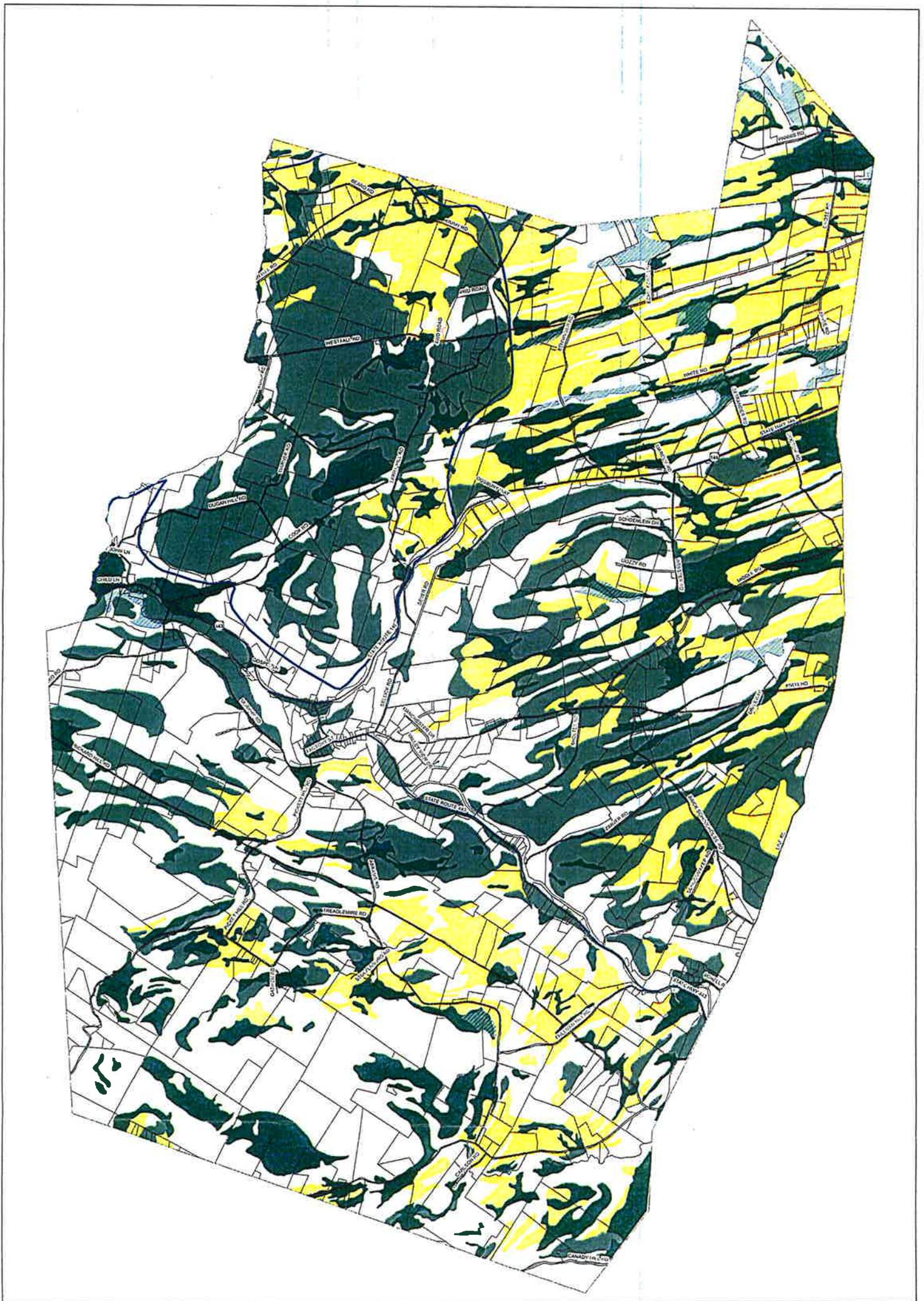
- Parcel NYS Bedrock Geology
- HELDERBERG GROUP
- ONONDAGA LIMESTONE AND TRISTATES GROUP



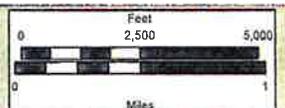
# Town of Wright

Prime Soils / State Designated Wetlands / Barton Hill Watershed

Map 4



	Parcel		Soil
	Barton Hill Watershed		All areas are prime farmland
	State Designated Wetlands		Farmland of statewide importance
			Not prime farmland
			Prime farmland if drained



**Iroquois Gas Transmission System**

# Memo

**To:** File**From:** Robert Perless**CC:****Date:** December 20, 2012**Re:** Notes from meeting with Bill Goblet, Town Supervisor - Wright, NY

---

Meeting Location:	IGTS Wright Compressor Station
Meeting Date:	December 19, 2012 @ 10:00 AM
Meeting Participants:	Robert Perless (IGTS) Ruth Parkins (IGTS) Bill Goblet (Town of Wright)

**Summary:**

Meeting was held to inform Mr. Goblet, Town Supervisor for the Town of Wright, NY, of IGTS' plans to proceed with the Wright Interconnect Project which will include the addition of two new Solar T-70 gas compressors to allow IGTS to receive natural gas from the recently proposed Constitution Pipeline. Mr. Goblet expressed his support for the project due to the existing good relationship between the Town of Wright and IGTS, along with the additional tax revenue the town will receive from the project when placed into service. Mr. Goblet asked that IGTS work with the Town Planning Board (Chair person Trudy Boulia) to review the protocols necessary for the project to proceed. Mr. Goblet inquired about existing relationships with abutting neighbors in which IGTS responded that relationships were good and no known problems existed. Mr. Goblet asked that if construction traffic does damage to Westfall Road that IGTS repair it to its preconstruction condition. IGTS stated its intent to do so (A COMMITMENT). Mr Goblet also expressed an interest to allow

the State of NY to take the lead on the SEQR process, but deferred final decision to Trudy Boulia/Planning Board. Next steps are to meet with the Town Council and the Planning Board over the next few months.

**Pre-Application Meeting Notes and Summary**  
**Iroquois Wright Compressor Station Expansion Air Permitting**  
**January 18, 2013**  
**NY State DEC Region 4 Office, Schenectady, NY**

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**Attendees:**

- Tim Barnes, Iroquois Pipeline Operating Company
- Edward Pellegrini, NYSDEC Region 4 Environmental Engineer 2
- Ronald E. Schroeder, PE, Quonset Environmental LLC
- Donald H. Spencer, NYSDEC Regional Air Pollution Control Engineer
- Brian Stormwind, AECOM Technical Services, Inc.
- Stephen M. Tomasik, NYSDEC Headquarters, Albany, Division of Environmental Permits
- Margaret Valis, NYSDEC Headquarters, Albany, air pollution control meteorologist

**Overview:**

Reviewed Quonset Environmental's Power Point presentation of the project proposal covering the existing station, proposed minor source modification proposal, existing and proposed sources, actual and potential air pollutant emissions, dispersion modeling, pre-approval activities and communications.

**Key Summary Notes:**

1. NYSDEC concurs that the proposal would be reviewed and permitted as a minor modification to a minor existing source.
2. NYSDEC estimates that the permit application technical review can be completed within six months of receiving a complete permit application.
3. A 30-day public comment period would follow NYSDEC's technical review.
4. Don Spencer prefers that Iroquois complete Title V air permit application forms, as opposed to State Facility Permit forms as previously used for Iroquois minor sources and modification, even though the current proposal is a minor modification to a minor source, which would not require a Title V application. This, in Don's opinion, would save time and resources, since the Wright station would become a major source of greenhouse gases after start-up of the proposed modification, and would have to apply for a major Title V air permit at that time.
5. If Iroquois agrees to submit Title V application forms, this would trigger an additional 45-day US EPA review following the normal NYSDEC 30-day public comment period. This seems to fit with Iroquois' current preliminary project schedule, and would save time and effort by all parties after start-up.

**Pre-Application Meeting Notes and Summary**  
**Iroquois Wright Compressor Station Expansion Air Permitting**  
**January 18, 2013**  
**NY State DEC Region 4 Office, Schenectady, NY**

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6. If Iroquois' station design schedule is delayed substantially, so that the air permit application is also delayed substantially, Iroquois could consider submitting minor source application forms in order to delay the 45-day EPA review.
7. Steve Tomasik indicated that the NYSDEC Division of Environmental Permits may elect to issue all State permit approvals simultaneously. Any wetlands or other permit approvals could delay issuance of an air permit. Steve committed to provide further input on this point.
8. Margaret Valis and Brian Stormwind agreed that in lieu of submitting a formal modeling protocol, the modeling features and assumptions will be discussed in advance by telephone. Then AECOM will provide an email documenting the agreed-upon modeling approach and assumptions discussed via telephone for review and approval by NYSDEC prior to finalizing the modeling. The modeling report submitted with the permit application would include an appendix including the agreed upon protocol document.
9. Don Spencer reminded all that, in addition to the applicable State and federal regulations discussed during the meeting presentation, Iroquois' air permit application should also address why other regulations are not applicable. In particular, Don used the federal hazardous air pollutant major source "maximum achievable control technology" (MACT) regulations as an example.
10. Don also indicated that it might speed up review of Iroquois' application if regulatory applicability language from Constitution's canceled air permit application were used as much as possible.
11. Tim pointed out to the group that station design is in early stages, and that if the length of Constitution's pipeline increases substantially, this could affect Iroquois' proposal and the required size of turbines. Tim also pointed out that the size of proposed pipeline heaters is very preliminary and is still under discussion.
12. There was verbal concurrence by NYSDEC that the proposed emergency generator (APU), compressor seals, emergency venting and other trivial activities would be exempt from permitting requirements.
13. Steve Tomasik recommended not submitting a State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF), as is typically required with air permit applications. Steve committed to provide confirmation of his suggestion that NYSDEC Headquarters attorneys "probably" will determine that the parallel FERC environmental impact analyses supersede SEQR for this project.
14. Ed Pellegrini committed to provide air permit application forms in Microsoft Word format, which can be completed and revised electronically. This would be more

**Pre-Application Meeting Notes and Summary**  
**Iroquois Wright Compressor Station Expansion Air Permitting**  
**January 18, 2013**  
**NY State DEC Region 4 Office, Schenectady, NY**

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convenient than manually completing hard copy print-outs of the PDF format application forms available from the NYSDEC Web site.

15. Margaret Valis requested that modeling for formaldehyde air quality impacts be assessed for the proposed project. Brian indicated that NYSDEC's Annual Guideline Concentration for formaldehyde is 0.06 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). (Modeling will be conducted to evaluate the Short-term Guideline Concentration for formaldehyde as well;  $30 \mu\text{g}/\text{m}^3$ ).
16. Margaret Valis concurred with the practice of not modeling stand-by pipeline heaters that would only operate if their twin is inoperative.
17. Margaret Valis committed to providing updated meteorological data to Iroquois/AECOM to replace the 5-year 2006-2010 period AECOM suggested. New data is expected to be available at least for the period 2007-2011, and possibly for 2008-2012.
18. Margaret Valis indicated that the search radius for indentifying background sources required for cumulative NAAQS analysis for the proposed minor source probably would be limited to 10 kilometers.
19. Ronnie Schroeder suggested that upcoming stack testing on identical Iroquois Solar Taurus 70 turbine models could provide more realistic assumptions of in-stack  $\text{NO}_2$ -to- $\text{NO}_x$  ratios, thereby improving modeled impacts for comparison with the new one-hour  $\text{NO}_2$  standard. Margaret Valis indicated that she would consider the use of such data in lieu of EPA model assumptions and Solar guarantees if necessary and valid.
20. Margaret Valis agreed that the following sources/operations would be exempt from 1-hour  $\text{NO}_2$  dispersion modeling: 1) turbine operations at ambient temperatures of less than zero degrees Fahrenheit and 2) the emergency generator.
21. Tim Barnes updated the preliminary project schedule information by indicating that, due to possible preliminary design delays, submittal of a complete air permit application may be as late as June, instead of March 2013. Tim also indicated that construction would likely need to begin by June 2014 and that the in-service date currently is March 2015.
22. Don Spencer, Ed Pellegrini, Margaret Valis and Steve Tomasik indicated that NYSDEC technical review should take no more than six months, plus a subsequent 30-day NYSDEC public comment and, if applicable due to submitting a Title V application, an additional 45-day US EPA comment period.
23. Steve Tomasik indicated that he expects to receive State wetland permit applications for the Constitution Pipeline project.

**Pre-Application Meeting Notes and Summary**  
**Iroquois Wright Compressor Station Expansion Air Permitting**  
**January 18, 2013**  
**NY State DEC Region 4 Office, Schenectady, NY**

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24. The following NYSDEC communication contact points were established.

- a. Air permit processing, FERC/SEQR, other permits and legal opinions: **Stephen M. Tomasik**, (518) 486-9955, [smtomasi@gw.dec.state.ny.us](mailto:smtomasi@gw.dec.state.ny.us). Steve should receive copies of all paper and email correspondence to NYSDEC and other agencies.
- b. Air permit application technical review: **Donald H. Spencer and Edward Pellegrini**. Don = (518) 357-2350, [dhsponce@gw.dec.state.ny.us](mailto:dhsponce@gw.dec.state.ny.us). Ed = (518) 357-2358, [eapelleq@gw.dec.state.ny.us](mailto:eapelleq@gw.dec.state.ny.us)
- c. Dispersion modeling: **Margaret Valis**, (518) 402-8403, [mxvalis@gw.dec.state.ny.us](mailto:mxvalis@gw.dec.state.ny.us).
- d. Legal: **Patty Desnoyers**, NYSDEC Office of General Counsel, 518-402-9185, [pjdesnoy@gw.dec.state.ny.us](mailto:pjdesnoy@gw.dec.state.ny.us)

**Iroquois Gas Transmission System**

# Memo

**To:** File  
**From:** Michael Kinik  
**CC:**  
**Date:** February 15, 2013  
**Re:** Meeting with NY PSC - Albany, NY

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Meeting Location: Albany, NY  
Meeting Date: February 15, 2013 @ 9:45 AM  
Meeting Participants: Paul Amato (IGTS)  
Todd White (IGTS)  
Michael Kinik (IGTS)  
Cindy McCarran (NY PSC)  
Kevin Speicher (NY PSC)  
Steve Blaney (NY PSC)  
Suresh Thomas (NY PSC)

**Summary:**

Meeting was held to update the NY PSC on upcoming work on the IGTS system for 2013. In addition, Iroquois updated the PSC on the WIP Project. The NY PSC had no concerns with the project.

**Iroquois Gas Transmission System**

# Memo

**To:** File**From:** Michael Kinik**CC:****Date:** April 2, 2013**Re:** Meeting with PHMSA – Eastern Region – West Trenton, NJ

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Meeting Location:	<b>West Trenton, NJ</b>
Meeting Date:	March 27, 2013 @ 10:00 AM
Meeting Participants:	Paul Amato (IPOC) Michael Kinik (IPOC) Tom Bashaw (IPOC) Byron Coy (PHMSA) "New Engineer" (PHMSA)

**Summary:**

Meeting was held to update PHMSA on upcoming work on the IGTS system for 2013. In addition, Iroquois updated PHMSA on the WIP Project. The PHMSA had no concerns with the project.

**Iroquois Gas Transmission System**

# Memo

**To:** File**From:** Ruth Parkins**CC:****Date:** June 3, 2013**Re:** Notes from meeting with Amber Bleau, Dep. Town Supervisor - Wright, NY

Meeting Location: IGTS Wright Compressor Station

Meeting Date: May 31, 2013 @ 9:00 AM

Meeting Participants: Robert Perless (IGTS)  
Ruth Parkins (IGTS)  
Amber Bleau (Town of Wright)**Summary:**

Meeting was held to inform Ms. Bleau, Deputy Town Supervisor for the Town of Wright, NY, of IGTS' plans to proceed with the Wright Interconnect Project which will include the addition of two new Solar T-70 gas compressors to allow IGTS to receive natural gas from the recently proposed Constitution Pipeline. Noise and aesthetics were discussed as being of possible concern to residents. Artistic renderings were shown and indicated to be conceptual in nature and noise would meet the FERC standards, currently 55 db at nearest property line (which was indicated on drawing). Ms. Bleau expressed support for the project due to the existing good relationship between the Town of Wright and IGTS, along with the additional tax revenue the town will receive from the project when placed into service. Ms. Bleau suggested Iroquois make a presentation to Town Board and all agreed July 8<sup>th</sup> would be best. Ms. Bleau will invite Planning Board members to attend if available. As a former Planning Board member, Ms. Bleau indicated that the site plan application would need to

be forwarded to County for approval and might therefore necessitate a SEQR review. Submission of short form with possible negative declaration was discussed as possibility. Next steps are to present to the Town Board and meet with the Planning Board over the next few months.



**Application of Iroquois Gas  
Transmission System, L.P. for a  
Certificate of Public Convenience  
and Necessity**

**Docket No. CP13- -000**

**WRIGHT INTERCONNECT  
PROJECT**

**Wright, New York**

**VOLUME II –  
EXHIBITS F, F-I –  
ENVIRONMENTAL REPORT  
Resource Reports 1 – 13  
Appendices A - H**

**PUBLIC**

**June 2013**



## **WRIGHT INTERCONNECT PROJECT**

### **RESOURCE REPORTS**

RESOURCE REPORT 1	GENERAL PROJECT DESCRIPTION
RESOURCE REPORT 2	WATER USE AND QUALITY
RESOURCE REPORT 3	FISH, WILDLIFE AND VEGETATION
RESOURCE REPORT 4	CULTURAL RESOURCES
RESOURCE REPORT 5	SOCIOECONOMICS
RESOURCE REPORT 6	GEOLOGICAL RESOURCES
RESOURCE REPORT 7	SOILS
RESOURCE REPORT 8	LAND USE, RECREATION AND AESTHETICS
RESOURCE REPORT 9	AIR AND NOISE QUALITY
RESOURCE REPORT 10	ALTERNATIVES
RESOURCE REPORT 11	RELIABILITY AND SAFETY
RESOURCE REPORT 12	RELIABILITY AND SAFETY
RESOURCE REPORT 13	RELIABILITY AND SAFETY



## **APPENDICES**

### **Volume II – Public**

Pre-Filing Agency Consultation Matrix and Correspondence	Appendix A
FERC Plan and Procedures	Appendix B
Spill Prevention, Containment, and Countermeasure Plan	Appendix C
Wetland Delineation Report	Appendix D
Unanticipated Cultural Resource Discovery Plan	Appendix E
Resource Report Figures - Public	Appendix F
USGS Full-Size Quadrangle Map	Appendix G
National Wetland Inventory Map	Appendix H

### **Volume III – Critical Energy Infrastructure Information – Do Not Release**

Resource Report Figures - CEII	Appendix F
Plot Plans for Aboveground Facilities	Appendix J
[RESERVED]	Appendix K

### **Volume IV – Privileged / Confidential Information – Do Not Release**

Alignment Sheets	Appendix I
List of Affected Landowners	Appendix L
Resource Report 4	Appendix M
Phase I Cultural Resource Summary Report	Appendix N
Resource Report 9 Attachments	Appendix O

**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**WRIGHT INTERCONNECT PROJECT**

**RESOURCE REPORT 1**

**GENERAL PROJECT DESCRIPTION**

**PUBLIC**

Prepared by:  
Iroquois Gas Transmission System, L.P.  
One Corporate Drive, Suite 600  
Shelton, CT 06484

**JUNE 2013**



## RESOURCE REPORT 1 – GENERAL PROJECT DESCRIPTION

### FERC ENVIRONMENTAL CHECKLIST

<b>Part 380 – Minimum Filing Requirements for Environmental Reports</b>	<b>Company Compliance or Inapplicability of Requirement</b>
Provide a detailed description and location map of the Project facilities (§ 380.12 (c) (1)).	Section 1.1 Volume II – Appendices F, G Volume III – Appendix F
Describe any non-jurisdictional facilities that would be built in association with the Project (§ 380.12 (c) (2)).	Section 1.10
Provide current original U.S. Geological Survey (USGS) 7.5-minute series topographic maps with mileposts showing the Project facilities (§ 380.12 (c) (3)).	Volume II – Appendix G
Provide aerial images or photographs or alignment sheets based on these sources with mileposts showing the Project facilities (§ 380.12 (c) (3)).	Volume IV – Appendix I
Provide plot / site plans of compressor stations showing the location of the nearest noise-sensitive areas (NSA) within 1 mile (§ 380.12 (c) (3, 4)).	Volume IV – Appendix O
Describe construction and restoration methods (§ 380.12 (c) (6)).	Section 1.3
Identify the permits required for construction across surface waters (§ 380.12 (c) (9)).	Table 1.8-1
Provide the names and addresses of all affected landowners and certify that all affected landowners will be notified as required in §157.6(d) (§ 380.12 (a) (4) and (c) (10)).	Volume IV – Appendix L



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Figure 1.1-2 Wright Interconnect Project – Project Overview Map

Figure 1.1-3 Wright Interconnect Project – Site Location Maps



## 1.0 GENERAL PROJECT DESCRIPTION

Iroquois Gas Transmission System L.P. (“Iroquois”) is proposing to construct the Wright Interconnect Project (“Project” or “WIP”) in the Town of Wright in Schoharie County, New York at the request of Constitution Pipeline Company, LLC (“Constitution”), which is proposing to use WIP as an alternative to the compression facilities it had initially proposed in Docket No. PF12-09-000. The Project involves modifications to existing odorization equipment, station piping, and valves at Iroquois’ existing Wright Compressor Station, upgrades to metering facilities at Iroquois’ existing Wright, NY Meter Station interconnection with Tennessee Gas Pipeline (“TGP”), construction of a new interconnection with Constitution and the construction of a new transfer compressor station with natural gas coolers (the “Constitution Transfer Compressor Station”) – all to be located on property already owned by Iroquois at 320 Westfall Road, Wright, New York. Iroquois is proposing this project to provide firm natural gas capacity to Constitution pursuant to a long-term capacity lease agreement. This docket should be reviewed in conjunction with the certificate application contemporaneously filed by Constitution.

Resource Report 1 is one of several resource reports that collectively constitute the Project’s overall Environmental Report (“ER”). This ER has been prepared in accordance with Federal Energy Regulatory Commission (“FERC” or “Commission”) Order No. 603, which governs the filing of applications for Certificates of Public Convenience and Necessity Authorizing the Construction and Operation of Facilities to Provide Service under Section 7 of the Natural Gas Act; the FERC *Guidance Manual for Environmental Report Preparation* (“FERC Guidance Manual”) (August 2002); and reporting requirements of the New York State Environmental Quality Review Act (6 NYCRR Part 617). Please note that Resource Report 12 (PCB Contamination) and Resource Report 13 (Engineering and Design Material) are not applicable to this Project based on the FERC requirements.

Iroquois’ application, including the accompanying ER (“Iroquois’ filing”) has been divided into four volumes to comply with FERC’s document control requirements for Public, Critical Energy Infrastructure Information (“CEII”) - Not for Release, and Privileged and Confidential - Not for Release, classes of information. The contents of each volume are as follows:

- **Volume I:** Iroquois’ Section 7(c) Application and public exhibits other than the ER.
- **Volume II: Public** - ER for the Project, those portions of which are available for public release.
- **Volume III: Critical Energy Infrastructure Information** - Appendices to the ER that are CEII including mainline valve details and plot plans of the facility work and proposed interconnect. Volume III is being submitted pursuant to the Commission’s rules for protected treatment (18 CFR § 388.112) due to national security concerns.
- **Volume IV: Privileged and Confidential** - Appendices containing information for which privileged and confidential treatment is required. This volume contains the Rare Species Survey Report (if applicable), Phase I Cultural Resource Report, and affected landowner information. It also includes a copy of the Precedent Agreement between Iroquois and Constitution. Volume IV is being submitted pursuant to the Commission’s rules for protected treatment (18 CFR § 388.112) to



protect natural and cultural resource information, confidential private landowner information, and competitively sensitive information the disclosure of which could harm Iroquois and Constitution.

This Resource Report 1 discusses the proposed construction, operation, and maintenance procedures for the Project facilities, identifies regulatory permits and approvals required to construct and operate the proposed Project and confirms that there are no reasonably foreseeable plans for future expansion at this time. The landowners whose properties may be affected by the proposed Project are identified in Volume IV – Appendix L.

## **1.1 PROPOSED FACILITY**

### **1.1.1 Purpose and Need**

The purpose of the Project is to provide an aggregate total of 650,000 dekatherms per day (“Dth/d”) of leased firm capacity from the terminus of the Constitution Pipeline in Wright, New York to the downstream parties in:

- (a) Iroquois Zone 1 at Wright, New York (Wright IZ1)
- (b) Iroquois Zone 2 at Wright, New York (Wright IZ2)
- (c) Iroquois’ existing interconnect with TGP at Wright, New York (TGP Meter 12181, referred to herein as “Wright TGP”)

On December 11, 2012, Iroquois and Constitution entered into a Precedent Agreement pursuant to which Iroquois agreed to pursue the necessary regulatory approvals and to construct facilities necessary to establish a physical interconnection with Constitution and to lease specified primary firm capacity to Constitution, as well as to provide odorization as required to comply with DOT regulations of all gas delivered by Constitution into Iroquois Zone 2 (IZ2) and TGP. An in-service date of March 31, 2015 is specified in the Precedent Agreement, which coincides with the anticipated in-service date of Constitution.

In order to receive natural gas from Constitution and provide the leased capacity, Iroquois will need to construct on its Wright, New York property a new transfer compression facility including two compressor units, gas cooling and auxiliary buildings. The Project will also require installation of new interconnection facilities with Constitution, modifications to station piping and valves at Iroquois’ Wright Compressor Station, modifications to the Wright/TGP Meter Station and modifications to its existing odorization system. The transfer compressor will increase the pressure of the natural gas being delivered by Constitution in order to allow it to enter Iroquois’ system. The cost of the WIP facilities is currently estimated to be approximately \$75.0 million. Iroquois’ 7(c) Application (Volume I of this application) contains Iroquois’ official statement on the Project’s purpose and need.

Currently, at the proposed project location in Wright, NY, Iroquois owns and operates two mainline compressor units of approximately 7,300 horsepower (“HP”) each, along with associated natural gas cooling. Known as the Iroquois Wright Compressor Station and constructed in 1993, these mainline compressors allow Iroquois to transport natural gas from Iroquois’ interconnect with TransCanada Pipelines Limited in Waddington, New York to points in Iroquois’ Zone 2 downstream of this facility.



The present MAOP of Iroquois' system near the Wright Compressor Station is 1,440 pounds per square inch gauge ("psig").

Additionally, at this proposed project location in Wright, New York, Iroquois owns and operates the Wright TGP Meter Station which currently delivers gas from the suction side of the Wright Compressor Station to the TGP 200 Line. The delivery of this natural gas is accomplished with no compression because Iroquois operates its pipeline at a higher pressure (typically 900 – 1,100 psi) than that of the TGP 200 Line (typically 600 psi to an MAOP of 760 psi). Iroquois also owns and operates, in partnership with TGP, odorization facilities at its Wright Compressor Station and odorizes all gas delivered from Iroquois to TGP at Wright, New York, in addition to all gas delivered on Iroquois downstream of Wright, New York.

### **1.1.2 Location and Description of Facilities**

The proposed incremental aboveground facilities associated with WIP are listed in Table 1.1-1. These facilities are conceptual in nature and subject to final design and FERC approval.

<b>TABLE 1.1-1 PROPOSED NEW ABOVEGROUND FACILITIES OF THE WRIGHT INTERCONNECT PROJECT</b>				
Proposed Facility	New/Modified	MP(s) a	Town	County, State
Aboveground Facility				
Constitution Transfer Station	New	190.4	Wright	Schoharie, New York
Metering Building	New	190.4	Wright	Schoharie, New York

<sup>a</sup> Milepost location is based upon the existing Iroquois Mainline

In addition, Iroquois will be installing minor facilities to interconnect its system to Constitution. Constitution will be installing a meter station and associated metering facilities on Iroquois' Wright, NY property adjacent to the Wright Compressor Station, which facilities are included in Constitution's FERC 7(c) filing, and TGP will be installing two new taps onto its existing pipeline facilities which are located on Iroquois' Wright NY property, along with overpressure protection facilities, pursuant to TGP's blanket construction certificate.



### **1.1.2.1 Proposed Constitution Transfer Compressor Station**

Iroquois proposes to construct the transfer compressor station adjacent to its existing Wright Compressor Station in the Town of Wright, Schoharie County, New York. The proposed transfer compressor station would be located within the property line of Iroquois' existing 53.22 acre Wright, NY site which currently hosts the Wright Compressor Station (which compresses gas for transportation from Iroquois Zone 1 into Iroquois Zone 2) and the Wright/TGP Meter Station (which delivers gas from Iroquois to TGP). Figures 1.1-2 and 1.1-3 of this resource report and an aerial photograph (Volume IV - Appendix I) show the location of the existing and proposed compressor stations.

The transfer compressor station will include two turbo-compressors of approximately 10,900 HP each housed in a common building; an auxiliary building, natural gas coolers, gas filters, an emergency generator, and a domestic gas building, in addition to associated parking and access areas. This project will allow Iroquois to receive lower pressure gas from Constitution and, by raising its pressure via transfer compression, deliver it into Iroquois' pipeline. As part of the final phase of construction, Iroquois proposes to enclose the new transfer compressor station with a chain link fence. A proposed site plan is included in Volume III – Appendix J.

Iroquois proposes to design and operate the facilities to enhance operating flexibility, reliability, and efficiency. The existing Wright Compressor Station will be modified so that it can compress volumes from Constitution in the event that the proposed Constitution Transfer Compressor Station is unavailable for service or if system pressure and flow conditions do not require the larger transfer compressor station horsepower. Such use of the mainline compressors would only occur if mainline compressors were not currently needed for mainline compression. Conversely, the proposed transfer compressor station will be designed to allow for compression of volumes from Iroquois Zone 1 to Iroquois Zone 2 if not needed for Constitution leased capacity, to enhance existing Iroquois service reliability in the event the Wright Compressor Station is unavailable for service. Finally, a blend valve will be installed to allow commingling of volumes during low flow conditions from both Constitution and Iroquois Zone 1 so that only one compressor will need to be operated. This flexibility will allow Iroquois to operate the minimum amount of compression needed at any time, thereby conserving fuel and reducing emissions. By taking advantage of existing compression to provide backup for the transfer compressor station, Iroquois is able to provide comparable reliability to that proposed by Constitution in PF12-9, but with only 21,800 HP rather than 32,000 HP as originally proposed by Constitution in Draft Resource Report 1 filing on May 21, 2012.

Iroquois proposes to design and operate the new transfer compressor units using substantially similar techniques to those it has applied to successfully design, construct, and operate its existing seven compressor stations located in Connecticut and New York. Key elements of the Project design would be the installation of natural gas turbines incorporating Best Available Control Technology ("BACT") and the construction of the station building to be aesthetically compatible with the existing surroundings.

The major difference between Iroquois' existing compressor stations and the WIP facilities is that WIP will be designed to take advantage of the multiple supply sources and delivery options at the site to reduce overall fuel consumption and emissions. In particular, Iroquois will minimize fuel by physically delivering all scheduled volumes to TGP from the gas stream Iroquois receives from Constitution rather



than from Iroquois Zone 1 whenever possible, regardless of which pipeline the gas is actually nominated from. This can be accomplished due to the fact that Constitution will deliver all of its volumes to Iroquois and in turn, Iroquois will redeliver volumes to TGP on behalf of Constitution. As such, Iroquois can aggregate Constitution and Iroquois deliveries to TGP. Because more gas will be delivered from Constitution to TGP than Constitution's shippers nominated, the amount of gas that will need to be compressed from Constitution into Iroquois is reduced. The Constitution pressure at Wright is expected to be lower than Iroquois' Zone 1 pressure at Wright. As a result, less gas will be compressed from the lower pressure Constitution pipeline and more gas will be compressed from the higher pressure Iroquois Zone 1, resulting in less compression overall.

#### **1.1.2.2 Proposed Discharge Gas Coolers**

Compression from Constitution into Iroquois will result in discharge gas temperatures in excess of 120F at times and require the installation of additional gas coolers at Wright, New York. The gas coolers are a bank of air-cooled heat exchangers located on the discharge side of the proposed transfer compressors. Gas is passed through coolers where it is cooled by induced draft fans and collected in a common discharge header that distributes the gas back into the station discharge piping.

The proposed coolers would be installed in conjunction with the proposed transfer compressor station construction and are expected to have a combined footprint of approximately 40 feet by 25 feet. The units will have a height dimension of approximately 20 feet to 25 feet. The location of the proposed cooling facilities is shown on Figures 1.1-1 and 1.1-2 (in conjunction with the proposed transfer compressor station; Volume II – Appendix F), and on an aerial photograph (Volume IV – Appendix I), and a site plan (Volume III – Appendix J).

#### **1.1.2.3 Proposed Modifications to Iroquois' Wright Odorization System**

Iroquois currently owns and operates an odorization system at its Wright, New York facility which odorizes natural gas delivered to TGP Meter #12181, as well as gas on the Iroquois system which flows downstream of Wright, New York. The odorization system was installed in 1992 and consists of five odorant pumps, control logic, two 6,500 gallon odorant storage tanks, and various tubing to inject odorant from the storage tanks to the pipeline. Currently, as configured, the system can meet the needs of this Project (650,000 Dth/d), in addition to contracted deliveries. It is anticipated that the modifications to the odorant injection will be to increase reliability by adding additional pumps.

#### **1.1.2.4 Proposed Modifications to Wright Meter Station**

Iroquois currently owns and operates the measurement equipment at the Wright Meter Station that meters deliveries from Iroquois to TGP at Wright. The meter station is currently configured to allow for the delivery of up to 400,000 Dth/d. As part of WIP, Iroquois will modify the metering station to allow for the



delivery of up to 950,000 Dth/d<sup>1</sup> to TGP. The proposed modifications will consist of upsizing gas metering and adding additional metering run(s), along with associated gas measurement control logic upgrades. Moreover, as part of a new Interconnect Agreement with TGP which is anticipated to be executed in 3Q 2013, Iroquois will be responsible for designing, constructing and operating this station's flow control, filter/separation, and pressure regulation, in addition to sharing signals for flow, pressure, and gas quality. TGP will be responsible for over pressure protection and the taps onto its pipeline (See Volume III – Appendix J)).

### **1.1.2.5 Proposed Constitution Interconnect**

Iroquois plans to build an interconnect commencing from a point of demarcation to be located immediately downstream of the isolating joint located between Constitution's measurement equipment and Iroquois' inlet filter for the proposed transfer compressor station. Constitution is proposing to locate its metering station at the terminus of its pipeline at Iroquois' Wright facility. Constitution shall have the ability to deliver, and Iroquois will have the ability to receive up to 650,000 Dth/d of gas on a primary firm basis designed on (a) a minimum pressure at the meter of 835 psig, (b) a maximum temperature at the meter of 60 degrees Fahrenheit, (c) a minimum heating value of 1,000 Btu, and (d) location of the metering equipment (to be constructed and installed by Constitution) not more than 1,000 feet from the tee with Iroquois' mainline.

### **1.1.2.6 Temporary Facilities**

#### **Equipment Storage Yards/Laydown Areas**

The property owned by Iroquois discussed in Section 1.1.2.1 is large enough to accommodate temporary storage areas needed to construct the WIP facilities. These equipment storage areas may be used for company and contractor office trailers, parking, material stock piling, pipe fabrication, temporary fuel storage tanks (with containment), storage of supplies, and other temporary construction activity. Following construction, Iroquois proposes to regrade and landscape these temporary work areas in accordance with the final landscaping plans discussed in 1.3.9 and the FERC Upland Erosion Control, Revegetation, and Maintenance Plan ("Plan") and Wetland and Waterbody Construction and Mitigation Procedures ("Procedures") – together "FERC Plan and Procedures."

#### **Access Roads**

Public roads and existing paved driveways at the Wright Compressor Station facility would be utilized to access the work locations. No off-site access roads are anticipated for this project.

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<sup>1</sup> The Wright Meter Station will be designed to allow receipts from Constitution Pipeline of 650,000 Dt/d and 300,000 Dth/d from Iroquois for a total of 950,000 Dth/d



### **1.1.3 Location Maps, Detailed Route Maps, Plot/Site Plans**

Accompanying the proposed transfer compressor descriptions are the following figures and alignment drawings located in Volume II:

- Figure 1.1-1 (Iroquois System Map) depicts the Wright Compressor Station facility with respect to Iroquois' mainline transmission system;
- Figure 1.1-2 (Project Overview Map) depicts the proposed WIP facilities and existing Wright Compressor Station facility in Schoharie County, New York;
- Figure 1.1-3 (Site Location Map) shows the pipeline alignment, aboveground facilities and other ancillary facility locations (i.e. pipe yards/equipment storage areas) on United States Geological Survey ("USGS") 7.5-minute series topographic maps at 1:36,000-scale.
- Aerial Alignment Sheets are provided in Volume IV - Appendix I. These sheets show the locations of the proposed WIP facilities with construction workspace layout, property owner information, proposed access roads and wetland features (if applicable). The sheets are based on aerial photography taken in 2012 and are depicted at 1:2400-scale (1-inch is equivalent to 200 feet).
- Full-size USGS Topographic Quadrangles and National Wetland Inventory ("NWI") maps are provided separately with this filing and depict the same facility information as the USGS quadrangle excerpts in Volume II.
- A site-specific plot plan of the WIP facilities is provided in Volume III - Appendix J. This plan shows the locations of the proposed facilities, construction workspace layout, and property lines. The plot plan is depicted at 1:60-scale (1-inch is equivalent to 60 feet).

## **1.2 LAND REQUIREMENTS**

Iroquois proposes to construct the Project on the same site as its existing Wright Compressor Station in the Town of Wright, Schoharie County, New York. The existing fenced Wright Compressor Station occupies 5.02 acres. The construction of the Project will require the use of approximately 12.45 acres located on Iroquois' existing property of which approximately 4.5 acres will house the proposed aboveground WIP and metering facilities and the remaining 7.95 acres will be utilized for temporary workspace during construction (See Table 1.2-1). A proposed site plan is included in Volume III – Appendix J.

The permanent fencing for the proposed transfer compressor station and the existing Wright Compressor Station is estimated to encompass approximately 7.45 acres. Areas that are expected to be affected by construction include the station yard and temporary work and staging areas. The security fenced yard area will incorporate the new transfer compression facility, gas cooling and auxiliary buildings as well as a parking area.



### **1.2.1 Temporary Workspace / Staging Areas**

Iroquois does not anticipate utilizing adjacent areas to provide temporary work space. All workspace will be contained on Iroquois' property. This work space may be used for company and contractor office trailers, parking, material stock piling, pipe fabrication, temporary fuel storage tanks (with secondary containment), storage of supplies, and other temporary construction activity. Following construction, Iroquois proposes to regrade and landscape these temporary work areas in accordance with the final landscaping plan proposed for development of the transfer compressor station and the FERC Plan and Procedures (see Volume II – Appendix B).

### **1.2.2 Access Roads**

Iroquois anticipates accessing the WIP site via the existing access road. No off-site or new access roads are anticipated for this project.

<b>TABLE 1.2-1 SUMMARY OF LAND REQUIREMENTS FOR THE PROPOSED WRIGHT INTERCONNECT PROJECT</b>			
<b>Facility</b>	<b>Size of Property Owned by Iroquois (acres)</b>	<b>Workspace During Construction (acres)</b>	<b>Land Affected During Operation (proposed &amp; existing) (acres)</b>
Existing Wright Compressor Station & Metering Facilities	53.22	2.07	5.02
Proposed Transfer Compressor Station	53.22	2.43	2.43
Temporary Space	53.22	7.95	0
Total	53.22	12.45	7.45

<sup>a</sup> The WIP site will be accessed via the existing access road.



### **1.3 CONSTRUCTION PROCEDURES**

Construction contractors employed by Iroquois will be required to observe and comply with all federal, state and local laws, ordinances and regulations that apply to the conduct of the work. During the performance of work, contractors will comply with all conditions imposed in the FERC certificate, the Minimum Federal Safety Standards adopted by the DOT under the Natural Gas Pipeline Safety Act, as well as Iroquois standards.

Construction methods for the Project will be implemented in accordance with the Plan and Procedures (See Volume II - Appendix B). Proposed deviations from the FERC Plan and Procedures are not anticipated at this time. The following sections describe Iroquois' anticipated construction procedures. Actual equipment and methods may vary in the field based on final design and federal, state and local permit conditions and approvals.

#### **1.3.1 Clearing and Grading**

The site for the new transfer compressor units and temporary workspaces will be cleared of vegetation and graded as necessary to create level surfaces for the movement of construction vehicles on the site and to prepare the area for the building foundation. Iroquois will install silt fence and/or hay bales around disturbed areas, as appropriate to the land, soil and weather conditions, to minimize the potential for erosion and for impacts to off-site wetlands and watercourses. Erosion and sediment controls will conform to FERC requirements and Iroquois' stormwater pollution prevention plans.

Rock encountered during construction will be excavated using one of the following techniques. The technique selected is dependent on relative hardness, fracture susceptibility, expected volume and location. Techniques include:

- Conventional excavation with a backhoe;
- Ripping with a bulldozer followed by backhoe excavation;
- Hammering with a pointed backhoe attachment or a pneumatic rock hammer, followed by backhoe excavation;
- Blasting followed by backhoe excavation; or
- Blasting surface rock prior to excavation.

#### **1.3.2 Blasting**

All blasting activity will be performed according to strict guidelines designed to control energy release. Proper safeguards will be taken to protect personnel and property in the area. Refer to Resource Report 6 – Geological Resources for specific details relative to blasting. Charges will be kept to the minimum required to break up the rock based on anticipated type and hardness. Mats made of heavy steel mesh or other materials are effective in preventing scattering of rock and debris and will be used as necessary. These activities will strictly adhere to all applicable regulations regarding to control blasting and blast



vibration limits with regard to structures and underground utilities. Special care will be taken to monitor and assess blasting within 150 feet of dwellings and private or public water supply wells.

Large rock not suitable for use as backfill material will either be windrowed along the edge of the site or hauled off and disposed of at an approved location. The remaining rock will be mixed with the subsoil and used as backfill. Prior to construction, if necessary, Iroquois will develop a rock disposal plan that will address the handling and disposition of excess rock generated by construction activities associated with the Project.

### **1.3.3 Foundations**

Building foundations are likely to be constructed of poured reinforced concrete. Topsoil, if present, will be stripped from the area of the building foundations. Such soil may be used on-site either for landscaping or to provide soil cover, if acceptable. Additional soil or subsurface materials may be imported from approved sources to achieve the desired site/foundation grade.

### **1.3.4 Building and Cooler Design and Construction**

The new compressor building is expected to be approximately 80 feet wide by 100 feet long, with a roof peak to grade height of approximately 58 feet. The compressor building will house two 10,900 nominal horsepower natural gas fueled turbo-compressor packages. The proposed turbine exhaust stack will be designed initially with a stack height of 63 feet. Iroquois will perform air quality impact modeling, as described in Resource Report 9, to support its application to the New York State Department of Environmental Control ("NYSDEC") for air permits to construct and operate the proposed turbo-compressors. Air quality modeling reports will be submitted to the NYSDEC as part of Iroquois' air permit applications. The modeling reports will document the proposed stack heights and other design parameters to achieve acceptable dispersion of turbine exhaust emissions to comply with ambient air quality regulations and standards. However, proposed stack heights and parameters could be revised during the air permit preparation, review and NYSDEC approval process. The compressor unit design will incorporate various safety features, as discussed in Resource Report 11.

Typically, the steel frame would be erected, followed by the installation of the roofs, interior skin, insulation, and exterior skin. Cutouts for protrusions through the siding (e.g., inlet and exhaust vents) would be flashed to ensure that the buildings would be weather-tight. It is possible that Iroquois will construct the building using a steel frame, masonry walls and exterior sheet metal facade. This will be determined during the detailed design phase of the Project.

The proposed cooling facility is anticipated to have a footprint of approximately 40 feet by 25 feet. The cooler units are anticipated to have a height dimension of approximately 20 feet to 25 feet. The cooler construction will commence after completion of its respective foundation. Typically, the steel frame would be erected, followed by the installation of the coolers, mechanical and electrical assembly.

### **1.3.5 High Pressure Piping**

Iroquois proposes to design and construct the high pressure piping to meet the requirements of the U.S. Department of Transportation (DOT) 49 CFR Part 192 requirements. Iroquois proposes to design the high



pressure gas piping in the station yard for a MAOP of 1,480 psig. Iroquois proposes to control the station discharge pressure to result in main line pressures at or below the main line MAOP of 1,440 psig. Iroquois proposes to coat the station piping for protection against corrosion. In addition, Iroquois anticipates the installation of a cathodic protection system to protect the buried piping.

### **1.3.6 Pressure Testing**

Prior to placing the station in-service, Iroquois will conduct pressure testing of the piping system. Iroquois will conduct this test in accordance with applicable codes, including New York's general permit requirements for the discharge of test water. Potential test water volumes are provided in Resource Report 2.

### **1.3.7 Infrastructure Facilities**

The WIP will require electric and telephone utility service, both of which currently exist at Iroquois' Wright Compressor Station as part of the original compressor station construction. It is anticipated that these existing infrastructure facilities with the exception of the electric service, will meet the needs of the proposed project with only slight modification from current configurations. A new electric service is expected to be required to support the new facility.

### **1.3.8 Control Checkout and Engine Startup**

Before the new compressor units are placed into service, Iroquois proposes to develop and implement station commissioning plans. Iroquois anticipates that these plans will include the checking and testing of controls and safety features including the emergency shutdown system, relief valves, gas and fire detection facilities, over-speed, vibration, and other on- and off-engine protection and safety devices. Following the successful completion of the station commissioning, the turbo-compressor equipment will be trial-operated. Iroquois anticipates that the initial operation of turbo-compressor equipment may consist of several runs of short duration. Preliminary commissioning may be conducted using gas from the Iroquois mainline prior to completion of the Constitution pipeline. Final commissioning cannot be completed until preliminary service on the Constitution pipeline is available.

### **1.3.9 Final Grading and Landscaping**

Prior to construction, Iroquois will develop plans for the final grading and landscaping of the areas that will be disturbed during construction. This final grading and landscaping plans will be consistent with the FERC Plan and Procedures for the restoration of uplands. The proposed ground cover of the new transfer station will include pavement, gravel and mowed lawn areas within the station fencing.

A number of activities are expected to be performed as part of the completion of the construction work. After the completion of these activities and the start-up and testing of the new compressor unit(s), or as soon thereafter as weather and other conditions permit, Iroquois will perform the final grading and landscaping of the compressor station site, in accordance with the above-mentioned plans.



### **1.3.10 Erosion Control Procedures**

During the construction of the Project, Iroquois will adhere to the applicable provisions of the FERC Plan and Procedures. A copy of the FERC Plan and Procedures is provided in Volume II - Appendix B. As set forth in these documents, Iroquois proposes to install appropriate erosion controls (e.g., silt fence and/or hay bales) to minimize the potential for erosion from construction of the facility and access road.

### **1.4 CONSTRUCTION SCHEDULE AND WORKFORCE**

The anticipated construction period for the WIP is July 2014 to March 2015 with the commercial operation of the compressor station scheduled to begin on March 31, 2015. Iroquois anticipates a total workforce of approximately 50 personnel during construction of the compressor station. Iroquois and/or its contractors hire construction workers that have the skills necessary for pipeline construction, as needed. This will include hiring local workers when practicable. The types of jobs that may be provided to the local workforce include welders, operators, laborers, surveyors, and landscapers. Any increase in temporary population levels from non-local workers in the area will be relatively short, as the Project is expected to take less than one year to construct. In addition, environmental inspector(s) will be assigned to the compressor station site per FERC requirements as further described in the next section.

### **1.5 ENVIRONMENTAL COMPLIANCE, TRAINING, AND INSPECTION**

Iroquois will incorporate environmental requirements in its construction documents, conduct environmental training, employ environmental inspectors, and provide routine monitoring during all phases of construction, clean up and restoration, as required.

Iroquois will develop site-specific environmental requirements that will be part of the construction bid documents. These environmental documents will include the Plan and Procedures (with approved exceptions/variances, if any), the FERC certificate conditions, and other environmental permits received and requirements imposed. During pre-bid meetings with construction contractors, Iroquois will communicate to prospective contractors the environmental requirements for this project. Pre-bid communication with contractors, combined with the proposed contents of the construction contracts, will assist contractors to incorporate applicable requirements into their bids. If a contractor is in violation of an environmental requirement during execution of duties on behalf of Iroquois, Iroquois will demand immediate correction of the problem, issue a stop work order if necessary, resolve any discipline issue with the contractor, and make appropriate agency notifications as needed.

Iroquois will be responsible for the selection, employment, training and guidance of the personnel on the Environmental Inspection Team. The duties of the environmental inspectors are to monitor and report on those activities designated within the environmental scope of work in the construction contracts and include aspects such as erosion control, re-vegetation, wetland signage, environmental permit compliance, threatened and endangered species protection and restoration.

Prior to the commencement of construction activities, Iroquois will conduct environmental training for the inspectors to familiarize them with the specific conditions, issues, and environmental requirements applicable to the Project. As new personnel are assigned to this Project, Iroquois will conduct additional training for these personnel as well.



Iroquois considers the environmental inspection group to be a critical part of the Construction Management Team. During construction, environmental inspectors have the authority to assess and evaluate any construction related activity to confirm compliance to the environmental conditions of local, state or federal agency permits or certificates. Environmental inspectors will observe and report on the day-to-day activities of the construction contractors that relate to, or may affect a condition of, an environmental permit or certificate. Environmental inspectors will attend daily meetings as necessary. Environmental inspection staff for this project will report to Iroquois' Environmental Health & Safety Department and will keep the chief construction inspector informed of environmental-related activities pertaining to the construction contracts on a daily basis. The Environmental inspectors and members of Iroquois' Environmental, Health and Safety have stop work authority during all phases of construction.

## **1.6 OPERATIONS AND MAINTENANCE**

Iroquois will operate and maintain the proposed facilities in accordance with standard procedures designed to ensure their integrity and to provide its customers and the general public with a safe and dependable natural gas supply. The Iroquois facilities will be designed, constructed and operated in accordance with requirements of the FERC, the federal Pipeline Safety Act as implemented by the US Department of Transportation Pipeline and Hazardous Materials Safety Administration ("PHMSA"), industry-proven practices and techniques, and other federal, state, and local requirements as applicable. Responsibilities of Iroquois include:

- 1) safe operation and maintenance of pipeline and aboveground facilities to provide the required gas flow;
- 2) inspection and maintenance of the pipeline system and facilities;
- 3) regular monitoring of the ROW;
- 4) development and implementation of an ongoing program of safety and environmental compliance;
- 5) regulatory compliance maintenance inspections;
- 6) administration; and,
- 7) landowner relations.

In accordance with 49 CFR Part 192, the facility will be regularly inspected for leakage as part of scheduled operations and maintenance. Iroquois proposes to follow various routine maintenance and operations procedures to ensure that the station operates safely. Standard Iroquois operations at existing stations include activities such as the calibration, maintenance and inspection of equipment, operation of the odorization equipment, as well as the monitoring of pressure, temperature, and equipment vibration data, and traditional landscape maintenance such as mowing and application of fertilizer, etc. Standard Iroquois operations currently also include the periodic checking of safety and emergency equipment and cathodic protection systems.

The Project facility will be marked and identified in accordance with applicable regulations. Liaison will be maintained with the public as well as with government agencies having jurisdiction over the compressor station and its related facilities. Overall, maintenance activities will be in compliance with



requirements of the FERC Plan and Procedures as well as other applicable regulatory requirements. The compressor station will be designed as an unmanned station; however, the existing station currently serves as a field office for the operations group. The station will also be linked to Iroquois' Supervisory Control and Data Acquisition (SCADA) system, which monitors the pipeline system on a 24-hour per day basis.

## **1.7 FUTURE PLANS AND ABANDONMENT**

Iroquois does not have plans for future expansion of the facility proposed in this docket or for the abandonment or removal of its existing pipeline facilities or the proposed Project facilities. If natural gas demand warrants additional facilities in the future, separate authorizations by the FERC and by other involved regulatory agencies would likely be required.

## **1.8 AGENCY AND PUBLIC CONSULTATIONS/REQUIRED AUTHORIZATIONS**

### **1.8.1 Agency Consultations and Community Outreach**

Iroquois is working with regulatory agencies and other stakeholders in the planning process to solicit input and provide guidance to ensure sound environmental siting criteria. Iroquois will continue to communicate with government agencies, private stakeholder entities, and landowners in the area regarding the Project. Additionally, Iroquois will coordinate with all cooperating federal agencies relative to compliance with FERC Order No. 687.<sup>2</sup> Volume II of this filing contains a copy of the Project's contact database and project correspondence (Appendix A).

WIP has been developed to minimize community and environmental impact, in response to feedback received by Constitution during its NEPA Pre-Filing Process in PF12-9. Constitution's public participation plan included open houses, presentations, information published in local newspapers, and website postings. Based on the extensive public outreach already conducted, including construction of compression facilities in Wright, NY, Iroquois believes that no additional open houses are necessary.

Iroquois' community outreach program includes the following elements:

- Newspaper advertisement prior to commencement of construction;
- Notification to municipality and local businesses potentially affected by construction;
- Post information on a project-specific web page within Iroquois' website - <http://www.iroquois.com/> - with links to:
  1. General Project information

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<sup>2</sup> *Regulations Implementing the Energy Policy Act of 2005; Coordinating the Processing of Federal Authorizations for Applications Under Sections 3 and 7 of the Natural Gas Act and Maintaining a Complete Consolidated Record*, FERC Stats. & Regs. (Regulations Preambles) ¶ 31,232 (2006).



2. Relevant documents
3. Construction schedule

On its website, Iroquois intends to provide, among other items, information about the company and the Project; a general explanation of the permitting process; a frequently asked questions section; and links to related websites;

- Establish a dedicated 800 number to provide information and allow the caller to leave a message; and;
- Designation of a single point of contact for stakeholder communication:

Ruth Parkins, Manager Public Affairs  
Iroquois Pipeline Operating Company  
One Corporate Drive, Suite 600  
Shelton, CT 06484  
Phone: (203) 925-7209  
Mobile: (203) 257-8595  
Fax: (203) 929-9501  
Email: ruth\_parkins@iroquois.com

### **1.8.2 Permits and Approvals**

Iroquois will obtain those permits, licenses and clearances relating to the placement of WIP facilities listed in Table 1.8-1, as required, to the extent they are not inconsistent with the FERC certificate. Additionally, Iroquois will also acquire all applicable permits relative to the construction and operation of the proposed aboveground facility. Iroquois will include copies of all relevant environmental permits and approvals that have been received in the construction bid packages and contracts. The contractor will be required to be familiar with all permits and licenses obtained by Iroquois. The contractor will be required to comply with all the requirements related to the construction of a compression facility and to the restoration of any areas disturbed by construction.



