

Water for the Future: Upstate Water Supply Resiliency

**New Paltz Temporary Transmission Water Main
Supplemental EIS**

Draft Scope of Work

Prepared for:



May 2017

Water for the Future: Upstate Water Supply Resiliency

New Paltz Temporary Transmission Water Main Supplemental Environmental Impact Statement

Draft Scope of Work

May 2017

CEQR No: 15DEP006U

Lead Agency: New York City Department of Environmental Protection

Acting Commissioner: Vincent Sapienza, P.E.

Lead Agency Contact: Angela Licata
Deputy Commissioner of Sustainability
Attn: Sangamithra Iyer, P.E.
New York City Department of Environmental Protection
59-17 Junction Boulevard
Flushing, NY 11373

Preparer: New York City Department of Environmental Protection
Bureau of Environmental Planning and Analysis
59-17 Junction Boulevard
Flushing, NY 11373

Table of Contents

1.0	INTRODUCTION.....	1
2.0	BACKGROUND	1
2.1	Water for the Future	1
2.2	Upstate Water Supply Resiliency Project.....	3
2.3	Catskill Aqueduct Repair and Rehabilitation Project	4
2.4	Outside Community Connections.....	4
3.0	PROPOSED NEW PALTZ TEMPORARY TRANSMISSION WATER MAIN ...	8
3.1	Purpose and Need	8
3.2	Project Description	8
3.3	Project Schedule.....	10
3.4	Project Approvals and Coordination.....	10
3.5	Analytical Framework for Supplemental Environmental Impact Statement.....	10
3.6	Organization and Scope of the Supplemental Environmental Impact Statement..	11
3.6.1	Executive Summary	12
3.6.2	Project Description.....	12
3.6.3	Probable Impacts of the Proposed Project	13
3.6.4	Cumulative Effects.....	22
3.6.5	Mitigation.....	22
3.6.6	Growth Inducing Effects of Proposed Project	22
3.6.7	Unavoidable Adverse Impacts	22
3.6.8	Irreversible and Irrecoverable Commitment of Resources.....	22
3.6.9	Glossary of Acronyms	22

List of Figures

Figure 1: Water Supply System 2
Figure 2: Catskill Aqueduct Repair and Rehabilitation..... 6
Figure 3: Outside Community Connections 7
Figure 4: Site Location Map 9

List of Tables

Table 1: Outside Community Connections to the Catskill Aqueduct..... 5
Table 2: Summary of Potential Discretionary Permits and Approvals for New Paltz Temporary
Transmission Water Main..... 10

List of Acronyms

CEQR	City Environmental Quality Review
DEIS	Draft Environmental Impact Statement
DEP	Department of Environmental Protection
EIS	Environmental Impact Statement
ESA	Environmental Site Assessment
FEIS	Final Environmental Impact Statement
GHG	Greenhouse Gas
mgd	million gallons per day
NYC	New York City
NYCRR	New York Codes, Rules and Regulations
NYS	New York State
PCE	Passenger car equivalents
RCNY	Rules of the City of New York
RWBT	Rondout-West Branch Tunnel
SEIS	Supplemental Environmental Impact Statement
SEQRA	State Environmental Quality Review Act
SERP	State Environmental Review Process
SHPO	State Historic Preservation Office
TNM	Traffic Noise Model
SPDES	State Pollutant Discharge Elimination System
UWSR	Upstate Water Supply Resiliency
WFF	Water for the Future

1.0 INTRODUCTION

This Draft Scope of Work for a Supplemental Environmental Impact Statement (SEIS) addresses a new element of the New York City Department of Environmental Protection's (DEP) previously proposed Upstate Water Supply Resiliency (UWSR) Project. The UWSR Project was the subject of a Draft Environmental Impact Statement (DEIS) that was prepared consistent with the State Environmental Quality Review Act (SEQRA), its implementing regulations (6 NYCRR Part 617), and New York City Environmental Quality Review (CEQR). The DEIS was issued on September 19, 2016 by DEP, as Lead Agency under SEQRA and CEQR, and a series of public hearings were held on the DEIS in October 2016.

Subsequent to the publication of the DEIS, DEP has identified an additional element of the UWSR Project. This new project element would involve the development of a new temporary water transmission main to supply the Village and Town of New Paltz, referred to collectively here as New Paltz. This water transmission main would supply water to New Paltz during those periods when DEP would need to temporarily shut down the Catskill Aqueduct for extended periods, as described in the DEIS for the UWSR Project. The purpose of this Draft Scope of Work is to describe the proposed new element of the UWSR Project, provide the environmental framework for the assessment of this, and identify potential significant adverse impacts, if any.