**TABLE 1.8-1  
POTENTIAL ENVIRONMENTAL PERMITS AND APPROVALS REQUIRED  
FOR THE WRIGHT INTERCONNECT PROJECT**

Agency	Permit/Approval	Activity	Request/ Application Filed	Agency Approval/ Clearance Received
<b>Federal</b>				
Federal Energy Regulatory Commission	Certificate of Public Convenience and Necessity	Construct and Operate Compressor Station	6/13/2013	
U.S. Fish and Wildlife Service	Clearance under Section 7 of Endangered Species Act	General construction and operation of compressor station	2/22/2013	Yes
U.S. Army Corps of Engineers	Nationwide 12 or Individual Permit	Construction through or under wetlands	Not Applicable	
<b>New York</b>				
New York State Department of Environmental Conservation	State Environmental Quality Review Act (SEQRA)	Activities involving a state action.	Not Applicable	
	Joint Permit Freshwater Wetlands 401 Water Quality Certificate	Construction through or under wetlands & waterbodies	Not Applicable	
	Article 15 Stream Disturbance Permit	Disturbance of bed or banks of a stream	Not Applicable	
	Article 24 Freshwater Wetlands Permit	Activities in freshwater wetlands	Not Applicable	
	State Pollution Discharge Elimination System (SPDES) – General Permit for Stormwater Discharges from Construction Activities (GP-02-01)	Land disturbances greater than one acre and hydrostatic test discharges.	Prior to Construction	
	Air State Facility Permit	Construction and operation of a source of air pollutant emissions	7/31/2013	



**TABLE 1.8-1  
POTENTIAL ENVIRONMENTAL PERMITS AND APPROVALS REQUIRED  
FOR THE WRIGHT INTERCONNECT PROJECT**

	Major Title V Greenhouse Gas Operating Permit	Operation of a major potential source of greenhouse gases. Not required for construction.	To be filed after start-up of proposed turbines	
	Consultation (Rare Species)	General construction and operation of compressor station	2/22/2013	Yes
NYS Historic Preservation Office	Clearance under National Historic Preservation Act and State Historic Act	General construction and operation of compressor station and associated facilities involving ground disturbance, including temporary workspace utilization	7/31/2013	
<b>Local</b>				
	Wetland Permit	Construction within 150 feet of locally jurisdictional wetlands and watercourses.	Not Applicable	
	Land Clearing Permit	Land disturbances and tree clearing.	Not Applicable	
Town of Wright, NY	Local Approvals for Compressor site buildings and structures	Construction of compressor building and associated equipment. May include site plan review, building permit, and SEQRA review	December 31, 2013	

## **1.9 AFFECTED LANDOWNERS**

### **1.9.1 Land Owner Information**

The names and addresses of all affected landowners within a 0.5 mile radius of the Project are provided, on a privileged and confidential basis as required by FERC regulations, in Volume IV – Appendix L.

### **1.9.2 Landowner Survey Permission**

Iroquois is the owner of the property where the proposed Project will be located; therefore no specific survey access permission is required. Iroquois will contact all applicable abutting land owners where survey permission is needed to assess baseline conditions of the Project area.



### **1.9.3 Landowner Notifications Regarding Section 7c Application Filing**

Landowner notifications are required under Subpart A and Subpart F of Part 157 of the FERC's regulations and Section 7(c) of the Natural Gas Act. In accordance with these regulations, Iroquois will make a good faith effort to notify all affected landowners and applicable local, state or federal jurisdictions that its Application has been submitted to FERC within the required time frames. As part of this notification, after the Application is filed, Iroquois will be mailing a package via first class mail to all affected landowners that contains the following items:

- A letter explaining the Project which describes its proposed schedule;
- A fact sheet describing Iroquois;
- A listing of public locations where a copy of the Iroquois application can be viewed;
- A fact sheet with the FERC docket number, FERC contact numbers and Iroquois contact numbers;
- A copy of the most recent edition of the Commission's pamphlet explaining its certificate process and addressing basis concerns of landowners and a brief summary of what rights the landowner has at the Commission and in proceedings under the eminent domain rules of New York (a requirement of the Commission's regulations, though Iroquois will also be indicating that no eminent domain procedures are anticipated in connection with this Project since Iroquois owns all land needed for the Project);
- A copy of the Commission's notice of application, together with the Commission's information sheet on how to intervene in Commission proceedings;
- An overall project map;
- A USGS map section, which more specifically orients Iroquois' nearby proposed facility to the landowner's property.

Iroquois will mail a package of this information to affected landowners, after a docket number is issued by the FERC. Iroquois will also provide the FERC with a copy of this mailing.

### **1.10 NON-JURISDICTIONAL FACILITIES**

Iroquois is not currently proposing or aware of any non-jurisdictional facilities associated with the Project.

**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**WRIGHT INTERCONNECT PROJECT**

**RESOURCE REPORT 2**

**WATER USE AND QUALITY**

**PUBLIC**

Prepared by:  
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**JUNE 2013**



## RESOURCE REPORT 2: WATER USE AND QUALITY

### FERC ENVIRONMENTAL CHECKLIST

<b>Part 380 – Minimum Filing Requirements for Environmental Reports</b>	<b>Company Compliance or Inapplicability of Requirement</b>
Identify all perennial surface waterbodies crossed by the Project and their water quality classification. (§ 380.12 (d)(1)).	Section 2.2
Identify all waterbody crossings that may have contaminated waters or sediments. (§ 380.12 (d)(1)).	Section 2.2
Identify watershed areas, designated surface water protection areas, and sensitive waterbodies crossed by the Project. (§ 380.12 (d)(1)).	Sections 2.2.1, 2.2.3
Provide a table (based on National Wetlands Inventory (NWI) maps if delineations have not been done) identifying all wetlands, by milepost and length, crossed by the Project (including abandoned pipeline), and the total acreage and acreage of each wetland type that would be affected by construction. (§ 380.12 (d)(1 and 4)).	Not Applicable
Discuss construction and restoration methods proposed for crossing wetlands, and compare them to staff's Wetland and Waterbody Construction and Mitigation Procedures. (§ 380.12 (d)(2)).	Not Applicable
Describe the proposed waterbody construction, impact mitigation, and restoration methods used to cross surface waters and compare to staff's Wetland and Waterbody Construction and Mitigation Procedures. (§ 380.12 (d)(2)).	Section 2.2
Provide original NWI maps or the appropriate state wetland maps, if NWI maps are not available, that show all proposed facilities and include milepost locations for proposed pipeline routes (§ 380.12 (d)(4)).	Volume II – Appendix H
Identify all U. S. Environmental Protection Agency (USEPA) or state-designated aquifers crossed (§ 380.12 (d)(9)).	Section 2.1.1



**RESOURCE REPORT 2: WATER USE AND QUALITY  
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## **2.0 WATER USE AND QUALITY**

This resource report provides information on groundwater and surface water resources, including wetlands and water bodies as well as construction-related water use, in the vicinity of the proposed Wright Interconnect Project (“WIP” or “Project”). Section 2.1 describes groundwater resources in the vicinity of the Project. Section 2.2 describes surface water availability, quantity, current uses, potential use during construction, and construction methodologies to be utilized in the vicinity of surface waters. Section 2.3 describes wetland resource areas in the vicinity of the Project site, anticipated construction and operation impacts, wetland construction procedures, and proposed impact mitigation and minimization measures. Section 2.4 describes hydrostatic testwater procedures. Section 2.5 provides a list of references utilized during preparation of this resource report.

Iroquois determined the nature and location of wetlands, surface waters, springs, wells, groundwater hazards, and point and non-point pollution sources by consulting appropriate agencies and performing thorough online and public resources. Field verification of data provided and delineation surveys were performed by wetland biologists during spring 2013. Iroquois proposes to construct the Project in accordance with the 2013 FERC Plan and Procedures, Iroquois’ Spill Prevention, Control and Countermeasure (“SPCC”) Plan and other applicable permits and approvals (See Volume II, Appendices B and C). The project-related effects on water resources represented in this report were reviewed and are based on the assumption that these plans and procedures are implemented properly during construction and operation of the Project facilities.

### **2.1 GROUNDWATER RESOURCES**

This section describes groundwater resources underlying the Project areas and identifies any potential Project-related impacts to these resources.

#### **2.1.1 Aquifers**

The Project is located over or within 0.25 miles of a New York State Unconsolidated Aquifer (Bruno 2013, Boulia 2013). This is a carbonate bedrock aquifer ranging from 10 to 300 feet thick with an average yield of 35 gpm, but is not a primary, principal, or sole source aquifer as mapped by the USEPA (USEPA 2007). Figure 2.1-1 depicts the aquifer location.

#### **2.1.2 Aquifer Protection Programs**

The USEPA administers the Sole Source Aquifer Program, which is implemented across the entire country to protect groundwater aquifers that supply at least 50% of the drinking water consumed in the area overlying the aquifer. EPA guidelines also specify that these areas have no alternative drinking water sources which could physically, legally, and economically supply water to all who depend on the aquifer for drinking water (USEPA 2007).

The New York State Department of Health (“NYSDOH”) implements the Wellhead Protection Program for the State, which was created by the 1986 Amendments to the Safe Drinking Water Act. The New York State Department of Environmental Conservation (“NYSDEC”) developed New York’s Wellhead Protection Program, which was approved by the USEPA in 1990 with the goal of protecting the



groundwater sources and wellhead areas that supply public drinking water systems from contamination. New York's approach to wellhead protection recognizes and includes the existing federal, state and county programs that protect groundwater and complements these programs through a combination of activities and efforts using existing public and private agencies and organizations at all levels (NYSDOH 2013).

The Project is not located within a USEPA – designated sole source aquifer (USEPA 2007) or wellhead protection area as administered by the NYSDOH.

### **2.1.3 Public and Private Water Supply Wells**

The Schoharie Village community water supply wells are located approximately 1.5-miles southwest of the Wright Compressor Station (FERC Draft Environmental Impact Statement published for the Iroquois / Tennessee Pipeline Project in November 1989 FERC 1989”). The USEPA Safe Drinking Water Information System (“SDWIS”) database lists this public water supply system as active and servicing a population of approximately 922 residents (USEPA 2013a). The SDWIS database is maintained by the USEPA and catalogs information on community water supply systems on file with the USEPA.

Currently, there are no known public or private water supply wells within 150 feet of the Project (Thapa 2013, Bruno 2013). The closest well is a private supply well approximately 240 feet northwest of the Project site, owned by Iroquois. Consultation with the Schoharie County Health Department has also been initiated to identify any known public or private water supply wells within 150 feet of the Project. No response has been received to date.

### **2.1.4 Springs**

No springs were identified during field surveys of the Project area. Springs are known to occur in the general vicinity of the Project, however springs are not regulated as drinking water supplies in New York and, therefore, the NYSDOH does not maintain databases on spring location.

### **2.1.5 Potential Groundwater Contamination**

The USEPA maintains online databases of hazardous waste site locations, associated contaminants, and any corrective actions taken to remediate the sites (USEPA 2013b, 2013c). Additionally, the NYSDEC also maintains databases relative to contaminated, potentially contaminated, or environmental remediation sites (NYSDEC 2013a).

The USEPA Superfund Program National Priority List (“NPL”) of hazardous wastes sites does not list any known hazardous waste sites within one mile of the Project alignment (USEPA 2013c). The USEPA also maintains the Comprehensive Environmental Response, Compensation and Liability Information System (“CERCLIS”) database that contains information on hazardous waste sites, potentially hazardous waste sites, and remedial activities across the nation. A search of the CERCLIS database for hazardous waste sites in Schoharie County did not reveal any sites within one mile of the Project area (USEPA 2013b). The NYSDEC database of sites with ongoing environmental remediation activities did not include any remediation sites within one mile of the Project (NYSDEC 2013), and consultation with NYSDEC Division of Environmental Remediation indicated no remediation activities within the Town of Wright (Goertz 2013). Due to absence of any NPL, CERCLIS, or remediation sites in close proximity to the Project, contaminated groundwater is not anticipated to be encountered during construction.



## **2.1.6 Groundwater Impact Mitigation**

### **2.1.6.1 Aquifers**

Construction and operation of the Project is not expected to have an impact on groundwater quantity or quality. Due to the depth of groundwater in the vicinity of the Project, Iroquois does not anticipate the interception of groundwater during construction of the facility. If groundwater is encountered, Iroquois will adhere to the FERC Plan and Procedures guidelines for all dewatering activities.

The construction phase would involve the refueling of vehicles and storage of fuel, oil, and other fluids. Spills or leaks of hazardous liquids could potentially create a hazard to the groundwater system and ultimately affect its users. The potential for this impact is expected to be avoided or minimized by the proper implementation of the Project's SPCC Plan (See Volume II, Appendix C). Iroquois is mandated through the FERC Procedures to prepare a site-specific SPCC Plan for the Project that details preventative measures that shall be followed to avoid a hazardous waste spill as well as mitigation measures that would be followed to immediately contain and clean up a spill, should one occur.

### **2.1.6.2 Public and Private Wells**

Iroquois' SPCC Plan places a restriction on refueling and storing hazardous materials within 200 feet of private drinking water supply wells and within 400 feet of public drinking water supply wells which is consistent with FERC guidelines. There are no known private drinking water supply wells within 200 feet of the Project, and no known public drinking water supply wells within 400 feet of the Project (Bruno 2013, Thapa 2013). Consultation with the Schoharie County Health Department has also been initiated to confirm the location of wells relative to the Project. No response has been received to date.

### **2.1.6.3 Groundwater Contamination**

The construction and operation of the Project should not impact groundwater quality. Similar to the existing Iroquois Mainline pipeline facilities, the construction and operation of the compressor station does not involve a land use that would threaten the quality of groundwater. Any inadvertent release of hazardous materials during construction would be immediately contained and cleaned up in accordance with Iroquois' SPCC Plan.

## **2.2 SURFACE WATER RESOURCES**

### **2.2.1 Drainage Basins**

The Project is located within the Schoharie drainage basin in central New York State, which covers approximately 930 square miles primarily in Schoharie, Greene, Montgomery and Albany Counties, with minor drainage areas in Delaware, Oswego and Schenectady Counties (NYSDEC 2013b). The Project area is not located in close proximity to any listed waters on the Nationwide Rivers Inventory or National Wild and Scenic Rivers System (National Park Service 2013a and 2013b).

### **2.2.2 Surface Waterbodies**

Review of NYSDEC and National Wetland Inventory ("NWI") mapping showed no wetlands or waterbodies within the Project site (NYSDEC 2013d, USFWS 2013). Biological field surveys conducted in Spring 2013 confirmed the absence of water resources on or near the Project site. Currently, there are



three perennial waterbodies located within 2,500 feet of the Project site, see Figure 2.2-1. According to data obtained from the NYSDEC Division of Fish, Wildlife and Marine Resources, Bureau of Fisheries, two of the perennial streams, Louse Kill Stream and King Creek tributary are non-trout streams with a State water classification of "C" that denotes unprotected streams. The other perennial stream is King Creek, which is a coldwater trout stream with a State water classification of "C(ts)" noting waters suitable for trout spawning. Based on their proximity to the Project and the proposed construction, there will be no immediate effects on these streams. Table 2.2-1 includes information on the waterbodies closest to the Project.

<b>TABLE 2.2-1 CLOSEST WATERBODIES TO THE WRIGHT INTERCONNECT PROJECT</b>				
<b>Waterbody</b>	<b>Type<sup>a</sup></b>	<b>Distance From Site (ft)</b>	<b>State Water Quality Classification<sup>b</sup></b>	<b>Fishery Type<sup>c</sup></b>
<b>Wright, NY</b>				
King Creek Trib.	P	2,458	C	
Louse Kill Stream	P	2,200	C	
King Creek	P	4,463	C(TS)	Cd-T

a : P = Perennial

b : State Designations

Use Descriptions

C - Secondary contact recreation (i.e., fishing, boating) (NYSDEC 2013c).

(T)(Suffix) - Suitable trout habitat (NYSDEC 2013c).

(S)(Suffix) - Suitable habitat for trout spawning (NYSDEC 2013c).

c : Cd = coldwater; T = trout

### **2.2.3 Public Watershed Areas**

Drinking water supplies in the Project area are derived from groundwater supplies, not public reservoirs or other surface waterbodies. Consultation with the NYSDOH indicates that there are no records of any public water system sources near the Project. The Town of Wright Planning Board indicated that the Project falls within the Barton Hill Watershed that supplies the Town of Schoharie (Bouliia 2013). Iroquois does not anticipate any impacts on the watershed from construction or operation of the proposed Project. Iroquois has also initiated consultation with the Schoharie County Health Department, but no response has been received to date.

### **2.2.4 Construction and Operation Impacts and Mitigation**



Any inadvertent release of hazardous materials during construction would be immediately contained and cleaned up in accordance with Iroquois' SPCC Plan. As a result, no impacts to surface water resources associated with construction or operation of the Project are anticipated.

## **2.3 WETLANDS**

Jurisdictional wetlands and waters of the United States are regulated by the United States Army Corps of Engineers ("USACE") pursuant to Section 404 of the Clean Water Act. Wetlands are the collective term for swamps, marshes, bogs, wet meadows, and similar areas that are often located between open water and dry land. Wetlands are a valuable natural resource that, depending upon the specific characteristics, can improve water quality, reduce flood and storm damage, provide fish and wildlife habitat, and support outdoor recreational activities. Wetland investigations will be performed in accordance with the Corps of Engineers Wetlands Delineation Manual & Interim Regional Supplement (Environmental Laboratory 1987 & 2009) and classified according to Cowardin et al. (1979).

### **2.3.1 Existing Resources**

Review of NYSDEC and NWI wetlands mapping indicated no wetland resources on the Project site, see Figure 2.3-1. Biological field surveys conducted in Spring 2013 confirmed the absence of wetlands on or adjacent to the Project site.

### **2.3.2 Construction and Operation Impacts and Mitigation**

Construction and operation of the Project will not result in impact to any wetlands or waterbodies. Iroquois will provide mitigation for any possible land impacts resulting from construction through adherence to the FERC Plan and Procedures and requirements of the National Pollution Discharge Elimination System ("NPDES") General Permit Associated with discharged stormwater from Construction Activities during expansion of the compressor station.

## **2.4 HYDROSTATIC TEST WATER**

Prior to the start of WIP operations, the WIP facilities will be tested per Subpart J of Section 192 of the DOT Code of Federal Regulations that require minimum leak-test and strength test requirements for pipelines, including testing to substantiate the maximum allowable operating pressure. Iroquois will conduct WIP pressure tests utilizing either nitrogen as the pressure medium and/or water. Nitrogen was successfully utilized as a pressure test medium on Iroquois' recently completed compressor station projects including Market Access (CP02-13-002, a 7,700 HP transfer compressor station in Brookfield, CT completed in November 2008) and Iroquois' 08/09 Expansion Project (CP07-457, a 10,300 HP compressor station in Brookfield, CT completed in November 2009 and a 20,600 HP compressor station located in Milford, CT completed in January 2009). Due to increased piping size and length, it is anticipated that a combination of the two test mediums will be utilized. Iroquois will coordinate such testing methodologies with the NY State Public Service Commission prior to conducting such testing.

It is estimated that 160,000 gallons of water will be required for the compressor station hydrostatic testing. Water trucked to the site will be used for testing purposes. After the completion of the hydrostatic test, the water will be discharged in accordance with the FERC Plan and Procedures and conditions specified in the NYSDEC General Permit for the Discharge of Hydrostatic Pressure Testing Wastewater. For discharges



specifically associated with the hydrostatic pressure testing of natural gas pipelines, registration is required to be submitted and approved in writing by the NYSDEC for the discharges to be authorized by this general permit. Iroquois anticipates compliance with the registration and general permit requirements, including sampling test water discharges.

## **2.5 REFERENCES**

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**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**WRIGHT INTERCONNECT PROJECT**

**RESOURCE REPORT 3**

**FISH, WILDLIFE AND VEGETATION**

**PUBLIC**

Prepared for:

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**JUNE 2013**



## RESOURCE REPORT 3 – FISH, WILDLIFE AND VEGETATION

### FERC ENVIRONMENTAL CHECKLIST

<b>Part 380 – Minimum Filing Requirements for Environmental Reports</b>	<b>Company Compliance or Inapplicability of Requirement</b>
Classify the fishery type of each surface waterbody that would be crossed, including fisheries of special concern. (§ 380.12 (e)(1)).	Sections 3.1
Describe terrestrial and wetland wildlife and habitats that would be affected by the Project. (§ 380.12 (e)(2)).	Section 3.2
Describe the major vegetative cover types that would be crossed and provide acreage of each cover type that would be affected by construction. (§ 380.12 (e)(3)).	Section 3.3
Describe the effects of construction and operation procedures on the fishery resources and proposed mitigation measures. (§ 380.12 (e)(4)).	Section 3.3
Evaluate the potential for short-term, long-term, and permanent impact on wildlife resources and state-listed endangered or threatened species caused by construction and operation of the Project and proposed mitigation measures. (§ 380.12 (e)(4)).	Sections 3.3
Identify all federally listed or proposed endangered or threatened species that potentially occur in the vicinity of the Project and discuss the results of consultations with other agencies. (§ 380.12 (e)(5)).	Section 3.4
Identify all federally listed essential fish habitat (EFH) that potentially occurs in the vicinity of the Project and the results of abbreviated consultations with the NMFS, and any resulting EFH assessments. (§ 380.12 (e)(6)).	Section 3.4
Describe any significant biological resources that would be affected. Describe impact and any mitigation proposed to avoid or minimize that impact. (§ 380.12 (e)(4 and 7)).	Sections 3.1, 3.2, 3.3, and 3.4



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### **3.0 FISH, WILDLIFE AND VEGETATION**

This resource report describes existing conditions relating to fisheries, wildlife resources, major vegetative communities, significant habitats and the potential presence of Federal and State-listed threatened and endangered species within the areas associated with the proposed WIP. Iroquois proposes to construct the Project in accordance with the FERC Plan and Procedures, and Iroquois' Spill Prevention, Control, and Contaminant ("SPCC") Plan. The assessment of project-related effects on fisheries, wildlife, vegetation and wetland resources are based on the assumption that the FERC (2013) Plan and Procedures and Iroquois' SPCC Plan are implemented properly during construction and operation of the Project facility.

Existing conditions and the impact analyses have been derived from online resources and in consultation with state and federal agencies. Biological field surveys were conducted in Spring 2013 to verify conditions at the Project site. Section 3.1 describes fishery resources and fish habitat of special concern in the vicinity of the Project. Section 3.2 describes wildlife resources, focusing on the habitat types near the Project. Section 3.3 describes the vegetation types, including wetlands, currently found in the vicinity of the Project. Section 3.4 describes the occurrence of state and federally listed threatened and endangered species that have been reported in the vicinity of the Project. Section 3.5 provides a list of references.

#### **3.1 FISHERIES**

This section discusses fishery resources, fishes of special concern, and construction and operation impacts on fisheries present within waterbodies potentially impacted by the construction of the Project. The location was evaluated using United States Geological Survey ("USGS") mapping and aerial photography to determine the presence of waterbodies and water conveyance channels within or adjacent to the proposed Project facilities. Biological field surveys were conducted in Spring 2013 to verify conditions at the Project site and to identify and classify potential waterbody crossings. Based on the results of the desktop analysis and field surveys, no perennial or intermittent waterbodies capable of supporting fisheries exist on the Project site.

#### **3.2 WILDLIFE**

This section identifies and discusses the various wildlife species associated with the vegetation cover types identified in Section 3.3.1. It also identifies unique or significant habitats such as wildlife refuges, national forests and wildlife management areas occurring within the Project area. A discussion of the existing habitat types within or adjacent to the Project is presented in Section 3.3 with additional information provided on mammal, bird, reptile and amphibian species that utilize these habitats. Section 3.3.2 describes the short-term, long-term and permanent impacts to wildlife habitat anticipated from construction and operation of the Project, as well as mitigation measures to avoid and minimize these potential impacts.

Existing terrestrial conditions were established through a combination of land use data and review of the NYNHP publication, "The Ecological Communities of New York State" (Edinger 2002). The extent of land cover type and the areas of transition between cover types were established during field reconnaissance in Spring 2013. Land with at least 10 percent crown closure is classified as forest, and gradual transitions between land cover types ("soft edges") are included within the maintained lawn, where applicable. Hard edges that contain abrupt transitions between land cover types were not incorporated as a separate classification.



### **3.2.1 Mammals**

According to the American Society of Mammalogist's (2013), 53 species have geographic ranges that include Schoharie County and central New York State. This includes 20 species of rodents, nine species of bats, and large bodied species such as white-tailed deer, American black bear, eastern coyote, and bobcat. Although the existing Wright Compressor Station is located within existing maintained lawn and commercial/industrial areas, the majority of the Project also occur within Appalachian oak-pine forest (See Table 8.1-1 of Resource Report 8). The impacts to habitat are expected to be temporary in nature and should not significantly affect mammal populations or habitats located within the project limits. A list of representative species for each habitat type is presented in Table 3.2-1.

Mammal species with significant recreational and commercial value that inhabit areas to be in the vicinity of the Project include white-tailed deer, black bear, eastern cottontail, and eastern gray squirrel. The significance of furbearer trapping for recreational and commercial purposes has declined with the passage of restrictive legislation governing the activity. Species such as beaver, mink and muskrat are unlikely to be abundant in the Project area, though eastern coyote, and red fox may provide for limited recreational trapping opportunities in the area. However, the Project is located entirely within Iroquois-owned land on which recreational hunting and trapping is prohibited.

### **3.2.2 Birds**

Central New York possesses a diversity of avian species that utilize the variety of landforms, habitats and vegetative communities within the state. According to the *New York State Breeding Bird Atlas* (NYSDEC 2005) at least 118 species of birds are known to use portions of Schoharie County as a breeding area, many of which are neo-tropical migrants. Many species utilize central New York as a wintering area and migrate to other portions of North America to breed in the spring, while other species complete their life cycles within the same area and are considered permanent residents.

The habitats within the project area provide important functions for avian species including breeding and nesting sites, wintering and escape cover, as well as potential food sources in the form of berries, seeds and insects. Any impacts associated with the Project are expected to be temporary in nature and should not significantly affect resident or migratory populations located within the Project limits. A list of representative species for each habitat type is presented in Table 3.2-2.

Several species of upland game birds and waterfowl provide recreational hunting opportunities outside the project area. Roughed grouse, Wilson's snipe, American woodcock, and wild turkey are hunted within upland areas, while a variety of waterfowl including Canada goose, mallard and wood ducks provide sporting opportunities within freshwater wetland areas. The Project is located entirely within Iroquois-owned land on which recreational hunting is prohibited.

### **3.2.3 Reptiles and Amphibians**

According to the *New York State Amphibian and Reptile Atlas* (NYSDEC 1999) a total of 31 species of reptiles and amphibians are found within Schoharie County. This includes 11 species of salamanders, five species of freshwater turtles, eight species of frogs and toads, and seven



species of snakes. The proposed Project site includes different habitat types including existing maintained lawn, commercial/industrial areas, Appalachian oak-pine forest, and maintained natural gas pipeline rights-of-way. While the upland forests and maintained right-of-way provide wintering and escape cover for reptiles and amphibians, as well as potential food sources for these species, reptile and amphibian density is unlikely to be high given the lack of wetlands and waterbodies in the Project area.

The absence of any wetland or other aquatic habitats on the Project site limits the suitability of the site for certain animal classes dependent upon aquatic habitats for breeding and foraging, specifically amphibians, while certain species of other classes (e.g. reptiles) are exclusively dependent upon aquatic environments to provide suitable habitat for foraging and overwintering behaviors. Any impacts to reptile and amphibian habitats are expected to be temporary in nature and should not significantly affect resident or migratory populations located within the Project limits. A list of representative species for each habitat type is presented in Table 3.2-3. Due to the various habitat requirements of these animals, many of these species may be found in more than one habitat type.

<b>TABLE 3.2-1 REPRESENTATIVE MAMMAL SPECIES FOR HABITAT TYPES WITHIN THE WRIGHT INTERCONNECT PROJECT</b>		
<b>Habitat Type</b>	<b>Common Name</b>	<b>Scientific Name</b>
Maintained Right-of-Way / Lawn	Gray Squirrel	Sciurus carolinensis
	Red Fox	Vulpes vulpes
	White-tailed Deer	Odocoileus virginianus
	White-footed Mouse	Peromyscus leucopus
	Eastern Chipmunk	Tamias striatus
	Striped skunk	Mephitis mephitis
Oak-Pine Forest	Woodland Jumping Mouse	Napaeozapus insignis
	White-tailed Deer	Odocoileus virginianus
	Red Fox	Vulpes vulpes
	Long-tail Weasel	Mustela frenata
	Little Brown Bat	Myotis lucifugus
	Northern Short-tailed Shrew	Blarina brevicauda
	Raccoon	Procyon lotor
	Eastern Coyote	Canis latrans
Eastern Cottontail	Sylvilagus floridanus	

Source: American Society of Mammalogists 2013



<b>TABLE 3.2-2 REPRESENTATIVE BIRD SPECIES FOR HABITAT TYPES WITHIN THE WRIGHT INTERCONNECT PROJECT</b>		
<b>Habitat Type</b>	<b>Common Name</b>	<b>Scientific Name</b>
Maintained Right-of-Way / Lawn	Field Sparrow	<i>Spizella pusilla</i>
	American Kestrel	<i>Falco sparverius</i>
	American Crow	<i>Corvus brachyrhynchos</i>
	House Sparrow	<i>Passer domesticus</i>
	Red-tailed Hawk	<i>Buteo jamaicensis</i>
	Brown-headed Cowbird	<i>Molothrus ater</i>
	Wild Turkey	<i>Meleagris gallopavo</i>
	Eastern Kingbird	<i>Tyrannus tyrannus</i>
	Black-throated Green Warbler	<i>Dendroica virens</i>
Oak-Pine Forest	Brown Thrasher	<i>Toxostoma rufum</i>
	Ruffed Grouse	<i>Vermivora pinus</i>
	Wild Turkey	<i>Meleagris gallopavo</i>
	Pileated woodpecker	<i>Dryocopus auratus</i>
	Barred owl	<i>Strix varia</i>
	Great-Crested Flycatcher	<i>Myiarchus crinitus</i>
	Red-eyed Vireo	<i>Vireo olivaceus</i>

Source: NYSDEC 2005

<b>TABLE 3.2-3 REPRESENTATIVE REPTILE AND AMPHIBIAN SPECIES FOR HABITAT TYPES WITHIN THE WRIGHT INTERCONNECT PROJECT</b>		
<b>Habitat Type</b>	<b>Common Name</b>	<b>Scientific Name</b>
Maintained Right-of-Way / Lawn	Northern Red-bellied Snake	<i>Storeria occipitomaculata</i>
	Eastern Garter Snake	<i>Thamnophis sirtalis</i>
	Red-backed Salamander	<i>Plethodon cinereus</i>
	Eastern Ribbon Snake	<i>Thamnophis sauritus</i>
	Snapping Turtle	<i>Cheldra serpentina</i>
	Eastern American Toad	<i>Bufo americanus</i>
Oak-Pine Forest	Jefferson Salamander	<i>Ambystoma jeffersonianum</i>
	Red-backed Salamander	<i>Plethodon cinereus</i>
	Eastern American Toad	<i>Bufo americanus</i>
	Wood Frog	<i>Rana sylvatica</i>



**TABLE 3.2-3  
REPRESENTATIVE REPTILE AND AMPHIBIAN SPECIES  
FOR HABITAT TYPES WITHIN THE WRIGHT INTERCONNECT PROJECT**

Habitat Type	Common Name	Scientific Name
	Eastern Garter Snake	<i>Thamnophis sirtalis</i>
	Eastern Milk Snake	<i>Lampropeltis triangulum</i>

Source: NYSDEC 1999

### **3.2.4 Significant or Sensitive Species and Habitats**

A consultation letter regarding the potential presence of significant or sensitive species and habitats in the Project area was submitted to The New York Natural Heritage Program (“NYNHP”) on February 12, 2013. A response received February 28, 2013 indicated that no rare, threatened or endangered species were specifically identified as being on the Project site. (Pietrusiak 2013).

The United States Fish and Wildlife Service (“USFWS”) website was used to determine if there are any federally listed endangered or threatened species located within the Project area. The official species list provided by the New York Ecological Services Field Office indicates that there are no such listed species identified in the vicinity of the Project (USFWS 2013).

Copies of project correspondence are provided in Volume II - Appendix A.

### **3.2.3 Construction and Operation Impacts**

The majority of the Project area is sited within previously disturbed, early to mid-successional habitats. Iroquois and their contractors will strive to minimize impacts to wildlife by expediting construction to the greatest extent possible. Smaller and less mobile animals may be temporarily impacted during clearing and grading activities, while larger species such as rabbits, deer and raccoons will move away from the disturbed area and return once restoration is complete. These larger animals may be permanently displaced from the developed portions of the site but will likely continue to use the remainder of the site in a manner consistent with existing use patterns. Restoration will occur immediately after construction has been completed, and the areas of impact will be monitored until final site stabilization is achieved. During construction and restoration activities, Iroquois will adhere to the provisions of the FERC Plan and Procedures to ensure that vegetative cover and associated wildlife habitat conditions are re-established in temporary workspace areas.

## **3.3 VEGETATION**

This section identifies and discusses the major vegetation cover types located at the Project site. Existing terrestrial conditions were established through review of existing aerial photography and GIS data and were confirmed with field surveys.

The proposed WIP will be located within a parcel of land approximately 53.2 acres in size and currently owned by Iroquois. The existing Wright Compressor Station is located on-site and occupies approximately 2.07 acres of the total area. The balance of the project site (approximately 51.15 acres) consists of upland forest and maintained right-of-way/lawn located



outside of the compressor station fencing. Following construction, the existing and proposed facilities will occupy approximately 7.45 acres. Description of the vegetation types are provided below.

### **Maintained Right-of-Way / Lawn**

Vegetative communities within the existing pipeline right-of-way are subject to periodic vegetation management practices passage over the service roads. A variety of habitat types occur within the right-of-way including grassy upland meadows and mixed plant communities comprised of common herbaceous ground covers, forbs and low shrubs that were typically present in the pipeline easements. Plant communities encountered in the corridor were classified as terrestrial cultural communities according to Edinger (2002). Non-native agricultural grasses are dominant to frequent members of the grass meadow community encountered in the corridor, with occasional populations of native grass species. Common to abundant grass species recorded in the field surveys include redtop, orchard grass, sweet vernal grass, meadow-fescue, velvet-grass, little bluestem grass, and bluegrass. Common associate grass species include perennial rye-grass, deer-tongue grass, and several smaller panic-grasses.

Woody shrubs recorded commonly in the right-of-way include speckled alder, highbush blueberry, winged sumac, silky dogwood, bush honeysuckle, black raspberry, Alleghany black raspberry, viburnum, black huckleberry, and willow. Aggressive weed species common to waste places and disturbed sites were common to abundant along sections of the corridor. Non-native species such as vetch, reed canary-grass (*Phalaris arudinacea*) and common reed (*Phragmites australis*) were observed, but not considered abundant. Oriental bittersweet vines were common to occasional species in the right-of-way. Native forbs included such species as wild carrot, New England aster, common milkweed, soft rush, grass leaved goldenrod and common boneset.

### **Appalachian Oak-Pine forest**

This community consists of a mixed forest that occurs on sandy soils, sandy ravines in pine barrens, or on slopes with rocky soils that are well-drained. The canopy is dominated by a mixture of oaks and pines. The oaks include one or more of the following: black oak (*Quercus velutina*), chestnut oak (*Q. montana*), red oak (*Q. rubra*), white oak (*Q. alba*), and scarlet oak (*Q. coccinea*). The pines are either white pine (*Pinus strobes*) or pitch pine (*P. rigida*); in some stands both pines are present. Red maple (*Acer rubrum*), hemlock (*Tsuga Canadensis*), beech (*Fagus grandifolia*), and black cherry (*Prunus serotina*) are common associates occurring at low densities. The shrublayer is predominantly ericaceous, usually with blueberries (*Vaccinium angustifolium*, *V. pallidum*) and black huckleberry (*Gaylussacia baccata*). The ground layer is relatively sparse, and species diversity is low.

#### **3.3.1 Communities of Special Concern**

Significant habitats include areas designated by Federal, state, county, and local governments as valuable to fisheries, wildlife, and scientific research. No such communities were identified during field surveys or during previous FERC proceedings.

A consultation letter regarding the potential presence of significant or sensitive habitats in the Project area was submitted to NYNHP on February 12, 2013. A response received February 28,



2013 indicated that no significant natural communities were specifically identified as being on the Project site (Pietrusiak 2013).

The USFWS website was used to determine if there are any federally listed endangered or threatened species located within the Project area. The official species list provided by the New York Ecological Services Field Office indicates that there are no listed species identified in the vicinity of the Project (USFWS 2013).

Copies of project correspondence are provided in Volume II - Appendix A.

### **3.3.2 Construction and Operation Impacts**

Iroquois has located the Project to minimize short-term, long-term, and cumulative impacts to vegetative communities. Iroquois has used the methods described above for the Project, which are expected to minimize overall impacts to vegetative communities. A permanent conversion of forested land to non-forested land would result from the construction of the transfer compressor station, but the adjacent temporary workspaces and additional temporary workspaces associated with the construction can revert back to pre-construction vegetative cover.

The total land requirements for the Project are approximately 12.45 acres. Approximately 7.95 acres would be used as a temporary staging area and would be restored in accordance with the 2013 FERC Plan (Volume II - Appendix C). Some of these areas have been previously cleared, and impacts to successional open field habitats are expected to be short-term in nature. The construction of the proposed compressor station is expected to result in the permanent conversion of approximately 3.3 acres of mid-successional forest to impervious cover and maintained lawn. The Project is not located in wetland areas or mature forest habitat. Iroquois will install erosion control barriers, stabilize exposed soils, and restore the project area in accordance with the 2013 FERC Plan to protect off-site areas from on-site activities and related soil disturbances.

### **3.3.3 Minimization of Impacts**

Iroquois has sited the proposed compressor station modifications and related workspaces to minimize short-term, long-term and cumulative impacts to vegetative communities and will adhere to the 2013 FERC Plan during construction and restoration activities. During the siting of the transfer compressor station, Iroquois incorporated the following measures to minimize impacts to vegetative communities:

- Minimization of overland construction distance;
- Use of a previously disturbed site within an industrial setting; and
- Revegetation of the temporary workspace areas with native plant species.

Restoration of areas disturbed during construction is anticipated to be conducted in accordance with NRCS recommendations and may result in an increase in the abundance and diversity of native plant species within the site.

The operation and maintenance of the compressor station property is expected to have little additional impact after site clearing and restoration is completed. Maintenance would include surveillance of the transfer compressor station compound, which would be maintained to ensure



access and comply with requirements of 49 CFR, Part 192. Woody vegetation would be limited to landscape plantings within the compound or along the property boundary to serve as a visual buffer.

### **3.4 ENDANGERED AND THREATENED SPECIES**

This section identifies and discusses the presence of federal and state-listed plant and animal species potentially located within or in the vicinity of the Project areas. It also identifies significant habitats such as designated critical habitats (including essential fish habitats) and rare plant communities known to occur within, or in the vicinity of the Project area. Volume II - Appendix A includes copies of the correspondence letters between Iroquois and the applicable regulatory agencies.

The federal government protects threatened and endangered species under the Endangered Species Act of 1973 ("ESA", 16 U.S.C.A. 1531-1543, P.L. 93-205). Section 7 of the ESA requires a federal agency to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of a federally-listed endangered or threatened species, or result in the destruction or adverse modification of the designated critical habitat of a federally-listed species. The ESA defines Threatened and Endangered species as "species of fish, wildlife and plants [that] have been so depleted in numbers that they are in danger of or threatened with extinction." The ESA also describes these species as having aesthetic, ecological, educational, historical, recreational, and scientific value. The factors most often cited for causing a species decline include habitat destruction or modification, over utilization, disease, predation, and lack of regulatory mechanisms. Species in jeopardy of becoming threatened or endangered are listed as rare, protected, or of special concern. In addition to protecting individual plant and animal species, vegetative communities of special concern are also recognized and protected.

Pursuant to Section 7 of the ESA and applicable state requirements, Iroquois has consulted with the USFWS and NYNHP to assist FERC in meeting requirements of the ESA regarding the occurrence of threatened and endangered species in the Project site. No rare or state-listed plants, animals, significant natural communities, or other significant habitats were identified in the vicinity of the Project (Pietrusiak 2013, USFWS 2013). Copies of Project correspondence are provided in Volume II - Appendix A.

#### **3.4.1 Minimization of Impacts**

No rare or state-listed plants, animals, significant natural communities, or other significant habitats were identified in the vicinity of the Project and so Iroquois does not anticipate any impacts to the rare species or communities. Should any individuals or populations of rare species be identified within or adjacent to Project workspace areas, Iroquois will conduct additional consultation with the USFWS and NYNHP to develop approved impact avoidance and/or mitigation measures to ensure protection of identified rare species.

### **3.5 REFERENCES**

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**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**WRIGHT INTERCONNECT PROJECT**

**RESOURCE REPORT 4**

**CULTURAL RESOURCES**

**PRIVILEGED AND CONFIDENTIAL**

Prepared for:  
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Shelton, CT 06484

**JUNE 2013**

**RESOURCE REPORT 4 – CULTURAL  
RESOURCES**

**PRIVILEGED / CONFIDENTIAL INFORMATION  
– DO NOT RELEASE**

**PLEASE REFER TO VOLUME IV - APPENDIX M**

**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**WRIGHT INTERCONNECT PROJECT**

**RESOURCE REPORT 5**

**SOCIOECONOMICS**

**PUBLIC**

Prepared for:

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Shelton, CT 06484

**JUNE 2013**



## RESOURCE REPORT 5 – SOCIO-ECONOMICS

### FERC ENVIRONMENTAL CHECKLIST

<b>Part 380 – Minimum Filing Requirements for Environmental Reports</b>	<b>Company Compliance or Inapplicability of Requirement</b>
For major aboveground facilities and major pipeline Projects that require an EIS, describe existing socioeconomic conditions within the Project areas. (§ 380.12 (g)(1)).	Section 5.1
For major aboveground facilities, quantify impact on employment, housing, local government services, local tax revenues, transportation, and other relevant factors within the Project area. (§ 380.12 (g)(2 – 6)).	Section 5.1



**RESOURCE REPORT 5: SOCIOECONOMICS**

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## **5.0 SOCIOECONOMICS**

The natural gas facilities associated with Iroquois' Wright Interconnect Project include a new transfer compressor station with natural gas coolers and auxiliary buildings. The Project will also require modifications to station piping and valves at Iroquois' existing Wright Compressor Station, modifications to the Wright/TGP Meter Station and modifications to its existing odorization system, all located at 320 Westfall Road, in the Town of Wright, New York. Based on the type and magnitude of potential environmental and residential impacts due to construction and operation, as well as the absence of significant or controversial issues identified to date, the requirement for an Environmental Impact Statement is not anticipated. Therefore, in accordance with Federal Energy Regulatory Commission (FERC) guidance provided in 18 Code of Federal regulations (CFR) Part 380.12(g), Resource Report 5 addresses socioeconomic conditions associated with the Project as detailed below.

Resource Report 1 (General Project Description) describes estimated workforce requirements in accordance with FERC guidance provided in 18 CFR Part 380.12(c). This information includes average workforce requirements, estimated duration of construction and the number of personnel to be hired to operate the Project.

### **5.1 ABOVEGROUND FACILITY**

This section summarizes the socioeconomic conditions of the Project in Wright, New York. While the Project involves the construction of a new transfer compressor station in the Town of Wright, it is not expected to have a significant adverse impact on socioeconomic conditions adjacent to the Project location. Due to the scale of the Project, construction and operation methodologies and impact minimization and mitigation measures, significant impacts to employment, housing, local government services, transportation, or other related socioeconomic conditions within the Town of Wright are not anticipated.

#### **5.1.1 Socioeconomic Impact Area**

The Project site is located in the Town of Wright, Schoharie County, New York. Schoharie County is located in the eastern portion of the State of New York. The U.S. Census Bureau (2010) estimates the total population for Schoharie County in 2010 as 32,749, representing a slight increase from the 2000 Census (31,582). The largest municipality by population in the county is Cobleskill Village (4,678), and the majority of the population for the County is located in surrounding areas. Major sources of tax revenue within Wright include residential properties, agricultural, commercial and industrial businesses and professional services. Please refer to Table 5.1-1 for a summary of socioeconomic conditions within the Town of Wright, New York.

The Town of Wright encompasses a land area of approximately 28.7 square miles (Town of Wright). The population of Wright in 2010 was 1539 (U.S. Census Bureau, 2010), a slight decrease from 1547 in 2000. The population density in 2010 was 20.9/km<sup>2</sup> (54/mi<sup>2</sup>). The racial makeup of the town is 98.1% White, 1.3% Hispanic or Latino (any race), 0.5% Black or African American, 0.0% Native American, 0.4% Asian and Pacific Islander, and 0.7% from other races or from two or more races (US Census Bureau, American Community Survey 2007-2011).

The median income for a household in the town is \$62,450, and the median income for a family is \$73,000. The per capita income for the town is \$29,150 and 7.5% of the population and 4.8% of families are below the poverty line. Of the total population, 13.3% of those under the age of 18, and 3.6% of those



65 and older, are living below the poverty line. The unemployment rate for the Town of Wright in 2010 was 3.9% (US Census Bureau, American Community Survey 2007-2011). Educational & Health Care Services comprise the largest number of employees in Wright followed by Retail, Professional & Management Services, and Construction Services. Private employers employ the greatest number of workers in the town (US Census Bureau, American Community Survey 2007-2011).

The Town of Wright does not operate any schools but supports its own emergency services; police, fire, and ambulance services are all available within the Town of Wright. Saint Mary's Hospital is a full service medical facility located approximately 17 miles from Wright in Amsterdam, New York.

<b>TABLE 5.1-1 SUMMARY OF EXISTING SOCIOECONOMIC CONDITIONS IN THE WRIGHT INTERCONNECT PROJECT AREA</b>	
<b>Parameter</b>	<b>Wright, NY</b>
Land Area (mi <sup>2</sup> )	28.7
Population (2010)	1,547
Population (2000)	1,539
Per Capita Income (Dollars)	29,150
Rental Vacancy Rate (%)	5.3
Civilian Labor Force	967
Unemployment Rate	3.9%
Major Industries	Educational & Healthcare Services, Retail, Professional & Management Services & Construction

2010 US Census, American Community Survey 2007-2011

### **5.1.2 Project Construction and Operation Impacts**

While there will be both short- and long-term socioeconomic impacts associated with the construction and operation of the Project, the Project has been designed in a manner that minimizes adverse impacts. Short-term impacts may include the potential increase in use of public services such as police for traffic control. The increase in the use of public services will be offset by the benefits derived from increased short-term revenue streams. During Project construction, there will be minor, temporary increases in the local population, demand for temporary housing, and use of transportation services. There will also be an increase in expenditures for local goods and services. Iroquois anticipates using a percentage of local workers for the construction of the Constitution Transfer Compressor Station, which will provide additional positive short-term socioeconomic benefits in terms of increased payrolls and employment.

Sufficient services exist within and adjacent to the Town of Wright to support the needs of the construction crew and personnel associated with the construction and operation of the proposed facility. The Project will incorporate its own fire prevention and control features, which will minimize the potential for increasing demands on local emergency and fire personnel services.

Long-term socioeconomic benefits associated with the continued operation of the Project include payment of local property taxes; purchases of services, materials, and supplies from local businesses; and periodic, temporary employment for various construction, operation and maintenance activities.



### **5.1.3 Construction Schedule and Workforce**

The Project construction is scheduled to occur over an eight month period from July 2014 to March 2015. Some mitigation and preparatory steps may take place before actual construction begins. Construction of the Project is anticipated to require approximately 50 workers on a regular basis and up to 75 workers, including deliveries and other periodic services. Iroquois, through its construction contractors and subcontractors, may hire local construction workers to incorporate into the Project workforce if they possess the required skills and experience needed. The majority of inspectors are anticipated to be non-local due to the specialized knowledge required for the position.

Non-local workers will generally reside in the Project area for the duration of the construction period and, typically, few workers are accompanied by family members. As a result, the socioeconomic impacts resulting from the construction of the Project (i.e., impact on schools and other locally provided services) are not expected to be significant. The local community will benefit from the wages paid to construction workers during the construction period. A percentage of this money will be spent locally and may provide significant short-term revenues to the community. Additional positive impacts will result from the purchase of construction materials and equipment.

### **5.1.4 Housing Needs and Availability**

The majority of the non-local workers are expected to use temporary housing such as hotels, motels, apartments and campgrounds within commuting distance to the site. Temporary housing is typically used because the construction period is relatively short and workers generally do not travel with their families. Iroquois does not anticipate that construction crews will encounter any difficulties locating temporary housing, campgrounds and/or hotel accommodations near the Project.

### **5.1.5 Transportation**

Minor, short-term impacts to the transportation network may result from the construction of the Project. These impacts will result from the movement of construction equipment and materials to and from the Project site, and daily commuting of workers to and from the site. These impacts are not expected to be significant.

To maintain safe conditions, Iroquois will require its contractors to comply with applicable vehicle weight and width restrictions. The movement of equipment and materials from contractor yards and storage yards to the sites will result in additional short-term impact on the transportation network. Truck traffic associated with transporting construction equipment to the site may increase the workload of local police due to monitoring of vehicle weight, width restrictions and traffic details. Also, large vehicles may cause some temporary obstructions in traffic flow. Iroquois will work cooperatively with the local police and fire departments, as well as the New York State Police, to ensure a safe and efficient traffic management plan is implemented during construction of the Project. Project related demands on local police are not expected to be significant.

The transportation network may experience a short-term incremental increase to traffic as a result of the movement of construction workers between their residences and the construction site. Several trips may be made each day to and from the site. This level of traffic will remain fairly constant throughout the construction period and will typically occur during early morning and early evening hours. Impacts to the transportation network from construction workers commuting to and from home or work are not expected to be significant and should have minimal effect on the local traffic.



### **5.1.6 Residential or Business Displacements**

No residences or businesses will be displaced as a result of the construction of the Project. The Project is located on a parcel of land currently under ownership by Iroquois. No known tribal lands, National Forests or other public lands are expected to be affected. The construction of the Constitution Transfer Compressor Station is not expected to disproportionately affect minority or low income communities or Native American groups. Iroquois will communicate with affected stakeholders as part of the requirements of the FERC filing process.

### **5.1.7 Operation Workforce, Tax Revenues, and Local Expenditures**

The economic benefits associated with operation of the Project include increased revenue to the Town of Wright in the form of property taxes. Annual tax revenues to the Town of Wright are expected to be approximately \$1,500,000. Exhibit N - Revenues, Expenses, and Income, filed by Iroquois as part of the Certificate Application, further describes tax revenues and benefits.

## **5.2 REFERENCES**

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**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**WRIGHT INTERCONNECT PROJECT**

**RESOURCE REPORT 6**

**GEOLOGICAL RESOURCES**

**PUBLIC**

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**JUNE 2013**



## RESOURCE REPORT 6 – GEOLOGIC RESOURCES

### FERC ENVIRONMENTAL CHECKLIST

<b>Part 380 – Minimum Filing Requirements for Environmental Reports</b>	<b>Company Compliance or Inapplicability of Requirement</b>
Identify the location (by milepost) of mineral resources and any planned or active surface mines crossed by the proposed facilities. (§ 380.12 (h)(1 and 2)).	Section 6.3
Identify any geologic hazards to the proposed facilities. (§ 380.12 (h)(2)).	Section 6.4
Discuss the need for and locations where blasting may be necessary in order to construct the proposed facilities. (§ 380.12 (h)(3)).	Section 6.2
For LNG Projects in seismic areas, the materials required by “Data Requirements for the Seismic Review of LNG Facilities,” NBSIR84-2833. (§ 380.12 (h)(5)).	Not Applicable
For underground storage facilities, how drilling activity by others within or adjacent to the facilities would be monitored, and how old wells would be located and monitored within the facility boundaries. (§ 380.12 (h)(6)).	Not Applicable



## RESOURCE REPORT 6: GEOLOGICAL RESOURCES

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## **6.0 GEOLOGICAL RESOURCES**

Resource Report 6 provides geologic information for the proposed WIP. Information presented includes physiographic setting, surficial and bedrock geology, mineral resources, and potential geologic hazards at the proposed Project site. Also addressed within this report are potential impacts to existing geologic, mineral, and paleontological resources in the Project area due to construction, operation and maintenance of the Project facilities. The assessments of potential geologic hazards in the Project area are based on the results from the review of available mapping and reports, as well as correspondence with applicable government agencies.

### **6.1 GEOLOGIC SETTING**

The Project is located in the Appalachian Uplands physiographic province located in south-central New York. The primary bedrock geology in this region is comprised of near-horizontal beds of sedimentary rock formations consisting of limestone and shale with minor compositions of sandstone and dolostone formed approximately 400 million years ago during the early-to-middle Devonian period (FERC Draft Environmental Impact Statement published for the Iroquois / Tennessee Pipeline Project in November 1989 ("FERC 1989")). The terrain on the Project site is relatively flat to gently sloping with elevations ranging from 500 feet to 1000 feet in elevation above mean sea level. Surficial geology in the area is comprised of glacial till deposits of varying thickness, with surface cover to bedrock varying from 0.5 to five feet (see Figure 6.1-1).

### **6.2 BLASTING**

The Project is located along the northern fringe of the Appalachian Uplands above the Mohawk River Valley where sedimentary bedrock formations consisting of shale and limestone are located within close proximity to the soil surface (FERC 1989, NRCS 2013). Localized removal of bedrock will likely be required for proper installation of the Constitution Transfer Compressor Station.

In the event that bedrock is encountered, the technique used for bedrock removal would depend on the factors such as strength and hardness of the rock. Iroquois would attempt to use mechanical methods to remove the bedrock where possible. If required, bedrock blasting would be conducted in accordance with all applicable State and local regulations to ensure that it is done in a safe manner and that off-site wells are not affected.

### **6.3 MINERAL RESOURCES**

The primary exploitable mineral resources located along Iroquois' mainline pipeline facilities throughout New York consist of deposits of sand and gravel (FERC 1989). A review of online databases did not identify any active, inactive, closed, or permitted mineral resource mining operations within close proximity to the Project site. The New York State Department of Environmental Conservation ("NYSDEC") Division of Mineral Resources – Region 4 has verified no mining operations occur within close proximity to the Project site (Evans 2013). Additionally, the FERC Draft Environmental Impact Statement for the Iroquois / Tennessee Pipeline Project (FERC 1989) did not identify any mining operations in proximity of the Iroquois mainline pipeline facilities in the Town of Wright. Therefore, no impacts to any surface or underground mining operations are anticipated from construction of the Project.



## **6.4 GEOLOGIC HAZARDS**

Geologic hazards are conditions or phenomena that present a risk or are potentially dangerous to life and/or property, either naturally occurring or man-made (Bates and Jackson 1984). The following is a discussion of several geologic hazards and their physical relation to the Project. Geologic hazards discussed include earthquakes, soil liquefaction, land subsidence, and karst terrain.

### **6.4.1 Seismic Risk**

Most earthquakes that occur in the United States are located in the tectonically active western portion of the United States, primarily in California and Alaska. Areas of the eastern United States also experience significant seismic activity, although at lower rates. Earthquake activity in the eastern United States has included large earthquakes such as the 1811-1812 New Madrid earthquakes that occurred in Missouri and Arkansas and the 1886 Charleston, South Carolina earthquake, though the vast majority of earthquakes originating in the eastern U.S. can only be detected by ultra-sensitive equipment designed for recording seismic activity.

The U.S. Geological Survey ("USGS") has developed seismic hazard maps that depict earthquake hazards by showing contour values that represent earthquake ground motion in terms of peak acceleration, defined as percent of gravity, that have a common given probability of being exceeded in 50 years. The ground motion indicated by a contour at a given location is predicted from all future possible earthquake magnitudes at all possible distances from that location.

Based on USGS seismic hazard mapping and a lack of active faults near the Project area, the seismic risk to the proposed facility should be low (Frankel et al. 2008), see Figure 6.4-1.

Consultation with the New York State Geological Survey has been initiated relative to geological hazards in the Project area, though no response has been received to date. Any consultations or additional information will be included in subsequent filings of this resource report.

### **6.4.2 Soil Liquefaction**

This hazard occurs when a sudden shock is delivered to the sediment mass in a location where either water in interstitial spaces supports sediment grains as they settle, or where pore water is forced upward rapidly as a result of the shock, greatly separating the space between grains (Boggs 1987). Due to the low probability of seismic activity and the lack of widespread areas of soils susceptible to liquefaction on the Project site, soil liquefaction is not considered to be a significant hazard to the proposed facilities (FERC 1989). Furthermore, the potential for seismic activity in the Project area is extremely low and as a result, the potential for liquefaction is also low.

Consultation with the New York State Geological Survey has been initiated relative to geological hazards in the Project area, though no response has been received to date. Any consultations or additional information will be included in subsequent filings of this resource report.

### **6.4.3 Land Subsidence**

Land subsidence is the local downward movement of surface material with little or no horizontal movement (Nuhfer et al. 1993). Three distinct processes account for most of the water-related subsistence – compaction of aquifer systems, drainage and subsequent oxidation of organic soils, and the dissolution and collapse of susceptible rocks. These processes are reviewed below, followed by a



discussion of the individual areas near the Project and their susceptibility to ground failure via gravity in the form of land subsidence.

The compaction of aquifer systems, particularly unconsolidated systems, from excessive groundwater pumping is a major cause of land subsidence (USGS 2000). The overdraft of such aquifer systems has resulted in permanent subsidence and related ground failures. In aquifer systems that include semi-consolidated silt and clay layers referred to as “aquitards” of sufficient aggregate thickness, long-term groundwater level declines can result in vast one-time release of “water of compaction” from compacting aquitards, which manifests itself as land subsidence. Locations where significant subsidence from groundwater mining has been documented include the Santa Clara Valley in northern California, the Houston-Galveston area in Texas, and the Las Vegas Valley in Nevada (USGS 2000).

The drainage of organic soils causes its microbial decomposition to be oxidized. Whereas rates of accumulation of organic soil are on the order of a few inches per 100 years, the rate of loss of drained organic soils can be a few inches per year (USGS 2000). It is believed that oxidation-related loss can be halted only by complete re-saturation of the soil or complete consumption of its organic carbon content. The Florida Everglades, as an example, is experiencing land subsidence from draining wetlands.

Land subsidence from the localized collapse of subsurface cavities is commonly caused by groundwater level declines and enhanced percolation of groundwater. Collapse features tend to be associated with specific rock types, such as evaporates (i.e., salt, gypsum, and anhydrite) and carbonates (limestone and dolomite) that are susceptible to dissolution in water (Davis 1987).

The USGS (2000) does not identify the existing Wright Compressor Station area as being affected by land subsidence due to significant groundwater mining. Additionally, the Project area does not contain significant areas of organic soils (See Resource Report 7 – Soils), so land subsidence of this form does not pose a threat to the proposed facilities. Godt (1997) identifies the Project as occurring in an area of low landslide incidence.

Consultation with the New York State Geological Survey has been initiated relative to geological hazards in the Project area, though no response has been received to date. Any consultations or additional information will be included in subsequent filings of this resource report.

#### **6.4.4 Karst Terrain**

Karst is a special type of landscape that is formed by the dissolution of soluble rocks, including limestone and dolomite. Karst regions contain aquifers that are capable of providing large supplies of water. In the United States, 20 percent of the land surface is karst and 40 percent of the groundwater used for drinking comes from karst aquifers. Natural features of the landscape such as caves and springs are typical of karst regions (USGS 2013). Common geological characteristics of karst regions that influence human use of its land and water resources include ground subsidence, sinkhole collapse, groundwater contamination, and unpredictable water supply. Karst terrain has been identified on the Project site by the Geology and Geohazard Risk Evaluation Report prepared for the Constitution Pipeline Project (GeoEngineers 2013). However, Iroquois conducted an electrical resistivity imaging survey on January 21 and 22, 2013 to identify whether karst terrain existed at the existing Wright Compressor Station and the result of that study conducted by Hager-Richter Geosciences concluded that no karst features were detected within the bedrock at the site (Hager-Richter Geosciences 2013).



Consultation with the New York State Geological Survey has been initiated relative to geological hazards in the Project area, though no response has been received to date. Any consultations or additional information will be included in subsequent filings of this resource report.

#### **6.4.5 Landslides**

The project area topography is generally level and devoid of steep slopes, and therefore is not at risk from landslides. According to the USGS Open File Report 97-289 (Godt 1997), Landslide Overview of the Conterminous United States, the Project site has a low landslide incidence of less than 1.5 percent (see Figure 6.4-2). Also, the proposed construction activities are not expected to involve work activities in steeply sloping areas, which could potentially become destabilized resulting in a landslide.

Consultation with the New York State Geological Survey has been initiated relative to geological hazards in the Project area, though no response has been received to date. Any consultations or additional information will be included in subsequent filings of this resource report.

#### **6.5 PALEONTOLOGICAL RESOURCES**

The sedimentary bedrock underlying the Project area, which formed during the Devonian period of the Paleozoic era, may possess paleontological resources; however impacts to bedrock should be minimal and localized to specific areas where bedrock removal is required to install foundation for the Project facility, limiting the impact to paleontological resources.

Consultation with the New York State Geological Survey has been initiated relative to paleontological resources in the Project area, though no response has been received to date. Any consultations or additional information will be included in subsequent filings of this resource report.

#### **6.6 IMPACT MINIMIZATION AND MITIGATION**

Impacts to geological resources will be insignificant and limited to construction activities. The Project is not expected to be affected by seismic activity due to the low probability of significant magnitude earthquakes within the Project area. Iroquois will comply with all applicable regulations and anticipates that the proposed facilities will be able to withstand all but the most extreme fault movements.

Excavation and trenching procedures, including blasting in areas with shallow bedrock, will be conducted in compliance with all federal, state and local laws, codes and regulations. Blasting procedures outlined in the FERC Plan will minimize the potential for associated impacts. Prior to construction, Iroquois will develop a plan for disposal of excess rock generated during construction activities associated with the Project.

Topographic impacts will be limited to temporary alteration of terrain during construction of the Project. Based on specific site conditions, slopes may be re-contoured to ensure safe working conditions. Upon completion of the Project, disturbed areas and drainage patterns will be restored to pre-construction contours and elevations. Re-vegetation in accordance with the 2013 FERC Plan and Procedures will ensure that the disturbed areas are stabilized and prevent erosion. In addition, routine inspection of the facility will help anticipate any possible geologic hazards that may affect operation of the facility.

Proper construction techniques, including drainage and stormwater management, will minimize potential erosion within the workspace. These techniques may include diversion terraces, erosion control devices and other site-specific best management practices as appropriate. Iroquois will adhere to the FERC Plan



and Procedures to minimize potential impacts during construction and operation of the facility, and construction personnel will be properly trained and instructed to comply with and implement the techniques described therein. Construction and restoration activities will be monitored throughout the process to ensure compliance. Operation and maintenance activities will include routine re-vegetation monitoring as a standard operational procedure.

## **6.7 LITERATURE CITED**

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**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**WRIGHT INTERCONNECT PROJECT**

**RESOURCE REPORT 7**

**SOILS**

**PUBLIC**

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**JUNE 2013**



## RESOURCE REPORT 7 – SOILS

### FERC ENVIRONMENTAL CHECKLIST

<b>Part 380 – Minimum Filing Requirements for Environmental Reports</b>	<b>Company Compliance or Inapplicability of Requirement</b>
Identify, describe, and group by milepost the soils affected by the proposed pipeline and aboveground facilities. (§ 380.12 (i)(1)).	Section 7.1 and 7.2 Table 7.2-1
For aboveground facilities that would occupy sites over 5.0 acres, determine the acreage of prime farmland soils that would be affected by construction and operation. (§ 380.12 (i)(2)).	Not Applicable
Describe, by milepost, potential impacts on soils. (§ 380.12 (i)(3 and 4)).	Section 7.2
Identify proposed mitigation to minimize impact on soils, and compare with the staff's Upland Erosion Control, Revegetation and Maintenance Plan. (§ 380.12 (i)(5)).	Section 7.3



**RESOURCE REPORT 7: SOILS**

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## 7.0 SOILS

Resource Report 7 describes the soil resources for the WIP. Soil information for the Project area was obtained from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey webpage available online (NRCS 2013a-b). The assessment of project-related effects on soil resources represented in this report are based on the assumption that the FERC (2013) Plan and Procedures and Iroquois' Spill Prevention, Control and Countermeasure (SPCC) Plan are implemented properly. Copies of these documents are available in Volume II.

Resource Report 7 is organized into four sections. Section 7.1 describes the soils affected by the Project. Sections 7.2 provide a description of the potential impacts of the Project on soil resources. Section 7.3 presents mitigation measures proposed to minimize soil impacts. Section 7.4 lists references used in the preparation of this report.

### 7.1 WRIGHT INTERCONNECT PROJECT SITE

Iroquois proposes to install a transfer compressor station, the Constitution Transfer Compressor Station, at the existing Wright Compression Station in the Town of Wright, Schoharie County, New York. Areas that are expected to be affected by construction include the station yard, temporary work and staging areas, and an access road. The security fenced yard area will be expanded and large enough to accommodate the existing Wright Compressor Station buildings and the proposed new facilities.

The Project is located within a Honeoye-Farmington complex. The Soil map units presented in this report are phases of various soil series, associations and complexes. Soil series are groups of soils having similar parent material such as glacial till, loess or alluvium and are differentiated mainly on the basis of significant variations in morphological features of the soil profile. A soil association is comprised of a group of soil series that occur together in a characteristic pattern that allow for mapping as a cohesive unit. Both soils in the Honeoye-Farmington complex are categorized as prime farmland, but do not have potential for poor revegetation and are not susceptible to erosion. For this soil complex, potential for soil compaction is not available through the NRCS and must be evaluated on-site.

A brief description of the soil complex associated with the Project, which is based on the information obtained from the USDA NRCS Web Soil Survey (NRCS 2013a), is provided below. This information is the most up-to-date survey information available to the public from the NRCS.

#### 7.1.1 Affected Soils

**Honeoye-Farmington complex (HfB, 2 to 10 percent slopes):** The Honeoye component makes up 50 percent of the map unit. Slopes are 2 to 10 percent. This component occurs on drumlins and within till plains. The parent material consists of loamy till derived from limestone, dolomite, calcareous shale, and lesser amounts of sandstone and siltstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. The non-irrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches typically does not exceed 10 percent.

The Farmington component makes up 30 percent of the map unit. Slopes are 2 to 10 percent. This component occurs on ridges, benches, and within till plains. The parent material consists of loamy till or congeliturbate derived from limestone, dolomite, shale, and sandstone, mixed in many places with wind



and water deposits. Depth to a root restrictive layer, or bedrock (lithic), is 10 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. The non-irrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent.

**Illion and Lyons silt loams (IIC, 3 to 15 percent slopes):** The Illion component makes up 40 percent of the map unit. Slopes are 3 to 15 percent. This component occurs within depressions. The parent material consists of loamy till derived from calcareous dark shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded but is rarely ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, November, and December. Organic matter content in the surface horizon is about 6 percent. The non-irrigated land capability classification is 4w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches typically does not exceed 5 percent.

The Lyons component makes up 35 percent of the map unit. Slopes are 3 to 15 percent. This component occurs within depressions. The parent material consists of calcareous loamy till derived from limestone, calcareous shale, and sandstone, with a mantle of silty glaciolacustrine deposits in some places. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded but is rarely ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, November, and December. Organic matter content in the surface horizon is about 6 percent. The non-irrigated land capability classification is 5w. This soil meets hydric criteria.

**Nunda channery silt loam (NdB, 3 to 10 percent slopes):** The Nunda component makes up 75 percent of the map unit. Slopes are 3 to 30 percent. This component occurs on drumlinoid ridges, hills, and within till plains. The parent material consists of a silty mantle over loamy till derived from calcareous shale and siltstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded or ponded. A seasonal zone of water saturation is at 16 inches during March and April. Organic matter content in the surface horizon is about 5 percent. The non-irrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches typically does not exceed 6 percent.

**Illion and Appleton silt loams (IaB, 3 to 8 percent slopes):** The Illion and Appleton silt loams consist of the very deep and poorly drained Illion soil located in depressions and the very deep and somewhat poorly drained Appleton soil located on drumlins and till plains. Depth to the seasonal high water table is zero to six inches with occasional ponding for the Illion soil, which is considered hydric, and six to 18 inches in the Appleton soil, which is not considered to be hydric. Both soils are considered farmlands of State-wide importance. Slope erodibility potential for this soil series is considered to be slight to moderate.



## **7.2 CONSTRUCTION AND OPERATION IMPACTS**

### **7.2.1 Aboveground Facilities**

Construction activities generally result in temporary impacts to soils. Potential impacts include encountering a high water table during excavation, soil compaction and rutting from construction equipment, the loss of excavated soil from water and wind erosion, and mixing of topsoil and subsoil. The characteristics of soil types, vegetative cover, and slope are important factors in determining the potential for these construction related soil impacts to occur.

#### **7.2.1.1 Severe Erosion Potential**

Construction of the Project may remove some existing vegetation and temporarily destabilize soils. This situation increases the potential for soil erosion caused by stormwater, which will be mitigated as described in Section 7.3 during the construction and operation of the Project. Water erosion is strongly related to the permeability of the soil, the cohesion of the soil particles that comprise it as well as soil texture, percentage of organic matter, soil structure, and soil infiltration capacity. Soils containing high percentages of silt and very fine sand are most erodible. Well-drained and well-graded gravels and gravel-sand mixtures with little or no silt are the least erodible soils. Other soil properties that influence erosion can include slope length and gradient. The potential for erosion of soils at the Project site is low (NRCS 2013a); the off-site movement of sediments is unlikely given the site's nearly level topography. To prevent the possibility of erosion on the Project site, Iroquois will require all construction contractors to implement the FERC (2013) Plan and Procedures and Iroquois' SWPPP and SPCC Plans.

#### **7.2.1.2 Soil Compaction**

A concern in agricultural areas is the potential for soil compaction resulting from the movement of heavy construction equipment. Soil characteristics that affect soil compaction include soil texture, soil moisture, grain size distribution, and porosity. Soil compaction has a restrictive action on water penetration, root development and the rate of diffusion of oxygen into soils, which can, in turn, reduce crop yields. For the purposes of this report, soils with a mean high water table of 1.5 feet or less below the surface elevation and having a surface texture of sandy clay loam, or finer, are likely to be susceptible to compaction. Potential for soil compactions for the Honeoye-Farmington complex and for the Illion and Lyons complex is not available and must be evaluated based on site conditions, while the Illion and Lyons complex and the Nunda channery silt loam are susceptible to soil compaction. The Project site is not in an active agricultural area, so soil compaction will not affect potential crop yields, and soils will be regraded following construction.

#### **7.2.1.3 Shallow Bedrock/Introduction of Rock into the Topsoil**

The depth to bedrock indicates the depth from the ground surface at which bedrock is typically present for each soil type. Bedrock refers to the solid rock that underlies the soil and other unconsolidated material that is exposed at the ground surface.

For the Project area, the Honeoye-Farmington complex soil type is noted for shallow bedrock depth. The NRCS lists the depth to bedrock at 10 to 20 inches for the Farmington component of this soil type (see Table 7.2-1). Depth to bedrock for the remaining soils is over 5 feet.

For all areas where bedrock is encountered and interferes with construction, the technique used for bedrock removal would depend on factors such as strength and hardness of the rock. Iroquois would attempt to use mechanical methods such as ripping or conventional excavation to remove the bedrock where possible. If required, bedrock blasting would be conducted in accordance with all applicable state



and local regulations to ensure that it is done in a safe manner and that off-site wells are not affected. In addition, Iroquois will follow mitigation measures in the FERC Plan and Procedures during construction.

#### **7.2.1.4 Poor Revegetation Potential**

Construction will temporarily remove existing vegetation within the proposed workspace areas. Vegetative cover is important in controlling erosion by lessening the impact of rainfall through interception and slowing the velocity of runoff. The rate of erosion and runoff has a potential to increase in the proposed work area due to the removal of existing vegetation. These rates may be greater in steeper sloping areas where the velocity of the runoff is increased. The revegetation potential in Table 7.2-1 is based upon the ability of grasses and legumes in upland areas and wetland plants in wetland areas to become easily established without significant levels of management. In most instances, these vegetative covers would be used to restore the Project area upon completion of construction activities. Major soil properties that may affect the growth of grasses, legumes, and wetland vegetation include depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flood hazard, soil temperature and slope. The Honeoye-Farmington complex and Illion-Appleton complex are well-suited to revegetation. Data on revegetation potential for the remaining soils are not available and must be evaluated on-site.

Iroquois will adhere to the FERC Plan and Procedures (2013) and will restore vegetative cover in the Project area in accordance with the seed mix specifications provided by the NRCS and applicable landowner requests. Consultation with the local field office of the NRCS in New York provided resources relating to recommended seed mixes, application rates, and planting dates (Strause 2013). Final recommendations will be supplied in subsequent filings of this resource report.

#### **7.2.1.5 Shallow Depth to Groundwater**

Due to the depth of groundwater in the vicinity of the Project, Iroquois does not anticipate the interception of groundwater during construction of the facility. If groundwater is encountered, Iroquois will adhere to the FERC Plan and Procedures and the NYSDEC Standards for Erosion and Sediment Control (2005). Iroquois will follow mitigation measures in the FERC Plan and Procedures and the NYSDEC Standards for Erosion and Sediment Control (2005) during construction of the Project.

<b>TABLE 7.2-1 POTENTIAL LIMITATIONS OF SOIL TYPES ON THE WRIGHT INTERCONNECT PROJECT SITE</b>							
<b>Soil Name</b>	<b>Map Unit</b>	<b>Slope (%)</b>	<b>Severe Compaction</b>	<b>Depth to Ground water (ft)</b>	<b>Poor Revegetation Potential</b>	<b>Severe Erosion Potential</b>	<b>Depth to Bedrock (ft)</b>
<b>Wright, NY</b>							
Honeoye-Farmington complex	HfB	2-10	N/A	>6	No	Slight	0.8-1.6
Illion and Lyons silt loam	IIC	3-15	N/A	0-0.5	N/A	Slight	>5
Nunda channery silt loam	NdB	3-10	Yes	1-2	N/A	Slight	>5
Illion and Appleton silt loams	IaB	3-8	Yes	0-1.5	No	Slight	>5

N/A = Not available. Varies based on site-specific conditions.



### **7.2.1.6 Agricultural and Residential Land**

The Iroquois' existing Wright Compressor Station is located adjacent to idle woodland and agricultural land (hay production), but the site is not in active agricultural land or residential land. The Project will not impact cropland or residential areas. The Project is proposed on a parcel of land owned in fee by Iroquois that is currently occupied by the Wright Compressor Station.

Due to the siting of the Project, it is unlikely that there will be any interference with agricultural drain tiles or irrigation systems. During environmental field surveys Iroquois did not identify any drain tiles or irrigation systems in the Project area. However, if previously unidentified drain tiles or irrigation systems are encountered during construction, Iroquois will repair or replace drain tiles at the request of the landowner in accordance with the NYSDAM Agricultural Mitigation handbook for Pipeline Right-of-Way Construction Projects (2011). No filter-covered drain tiles will be used unless the local soil conservation authorities and the landowner agree. Iroquois will follow the depth of cover and the drain tile repair and monitoring mitigation measures specified in the FERC Plan and Procedures and the NYSDAM Agricultural Mitigation handbook for Pipeline Right-of-Way Construction Projects.

### **7.3 MITIGATION**

Iroquois has reviewed the FERC Plan and Procedures with the applicable state and local erosion and sediment control guidelines and regulations to identify potential differences. The applicable guidelines for the Project include the NYSDEC Standards and Specifications for Erosion and Sediment Control (2005) and the NYSDAM Agricultural Mitigation handbook for Pipeline Right-of-Way Construction Projects (2011). Table 7.3-1 provides a summary of the three guidance documents, as well as the rationale regarding any potential deviation from the NYSDEC Standards or NYSDAM handbook. The majority of the proposed deviations occur where the FERC Plan and Procedures are more specific or more restrictive than the NYSDEC/NYSDAM standards.

Iroquois plans to strip suitable topsoil from the proposed building areas and stockpile it separately from other spoil within the construction workspace areas for use in the final grading of lawn areas within the Constitution Transfer Compressor Station's fencing. The contractor will be required to install erosion control barriers, as appropriate, to prevent stockpiled material from migrating out of the construction workspace and into off-site wetland areas. If the amount of suitable topsoil on-site is insufficient for post-construction restoration needs of the Project site, topsoil may need to be brought in from off-site sources in order to supplement original stockpiles. The re-vegetation of the construction workspace will be done in accordance with Part D of the FERC Plan.

Iroquois anticipates that a portion of the site will be seeded using a seed mixture that includes cool-season, warm-season and perennial grass seeds. The cool-season grasses are Kentucky bluegrass (*Poa pratensis*), creeping red fescue (*Festuca rubra*), and perennial ryegrass (*Lolium perenne*). Clover (*Trifolium spp.*) is the suggested warm-season grass. The perennial warm-season grasses are indiagrass (*Sorghastrum nutans*), little bluestem (*Andropogon scoparium*), and switchgrass (*Panicum virgatum*). The warm-season grasses produce well when compared to cool-season grasses during the hot and dry weather of July and August, and successfully tolerate well-drained soil conditions. Consultation with the local field office of the NRCS has been initiated to obtain recommended seed mixes, application rates, and planting dates, though no response has been received to date. As the landowner of the property, Iroquois may opt to use variations of these seed mixes to re-establish ground cover. The re-vegetation of the construction workspace will be done in accordance with Part D of the FERC Plan.



<b>TABLE 7.3-1 COMPARISON OF FERC PLAN AND PROCEDURES WITH NEW YORK STATE GUIDANCE DOCUMENTS</b>			
<b>Topic</b>	<b>FERC Guidelines</b>	<b>NYS Guidelines</b>	<b>Rationale for Variance from NYS Guidelines</b>
Environmental Inspection	One per construction spread (Section I)	No Requirements	Not Applicable
Agricultural and Soil Conservation Inspection	No Requirement	One for all phases of construction (Section 2.1)	Not Applicable
Topsoil Segregation	Within wetlands, agricultural fields, residential areas (Section IV. B.)	- Within all work areas in agricultural lands (Section 3.2) - Conserve topsoil where possible through stockpiling (Page 3.27)	Topsoil segregation will follow FERC Plan as it is more stringent than NYS Guidelines
Temporary Slope Breakers	Spacing 5-15% slope 300 feet >15 to 30% 200 feet >30% 100 feet (Section IV. F. 1.)	Spacing <5% slope 125 feet 5 to 10% 100 feet 10 to 20% 75 feet 20 to 35% 50 feet >35% 25 feet (Page 5A.9)	Not Applicable; More stringent NYS spacing required
Mulch Application	- Apply on all slopes except within wetlands at rate of two tons per acre using straw or wood chips - Use of hydromulch not allowed within 100 feet of wetlands or waterbodies (Section IV. F. 3.)	- Application rate of two tons per acre for straw - Many other materials acceptable for use as mulch - No restrictions on hydromulch within proximity to wetlands or waterbodies (Page 3.3)	FERC guidelines are consistent with NYS guidelines
Trench Breakers	- Same spacing and upslope of permanent slope breakers - Install at base of slopes greater than 5% within 50 feet of a wetland (Section V.B.1.)	Spacing <5% slope 150 feet 5 to 10% 100 feet 10 to 15% 80 feet 15 to 20% 70 feet 20 to 30% 50 feet 30 to 40% 40 feet 40 to 100% 25 feet (Page Sample A-12)	Not Applicable; More stringent NYS spacing required
Soil Decompaction	- Plow areas of severe compaction with a paraplow or similar deep-tillage device (Section 5.C)	For Agricultural Areas: - Deep shattering of soil profile with deep, angled-leg subsoiler tool (Section 4.2.1) All Other Areas: - Chiseling or disking to a minimum depth of 12” (Page 3.5)	FERC guidelines are consistent with NY guidelines



<b>TABLE 7.3-1 COMPARISON OF FERC PLAN AND PROCEDURES WITH NEW YORK STATE GUIDANCE DOCUMENTS</b>			
<b>Topic</b>	<b>FERC Guidelines</b>	<b>NYS Guidelines</b>	<b>Rationale for Variance from NYS Guidelines</b>
Revegetation	Prepare a seedbed to depth of 3 to 4 inches (Section 5.D.3.a.)	- Scarify if compacted - Remove debris and obstacles such as rocks and stumps (Page 3.3)	Seedbed preparation will follow FERC Plan as it is more specific than NY Guidelines
Revegetation	Seed disturbed areas in accordance with written recommendations from local soil conservation authority (Section 5.D.3.b)	- Recommended seed mixes vary based upon site specific conditions - General erosion control mix consists of Creeping Red Fescue, Tall Fescue, Perennial Ryegrass, and Birdsfoot Trefoil (Page 3.7)	NRCS consultation recommends seed mix similar to that of the NY Guidelines – includes Indiangrass rather than Coastal Panicgrass and Sand Lovegrass
Lime / Fertilizer	In accordance with NRCS recommendations (Section 5.D.2.)	- Surface material limed to pH of 6.0 in top 3 inches of soil - Fertilizer applied per soil test to achieve moderate levels of phosphorous and potassium - 30 pounds per acre of nitrogen application required. (Page 3.37) - 600 pounds per acre of 5-10-10 or equivalent commercial fertilizer (Page 3.5)	- Iroquois shall follow NRCS recommendations as they are more site specific than the general NYS Guidelines - Recommend lime to pH range of 6.2 to 6.5 - Apply minimum of 20 lbs/acre of nitrogen and 40 lbs/acre of potassium and phosphorous
<b>Revegetation, Monitoring and Maintenance</b>			
Soil Exposure Restrictions	None	- Staged clearing and grading is necessary to keep areas of disturbance to less than 5 acres (Page 2.1)	Due to the linear and sequential nature of pipeline construction, compliance with this guideline is not feasible.
Vegetative Protection	None	Where protection of trees and/or other vegetation is required, the location of the site to be protected should be shown on the erosion control plan. (Page 3.37)	Iroquois typically works directly with individual landowners relative to specific vegetation protection and provides details in the field or on the site-specific plans if necessary.



<b>TABLE 7.3-1 COMPARISON OF FERC PLAN AND PROCEDURES WITH NEW YORK STATE GUIDANCE DOCUMENTS</b>			
<b>Topic</b>	<b>FERC Guidelines</b>	<b>NYS Guidelines</b>	<b>Rationale for Variance from NYS Guidelines</b>
Drainage Control	None	Accumulated sediment should be removed when 50% of the storage capacity of the sediment retention structure is filled with sediment. (Page 5A.53)	Typically stormwater drainage will be maintained on-site. Existing drainage structures will be protected, and no untreated stormwater will be discharged directly to a wetland or waterbody.
Timing	Complete final grading, topsoil replacement, and placement of permanent erosion control structures within 20 days after construction completion (10 days in residential areas). (Plan Section V.A.1)	All sites should be seeded and stabilized with erosion control materials as soon as possible after final grading. Exposure of bare soils should not exceed 14 days before temporary or permanent seeding/stabilization (Page 2.3)	Due to need for equipment movement within the Project site, Iroquois shall adhere to the FERC Guideline.
Timing	Remove temporary sediment barriers when replaced by permanent erosion control measures or when revegetation is successful. (Plan Section V. A. 7.)	Temporary sediment trapping devices shall not be removed until permanent stabilization is established in all contributory drainage areas (Page 2.3)	Due to need for equipment movement within the Project site, Iroquois shall adhere to the FERC Guideline.

## **7.4 REFERENCES**

- Natural Resources Conservation Service, United States Department of Agriculture. 2013a. Web Soil Survey of Schoharie County, New York [Online WWW]. Available URL: <http://websoilsurvey.nrcs.usda.gov/> [Accessed 22 February 2013].
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**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**WRIGHT INTERCONNECT PROJECT**

**RESOURCE REPORT 8**

**LAND USE, RECREATION, AND AESTHETICS**

**PUBLIC**

Prepared for:  
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**JUNE 2013**



## RESOURCE REPORT 8 – LAND USE, RECREATION, AND AESTHETICS

### FERC ENVIRONMENTAL CHECKLIST

Part 380 – Minimum Filing Requirements for Environmental Reports	Company Compliance or Inapplicability of Requirement
Classify and quantify land use affected by (§ 380.12 (j)(1)) Pipeline construction and permanent rights of way (§ 380.12 (j)(1)); Extra work/staging areas (§ 380.12 (j)(1)); Access Roads (§ 380.12 (j)(1)); Pipe and contractor yards (§ 380.12 (j)(1)); and Aboveground facilities (§ 380.12 (j)(1)).	Section 8.1 Table 8.1-1
Identify by milepost all locations where the pipeline right-of-way would at least partially coincide with existing right-of-way, where it would be adjacent to existing rights-of-way, and where it would be outside of existing right-of-way. (§ 380.12 (j)(1)).	Not applicable
Provide detailed typical construction right-of-way cross-section diagrams showing information such as widths and relative locations of existing rights-of-way, new permanent right-of-way, and temporary construction right-of-way. (§ 380.12 (j)(1)).	Not applicable
Summarize the total acreage of land affected by construction and operation of the Project (§ 380.12 (j)(1)).	Table 1.2-1 of Resource Report 1
Identify by milepost all planned residential or commercial/business development and the time frame for construction (§ 380.12 (j)(3)).	Section 8.3
Identify by milepost special land uses (e.g. sugar maple stands, specialty crops, natural areas, national and state forests, conservation land, etc.). (§ 380.12 (j)(4)).	Section 8.4
Identify by beginning milepost and length of crossing all land administered by Federal, state or local agencies, or private conservation organizations. (§ 380.12 (j)(4)).	Section 8.4
Identify by milepost all natural, recreational or scenic areas and all registered natural landmarks crossed by the Project. (§ 380.12 (j)(4 and 6)).	Sections 8.4
Identify all facilities that would be within designated coastal zone management areas. (§ 380.12 (j)(4 and 7)).	Not applicable
Identify by milepost all buildings that would be within 50 feet of the construction right-of-way or extra work area. (§ 380.12 (j)(5)).	Section 8.3



<b>Part 380 – Minimum Filing Requirements for Environmental Reports</b>	<b>Company Compliance or Inapplicability of Requirement</b>
Identify all designated or proposed candidate National or State Wild and Scenic Rivers crossed by the Project. (§ 380.12 (j)(6)).	Section 8.4
Describe any measures to visually screen aboveground facilities, such as compressor stations. (§ 380.12 (j)(11)).	Section 8.5
Demonstrate that applications for rights-of-way or other proposed land use have been or soon will be filed with federal land-managing agencies with jurisdiction over land that would be affected by the Project. (§ 380.12 (j)(12)).	Section 8.6



**RESOURCE REPORT 8: LAND USE**

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## **8.0 LAND USE, RECREATION, AND AESTHETICS**

This Resource Report addresses use of land that will be affected by construction and operation of the proposed WIP. Specifically, this report characterizes and quantifies the land affected, identifies public lands and designated recreation or other special use areas affected, summarizes consultations with federal and state agencies, and discusses special construction techniques and other forms of mitigation that will be used to reduce land impacts during construction and operation of the Project's facilities. In addition, this Resource Report includes a discussion of potential visual impacts of the facilities, including impacts on designated scenic rivers, areas or roads; as well as recreation areas, public lands, and residential areas.

### **8.1 LAND USE**

Characterization of land use in the Project area was completed using interpretation of recent aerial photography, and from New York Geographical Information Systems (GIS) land use data layers information and confirmed through field surveys conducted in Spring 2013. Land use types on the proposed Project site were based on categories identified in the Commission's 2002 Guidance Manual for Environmental Report Preparation. Those categories are summarized below. Resource Report 3 provides a detailed description of the vegetation cover types on the Project site. Resource Report 1 summarizes the Project's overall land impacts in Table 1.2-1. Land use/cover types affected by the proposed Project, are depicted on the aerial alignment sheets in Volume IV, Appendix I. Land uses within the Project area include:

- Forest/Woodland: Forested upland areas dominated by trees 20 feet or greater in height with a diameter at breast height ("DBH"). As discussed in Resource Report 3, the forest cover type present in the Project area is Appalachian oak-pine;
- Open Land: Non-residential, non-forested upland areas including the Iroquois mainline pipeline ROW and maintained lawn associated with the Wright Compressor Station facility; and
- Industrial/Commercial Land: Developed land occupied by the Wright Compressor Station facility.

The Project does not cross other common land uses identified in the Commission's 2002 Guidance Manual for Environmental Report Preparation, including open water, residential, agricultural, rangeland, schools, parks, recreational fields or cemeteries. The primary current land uses in the Project area are Industrial/Commercial and Forest/Woodland.

#### **8.1.1 Aboveground Facilities**

The total land requirement for construction of the Project is approximately 12.45 acres, located within a 53.2 acre parcel owned by Iroquois. Of the 12.45 total acres, 4.5 acres are required for the Constitution Transfer Compression Station facilities while 7.95 acres will be utilized for temporary workspace during construction. This work space may be used for company and contractor office trailers, parking, material stock piling, pipe fabrication, temporary fuel storage tanks (with secondary containment), storage of supplies, and other temporary construction activity. The demarcation of the Project limits, existing and proposed compressor facilities, and temporary workspaces are shown on the preliminary plot plans in



Volume III - Appendix J. The 53.2 acre parcel includes a mix of existing compressor facilities, upland forest, maintained lawn, and maintained ROW.

As shown in Table 8.1-1, the total land requirement to construct the Project is estimated at approximately 12.45 acres, of which 2.34 acres will be permanently altered by the expansion of the proposed transfer compressor station. Following construction, Iroquois proposes to restore land not required for operation of the Project to pre-construction conditions in accordance with the final landscaping plan proposed for development of the Constitution Transfer Compressor Station and the FERC Plan and Procedures.

Table 8.1-1 below quantifies the construction and operation impacts associated with the Constitution Transfer Compressor Station and its related appurtenances on existing land uses.

<b>TABLE 8.1-1 ACREAGE AFFECTED BY CONSTRUCTION AND OPERATION OF THE WRIGHT INTERCONNECT PROJECT</b>					
<b>Facility</b>	<b>County / Town</b>	<b>Existing Land Use</b>	<b>Temporary Workspace During Construction (acres)</b>	<b>Land Affected During Operation (acres)</b>	<b>Total Land Disturbed (temporary + permanent) (acres)</b>
Proposed Constitution Transfer Compressor Station and Metering Facilities	Schoharie / Wright	Forest/Woodland Open Land	1.94 0.48	2.43	2.43
Existing Wright Compressor Station and Metering Facilities	Schoharie / Wright	Industrial/ Commercial	2.07	5.02	2.07
Temporary Workspace	Schoharie / Wright	Forest/Woodland Open Land	1.36 6.60	N/A	7.95
<b>Total</b>			<b>12.45</b>	<b>7.45</b>	<b>12.45</b>

### **8.1.2 Access Roads**

Iroquois anticipates accessing the WIP site via the existing access road. No off-site access roads are anticipated for this Project.

### **8.2 FACILITY ABANDONMENT OR REPLACEMENT**



There are no pipelines or aboveground facilities that will be abandoned or replaced as part of the Project.

### **8.3 RESIDENTIAL AREAS AND COMMERCIAL AREAS**

#### **8.3.1 Planned Residential and Commercial Areas**

Planned development means any development that is included in a master plan or is on file with the local planning board or county. Consultation with the Schoharie County Planning & Development Agency indicates that there is currently no proposed future development within a 0.25-mile radius of the Project facilities (Bruno 2013). No response has been received to date from the local planning board. Correspondence received subsequent to this submittal will be filed with the Commission in subsequent submittals.

#### **8.3.2 Existing Residences and Buildings**

The Project is located on Iroquois-owned property currently used for compressor facilities. Impacts during construction on existing residences and buildings adjacent to the Project area may include noise and dust from construction equipment and temporary visual impacts from removal of vegetation and excavation of soils. Disturbance post-construction will be minimal and related to maintenance activities including periodic mowing and inspection.

### **8.4 PUBLIC LAND, RECREATION, AND OTHER DESIGNATED AREAS**

#### **8.4.1 Natural, Recreational, or Scenic Areas**

Iroquois has initiated consultation with the National Park Service (“NPS”) and the New York State Parks Recreation & Historic Preservation (NYS OPRHP) regarding the presence of any natural, recreational, public, or conservation land within the vicinity of the Project area; however, no response has been received to date. Consultation with the Schoharie County Planning and Development Agency indicates no trails or parks cross or are within 0.25 miles of the Project area (Bruno 2013).

The Project area is not located in close proximity to any listed waters on the Nationwide Rivers Inventory or National Wild and Scenic Rivers System (NPS 2013f and National Wild and Scenic Rivers System 2013). The proposed facilities will not be located within any federal, state, or municipal lands (NYS OPRHP 2010, NPS 2013a; NPS 2013b; NPS 2013c; NPS 2013d; and The National Recreation Trails Program 2013). National Historic Landmarks and Natural Heritage Areas under the jurisdiction of the NPS are identified in Resource Report 4.

#### **8.4.2 Agency and Landowner Consultation**

Applicable federal, state, and local agencies were consulted regarding the Project. The consultation letters requested that the agency identify the specified resources within 0.25 miles of the Project site. Copies of agency correspondence are provided in Volume II - Appendix A. Landowners within 0.5 miles of the Project area were also notified about the Project via letter. Iroquois’ community outreach plan is provided in Resource Report 1.

#### **8.4.3 Hazardous Waste**



Iroquois has contacted state environmental agencies in New York and has reviewed online federal and state databases to determine potential sources of hazardous materials and contaminated sediments in the Project area. Consultation with the New York State Department of Environmental Conservation, Division of Environmental Remediation – Region 4 indicated that no active spill or hazardous waste remediation projects in the Town of Wright (Goertz 2013). Because all work will take place on Iroquois-owned property, Iroquois does not anticipate any potential concerns associated with hazardous materials during construction and operation of the Project's facilities.

## **8.5 VISUAL RESOURCES**

Construction and operation of the Project is not expected to have a significant impact on visual resources due to the distance from the Wright Compressor Station site to any residential or commercial buildings. Existing vegetation and the absence of existing residences within 50 feet of the proposed Project effectively avoids impacts from these facilities on visual resources.

## **8.6 APPLICATION FOR RIGHTS-OF-WAY AND OTHER LAND USES**

There is no land that is within the jurisdiction of federal land-managing agencies and therefore, applications for ROW and other land use are not required for the Project.

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**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**WRIGHT INTERCONNECT PROJECT**

**RESOURCE REPORT 9**  
**AIR AND NOISE QUALITY**

**PUBLIC**

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## RESOURCE REPORT 9 – AIR AND NOISE QUALITY

### FERC ENVIRONMENTAL CHECKLIST

<b>Part 380 – Minimum Filing Requirements for Environmental Reports</b>	<b>Company Compliance or Inapplicability of Requirement</b>
Describe existing air quality in the vicinity of the Project § 380.12 (k)(1)).	Section 9.1.11 and Table 9.1.11-1
Quantify the existing noise levels (day-night sound level (Ldn) and other applicable noise parameters) at noise-sensitive areas and at other areas covered by relevant state and local noise ordinances (§ 380.12 (k)(2)).	Sections 9.4, Appendix O
Quantify existing and proposed emissions of compressor equipment, plus construction emissions, including nitrogen oxides (NO <sub>x</sub> ) and carbon monoxide (CO), and the basis for these calculations. Summarize anticipated air quality impacts for the Project. (§ 380.12 (k)(3)).	Section 9.2.1 and 9.2.2 and associated tables
Describe the existing compressor units at each station where new, additional, or modified compression units are proposed, including the manufacturer, model number, and horsepower of the compressor units. For proposed new, additional, or modified compressor units include the horsepower, type and energy source (§ 380.12 (k)(4)).	Section 9.2 and Table 9.2.2-1
Identify any nearby noise-sensitive area by distance and direction from the proposed compressor unit building / enclosure (§ 380.12 (k)(4)).	Sections 9.4 and Appendix O
Identify any applicable state or local noise regulations (§ 380.12 (k)(4)).	Sections 9.4
Calculate the noise impact at noise-sensitive areas of the proposed compressor unit modifications or additions, specifying how the impact was calculated, including manufacturer's data and proposed noise control equipment (§ 380.12 (k)(4)).	Sections 9.4
Describe measures and manufacturer's specifications for equipment proposed to mitigate impact to air and noise quality, including emission control systems, installation of filters, mufflers, or insulation of piping and buildings, and orientation of equipment away from noise-sensitive areas. (§380.12(k)(5))	Sections 9.4



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- C TURBINE OPERATION
- D DATA ACQUISITION & ANALYSIS
- E SOUND LEVEL METER CALIBRATION CERTIFICATES



## 9.0 AIR AND NOISE QUALITY

This report describes potential air quality and noise impacts due to construction and operation of the additional compression facilities proposed as the Wright Interconnect Project (WIP) at Iroquois' Wright Compressor Station. It describes proposed fuel-burning equipment, construction equipment, potential air pollutant and noise emissions, and air quality impacts along with control and mitigation measures.

Compilation of this report, environmental and regulatory analyses, equipment performance and emissions calculations, station design and equipment selection advice from an air permitting perspective were provided by Quonset Environmental LLC. Noise measurements, projections and analyses were provided by Lewis S. Goodfriend and Associates, Whippany, New Jersey.

### 9.1 EXISTING AIR QUALITY AND REGULATIONS

#### 9.1.1 Federal Class I Areas

Federal regulations (40 CFR Sections 81.401 through 81.437) list those mandatory Federal Class I areas, established under the Clean Air Act Amendments of 1977, where the U.S. Environmental Protection Agency (USEPA) Administrator, in consultation with the Secretary of the Interior, has determined visibility to be an especially important value. This listing of areas represents an evaluation of significant international parks, national wilderness areas, and national parks. Certain major projects within 50 kilometers (i.e., 31 miles) of a Class I area may be required to assess air pollutant plume visibility impacts within the Class I area.

There are no Federal Class I areas that could be affected by the proposed WIP. The closest Class I areas are located in the States of New Hampshire (i.e., the Great Gulf Wilderness and the Presidential Range – Dry River Wilderness Areas), New Jersey (i.e., the Brigantine Wilderness Area) and Vermont (i.e., the Lye Brook Wilderness Area). The distances and directions from these four Class I areas to the project area are shown in Table 9.1.1-1.

<b>Wilderness Area</b>	<b>Approximate Miles (Kilometers)</b>	<b>Direction</b>
Brigantine	220 (354)	North
Dry River	180 (290)	Southwest
Great Gulf	185 (300)	Southwest
Lye Brook	70 (113)	Southwest

#### 9.1.2 Federal and New York State Ambient Air Quality Standards

The USEPA has established National Ambient Air Quality Standards (NAAQS, 40 CFR Part 50), which set maximum acceptable outdoor concentrations of certain "criteria" air pollutants. New York State has established similar standards, which are at least as stringent as the national standards, and in most cases adopt the national standards. State standards may affect pollutants in addition to the criteria pollutants. Air pollutants for which standards have been established include sulfur oxides (SO<sub>x</sub>), particulate matter



(PM), carbon monoxide (CO), ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>) and lead (Pb). The NAAQS and State standards are listed in Table 9.1.2-1.

<b>TABLE 9.1.2-1: NATIONAL AND NEW YORK STATE AMBIENT AIR QUALITY STANDARDS (AAQS)</b>			
<b>Pollutant</b>	<b>Averaging Period</b>	<b>National AAQS<sup>1</sup></b>	<b>NY State AAQS</b>
Carbon Monoxide (CO)	1-Hour	35 ppm	35 ppm
	8-Hour	9 ppm	9 ppm
Lead (Pb)	3-Month Rolling Average	0.15 ug/m <sup>3</sup>	NA
Nitrogen Dioxide (NO <sub>2</sub> )	1-Hour	0.10 ppm	NA
	Annual	0.053 ppm	0.05 ppm
Ozone (O <sub>3</sub> ) <sup>2</sup>	1-Hour	0.12 ppm	NA <sup>3</sup>
	8-Hour	0.075 ppm	0.08 ppm
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>4</sup>	24-Hour	35 ug/m <sup>3</sup>	NA
	Annual	15 ug/m <sup>3</sup>	NA
Inhalable Particulate Matter (PM <sub>10</sub> ) <sup>4</sup>	24-Hour	150 ug/m <sup>3</sup>	NA
Sulfur Oxides (SO <sub>x</sub> )	1-Hour	75 ppb	NA
	3-Hour	NA	0.50 ppm
	24-Hour	0.14 ppm	0.14 ppm
	Annual	0.03 ppm	0.03 ppm
Non-Methane Hydrocarbons	3-Hour	NA	0.24 ppm
Total Suspended Particulates	24-Hour	260 ug/m <sup>3</sup>	250 ug/m <sup>3</sup>
	12 Months	NA	75 ug/m <sup>3</sup>

<sup>1</sup> “ug/m<sup>3</sup>” = micrograms per cubic meter; “ppm” = parts per million; “ppb” = parts per billion; “NA” = not applicable

<sup>2</sup> The former NY standard for ozone of 0.08 PPM was not officially revised by regulatory process to coincide with the federal standard, which is currently applied by NY to determine compliance status.

<sup>3</sup> USEPA revoked the 1-hour ozone standard in all areas.

<sup>4</sup> PM<sub>2.5</sub> refers to fine particulate matter having an aerodynamic diameter of 2.5 microns or smaller. PM<sub>10</sub> refers to inhalable particulate matter having an aerodynamic diameter of 10 microns or smaller. One micron is one millionth of a meter.



### **9.1.3 Compliance with the State Implementation Plan**

Federal regulations (40 CFR Part 51) require states to submit State Implementation Plans (SIPs) for review and approval by the USEPA. A SIP must address and comply with minimum requirements describing measures to attain compliance with the NAAQS. These measures affect certain stationary and mobile sources. SIP measures include:

- Emission controls,
- Fuel standards,
- Vehicle maintenance and inspection programs,
- Exhaust stack height requirements,
- Monitoring of ambient air quality,
- Monitoring and testing of air pollution sources,
- Review of proposed new and modified stationary sources of air pollution,
- Federally mandated schedules for complying with air quality standards, and
- Public participation and other requirements.

Installation and operation of the proposed WIP would comply with New York State's SIP by complying with all applicable air pollution control regulations. Compliance with applicable vehicle, fuel and coatings regulations would be the responsibility of vehicle manufacturers and fuel and coating product suppliers and distributors. Iroquois requires and monitors compliance with these regulations through construction contract requirements, purchase specifications, and inspections.

A SIP must address and comply with minimum requirements describing the measures it takes to attain compliance with the NAAQS. The proposed WIP would comply with New York State's SIP by satisfying air permit application submittal, review and approval requirements. These affect the proposed stack heights, potential impacts on surrounding air quality, station design, equipment selection, potential emissions, emission controls, stack testing and continuing monitoring of operations with record-keeping.

A complete listing of potentially applicable federal and state regulations, which are part of New York State's SIP, is included in Section 9.1.4.

### **9.1.4 Compliance with General Conformity Regulations and State Implementation Plan**

USEPA's General Conformity regulations for federal actions can be found at 40 CFR Part 51 Subpart W and 40 CFR Part 93 Subpart B. The intent and purpose of these regulations are to ensure that federal actions are consistent with SIPs for attaining air quality standards. Federal actions, in addition to activities undertaken, supported or funded by federal agencies, may include proposed activities requiring approvals or permits from federal agencies. The proposed WIP requires (FERC) approval of Iroquois' application for a Certificate of Public Convenience and Necessity Authorizing the Construction and Operation of Facilities to Provide Service under Section 7 of the Natural Gas Act.

The General Conformity regulations only apply to proposed projects that would exceed "significant" emissions levels in locations that have not attained compliance with the NAAQS. "Significant" is defined



in the regulations to mean exceeding certain “de minimis” thresholds, which equate to major source thresholds applicable to the areas potentially affected by proposed projects. In the case of Schoharie County, New York, which is a “marginal” ozone non-attainment area, these thresholds equate to 100 tons per year (TPY) of potential nitrogen oxide (NO<sub>x</sub>) emissions and 50 TPY of potential volatile organic compound (VOC) emissions. Since Schoharie County is in attainment of air quality standards for other pollutants, the threshold is 250 TPY for other criteria pollutants, including carbon monoxide (CO), particulate matter (PM) and sulfur dioxide (SO<sub>2</sub>). The threshold is ten TPY for any single hazardous air pollutant (HAP), and 25 TPY for any combination of HAPs. The major source threshold for carbon dioxide-equivalent greenhouse gas emissions, as described in Section 9.1.11 of this report, is 100,000 TPY.

Iroquois’ estimates of potential air pollutant emissions due to construction and operation of the WIP are included in Section 9.2 of this report. Combined potential emissions due to operation and construction would be less than the major source thresholds of 100 TPY of NO<sub>x</sub>, less than 50 TPY of VOC, much less than 250 TPY of other criteria pollutants, less than ten TPY of a single HAP, less than 25 TPY of combined HAPs and less than 100,000 TPY of greenhouse gases. Therefore, potential air pollutant emissions do not exceed any of the General Conformity regulations’ “significance” thresholds.

Construction and operation of the proposed WIP cannot have the potential to affect New York State’s attainment of the NAAQS, and it must be consistent with the SIP. This is true for the proposed stationary and permanent facilities, and also because potential emissions due to the proposed mobile vehicle and equipment sources are small and would only be operated temporarily; during the construction period. It would not be appropriate to consider the potential emissions associated with construction vehicles and equipment to have any incremental affect on compliance with the SIP. Many, if not most, of these same or similar vehicles and equipment would have been, and would continue to be, in operation on other projects prior to and following the proposed Project. Compliance with the NAAQS and SIP will be further supported by documented results of air quality impact dispersion modeling of continuous station operations.

The General Conformity regulations include a presumption of conformity, even for major facilities, which would be reviewed and permitted under New Source Review (NSR) stationary source air permitting regulations. Potential air pollutant emissions associated with construction and operation of the WIP would not trigger major source federal or state air permitting requirements for stationary sources. The required air permits for the proposed permanent facilities will be reviewed under federal and state regulations applicable to new minor sources and modifications. Therefore, the General Conformity regulations’ presumption of conformity would appear to extend to this minor source project at least as well as it does to major NSR sources.

In addition to stationary sources, New York State’s SIP regulates mobile sources of potential air pollutant emissions such as construction vehicles and equipment. Construction of the proposed facilities would result in potential emissions associated with mobile passenger vehicle and construction equipment engine exhausts, construction vehicle and equipment fugitive dust emissions, and emissions due to preparing and coating pipeline facilities.

New York State’s SIP is based on federal and state regulations, which apply to emissions from stationary sources, mobile construction vehicles and equipment, coating of pipeline facilities, and other activities potentially associated with building and operating the WIP. A summary of New York State’s SIP can be



found on USEPA's Internet web site<sup>5</sup>. Iroquois' proposed WIP would comply with the SIP as required by the following regulations, where applicable:

- NYCRR Parts 200 and 201-1 through 201-9: Prevention and Control of Air Contamination and Air Pollution
- NYCRR Part 202: Emissions Verification
- NYCRR Part 205: Architectural and Industrial Maintenance Coatings
- NYCRR Part 211: General Prohibitions
- NYCRR Part 215: Open Fires
- NYCRR Part 217: Motor Vehicle Emissions
- NYCRR Part 218: Emission Standards for Motor Vehicles and Motor Vehicle Engines
- NYCRR Part 225: Fuel Composition and Use
- NYCRR Part 227-1: Stationary Combustion Installations
- NYCRR Part 228: Surface Coating Processes, Commercial and Industrial Adhesives, Sealants and Primers
- NYCRR Part 231-5: New Major Facilities And Modifications To Existing Non-Major Facilities In Nonattainment Areas, And Attainment Areas Of The State Within The Ozone Transport Region
- NYCRR Part 231-7: New Major Facilities and Modifications to Existing Non-major Facilities in Attainment Areas (Prevention of Significant Deterioration)
- NYCRR 239: Portable Fuel Container Spillage Control
- NYCRR 257: Air Quality Standards
- Federal regulations pertaining to mobile sources and vehicles (40 CFR Parts 85, 86, 89 and 90)
- Federal New Source Performance Standards (NSPS) for Stationary Combustion Turbines (40 CFR Part 60, Subparts A and KKKK)
- Federal National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Combustion Turbines (40 CFR Part 63 Subpart YYYY)
- NSPS for Stationary Spark Ignition Internal Combustion Engines (40 CFR 60 Subpart JJJJ)
- NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR Part 63 Subpart ZZZZ)
- Federal Greenhouse Gas Reporting Regulations (40 CFR Part 98, Subparts A, C and W)
- Federal Greenhouse Gas Tailoring Rule affecting State PSD permitting (40 CFR Part 70)

It is important to note that many of the potential air pollutant emission sources associated with building the proposed facilities are construction vehicles and equipment, or they involve products manufactured or supplied by others. Therefore, compliance with the regulations cited above primarily would be outside of Iroquois' direct control and responsibility. Contractor vehicle owners and operators would be responsible

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<sup>5</sup> [http://www.epa.gov/region02/air/sip/summaries\\_ny/index.html](http://www.epa.gov/region02/air/sip/summaries_ny/index.html)



for complying with State vehicle inspection regulations for the vehicles and equipment that they own or lease, and vehicle manufacturers would be responsible for complying with engine emission limits. Fuel and coating manufacturers and suppliers would be responsible for complying with requirements applicable to fuel and coating specifications. Iroquois would require its contractors to comply with applicable regulations through its contractual agreements, purchase specifications and through periodic on-site inspections.