2.0 BACKGROUND

2.1 WATER FOR THE FUTURE

The New York City (City) water supply system was developed to deliver an abundant and reliable supply of clean drinking water to the City. DEP is currently responsible for supplying clean drinking water to over eight million City residents and one million upstate customers in sufficient quantity to meet present water demands and to maintain the water supply system to meet future water demands. This is achieved through careful and coordinated management of the City's three surface water supply systems: the Catskill, Delaware, and Croton systems (see Figure 1). Recognizing the need to protect the long-term viability and overall resilience of the water supply system, the City continues to make systematic and sustained investments in the critical infrastructure that provides water to approximately nine million people each day.

DEP developed the Water for the Future program (WFF) to address significant leakage in one of its most critical pieces of water supply infrastructure: the Delaware Aqueduct. The Delaware Aqueduct has been in operation since the 1940s and transports water a distance of approximately 85 miles from the Delaware water supply system. The Delaware water supply system is the source of approximately 50 percent of the City's water supply. The Delaware Aqueduct is comprised of several segments, the longest of which is the Rondout-West Branch Tunnel (RWBT) that connects the Delaware water supply system's Rondout Reservoir, located in Ulster and Sullivan counties, New York, to the West Branch Reservoir in Putnam County, New York (see Figure 1). Repairing the RWBT is necessary for the City to continue to meet its water

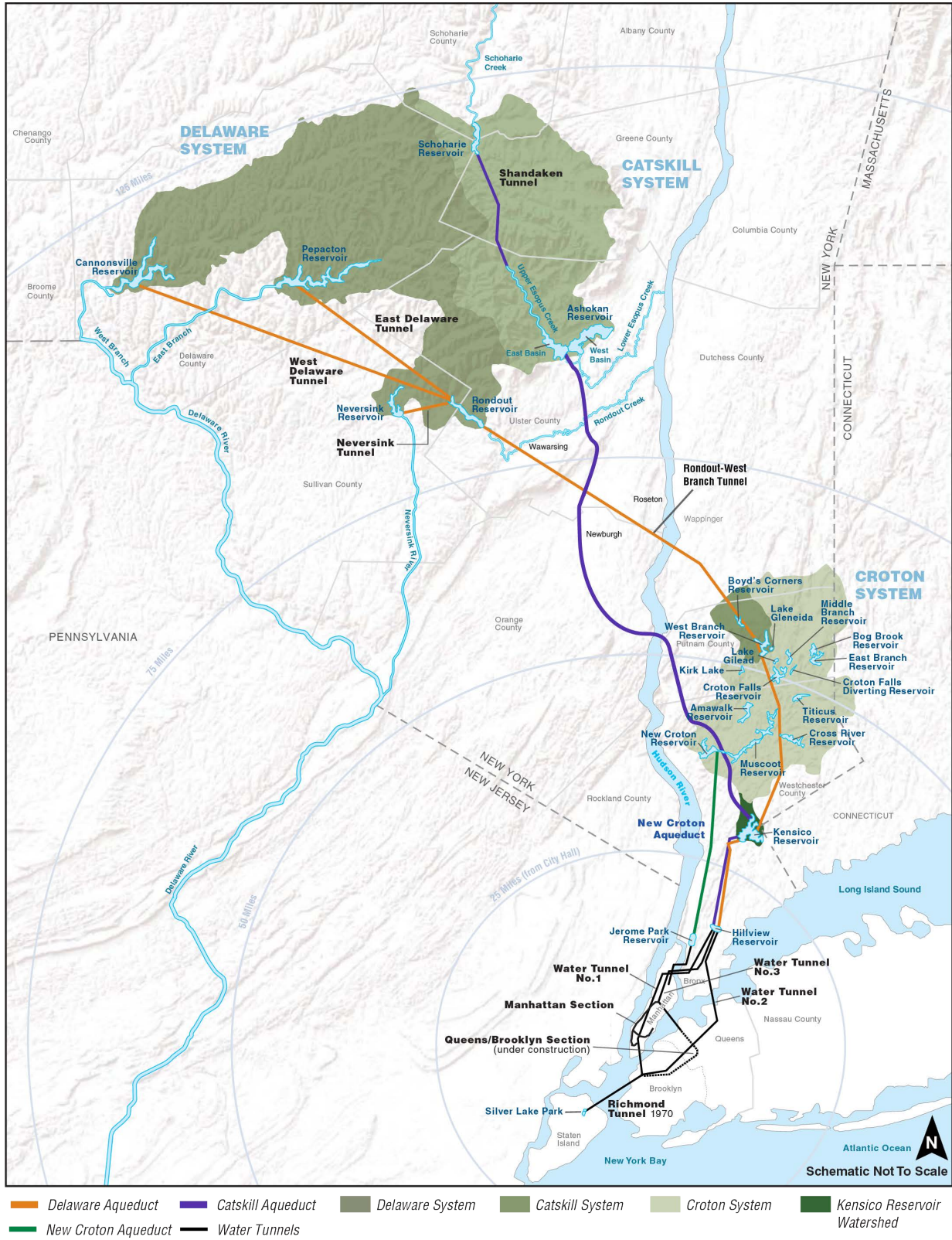


Figure 1: Water Supply System



supply obligations, as it is the City's only direct conduit to the source waters of the Delaware water supply system west of the Hudson River.¹

The RWBT segment of the Delaware Aqueduct is leaking up to 35 million gallons per day (mgd), primarily in the area known as the Roseton crossing under the Town of Newburgh, Orange County, New York; a second leaking section is located near the Town of Wawarsing, Ulster County, New York.

To address these leaks, an iterative planning process involving complex modeling and considerations for both repair time and cost was undertaken to determine the optimal method of repair. As a result of this planning process, DEP elected to construct a bypass tunnel and two associated shafts to permanently circumvent the leaking section at the Roseton crossing, and to conduct internal repairs to the section in Wawarsing. The work undertaken to circumvent the leaking section in the Roseton crossing area is referred to as the "RWBT Bypass." The RWBT Bypass work was previously evaluated in a Final Environmental Impact Statement (FEIS) issued on May 18, 2012, and work on that project is ongoing.

2.2 UPSTATE WATER SUPPLY RESILIENCY PROJECT

Once the bypass tunnel and shafts are completed in 2022, the RWBT would be temporarily shut down and drained to connect the bypass tunnel to the existing RWBT and to carry out internal repairs to the leaking section of the existing RWBT in Wawarsing. DEP estimates that the maximum shutdown duration would be approximately eight months. During this temporary shutdown of the RWBT, water from the Delaware System west of the Hudson River would be unavailable. To ensure the continued supply of clean drinking water during this time, DEP has developed projects and plans comprised of three main components: (1) supply augmentation consisting of rehabilitation of the Catskill Aqueduct; (2) WFF Shutdown System Operations,² which would allow DEP to rely more heavily on the Catskill and Croton Systems during the temporary shutdown; and (3) RWBT Inspection and Repair during connection of the bypass tunnel, including decommissioning the bypassed section of the RWBT.

The repair and rehabilitation of the Catskill Aqueduct, WFF Shutdown System Operations, and RWBT Inspection and Repair work, collectively referred to as UWSR, were previously evaluated in a DEIS issued on September 19, 2016. Public hearings were held on October 20, 24, 25, and 28, 2016 in Ellenville, New York; Yorktown Heights, New York; Newburgh, New York; and Loch Sheldrake, New York respectively, to collect public comments. The public comment period closed on November 14, 2016.

¹ In addition to the RWBT, critical segments of the Delaware Aqueduct include those between West Branch and Kensico Reservoirs and between Kensico Reservoir and the City's distribution system.

² DEP frequently modifies its operation of the water supply system for many reasons, in response to a variety of conditions, as routine management that would not be subject to environmental review under SEQRA or CEQR. In contrast, "WFF Shutdown System Operations" as analyzed in the September 2016 DEIS refers to a specific and highly unusual protocol for operating the system designed solely for purposes of Upstate Water Supply Resiliency in connection with the Water for the Future program.

2.3 CATSKILL AQUEDUCT REPAIR AND REHABILITATION PROJECT

The original capacity of the upper portion of the Catskill Aqueduct between Ashokan and Kensico reservoirs has been reduced over time, partly because of the accumulation of biofilm (a naturally occurring layer of microorganisms within a self-produced polymer) along the aqueduct's interior surface. As part of the UWSR Project, DEP plans to repair and rehabilitate the Catskill Aqueduct to restore its historical capacity. This would provide water supply augmentation during the temporary shutdown of the RWBT. In addition, the repair and rehabilitation of the Catskill Aqueduct would extend the aqueduct's useful life for many years to come.