Section 9.3 of this Resource Report describes steps Iroquois proposes to minimize and mitigate potential air pollutant emissions due to construction and operation of the proposed project.

### **9.1.5 USEPA Clean Construction Recommendations**

The USEPA's Clean Construction Internet web site lists information about several potential emissions reduction strategies and technologies. Iroquois evaluated USEPA's recommended emission reduction strategies for construction equipment. USEPA's web site lists a number of potential strategies for retrofitting diesel engines to improve emissions performance and to reduce potential emissions. Those strategies include:

1. Switching to advanced fuels, such as ultra-low sulfur diesel (ULSD), biodiesel, liquid petroleum gas, or compressed natural gas,
2. Retrofitting engines with vehicle emissions reduction technologies such as:
  - a. Diesel particulate filters
  - b. Diesel oxidation catalysts
  - c. Closed crankcase ventilation
  - d. Selective catalytic reduction
  - e. Exhaust gas recirculation,
3. Replacing old engines or vehicles with newer, cleaner models,
4. Reducing the amount of engine idling time, and
5. Repairing and proper maintenance.

Some of these strategies may be recommended for federal activities involving long-term operation of diesel vehicles and equipment that are owned and operated by a project proponent. This is not the case for construction of Iroquois' proposed facilities. The majority of construction vehicles and equipment will be provided by contractors and subcontractors who own or lease the vehicles. Many passenger vehicles will be owned and operated by individual contract employees commuting to the construction site.

Exhaust emissions from diesel- and gasoline-fueled construction equipment and vehicle engines will be minimized by federal design standards imposed at the time of manufacture of the vehicles and will comply with USEPA mobile emission regulations (40 CFR Part 85). Emissions also will be controlled by purchasing commercially available gasoline and diesel fuel products whose specifications are controlled by state and federal air pollution control regulations applicable to fuel suppliers and distributors.

Selection of any fuel and emission control alternatives, replacement of vehicles and equipment, and repair and maintenance will be outside of Iroquois' direct control for the majority of construction vehicles and



equipment. For the limited number of smaller vehicles and equipment that Iroquois owns or leases itself, Iroquois will comply with state and federal regulations applicable to fuel and engine specifications, inspection and maintenance. It is Iroquois' practice to lease only late-model vehicles. These primarily consist of passenger automobiles and pickup trucks.

Section 9.3.1 of this Resource Report describes a number of practical and proven methods to minimize and mitigate potential construction emissions. These pertain primarily to potential fugitive dust, surface coating, and abrasive blasting emissions.

### **9.1.6 Air Permitting Requirements**

Proposed projects of this type can be subject to one or more federal and state air quality and permitting regulations, which may impose various requirements and specific emission standards for expected pollutant emissions. These regulations may include:

- National Ambient Air Quality Standards (NAAQS);
- Prevention of Significant Deterioration (PSD) Regulations;
- New Source Review (NSR) Regulations;
- New Source Performance Standards (NSPS);
- National Emission Standards for Hazardous Air Pollutants (NEHAP)
- Reasonable Available Control Technology (RACT);
- Best Available Control Technology (BACT);
- Lowest Achievable Emission Rate (LAER) technology and/or
- State Requirements for Permits to Construct and Operate Stationary Sources.

How these regulations and requirements apply to any specific proposal depends on the source's potential to emit regulated air pollutants and the source's location relative to sensitive air quality areas, such as areas that have not attained compliance with ambient air quality standards (non-attainment areas).

Since the two proposed turbo-compressors would be considered minor sources of air pollutant emissions and a minor source modification, regulatory control requirements including Reasonably Available Control Technology (RACT) and Lowest Achievable Emission Rate (LAER) controls would not apply. RACT applies to major existing NO<sub>x</sub> sources. LAER applies to major new sources in non-attainment areas. NYSDEC regulations require the application of Best Available Control Technology (BACT) for modifications to existing major sources within areas in attainment of air quality standards, which have potential emissions of attainment new source review (NSR) contaminants that equal or exceed the "significant project threshold"<sup>6</sup> for that pollutant. BACT is not required for the proposed project, because neither the existing facility nor the proposed expansion facilities are a major source of any attainment NSR pollutant. In such a case, the significant project thresholds do not apply for determining when BACT is required.

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<sup>6</sup> NYCRR Section 231-13 Tables 5 and 6.



Even though New York State's NO<sub>x</sub> RACT, BACT and LAER requirements do not apply to the proposed turbo-compressors, manufacturer warranted potential NO<sub>x</sub> concentrations (i.e., 15 parts per million by volume on a dry basis at 15 percent oxygen, or ppmvd @15% O<sub>2</sub>) are cleaner than the applicable NO<sub>x</sub> RACT<sup>7</sup> limit and as clean as recent NO<sub>x</sub> BACT precedents for similar turbines.

The existing and proposed emergency electrical generators are exempt from NYSDEC air permitting regulations (NCYRR 201.32). This is because they would comply with an exemption for stationary internal combustion engines that 1) operate only when the usual supply of power is unavailable, and 2) operate for no more than 500 hours per year. The 500 hours of annual operation for the engines include operation only during emergency situations, routine maintenance, and routine exercising. The federal NESHAP regulations for reciprocating engines impose a parallel limit of 100 hours of operation for non-emergency purposes to qualify as an emergency engine under the NESHAP.

Other miscellaneous fuel combustion sources, such as existing and proposed domestic water, space heaters and boilers, also are exempt from NYSDEC air permitting regulations, because they are natural gas-fueled and have maximum fuel heat input ratings of less than ten million BTUs per hour each.

Based on the quantities of pollutants potentially to be emitted from the proposed turbo-compressors, the associated air permit applications are subject to the following requirements:

- Estimating ambient air quality impacts using existing meteorological data and ambient air monitoring data representing the Project area;
- An analysis of the proposed buildings and exhaust stack heights with respect to Good Engineering Practice (GEP) stack height regulations; and
- An assessment of the proposed turbines' compliance with federal New Source Performance Standards (NSPS) for stationary combustion turbines.

The air quality impact analysis to be submitted in support of Iroquois' air permit application must demonstrate that potential emissions and impacts from the proposed facilities would not cause or contribute to a violation of ambient air quality standards or Prevention of Significant Deterioration (PSD) increments.

As proposed, operation of the proposed turbo-compressors and other fuel-burning equipment would emit less than applicable major source thresholds. Since potential emissions due to the previously permitted station also do not exceed these thresholds, the proposed WIP would be considered a minor source modification under New York State and federal air permitting definitions. To be regulated and permitted as a major source or modification, potential emissions due to the proposed turbo-compressors would themselves have to exceed major source thresholds, or the previously permitted station would have had to exceed these thresholds and the proposed facilities would have to exceed major modification significant emissions increase thresholds. This is not the case.

### **9.1.7 Federal New Source Performance Standards**

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<sup>7</sup> RACT = 50 ppmvd and BACT = 15 ppmvd @ 15% O<sub>2</sub> for simple-cycle natural gas-fueled combustion turbines of the proposed size and type.



The New Source Performance Standards (NSPS) contained in 40 CFR Part 60 are federal regulations that establish emission limits and other requirements for specific types of new, modified, or reconstructed sources. The Standards of Performance for Stationary Combustion Turbines NSPS are published as Subpart KKKK of 40 CFR Part 60. The proposed turbines are affected by these standards because they have fuel heat input ratings exceeding 10 million BTUs per hour, and because they will be manufactured after February 18, 2005. The engines will comply with the NSPS Subpart KKKK, because their guaranteed maximum NO<sub>x</sub> concentration of 15 PPM is less than the applicable 25 PPM Subpart KKKK limit, and because they will burn only natural gas fuel. NO<sub>x</sub> concentrations will be confirmed at least biennially through stack testing, as required by the NSPS.

### **9.1.8 Federal National Emissions Standards for Hazardous Air Pollutants**

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Combustion Turbines is Subpart YYYY of 40 CFR Part 63. Subpart YYYY does not apply to the proposed turbines, because this NESHAP only applies to stationary combustion turbines installed at major sources of hazardous air pollutants. Neither the existing Wright Compressor Station facilities nor the proposed WIP facilities would be major HAP sources.

The NESHAP for Stationary Reciprocating Internal Combustion Engines is Subpart ZZZZ of 40 CFR 63. The existing Wright Compressor Station employs a natural gas reciprocating engine to power its emergency electrical power generator (or auxiliary power unit – APU). The WIP proposes a similar additional APU. Subpart ZZZZ regulates the APUs as emergency generator engines, because Iroquois documents compliance with Subpart ZZZZ's limit prohibiting emergency engines from operating more than 100 hours per rolling 12-month period for non-emergency purposes; including maintenance checks and readiness testing<sup>8</sup>. In addition, Iroquois has written inspection, maintenance and record-keeping procedures ensuring compliance with other Subpart ZZZZ emergency engine requirements including:

- Engine lube oil sampling and analysis
- Engine lube oil and filter replacement based on oil analyses
- Periodic spark plug, hose and belt inspections
- Engine idling time limit
- Written maintenance plan and records

### **9.1.9 Federal Mandatory Greenhouse Gas Reporting Regulations**

In 2009, the USEPA published regulations requiring affected facilities to begin tracking their greenhouse gas emissions in 2010, and to begin reporting them annually in 2011 (40 CFR part 98). Iroquois' first reports were submitted in 2011, for calendar year 2010. Since then, Iroquois reports Wright Compressor Station GHG emissions annually to the USEPA by March 31<sup>st</sup> for the preceding calendar year.

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<sup>8</sup> The NYSDEC emergency power generator air permit exemption, under which Iroquois operates its APUs, prohibits any non-emergency operation other than routine maintenance and testing.



The mandatory GHG reporting threshold applicable to facilities like Iroquois' Wright Compressor Station is 25,000 metric tons or more of carbon dioxide-equivalent (CO<sub>2</sub>e<sup>9</sup>) emissions per year. The reporting regulations exclude emergency generator GHG emissions. Once a facility is required to report GHG emissions, it is required to report each year, unless emissions are less than 25,000 tons for five consecutive years, or if they are less than 15,000 tons for three consecutive years. Then a facility can stop monitoring and reporting if it notifies USEPA. A facility also may stop reporting if it ceases operations.

Iroquois will continue to comply with GHG reporting regulations.

### **9.1.10 Federal Greenhouse Gas Tailoring Regulations**

In 2010, the USEPA issued a final rule that addresses GHG under the Clean Air Act. Beginning January 2, 2011 through June 30, 2011, "Step 1" of the rule required that sources currently subject to the PSD permitting program were subject to permitting requirements for their GHG emissions under PSD, and they would be required to address Best Available Control Technology (BACT) for GHG for significant increases in GHG emissions.

Two criteria must have been met for the BACT rule to apply. First, the facility must already have been a major stationary source for some criteria pollutant. Second, the proposed project must significantly increase GHGs by at least 75,000 TPY of CO<sub>2</sub>e.

The Wright Compressor Station is not an existing major source facility for any criteria pollutants as shown in Table 9.2.2-2. Therefore, the first criterion exempts this Project from Step 1 of the Tailoring Rule BACT applicability.

Step 2 began on July 1, 2011. Sources with the potential to emit 100,000 TPY CO<sub>2</sub>e or more of GHG are now considered major sources for PSD permitting purposes, even if they do not exceed the permitting thresholds for any criteria pollutant. Additionally, any modification at a major source (including one that is only major due to GHGs) resulting in a net GHG emissions increase of 75,000 TPY CO<sub>2</sub>e or more is subject to PSD review and requirements with respect to GHGs.

To determine that a GHG emission source, resulting from either new construction or a modification, would be considered a major source under PSD, **BOTH** of the following conditions must be met:

- (1) The GHG emission source, which is not major for another pollutant, has the potential to emit GHG in amounts that equal or exceed the following, calculated as the sum of emitted GHGs on a mass basis (no global warming potentials applied):
  - 100 TPY for sources in any of the 28 major emitting facility source categories listed under PSD (these do not apply to the Wright Compressor Station), or

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<sup>9</sup> CO<sub>2</sub>e is the internationally-recognised measure of GHG emissions. There are many types of greenhouse gases. The three GHGs that are emitted from Iroquois' Wright Compressor Station (and anticipated to be emitted from the new Constitution Transfer Station) include carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O) and methane (CH<sub>4</sub>). Each of these gases has a different capacity to heat the atmosphere. This is referred to as its global warming potential. For the sake of ease and consistency, when organisations report their GHG emissions, they are required to report them combined as an equivalent mass of CO<sub>2</sub>. This is the CO<sub>2</sub>e.



- 250 TPY for any other stationary source.

**AND**

- (2) The GHG emission source has the potential to emit GHGs in amounts that equal or exceed 100,000 TPY on a CO<sub>2</sub>e basis.

The existing Wright Compressor Station does not have the potential to emit CO<sub>2</sub>e in amounts of 100,000 TPY or more as shown in Table 9.2.2-2.

Since the existing Wright Compressor Station potential GHG emissions are less than 100,000 TPY, it is not considered a major source of GHG. Since the proposed Constitution Transfer Compressor Station potential GHG emissions also are less than 100,000 TPY, they are neither a major source of GHG nor a modification to a major source. Therefore, PSD permitting and BACT requirements do not apply according to the GHG Tailoring Rule.

### **9.1.11 Existing Air Quality**

The USEPA has divided the country into air quality control areas. For each criteria pollutant, each area is designated as being either in "attainment" or in "non-attainment" of the NAAQS based on ambient air quality monitoring.

The proposed WIP is to be located in the Town of Wright, Schoharie County, New York, which is part of the Albany-Schenectady-Troy, NY ozone non-attainment area.

The most recently published ambient air quality monitoring data were reviewed to describe existing air quality in the project area. Individual air quality monitoring sites referenced below were chosen conservatively to preliminarily represent air quality near the Wright Compressor Station for this report only. More representative and less conservative air quality monitors may be selected, with the assistance and approval of New York State air pollution control officials, for use modeling Project air quality impacts.

Air quality data presented below in Table 9.1.11-1 show compliance with all ambient air quality standards, including the ozone standards. However, even though local air quality is a bit cleaner than the ozone NAAQS, the Project area has been designated as a "marginal" ozone non-attainment area, because it is located within the larger multi-state Northeast Ozone Transport Region.

Nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs) are ozone precursors, meaning that ozone can be formed in the atmosphere under certain conditions in the presence of these pollutants. There is no direct ambient air quality standard for VOCs. As a percentage of applicable major source thresholds (i.e., 43 percent shown in Table 9.2.2-2) NO<sub>x</sub> is the most significant potential criteria air pollutant resulting from operation of the proposed WIP, as described more in Section 9.2.2. Nitrogen dioxide (NO<sub>2</sub>) is a minor percentage of NO<sub>x</sub> emissions (i.e., 10-30 percent<sup>10</sup>) from natural gas combustion turbines, and this fraction will be taken into account when modeling potential NO<sub>2</sub> ambient air quality

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<sup>10</sup> Solar Turbines, Inc. January 3, 2013 letter to Quonset Environmental LLC indicates a maximum 30% NO<sub>2</sub>-to-NO<sub>x</sub> ratio in the exhaust of SoLoNO<sub>x</sub> turbines, such as those proposed for the Wright Interconnect Project. More recent stack tests by Iroquois Gas on two identical turbine models indicate that the actual NO<sub>2</sub>-to-NO<sub>x</sub> ratio for Taurus 70 model SoLoNO<sub>x</sub> turbines is closer to ten percent.



impacts for comparison with the NO<sub>2</sub> standards. The selected background NO<sub>2</sub> concentration is a substantial percentage (40 percent) of the NAAQS, but ambient impact dispersion modeling must document compliance with the NAAQS in order to gain state approval of the required air permits.

Carbon monoxide (CO), like NO<sub>x</sub>, is a significant potential pollutant resulting from operation of the proposed project. Existing background ambient CO concentrations are less than ten percent of the corresponding CO standards.

Potential particulate matter (PM) emissions are substantially less than emissions of NO<sub>x</sub> and CO, and the PM 24-hour and annual background concentrations shown in Table 9.1.11-1 (approximately 50 percent of the NAAQS for fine PM) should allow an ample buffer to document that potential Project impacts comply with these standards.

Existing sulfur dioxide concentrations represent percentages no greater than 12 percent of their corresponding NAAQS, and potential emissions of these pollutants are not significant, as described in Section 9.2.2. Lead emissions from the proposed natural gas combustion turbines will not be significant or contribute significantly to ambient concentrations.

The rest of this section discusses NO<sub>x</sub>, CO<sub>2</sub> and PM<sub>2.5</sub> emissions in greater detail, since these are the most significant pollutants associated with the proposed Project based on potential emissions and existing ambient background concentrations.

Ozone is formed by various photochemical reactions of VOCs with oxides of nitrogen on days with bright sunshine and warm temperatures. Non-attainment of the ozone standard is a regional concern which is not limited to any one specific area. Ozone may be transported over great distances, and local violations are often the result of such transport. Control strategies are generally based on regional hydrocarbon emission controls. Ozone is a colorless gas that is a major constituent of smog. High altitude ozone is beneficial, because it shields Earth from the Sun's ultraviolet radiation. Ground-level ozone can be harmful, because it can react with the mucus membranes of the respiratory system and cause inflammation.

Less volatile gasoline is now required in all Northeastern states during the warmer months of the year. This has contributed significantly toward lower ambient ozone concentrations. The VOCs that continue to form ozone primarily come from vehicle and industrial exhaust as well as evaporation of gasoline, solvents, paints, and many other sources.

Carbon monoxide (CO) is an odorless and colorless gas that is the product of incomplete combustion of carbon in fuels from automobiles, buses, trucks, engines, boilers and some industrial processes. High concentrations can be found in confined spaces such as parking garages, poorly ventilated tunnels, or traffic intersections, especially during peak traffic hours. Unhealthy CO concentrations can weaken the heart's contractions, lower the amount of oxygen carried by the blood and can be dangerous for people with chronic heart disease.

Decreases in ambient CO concentrations are attributed to reductions in traffic congestion in urban areas due to traffic flow improvements. Decreases also are due to other pollution reduction strategies implemented on the state and federal levels. These strategies impose progressively more stringent emission standards for new motor vehicles and more stringent gasoline specifications and standards. A



major contributor to decreased CO levels has been the adoption of vehicle inspection and maintenance programs.

Fine particulate matter (PM<sub>2.5</sub>) levels, have been decreasing since the early 2000s. Fine particulates have diameters of 2.5 microns or less and can be inhaled more deeply into the lungs than inhalable particulate matter (PM<sub>10</sub>). Unhealthy concentrations of PM<sub>2.5</sub> can aggravate existing heart and lung diseases and can damage lung tissue, especially in the elderly and children. The primary sources of PM<sub>2.5</sub> emissions include diesel-fueled vehicles, oil-fueled power plants, and many other industries and sources.

In terms of species composition, sulfur oxides and organic carbon are the most important PM species, especially during the summer months, while nitrogen trioxide is an important species during the winter months. Emissions control programs that target precursors of sulfur oxides, nitrates and organic carbon could further reduce PM<sub>2.5</sub> levels.

Concentrations of inhalable particulate matter, with diameters of 10 microns or less (PM<sub>10</sub>), also have decreased and are well below NAAQS concentrations.

<b>TABLE 9.1.11-1: AMBIENT AIR QUALITY MONITORING DATA<sup>11</sup></b>			
<b>Pollutant</b>	<b>Averaging Period</b>	<b>Maximum Concentration<sup>12</sup></b>	<b>Percent of NAAQS</b>
Carbon Monoxide <sup>13</sup> (CO)	1-Hour	1.1 PPM	3.1
	8-Hour	0.7 PPM	7.8
Lead <sup>14</sup> (Pb) <sup>15</sup>	3-Month	0.063 µg/m <sup>3</sup>	42.0
Nitrogen Dioxide <sup>14</sup> (NO <sub>2</sub> )	1-Hour	0.04PPM	40.0
	Annual	NM	NA
Ozone <sup>13</sup> (O <sub>3</sub> )	1-Hour	0.09 PPM	75.0
	8-Hour	0.073 PPM	97.3
Fine Particulates <sup>13</sup> (PM-2.5)	24-Hour	18.0 µg/m <sup>3</sup>	51.4
	Annual	7.0 µg/m <sup>3</sup>	50.7
Inhalable Particulates <sup>16</sup> (PM-10)	24-Hour	18.0 µg/m <sup>3</sup>	12.0
Sulfur Dioxide <sup>13</sup> (SO <sub>2</sub> )	1-Hour	0.009 PPM	12.0
	3-Hour	NM	NA
	24-Hour	0.003 PPM	2.1
	Annual	NM	NA

<sup>11</sup> From USEPA's "Air Quality Statistics Report" found at [http://www.epa.gov/airdata/ad\\_rep\\_con.html](http://www.epa.gov/airdata/ad_rep_con.html). Since air monitors are not located in the Schoharie County project area, these 2012 values are from Albany County sites, except as noted below.

<sup>12</sup> "PPM" = parts per million. "µg/m<sup>3</sup>" = micrograms per cubic meter. "NM" = not monitored in NY State. "NA" = not applicable.

<sup>13</sup> Site 360010012, Loudonville Reservoir, Albany, NY

<sup>14</sup> Site 360713001, Ball Corporation, Wallkill, Orange County, NY

<sup>15</sup> 3-month average monitoring values currently are not available. The tabulated value represents a maximum 24-hour value.

<sup>16</sup> Site 360337003, Hogansburg, Franklin County, NY



## **9.2 POTENTIAL IMPACTS OF THE PROPOSED PROJECT ON AIR QUALITY**

### **9.2.1 Compressor Station Construction**

Iroquois has prepared the following tables summarizing estimated potential emissions of construction-related air pollutants:

- 9.2.1-1 Combined Potential Construction Emissions
- 9.2.1-2 Potential Construction Vehicle Types, Quantities and Operating Periods
- 9.2.1-3 Potential Construction Vehicle Exhaust Emissions
- 9.2.1-4 Potential Construction Vehicle Fugitive Dust Emissions
- 9.2.1-5 Potential Surface Coating Emissions
- 9.2.1-6 Potential Abrasive Blasting Emissions

Iroquois will avoid potential air quality impacts due to burning any brush, slash or any materials generated from construction activities. In New York State, regulations at 6 NYCRR Part 215 prohibit burning in open fires of any garbage or rubbish generated by industrial activities including land clearing or demolition for the construction or modification of any pipeline.

Mitigation and reduction measures for each type and source of potential air pollutant emission are described in Section 9.3.1.

The tables do not represent continuing annual emissions from operating any permanent facilities. The tabulated air quality impacts represent only temporary potential emissions over the construction period.

Table 9.2.1-1 shows that the combined potential criteria air pollutant emissions over the construction period are very small.

Except for particulate matter (PM), potential construction emissions of all NAAQS pollutants are substantially less than one ton each over the limited construction period. The approximately five ton PM total will be mitigated effectively as described in this report such that PM emissions actually leaving the project site will be minimal. All of the representative background pollutant concentrations are small enough to allow potential construction impacts without exceeding air quality standards. Potential emissions of this type and quantity are considered “trivial” by New York State air pollution control regulations (NYCRR 201-3.3), and they are exempt from air permitting and pollution control requirements. Construction of the WIP will generate emissions from construction equipment and vehicles as well as worker passenger vehicles. The two tables associated with vehicle and equipment emissions tabulate potential emissions of various air pollutants from anticipated on-road and off-road construction and passenger vehicles.

Construction and passenger vehicle and equipment emissions were estimated by applying emission factors developed using the latest USEPA models (i.e. “Mobile6.2” and “Non-Road Version 2008” Models) to represent the construction location during the 2014 construction period, and assuming an average 2012 vehicle model year for the various vehicle types summarized in the following tables.

The modeled emission factors were then applied to the expected quantities and types of vehicles to be operated for the anticipated hours of operation each day, week, and month of construction.



**TABLE 9.2.1-1:  
COMBINED POTENTIAL CONSTRUCTION EMISSIONS**

	Tons of Potential Air Pollutant Emissions							
	VOC	PM10	PM2.5	CO	NO <sub>x</sub>	SO <sub>2</sub>	CO <sub>2</sub>	HAPs
Vehicle and Equipment Exhaust	0.012	0.009	0.009	0.055	0.133	0.0037	25.2	0.001
Vehicle and Equipment Fugitive Dust	0.0	5.088	0.6985	0.0	0.0	0.0	0	0.0
Surface Coating	0.004	0.0	0.0	0.0	0.0	0.0	0	0.14
Surface Preparation Abrasive Blasting	0.0	0.02	0.002	0.0	0.0	0.0	0	0.0
<b>Project Total</b>	0.02	5.1	0.7	0.1	0.1	0.004	25.2	0.1
<b>Percent of Major Source Threshold</b>	0.03%	5.11%	0.71%	0.05%	0.27%	0.00%	0.03%	0.57%



**TABLE 9.2.1-2:  
POTENTIAL CONSTRUCTION VEHICLE TYPES, QUANTITIES AND OPERATING PERIODS**

Vehicle and Equipment Type	Average Quantity Operating per Day	Hours per Day	Days per Week	Weeks In Use per Month	Months Used Jul-Sep	Months Used Oct-Dec	Months Used Jan-Mar	Sum of Hours
<b>Off-road Vehicles</b>								
Air Compressors	1	2	5	4	2.5	3	2.5	320
Backhoes/Tire Hoes	1	3	5	4	2.5	3	2.5	480
Bore/Drill Rigs	1	4	4	1	1	0	0	16
Cement & Mortar Mixers	1	4	2	2	2		0	32
Compactors	6	4	2	1	1	1	1	24
Concrete/Industrial Saws	1	1	1	1	1	1	0	2
Cranes/Booms	1	6	4	4	2.5	3	2.5	768
Crawler Tractor/Dozers								0
Crushing/Proc. Equipment								0
Dozers								0
Dumper/Tender Trucks	2	8	2	4	2	1	1	256
Excavators	1	4	2	4	2	1	1	128
Gas Compressors								0
Generator Sets	1	8	5	4	2.5	3	2.5	1,280
Graders	1	8	5	1	1	0	1	80
Hydro Power Units								0
Loaders								0
Off-Highway Tractors								0
Other Construction Equipment								0
Other Off-highway Trucks							1	0
Pavers	1	8	2	1		0	1	16
Paving Equipment	1	8	2	1		0		0
Pipe Side Booms							1	0
Pressure Washers	1	2	2	2	1	1	1	24
Pumps	2	8	5	4	1	1	0	320
Rollers	1	8	2	4	1	1		128
Rough Terrain Forklifts								0
Rubber Tire Loaders								0
Scrapers	1	8	5	1	1	0	1	80
Signal Boards/Light Plants								0
Skid Steer Loaders								0
Surfacing Equipment								0
Tampers/Rammers								0
Track Hoes								0
Trenchers								0
Welding Rigs	2	8	5	4	1	1	1	480
<b>On-Road Vehicles</b>								
Passenger Cars	15	0.2	5	4	2.5	3	2.5	32
Gasoline Pickup and Delivery Trucks	2	1	5	4	2.5	3	2.5	160
Float Truck								0
Lowboy Truck	1	1	3	4	2.5	1	1.5	60
Winch Truck								0
Diesel Pickup Trucks	3	4	5	4	2.5	3	2.5	640
<b>Total of All Vehicles</b>	47							5,326
<b>Total of Off-road Vehicles</b>	26							4,434
<b>Total of On-road Vehicles</b>	21							892



**TABLE 9.2.1-3:  
POTENTIAL CONSTRUCTION VEHICLE EXHAUST EMISSIONS**

Vehicle and Equipment Type	Tons							
	VOC	PM10	PM2.5	CO	NOx	SO2	CO2	HAPs
Air Compressors	3.7E-4	3.3E-4	3.2E-4	1.6E-3	5.0E-3	1.6E-4	8.0E-1	4.4E-5
Backhoes/Tire Hoes	8.4E-4	7.1E-4	6.9E-4	3.9E-3	5.5E-3	1.6E-4	8.1E-1	1.0E-4
Bore/Drill Rigs	6.8E-5	5.1E-5	4.9E-5	2.8E-4	9.4E-4	1.9E-5	9.3E-2	8.2E-6
Cement & Mortar Mixers	2.8E-5	2.2E-5	2.1E-5	1.2E-4	3.6E-4	8.6E-6	4.3E-2	3.3E-6
Compactors	3.0E-5	2.2E-5	2.1E-5	1.6E-4	2.5E-4	6.7E-6	3.1E-2	3.6E-6
Concrete/Industrial Saws	2.0E-6	2.3E-6	2.2E-6	1.2E-5	2.4E-5	8.3E-7	4.3E-3	2.4E-7
Cranes/Booms	4.1E-3	3.3E-3	3.2E-3	1.6E-2	6.3E-2	1.7E-3	8.5E+0	4.9E-4
Crawler Tractor/Dozers	0.0E+0							
Crushing/Proc. Equipment	0.0E+0							
Dozers	0.0E+0							
Dumper/Tender Trucks	4.9E-4	3.6E-4	3.5E-4	2.2E-3	2.3E-3	5.9E-5	2.9E-1	5.8E-5
Excavators	1.4E-3	1.3E-3	1.3E-3	7.3E-3	2.1E-2	6.1E-4	3.3E+0	1.7E-4
Gas Compressors	0.0E+0							
Generator Sets	6.9E-4	5.5E-4	5.4E-4	2.9E-3	8.0E-3	2.0E-4	9.9E-1	8.3E-5
Graders	2.4E-4	3.0E-4	2.9E-4	1.7E-3	3.3E-3	1.4E-4	7.5E-1	2.9E-5
Hydro Power Units	0.0E+0							
Loaders	0.0E+0							
Off-Highway Tractors	0.0E+0							
Other Construction Equipment	0.0E+0							
Other Off-highway Trucks	0.0E+0							
Pavers	2.8E-5	3.4E-5	3.3E-5	1.7E-4	3.8E-4	1.5E-5	7.8E-2	3.4E-6
Paving Equipment	0.0E+0							
Pipe Side Booms	0.0E+0							
Pressure Washers	1.1E-5	8.1E-6	7.8E-6	4.9E-5	1.4E-4	3.4E-6	1.7E-2	1.4E-6
Pumps	3.8E-4	3.1E-4	3.0E-4	1.6E-3	4.4E-3	1.1E-4	5.5E-1	4.5E-5
Rollers	1.7E-4	2.0E-4	1.9E-4	1.1E-3	2.3E-3	8.5E-5	4.4E-1	2.1E-5
Rough Terrain Forklifts	0.0E+0							
Rubber Tire Loaders	0.0E+0							
Scrapers	5.1E-4	5.5E-4	5.3E-4	3.1E-3	7.4E-3	2.5E-4	1.3E+0	6.1E-5
Signal Boards/Light Plants	0.0E+0							
Skid Steer Loaders	0.0E+0							
Surfacing Equipment	0.0E+0							
Tampers/Rammers	0.0E+0							
Track Hoes	0.0E+0							
Trenchers	0.0E+0							
Welding Rigs	1.3E-3	9.7E-4	9.4E-4	6.4E-3	7.5E-3	2.0E-4	9.9E-1	1.6E-4
<b>Subtotal Off-road Equipment</b>	<b>1.1E-2</b>	<b>9.1E-3</b>	<b>8.8E-3</b>	<b>4.9E-2</b>	<b>1.3E-1</b>	<b>3.7E-3</b>	<b>1.9E+1</b>	<b>1.3E-3</b>
<b>Onroad Construction Vehicle Types</b>								
Passenger Cars	2.4E-5	5.2E-6	5.0E-6	1.4E-3	5.4E-5	8.3E-6	4.5E-1	2.8E-6
Gasoline Pickup and Delivery Trucks	2.7E-5	4.4E-6	4.3E-6	1.5E-3	4.3E-5	9.3E-6	5.1E-1	3.1E-6
Float Truck	0.0E+0							
Lowboy Truck	8.8E-5	4.6E-6	4.5E-6	8.9E-5	1.1E-4	3.0E-6	3.2E-1	1.2E-5
Winch Truck	0.0E+0							
Diesel Pickup Trucks	8.7E-4	7.6E-5	7.4E-5	3.4E-3	9.5E-4	4.6E-5	4.9E+0	7.2E-5
<b>Subtotal On-road Vehicles</b>	<b>1.0E-3</b>	<b>9.1E-5</b>	<b>8.8E-5</b>	<b>6.3E-3</b>	<b>1.2E-3</b>	<b>6.7E-5</b>	<b>6.2E+0</b>	<b>9.0E-5</b>
<b>Combined Total</b>	<b>0.012</b>	<b>0.0092</b>	<b>0.0089</b>	<b>0.055</b>	<b>0.133</b>	<b>0.0037</b>	<b>25</b>	<b>0.0014</b>



Fugitive dust emissions may be generated from excavation and vehicle traffic on unpaved or disturbed access and construction land surfaces. Potential fugitive dust emissions documented in Table 9.2.1-4 were estimated using guidance from USEPA's "AP-42", 5<sup>th</sup> Edition, Volume 1, Chapter 13, Section 13.2.3, recommended emission factors for construction operations, and AP-42 Table 13.2-1, for paved roads. The assumptions underlying the calculations are shown. It is significant to note that the USEPA method for estimating fugitive emissions in Table 9.2.1-4 does not consider the mitigating effects of dust monitoring and control planned by Iroquois for the WIP. Actual dust emissions are expected to be significantly less than the potential emissions represented in the table.

Potential surface coating emissions documented in Table 9.2.1-5 were developed conservatively by assuming that 100 percent of all volatile organic compound and hazardous air pollutants would be emitted to the atmosphere.

Potential abrasive blasting emissions documented in Table 9.2.1-6 were estimated using guidance from the USEPA's AP-42, 5<sup>th</sup> Edition, Volume 1, Chapter 13, Section 13.2.6, recommended emission factors for abrasive blasting.



**TABLE 9.2.1-4:  
POTENTIAL CONSTRUCTION VEHICLE FUGITIVE DUST EMISSIONS (UNCONTROLLED)**

<b>TABLE 9.2.1-4: POTENTIAL CONSTRUCTION VEHICLE FUGITIVE DUST EMISSIONS (UNCONTROLLED)</b>							
<b>Assumptions</b>							
	Soil Moisture		7.90%				
	Soil Silt		8.50%				
	Average Heavy Construction Vehicle Miles per Hour		5				
	Average Other Vehicle Miles per Hour on site		20				
	Hours per Day		8				
	Average Heavy Construction Vehicle Weight (tons)		150				
	Tons of Soil per Scraper Load		50				
	Tons of Soil per Dump Truck Load		100				
				<b>Fugitive Dust Pounds per Hour</b>			
<b>Site Preparation</b>				<b>TSP 30</b>	<b>TSP 15</b>	<b>PM1 0</b>	<b>PM2.5</b>
	Dozers			8.02	0.87	0.65	0.84
	Graders			0.00	0.00	0.00	0.00
	Scrapers	Removing Topsoil		101.00	101.00	60.60	3.13
	Scrapers	In Travel		4.46	NA	0.51	0.08
	Scrapers	Unloading Topsoil		2.00	0.22	0.13	0.06
	Dumper/Tender Trucks			4.46	NA	0.51	0.08
	Compactors			0.00	0.00	0.00	0.00



<b>TABLE 9.2.1-4: POTENTIAL CONSTRUCTION VEHICLE FUGITIVE DUST EMISSIONS (UNCONTROLLED)</b>							
<b>General Construction</b>							
	Total non-Site Prep Vehicles (Other Vehicles)			17.82	NA	2.03	0.31
				<b>Fugitive Dust Tons</b>			
<b>Site Preparation</b>			<b>Hours/ Year</b>	<b>TSP 30</b>	<b>TSP 15</b>	<b>PM10</b>	<b>PM2.5</b>
	Dozers		0	0.0E+0	0.0E+0	0.0E+0	0.0E+0
	Graders		80	1.7E-5	7.4E-5	4.4E-5	5.2E-7
	Scrapers	Removing Topsoil 1/3 of Hours	26.7	1.3E+0	1.3E+0	8.1E-1	4.2E-2
	Scrapers	In Travel 1/3 of Hours	26.7	5.9E-2	0.0E+0	6.8E-3	1.0E-3
	Scrapers	Unloading Topsoil 1/3 of Hours	26.7	2.7E-2	2.9E-3	1.7E-3	8.3E-4
	Dumper/Tender Trucks		256	5.7E-1	0.0E+0	6.5E-2	9.9E-3
	Compactors		24	5.1E-6	2.2E-5	1.3E-5	1.6E-7
<b>General Construction</b>							
	Total non-Site Prep Vehicles (Other Vehicles)		4150	3.7E+1	0.0E+0	4.2E+0	6.4E-1
<b>Total Fugitive Dust Tons</b>				<b>3.9E+1</b>	<b>1.3E+0</b>	<b>5.1E+0</b>	<b>7.0E-1</b>



<b>TABLE 9.2.1-5: POTENTIAL SURFACE COATING EMISSIONS</b>		
Coating Product	Denso Protal 7125	
# Welds	100	
Cans per Weld	1	
Liters per Can	2	
Pounds per Can	4	
Total Pounds of Product	400	
	<b>Pounds</b>	<b>Tons</b>
<b>Combined Potential Emissions</b>	291	0.15
HAPs	284	0.14
VOCs	7	0.004
<b>HAP Breakdown</b>	<b>Pounds</b>	
Styrene	120	
n,n diethylaniline	4	
dibutylphthalate	160	



**TABLE 9.2.1-6:  
 POTENTIAL ABRASIVE BLASTING EMISSIONS**

		Emission Factors Lb per 1000 Lbs of Abrasive						
		TSP	PM10	PM2.5	HAPs		TSP #/1000#	
Blasting Media (Y/N)						Wind Speed		
Sand?	n	NA	NA	NA		5	27	
Metallic Shot?	n	NA	NA	NA		10	55	
Metallic Grit?	y	13.22	3.12	0.31		10.01	55.08	
Other?	n					15	91	
Wind Speed (5, 10, 15 MPH)	10.01							
Amount of blasting media (pounds)	10,000							
<b>Tons of PM Emissions</b>		<b>0.07</b>	<b>0.02</b>	<b>0.002</b>	<b>0.00</b>			
Blasting Methods (Y/N)								
Air pressure?	y							
Centrifugal wheel?	n							
Water pressure?	n							
Control Methods (Y/N)								
Enclosures?	n							
Vacuum blaster?	n							
Drapes?	n							
Wet Blasting?	n							
Reclaim system?	n							
Target Surface								
Existing	n							
New	y							



**TABLE 9.2.1-6:  
POTENTIAL ABRASIVE BLASTING EMISSIONS**

<b>Albany, NY Average Wind Speeds</b>	<b>M/S</b>	<b>MPH</b>						
January	4.82	10.78						
February	4.91	10.98						
March	5.16	11.54						
April	5.08	11.36						
May	4.44	9.93						
June	4.15	9.28						
July	3.88	8.68						
August	3.80	8.50						
September	3.94	8.81						
October	4.19	9.37						
November	4.61	10.31						
December	4.74	10.60						
Average for Construction Season	4.48	10.01						



Blasting is not anticipated at this time. However, if blasting were required, it is not known what the extent of blasting might be. Therefore, it is not possible to predict or quantify potential particulate matter emissions due to rock blasting. The USEPA provides guidance methods for estimating most types of air pollutant emissions and USEPA provides a method for estimating blasting emissions for Western surface coalmines. USEPA recommends, however, that this method should not be used for estimating emissions from other types of blasting activities due to the dissimilarities of blasting techniques, materials blasted and the size of blasting areas. The USEPA has not developed methods for estimating emissions from other rock blasting activities, including pipeline or other construction blasting, due to the lack of available, reliable, and representative test data.

### **9.2.2 Compressor Station Operation**

Operation of the WIP will result in emission to the atmosphere of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), particulate matter (PM) and small amounts of sulfur dioxide (SO<sub>2</sub>), volatile organic compounds (VOC), greenhouse gases (GHG) as carbon dioxide (CO<sub>2</sub>) and hazardous air pollutants (HAP). Potential air pollutant emissions are based on manufacturer data, from emission factors obtained from USEPA's Compilation of Air Pollutant Emission Factors and from engineering mass balance calculations.

One of the three most significant air pollutants is NO<sub>x</sub>, which is formed in the high-temperature, high-pressure, and excess air environment found in natural gas-fired combustion turbines. The term NO<sub>x</sub> is used to represent the composite atmospheric concentration of the numerous forms of nitrogen oxides. Of those forms, nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>) are the most significant air contaminants. NO is the primary form produced by combustion. Under normal operating conditions, the presence of NO<sub>2</sub> is minimal in the exhaust gases. However, after NO is exhausted to the atmosphere, it is oxidized to NO<sub>2</sub> as it disperses downwind of the stack in the presence of lower temperatures and an abundance of oxygen.

A significant amount of CO and PM also would potentially be emitted. Gas turbine CO and PM emissions are usually a result of incomplete combustion, when there is insufficient residence time at high temperature to complete hydrocarbon oxidation.

Much smaller amounts of VOC would be emitted. VOC emissions also are the result of incomplete combustion. SO<sub>2</sub> emissions are proportional to the sulfur content of the natural gas fuel, and are, consequently, very small.

As shown in Table 9.1.11-1, a conservative representation of the existing one-hour average NO<sub>2</sub> concentration in the project area is approximately 0.04 parts per million (PPM), or about 40 percent of the NAAQS. There are no active ambient air monitors for NO<sub>2</sub> near the Town of Wright. The ambient air monitor referenced for this report represents a location more than 150 miles south of the project area, in an area where air quality is expected to be worse than the more rural project area<sup>1</sup>. A more representative air quality monitor may be selected, with the assistance and approval of New York State air pollution control officials, for use modeling potential project air quality impacts. The conservative preliminary background concentration appears to be small enough to allow project impacts without exceeding

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<sup>1</sup> This monitor is located on the Ball Corporation metal beverage container manufacturing site in Wallkill, NY.



NAAQS. Impacts from the proposed station will be documented, in an air quality dispersion modeling analysis, to be sufficiently small to demonstrate compliance with all NAAQS and PSD increments. Modeled ambient air quality impact estimates will be submitted to, and must be reviewed and approved by, NYSDEC prior to its issuance of the required air permit.

Dispersion modeling will be conducted using USEPA models in accordance with USEPA and NYSDEC modeling recommendations and guidance. Performance and emissions data representative of the proposed turbines indicate that the 10,875 horsepower (nominal) units will have the key parameters summarized in Table 9.2.2-1. Table 9.2.2-2 tabulates potential emissions of the proposed turbines in combination with emissions from the existing turbines and from existing and proposed auxiliary fuel-burning equipment. Combined station potential emissions are compared with major source thresholds for each pollutant. No potential emissions due to the proposed facilities exceed major source thresholds. Potential emissions of the proposed natural gas combustion turbines are based on incorporating SoLoNO<sub>x</sub> (i.e., dry low NO<sub>x</sub> or lean pre-mix) combustors in continuous service at maximum load conditions, and at a worst case annual average ambient temperature of zero degrees Fahrenheit. Similarly, all other fuel-burning equipment, except for the auxiliary power units, is assumed to operate at full load for 24 hours per day and 365 days per year. The auxiliary power units will be restricted to operating only during periodic testing and maintenance or when purchased electrical power is interrupted. Potential auxiliary power unit emissions represent operations at full load for no more than 500 hours per year each.

**TABLE 9.2.2-1:  
PROPOSED TURBINES – SUMMARY OF KEY PARAMETERS<sup>1</sup>**

<b>Turbine Make and Model</b>	<b>Horsepower (ISO)</b>	<b>NO<sub>x</sub> Emissions (Grams/HP-HR)</b>	<b>CO Emissions (Grams/HP-HR)</b>	<b>NO<sub>x</sub> Tons per Year</b>	<b>CO Tons per Year</b>	<b>Annual Hours of Operation</b>
Solar Turbines Model Taurus 70 <sup>2</sup>	10,900 (Nominal)	0.21	0.21	20.8	21.1	8,760

<sup>1</sup> Potential emissions values represent worst case conditions at 100 percent load and zero degrees Fahrenheit ambient temperature, not ISO standard conditions. Annual emissions at ISO standard conditions would be about one percent less than worst case maximum potential emissions.

<sup>2</sup> These values are for each turbine; not combined for both turbines. These are natural gas-fueled simple-cycle dry low NO<sub>x</sub> combustion turbines.



**TABLE 9.2.2-2:  
COMBINED STATION POTENTIAL AIR POLLUTANT EMISSIONS – EXISTING AND PROPOSED FACILITIES**

	NOx	CO	VOC	PM	SO2	CO2e	Sum of HAPs
2 Existing Solar Taurus 60 Turbines	51.6	62.8	0.9	9.3	0.02	66,478	0.269
2 Proposed Solar Taurus 70 Turbines	41.5	42.1	1.2	12.4	0.02	89,257	0.361
Existing emergency generator	0.5	0.3	0.1	0.04	0.0005	99.8	1.511
Proposed emergency generator	1.4	2.8	0.7	0.03	0.0004	375.3	5.681
Existing compressor building heat water/glycol boiler	2.1	0.9	0.1	0.2	0.0132	2,608	0.214
Existing office forced air furnace	0.02	0.01	0.001	0.002	0.0002	31.3	0.003
Existing control room forced air furnace	0.03	0.01	0.002	0.003	0.0002	41.7	0.003
2 existing compressor dry gas seals leakage	NA	NA	2.6	NA	NA	66.0	0.000
2 proposed compressor dry gas seals leakage	NA	NA	2.6	NA	NA	66.0	0.000
Existing domestic water heater	0.02	0.007	0.001	0.001	0.0001	20.9	0.003
Existing 4 control building unit space heaters	0.10	0.042	0.006	0.008	0.0006	125.2	0.010
Existing facilities	54.2	64.0	3.8	9.5	0.0	69,304	2.0
<b>Proposed Facilities</b>	<b>42.9</b>	<b>44.9</b>	<b>4.5</b>	<b>12.5</b>	<b>0.0</b>	<b>89,698</b>	<b>6.0</b>
Combined Total	97.1	109.0	8.3	22.0	0.06	159,044	8.0
<b>"Major" Thresholds TPY</b>	<b>100</b>	<b>250</b>	<b>50</b>	<b>250</b>	<b>250</b>	<b>100,000</b>	<b>25</b>
<b>Proposed Facilities % of Major Threshold</b>	<b>43%</b>	<b>18%</b>	<b>9%</b>	<b>5%</b>	<b>0%</b>	<b>90%</b>	<b>24%</b>



The proposed turbine exhaust stacks and gases would have the following preliminary annual average design characteristics:

Stack height	=	56.3 ft (17.2 m)
Stack area	=	28.3 ft <sup>2</sup> (2.63 m <sup>2</sup> )
Exit velocity	=	79 ft/sec (24.1 m/sec)
Exit temperature	=	940°F (777 °K)

Iroquois will apply to the NYSDEC for a State Facility Permit to construct and operate the proposed turbines at the Constitution Transfer Compressor Station. After start-up of the proposed turbines, the Wright Station would become a major source of greenhouse gas emissions. Therefore, a major source Title V application and permit would be required at that time. If it is determined to be acceptable and time-effective for Iroquois and the NYSDEC, Iroquois may elect to apply for a major Title V permit prior to construction. However, the proposed turbines will still be permitted and regulated as minor sources and minor modifications with regard to emission controls and other requirements. Iroquois and NYSDEC discussed this and other issues at a pre-application meeting on January 18, 2013. After start-up of the proposed turbines, Iroquois will be regulated as a major greenhouse gas source for any future modifications, though none are anticipated at this time.

In preparation for submitting its air permit applications, Iroquois will perform an air emissions dispersion modeling analysis of the proposed facilities' potential impacts on air quality. An ambient air quality impact analysis will be performed in accordance with USEPA and NYSDEC guidance provided in USEPA's latest "Guideline on Air Quality Models" and NYSDEC's "Guidelines on Dispersion Modeling Procedures for Air Quality Impact Analysis". The ambient air quality impact analysis will be performed using air pollutant dispersion models approved by the USEPA and NYSDEC, which are appropriate to the proposed installation and surrounding terrain. The analysis will represent flue gas characteristics of the proposed turbines over a comprehensive and conservative range of possible ambient temperatures between zero and 100 degrees Fahrenheit, and turbine load conditions between 50 and 100 percent of the maximum power rating. Building and station design parameters will be modeled. The purpose of the analysis will be to evaluate the proposal by estimating the maximum ambient air concentrations of nitrogen dioxide (NO<sub>2</sub>), particulate matter (PM), sulfur dioxide (SO<sub>2</sub>), and carbon monoxide (CO). Maximum ambient air quality impacts will be compared with USEPA Significant Impact Levels (SILs).

For each potential air pollutant whose modeled impacts are greater than SILs, the combined concentrations of the modeled facility impacts plus background concentrations and possible contributions from off-site major sources within the significant impact area will be evaluated. This is referred to as "cumulative impact analysis", and will be discussed in advance with the NYSDEC and described in greater detail in the air quality dispersion modeling analysis supporting Iroquois' air permit application.

## **9.3 MEASURES TO MITIGATE POTENTIAL AIR QUALITY IMPACTS**

### **9.3.1 Compressor Station Construction**

As described above, construction would generate potential air pollutant emissions of particulate matter, nitrogen oxides, carbon monoxide, volatile organic compounds, sulfur dioxide, greenhouse gases and



hazardous air pollutants. These impacts 1) would be temporary and of limited duration, 2) would occur only as a result of construction activities, and 3) would not significantly increase ambient air pollutant concentrations. Potential impacts would be mitigated and minimized as described below.

Exhaust emissions from diesel- and gasoline-fueled construction equipment and vehicle engines will be minimized by federal design standards imposed at the time of manufacture of the vehicles and will comply with USEPA mobile emission regulations (40 CFR Part 85). Emissions also would be controlled by purchasing commercial gasoline and diesel fuel products whose specifications are controlled by state and federal air pollution control regulations applicable to fuel suppliers and distributors.

Fugitive dust emissions may be generated from excavation and vehicle traffic on unpaved or disturbed access and construction land surfaces. Iroquois' inspectors are instructed to monitor and determine when dust suppression techniques may be required, and will direct the construction contractor to implement mitigating controls when necessary. These typically would involve the application of water and/or lime in accordance with applicable regulations, and with consideration of any affected wetlands or water bodies.

Potential surface coating and abrasive blasting emissions will be minimized by purchasing and installing most piping and structural components that have been prepared and coated in off-site shops prior to shipment to the construction site. Onsite surface preparation and coating activities generally will be limited to surfaces where pre-coated components are joined together. Surface coating products in New York State will comply with the NYSDEC's regulations for the Prevention and Control of Air Contamination and Air Pollution, Part 205, "Architectural and Industrial Maintenance Coatings". These regulations limit the amount of volatile and hazardous constituents in surface coating products.

Metal grit surface preparation blasting media will be used to reduce particulate matter emissions substantially as compared with potential emissions using typical sand blasting media.

Any substantial rock encountered during excavation activities will be removed using one of several techniques, possibly including rock blasting. If used, blasting charges would be kept to the minimum required to break up the rock. Mats made of heavy steel mesh or other materials would be effective in minimizing scattering of rock and particulate matter and would be used as necessary.

Contractors and employees will be encouraged to minimize vehicle and equipment idling time to the extent practical during construction activities.

Iroquois will avoid potential air emission impacts due to burning any brush, slash or any materials generated from construction activities by complying with the regulatory prohibitions in New York State regulations at 6 NYCRR Part 215. There will be no open burning of material generated from construction. Merchantable timber may be limbed, cut and removed from the affected area. Timber that is not merchantable and other vegetative debris may be chipped or disposed of according to applicable regulations. Stumps and other timber considered to be non-merchantable will be properly disposed. Disposal of materials taken off-site will be done at commercial facilities or at other locations approved by FERC.



### **9.3.2 Compressor Station Operation**

The proposed turbine emissions control technology involves dry low NO<sub>x</sub> (lean pre-mixed or “SoLoNO<sub>x</sub>”) combustion. The proposed Solar Turbines, Incorporated (Solar) Taurus 70 SoLoNO<sub>x</sub> turbines are guaranteed to emit no more than 15 PPM of NO<sub>x</sub> and VOC, and 25 PPM of CO. Solar’s Product Information Letter 171 recommends a PM emission factor of 0.018 pounds per million BTUs of fuel heat input. As described above, although BACT is not required for the proposed turbines by NYSDEC regulations, these pollutant emission concentrations and rates are as stringent as pertinent and applicable BACT precedents nationwide. With the proposed low NO<sub>x</sub> turbine combustors, these emission levels are achieved with normal engine maintenance and operation according to the manufacturer’s recommendations while consuming only pipeline quality natural gas fuel.

In addition to emitting NO<sub>x</sub>, CO and PM at concentrations equivalent to BACT, Iroquois’ analysis of potential impacts to ambient air quality will be based on meteorological data, protocols, and models, which will have the approval of the NYSDEC. The results of Iroquois’ air quality analysis must document that the proposed project would neither cause nor contribute to violations of air quality standards, nor consume more than the emissions increments allowed for new or modified sources.

Turbine performance testing following initial start-up, and at least biennially thereafter, according to federal turbine standards, will provide further monitoring that permit emission limits are satisfied, and that modeling parameters represent the actual installations and operations.

## **9.4 NOISE QUALITY**

### **9.4.1 Noise Regulations**

The sound emissions produced by the gas compressor station are subject to the requirements of FERC. The applicable FERC noise standard, which is found at 18 CFR Section 380.12(k)(4)(v), provides limits to the sound levels produced by any new gas compressor station. Specifically, Section 380.12(k)(4)(v)(A) states that the sound emissions attributable to any new gas compressor station, compression added to an existing station, or any modification, upgrade or update of an existing station, must not exceed a day-night sound level (L<sub>dn</sub>) of 55 dB(A) at any pre-existing noise-sensitive area (NSA) including schools, residences, and hospitals. Because the sound emissions due to the compressor station are steady and continuous, the FERC noise requirement effectively limits the compressor station sound emissions to a continuous hourly L<sub>eq</sub> sound level of 49 dB(A) at the nearest NSA, a distance of approximately 960 feet from the nearest turbine/compressor building. In addition, Section 380.12(k)(4)(v)(B) states that new compressor stations or modifications of existing stations shall not result in a perceptible increase in vibration at any NSA.

Iroquois has determined that there are no applicable state, county, or local noise ordinances or requirements applicable to the Project’s construction or operation.

### **9.4.2 Existing Wright Compressor Station Baseline**

Iroquois proposes to install a new transfer compressor station adjacent to an existing compressor station in Wright, New York. This analysis estimates the sound levels for the two new turbines and compressors and other associated equipment at the nearest property lines and NSAs. The projected sound levels resulting from the compressor station operation are compared with the applicable federal noise



requirement and the results of the recent sound level survey describing the existing acoustical environment.

#### **9.4.2.1 Noise Sensitive Areas and Site Sound Level Survey**

The Wright Compressor Station is located at 320 Westfall Road, in the Town of Wright, New York. The new Constitution Transfer Compressor Station, which will be adjacent to the existing Wright Compressor Station, will include two gas turbine/compressor units, a control building, gas coolers, and other associated equipment. Each gas turbine/compressor unit will be located in a separate building, towards the east of the existing compressor buildings. The gas coolers will be located to the south of the turbine/compressor buildings. The existing Iroquois metering facility for delivery to TGP is located southwest of the compressor station including above grade piping and a metering building.

Sound levels due to the existing Wright Compressor Station equipment were evaluated at the nearest NSAs with respect to the limits of the FERC noise regulation. Six residences within approximately a one-half mile radius of the station were selected as NSAs. A description of each NSA and the distance between the source location and receiver location is summarized in Table 9.4.2.1-1, below.

<b>TABLE 9.4.2.1-1 SUMMARY OF RESIDENTIAL NOISE-SENSITIVE AREAS (NSAS) IN THE VICINITY OF THE WRIGHT COMPRESSOR STATION SITE AND THEIR APPROXIMATE DISTANCES TO THE COMPRESSOR/TURBINE BUILDINGS, IGTS WRIGHT COMPRESSOR STATION, WRIGHT, NEW YORK.</b>			
<b>NSA Identifier</b>	<b>Residential Address</b>	<b>Direction Relative to Site</b>	<b>Approximate Distance to Nearest Gas Turbine (feet)</b>
4	Residence at 355 Westfall Road	Northeast	960
5	Residence at 249 Westfall Road	Northwest	2100
6	Residence at 262 Kump Road	South	2600
7	Residence at 404 Westfall Road	East	1750
8	Residence at 308 Kump Road	Southwest	2650
9	Residence at 303 Larry Hill Road	Southeast	3010

On 16 and 17 January 2013, Lewis S. Goodfriend & Associates (“LSG&A”), visited the Wright Compressor Station in order to perform sound pressure level measurements on the site and in the surrounding community. The acoustical survey included 24-hour sound level monitoring at three locations at the perimeter of the Wright Compressor Station, and short duration, daytime and nighttime measurements at the three perimeter locations and six additional locations in the nearby community.



These measurements were made in order to document the existing day-night sound levels ( $L_{dn}$ )<sup>1</sup> and the hourly equivalent sound levels ( $L_{eq}$ )<sup>2</sup>, with the compressor station operating at 100% capacity. The measured data from the 24-hour sound level monitors on the Wright Compressor Station site were used to calculate the compressor station's sound levels at the nearest NSAs for comparison with the FERC noise regulation.

Nine sound level measurement locations were selected in order to adequately characterize the acoustical environment on the site and in various directions from the site at the nearest NSAs. Three measurement locations were selected on the compressor station site for 24-hour acoustical monitoring. Six additional locations in the surrounding community were selected at which to perform short duration sound level measurements during daytime and nighttime hours. The approximate measurement locations are shown in Figure 1, in Appendix O.

All acoustical measurements were performed using equipment and procedures which conform to the relevant standards for acoustical measurements and equipment. Where possible, the sound level measurement locations were selected at an NSA or site property line. Since it was not feasible to access certain locations or private property, the measurement locations sometimes deviate from their nearest respective NSA or property line. Measurement location numbers therefore include the letter A to distinguish them from the NSAs that they represent. Table 9.4.2.1-3 shows a summary of the measurement locations selected and the NSA or property line represented, including the approximate distance and direction from the locations selected to the nearest compressor/turbine building. Additional descriptions of the measurement procedures, equipment and data analysis are provided in Appendix O.

#### **9.4.2.1.1 Results**

##### **24-Hour Monitoring**

Table 9.4.2.1.2, below, shows a summary of measured hourly  $L_{eq}$  and  $L_{90}$  statistical A-weighted sound levels at Locations 1A, 2A, and 3A. The  $L_{90}$  sound levels represent the continuous sound present in the area and do not include the effects of transient noise sources, such as aircraft over-flights and infrequent vehicle pass-bys. Because the sound levels produced by the existing compressor station are generally continuous, and because Locations 1A, 2A, and 3A are relatively close in proximity to the compressor station equipment, the measured  $L_{90}$  sound pressure levels are the most accurate statistical level representing the sound produced by the facility equipment. The data in Table 9.4.2.2-1 are also summarized in graphical format in Figures 2, 3, and 4 in Appendix O.

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<sup>1</sup> The Day-Night Sound Level ( $L_{dn}$ ) is the equivalent sound level computed from the hourly A-Weighted sound levels measured over a 24-hour period, with a 10 dB(A) penalty for sound contributions occurring between the hours of 10:00 P.M. and 7:00 A.M.

<sup>2</sup> The  $L_{eq}$  is the steady state sound pressure level which is equivalent to the energy contained in the time varying sound level measured and represents the median sound pressure level during the measurement period.



<b>TABLE 9.4.2.1-2</b>								
<b>MEASURED HOURLY A-WEIGHTED <math>L_{E0}</math> AND <math>L_{90}</math> SOUND LEVELS OVER A 24-HOUR PERIOD ON THE WRIGHT COMPRESSOR STATION PROPERTY, IGTS, WRIGHT, NEW YORK, 16-17 JANUARY 2013.</b>								
<b>Date &amp; Time</b>		<b>Measured Hourly A-Weighted Sound Levels</b>						
		<b>Location 1A, Northeast of Turbines</b>		<b>Location 2A, Southeast of Turbines</b>		<b>Location 3A West of Turbines</b>		
		<b><math>L_{eq}</math></b>	<b><math>L_{90}</math></b>	<b><math>L_{eq}</math></b>	<b><math>L_{90}</math></b>	<b><math>L_{eq}</math></b>	<b><math>L_{90}</math></b>	
<b>Daytime</b>	16 January 2013	17:00	45	35	49	47	59	58
		18:00	39	34	48	47	59	58
		19:00	40	35	50	47	59	58
		20:00	41	39	55	53	58	58
		21:00	42	39	54	50	58	58
<b>Nighttime</b>	16-17 January 2013	22:00	41	40	52	50	58	57
		23:00	41	40	52	49	57	56
		0:00	40	38	50	48	54	53
		1:00	40	38	50	49	52	51
		2:00	40	38	50	49	52	51
		3:00	41	39	51	50	53	52
		4:00	40	38	49	47	55	54
		5:00	41	39	52	50	56	55
		6:00	43	41	53	51	57	56
<b>Daytime</b>	17 January 2013	7:00	45	41	53	51	58	57
		8:00	45	41	53	51	58	57
		9:00	46	41	55	52	58	57
		10:00	45	40	57	53	59	57
		11:00	48	40	58	55	59	58
		12:00	45	40	57	54	58	57
		13:00	45	40	57	54	59	58
		14:00	45	37	56	54	58	56
		15:00	44	37	56	53	57	55
	16:00	43	36	54	52	57	56	

\*Time represents beginning of logged hour.



### Short Duration Measurements

The results of the short duration (10 minute) measurements performed at the three 24-hour monitoring locations and six NSA locations are summarized below in Table 9.4.2.1-3. The short duration measurement data, acquired during the 24-hour monitoring period between 16 and 17 January 2013, provide a snapshot of the daytime and nighttime sound levels in the community near the Wright Compressor Station.

<b>TABLE 9.4.2.1-3 MEASURED 10 MINUTE A-WEIGHTED <math>L_{EQ}</math> AND <math>L_{90}</math> SOUND LEVELS AT NSAS NEAR THE WRIGHT COMPRESSOR STATION, IGTS, WRIGHT, NEW YORK, 17 JANUARY 2013.</b>			
<b>Measurement Location &amp; Description</b>	<b>Date and Measurement Start Time</b>	<b><math>L_{eq}</math> Sound Level, dB(A)</b>	<b><math>L_{90}</math> Sound Level, dB(A)</b>
<b>1A</b> Northeast of Turbines	1/17/13, <b>Daytime</b> – 11:42 A.M.	51	40
	1/17/13, <b>Nighttime</b> – 12:16 A.M.	40	38
<b>2A</b> Southeast of Turbines	1/17/13, <b>Daytime</b> – 12:21 P.M.	56	51
	1/17/13, <b>Nighttime</b> – 12:38 A.M.	48	46
<b>3A</b> West of Turbines	1/17/13, <b>Daytime</b> – 12:36 P.M.	58	56
	1/17/13, <b>Nighttime</b> – 12:55 A.M.	53	52
<b>4A</b> 355 Westfall Road	1/17/13, <b>Daytime</b> – 11:58 A.M.	54	41
	1/17/13, <b>Nighttime</b> – 1:15 A.M.	41	39
<b>5A</b> 249 Westfall Road	1/17/13, <b>Daytime</b> – 2:54 P.M.	55	36
	1/17/13, <b>Nighttime</b> – 2:41 A.M.	37	30
<b>6A</b> 262 Kump Road	1/17/13, <b>Daytime</b> – 2:16 P.M.	48	40
	1/17/13, <b>Nighttime</b> – 1:55 A.M.	38	32
<b>7A</b> 404 Westfall Road	1/17/13, <b>Daytime</b> – 1:47 P.M.	58	35
	1/17/13, <b>Nighttime</b> – 2:24 A.M.	32	29
<b>8A</b> 308 Kump Road	1/17/13, <b>Daytime</b> – 2:28 P.M.	43	36
	1/17/13, <b>Nighttime</b> – 2:08 A.M.	36	31
<b>9A</b> 303 Larry Hill Road	1/17/13, <b>Daytime</b> – 2:02 P.M.	54	36
	1/17/13, <b>Nighttime</b> – 1:37 A.M.	35	29

#### **9.4.2.2 Calculation of Sound Levels at Noise Sensitive Areas**

The measured sound level data from the 24-hour monitors are not directly comparable to the FERC requirements, but can be used to calculate the day-night sound levels, ( $L_{dn}$ ), at the NSAs due only to the compressor station equipment. Because most of the compressor station sound is produced at the



turbine/compressor buildings and gas coolers, computations for geometrical spreading can be used to compute the sound levels at each NSA. The results of the calculations can then be evaluated with respect to the limits of the FERC noise regulation.

Using appropriate standard acoustical computations, the  $L_{dn}$  sound level at each NSA was calculated based upon the  $L_{eq}$  data from the 24-hour monitor located in the same general direction from the compressor station as the NSA. The calculations assume a point source and hemispherical spreading of the sound wave, and do not include additional attenuation due to atmospheric absorption, terrain conditions, or barriers between the source and the receiver. Table 9.4.2.2-1 shows the calculated  $L_{dn}$  sound levels at each NSA due to only the operation of the compressor station. Also shown are the 24-hour monitor location and distances used for each calculation.

<b>TABLE 9.4.2.2-1</b>				
<b>CALCULATED LDN A-WEIGHTED SOUND LEVELS AT EACH NSA DUE TO ONLY THE WRIGHT COMPRESSOR STATION OPERATION, BASED ON THE 24-HOUR DATA MEASURED ON 16-17 JANUARY 2013, IGTS, WRIGHT, NEW YORK.</b>				
<b>24-Hour Location</b>	<b>Distance Between 24-Hour Location and Nearest Turbine, Feet</b>	<b>NSA Location and Description</b>	<b>Distance Between NSA and Nearest Turbine, Feet</b>	<b>Calculated Sound Level</b>
				<b><math>L_{dn}</math>, dB(A)</b>
1A	605	NSA 4 355 Westfall Road	960	44
3A	365	NSA 5 249 Westfall Road	2100	47
2A	360	NSA 6 262 Kump Road	2600	41
1A	605	NSA 7 404 Westfall Road	1750	39
2A	360	NSA 8 308 Kump Road	2650	41
2A	360	NSA 9 303 Larry Hill Road	3010	40

### **9.4.2.3 Noise Impact and Sound Level Projections**

Iroquois has conducted preliminary sound level modeling for the Project site as part of the WIP. The new station's anticipated equipment configuration has been used, along with a property line acoustical design goal to predict the newstation sound level contribution at the property lines and NSAs.

The basis for the Constitution Transfer Compressor Station design includes:

- Two 10,900 HP gas turbines with gas compressors and cooling



- Emergency back up auxiliary power unit
- Turbine, Compressor and Control Building service equipment

However, the compressor station design is still in progress and the equipment selections, layout and building designs have not been finalized. Without complete equipment descriptions and acoustical data, as well as specific construction and installation details, it is not possible to do a thorough acoustical evaluation to determine the magnitude and frequency spectra of the future sound levels. In order to evaluate the sound levels from the site after installation of the proposed compressor station, a property line acoustical design goal was selected which will meet the limits of the FERC standards at the nearest property line and NSA, respectively. Using a list of expected sound sources, the maximum allowable sound level from each individual piece of equipment or sound source can be calculated.

The acoustical design goal is based upon the FERC guidelines. Specifically, the acoustical design goal for this site is the FERC requirement of 55 dB(A)  $L_{dn}$  at the nearest NSA. Since the compressor station's sound level emissions are relatively constant over time when in full operation, the 55 dB(A)  $L_{dn}$  FERC requirement can also be stated as 49 dB(A)  $L_{eq}$ . Therefore, the acoustical design goal for this site (including both the existing and new compressor stations) is an hourly  $L_{eq}$  sound level of 49 dB(A), or lower, from all compressor station equipment at the nearest NSA, located at the end of Westfall Road, approximately 1500 feet from the center of the turbine/compressor installations. Furthermore, with the compressor station's sound levels at a constant 49 dB(A)  $L_{eq}$ , or lower, at the nearest NSA, the resulting  $L_{dn}$  can be calculated to be approximately 55 dB(A), or lower. The daytime and nighttime  $L_{eq}$  and the  $L_{dn}$  sound levels at other NSAs farther from the site are expected to be below 49 dB(A)  $L_{eq}$  and 55 dB(A)  $L_{dn}$  due to the increased distance that will reduce the property line sound pressure levels from the equipment.

By using the preliminary site layout, the noise specification data for the proposed turbine equipment, the proposed compressor station's general equipment list, and an acoustical design goal of 49 dB(A)  $L_{eq}$ , or lower, at the nearest NSA, the maximum allowable A-weighted sound level produced by each piece of equipment or sound source can be calculated. This method assumes an equal sound level contribution from all sound sources without manufacturer noise specifications. Table 9.4.2.2-1 shows a list of facility equipment or sound sources at the proposed compressor station and their respective distances to the property line and nearest NSA, as well as the allowable sound level produced at each location and at a standard distance of 300 feet, the property line towards the west and at NSA 1. The proposed turbine/compressor packages will be provided by the manufacturer and will include appropriate noise control to produce an  $L_{eq}$  sound level of 57 dB(A) or less at 300 feet.

The sound level specifications for the equipment in Table 9.4.2.2-1 are subject to change based upon the final facility design. However the overall design specification for the entire facility will remain at 49 dB(A)  $L_{eq}$  and 55 dB(A)  $L_{dn}$ , or lower.

The combined new and existing compressor station's sound pressure level contributions will be further evaluated as the design of the facility progresses. The evaluation will use representative vendor data and standard acoustical calculation methods to determine if the selected equipment will meet the noise specification. The calculations will include attenuation from hemispherical radiation and atmospheric absorption, but will not include attenuation losses for foliage and topography. If a piece of equipment cannot meet the sound level specification described, alternate vendors will be contacted and/or specific



noise control measures will be explored to reduce the property line sound levels to meet the design goal. Noise control measures may include:

- Turbine air intake silencer
- Turbine combustion exhaust stack silencer
- Turbine/compressor building acoustical louvers or silencers for building penetrations
- Turbine compartment cooling intake and discharge silencers
- Rooftop and grade level noise barriers for transformers, air handling equipment, etc.
- Sound insulation specifications for various building façades
- Acoustical louvers or silencers for various building penetrations
- Acoustical lagging for gas scrubbers, filter separators, valves and other exposed piping.

Until the equipment selection and the facility design is finalized the frequency spectra of the projected sound pressure levels cannot be determined.

#### **9.4.2.3 Projected Compressor Station Sound Levels**

The compressor station sound level criterion was selected so that the total noise at both the existing Wright Compressor Station and proposed Constitution Transfer Station, operating at full capacity, will not exceed the FERC requirements. The new compressor station equipment will be selected and designed in order to result in projected sound levels associated with the proposed and existing compressor station that will be 49 dB(A)  $L_{eq}$  and 55 dB(A)  $L_{dn}$ , or lower, at the nearest NSA property line. It is expected that the  $L_{eq}$  sound levels produced by the compressor station operations will be lower at all other NSAs farther from the equipment. Table 9.4.2.3-1 compares the predicted compressor station sound levels with the existing measured ambient sound levels from January 2013. The sound levels produced by the two compressor stations are expected to be below the FERC 55 dB(A)  $L_{dn}$  requirement. Furthermore, the sound level emissions from the compressor station are not expected to significantly change the existing  $L_{dn}$  sound levels at the NSAs. In addition, the operation of the new Constitution Transfer Compressor Station is not anticipated to cause a perceptible increase in vibration (experienced and measured as low frequency noise) at any NSA. Until the facility equipment and design is finalized and accurate octave band sound level data is acquired, the frequency spectra of the projected sound pressure levels cannot be determined.



<b>TABLE 9.4.2.3-1: EQUIPMENT AND SOUND SOURCE LIST FOR NEW CONSTITUTION TRANSFER COMPRESSOR STATION INCLUDING DISTANCES TO NEAREST NOISE SENSITIVE AREA</b>					
<b>Equipment or Noise Source</b>	<b>Maximum dB(A) at 300 feet</b>	<b>West Property Line</b>		<b>NSA 1</b>	
		<b>Approx. Distance (feet)</b>	<b>dB(A)</b>	<b>Approx. Distance (feet)</b>	<b>dB(A)</b>
Solar T70 Compressor Building	42	365	40	960	30
Gas Coolers	41	570	36	560	30
<b>Expected Day-Night, L<sub>dn</sub> Sound Level, dB(A)</b>					<b>47</b>



## **9.5 REFERENCES**

Official Codes, Rules and Regulations of the State of New York, Title 6, Chapter III, Air Resources

United States Code of Federal Regulations, Title 40, Part 50, National Primary and Secondary Ambient Air Quality Standards, U.S. Government Printing Office, Washington, DC.

United States Code of Federal Regulations, Title 40, Part 51, Prevention of Significant Deterioration of Air Quality, Section 51.166, U.S. Government Printing Office, Washington, DC.

United States Code of Federal Regulations, Title 40, Part 52, Approval and Promulgation of Implementation Plans, Section 52.21, U.S. Government Printing Office, Washington, DC.

United States Code of Federal Regulations, Title 40, Part 81, Subpart C, Attainment Status Designations, Section 81.307, U.S. Government Printing Office, Washington, DC.

United States Code of Federal Regulations, Title 40, Part 81, Subpart D, Identification of Mandatory Class I Federal Areas Where Visibility Is an Important Value, Sections 81.401 through 81.437, U.S. Government Printing Office, Washington, DC.

United States Code of Federal Regulations, Title 40, Part 85, Control of Air Pollution from Mobile Sources, U.S. Government Printing Office, Washington, DC.

United States Congress, Public Law 101-549, November 15, 1990, Clean Air Act Amendments, Title I, Provisions for Attainment and Maintenance of National Ambient Air Quality Standards, U.S. Government Printing Office, Washington, DC.

United States Code of Federal Regulations, Title 40, Part 51 Subpart W and Part 93 Subpart B, Determining Conformity of General Federal Actions to State or Federal Implementation Plans

**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**WRIGHT INTERCONNECT PROJECT**

**RESOURCE REPORT 10**

**ALTERNATIVES**

**PUBLIC**

Prepared for:

Iroquois Gas Transmission System, L.P.  
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**JUNE 2013**



## RESOURCE REPORT 10 – ALTERNATIVES

### FERC ENVIRONMENTAL CHECKLIST

<b>Part 380 – Minimum Filing Requirements for Environmental Reports</b>	<b>Company Compliance or Inapplicability of Requirement</b>
Address the “no action” alternative (§ 380.12 (l)(1)).	Section 10.1
For large Projects, address the effect of energy conservation or energy alternatives to the Project (§ 380.12 (l)(1)).	Not applicable
Identify system alternatives considered during the identification of the Project and provide the rationale for rejecting each alternative (§ 380.12 (l)(1)).	Section 10.3
Identify major and minor route alternatives considered to avoid impact on sensitive environmental areas (e.g. wetlands, parks, or residences) and provide sufficient comparative data to justify the selection of the proposed route (§ 380.12 (l)(3)).	Not applicable
Identify alternative sites considered for the location of major new aboveground facilities and provide sufficient comparative data to justify the selection of the proposed site (§ 380.12 (l)(3)).	Section 10.4



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**RESOURCE REPORT 10: ALTERNATIVES**

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## **10.0 ALTERNATIVES**

Resource Report 10 contains an alternative analysis for the Project in Wright, New York. The primary objective of the project is to provide natural gas transportation services to the Constitution Pipeline Company, LLC (“Constitution”) in a manner that avoids and minimizes potential adverse effects to the greatest extent practicable. Upstream transportation for the volumes to be delivered to Iroquois and subsequently to TGP will be provided by Constitution. Constitution volumes once delivered to Iroquois will be subsequently redelivered to TGP at the Wright Meter Station or compressed into the Iroquois mainline to supply Iroquois’ Zone 1 or Zone 2 shippers. All of the proposed WIP facilities are to be located on property currently owned by Iroquois at 320 Westfall Road, Wright, NY.

Iroquois considered alternatives in support of the FERC guidelines as set forth in 18 CFR Part 380.15. Section 10.1 details the no-action alternative. Section 10.2 discusses system alternatives, and Section 10.3 evaluates alternative sites for the transfer compressor. Section 10.4 cites the references used in preparation of this resource report.

WIP consists of the construction of new natural gas compressor facilities located along Iroquois Mainline pipeline in the Town of Wright, New York. The preferred site for the Project has been selected based on an extensive alternative siting analysis. The primary objective of the alternatives analysis was to locate the new transfer compressor facilities in a manner that either avoids or minimizes potential adverse environmental effects to the greatest extent practicable. Given the disturbed nature of the existing site, previous FERC approval of the existing Wright Compressor Station in Wright, New York and avoidance of significant adverse environmental impacts, Iroquois determined that adding compression and other ancillary facilities on its existing property in Wright, NY is preferable to constructing a new compressor station at an alternative location. Overall, Iroquois evaluated other site options based on potential environmental impacts, existing land usage and construction safety and feasibility considerations.

### **10.1 NO ACTION ALTERNATIVE**

The no-action alternative for WIP would mean that the proposed transfer compressor station, cooling facilities, meter station upgrades, and odorization system modifications would not be built or operated by Iroquois, but rather by Constitution. As such, Constitution would need to procure land and build a greenfield compressor station site, as opposed to utilizing Iroquois’ existing 53.22 acre site in Wright, NY. Moreover, Constitution would need to install greater horsepower than Iroquois (originally proposed at 32,000 horsepower in PF 12-9 preliminary Resource Report 1 dated February, 2013) to assure reliability. Iroquois plans to construct only 21,800 HP as part of WIP and rely on Iroquois’ existing Wright Compressor Station facilities of 14,400 HP to provide added reliability. Finally, because Iroquois will upgrade its existing Wright Meter Station and odorization system, Constitution would need to design, procure, construct and operate these incremental facilities if WIP is not constructed.

### **10.2 OPTIONS FOR EFFICIENCY IMPROVEMENTS**

#### **10.2.1 Waste Heat Recovery**

Iroquois considered large scale waste heat recovery equipment for the two ISO rated 10,900 horsepower gas turbines to be installed at the transfer compressor station site, but determined that the installation of large waste heat recovery equipment systems at this compressor station was not favorable for the reasons discussed below. In its evaluation, Iroquois noted that the economics of waste heat recovery projects are affected by turbine size and load factor, as reflected in a 2008 Interstate Natural Gas Association of America (“INGAA”) study on Waste Heat Recovery projects. This study showed unfavorable economic



rates of return on capital investment for compressor stations that operate less than 5,250 hours per year and compressor stations with a total gas turbine horsepower of less than 15,000 horsepower.

- The compression at the Wright Compressor Station (14,400 HP) and the new transfer compressor station (21,800 HP) are/will be designed to honor the peak day firm contractual commitments for each respective gas supply source. However, because there is no incremental capacity proposed to move gas away from Wright, supply from Constitution and Canada will compete with each other for downstream markets on a daily basis. If Iroquois' mainline shippers choose to substantially source their gas from Constitution rather than Canada, then the Wright Compressor Station will experience a low load factor. Alternatively, if Iroquois' mainline shippers choose to substantially source their gas from Canada rather than Constitution, then the transfer compressor station will experience a low load factor. Additionally, because Constitution's lease agreement with Iroquois provides that the entire lease capacity could be delivered to TGP at Wright (which requires no compression) rather than into the Iroquois mainline (which requires the transfer compressor station), the engine run time could be extremely low. It is unlikely that the engines at Wright will meet the 5,250 hours per year threshold set by INGAA.
- Combined, the Wright Compressor Station and transfer compressor stations would have a total ISO rated power of 36,200 horsepower following installation of the proposed units (the two existing turbines are rated at 7,200 horsepower each and the two proposed units to be installed are rated at 10,900 horsepower). The proposed turbine units would be located in a separate compressor building from the two existing units. Recovering waste heat from all four turbine exhaust systems would require higher capital costs for the installation of an appropriate large scale waste heat recovery project due to the separate locations of the turbine units.
- If the waste heat from the two new 10,900 horsepower gas turbine was used to produce electric power, the outdoor condenser cooling equipment that would need to be installed for the waste heat recovery cycle would increase noise and would therefore likely affect noise sensitive areas ("NSAs") located in proximity to these existing compressor stations. All six existing NSAs are residential areas. One of those NSAs would be located approximately 1,000 feet from any new waste heat recovery equipment. Adding waste heat recovery equipment would make compliance with the Commission's noise requirements more difficult and more expensive.
- The additional capital costs to add a single large scale waste heat recovery system to the two ISO rated 10,900 horsepower gas turbine is approximately \$7.0 million. The waste heat recovery system for a turbine of this size would be capable of producing approximately 1.6 megawatts of electric power when the gas turbine is running at 100 percent load. The power produced by a waste heat recovery system decreases when the gas turbine is running at partial load conditions. The actual annual run time is highly dependent on system demand. As indicated above, Iroquois anticipates that the compressor stations would be operated at partial load for a significant portion of their annual run time, and may not operate at all for extended periods.
- The commercial value of this power is not favorable because it cannot be dispatched upon the request of the power utility, but instead would be dependent upon the pipeline operating conditions, including shipper demand, at any given time. Shippers have multiple opportunities throughout the day to change their scheduled flow, so Iroquois cannot provide any commitment for availability of power generated by waste heat recovery for the remainder of the day.



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## **10.3 SYSTEM ALTERNATIVES**

### **10.3.1 Existing Capacity**

System alternatives are alternatives to the proposed action that would make use of other existing, modified, or proposed natural gas pipeline systems to meet the stated purpose and need. System options involve the transportation of the equivalent amount of incremental natural gas volumes by the expansion of existing pipeline systems or by the construction and operation of other new pipeline systems. A viable system alternative would make it unnecessary to construct all or part of the proposed Project, although some modifications or additions to existing pipeline or construction of entirely new pipeline system could be required to allow for the transportation of the additional natural gas.

The following evaluation criteria were used for selecting reasonable and potentially environmentally preferable system alternatives to the Iroquois Project:

- Technical and economic feasibility and practicality;
- Significant environmental advantage over the proposed Project;
- Ability to meet the Project objective to satisfy increased demand for natural gas, given that alternative energy sources or conservation are not able to satisfy this demand.

### **10.3.2 Aboveground Facilities**

The only viable option for eliminating the WIP transfer compressor station is for Constitution to build a new greenfield compressor station to allow for the transfer of natural gas from Constitution's to Iroquois' system. To physically transfer the gas volumes from the Constitution to Iroquois pipeline system, compression is required to elevate Constitution's anticipated gas pressures (800 – 900 pounds per square inch ["psi"]) to the historic Iroquois gas pressures of 1,000 – 1,440 psi at the Wright facilities. Addition of pipeline looping is not a viable alternative because it does not address the need to physically transfer gas volumes from Constitution onto Iroquois' higher pressure line.

The location of the proposed transfer compressor station allows Iroquois to utilize a site that has all of the following benefits, which are summarized below by resource report:

#### **Resource Report 1 – General Project Description**

- Iroquois owns the property where the new transfer compressor station is proposed.
- Iroquois' property contains an existing compressor station, so the new facilities will not significantly alter the local aesthetic.
- Iroquois has existing pipeline facilities and a meter station at this site, thereby minimizing the need to construct additional pipeline facilities.
- The location of the site on the property allows Iroquois to utilize and upgrade an existing access road rather than construct an entirely new access road to the site.
- Iroquois and TGP both have existing pipeline facilities at this site, avoiding the need to construct additional pipeline facilities.
- The location of the site allows for access to and construction of the proposed WIP without crossing any existing pipeline rights-of-ways adjacent to the property.



- All construction, storage, and temporary workspace can be contained within Iroquois Wright, NY property and there is no need for additional rights-of-way, survey permissions, or property procurement.

#### Resource Report 2 – Water Use and Quality

- The size of the project site and presence of Iroquois' pipeline system has allowed Iroquois to design the development plan outside of federal and state wetland areas and waterbodies.
- The project site is outside of any EPA-designated sole source aquifer and is not located in a State designated aquifer protection area.
- The project site and construction areas have no identified wetlands.

#### Resource Report 3 – Vegetation and Wildlife

- Approximately 3.3 acres of Appalachian oak-pine forest will be cleared.
- Non-forested vegetative habitats in the project area are limited to mowed lawn, and maintained pipeline right-of-way.

#### Resource Report 4 – Cultural Resources

- There have been no sensitive cultural resources identified. The New York State Historic Preservation Office has determined that the construction of the compressor station at this site will have no effect upon New York's archeological heritage. No mitigation measures are required with respect to sensitive cultural resources for this site.

#### Resource Report 5 – Socioeconomics

- Iroquois does not anticipate impacts on the local infrastructure. The station currently has an existing on-site well and septic system, thus no water or sewer connections to municipal systems are involved. The existing systems will not have to be improved to accommodate the station.
- No residences or businesses would be displaced by this project, as Iroquois owns the property.
- The location of the station at this site does not constitute a disproportionate impact on minorities, low-income communities, or Native American populations.
- Annual tax revenues to the Town of Wright are anticipated to be approximately \$1,500,000.

#### Resource Report 6 – Geologic Resources

- The site will not affect existing or future mineral extraction operations.
- Significant paleontological resources are unlikely to be encountered given its previous land disturbance and geology.

#### Resource Report 7 - Soils

- Project site does not encompass agricultural fields, residential lands or wetlands.
- No significant erosion potential exists at this site, as it is relatively level.
- January 2013 study conducted by Iroquois concluded that karst terrain was not detected where the proposed transfer compressor station would be located.



#### Resource Report 8 – Land Use and Aesthetics

- The location of the site allows Iroquois to minimize visual impacts.
- There will be no modifications to the existing land use of the property.
- No planned residential or commercial developments have been identified by the Schoharie County Planning and Development Agency in the Project’s vicinity.

#### Resource Report 9 – Air and Noise Quality

- The results of the air quality analysis document that construction of the compressor station at the project site would not cause or contribute to violations of air quality standards, or consume more than the emissions increments allowed for new sources.
- The Constitution Transfer Station equipment will be selected and designed to result in projected sound levels associated with the proposed compressor station which will be 55 dB(A) Ldn, or lower, at the nearest noise sensitive area (NSA). It is expected that the Leq sound levels produced by the compressor station operation will be less than 55 dB(A) Ldn at all other further NSAs and typically below the ambient hourly Leq sound levels measured at each NSA. Furthermore, the sound levels produced by the compressor station are expected to meet the FERC 55 dB(A) Ldn requirement.

#### Resource Report 11 – Reliability and Safety

- The safety and reliability of the proposed compressor station would meet or exceed Office of Pipeline Safety standards, regardless of the site selected.

#### Resource Report 12 – PCB Contamination

- The project does not involve the replacement, abandonment by removal or abandonment in-place of pipeline facilities determined to have polychlorinated biphenyls (PCBs) in excess of 50 parts per million (“ppm”) in pipeline liquids. This situation does not differ by site.

#### Resource Report 13 – Additional Information Related to LNG Facilities

- Project does not involve the construction of a Liquefied Natural Gas facility. This situation does not differ by site.

### **10.4 ALTERNATIVE COMPRESSOR SITE LOCATION**

The primary factor driving the location of the proposed transfer compressor station is that this is the location of Iroquois’ existing delivery meter station to TGP, Iroquois’ existing Wright Compressor Station for delivery into Iroquois’ Zone 2, and the delineation point between Iroquois’ Zone 1 and Zone 2. Iroquois has existing shippers with only Zone 1 or Zone 2 contracts. If Constitution interconnected with Iroquois at some other location, these single-zone Iroquois shippers would be denied the opportunity to buy gas from Constitution within their rate zone.

Additionally, TGP’s third pipe (36-inch diameter) that extends into New England commences one mile west of the Wright Meter Station. If Constitution tied into TGP at any location west of Barton Hill Road (1 mile west of the Wright Meter Station) the TGP takeaway capacity would be significantly lower. Consequently, the Constitution Pipeline must terminate at the conjunction of Iroquois’ rate zones and east of Barton Hill Road. The only location where all of these criteria are met is at or immediately adjacent to the property owned by Iroquois at 320 Westfall Road in Wright, NY.



Iroquois has determined that constructing the incremental compression at any location along the Constitution Pipeline route other than at or immediately adjacent to 320 Westfall Road, Wright, NY would not be desirable because any such alternate compressor station location would need to be designed with a discharge pressure higher than 1440 psig to allow for pressure losses between the compressor station and the Wright interconnect location. (Iroquois' MAOP is 1440 psig). This would require the use of Class 900 fittings rather than Class 600 fittings, and would require thicker wall pipes for the higher operating pressure. Additionally, the existing land use along the proposed Constitution Pipeline near Wright, NY is either residential or agricultural in nature. As such, Iroquois contends to build a transfer compressor station facilities at a location other than Iroquois' existing property in Wright, NY would have far greater environmental and community impact.

Finally, no other site provides the opportunity to leverage Iroquois' existing compression and metering equipment. As explained in Resource Report 1.1.2.1 – Proposed Transfer Compressor Facility, Iroquois is able to install smaller engines at Wright than if the compressors were installed at some other location because it can commingle scheduled quantities to TGP from Constitution and Iroquois Zone 1 such that less compression is needed to move the remaining Constitution volumes into the higher pressure Iroquois Pipeline. Additionally, with piping/valve modifications at its existing Wright Compressor Station, Iroquois can use these existing engines as backup for the proposed transfer compressor station when they are not need to move gas from Canada. As a result, Iroquois is proposing to install only 21,800 HP rather than the 32,000 HP that would be needed at another location.

#### **10.4.1 Preferred Location**

The location of the proposed transfer compressor station allows Iroquois to utilize a site that has all of the following benefits:

- Iroquois owns the property where the compressor station is proposed.
- The entire site currently operates as a natural gas compression and measurement facility.
- Iroquois has existing facilities at this site, thereby avoiding the need to construct new facilities at a different location.
- The location of the site on the property allows Iroquois to utilize the existing access road.
- The size of the project site and presence of Iroquois' pipeline system has allowed Iroquois to design the development plan outside of federal and state wetland areas and water bodies.
- The project site is outside of any EPA-designated sole source aquifer and is not located in a State designated aquifer protection area.
- The proposed modifications will not adversely affect wildlife, wildlife habitats or rare species.
- There have been no sensitive cultural resources within the Project area.
- There will be no modifications to the existing land use of the property.
- The results of a pending air quality analysis will accompany and support Iroquois' application for an air permit to the New York State Department of Environmental Conservation ("NYSDEC"). The analysis must document to the NYSDEC's satisfaction that construction of the compressor station at the project site would not cause or contribute to violations of air quality standards, or consume more than the emissions increments allowed for new sources. The NYSDEC must



concur with this determination prior to issuing a final air permit to construct and operate the proposed station modification.

- The compressor station equipment will be selected and designed to result in projected sound levels associated with the proposed compressor station which will be 55 dB(A) Ldn, or lower, at the nearest noise sensitive area (NSA). It is expected that the Leq sound levels produced by the compressor station operation will be less than 55 dB(A) Ldn at all other further NSAs and typically below the ambient hourly Leq sound levels measured at each NSA. Furthermore, the sound levels produced by the compressor station are expected to meet the FERC 55 dB(A) Ldn requirement.
- Access to two zone boundaries without incurring an inter-zone rate.
- Operating synergies with existing compression/metering to reduce the size of compression installed and the engine run time, thereby reducing overall emissions.

**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**WRIGHT INTERCONNECT PROJECT**

**RESOURCE REPORT 11**

**RELIABILITY AND SAFETY**

**PUBLIC**

Prepared for:

Iroquois Gas Transmission System, L.P.  
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Shelton, CT 06484

**JUNE 2013**



*Environmental Report  
Resource Report 11  
Reliability and Safety  
Wright Interconnect Project*

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## **RESOURCE REPORT 11 – RELIABILITY AND SAFETY**

In accordance with 18 CFR § 380.12(m), Resource Report 11 is required for applications involving new or re-commissioned liquefied natural gas (“LNG”) facilities. The Project does not include any new or re-commissioned LNG facilities. Therefore, Resource Report 11 is not required.

**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**WRIGHT INTERCONNECT PROJECT**

**RESOURCE REPORT 12**

**PCB CONTAMINATION**

**PUBLIC**

Prepared for:

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## **RESOURCE REPORT 12 – RELIABILITY AND SAFETY**

In accordance with 18 CFR § 380.12(n), Resource Report 12 is required for projects involving the replacement or abandonment of pipeline facilities determined to have polychlorinated biphenyls (“PCBs”) in excess of 50 parts per million in pipeline liquids. The proposed Project does not include the abandonment or replacement of PCB-containing facilities. Therefore, Resource Report 12 is not required.

**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**WRIGHT INTERCONNECT PROJECT**

**RESOURCE REPORT 13**

**ENGINEERING AND DESIGN MATERIAL**

**PUBLIC**

Prepared for:

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**JUNE 2013**



## **RESOURCE REPORT 13 – RELIABILITY AND SAFETY**

In accordance with 18 CFR § 380.12(o), Resource Report 13 is required for construction of new LNG facilities, or the re-commissioning of existing LNG facilities. The proposed Project does not involve the construction of a new LNG facility or the re-commissioning of an existing LNG facility. Therefore, Resource Report 13 is not required.



**Application of Iroquois Gas  
Transmission System, L.P. for a  
Certificate of Public Convenience  
and Necessity**

**FERC Docket No. CP13- -000**

**WRIGHT INTERCONNECT  
PROJECT**

**Wright, New York**

**APPENDIX B  
FERC PLAN AND PROCEDURES**

**June 2013**

**UPLAND EROSION CONTROL, REVEGETATION, AND  
MAINTENANCE PLAN**

**UPLAND EROSION CONTROL, REVEGETATION, AND  
MAINTENANCE PLAN**

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## UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN (PLAN)

### I. APPLICABILITY

- A. The intent of this Plan is to assist project sponsors by identifying baseline mitigation measures for minimizing erosion and enhancing revegetation. Project sponsors shall specify in their applications for a new FERC authorization and in prior notice and advance notice filings, any individual measures in this Plan they consider unnecessary, technically infeasible, or unsuitable due to local conditions and fully describe any alternative measures they would use. Project sponsors shall also explain how those alternative measures would achieve a comparable level of mitigation.

Once a project is authorized, project sponsors can request further changes as variances to the measures in this Plan (or the applicant's approved plan). The Director of the Office of Energy Projects (Director) will consider approval of variances upon the project sponsor's written request, if the Director agrees that a variance:

1. provides equal or better environmental protection;
2. is necessary because a portion of this Plan is infeasible or unworkable based on project-specific conditions; or
3. is specifically required in writing by another federal, state, or Native American land management agency for the portion of the project on its land or under its jurisdiction.

Sponsors of projects planned for construction under the automatic authorization provisions in the FERC's regulations must receive written approval for any variances in advance of construction.

Project-related impacts on wetland and waterbody systems are addressed in the staff's Wetland and Waterbody Construction and Mitigation Procedures (Procedures).

## II. SUPERVISION AND INSPECTION

### A. ENVIRONMENTAL INSPECTION

1. At least one Environmental Inspector is required for each construction spread during construction and restoration (as defined by section V). The number and experience of Environmental Inspectors assigned to each construction spread shall be appropriate for the length of the construction spread and the number/significance of resources affected.
2. Environmental Inspectors shall have peer status with all other activity inspectors.
3. Environmental Inspectors shall have the authority to stop activities that violate the environmental conditions of the FERC's Orders, stipulations of other environmental permits or approvals, or landowner easement agreements; and to order appropriate corrective action.

### B. RESPONSIBILITIES OF ENVIRONMENTAL INSPECTORS

At a minimum, the Environmental Inspector(s) shall be responsible for:

1. Inspecting construction activities for compliance with the requirements of this Plan, the Procedures, the environmental conditions of the FERC's Orders, the mitigation measures proposed by the project sponsor (as approved and/or modified by the Order), other environmental permits and approvals, and environmental requirements in landowner easement agreements.
2. Identifying, documenting, and overseeing corrective actions, as necessary to bring an activity back into compliance;
3. Verifying that the limits of authorized construction work areas and locations of access roads are visibly marked before clearing, and maintained throughout construction;
4. Verifying the location of signs and highly visible flagging marking the boundaries of sensitive resource areas, waterbodies, wetlands, or areas with special requirements along the construction work area;
5. Identifying erosion/sediment control and soil stabilization needs in all areas;
6. Ensuring that the design of slope breakers will not cause erosion or direct water into sensitive environmental resource areas, including cultural resource sites, wetlands, waterbodies, and sensitive species habitats;

7. Verifying that dewatering activities are properly monitored and do not result in the deposition of sand, silt, and/or sediment into sensitive environmental resource areas, including wetlands, waterbodies, cultural resource sites, and sensitive species habitats; stopping dewatering activities if such deposition is occurring and ensuring the design of the discharge is changed to prevent reoccurrence; and verifying that dewatering structures are removed after completion of dewatering activities;
8. Ensuring that subsoil and topsoil are tested in agricultural and residential areas to measure compaction and determine the need for corrective action;
9. Advising the Chief Construction Inspector when environmental conditions (such as wet weather or frozen soils) make it advisable to restrict or delay construction activities to avoid topsoil mixing or excessive compaction;
10. Ensuring restoration of contours and topsoil;
11. Verifying that the soils imported for agricultural or residential use are certified as free of noxious weeds and soil pests, unless otherwise approved by the landowner;
12. Ensuring that erosion control devices are properly installed to prevent sediment flow into sensitive environmental resource areas (e.g., wetlands, waterbodies, cultural resource sites, and sensitive species habitats) and onto roads, and determining the need for additional erosion control devices;
13. Inspecting and ensuring the maintenance of temporary erosion control measures at least:
  - a. on a daily basis in areas of active construction or equipment operation;
  - b. on a weekly basis in areas with no construction or equipment operation; and
  - c. within 24 hours of each 0.5 inch of rainfall;
14. Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification, or as soon as conditions allow if compliance with this time frame would result in greater environmental impacts;
15. Keeping records of compliance with the environmental conditions of the FERC's Orders, and the mitigation measures proposed by the project sponsor in the application submitted to the FERC, and other federal or state environmental permits during active construction and restoration;

16. Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase; and
17. Verifying that locations for any disposal of excess construction materials for beneficial reuse comply with section III.E.

### III. PRECONSTRUCTION PLANNING

The project sponsor shall do the following before construction:

#### A. CONSTRUCTION WORK AREAS

1. Identify all construction work areas (e.g., construction right-of-way, extra work space areas, pipe storage and contractor yards, borrow and disposal areas, access roads) that would be needed for safe construction. The project sponsor must ensure that appropriate cultural resources and biological surveys are conducted, as determined necessary by the appropriate federal and state agencies.
2. Project sponsors are encouraged to consider expanding any required cultural resources and endangered species surveys in anticipation of the need for activities outside of authorized work areas.
3. Plan construction sequencing to limit the amount and duration of open trench sections, as necessary, to prevent excessive erosion or sediment flow into sensitive environmental resource areas.

#### B. DRAIN TILE AND IRRIGATION SYSTEMS

1. Attempt to locate existing drain tiles and irrigation systems.
2. Contact landowners and local soil conservation authorities to determine the locations of future drain tiles that are likely to be installed within 3 years of the authorized construction.
3. Develop procedures for constructing through drain-tiled areas, maintaining irrigation systems during construction, and repairing drain tiles and irrigation systems after construction.
4. Engage qualified drain tile specialists, as needed to conduct or monitor repairs to drain tile systems affected by construction. Use drain tile specialists from the project area, if available.

C. GRAZING DEFERMENT

Develop grazing deferment plans with willing landowners, grazing permittees, and land management agencies to minimize grazing disturbance of revegetation efforts.

D. ROAD CROSSINGS AND ACCESS POINTS

Plan for safe and accessible conditions at all roadway crossings and access points during construction and restoration.

E. DISPOSAL PLANNING

Determine methods and locations for the regular collection, containment, and disposal of excess construction materials and debris (e.g., timber, slash, mats, garbage, drill cuttings and fluids, excess rock) throughout the construction process. Disposal of materials for beneficial reuse must not result in adverse environmental impact and is subject to compliance with all applicable survey, landowner or land management agency approval, and permit requirements.

F. AGENCY COORDINATION

The project sponsor must coordinate with the appropriate local, state, and federal agencies as outlined in this Plan and/or required by the FERC's Orders.

1. Obtain written recommendations from the local soil conservation authorities or land management agencies regarding permanent erosion control and revegetation specifications.
2. Develop specific procedures in coordination with the appropriate agencies to prevent the introduction or spread of invasive species, noxious weeds, and soil pests resulting from construction and restoration activities.
3. Develop specific procedures in coordination with the appropriate agencies and landowners, as necessary, to allow for livestock and wildlife movement and protection during construction.
4. Develop specific blasting procedures in coordination with the appropriate agencies that address pre- and post-blast inspections; advanced public notification; and mitigation measures for building foundations, groundwater wells, and springs. Use appropriate methods (e.g., blasting mats) to prevent damage to nearby structures and to prevent debris from entering sensitive environmental resource areas.

## G. SPILL PREVENTION AND RESPONSE PROCEDURES

The project sponsor shall develop project-specific Spill Prevention and Response Procedures, as specified in section IV of the staff's Procedures. A copy must be filed with the Secretary of the FERC (Secretary) prior to construction and made available in the field on each construction spread. The filing requirement does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

## H. RESIDENTIAL CONSTRUCTION

For all properties with residences located within 50 feet of construction work areas, project sponsors shall: avoid removal of mature trees and landscaping within the construction work area unless necessary for safe operation of construction equipment, or as specified in landowner agreements; fence the edge of the construction work area for a distance of 100 feet on either side of the residence; and restore all lawn areas and landscaping immediately following clean up operations, or as specified in landowner agreements. If seasonal or other weather conditions prevent compliance with these time frames, maintain and monitor temporary erosion controls (sediment barriers and mulch) until conditions allow completion of restoration.

## I. WINTER CONSTRUCTION PLANS

If construction is planned to occur during winter weather conditions, project sponsors shall develop and file a project-specific winter construction plan with the FERC application. This filing requirement does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

The plan shall address:

1. winter construction procedures (e.g., snow handling and removal, access road construction and maintenance, soil handling under saturated or frozen conditions, topsoil stripping);
2. stabilization and monitoring procedures if ground conditions will delay restoration until the following spring (e.g., mulching and erosion controls, inspection and reporting, stormwater control during spring thaw conditions); and
3. final restoration procedures (e.g., subsidence and compaction repair, topsoil replacement, seeding).

#### IV. INSTALLATION

##### A. APPROVED AREAS OF DISTURBANCE

1. Project-related ground disturbance shall be limited to the construction right-of-way, extra work space areas, pipe storage yards, borrow and disposal areas, access roads, and other areas approved in the FERC's Orders. Any project-related ground disturbing activities outside these areas will require prior Director approval. This requirement does not apply to activities needed to comply with the Plan and Procedures (i.e., slope breakers, energy-dissipating devices, dewatering structures, drain tile system repairs) or minor field realignments and workspace shifts per landowner needs and requirements that do not affect other landowners or sensitive environmental resource areas. All construction or restoration activities outside of authorized areas are subject to all applicable survey and permit requirements, and landowner easement agreements.
2. The construction right-of-way width for a project shall not exceed 75 feet or that described in the FERC application unless otherwise modified by a FERC Order. However, in limited, non-wetland areas, this construction right-of-way width may be expanded by up to 25 feet without Director approval to accommodate full construction right-of-way topsoil segregation and to ensure safe construction where topographic conditions (e.g., side-slopes) or soil limitations require it. Twenty-five feet of extra construction right-of-way width may also be used in limited, non-wetland or non-forested areas for truck turn-arounds where no reasonable alternative access exists.

Project use of these additional limited areas is subject to landowner or land management agency approval and compliance with all applicable survey and permit requirements. When additional areas are used, each one shall be identified and the need explained in the weekly or biweekly construction reports to the FERC, if required. The following material shall be included in the reports:

- a. the location of each additional area by station number and reference to previously filed alignment sheets, or updated alignment sheets showing the additional areas;
- b. identification of the filing at FERC containing evidence that the additional areas were previously surveyed; and

- c. a statement that landowner approval has been obtained and is available in project files.

Prior written approval of the Director is required when the authorized construction right-of-way width would be expanded by more than 25 feet.

## B. TOPSOIL SEGREGATION

1. Unless the landowner or land management agency specifically approves otherwise, prevent the mixing of topsoil with subsoil by stripping topsoil from either the full work area or from the trench and subsoil storage area (ditch plus spoil side method) in:
  - a. cultivated or rotated croplands, and managed pastures;
  - b. residential areas;
  - c. hayfields; and
  - d. other areas at the landowner's or land managing agency's request.
2. In residential areas, importation of topsoil is an acceptable alternative to topsoil segregation.
3. Where topsoil segregation is required, the project sponsor must:
  - a. segregate at least 12 inches of topsoil in deep soils (more than 12 inches of topsoil); and
  - b. make every effort to segregate the entire topsoil layer in soils with less than 12 inches of topsoil.
4. Maintain separation of salvaged topsoil and subsoil throughout all construction activities.
5. Segregated topsoil may not be used for padding the pipe, constructing temporary slope breakers or trench plugs, improving or maintaining roads, or as a fill material.
6. Stabilize topsoil piles and minimize loss due to wind and water erosion with use of sediment barriers, mulch, temporary seeding, tackifiers, or functional equivalents, where necessary.

### C. DRAIN TILES

1. Mark locations of drain tiles damaged during construction.
2. Probe all drainage tile systems within the area of disturbance to check for damage.
3. Repair damaged drain tiles to their original or better condition. Do not use filter-covered drain tiles unless the local soil conservation authorities and the landowner agree. Use qualified specialists for testing and repairs.
4. For new pipelines in areas where drain tiles exist or are planned, ensure that the depth of cover over the pipeline is sufficient to avoid interference with drain tile systems. For adjacent pipeline loops in agricultural areas, install the new pipeline with at least the same depth of cover as the existing pipeline(s).

### D. IRRIGATION

Maintain water flow in crop irrigation systems, unless shutoff is coordinated with affected parties.

### E. ROAD CROSSINGS AND ACCESS POINTS

1. Maintain safe and accessible conditions at all road crossings and access points during construction.
2. If crushed stone access pads are used in residential or agricultural areas, place the stone on synthetic fabric to facilitate removal.
3. Minimize the use of tracked equipment on public roadways. Remove any soil or gravel spilled or tracked onto roadways daily or more frequent as necessary to maintain safe road conditions. Repair any damages to roadway surfaces, shoulders, and bar ditches.

### F. TEMPORARY EROSION CONTROL

Install temporary erosion controls immediately after initial disturbance of the soil. Temporary erosion controls must be properly maintained throughout construction (on a daily basis) and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration is complete.

1. Temporary Slope Breakers
  - a. Temporary slope breakers are intended to reduce runoff velocity and divert water off the construction right-of-way. Temporary slope

breakers may be constructed of materials such as soil, silt fence, staked hay or straw bales, or sand bags.

- b. Install temporary slope breakers on all disturbed areas, as necessary to avoid excessive erosion. Temporary slope breakers must be installed on slopes greater than 5 percent where the base of the slope is less than 50 feet from waterbody, wetland, and road crossings at the following spacing (closer spacing shall be used if necessary):

<u>Slope (%)</u>	<u>Spacing (feet)</u>
5 - 15	300
>15 - 30	200
>30	100

- c. Direct the outfall of each temporary slope breaker to a stable, well vegetated area or construct an energy-dissipating device at the end of the slope breaker and off the construction right-of-way.
- d. Position the outfall of each temporary slope breaker to prevent sediment discharge into wetlands, waterbodies, or other sensitive environmental resource areas.

2. Temporary Trench Plugs

Temporary trench plugs are intended to segment a continuous open trench prior to backfill.

- a. Temporary trench plugs may consist of unexcavated portions of the trench, compacted subsoil, sandbags, or some functional equivalent.
- b. Position temporary trench plugs, as necessary, to reduce trenchline erosion and minimize the volume and velocity of trench water flow at the base of slopes.

3. Sediment Barriers

Sediment barriers are intended to stop the flow of sediments and to prevent the deposition of sediments beyond approved workspaces or into sensitive resources.

- a. Sediment barriers may be constructed of materials such as silt fence, staked hay or straw bales, compacted earth (e.g., driveable berms across travelways), sand bags, or other appropriate materials.

- b. At a minimum, install and maintain temporary sediment barriers across the entire construction right-of-way at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody, wetland, or road crossing until revegetation is successful as defined in this Plan. Leave adequate room between the base of the slope and the sediment barrier to accommodate ponding of water and sediment deposition.
  - c. Where wetlands or waterbodies are adjacent to and downslope of construction work areas, install sediment barriers along the edge of these areas, as necessary to prevent sediment flow into the wetland or waterbody.
4. Mulch
- a. Apply mulch on all slopes (except in cultivated cropland) concurrent with or immediately after seeding, where necessary to stabilize the soil surface and to reduce wind and water erosion. Spread mulch uniformly over the area to cover at least 75 percent of the ground surface at a rate of 2 tons/acre of straw or its equivalent, unless the local soil conservation authority, landowner, or land managing agency approves otherwise in writing.
  - b. Mulch can consist of weed-free straw or hay, wood fiber hydromulch, erosion control fabric, or some functional equivalent.
  - c. Mulch all disturbed upland areas (except cultivated cropland) before seeding if:
    - (1) final grading and installation of permanent erosion control measures will not be completed in an area within 20 days after the trench in that area is backfilled (10 days in residential areas), as required in section V.A.1; or
    - (2) construction or restoration activity is interrupted for extended periods, such as when seeding cannot be completed due to seeding period restrictions.
  - d. If mulching before seeding, increase mulch application on all slopes within 100 feet of waterbodies and wetlands to a rate of 3 tons/acre of straw or equivalent.
  - e. If wood chips are used as mulch, do not use more than 1 ton/acre and add the equivalent of 11 lbs/acre available nitrogen (at least 50 percent of which is slow release).

- f. Ensure that mulch is adequately anchored to minimize loss due to wind and water.
- g. When anchoring with liquid mulch binders, use rates recommended by the manufacturer. Do not use liquid mulch binders within 100 feet of wetlands or waterbodies, except where the product is certified environmentally non-toxic by the appropriate state or federal agency or independent standards-setting organization.
- h. Do not use synthetic monofilament mesh/netted erosion control materials in areas designated as sensitive wildlife habitat, unless the product is specifically designed to minimize harm to wildlife. Anchor erosion control fabric with staples or other appropriate devices.

## V. RESTORATION

### A. CLEANUP

1. Commence cleanup operations immediately following backfill operations. Complete final grading, topsoil replacement, and installation of permanent erosion control structures within 20 days after backfilling the trench (10 days in residential areas). If seasonal or other weather conditions prevent compliance with these time frames, maintain temporary erosion controls (i.e., temporary slope breakers, sediment barriers, and mulch) until conditions allow completion of cleanup.

If construction or restoration unexpectedly continues into the winter season when conditions could delay successful decompaction, topsoil replacement, or seeding until the following spring, file with the Secretary for the review and written approval of the Director, a winter construction plan (as specified in section III.I). This filing requirement does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

2. A travel lane may be left open temporarily to allow access by construction traffic if the temporary erosion control structures are installed as specified in section IV.F. and inspected and maintained as specified in sections II.B.12 through 14. When access is no longer required the travel lane must be removed and the right-of-way restored.
3. Rock excavated from the trench may be used to backfill the trench only to the top of the existing bedrock profile. Rock that is not returned to the trench shall be considered construction debris, unless approved for use as mulch or for some other use on the construction work areas by the landowner or land managing agency.

4. Remove excess rock from at least the top 12 inches of soil in all cultivated or rotated cropland, managed pastures, hayfields, and residential areas, as well as other areas at the landowner's request. The size, density, and distribution of rock on the construction work area shall be similar to adjacent areas not disturbed by construction. The landowner or land management agency may approve other provisions in writing.
5. Grade the construction right-of-way to restore pre-construction contours and leave the soil in the proper condition for planting.
6. Remove construction debris from all construction work areas unless the landowner or land managing agency approves leaving materials onsite for beneficial reuse, stabilization, or habitat restoration.
7. Remove temporary sediment barriers when replaced by permanent erosion control measures or when revegetation is successful.

#### B. PERMANENT EROSION CONTROL DEVICES

1. Trench Breakers
  - a. Trench breakers are intended to slow the flow of subsurface water along the trench. Trench breakers may be constructed of materials such as sand bags or polyurethane foam. Do not use topsoil in trench breakers.
  - b. An engineer or similarly qualified professional shall determine the need for and spacing of trench breakers. Otherwise, trench breakers shall be installed at the same spacing as and upslope of permanent slope breakers.
  - c. In agricultural fields and residential areas where slope breakers are not typically required, install trench breakers at the same spacing as if permanent slope breakers were required.
  - d. At a minimum, install a trench breaker at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody or wetland and where needed to avoid draining a waterbody or wetland. Install trench breakers at wetland boundaries, as specified in the Procedures. Do not install trench breakers within a wetland.

2. Permanent Slope Breakers

- a. Permanent slope breakers are intended to reduce runoff velocity, divert water off the construction right-of-way, and prevent sediment deposition into sensitive resources. Permanent slope breakers may be constructed of materials such as soil, stone, or some functional equivalent.
- b. Construct and maintain permanent slope breakers in all areas, except cultivated areas and lawns, unless requested by the landowner, using spacing recommendations obtained from the local soil conservation authority or land managing agency.

In the absence of written recommendations, use the following spacing unless closer spacing is necessary to avoid excessive erosion on the construction right-of-way:

<u>Slope (%)</u>	<u>Spacing (feet)</u>
5 - 15	300
>15 - 30	200
>30	100

- c. Construct slope breakers to divert surface flow to a stable area without causing water to pool or erode behind the breaker. In the absence of a stable area, construct appropriate energy-dissipating devices at the end of the breaker.
- d. Slope breakers may extend slightly (about 4 feet) beyond the edge of the construction right-of-way to effectively drain water off the disturbed area. Where slope breakers extend beyond the edge of the construction right-of-way, they are subject to compliance with all applicable survey requirements.

C. SOIL COMPACTION MITIGATION

- 1. Test topsoil and subsoil for compaction at regular intervals in agricultural and residential areas disturbed by construction activities. Conduct tests on the same soil type under similar moisture conditions in undisturbed areas to approximate preconstruction conditions. Use penetrometers or other appropriate devices to conduct tests.
- 2. Plow severely compacted agricultural areas with a paraplow or other deep tillage implement. In areas where topsoil has been segregated, plow the subsoil before replacing the segregated topsoil.

If subsequent construction and cleanup activities result in further compaction, conduct additional tilling.

3. Perform appropriate soil compaction mitigation in severely compacted residential areas.

#### D. REVEGETATION

##### 1. General

- a. The project sponsor is responsible for ensuring successful revegetation of soils disturbed by project-related activities, except as noted in section V.D.1.b.
- b. Restore all turf, ornamental shrubs, and specialized landscaping in accordance with the landowner's request, or compensate the landowner. Restoration work must be performed by personnel familiar with local horticultural and turf establishment practices.

##### 2. Soil Additives

Fertilize and add soil pH modifiers in accordance with written recommendations obtained from the local soil conservation authority, land management agencies, or landowner. Incorporate recommended soil pH modifier and fertilizer into the top 2 inches of soil as soon as practicable after application.

##### 3. Seeding Requirements

- a. Prepare a seedbed in disturbed areas to a depth of 3 to 4 inches using appropriate equipment to provide a firm seedbed. When hydroseeding, scarify the seedbed to facilitate lodging and germination of seed.
- b. Seed disturbed areas in accordance with written recommendations for seed mixes, rates, and dates obtained from the local soil conservation authority or the request of the landowner or land management agency. Seeding is not required in cultivated croplands unless requested by the landowner.
- c. Perform seeding of permanent vegetation within the recommended seeding dates. If seeding cannot be done within those dates, use appropriate temporary erosion control measures discussed in section IV.F and perform seeding of permanent vegetation at the beginning of the next recommended seeding season. Dormant seeding or temporary

seeding of annual species may also be used, if necessary, to establish cover, as approved by the Environmental Inspector. Lawns may be seeded on a schedule established with the landowner.

- d. In the absence of written recommendations from the local soil conservation authorities, seed all disturbed soils within 6 working days of final grading, weather and soil conditions permitting, subject to the specifications in section V.D.3.a through V.D.3.c.
- e. Base seeding rates on Pure Live Seed. Use seed within 12 months of seed testing.
- f. Treat legume seed with an inoculant specific to the species using the manufacturer's recommended rate of inoculant appropriate for the seeding method (broadcast, drill, or hydro).
- g. In the absence of written recommendations from the local soil conservation authorities, landowner, or land managing agency to the contrary, a seed drill equipped with a cultipacker is preferred for seed application.

Broadcast or hydroseeding can be used in lieu of drilling at double the recommended seeding rates. Where seed is broadcast, firm the seedbed with a cultipacker or roller after seeding. In rocky soils or where site conditions may limit the effectiveness of this equipment, other alternatives may be appropriate (e.g., use of a chain drag) to lightly cover seed after application, as approved by the Environmental Inspector.

## VI. OFF-ROAD VEHICLE CONTROL

To each owner or manager of forested lands, offer to install and maintain measures to control unauthorized vehicle access to the right-of-way. These measures may include:

- A. signs;
- B. fences with locking gates;
- C. slash and timber barriers, pipe barriers, or a line of boulders across the right-of-way; and
- D. conifers or other appropriate trees or shrubs across the right-of-way.

## VII. POST-CONSTRUCTION ACTIVITIES AND REPORTING

### A. MONITORING AND MAINTENANCE

1. Conduct follow-up inspections of all disturbed areas, as necessary, to determine the success of revegetation and address landowner concerns. At a minimum, conduct inspections after the first and second growing seasons.
2. Revegetation in non-agricultural areas shall be considered successful if upon visual survey the density and cover of non-nuisance vegetation are similar in density and cover to adjacent undisturbed lands. In agricultural areas, revegetation shall be considered successful when upon visual survey, crop growth and vigor are similar to adjacent undisturbed portions of the same field, unless the easement agreement specifies otherwise.

Continue revegetation efforts until revegetation is successful.

3. Monitor and correct problems with drainage and irrigation systems resulting from pipeline construction in agricultural areas until restoration is successful.
4. Restoration shall be considered successful if the right-of-way surface condition is similar to adjacent undisturbed lands, construction debris is removed (unless otherwise approved by the landowner or land managing agency per section V.A.6), revegetation is successful, and proper drainage has been restored.
5. Routine vegetation mowing or clearing over the full width of the permanent right-of-way in uplands shall not be done more frequently than every 3 years. However, to facilitate periodic corrosion/leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In no case shall routine vegetation mowing or clearing occur during the migratory bird nesting season between April 15 and August 1 of any year unless specifically approved in writing by the responsible land management agency or the U.S. Fish and Wildlife Service.
6. Efforts to control unauthorized off-road vehicle use, in cooperation with the landowner, shall continue throughout the life of the project. Maintain signs, gates, and permanent access roads as necessary.

## B. REPORTING

1. The project sponsor shall maintain records that identify by milepost:
  - a. method of application, application rate, and type of fertilizer, pH modifying agent, seed, and mulch used;
  - b. acreage treated;
  - c. dates of backfilling and seeding;
  - d. names of landowners requesting special seeding treatment and a description of the follow-up actions;
  - e. the location of any subsurface drainage repairs or improvements made during restoration; and
  - f. any problem areas and how they were addressed.
2. The project sponsor shall file with the Secretary quarterly activity reports documenting the results of follow-up inspections required by section VII.A.1; any problem areas, including those identified by the landowner; and corrective actions taken for at least 2 years following construction.

The requirement to file quarterly activity reports with the Secretary does not apply to projects constructed under the automatic authorization, prior notice, or advanced notice provisions in the FERC's regulations.

**WETLAND AND WATERBODY CONSTRUCTION AND  
MITIGATION PROCEDURES**

**WETLAND AND WATERBODY CONSTRUCTION AND  
MITIGATION PROCEDURES**

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**WETLAND AND WATERBODY  
CONSTRUCTION AND MITIGATION PROCEDURES (PROCEDURES)**

I. APPLICABILITY

- A. The intent of these Procedures is to assist project sponsors by identifying baseline mitigation measures for minimizing the extent and duration of project-related disturbance on wetlands and waterbodies. Project sponsors shall specify in their applications for a new FERC authorization, and in prior notice and advance notice filings, any individual measures in these Procedures they consider unnecessary, technically infeasible, or unsuitable due to local conditions and fully describe any alternative measures they would use. Project sponsors shall also explain how those alternative measures would achieve a comparable level of mitigation.

Once a project is authorized, project sponsors can request further changes as variances to the measures in these Procedures (or the applicant's approved procedures). The Director of the Office of Energy Projects (Director) will consider approval of variances upon the project sponsor's written request, if the Director agrees that a variance:

1. provides equal or better environmental protection;
2. is necessary because a portion of these Procedures is infeasible or unworkable based on project-specific conditions; or
3. is specifically required in writing by another federal, state, or Native American land management agency for the portion of the project on its land or under its jurisdiction.

Sponsors of projects planned for construction under the automatic authorization provisions in the FERC's regulations must receive written approval for any variances in advance of construction.

Project-related impacts on non-wetland areas are addressed in the staff's Upland Erosion Control, Revegetation, and Maintenance Plan (Plan).

## B. DEFINITIONS

1. “Waterbody” includes any natural or artificial stream, river, or drainage with perceptible flow at the time of crossing, and other permanent waterbodies such as ponds and lakes:
  - a. “minor waterbody” includes all waterbodies less than or equal to 10 feet wide at the water’s edge at the time of crossing;
  - b. “intermediate waterbody” includes all waterbodies greater than 10 feet wide but less than or equal to 100 feet wide at the water’s edge at the time of crossing; and
  - c. “major waterbody” includes all waterbodies greater than 100 feet wide at the water’s edge at the time of crossing.
2. “Wetland” includes any area that is not in actively cultivated or rotated cropland and that satisfies the requirements of the current federal methodology for identifying and delineating wetlands.

## II. PRECONSTRUCTION FILING

- A. The following information must be filed with the Secretary of the FERC (Secretary) prior to the beginning of construction, for the review and written approval by the Director:
  1. site-specific justifications for extra work areas that would be closer than 50 feet from a waterbody or wetland; and
  2. site-specific justifications for the use of a construction right-of-way greater than 75-feet-wide in wetlands.
- B. The following information must be filed with the Secretary prior to the beginning of construction. These filing requirements do not apply to projects constructed under the automatic authorization provisions in the FERC’s regulations:
  1. Spill Prevention and Response Procedures specified in section IV.A;
  2. a schedule identifying when trenching or blasting will occur within each waterbody greater than 10 feet wide, within any designated coldwater fishery, and within any waterbody identified as habitat for federally-listed threatened or endangered species. The project sponsor will revise the schedule as necessary to provide FERC staff at least 14 days advance notice. Changes within this last 14-day period must provide for at least 48 hours advance notice;

3. plans for horizontal directional drills (HDD) under wetlands or waterbodies, specified in section V.B.6.d;
4. site-specific plans for major waterbody crossings, described in section V.B.9;
5. a wetland delineation report as described in section VI.A.1, if applicable; and
6. the hydrostatic testing information specified in section VII.B.3.

### III. ENVIRONMENTAL INSPECTORS

- A. At least one Environmental Inspector having knowledge of the wetland and waterbody conditions in the project area is required for each construction spread. The number and experience of Environmental Inspectors assigned to each construction spread shall be appropriate for the length of the construction spread and the number/significance of resources affected.
- B. The Environmental Inspector's responsibilities are outlined in the Upland Erosion Control, Revegetation, and Maintenance Plan (Plan).

### IV. PRECONSTRUCTION PLANNING

- A. The project sponsor shall develop project-specific Spill Prevention and Response Procedures that meet applicable requirements of state and federal agencies. A copy must be filed with the Secretary prior to construction and made available in the field on each construction spread. This filing requirement does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.
  1. It shall be the responsibility of the project sponsor and its contractors to structure their operations in a manner that reduces the risk of spills or the accidental exposure of fuels or hazardous materials to waterbodies or wetlands. The project sponsor and its contractors must, at a minimum, ensure that:
    - a. all employees handling fuels and other hazardous materials are properly trained;
    - b. all equipment is in good operating order and inspected on a regular basis;
    - c. fuel trucks transporting fuel to on-site equipment travel only on approved access roads;
    - d. all equipment is parked overnight and/or fueled at least 100 feet from a waterbody or in an upland area at least 100 feet from a wetland boundary. These activities can occur closer only if the Environmental Inspector determines that there is no reasonable alternative, and the

- project sponsor and its contractors have taken appropriate steps (including secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill;
- e. hazardous materials, including chemicals, fuels, and lubricating oils, are not stored within 100 feet of a wetland, waterbody, or designated municipal watershed area, unless the location is designated for such use by an appropriate governmental authority. This applies to storage of these materials and does not apply to normal operation or use of equipment in these areas;
  - f. concrete coating activities are not performed within 100 feet of a wetland or waterbody boundary, unless the location is an existing industrial site designated for such use. These activities can occur closer only if the Environmental Inspector determines that there is no reasonable alternative, and the project sponsor and its contractors have taken appropriate steps (including secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill;
  - g. pumps operating within 100 feet of a waterbody or wetland boundary utilize appropriate secondary containment systems to prevent spills; and
  - h. bulk storage of hazardous materials, including chemicals, fuels, and lubricating oils have appropriate secondary containment systems to prevent spills.
2. The project sponsor and its contractors must structure their operations in a manner that provides for the prompt and effective cleanup of spills of fuel and other hazardous materials. At a minimum, the project sponsor and its contractors must:
- a. ensure that each construction crew (including cleanup crews) has on hand sufficient supplies of absorbent and barrier materials to allow the rapid containment and recovery of spilled materials and knows the procedure for reporting spills and unanticipated discoveries of contamination;
  - b. ensure that each construction crew has on hand sufficient tools and material to stop leaks;
  - c. know the contact names and telephone numbers for all local, state, and federal agencies (including, if necessary, the U. S. Coast Guard and the National Response Center) that must be notified of a spill; and

- d. follow the requirements of those agencies in cleaning up the spill, in excavating and disposing of soils or other materials contaminated by a spill, and in collecting and disposing of waste generated during spill cleanup.

## B. AGENCY COORDINATION

The project sponsor must coordinate with the appropriate local, state, and federal agencies as outlined in these Procedures and in the FERC's Orders.

## V. WATERBODY CROSSINGS

### A. NOTIFICATION PROCEDURES AND PERMITS

1. Apply to the U.S. Army Corps of Engineers (COE), or its delegated agency, for the appropriate wetland and waterbody crossing permits.
2. Provide written notification to authorities responsible for potable surface water supply intakes located within 3 miles downstream of the crossing at least 1 week before beginning work in the waterbody, or as otherwise specified by that authority.
3. Apply for state-issued waterbody crossing permits and obtain individual or generic section 401 water quality certification or waiver.
4. Notify appropriate federal and state authorities at least 48 hours before beginning trenching or blasting within the waterbody, or as specified in applicable permits.

### B. INSTALLATION

1. Time Window for Construction

Unless expressly permitted or further restricted by the appropriate federal or state agency in writing on a site-specific basis, instream work, except that required to install or remove equipment bridges, must occur during the following time windows:

- a. coldwater fisheries - June 1 through September 30; and
- b. coolwater and warmwater fisheries - June 1 through November 30.

2. Extra Work Areas

- a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from water's edge, except where

the adjacent upland consists of cultivated or rotated cropland or other disturbed land.

- b. The project sponsor shall file with the Secretary for review and written approval by the Director, site-specific justification for each extra work area with a less than 50-foot setback from the water's edge, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land. The justification must specify the conditions that will not permit a 50-foot setback and measures to ensure the waterbody is adequately protected.
  - c. Limit the size of extra work areas to the minimum needed to construct the waterbody crossing.
3. General Crossing Procedures
- a. Comply with the COE, or its delegated agency, permit terms and conditions.
  - b. Construct crossings as close to perpendicular to the axis of the waterbody channel as engineering and routing conditions permit.
  - c. Where pipelines parallel a waterbody, maintain at least 15 feet of undisturbed vegetation between the waterbody (and any adjacent wetland) and the construction right-of-way, except where maintaining this offset will result in greater environmental impact.
  - d. Where waterbodies meander or have multiple channels, route the pipeline to minimize the number of waterbody crossings.
  - e. Maintain adequate waterbody flow rates to protect aquatic life, and prevent the interruption of existing downstream uses.
  - f. Waterbody buffers (e.g., extra work area setbacks, refueling restrictions) must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.
  - g. Crossing of waterbodies when they are dry or frozen and not flowing may proceed using standard upland construction techniques in accordance with the Plan, provided that the Environmental Inspector verifies that water is unlikely to flow between initial disturbance and final stabilization of the feature. In the event of perceptible flow, the project sponsor must comply with all applicable Procedure requirements for "waterbodies" as defined in section I.B.1.

#### 4. Spoil Pile Placement and Control

- a. All spoil from minor and intermediate waterbody crossings, and upland spoil from major waterbody crossings, must be placed in the construction right-of-way at least 10 feet from the water's edge or in additional extra work areas as described in section V.B.2.
- b. Use sediment barriers to prevent the flow of spoil or silt-laden water into any waterbody.

#### 5. Equipment Bridges

- a. Only clearing equipment and equipment necessary for installation of equipment bridges may cross waterbodies prior to bridge installation. Limit the number of such crossings of each waterbody to one per piece of clearing equipment.
- b. Construct and maintain equipment bridges to allow unrestricted flow and to prevent soil from entering the waterbody. Examples of such bridges include:
  - (1) equipment pads and culvert(s);
  - (2) equipment pads or railroad car bridges without culverts;
  - (3) clean rock fill and culvert(s); and
  - (4) flexi-float or portable bridges.

Additional options for equipment bridges may be utilized that achieve the performance objectives noted above. Do not use soil to construct or stabilize equipment bridges.

- c. Design and maintain each equipment bridge to withstand and pass the highest flow expected to occur while the bridge is in place. Align culverts to prevent bank erosion or streambed scour. If necessary, install energy dissipating devices downstream of the culverts.
- d. Design and maintain equipment bridges to prevent soil from entering the waterbody.
- e. Remove temporary equipment bridges as soon as practicable after permanent seeding.
- f. If there will be more than 1 month between final cleanup and the beginning of permanent seeding and reasonable alternative access to the right-of-way is available, remove temporary equipment bridges as soon as practicable after final cleanup.

- g. Obtain any necessary approval from the COE, or the appropriate state agency for permanent bridges.

6. Dry-Ditch Crossing Methods

- a. Unless approved otherwise by the appropriate federal or state agency, install the pipeline using one of the dry-ditch methods outlined below for crossings of waterbodies up to 30 feet wide (at the water's edge at the time of construction) that are state-designated as either coldwater or significant coolwater or warmwater fisheries, or federally-designated as critical habitat.

- b. Dam and Pump

- (1) The dam-and-pump method may be used without prior approval for crossings of waterbodies where pumps can adequately transfer streamflow volumes around the work area, and there are no concerns about sensitive species passage.
- (2) Implementation of the dam-and-pump crossing method must meet the following performance criteria:
  - (i) use sufficient pumps, including on-site backup pumps, to maintain downstream flows;
  - (ii) construct dams with materials that prevent sediment and other pollutants from entering the waterbody (e.g., sandbags or clean gravel with plastic liner);
  - (iii) screen pump intakes to minimize entrainment of fish;
  - (iv) prevent streambed scour at pump discharge; and
  - (v) continuously monitor the dam and pumps to ensure proper operation throughout the waterbody crossing.

- c. Flume Crossing

The flume crossing method requires implementation of the following steps:

- (1) install flume pipe after blasting (if necessary), but before any trenching;
- (2) use sand bag or sand bag and plastic sheeting diversion structure or equivalent to develop an effective seal and to divert stream flow through the flume pipe (some modifications to the stream bottom may be required to achieve an effective seal);

- (3) properly align flume pipe(s) to prevent bank erosion and streambed scour;
- (4) do not remove flume pipe during trenching, pipelaying, or backfilling activities, or initial streambed restoration efforts; and
- (5) remove all flume pipes and dams that are not also part of the equipment bridge as soon as final cleanup of the stream bed and bank is complete.

d. Horizontal Directional Drill

For each waterbody or wetland that would be crossed using the HDD method, file with the Secretary for the review and written approval by the Director, a plan that includes:

- (1) site-specific construction diagrams that show the location of mud pits, pipe assembly areas, and all areas to be disturbed or cleared for construction;
- (2) justification that disturbed areas are limited to the minimum needed to construct the crossing;
- (3) identification of any aboveground disturbance or clearing between the HDD entry and exit workspaces during construction;
- (4) a description of how an inadvertent release of drilling mud would be contained and cleaned up; and
- (5) a contingency plan for crossing the waterbody or wetland in the event the HDD is unsuccessful and how the abandoned drill hole would be sealed, if necessary.

The requirement to file HDD plans does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

7. Crossings of Minor Waterbodies

Where a dry-ditch crossing is not required, minor waterbodies may be crossed using the open-cut crossing method, with the following restrictions:

- a. except for blasting and other rock breaking measures, complete instream construction activities (including trenching, pipe installation, backfill, and restoration of the streambed contours) within 24 hours.

Streambanks and unconsolidated streambeds may require additional restoration after this period;

- b. limit use of equipment operating in the waterbody to that needed to construct the crossing; and
- c. equipment bridges are not required at minor waterbodies that do not have a state-designated fishery classification or protected status (e.g., agricultural or intermittent drainage ditches). However, if an equipment bridge is used it must be constructed as described in section V.B.5.

#### 8. Crossings of Intermediate Waterbodies

Where a dry-ditch crossing is not required, intermediate waterbodies may be crossed using the open-cut crossing method, with the following restrictions:

- a. complete instream construction activities (not including blasting and other rock breaking measures) within 48 hours, unless site-specific conditions make completion within 48 hours infeasible;
- b. limit use of equipment operating in the waterbody to that needed to construct the crossing; and
- c. all other construction equipment must cross on an equipment bridge as specified in section V.B.5.

#### 9. Crossings of Major Waterbodies

Before construction, the project sponsor shall file with the Secretary for the review and written approval by the Director a detailed, site-specific construction plan and scaled drawings identifying all areas to be disturbed by construction for each major waterbody crossing (the scaled drawings are not required for any offshore portions of pipeline projects). This plan must be developed in consultation with the appropriate state and federal agencies and shall include extra work areas, spoil storage areas, sediment control structures, etc., as well as mitigation for navigational issues. The requirement to file major waterbody crossing plans does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

The Environmental Inspector may adjust the final placement of the erosion and sediment control structures in the field to maximize effectiveness.

#### 10. Temporary Erosion and Sediment Control

Install sediment barriers (as defined in section IV.F.3.a of the Plan) immediately after initial disturbance of the waterbody or adjacent upland.

Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the Plan; however, the following specific measures must be implemented at stream crossings:

- a. install sediment barriers across the entire construction right-of-way at all waterbody crossings, where necessary to prevent the flow of sediments into the waterbody. Removable sediment barriers (or driveable berms) must be installed across the travel lane. These removable sediment barriers can be removed during the construction day, but must be re-installed after construction has stopped for the day and/or when heavy precipitation is imminent;
- b. where waterbodies are adjacent to the construction right-of-way and the right-of-way slopes toward the waterbody, install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil within the construction right-of-way and prevent sediment flow into the waterbody; and
- c. use temporary trench plugs at all waterbody crossings, as necessary, to prevent diversion of water into upland portions of the pipeline trench and to keep any accumulated trench water out of the waterbody.

#### 11. Trench Dewatering

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in silt-laden water flowing into any waterbody. Remove the dewatering structures as soon as practicable after the completion of dewatering activities.

### C. RESTORATION

1. Use clean gravel or native cobbles for the upper 1 foot of trench backfill in all waterbodies that contain coldwater fisheries.
2. For open-cut crossings, stabilize waterbody banks and install temporary sediment barriers within 24 hours of completing instream construction activities. For dry-ditch crossings, complete streambed and bank stabilization before returning flow to the waterbody channel.
3. Return all waterbody banks to preconstruction contours or to a stable angle of repose as approved by the Environmental Inspector.
4. Install erosion control fabric or a functional equivalent on waterbody banks at the time of final bank recontouring. Do not use synthetic monofilament

mesh/netted erosion control materials in areas designated as sensitive wildlife habitat unless the product is specifically designed to minimize harm to wildlife. Anchor erosion control fabric with staples or other appropriate devices.

5. Application of riprap for bank stabilization must comply with COE, or its delegated agency, permit terms and conditions.
6. Unless otherwise specified by state permit, limit the use of riprap to areas where flow conditions preclude effective vegetative stabilization techniques such as seeding and erosion control fabric.
7. Revegetate disturbed riparian areas with native species of conservation grasses, legumes, and woody species, similar in density to adjacent undisturbed lands.
8. Install a permanent slope breaker across the construction right-of-way at the base of slopes greater than 5 percent that are less than 50 feet from the waterbody, or as needed to prevent sediment transport into the waterbody. In addition, install sediment barriers as outlined in the Plan.

In some areas, with the approval of the Environmental Inspector, an earthen berm may be suitable as a sediment barrier adjacent to the waterbody.

9. Sections V.C.3 through V.C.7 above also apply to those perennial or intermittent streams not flowing at the time of construction.

#### D. POST-CONSTRUCTION MAINTENANCE

1. Limit routine vegetation mowing or clearing adjacent to waterbodies to allow a riparian strip at least 25 feet wide, as measured from the waterbody's mean high water mark, to permanently revegetate with native plant species across the entire construction right-of-way. However, 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. In addition, trees that are located within 15 feet of the pipeline that have roots that could compromise the integrity of the pipeline coating may be cut and removed from the permanent right-of-way. Do not conduct any routine vegetation mowing or clearing in riparian areas that are between HDD entry and exit points.
2. Do not use herbicides or pesticides in or within 100 feet of a waterbody except as allowed by the appropriate land management or state agency.
3. Time of year restrictions specified in section VII.A.5 of the Plan (April 15 – August 1 of any year) apply to routine mowing and clearing of riparian areas.

## VI. WETLAND CROSSINGS

### A. GENERAL

1. The project sponsor shall conduct a wetland delineation using the current federal methodology and file a wetland delineation report with the Secretary before construction. The requirement to file a wetland delineation report does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

This report shall identify:

- a. by milepost all wetlands that would be affected;
- b. the National Wetlands Inventory (NWI) classification for each wetland;
- c. the crossing length of each wetland in feet; and
- d. the area of permanent and temporary disturbance that would occur in each wetland by NWI classification type.

The requirements outlined in this section do not apply to wetlands in actively cultivated or rotated cropland. Standard upland protective measures, including workspace and topsoiling requirements, apply to these agricultural wetlands.

2. Route the pipeline to avoid wetland areas to the maximum extent possible. If a wetland cannot be avoided or crossed by following an existing right-of-way, route the new pipeline in a manner that minimizes disturbance to wetlands. Where looping an existing pipeline, overlap the existing pipeline right-of-way with the new construction right-of-way. In addition, locate the loop line no more than 25 feet away from the existing pipeline unless site-specific constraints would adversely affect the stability of the existing pipeline.
3. Limit the width of the construction right-of-way to 75 feet or less. Prior written approval of the Director is required where topographic conditions or soil limitations require that the construction right-of-way width within the boundaries of a federally delineated wetland be expanded beyond 75 feet. Early in the planning process the project sponsor is encouraged to identify site-specific areas where excessively wide trenches could occur and/or where spoil piles could be difficult to maintain because existing soils lack adequate unconfined compressive strength.
4. Wetland boundaries and buffers must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.

5. Implement the measures of sections V and VI in the event a waterbody crossing is located within or adjacent to a wetland crossing. If all measures of sections V and VI cannot be met, the project sponsor must file with the Secretary a site-specific crossing plan for review and written approval by the Director before construction. This crossing plan shall address at a minimum:
  - a. spoil control;
  - b. equipment bridges;
  - c. restoration of waterbody banks and wetland hydrology;
  - d. timing of the waterbody crossing;
  - e. method of crossing; and
  - f. size and location of all extra work areas.
6. Do not locate aboveground facilities in any wetland, except where the location of such facilities outside of wetlands would prohibit compliance with U.S. Department of Transportation regulations.

## B. INSTALLATION

1. Extra Work Areas and Access Roads
  - a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from wetland boundaries, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land.
  - b. The project sponsor shall file with the Secretary for review and written approval by the Director, site-specific justification for each extra work area with a less than 50-foot setback from wetland boundaries, except where adjacent upland consists of cultivated or rotated cropland or other disturbed land. The justification must specify the site-specific conditions that will not permit a 50-foot setback and measures to ensure the wetland is adequately protected.
  - c. The construction right-of-way may be used for access when the wetland soil is firm enough to avoid rutting or the construction right-of-way has been appropriately stabilized to avoid rutting (e.g., with timber riprap, prefabricated equipment mats, or terra mats).

In wetlands that cannot be appropriately stabilized, all construction equipment other than that needed to install the wetland crossing shall

use access roads located in upland areas. Where access roads in upland areas do not provide reasonable access, limit all other construction equipment to one pass through the wetland using the construction right-of-way.

- d. The only access roads, other than the construction right-of-way, that can be used in wetlands are those existing roads that can be used with no modifications or improvements, other than routine repair, and no impact on the wetland.

## 2. Crossing Procedures

- a. Comply with COE, or its delegated agency, permit terms and conditions.
- b. Assemble the pipeline in an upland area unless the wetland is dry enough to adequately support skids and pipe.
- c. Use “push-pull” or “float” techniques to place the pipe in the trench where water and other site conditions allow.
- d. Minimize the length of time that topsoil is segregated and the trench is open. Do not trench the wetland until the pipeline is assembled and ready for lowering in.
- e. Limit construction equipment operating in wetland areas to that needed to clear the construction right-of-way, dig the trench, fabricate and install the pipeline, backfill the trench, and restore the construction right-of-way.
- f. Cut vegetation just above ground level, leaving existing root systems in place, and remove it from the wetland for disposal.

The project sponsor can burn woody debris in wetlands, if approved by the COE and in accordance with state and local regulations, ensuring that all remaining woody debris is removed for disposal.

- g. Limit pulling of tree stumps and grading activities to directly over the trenchline. Do not grade or remove stumps or root systems from the rest of the construction right-of-way in wetlands unless the Chief Inspector and Environmental Inspector determine that safety-related construction constraints require grading or the removal of tree stumps from under the working side of the construction right-of-way.
- h. Segregate the top 1 foot of topsoil from the area disturbed by trenching, except in areas where standing water is present or soils are

saturated. Immediately after backfilling is complete, restore the segregated topsoil to its original location.

- i. Do not use rock, soil imported from outside the wetland, tree stumps, or brush riprap to support equipment on the construction right-of-way.
- j. If standing water or saturated soils are present, or if construction equipment causes ruts or mixing of the topsoil and subsoil in wetlands, use low-ground-weight construction equipment, or operate normal equipment on timber riprap, prefabricated equipment mats, or terra mats.
- k. Remove all project-related material used to support equipment on the construction right-of-way upon completion of construction.

### 3. Temporary Sediment Control

Install sediment barriers (as defined in section IV.F.3.a of the Plan) immediately after initial disturbance of the wetland or adjacent upland. Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench). Except as noted below in section VI.B.3.c, maintain sediment barriers until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the Plan.

- a. Install sediment barriers across the entire construction right-of-way immediately upslope of the wetland boundary at all wetland crossings where necessary to prevent sediment flow into the wetland.
- b. Where wetlands are adjacent to the construction right-of-way and the right-of-way slopes toward the wetland, install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil within the construction right-of-way and prevent sediment flow into the wetland.
- c. Install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil and sediment within the construction right-of-way through wetlands. Remove these sediment barriers during right-of-way cleanup.

4. Trench Dewatering

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in silt-laden water flowing into any wetland. Remove the dewatering structures as soon as practicable after the completion of dewatering activities.

C. RESTORATION

1. Where the pipeline trench may drain a wetland, construct trench breakers at the wetland boundaries and/or seal the trench bottom as necessary to maintain the original wetland hydrology.
2. Restore pre-construction wetland contours to maintain the original wetland hydrology.
3. For each wetland crossed, install a trench breaker at the base of slopes near the boundary between the wetland and adjacent upland areas. Install a permanent slope breaker across the construction right-of-way at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from the wetland, or as needed to prevent sediment transport into the wetland. In addition, install sediment barriers as outlined in the Plan. In some areas, with the approval of the Environmental Inspector, an earthen berm may be suitable as a sediment barrier adjacent to the wetland.
4. Do not use fertilizer, lime, or mulch unless required in writing by the appropriate federal or state agency.
5. Consult with the appropriate federal or state agencies to develop a project-specific wetland restoration plan. The restoration plan shall include measures for re-establishing herbaceous and/or woody species, controlling the invasion and spread of invasive species and noxious weeds (e.g., purple loosestrife and phragmites), and monitoring the success of the revegetation and weed control efforts. Provide this plan to the FERC staff upon request.
6. Until a project-specific wetland restoration plan is developed and/or implemented, temporarily revegetate the construction right-of-way with annual ryegrass at a rate of 40 pounds/acre (unless standing water is present).
7. Ensure that all disturbed areas successfully revegetate with wetland herbaceous and/or woody plant species.
8. Remove temporary sediment barriers located at the boundary between wetland and adjacent upland areas after revegetation and stabilization of adjacent upland areas are judged to be successful as specified in section VII.A.4 of the Plan.

#### D. POST-CONSTRUCTION MAINTENANCE AND REPORTING

1. Do not conduct routine vegetation mowing or clearing over the full width of the permanent right-of-way in wetlands. However, 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. In addition, 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 right-of-way. Do not conduct any routine vegetation mowing or clearing in wetlands that are between HDD entry and exit points.
2. Do not use herbicides or pesticides in or within 100 feet of a wetland, except as allowed by the appropriate federal or state agency.
3. Time of year restrictions specified in section VII.A.5 of the Plan (April 15 – August 1 of any year) apply to routine mowing and clearing of wetland areas.
4. Monitor and record the success of wetland revegetation annually until wetland revegetation is successful.
5. Wetland revegetation shall be considered successful if all of the following criteria are satisfied:
  - a. the affected wetland satisfies the current federal definition for a wetland (i.e., soils, hydrology, and vegetation);
  - b. vegetation is at least 80 percent of either the cover documented for the wetland prior to construction, or at least 80 percent of the cover in adjacent wetland areas that were not disturbed by construction;
  - c. if natural rather than active revegetation was used, the plant species composition is consistent with early successional wetland plant communities in the affected ecoregion; and
  - d. invasive species and noxious weeds are absent, unless they are abundant in adjacent areas that were not disturbed by construction.
6. Within 3 years after construction, file a report with the Secretary identifying the status of the wetland revegetation efforts and documenting success as defined in section VI.D.5, above. The requirement to file wetland restoration reports with the Secretary does not apply to projects constructed under the automatic authorization, prior notice, or advance notice provisions in the FERC's regulations.

For any wetland where revegetation is not successful at the end of 3 years after construction, develop and implement (in consultation with a

professional wetland ecologist) a remedial revegetation plan to actively revegetate wetlands. Continue revegetation efforts and file a report annually documenting progress in these wetlands until wetland revegetation is successful.

## VII. HYDROSTATIC TESTING

### A. NOTIFICATION PROCEDURES AND PERMITS

1. Apply for state-issued water withdrawal permits, as required.
2. Apply for National Pollutant Discharge Elimination System (NPDES) or state-issued discharge permits, as required.
3. Notify appropriate state agencies of intent to use specific sources at least 48 hours before testing activities unless they waive this requirement in writing.

### B. GENERAL

1. Perform 100 percent radiographic inspection of all pipeline section welds or hydrotest the pipeline sections, before installation under waterbodies or wetlands.
2. If pumps used for hydrostatic testing are within 100 feet of any waterbody or wetland, address secondary containment and refueling of these pumps in the project's Spill Prevention and Response Procedures.
3. The project sponsor shall file with the Secretary before construction a list identifying the location of all waterbodies proposed for use as a hydrostatic test water source or discharge location. This filing requirement does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

### C. INTAKE SOURCE AND RATE

1. Screen the intake hose to minimize the potential for entrainment of fish.
2. Do not use state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and/or local permitting agencies grant written permission.
3. Maintain adequate flow rates to protect aquatic life, provide for all waterbody uses, and provide for downstream withdrawals of water by existing users.
4. Locate hydrostatic test manifolds outside wetlands and riparian areas to the maximum extent practicable.

D. DISCHARGE LOCATION, METHOD, AND RATE

1. Regulate discharge rate, use energy dissipation device(s), and install sediment barriers, as necessary, to prevent erosion, streambed scour, suspension of sediments, or excessive streamflow.
2. Do not discharge into state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and local permitting agencies grant written permission.



**Application of Iroquois Gas  
Transmission System, L.P. for a  
Certificate of Public Convenience  
and Necessity**

**FERC Docket No. CP13- -000**

**WRIGHT INTERCONNECT  
PROJECT**

**Wright, New York**

**APPENDIX C  
SPILL PREVENTION,  
CONTAINMENT AND  
COUNTERMEASURE PLAN**

**June 2013**



Spill Prevention, Containment, and Control  
 Wright Interconnect Project  
 Compressor Station Facilities

## SPILL PREVENTION, CONTAINMENT, AND CONTROL PLAN

### IROQUOIS GAS TRANSMISSION SYSTEM, L.P. WRIGHT INTERCONNECT PROJECT COMPRESSOR STATION FACILITIES

VERSION: JUNE 2013

#### Note:

This document is a template for the preparation of an SPCC Plan. Site specific information must be included by the contractor in the plan appendices prior to implementation. The contractors must update the site specific information during construction as required.

Approved and Released for Construction:

Manager of EH&S: \_\_\_\_\_ Date: \_\_\_\_\_

DAF, KD Prepared By	Manager, Environmental, Health & Safety
Compliance Coordinator	Engineering Representative



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### **Attachment A: Hazardous Materials**

- Hazardous Substance Inventory (Table 1)
- Material Safety Data Sheets
- Designated Areas for Parking, Refueling, and Storage
- Site-Specific Security Plan

### **Attachment B: Emergency Response**

- Emergency Response Agencies and Personnel (Table 2)
- On Site Emergency Response Equipment (Table 3)
- Environmental Assistance Contact Sheet

### **Attachment C: Waste Management**

- Waste Management Plan

### **Attachment D: Reporting Requirements and Forms**

- Spill Release and Reporting Procedure IGTS ENV-E-04
- Spill Report Form
- Hotline Alert Card



## 1.0 INTRODUCTION

Iroquois recognizes that it is essential to protect environment features within influence of the Wright Interconnect Project during construction activities. This Spill Prevention, Containment, and Control ("SPCC")<sup>1</sup> Plan defines the procedures for prevention, containment, and control of potential spills during construction of this Project. This plan is required by the Federal Energy Regulatory Commission ("FERC") and is intended to meet the requirements of 40 CFR 112.

The Wright Interconnect Project involves modification to odorization, station piping, and valves at its existing Wright Compressor Station, upgrades to metering at its existing Wright/TGP Meter Station, and the construction of a new transfer compressor station with natural gas coolers located on property owned by Iroquois at 320 Westfall Road, Wright, New York.

This SPCC plan has been prepared for the Wright Interconnect Project and is intended for use by company and contract personnel responsible for the implementation of the SPCC Plan. Site specific information must be provided by the contractor to complete Attachment A, B, and C of this report. The information in Attachment D will be provided by the Iroquois EH&S department. The Attachments are as follows:

### **Attachment A: Hazardous Materials**

- Hazardous Substance Inventory (Table 1)
- Material Safety Data Sheets
- Designated Areas for Parking, Refueling, and Storage
- Site-Specific Security Plan

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<sup>1</sup> 40 Code of Federal Regulations, Part 112



### Attachment B: Emergency Response

- Emergency Response Agencies and Personnel (Table 2)
- On Site Emergency Response Equipment (Table 3)
- Environmental Assistance Contact Sheet

### Attachment C: Waste Management

- Waste Management Plan

### Attachment D: Reporting Requirements and Forms

- Spill Release and Reporting Procedure IGTS ENV-E-04
- Spill Report Form
- Hotline Alert Card

The site specific information must be updated during construction by the contractor as site conditions evolve. Prior to implementation, this plan must be approved by the Iroquois Manager of Environmental, Health and Safety (“Mgr EH&S”).

## 1.1 PERSONAL SAFETY

Follow the safety practices that are detailed in the Site Specific Health and Safety Plan. *(Contractor will be required to provide a site specific health and safety plan prior to construction which must meet or exceed OSHA Regulations, Standard Industry Practices and Iroquois EH&S procedures. A template will be provided to the contractor upon request).*

## 1.2 TRAINING

A spill prevention briefing will be scheduled and conducted by an Iroquois Environmental Inspector prior to starting site activities (Refer to Procedure No. ENV-B-02, Pre-Job Environmental Training). The topics to be addressed at the briefing will include the following:

- Sources of spills, such as equipment failure and malfunction.
- Precautionary measures to prevent spills.
- Standard operating procedures for spill response.



- Spill control and clean up equipment, materials, and supplies to be maintained by the construction or maintenance crew during the construction or maintenance related activity.

Equipment operators and equipment maintenance personnel will be properly trained on the operation and maintenance of their equipment to prevent the accidental discharge or spill of fuel, oil, or lubricants.

### 1.3 MATERIAL & WASTE INVENTORY

The Hazardous Substance Inventory (HSI) sheet in Attachment "A" provides an anticipated inventory of oils and hazardous substances to be utilized during construction activities which, if released, may pose a threat to human health or the environment. In addition, the HSI provides the Reportable Quantity (RQ) for each of these materials. Material Safety Data Sheets (MSDS) for each of these chemicals is presented in Attachment A following the HSI.

The List of Emergency Response Personnel will be completed by the Environmental Inspector (EI) prior to beginning work and updated as required during the project. The EI will work with Iroquois Environmental, Health & Safety Department to determine the (RQ)<sup>2</sup> for each material. The EI will also determine, in the event of a spill, the hazard classification under RCRA for each material.

Contract personnel will be familiarized with this Plan prior to initiating any on-site activities. Any materials brought to the site by contract crews will be inventoried, reported to the EI and managed in accordance with the guidelines in this Plan.

## 2.0 SPILL PREVENTION PROCEDURES

The preferred alternative is to prevent spills from happening. The Iroquois Manager of EH&S or his designee will review and approve, prior to the commencement of work, all storage, refueling, and equipment maintenance areas in accordance with this SPCC Plan. The Environmental Inspector will mark, with appropriate signs, designated areas for:

- Storage of fuels, lubricants, oils, chemicals and hazardous materials
- Refueling of equipment
- Equipment maintenance

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<sup>2</sup> RQ-s for specific constituents can be found from one or more of the following:

- 1) 49 Code of Federal Regulations Part 172;
- 2) 40 Code of Federal Regulations Part 302;
- 3) MSDS documents; or
- 4) Iroquois Procedures Manual in Attachment C and D.



## 2.1 EQUIPMENT AND INSPECTION

The Contractor will develop and attach layout drawings or sketches in Attachment A indicating the designated areas described in Section 2.0, the materials stored there, the location of nearest spill kits and response equipment, and the distance to the nearest water body or conveyance (i.e. storm drains, ditches). The contractor will provide the site specific security plan for oil and hazardous material storage areas in Attachment A of this SPCC Plan. Hazardous and PCB contaminated wastes will be stored in a fenced and locked location. Fuel storage areas (including valves and switches) will be secured to minimize tampering and accidental releases by unauthorized personnel. The Contractor shall take the following precautions to ensure that a release of oil and hazardous substances is prevented or contained:

### 2.1.1 Equipment Inspection, and Maintenance -

- (1) All equipment maintenance will be performed in designated areas as specified within this SPCC.
- (2) The supervisor of the construction or maintenance crew will develop a written schedule for inspection and maintenance of equipment.
- (3) The supervisor of the construction or maintenance crew will provide a written description of equipment maintenance work to be performed to Iroquois Environmental, Health & Safety and Engineering Departments prior to commencing work.
- (4) The equipment maintenance crew will assess the general condition of containers, valves, lines and hoses and inspect equipment for leaks on a daily basis. All deteriorated parts will be promptly repaired or replaced.
- (5) The equipment maintenance crew will take precautionary measures when performing equipment maintenance activities. e.g. Place absorbent pads (or equivalent equipment) on the ground beneath the equipment when changing crankcase oil, repairing hydraulic lines, or adding coolant to construction equipment.

### 2.1.2 Containers

- (1) All containers 55-gallons or greater shall be stored on pallets and surrounded with secondary containment.
- (2) Secondary containment will include, but will not be limited to: temporary earthen berms with polyethylene underlining the entire



contained area with a minimum of 10 mil thickness or a portable containment system constructed of steel, PVC or other suitable material.

- (3) Containment areas shall be capable of containing 110% of the volume of material stored in these areas.
- (4) All container storage areas shall be inspected daily for leaks and deterioration.
- (5) Leaking and/or deteriorated containers shall be replaced as soon as the condition is first detected and cleanup measures will be implemented to remediate all contamination.
- (6) No incompatible materials shall be stored in the same containment area.
- (7) No storage area shall be unattended for periods longer than one (1) day.

### 2.1.3 Tanks

- (1) The Contractor shall operate only those tanks for fuel and material storage which meet the requirements and regulations specified in the contract agreement and shall be surrounded with secondary containment.
- (2) Self-supporting tanks shall be constructed of carbon steel or other materials compatible with the contents of each tank.
- (3) All tanks will be elevated a minimum of two feet above grade and inspected daily for leaks and/or deterioration.
- (4) Vehicle mounted tanks shall be equipped with flame/spark arrestors on vents to ensure that self ignition does not occur.
- (5) Tanks will not be used to store incompatible materials in sequence unless first thoroughly decontaminated.
- (6) Any tank utilized for storing different products between construction locations will be thoroughly decontaminated prior to refilling.

## 2.2 DESIGNATED STORAGE, REFUELING, AND EQUIPMENT AREAS

The Iroquois Manager of EH&S or his designee will review and approve all storage, refueling, and equipment maintenance areas prior to commencing work.

The Iroquois Environmental, Health & Safety Department must be notified immediately if any of the setbacks or restrictions in Section 2.2 can not be



achieved. Ultimately, per FERC requirements, exceptions to these setback or restrictions can only be granted by the Environmental Inspector, Government Authorities, and/or the FERC depending on the situation. Please refer to Part IV.A.1 (Preconstruction Planning) in the 2013 FERC Wetland and Waterbody Construction and Mitigation Procedures.

### **2.2.1 Equipment Parking**

- (1) All equipment parked overnight shall be at least 100 feet from the edge of wetlands and watercourses.

### **2.2.2 Storage Areas for Hazardous Materials (i.e. Fuel, Lubricating Oils, and Chemicals)**

- (1) Shall be at least 100 feet from streambanks, wetland boundaries, wells, or springs.
- (2) Shall be located at least 200 feet from private water supplies (wells or springs).
- (3) Shall be located at least 400 feet from public water supplies (wells or springs)
- (4) Shall be located outside of a wellhead protection zone.

### **2.2.3 Refueling and Maintenance Areas:**

- (1) Shall be located at least 100 feet from streambanks and wetland boundaries.
- (2) Shall be located at least 200 feet from private water supplies (wells and springs).
- (3) Shall be located at least 400 feet from public water supplies (wells or springs).
- (4) Shall not be located within a wellhead protection zone.
- (5) Shall not be located within a municipal watershed.
- (6) Fuel trucks transporting fuel to on-site equipment shall only travel on approved access roads.

## **3.0 MITIGATIVE MEASURES**

The construction or maintenance crew will have a readily accessible supply of containment and absorbent material capable of responding to a small spill. The



Spill Prevention, Containment, and Control  
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recommended equipment and containment devices include the following, or equivalent:

- Dikes, berms, or retaining walls sufficiently impervious to contained spilled fluids.
- A quantity of absorbent and barrier materials determined by the contractor to be sufficient to capture the largest, reasonably foreseeable spill.
- A quantity of disposable drums (e.g. 55-gallon type) or containers suitable for handling and transporting contaminated materials.
- Curbing.
- Culverting, gutters, or other discharge systems.
- Weirs, booms, or other barriers.
- Spill diversion or retention ponds.
- Sumps and collection systems.

Construction vehicles and equipment shall carry appropriate spill containment equipment and materials (e.g., spill kits with the capacity of absorbing up to five gallons of liquid, weighing less than 10 pounds and can fit beneath the operator's seat on construction equipment).

All service vehicles used to transport lubricants and fuel must be equipped with an emergency response kit. At a minimum this kit must include:

- ten, 48"x3" oil socks,
- five, 17"x17"oil pillows,
- one, 10'x4" oil boom,
- twenty, 24"x24" oil mats,
- garden size, 6 mil, polyethylene bags,
- ten pair liquid proof gloves compatible with materials on site, and
- one, 55-gallon polyethylene open-head drum.

In addition, a smaller chemical response kit shall be available which contains:

- one bag of loose chemical pulp,



- two to three, 17"x 17" chemical pillows,
- two, 48"x3" chemical socks,
- five, 18"x18" adsorbent mats,
- garden size, 6 mil, polyethylene bags,
- ten pair liquid proof gloves compatible with materials on site,
- one, 30-gallon polyethylene open-head drum, and
- hazardous waste labels.

Finally, each refueling vehicle shall have a sufficient number of shovels, brooms, 10 mil polyethylene sheeting, and fire protection equipment to contain a moderate oil/fuel spill.

During refueling the CONTRACTOR will take appropriate measures to reduce the risk of a spill.

- Do not overfill tanks.
- Place absorbent materials under fuel nozzle while fueling equipment.
- Wipe fuel nozzle when fueling is complete.

The area beneath loading/unloading locations shall be inspected by the CONTRACTOR for spills before and after each use. Corrective measures shall be implemented if spills occur.

### **3.0 EMERGENCY RESPONSE PROCEDURES**

This section provides a generic description of emergency response procedures to be performed to address oil and hazardous substance releases at the site. Each response will vary depending upon the nature and extent of the incident. However, the general protocols outlined in this document will be followed.

#### **3.1 CONTRACTOR RESPONSIBILITIES**

- (1) The Contractor must designate both an Emergency Coordinator (EC) and an Alternate EC for the site.
- (2) The Contractor is responsible for cleaning and addressing all spills which occur as a result of their operations.



- (3) For small or “de minimis” spills (less than the Reportable Quantity), external notification requirements of this Plan need not be followed. However, this does not relieve the Contractor from correcting these releases in an environmentally sound manner.
- (4) The Contractor shall supply necessary manpower and equipment to address releases resulting from their operations.
- (5) The Contractor is responsible for immediately notifying the IGTS Chief Inspector of any spills.

### 3.2 IGTS RESPONSIBILITIES

- (1) IGTS will designate both an Emergency Coordinator (EC) and an Alternate EC for the site.
- (2) IGTS representatives shall be responsible for notifying appropriate agencies of releases in excess of RQ's, including follow-up written notification.
- (3) IGTS will provide supporting personnel and equipment to address RQ releases.
- (4) IGTS shall be responsible for contracting outside remedial response firms and emergency response teams if their services are required.



### 3.3 EMERGENCY COORDINATOR AND CHAIN-OF-COMMAND

The IGTS Chief Inspector shall be designated as the Emergency Coordinator (EC) for the site. The Environmental Inspector, if applicable, shall assist the Chief Inspector as the Alternate EC. Table 2 (Attachment B of this SPCC Plan) provides a list of Iroquois and the Contractor's primary and alternate ECs for the locations, including their duties, home addresses and phone numbers. In addition, the table provides a list of the Contractor's employees who may be called upon to address small and contained releases as part of normal operating practices. This table must be completed by both IGTS and the CONTRACTOR.

### 3.4 PRE-DISTURBANCE REQUIREMENTS

The Environmental, Health & Safety Department will include the following information in the Environmental Clearance Package (refer to Procedure No. ENV-A-01):

- (1) A list of approved spill response contractors in the vicinity of the work.
- (2) A list of approved waste transporters and disposal sites for both hazardous and non-hazardous wastes.

Prior to commencing the work, the Environmental Inspector will:

- (1) Prepare a written inventory of lubricants, fuels, and other materials that will be stored within the designated storage areas during the construction or maintenance related activity in Table 1 in Attachment A. Provide the MSDS for each material and include in Attachment A.
- (2) Prepare a spill potential analysis summary as part of Table 1 in Attachment A.
- (3) Contact the Environmental, Health & Safety Department to determine the reportable spill quantity for each material on the inventory.
- (4) Determine, in the event of a spill, the hazard classification under RCRA for each material on the inventory. Refer to Procedure No. ENV-D-21.
- (5) Prepare a list of the type, quantity, and location (including any designated storage sites or trailers) of containment and cleanup equipment to be available during the construction or maintenance related activity. The list will include the procedures and mitigative measures to be used in case of a spill.



### 3.5 DUTIES OF CHIEF ENVIRONMENTAL INSPECTOR

The duties of the Chief Environmental Inspector or his Alternate are:

- (1) Determine the source, character, amount and extent of the release or incident.
- (2) Assess the potential hazards to the site, environment and neighboring community due to the incident, including possible toxic gases, hazardous runoff, etc.
- (3) Sound an alarm and/or evacuation command to alert personnel, when required.
- (4) Report releases to the IGTS Construction Project Manager, the Chief Environmental Inspector, or the spread assistant Chief EI.
- (5) Contact outside remediation services or local emergency response teams to assist with incident or injuries too serious to be addressed by the contractor or IGTS personnel.
- (6) Contact Local Emergency Planning Committees (LEPC) and neighboring industries, if necessary, for assistance or to report off-site releases.
- (7) Commit manpower and equipment for minor incidents which can be reasonably corrected by IGTS and Contractor personnel.
- (8) Direct remediation efforts to contain and control releases in accordance to this Plan.
- (9) Document the remedial effort, including taking photographs wherever possible.
- (10) Coordinate cleaning and disposal activities, including recovering usable products from the release.
- (11) Ensure that all emergency equipment used during the incident is clean and fit for use prior to placing these devices back into service. Ensure that spent response equipment and materials are replaced when necessary.
- (12) Generate a Spill Report Form.
- (13) Where necessary, and with the assistance of IGTS Corporate Communications, inform local media of the incident.



## 4.0 EMERGENCY AND PERSONNEL PROTECTION EQUIPMENT

Table 3 (Attachment B of this SPCC Plan) provides a list of both Emergency Response and Personnel Protection Equipment located in the project area which can be used in the event of a major spill or fire. This table must be completed by the Contractor.

## 5.0 RELEASE NOTIFICATION PROCEDURES

The following section provides a generic description of the notification procedures to be followed in the event of a spill.

### 5.1 SPILL/RELEASE REPORTING PROCEDURES

Iroquois approved Spill/Release Reporting Procedure (ENV-E-04) is provided as Attachment D of this SPCC Plan and should be referred to and followed in the event of a spill/release.

Upon discovery of a spill, immediately:

- (1) Stop operation of affected equipment.
- (2) Close any open valves.
- (3) Stop any leaks, if possible.
- (4) Alert other personnel in the area to the occurrence of a spill.
- (5) Notify appropriate personnel as soon as practicable.
- (6) Internal Notifications

Oil spills and hazardous substance releases in excess of the RQ are to be immediately reported to the IGTS Construction Project manager, the spread manager, and the Chief EI.

A Spill Report Form (Attachment C of this SPCC Plan), will also be completed and forwarded to the VP of Engineering and Manager of EH&S as soon as technically feasible by the EC. The EC, with the assistance of the Manager of EH&S, will determine if the release constitutes a:

- (1) Reportable Quantity under CERCLA,
- (2) Reportable release under the Clean Water Act or RCRA, or
- (3) Reportable Threshold Quantity under SARA Title III.



If reporting is necessary, the Manager of EH&S or his or her designee shall be responsible for immediately contacting the appropriate federal and state authorities.

## 5.2 EXTERNAL NOTIFICATIONS

All off-site releases of hazardous materials shall be reported verbally to the Local Emergency Planning Committee (LEPC) by Iroquois Manager of EH&S. In making a determination whether an off-site release has occurred, the EC and the Manager of EH&S will also consider all resulting air emissions. Names, addresses, and phone numbers of the appropriate LEPC parties are provide below:

Name: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Phone Number: \_\_\_\_\_

The Chief EI is responsible for making follow-up written notification to the LEPC.

## 5.3 Emergency Response Contractors

The Manager, EH&S or his designee is responsible for getting an emergency response cleanup contractor. Iroquois Chief EI will oversee any cleanup and will determine when and if the cleanup is complete.



## 5.4 Local Emergency Response Teams

The Chief Inspector may also call on the following local emergency response teams should their assistance be required:

	Organization Name	Telephone Number
Emergency Medical Services		
Ambulance:		
Hospital:		
Fire Department:		
Police or Sheriff's Department:		

## 6.0 CLEAN-UP PROCEDURES

The following section outlines specific procedures to be followed by the CONTRACTOR and IGTS when addressing releases.

### 6.1 OIL/FUEL SPILLS

- (1) Small spills and leaks must be remediated as soon as feasible. Use adsorbent pads wherever possible to reduce the amount of contaminated articles.
  - The Environmental Inspector will determine if the spill is small enough that it can be safely handled by the construction or maintenance crew.
  - The crew will utilize on-site equipment to pump and/or excavate the spilled material and contaminated soil.
  - If the spill is too large to be safely handled by the construction or maintenance crew, an approved spill response contractor will be called in to clean up the spill.
- (2) Restrict spills to the containment area if possible by stopping or diverting flow from the oil/fuel tank.
  - All spills shall be contained on the right-of-way or in designated equipment storage areas, if possible.



- If on water, deploy a spill boom across the flow direction of the floating material.
  - If on land, install a dike, berm, or other containment structure across the flow direction to contain the spilled material.
  - Immediately obtain a copy of the MSDS for the material spilled.
- (3) If the release exceeds the containment system capacity, immediately construct additional containment using sandbags or fill material. Every effort must be made to prevent the seepage of oil into soils and waterways.
- (4) Once a spill is contained, cleanup procedures will begin immediately.

#### Small Spills

- a) The IGTS Environmental Inspector will determine if the spill is small enough that it can be safely handled by the construction or maintenance crew.
- b) The crew will utilize on-site equipment to pump and/or excavate the spilled material and contaminated soil.

#### Large Spills

- a) If the spill is too large to be safely handled by the construction or maintenance crew, an approved spill response contractor (from the list in the Environmental Clearance Package) will be called in to clean up the spill.
- (5) Decontaminate the equipment used during the containment and cleanup operation (e.g., use rags and cleaning agents to remove excess spill material). If the equipment cannot be properly cleaned it will be treated as a waste.
- (6) All spilled material, contaminated soil, absorbent material, and other contaminated material will be containerized in a manner consistent with the spilled material's hazard characterization.
- (7) If a release occurs into a facility drain or nearby stream, immediately pump any floating layer into drums. For streams, place a barrier between the release area and the site boundary. This barrier may include but is not limited to oil booms, hay bales, under flow dams or means to contain the release. As soon as possible, excavate contaminated soils and sediments.



- (8) After all recoverable oil has been collected and drummed, place contaminated soils and articles in containers if required by the Iroquois representative or regulations.
- (9) For larger quantity of soils, construct temporary waste piles using plastic liners. Plastic-lined roll-off bins should be leased for storing this material as soon as feasible.
- (10) Dispose of oily soils and contaminated articles in accordance with applicable federal, state and local regulations.
- (11) Decontaminate all emergency response equipment used during the incident before storing. See part 6.4 of this Plan.
- (12) Document and report activities to the Director of EH&S.

## 6.2 HAZARDOUS SUBSTANCE RELEASES

- (1) Identify the material and quantity released.
- (2) Block off drains and containment areas to limit the extent of the spill. Never use water to disperse the spill.
- (3) Ensure that Personnel Protection Equipment and containers are compatible with the material released.
- (4) Collect and reclaim, if possible, as much of the spill using a hand pump or similar device. Containerize contaminated soils. Never place incompatible materials in the same drum or other container.
- (5) Take a sample of the substance for analysis and waste profiling. Contact the Director of EH&S (See Attachment B of this SPCC Plan) for scheduling analytical work.
- (6) Place a hazardous waste label with appropriate waste code on the drums containing hazardous waste contaminated materials. Move drum to secure staging or storage area.
- (7) Decontaminate all equipment in a contained area. Collect and containerize decontamination fluids. See part 6.4 of this Plan.
- (8) Document and report activities to the Director of EH&S as soon as feasible.

## 6.3 EQUIPMENT CLEANING/STORAGE

- (1) Upon completion of remedial activities, the Contractor shall be responsible for disposing and/or decontaminating emergency response equipment. An approved waste management plan must be followed. See Attachment C of this SPCC Plan for a blank Waste Management



Plan form (The contractor will be responsible for providing and filling out the information in this plan).

- (2) The Contractor shall be responsible for replacing all spent emergency response equipment prior to resuming construction activities.
- (3) Decontamination rinse fluids shall be collected and managed in the same manner as wastes generated, including performing necessary analyses.
- (4) Reusable personnel protection equipment will be tested and inventoried prior to being placed back into service.

#### 6.4 DISPOSAL OF CONTAMINATED MATERIALS/SOILS

- (1) The Contractor shall be responsible for the proper disposal of wastes generated by their actions, including obtaining applicable authorizations, registrations, and/or EPA/State I.D. Numbers. An approved waste management plan must be followed. See Attachment C of this SPCC for a blank Waste Management Plan form (The contractor will be responsible for providing and filling out the information in this plan).
- (2) All contaminated articles and soils recovered during a release event shall be properly handled and stored in approved DOT containers.
- (3) In accordance to the Company's policy, all wastes generated as a result of spill response activities shall be analyzed to determine if hazardous, unless knowledge of contaminant(s) is applied to classify these wastes/spill materials as hazardous.
- (4) Those wastes determined to be hazardous shall be properly labeled, profiled and manifested to an authorized hazardous waste treatment, storage, and disposal facility.
- (5) IGTS may utilize a remediation firm or a waste management firm to initiate waste disposal activities. At no time will hazardous waste be stored on-site for a period exceeding 90 days.
- (6) Hazardous wastes shall be stored in a secured location (i.e. fenced, locked, etc) until such time as this material is transported off-site. At no time will hazardous waste be stored for a period exceeding 90 days.
- (7) Non-hazardous, oil-contaminated soils and articles shall be properly disposed at authorized non-hazardous land disposal facilities. While on-site, these materials will be managed in accordance with the procedures outlined previously, and with applicable federal, state and local regulations.
- (8) Depending upon quantity, lined roll-off bins shall be leased to temporarily store contaminated soils prior to disposal.



**Spill Prevention, Containment, and Control  
Wright Interconnect Project  
Compressor Station Facilities  
Attachment**

---

**ATTACHMENT A**



**Spill Prevention, Containment, and Control  
Wright Interconnect Project  
Compressor Station Facilities  
Attachment**

**TABLE 1: HAZARDOUS SUBSTANCE INVENTORY**

<b>Material</b>	<b>Quantity (gallons)</b>	<b>Storage Location</b>	<b>Reportable Quantity (include reference)</b>
<b>Oil/Fuel:</b>			
<b>Fuel Oil</b>			
<b>Motor Oil</b>			
<b>Commercial Chemicals:</b>			
<b>None</b>			
<b>Hazardous Wastes:</b>			
<b>None</b>			



**Spill Prevention, Containment, and Control  
Wright Interconnect Project  
Compressor Station Facilities  
Attachment**

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**MATERIAL SAFETY DATA SHEETS**



**Spill Prevention, Containment, and Control  
Wright Interconnect Project  
Compressor Station Facilities  
Attachment**

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**DESIGNATED AREAS FOR PARKING, REFUELING, AND STORAGE**



**Spill Prevention, Containment, and Control  
Wright Interconnect Project  
Compressor Station Facilities  
Attachment**

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**SITE-SPECIFIC SECURITY PLANS**



**Spill Prevention, Containment, and Control  
Wright Interconnect Project  
Compressor Station Facilities  
Attachment**

---

**ATTACHMENT B**



**Spill Prevention, Containment, and Control  
Wright Interconnect Project  
Compressor Station Facilities  
Attachment**

**TABLE 2: LIST OF EMERGENCY RESPONSE PERSONNEL**

Name	Job Description	Address	Phone Number
<b>EMERGENCY COORDINATOR</b>			
<b><u>IGTS:</u></b>			
<b><u>CONTRACTOR:</u></b>			
<b>ALTERNATIVE EMERGENCY COORDINATOR</b>			
<b><u>IGTS:</u></b>			
<b><u>CONTRACTOR:</u></b>			
<b>EMERGENCY RESPONSE PERSONNEL</b>			



**Spill Prevention, Containment, and Control  
Wright Interconnect Project  
Compressor Station Facilities  
Attachment**

**TABLE 3: EMERGENCY RESPONSE AND PERSONNEL PROTECTION EQUIPMENT**

<b>Equipment</b>	<b>Quantity</b>	<b>Location</b>
<b>SPILL RESPONSE EQUIPMENT:</b>		
<b>Emergency Spill Response Kit</b>		<b>On Fuel Truck</b>
<b>Chemical Response Kit</b>		<b>In Storage Trailer</b>
<b>FIRE PROTECTION EQUIPMENT:</b>		
<b>Fire Extinguishers</b>		<b>On Welding Rigs</b>
<b>Fire Extinguishers Trailers</b>		<b>In Office and Storage</b>
<b>PERSONNEL PROTECTION EQUIPMENT:</b>		
<b>Hard Hats</b>		<b>Individual Issue</b>
<b>Safety Glasses</b>		<b>Individual Issue</b>
<b>Rubber Gloves</b>		<b>In Chemical Response Kit</b>
<b>Tyvek Suits</b>		<b>In Chemical Response Kit</b>

THIS PAGE TO BE COMPLETED BY CONTRACTOR



**Spill Prevention, Containment, and Control  
Wright Interconnect Project  
Compressor Station Facilities  
Attachment**

**ENVIRONMENTAL ASSISTANCE CONTACT SHEET**

Name/Location:	Phone Numbers		
District Manager/Address:			
District Supervisor/Address:			
<b><u>Corporate Contacts:</u></b>			
<i>Environmental Affairs</i>			
	Office:	Home:	Beeper/Car:
	Office:	Home:	Beeper/Car:
	Office:	Home:	Beeper/Car:
<p><b>IF IT IS NOT POSSIBLE TO LOCATE ANY OF THE ABOVE, CALL <u>GAS CONTROL AT 203-944-7040</u> FOR ASSISTANCE IN LOCATING THE ABOVE INDIVIDUALS.</b></p>			

Last Revised:



Spill Prevention, Containment, and Control  
Wright Interconnect Project  
Compressor Station Facilities  
Attachment

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**ATTACHMENT C**



**Spill Prevention, Containment, and Control  
Wright Interconnect Project  
Compressor Station Facilities  
Attachment**

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**WASTE SPECIFIC MANAGEMENT PLAN**



**Spill Prevention, Containment, and Control  
Wright Interconnect Project  
Compressor Station Facilities  
Attachment**

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**Spill Prevention, Containment, and Control  
Wright Interconnect Project  
Compressor Station Facilities  
Attachment**

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**ATTACHMENT D**



**Spill Prevention, Containment, and Control  
Wright Interconnect Project  
Compressor Station Facilities  
Attachment**

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**SPILL REPORT FORM**



**Application of Iroquois Gas  
Transmission System, L.P. for a  
Certificate of Public Convenience  
and Necessity**

**FERC Docket No. CP13- -000**

**WRIGHT INTERCONNECT  
PROJECT**

**Wright, New York**

**APPENDIX D  
WETLAND DELINEATION  
REPORT**

**June 2013**



the LA group  
Landscape Architecture  
and Engineering, P.C.

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New York 12866

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## **Wetland, Vegetation, and Rare, Threatened & Endangered Species Assessment**

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# **Wright Compressor Station Expansion**

### **Prepared For:**

**Iroquois Gas Transmission System, LP  
One Corporate Drive, Suite 600  
Shelton, CT 06484**

### **Prepared By:**

**The LA Group, PC  
40 Long Alley  
Saratoga Springs, NY 12866**

**May 2013**

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Attachment 1	Resumes of Preparers
Attachment 2	Letters of Record

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**SECTION A INTRODUCTION AND REPORT PURPOSE**

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The proposed Project is located on a ±52 acre site owned by Iroquois Gas Transmission Company. The Project site is located on Westfall Road in the Town of Wright, Schoharie County, New York. See **Figure 1, "Site Location Map"**. The Project, as currently envisioned, consists of an expansion of the existing compressor station on the site to support connection to an additional pipeline.

The purpose of this Preliminary Site Evaluation is to evaluate the site conditions as it relates to vegetation, wetlands, and rare threatened or endangered species. development on this site. The compressor station will be expanded to accommodate an additional natural gas line. The report makes an initial assessment of the property and takes an overall look at critical development oriented requirements for the proposed Project. This report identifies the suitability of the site to sustain the development and/or identifies issues that need to be resolved to move the Project forward.

## SECTION B SITE ANALYSIS

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### 2.1 Physical and Natural Conditions Analysis

#### B.1 Hydrology and Surface Water Resources

The New York State Department of Environmental Conservation (NYSDEC) has jurisdiction over state-regulated wetlands (Article 24 Freshwater Wetlands) in New York State and the United States Army Corp of Engineers (USACOE) has jurisdiction over wetlands within New York State under the Clean Water Act Section 404 for non-tida. Federal wetlands have no required buffer width, while NYSDEC wetlands can have a setback of up to 100 feet for certain activities.

The NYSDEC online "Environmental Resources Mapper" shows no mapped NYSDEC wetlands or classified water bodies within the Project site. Article 24 Freshwater Wetland laws provide for the preparation on filing of jurisdiction wetland maps in New York State. The Project site is not identified as an area containing New York State designated wetlands, or being in a zone that requires site investigation for wetlands. The US Fish and Wildlife Service online "Wetlands Mapper" shows no mapped NWI wetlands within the Project site. See **Figure 2, "Surface Water Resources Map"**. The NWI maps do not establish federal jurisdiction and field assessment is necessary.

A wetland delineation was completed by a qualified Wetland Scientist and Soil Scientist on April 22, 2013. This investigation covered the entire site both the wooded and field areas. The wetland investigation was conducted in accordance with the 1987 USACOE Wetland Delineation Manual (Environmental Laboratory 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2) January 2012.

#### B.2 Soils

Soil types were determined from USDA National Resources Conservation Service and the National Cooperative Soil Survey and verified by a Soil Scientist. Most of the Project site, including the existing compressor station area, consists of well drained Honeoye-Farmington soils. There are inclusions of poorly drained and somewhat poorly drained Ilion, Appleton, and Lyons silt loams in the southern and eastern areas of the Project site. There is a limited area of moderately drained Nunda channery silt loam within the eastern portion of the Project site. See **"Figure 3, Soils Map"**.

The following are general characteristics of each of the soil series found on the Project site.

The Honeoye-Farmington series consists of well drained loamy till derived from limestone, dolomite, and calcareous shale, and from lesser amounts of sandstone and siltstone. Permeability (the ability of a material to transmit fluids) is moderately low to moderately high (0.06 to 0.20 in/hr). Depth to restrictive feature is more than 80 inches and depth to bedrock generally ranges from 10 to 20 inches.

The Ilion series consists of poorly drained loamy till derived from calcareous dark shale. Permeability is moderately low to moderately high (0.06 to 0.20 in/hr). Depth to restrictive

## SECTION B SITE ANALYSIS

---

feature is more than 80 inches and depth to water table ranges from 0 to 6 inches. The hydrologic soil group is C/D and this soil is classified as hydric.

The Appleton series consists of somewhat poorly drained calcareous loamy till derived mainly from limestone, sandstone, and shale. Permeability is moderately low to moderately high (0.06 to 0.57 in/hr). Depth to restrictive feature is more than 80 inches and depth to water table is generally 6 to 18 inches. The hydrologic soil group is C/D and this soil is classified as hydric.

The Lyons series consists of poorly drained calcareous loamy till derived mainly from limestone, calcareous shale, and sandstone, with a mantle of silty glaciolacustrine deposits in some places. Permeability is moderately high to high (0.20 to 1.98 in/hr). Depth to restrictive feature is more than 80 inches and depth to water table is generally 0 to 6 inches. The hydrologic soil group is B/D and this soil is classified as hydric.

The Nunda series consists of moderately well drained soils that formed in a silty mantle over loamy till derived from calcareous shale and siltstone. Permeability is moderately low to moderately high (0.06 to 0.20 in/hr). Depth to restrictive feature is more than 80 inches and depth to water table is generally 15 to 24 inches. The hydrologic soil group is C/D.

All of the soils found onsite are classified as farmland of statewide importance.

**Table 1. Soil Types.**

Soil Series	Hydrologic group
Honeoye-Farmington	D
Ilion	C/D
Appleton	C/D
Lyons	B/D
Nunda	C/D

A “hydrologic group” is a group of soils having similar runoff potential under similar storm and cover conditions. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonally high water table, intake rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. Hydrologic groups are used in equations that estimate runoff from rainfall. These estimates are needed for solving hydrologic problems that arise in planning watershed-protection and flood-prevention projects and for planning or designing structures for the use, control, and disposal of water.

The soils in the United States are placed into four groups, A, B, C, and D. In the definitions of the classes, infiltration rate is the rate at which water enters the soil at the surface and is controlled by the surface conditions. Transmission rate is the rate at which water moves in the soil and is controlled by soil properties. Definitions of the classes are as follows:

**SECTION B****SITE ANALYSIS**

---

**HSG A.** (Low runoff potential). The soils have a high infiltration rate even when thoroughly wetted. They chiefly consist of deep, well drained to excessively drained sands or gravels. They have a high rate of water transmission.

**HSG B.** The soils have a moderate infiltration rate when thoroughly wetted. They chiefly are moderately deep to deep, moderately well drained to well drained soils that have moderately fine to moderately coarse textures. They have a moderate rate of water transmission.

**HSG C.** The soils have a slow infiltration rate when thoroughly wetted. They chiefly have a layer that impedes downward movement of water or have moderately fine to fine texture. They have a slow rate of water transmission.

**HSG D.** (High runoff potential). The soils have a very slow infiltration rate when thoroughly wetted. They chiefly consist of clay soils that have a high swelling potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. They have a very slow rate of water transmission.

**On Site Soils Investigation:**

This soil investigation was done on April 22, 2013 by Roger J. Case and Rob Fraser (LA Group) and David Fountaine (Iroquois). There are no wetlands at the site.

Nearly all the site appears to be well drained shallow to bedrock Farmington silt loam. In the wooded portions of the property there are deep solution cracks in the joints of the limestone bedrock. There are also some significant rock outcrops in the wooded portions of the property.

There are some small inclusions of deep well drained Honeoye soils mostly on the east side of the property. There are also likely some inclusions of moderately deep Wassaic soils. Wassaic soils do not occur in the in the Schoharie County Soil Survey Soil Identification Legend, but are inevitably in the transition between the shallow Farmington and deeper Honeoye soils.

The shallow depth to bedrock soils at the site have a severe restriction (a severe restriction is relative to the expense involved in removing bedrock as a component of construction) for the installation of any underground utilities, including pipe lines, sewer and septic disposal and electrical service.

The bedrock substratum provides a stable base for most structural development.

**B.3 Rare, Threatened, and Endangered Species Habitat****a. New York State Natural Heritage Program**

The New York State Natural Heritage Program was consulted on February 12, 2013 and a response was received February 28, 2013. See "**Attachment 2, Letters of Record**". No rare, threatened or endangered species were specifically identified as being on the Project site.

**SECTION B SITE ANALYSIS**

---

## b. US Fish and Wildlife Service

The US Fish and Wildlife Service (USFWS) website was used to determine if there are any federally listed endangered or threatened species located within the proposed Project area. The official species list provided by New York Ecological Services Field Office indicates that there are no listed species identified for the vicinity of the Project. See “**Attachment 2, Letters of Record**”.

## B.4 Site Vegetation

The Project site is in the Appalachian oak-pine forest ecological community of New York State. This community consists of a mixed forest that occurs on sandy soils, sandy ravines in pine barrens, or on slopes with rocky soils that are well-drained. The canopy is dominated by a mixture of oaks and pines. The oaks include one or more of the following: black oak (*Quercus velutina*), chestnut oak (*Q. montana*), red oak (*Q. rubra*), white oak (*Q. alba*), and scarlet oak (*Q. coccinea*). The pines are either white pine (*Pinus strobus*) or pitch pine (*P. rigida*); in some stands both pines are present. Red maple (*Acer rubrum*), hemlock (*Tsuga canadensis*), beech (*Fagus grandifolia*), and black cherry (*Prunus serotina*) are common associates occurring at low densities. The shrublayer is predominantly ericaceous, usually with blueberries (*Vaccinium angustifolium*, *V. pallidum*) and black huckleberry (*Gaylussacia baccata*). The groundlayer is relatively sparse, and species diversity is low.

**On Site Vegetation Investigation**

This vegetative investigation was done on April 22, 2013 by Roger J. Case and Rob Fraser (LA Group) and David Fountaine (Iroquois).

Vegetation at the project site (see Figure 4 – Vegetation Map) includes a mixture of meadow grass dominating former agricultural fields fronting Westfall Road, adjacent to the compressor station’s driveway(s) and parking lots, and within the pipeline right of way. The grassy areas occupy approximately fifty percent of the site, primarily within the north and west areas of the site. Forested areas of the site extend from the southern edge of the pipeline right of way and the southern property boundary and between the northern edge of the pipeline right of way, the southern edges of the grassy meadows fronting Westfall road and the northeast property boundary.

The forested community is consistent with the Appalachian oak-pine forest community described above. The forested areas of the site are dominated by white oak (*Q. alba*), white pine (*Pinus strobus*), hemlock (*Tsuga canadensis*), common associates occurring at low densities include gray birch (*Betula populifolia*), beech (*Fagus grandifolia*), and sugar maple (*Acer saccharum*).

The shrub and herbaceous layers are relatively sparse and diversity is low due to the mature tree canopy. The dominant shrubs include honeysuckle (*Lonicera tatarica*), red raspberry (*Rubus idaeus*), beech (*Fagus grandifolia*), gray birch (*Betula populifolia*), hemlock (*Tsuga canadensis*), and white pine (*Pinus strobus*).

**SECTION B****SITE ANALYSIS**

---

There is an area of invasive wild parsnip (*Pastinaca sativa L.*) and spotted knapweed (*Centaurea stoebe ssp.*), approximately 20 sf, was identified within the pipeline right of way, approximately 500 lf from the southeast property boundary. The invasive species location was identified via GPS and is shown on the attached Water resources Map (Figure 2) and Vegetation Map (Figure 4).

There are no NYSDEC or ACOE jurisdictional wetlands located on the subject property.

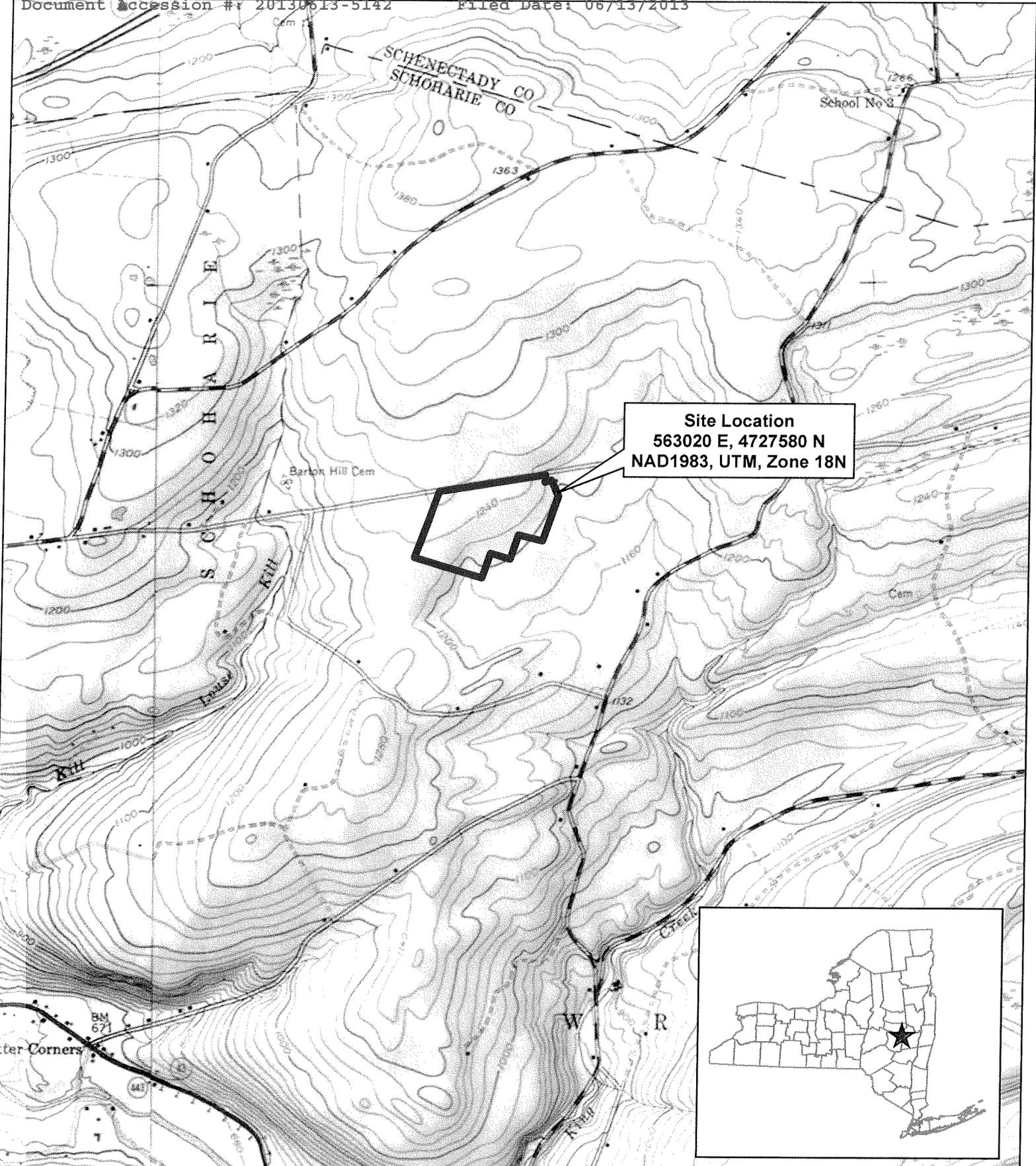
**REFERENCES**

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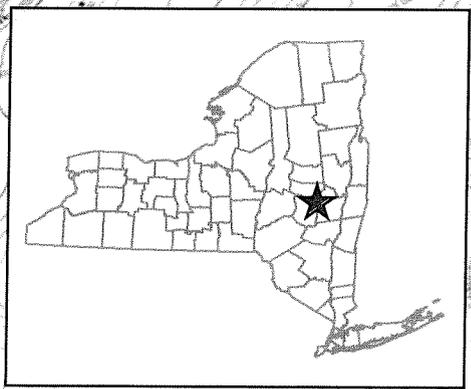
Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.

**Figures**

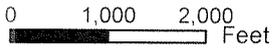
**Site Location Map**  
**Surface Water Resources Map**  
**Soils Map**  
**Vegetation**



**Site Location**  
 563020 E, 4727580 N  
 NAD1983, UTM, Zone 18N



1:24,000



**Wright Compressor Station Expansion**

Town of Wright, Schoharie County, New York

Title

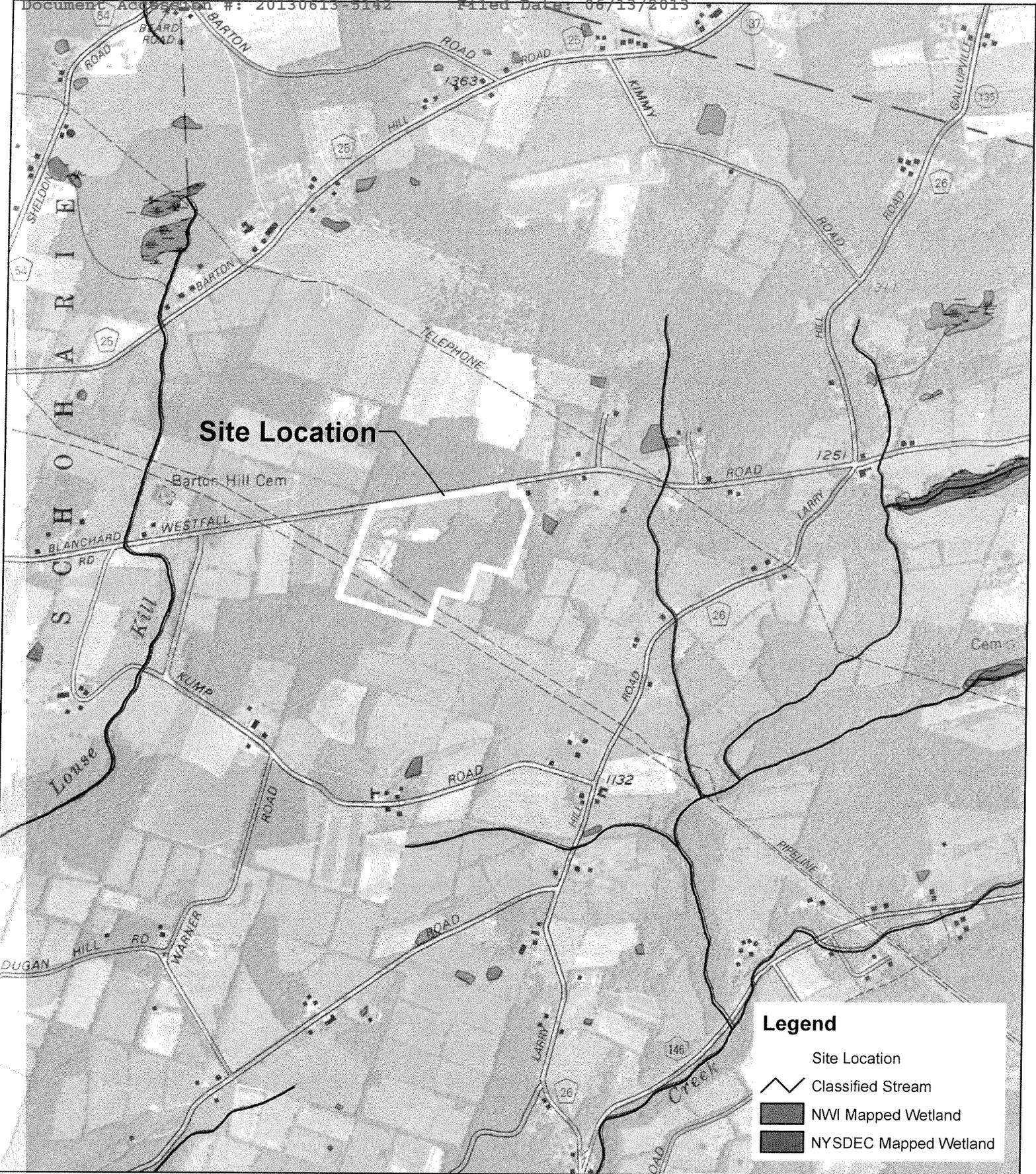
**Figure 1: Site Location Map**

USGS 1:24,000 Quadrangle: Gallupville



Project 201245

Date 03/04/2013



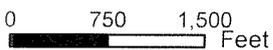
Site Location

**Legend**

-  Site Location
-  Classified Stream
-  NWI Mapped Wetland
-  NYSDEC Mapped Wetland



1" = 1,500'



# Wright Compressor Station Expansion

Town of Wright, Schoharie County, New York

Title

## Figure 2 - Surface Water Resources Map

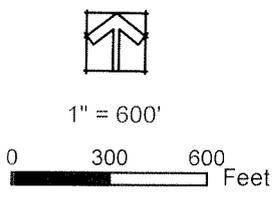
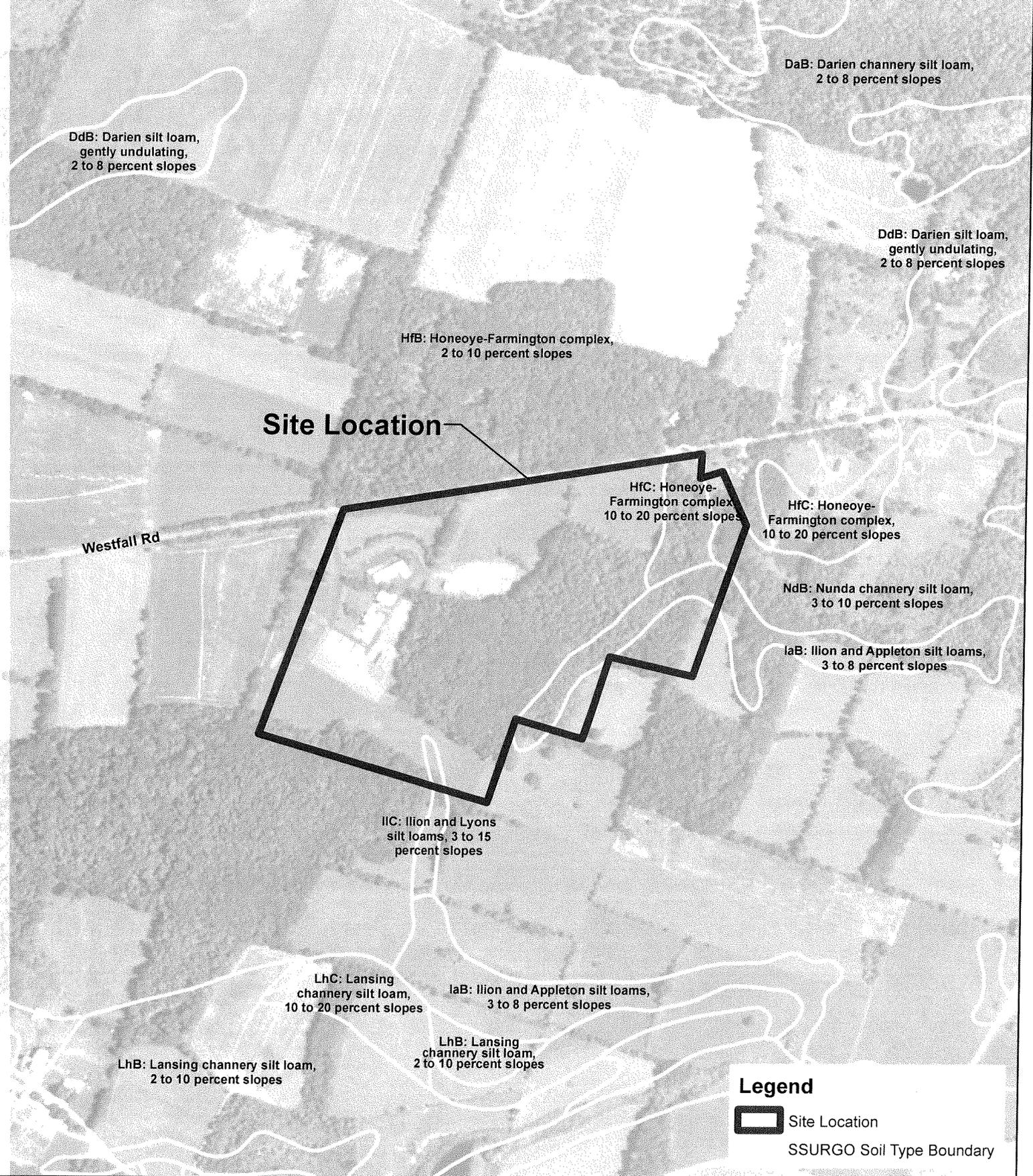
2011 orthoimagery provided by USDA



the LA group  
Landscape Architecture  
and Engineering, P.C.

Project 201308

Date 03/04/2013



# Wright Compressor Station Expansion

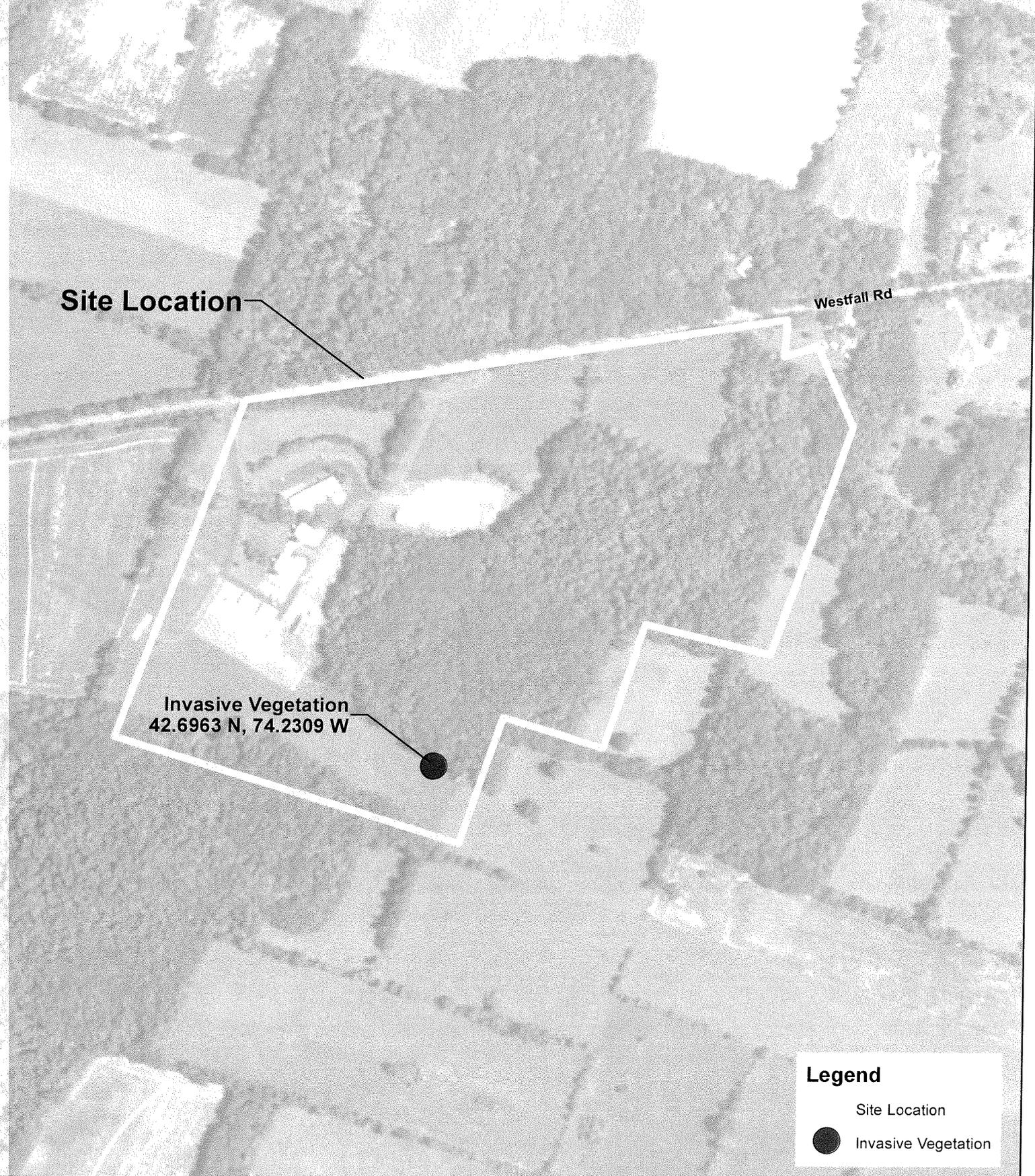
Town of Wright, Schoharie County, New York

## Figure 3: Soils Map

2011 orthoimagery provided by USDA



Project 201308  
Date 03/04/2013

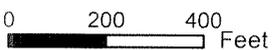


**Legend**

- Site Location
-  Invasive Vegetation



1" = 400'



## Wright Compressor Station Expansion

Town of Wright, Schoharie County, New York

Title

### Figure 4 - Vegetation

2011 orthoimagery provided by USDA



the LA group  
Landscape Architecture  
and Engineering, P.C.

Project 201308

Date 05/14/2013

**Attachment 1**  
**Resumes of Preparers**



**the LA group**  
Landscape Architecture  
and Engineering, P.C.

**Roger J. Case, PCSS**  
Senior Environmental Scientist

BS/1967/Cornell University  
PCSS

## Experience Summary

Roger Case has over 40 years of experience in soils investigation, identification, analysis, classification and mapping. Mr. Case is certified as a professional soil scientist and soil classifier by the American Society of Agronomy. His work includes Stormwater Pollution Prevention Plan inspection, oversight of right-of-way maintenance activities, wetland delineation and environmental analysis in utility corridors. He spent 22 years with the USDA Soil Conservation Service as a soil survey party leader. Mr. Case has worked extensively in New York State and with county and regional agencies as a soil scientist and has completed several high intensity soil surveys, including an acid rain study in the Adirondack Park.

## Project Experience

**National Grid-Ticonderoga Whitehall 115 kV, Wetland, Invasive Species Delineation**

**National Grid Ticonderoga Republic 115 kV, Wetlands, Invasive Species Delineation**

**Tri-Lakes 46 kV Transmission Line Reliability Project**  
St. Lawrence County, NY

**Reynolds Road Empire Partners 8.9 mile Transmission Line**  
Supervision Gas Line ROW Maintenance

**DestiNY Environmental Impact Assessment**  
Syracuse, NY

**Lake Placid Resort**  
Lake Placid, NY

**Sagamore Resort**  
Bolton Landing, NY

**Saranac Cogeneration Facilities**  
Plattsburgh, NY

**Esopus Lake Community**  
Esopus Lake, NY

**New York Botanical Garden**  
Bronx, NY

**Great Escape Amusement Park**  
Lake George, NY

**The Orchards at Cornell University**  
Ithaca, NY

**Woodstock 1994 Festival**  
Saugerties, NY

**St. Lawrence County Eastern Ontario Coastal Resources**  
NRCS

**Yaddo Lake Restoration**  
Saratoga Springs, NY

**Constitution Marsh Audubon Society Nature Boardwalk**  
Philipstown, NY

the LA group Landscape Architecture and Engineering, P.C.



**the LA group**  
Landscape Architecture  
and Engineering, P.C.

**Rogers Island Interpretive Center  
Fort Edward, NY**

**Cemeteries**

**Gerald B.H. Solomon National Cemetery Master Plan and Phase One Design  
Saratoga Springs, NY**

**NYS Dept. of Transportation Wetland Delineation and Mitigation, Regions 1, 7 and 9**

**National Grid, Ticonderoga Republic 115 kV Refurbishment.  
Ticonderoga-Whitehall—Ticonderoga Republic, NY**

Conducted wetland and stream corridor delineations, access route reconnaissance and assisted with preparing erosion and sedimentation control plans for wetland and stream crossings. Environmental Scientist.

**Biological Assessment  
Long Lake, NY**

A biological resource inventory of a 15,000 and 55,000 acre parcel was completed for a private landowner in the Adirondack Park. This inventory included identification of wetland heritage trout habitat, stream condition, water quality evaluation at eight lakes, and preparation of soils maps. The 55,000 acre parcel was retained to continue forestry operation while the small parcel was sold to New York State. Environmental Scientist.



**the LA group**  
Landscape Architecture  
and Engineering, P.C.

**Robert G. Fraser, PWS**  
Senior Environmental Scientist

BS/1992/SUNY ESF  
PWS

## Experience Summary

Robert Fraser is an Environmental Scientist, certified Professional Wetland Scientist (PWS) with 15 years of experience in environmental analysis and permitting. Work has included delineating wetlands, evaluating soils, writing technical reports, conducting inspections to support permit applications for utility projects and private development (residential and commercial projects). Recent project work includes Stormwater Pollution Prevention Plan inspection for an electric utility corridor. Previous work has included permitting for gas pipelines in Connecticut and Massachusetts.

## Project Experience

### Utilities

#### **Gas Pipeline Company**

##### **New York State**

Edited and revised IPOC's Environmental Procedures Manual relative to State and Federal environmental compliance for pipeline activities in New York and Connecticut. Conducted environmental inspections during maintenance activities of the natural gas pipeline right-of-way. Environmental Scientist.

#### **Luther Forest Technology Park – Electric Utility Line**

##### **Malta/Stillwater, NY**

Conducted environmental inspection services associated with clearing the electric utility line right-of-way and assisted with preparing erosion and sedimentation control plans for construction of the electric utility line. Environmental Inspector.

#### **Tri-Lakes 46 kV Transmission Line Reliability Project**

##### **St. Lawrence County, NY**

Assisted with the identification and inventory of vegetative communities for clearing a proposed electric utility line right-of-way. Environmental Scientist.

#### **National Grid, Ticonderoga Republic 115 kV Refurbishment.**

##### **Ticonderoga-Whitehall—Ticonderoga-Republic, NY**

Conducted wetland and stream corridor delineations, access route reconnaissance and assisted with preparing erosion and sedimentation control plans for wetland and stream crossings. Environmental Scientist.

#### **Adirondack Park Agency Environmental Permitting**

##### **Gore Mountain Master Plan and Ski Bowl Village**

##### **North Creek, NY**

Assisted with preparing Adirondack Park Agency Environmental Permit Applications.

##### **Adirondack Resort Restoration and Expansion**

##### **Tupper Lake, NY**

Assisted with preparing Adirondack Park Agency Environmental Permit Applications.

**the LA group**Landscape Architecture  
and Engineering, P.C.**Residential/Commercial****Saratoga Knights of Columbus  
Saratoga Springs, NY**

Assisted the Knights of Columbus with site plan amendment and zoning that will allow for the clearing of a buffer area that exists in the property. Environmental Permitting.

**Gordon-Tarant Site  
Queensbury, NY**

Feasibility Study for 90-120-unit apartment project. Environmental Scientist.

**Caldwell Residence  
Saratoga Springs, NY**

Phase 1 includes initial site development feasibility analysis of soils, slope, wetlands, and zoning for construction of a single-family house. Phase 2 services include site design and engineering for a 2-lot subdivision, access drive, sewage disposal system, and stormwater management plan for Town Permit Review. Environmental Scientist/Site Analysis.

**Whispering Pines Residential Subdivision  
Bolton, NY**

Environmental Science and Permitting

**New Vermont Road Residential Subdivision  
Bolton, NY**

Environmental Science and Permitting

**Ridgeview Commons PUD  
Wilton, NY**

Environmental Science and Permitting

**Carbone Auto Group  
Mayfield, NY**

Environmental Science and Permitting

**Saratoga Nissan Parking Lot  
Malta, NY**

Performed site plan approval services for a gravel parking area in the Town of Malta. SWPPP Management.

**Brant Lake Creek Residential Subdivision  
Horicon, NY**

Environmental Science and Permitting

**Morgan Estates Residential Subdivision  
Corinth, NY**

Provided wetland delineations, soil evaluations, project design consultation, environmental reports and permit applications and provided project representation with local, State and Federal agencies for permit approvals. Environmental Scientist.

**Educational/Institutional****Skidmore College  
Saratoga Springs, NY****Equestrian Facilities**

Conducted wetland delineation, soils evaluations, developed wetland remediation design prepared environmental reports applications required for State and Federal permit approval. Provided construction supervision and prepared project completion reports in compliance with State and Federal permit conditions.

**Boathouse Facilities**

Conducted wetland delineations and prepared environmental reports and applications required for Local, State and Federal permit approvals for maintenance of the College Boathouse.

**Boathouse Replacement**

Designed the site improvements and performed the regulatory analysis and permit applications for the replacement of the existing boathouse located on Fish Creek. The complicated regulatory setting



**the LA group**

Landscape Architecture  
and Engineering, P.C.

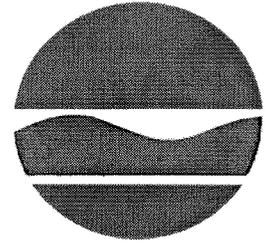
involved six different agencies for approvals to replace the existing structure on it's original foundation due to it's proximity to the creek, wetlands, and a county highway. The design included improved septic system holding tanks, replacement of existing fill with lightweight shale to ease the loading on underlying peat deposits, new dock access to the water, handicap access to the buildings, upgraded vehicular access and parking, creation of some gathering spaces for the team and regatta spectators, and improved aesthetics to the entire facility. This project, like many for Skidmore College, was designed to follow sustainable green building principles. Environmental Analyst.

**Lake Placid to Saranac Lake Multi-Use Trail  
Lake Placid, NY**

Working with a transportation engineer, The LA Group is providing environmental analysis and construction documentation for the project. Scope includes construction design for a proposed wetland mitigation, review of engineer's design plans for trail between Military Road to Scarface Trail to insure compliance with the prior approvals, limited client meeting attendance, gather sufficient data and perform wetland delineation to select preferred route and identify permit issues, and submit necessary permit applications to the Adirondack Park Agency. Environmental Scientist.

**Attachment 2**  
**Letters of Record**

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
**Division of Fish, Wildlife & Marine Resources**  
**New York Natural Heritage Program**  
625 Broadway, 5<sup>th</sup> Floor, Albany, New York 12233-4757  
**Phone:** (518) 402-8935 • **Fax:** (518) 402-8925  
**Website:** [www.dec.ny.gov](http://www.dec.ny.gov)



Joe Martens  
Commissioner

February 22, 2013

RECEIVED  
FEB 28 2013

The LA Group

Kelly Holzworth  
The LA Group  
40 Long Alley  
Saratoga Springs, NY 12866

Dear Ms. Holzworth:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Wright Compressor Station, site as indicated on your enclosed map, located in the Town of Wright, Schoharie County.

We have no records of rare or state listed animals or plants, or significant natural communities, On or in the immediate vicinity of your project site.

The absence of data does not necessarily mean that rare or state-listed species, or significant natural communities, do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Databases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at [www.dec.ny.gov/about/39381.html](http://www.dec.ny.gov/about/39381.html).

Sincerely,  
  
Jean Pietrusiak, Information Services  
NYS Department Environmental Conservation

Enc.  
cc: Reg, 4, Wildlife Mgr.

# 155



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
NEW YORK ECOLOGICAL SERVICES FIELD OFFICE  
3817 LUKER ROAD  
CORTLAND, NY 13045  
PHONE: (607)753-9334 FAX: (607)753-9699  
URL: [www.fws.gov/northeast/nyfo/es/section7.htm](http://www.fws.gov/northeast/nyfo/es/section7.htm)

Consultation Tracking Number: 05E1NY00-2013-SLI-0307

February 22, 2013

Project Name: Wright Compressor Station

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project.

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: <http://www.fws.gov/northeast/nyfo/es/section7.htm>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects

should follow the Services wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior  
Fish and Wildlife Service

Project name: Wright Compressor Station

## Official Species List

**Provided by:**

NEW YORK ECOLOGICAL SERVICES FIELD OFFICE

3817 LUKER ROAD

CORTLAND, NY 13045

(607) 753-9334

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

**Consultation Tracking Number:** 05E1NY00-2013-SLI-0307

**Project Type:** Oil Or Gas

**Project Description:** Iroquois Gas Transmission Company is proposing an expansion of the existing compressor station for the property.



United States Department of Interior  
Fish and Wildlife Service

Project name: Wright Compressor Station

**Project Location Map:**



**Project Coordinates:** MULTIPOLYGON (((-74.2337696 42.6993454, -74.2272679 42.7001496, -74.2261521 42.6996292, -74.2273967 42.6972164, -74.2285768 42.697453, -74.2292206 42.696286, -74.2299501 42.6964752, -74.2303793 42.6956394, -74.2349498 42.6968853, -74.2337696 42.6993454)))

**Project Counties:** Schoharie, NY



United States Department of Interior  
Fish and Wildlife Service

Project name: Wright Compressor Station

## Endangered Species Act Species List

Species lists are not entirely based upon the current range of a species but may also take into consideration actions that affect a species that exists in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Please contact the designated FWS office if you have questions.

There are no listed species identified for the vicinity of your project.



**Application of Iroquois Gas  
Transmission System, L.P. for a  
Certificate of Public Convenience  
and Necessity**

**FERC Docket No. CP13- -000**

**WRIGHT INTERCONNECT  
PROJECT**

**Wright, New York**

**APPENDIX E  
UNANTICIPATED CULTURAL  
RESOURCE DISCOVERY PLAN**

**June 2013**



# Environmental Procedure Manual

Date: 09/12/11	Procedure No. <b>ENV-A-13</b>	Rev. 9	Page 1 of 4
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## UNANTICIPATED DISCOVERIES OF HISTORIC PROPERTIES AND HUMAN REMAINS PROCEDURES

### 1.0 INTRODUCTION

1.1 This document outlines the procedure for managing unanticipated discoveries of cultural resources and human remains during pipeline construction and maintenance related activities.

1.2 This document is intended for use by company and contract personnel working for IPOC on the right-of-way or other properties.

### 2.0 PERSONAL SAFETY

2.1 Follow the safety practices that are outlined in the safety manual of the operations and maintenance contractor.

### 3.0 NOTIFICATIONS

3.1 This procedure contains specific information regarding notifications.

### 4.0 EQUIPMENT AND MATERIALS NEEDED

- Fence, construction, orange
- Posts, fence, metal
- Hammer, sledge

### 5.0 REFERENCES

Company Name	Document Name	Document Number
IPOC	<i>Cultural Resources Clearance Procedure</i>	ENV-A-03
IPOC	<i>Corrective Work Orders</i>	FOP 700-A-01
IPOC	<i>Work Order Requirements</i>	FOP 700-A-02
IGTS	<i>Development and Management Plan</i>	Appendix G
IGTS	<i>System-Wide Environmental Management and Construction Plan</i>	Section 5.11

### 6.0 INSTRUCTIONS

6.1 IPOC recognizes that it is possible for unanticipated historical properties or human

remains to be discovered during construction and maintenance related activities. The purpose of this document is to provide a procedure for managing any potential discoveries on the right-of-way or other disturbed areas.

### 6.2 Training

6.2.1 Basic training for the recognition of potential discoveries of historic properties or human remains is required for all IPOC environmental inspectors (EI) and IPOC and contractor personnel involved in ground disturbance activities. If a pre-job training is determined necessary by the Manager of Environmental, Health and Safety, this training will be given by the IPOC Chief Environmental, Health and Safety Inspector. If another EI is hired to oversee the work, a professional archaeologist or the IPOC Chief EI will provide this training to the IPOC EI.

### 6.3 Discovery of Recent Human Remains

6.3.1 If recent human remains are discovered by any personnel on the construction or maintenance site, all construction or maintenance activity in the immediate vicinity that could affect the integrity of the discovery will be suspended. The local police authorities will provide proper instruction that should be followed in regards to recent human remains. An archaeologist should review the remains to assure that they do not represent a potentially significant historic resource.

#### 6.3.2 Notification

6.3.2.1 The person who discovers the recent human remains must immediately notify the Construction Manager.

6.3.2.2 The Construction Manager will then notify the local police authorities and the IPOC EI.

6.3.2.3 The notification will include the exact location of the remains, as well as the time of discovery.

SME (JTB)	Manager, Environmental, Health & Safety
Compliance Manager	Manager, Field Operations & ROW
Manager, Engineering Services	



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## UNANTICIPATED DISCOVERIES OF HISTORIC PROPERTIES AND HUMAN REMAINS PROCEDURES

**6.3.2.4** IPOC's EI will immediately notify the Manager of Environmental, Health & Safety.

**6.3.2.5** The Manager of Environmental, Health & Safety will notify the SHPO and other appropriate government agencies, officials and other parties within 24 hours of the discovery.

### **6.3.3 Site-Specific Excavation Agreement**

**6.3.3.1** The Manager of Environmental, Health & Safety Department will contact and retain the services of a qualified and certified archaeologist.

**6.3.3.2** The Manager of the Environmental, Health & Safety Department and the contract archaeologist will work with the FERC, SHPO, State Police, Native Americans, and other involved agencies and parties to develop a discovery-specific agreement for excavation of the remains.

**6.3.3.3** Any discovery made on a weekend will be protected until all appropriate parties are notified of the discovery.

### **6.3.4 Resumption of Construction or Maintenance Activity**

**6.3.4.1** The IPOC Manager of Environmental, Health & Safety will provide the construction contractor's Construction Manager a written notice to resume the construction or maintenance activity when the site-specific procedure for handling the discovery is completed.

## **6.4 Cultural Resource Discoveries**

**6.4.1** Cultural Resource discoveries that require reporting and notification include but may not be limited to:

- Any human remains.
- Any recognizable, potentially significant concentrations of artifacts or evidence of human occupation.
- Work shall not be performed in areas that were not cleared for disturbance following Phase II archaeological investigations.

**Note: The Environmental, Health & Safety Department will obtain cultural resource clearance prior to commencing any construction or maintenance related projects that involve ground disturbance. Refer to Procedures No. ENV-A-03, FOP 700-A-01 and FOP 700-A-02. The clearance will include a review of previously recorded cultural resource sites.**

## **6.4.2 Notification**

**6.4.2.1** The following notification procedures will always be adhered to if an unanticipated potential discovery of artifacts or historic property remains occurs during construction or maintenance related activity.

**6.4.2.2** Construction or maintenance related work that could impact the integrity of the potential discovery will stop immediately and the proper notifications will be made.

**6.4.2.3** If the potential discovery is identified by construction (contractor or company) personnel, and the IPOC EI is not on site at the time of the discovery, the construction contractor's Construction Manager will be notified immediately. The Construction Manager will then immediately notify the EI.

**6.4.2.4** If the potential discovery is identified by government environmental monitors, and the IPOC EI is not on site at the time of the discovery, the government monitors will notify the EI immediately.

**6.4.2.5** If the IPOC EI is on site at the time the discovery is identified, he or she will notify the contractor's Construction Manager immediately.

**6.4.2.6** The IPOC EI will immediately notify the Manager of Environmental, Health & Safety. The notification will include:

- Milepost/station number.
- Town, County and State.
- Specific location of discovery with in the disturbed area.
- The nature of the discovery.

## **6.4.3 Previously Investigated and Cleared Areas**

**6.4.3.1** Upon discovery or notification of an unanticipated discovery within a previously investigated and cleared area, IPOC's EI will contact the Manager of Environmental, Health & Safety.

**6.4.3.2** The Manager of Environmental, Health & Safety will notify the SHPO and, retain the services of a qualified and certified archaeologist.

**6.4.3.3** The archaeologist will determine if the discovery is a new potentially significant discovery, as outlined below.



# Environmental Procedure Manual

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## UNANTICIPATED DISCOVERIES OF HISTORIC PROPERTIES AND HUMAN REMAINS PROCEDURES

### ***Potentially Significant New Discoveries of Artifacts or Historic Property Remains***

Discoveries that would be considered potentially significant new discoveries of artifacts or historic property remains include but may not be limited to:

- Any intact archaeological features.
- Evidence of a hearth or undisturbed occupation level, such as an organization of stones or burned earth.

**Note: Unanticipated discoveries in areas where previous archaeological surveys had been performed and clearance has been obtained and that do not meet the above criteria, are considered insignificant artifacts or historic property remains.**

### ***Significance Determination***

- The archaeologist will determine if the potential discovery is significant by completing the following:
  - Observe the type and nature of the discovery.
  - Compare observations to the criteria outlined in Potentially Significant New Discoveries of Artifacts or Historic Property Remains.
- The EI will identify the location and date of the discovery on the alignment drawing.
- If the potential discovery is determined to be significant, then proceed to Section 6.4.4.3.
- If the potential discovery is determined to be insignificant, no further action is required. The EI will inform the construction or maintenance crew that work may resume.
- The EI will document the discovery and the resolution of the issue on the daily inspection report and the weekly summary report. Refer to Procedure No. ENV-C-12, Environmental Inspection.
- If the potential discovery is determined to be significant the contract archaeologist will prepare an Artifact Discovery Report. The EI will attach the Artifact Discovery Report to the weekly summary report.
- If the potential discovery is determined to be significant, the IPOC Environmental, Health & Safety Department will include the discovery on the ROWMAD update list.

### **6.4.4 Areas Not Previously Investigated**

**6.4.4.1** Ground disturbing activities should not be performed in areas that have not been previously investigated and cleared. If any artifacts or historic property remains are discovered which have not been previously investigated and cleared by the Environmental, Health & Safety Department, the following procedure will be followed.

**Note: This procedure also applies to potentially significant new discoveries in previously investigated and cleared areas. Refer to Section 6.4.3 and 6.4.3.3.**

- The EI will complete the following tasks, immediately.
    - Insure that a protective barrier is installed around the site and that signs restricting entry are posted.
    - Photo document the site.
    - Draw a sketch of the location of the discovery.
    - Describe and Inventory the exposed potential artifacts or historic property remains.
  - Notify the contractor's Construction manager and IPOC's Manager of the Environmental, Health & Safety Department.
    - Fax copies of photographs, sketches, and description/inventory to the Manager of the Environmental, Health & Safety Department.
  - The Manager of Environmental, Health & Safety Department will contact the SHPO and retain the services of a qualified and certified archaeologist.
  - The Manager of Environmental, Health & Safety Department, will contact and provide the archaeologist and the SHPO with the information in Item 1, above.
  - The archaeologist will review the information immediately and determine if a site visit is necessary. If a site visit is necessary, the visit will be scheduled to occur within 24 hours of the contact.
- ### **6.4.4.2 Site Visit**
- When necessary, the archaeologist will visit the site and conduct a field survey to determine if the discovery is significant.



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Page 4 of 4

## UNANTICIPATED DISCOVERIES OF HISTORIC PROPERTIES AND HUMAN REMAINS PROCEDURES

### 6.4.4.3 Agency Notification

- The archaeologist will determine whether direct notification to the FERC, SHPO, and other agencies or parties is necessary.
  - Direct notification will be made by telephone contact with the appropriate agency representative, if possible.
  - If direct telephone contact is not possible, the notification information will be transmitted by facsimile.
  - The notification will be made immediately following the archaeologist determination.
- If direct notification is not required, or if other written information is required, transmit the data to these parties by facsimile, overnight mail service, or other expedited delivery means.
- The IPOC Environmental, Health & Safety Department and the archaeologist will work with the SHPO, and other agencies and parties, as necessary, to develop a proposed plan of action to handle the discovery.

### 6.4.5 Resumption of Construction or Maintenance Related Activity

**6.4.5.1** The IPOC Manager of Environmental, Health & Safety will provide the construction contractor's Construction Manager a written notice to resume the construction or maintenance activity when the site-specific procedure for handling the discovery is completed.

## 7.0 DOCUMENTATION/REPORTING

**7.1** The EI will include the following information on the daily inspection report and weekly summary report:

- Location of the discovery (by milepost).
- Date of the discovery.
- Nature of the discovery.
- Date and time of notification to the Manager of Environmental, Health & Safety.
- Resolution of the situation.

**7.2** The Manager of the Environmental, Health & Safety Department will document all agency and involved party notifications.

**7.3** The contract archaeologist will prepare any necessary Artifact Discovery Reports.



**Application of Iroquois Gas  
Transmission System, L.P. for a  
Certificate of Public Convenience  
and Necessity**

**FERC Docket No. CP13- -000**

**WRIGHT INTERCONNECT  
PROJECT**

**Wright, New York**

**APPENDIX F  
RESOURCE REPORT FIGURES**

**June 2013**

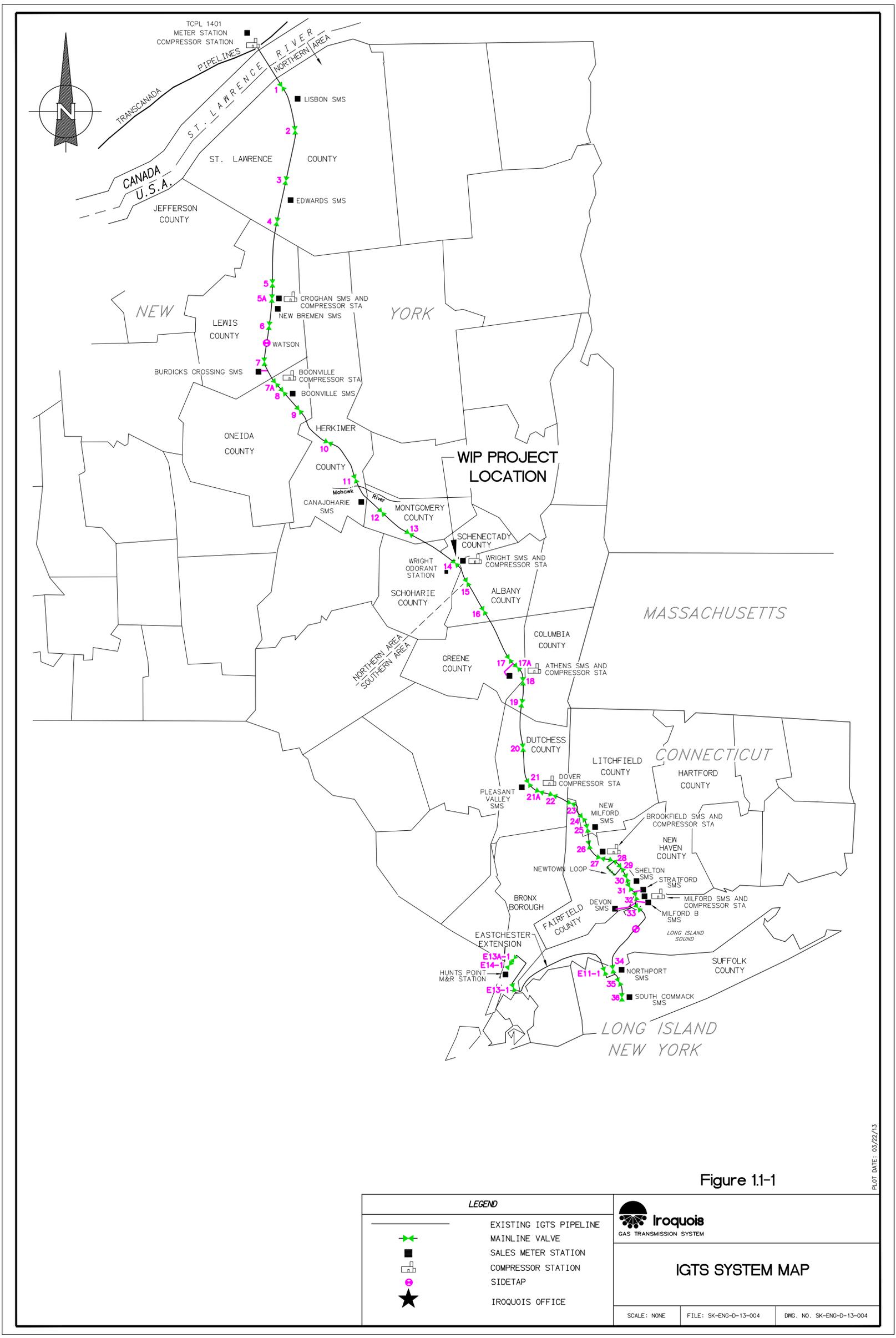


Figure 11-1

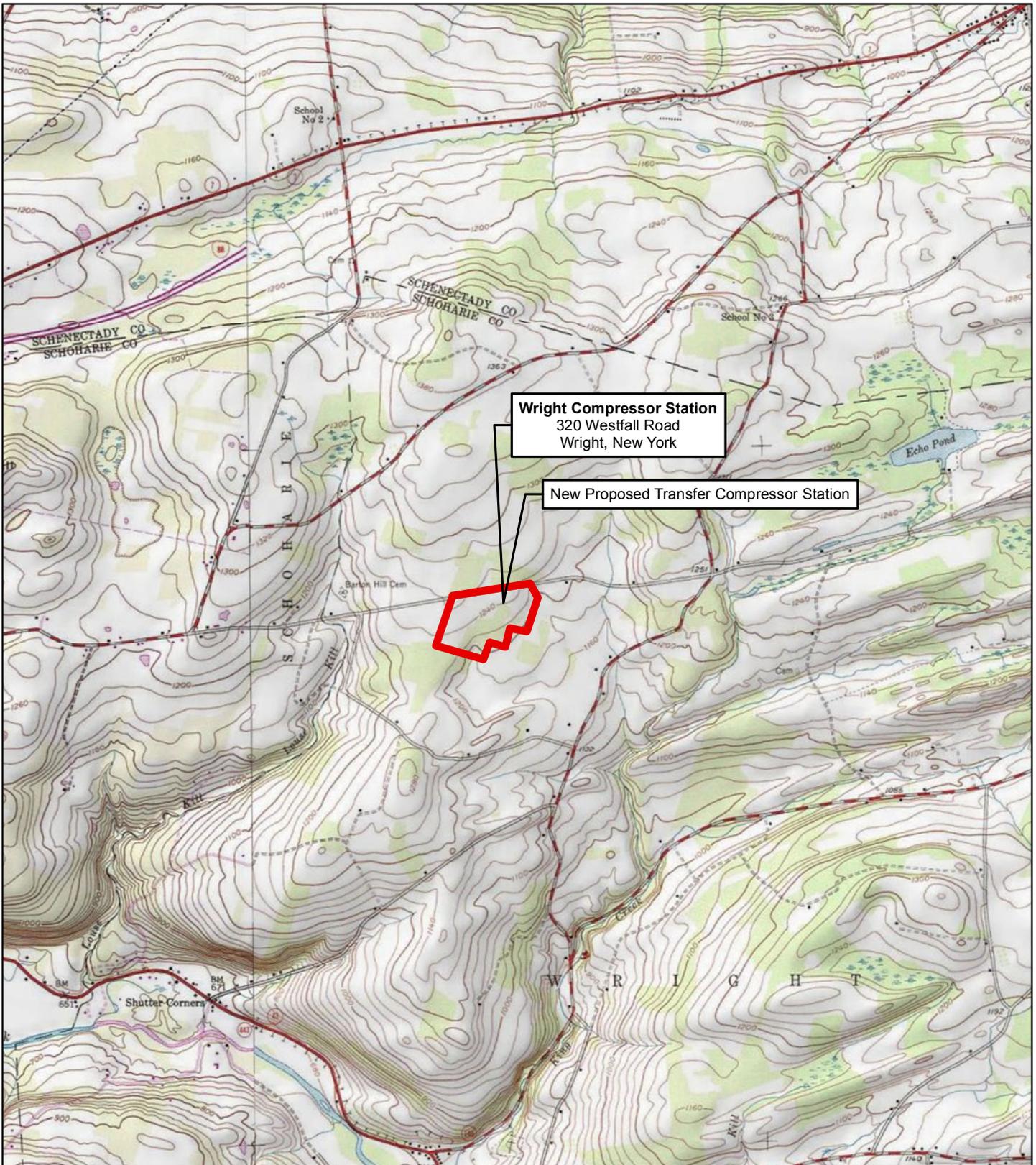
<b>LEGEND</b>		<p><b>Iroquois</b> GAS TRANSMISSION SYSTEM</p>
	EXISTING IGTS PIPELINE	
	SALES METER STATION	<p><b>IGTS SYSTEM MAP</b></p>
	COMPRESSOR STATION	
	SIDETAP	
	IROQUOIS OFFICE	
SCALE: NONE		FILE: SK-ENG-D-13-004
		DWG. NO. SK-ENG-D-13-004

PLOT DATE: 03/22/13

**APPENDIX F – FIGURE 1.1-2**

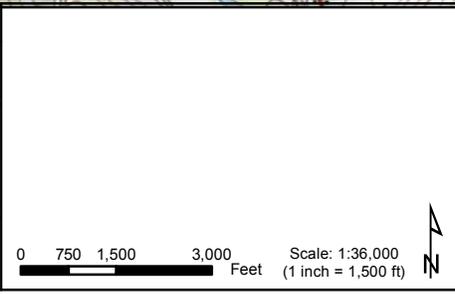
**CRITICAL ENERGY INFRASTRUCTURE  
INFORMATION – DO NOT RELEASE**

**PLEASE REFER TO VOLUME III – EXHIBIT F-I**



**Wright Compressor Station**  
 320 Westfall Road  
 Wright, New York

**New Proposed Transfer Compressor Station**



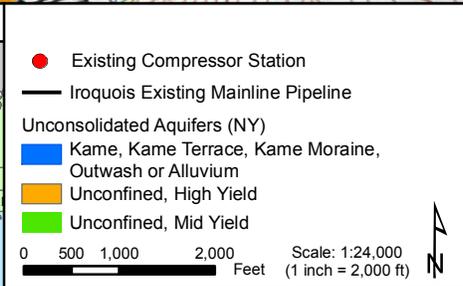
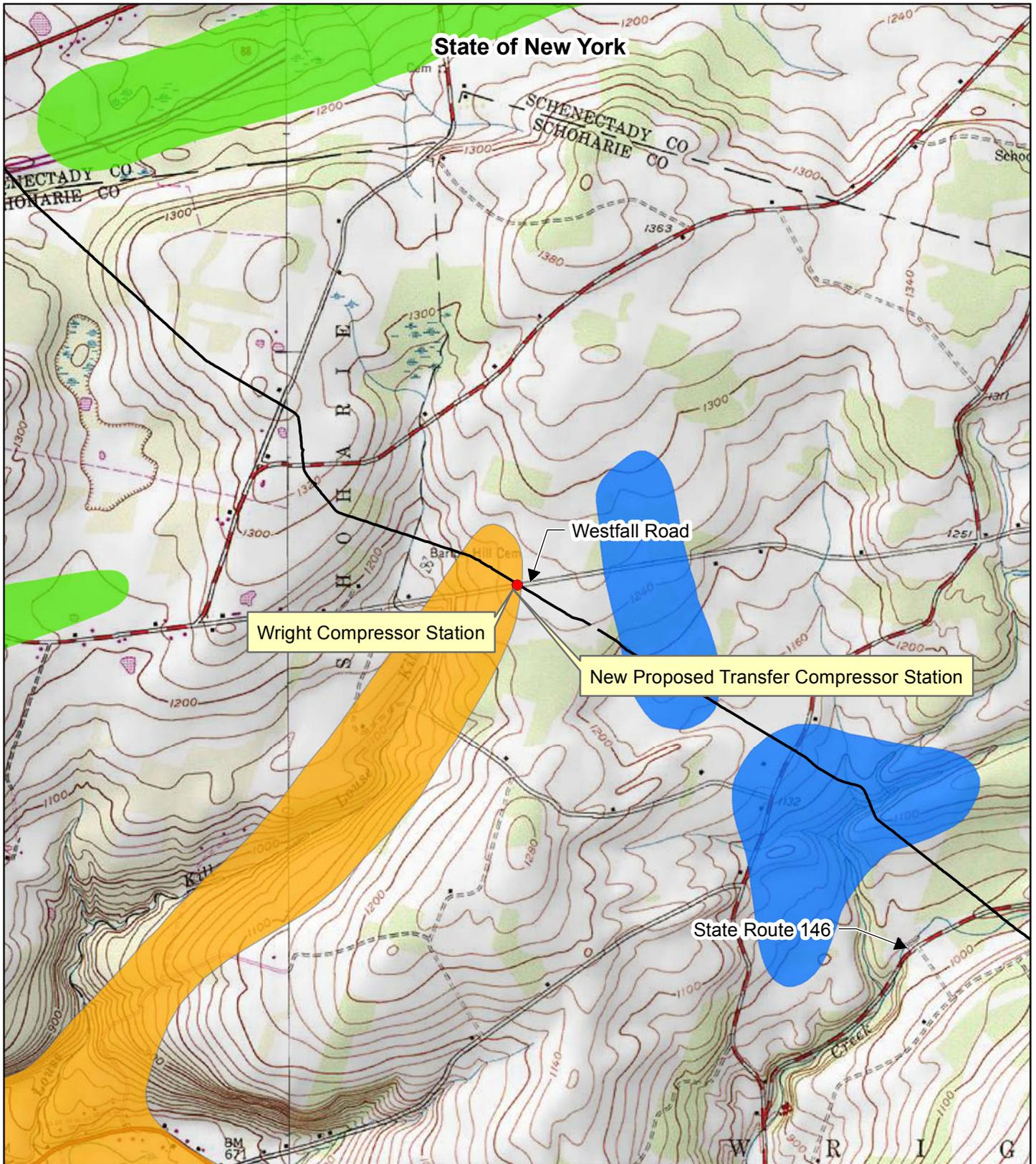
**Wright Interconnect Project**  
**Site Location Map**  
 Wright, NY

Image Source: USGS Topo (Gallupville)

**Iroquois**  
 GAS TRANSMISSION SYSTEM

**AECOM**

Figure 1.1-3  
 Version 1  
 June 2013



**Iroquois**  
GAS TRANSMISSION SYSTEM

**AECOM**

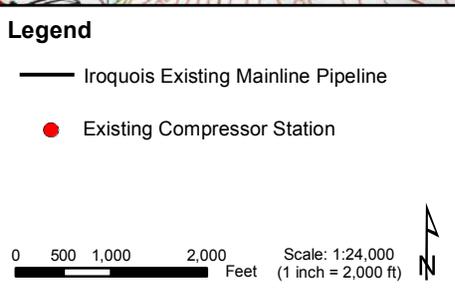
Figure 2.1-1  
Version 1  
June 2013

Image Source: USGS Topo (Gallupville)

**Iroquois**  
GAS TRANSMISSION SYSTEM

**AECOM**

Figure 2.1-1  
Version 1  
June 2013



**Wright Interconnect Project**

**Waste Areas**

Wright, NY

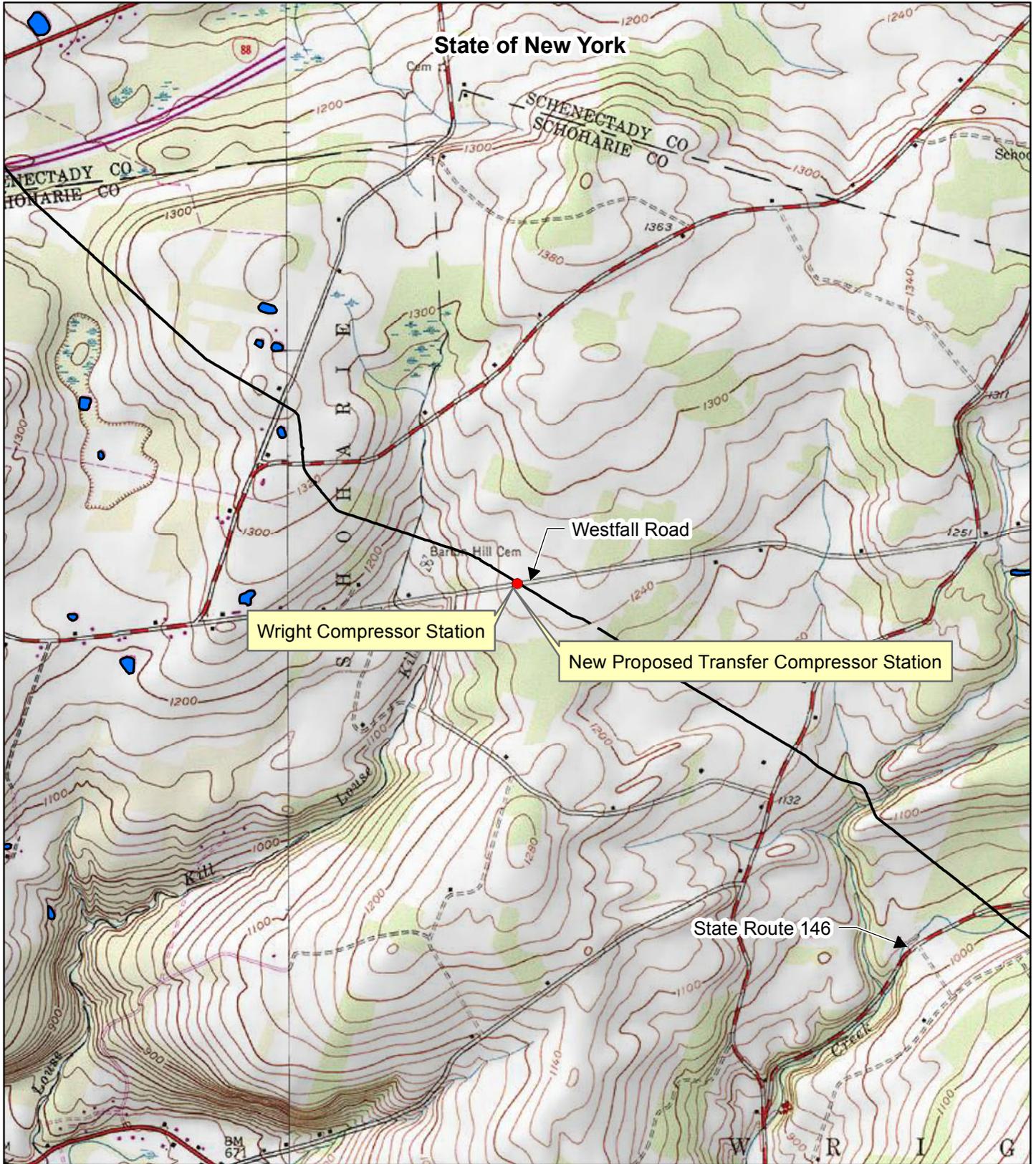
Image Source: USGS Topo (Gallupville)

**AECOM**

Figure 2.1-2

Version 1

June 2013



**Legend**

- Iroquois Existing Mainline Pipeline
- Existing Compressor Station
- ☁ Surface Water Areas (NYSDEC)

0 500 1,000 2,000 Feet Scale: 1:24,000 (1 inch = 2,000 ft)

Image Source: USGS Topo (Gallupville)

**Wright Interconnect Project**

**Surface Water Areas**

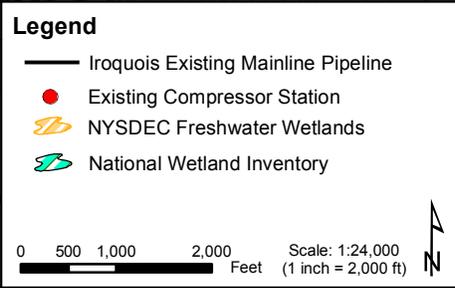
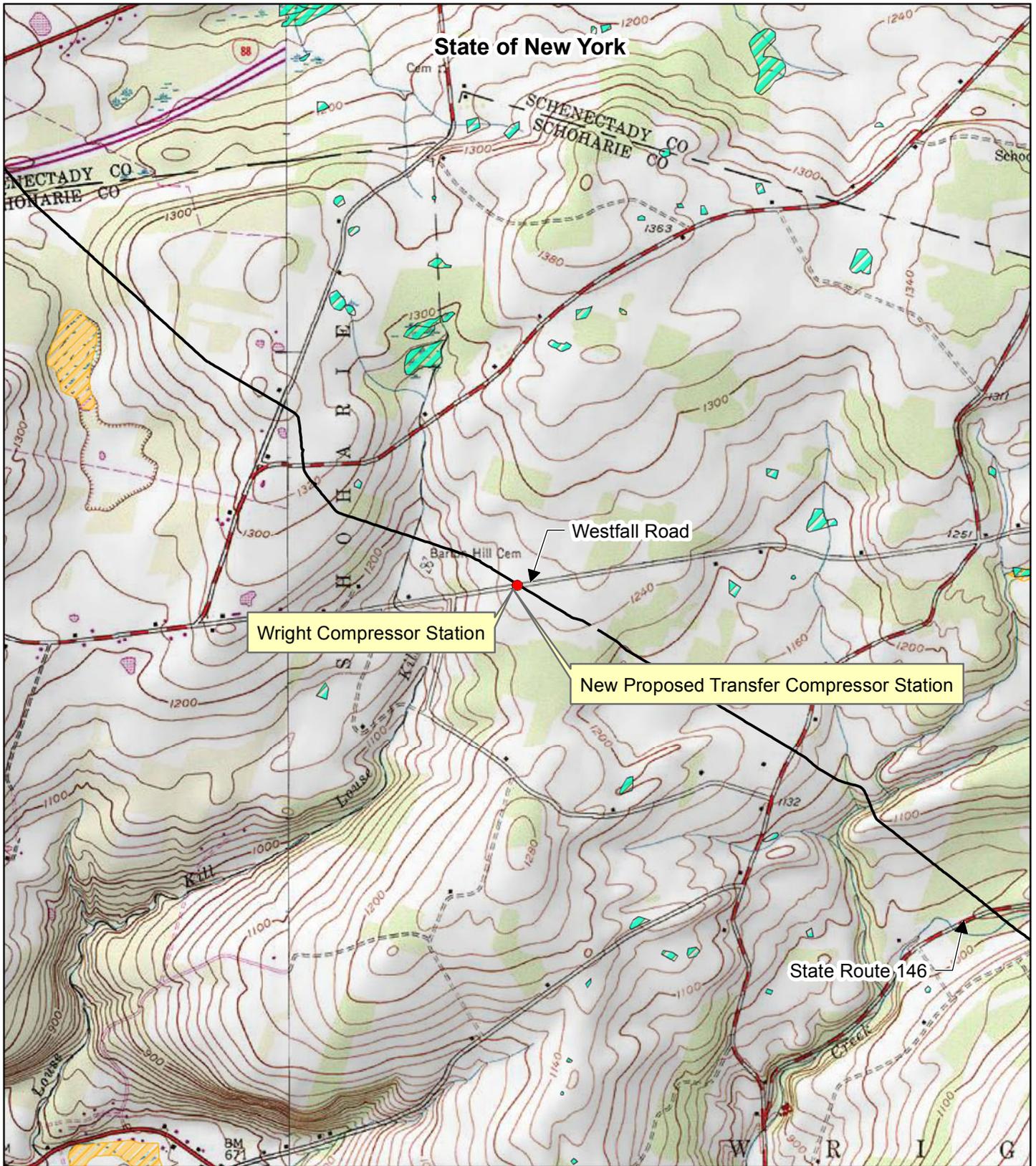
Wright, NY

**AECOM**

Figure 2.2-1

Version 1

June 2013

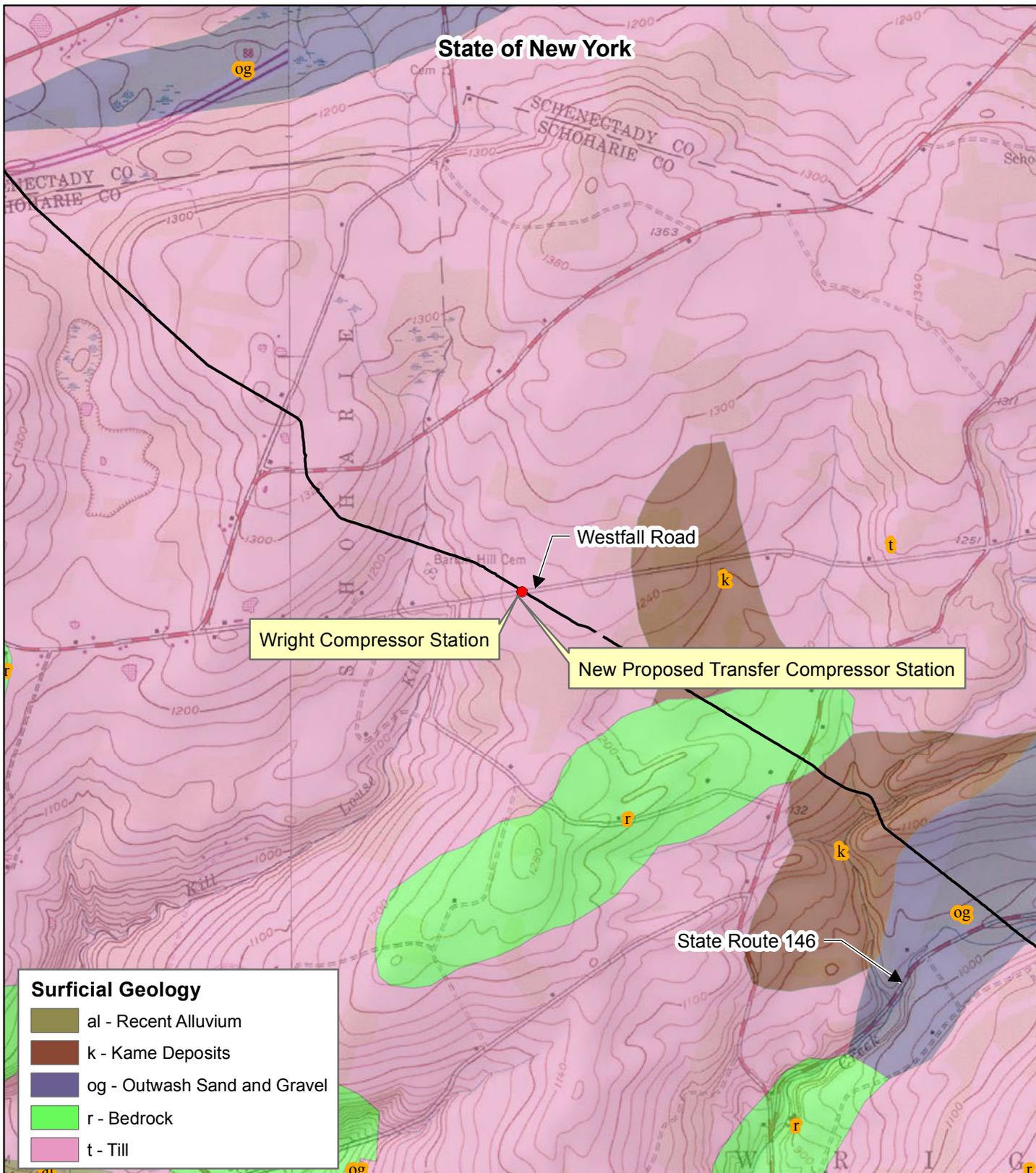


**Wright Interconnect Project**  
**NWI Wetlands**  
 Wright, NY

Image Source: USGS Topo (Gallupville)

**AECOM**

Figure 2.3-1  
 Version 1  
 June 2013



**Surficial Geology**

- al - Recent Alluvium
- k - Kame Deposits
- og - Outwash Sand and Gravel
- r - Bedrock
- t - Till



**Legend**

- Iroquois Existing Mainline Pipeline
- Existing Compressor Station

0 500 1,000 2,000 Feet Scale: 1:24,000 (1 inch = 2,000 ft)

**Wright Interconnect Project**

**Surficial Geology**

Wright, NY

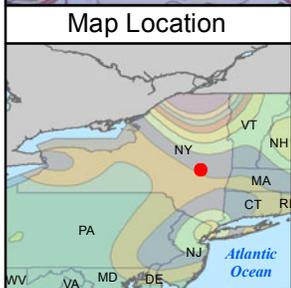
Image Source: USGS Topo (Gallupville)  
Data Source: NYS Museum / NYS Geological Survey

**AECOM**

Figure 6.1-1

Version 1

June 2013



**Legend**

- Iroquois Existing Mainline Pipeline
- Existing Compressor Station
- Seismic Hazard Zone Value = 4  
The minimum peak horizontal ground acceleration value for the polygon, as percent of gravity (9.8 meters/second<sup>2</sup>). Source: National Atlas of the United States)

0 500 1,000 2,000 Feet      Scale: 1:24,000 (1 inch = 2,000 ft)

**Wright Interconnect Project**

**Seismic Zone**

Wright, NY

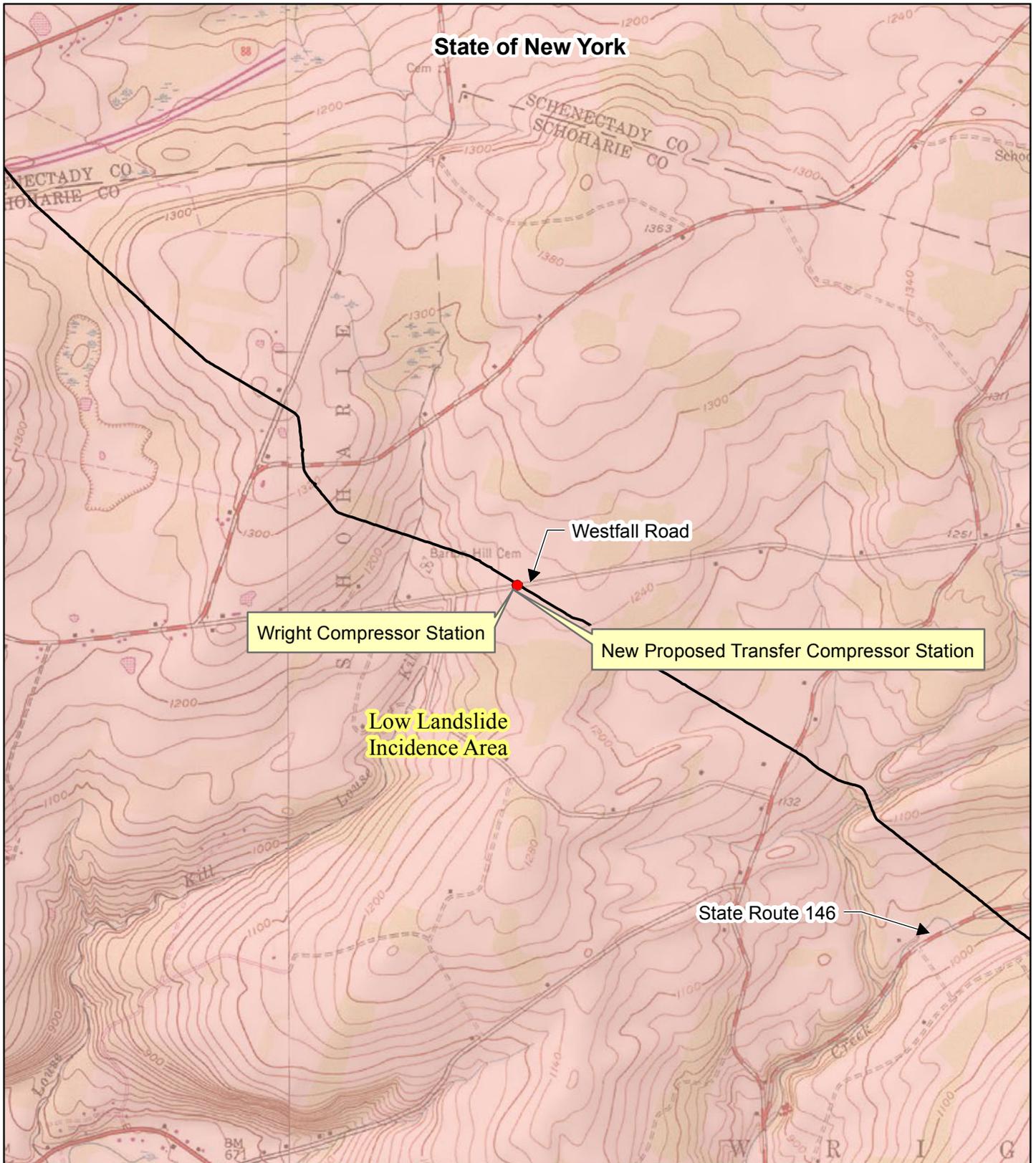
Data Source: USGS  
Image Source: USGS Topo (Gallupville)

**AECOM**

Figure 6.4-1

Version 1

June 2013



**Legend**

- Iroquois Existing Mainline Pipeline
- Existing Compressor Station
- Landslide Incidence = Low (less than 1.5 % of the area is involved in landsliding.)

0 500 1,000 2,000 Feet Scale: 1:24,000 (1 inch = 2,000 ft)

**Wright Interconnect Project**

**Landslide Map**

Wright, NY

Data Source: USGS  
Image Source: USGS Topo (Gallupville)

**AECOM**

Figure 6.4-2

Version 1

June 2013



**Application of Iroquois Gas  
Transmission System, L.P. for a  
Certificate of Public Convenience  
and Necessity**

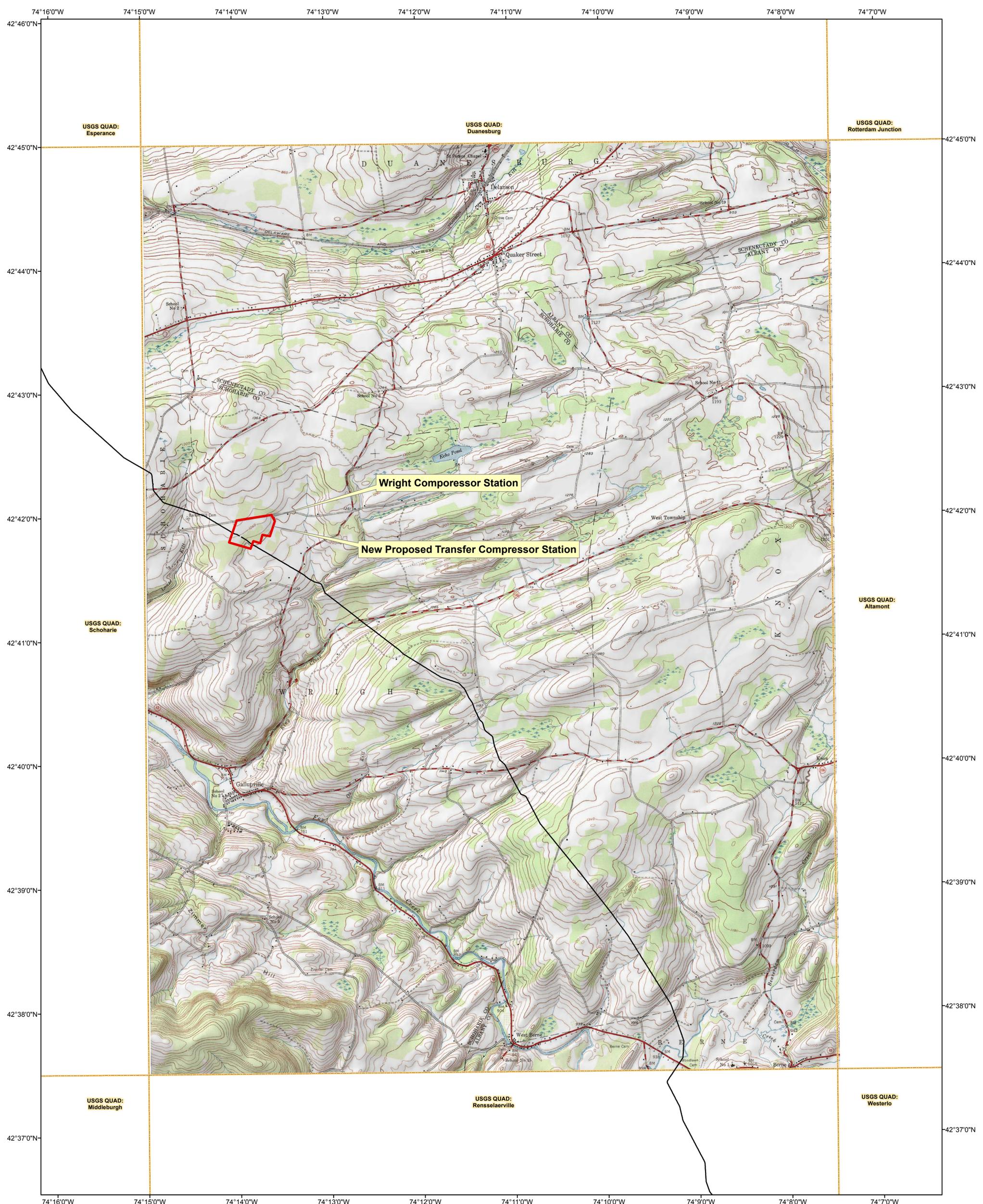
**FERC Docket No. CP13- -000**

**WRIGHT INTERCONNECT  
PROJECT**

**Wright, New York**

**APPENDIX G  
USGS FULL-SIZE QUADRANGLE  
MAPS**

**June 2013**



**Legend**

- Wright Compressor Station
- Iroquois Mainline

0 1,000 2,000 4,000 6,000 Feet

Scale: 1:24,000  
(1 inch = 2,000 ft)

**Wright Interconnect Project**  
**USGS Topographic Map**  
 Wright, NY

Data Source: USGS  
 Image Source: USGS Topo (Gallupville)

Version 1  
 June 2013



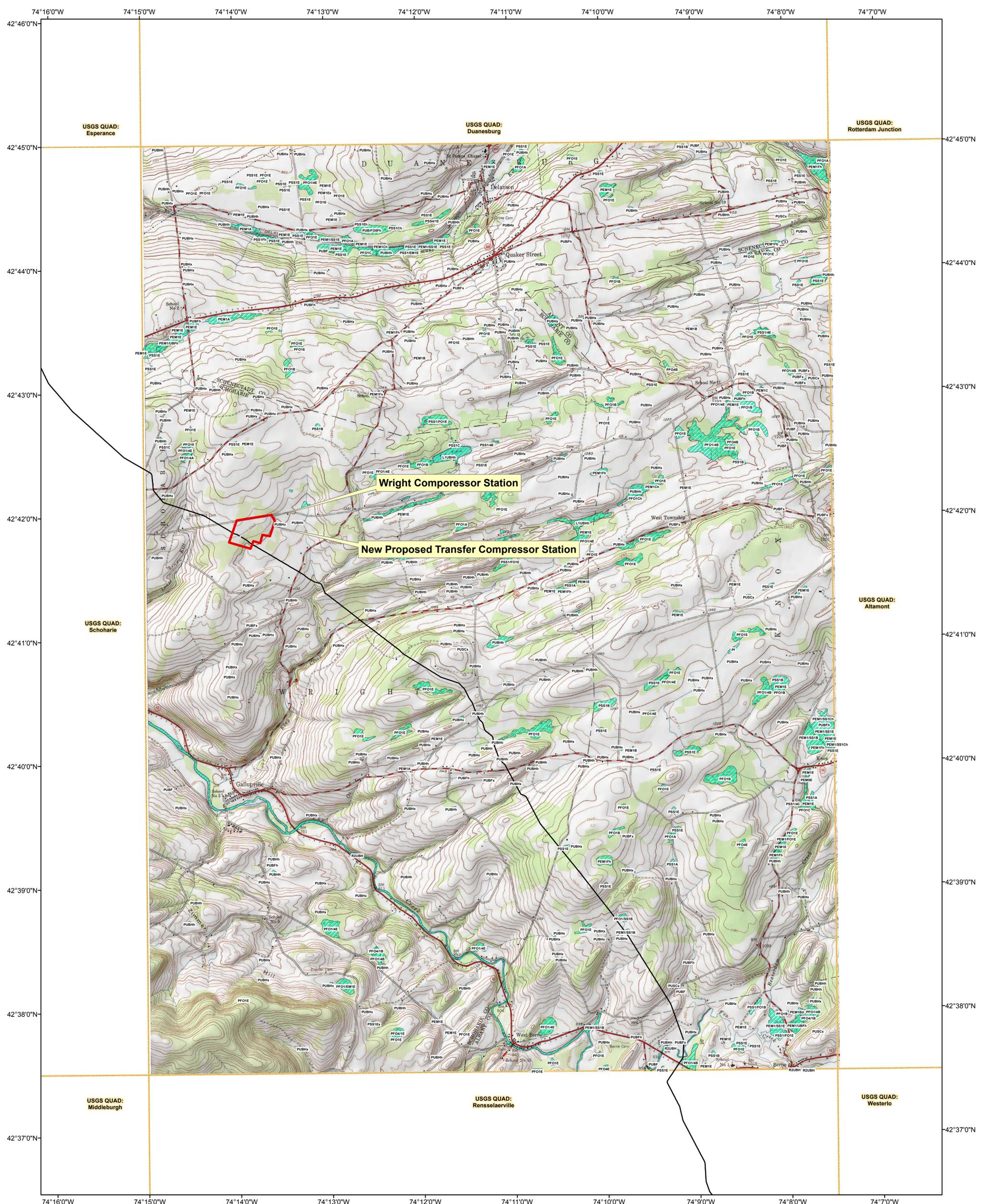
**Application of Iroquois Gas  
Transmission System, L.P. for a  
Certificate of Public Convenience  
and Necessity**

**FERC Docket No. CP13- -000**

**WRIGHT INTERCONNECT  
PROJECT  
Wright, New York**

**APPENDIX H  
NATIONAL WETLAND  
INVENTORY MAPS**

**June 2013**



**Legend**

- Wright Compressor Station
- Iroquois Mainline
- National Wetland Inventory

Scale: 1:24,000  
(1 inch = 2,000 ft)

0 1,000 2,000 4,000 6,000 Feet

North arrow pointing up.

**Wright Interconnect Project**  
**National Wetland Inventory Map**  
 Wright, NY

Data Source: USGS  
 Image Source: USGS Topo (Gallupville)

**AECOM**

Version 1  
 June 2013

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