The proposed Catskill Aqueduct Repair and Rehabilitation (repair and rehabilitation) would restore capacity to the upper portion of the Catskill Aqueduct between the Ashokan and Kensico reservoirs (see Figure 2) closer to its historical capacity. As part of the repair and rehabilitation project, DEP would remove accumulated biofilm within the aqueduct initially through the addition of one of two chlorine-based chemicals, sodium hypochlorite or chlorine dioxide. These would be added to the aqueduct via a proposed chlorination facility located at the Ashokan Screen Chamber. A dechlorination facility would be constructed at the Pleasantville Alum Plant to remove residual chlorine prior to release to Kensico Reservoir. Biofilm removal efforts would involve the physical removal of biofilm within the aqueduct. The repair and rehabilitation project would also include additional repairs necessary as a result of age-related deterioration of the aqueduct, including repair or treatment of minor leaks and replacement of aging mechanical components. Biofilm removal and repair and rehabilitation of the Catskill Aqueduct would require temporary shutdowns of the aqueduct to allow for the completion of these efforts, currently anticipated to encompass three separate 10-week periods over a 3-year period.

2.4 OUTSIDE COMMUNITY CONNECTIONS

DEP currently provides water supply to 15 Outside Community Connections from the Catskill Aqueduct. These connections serve approximately 20 communities (see Figure 3 and Table 1).

To complete the proposed repair and rehabilitation work activities, temporary shutdowns of the Catskill Aqueduct lasting up to 10 weeks each, would occur over a 3-year period from 2018 to 2020. During these Catskill Aqueduct shutdowns, water supply from the Catskill Aqueduct would be suspended to communities served by these Outside Community Connections. As discussed in the DEIS, DEP would coordinate closely with the communities served by these Outside Community Connections to confirm they have adequate water supply independent of the upper Catskill Aqueduct prior to any temporary shutdown of the aqueduct required for the repair and rehabilitation.

As discussed in Section 5.3 of the DEIS, several municipalities that currently do not have back-up supplies are pursuing back-up water supply projects, which are subject to independent environmental review. These include the Town/Village of New Paltz.

New Paltz is dependent on the Catskill Aqueduct as its primary water source. Water from the aqueduct is transferred to New Paltz's open reservoir where it is stored prior to treatment and distribution. The Town and Village of New Paltz are considering projects consisting of development of a new well field capable of supplying 400 gallons per minute (gpm), upgrading

their existing reservoir system including the installation of flashboards, and dredging to provide several additional days of storage capacity. The Village also plans to implement demand management initiatives in order to reduce demand during the Catskill Aqueduct shutdown periods.

In the event that the new well field project is not completed in time for the extended Catskill Aqueduct shutdowns, DEP is proposing an alternative temporary overland pipeline connection to the Catskill Aqueduct Wallkill Pressure Tunnel at the Wallkill Downtake Chamber to convey water to New Paltz’s existing raw water transmission main on Mountain Rest Road. This Proposed Project is further described in Section 3.0, and is the subject of this SEIS.

Table 1: Outside Community Connections to the Catskill Aqueduct

Location	Water Supply Connections ¹
West-of-Hudson	High Falls Water District ²
	Village and Town of New Paltz ²
	Wallkill Correctional Facility
	Town of New Windsor, Jackson Avenue Pump Station ²
	World Mission Society (formerly Mount Saint Joseph Convent)
	City of Newburgh ²
	Village of Cornwall-on-Hudson ²
	Town of New Windsor, Riley Road Water Treatment Plant ²
East-of-Hudson	Village of Cold Spring
	Friars of the Atonement
	Continental Village Water District ²
	Town of Cortlandt (emergency)
	Northern Westchester Joint Water Works ²
	Orchard Hill Water District (emergency)
	Town of New Castle, Millwood Water Treatment Plant ²
<p>Notes:</p> <ol style="list-style-type: none"> 1 This table represents the 15 Outside Community Connections from the Catskill Aqueduct that serves approximately 20 communities. 2 These Outside Community Connections rely on the Catskill Aqueduct as their primary supply of drinking water (primary users). All other communities use the Catskill Aqueduct as a back-up supply (secondary users). Note that the City of Newburgh, which typically uses the Catskill Aqueduct as a back-up water supply source, will use Catskill Aqueduct as a primary source until completion of its treatment systems scheduled to be available in 2017. 	

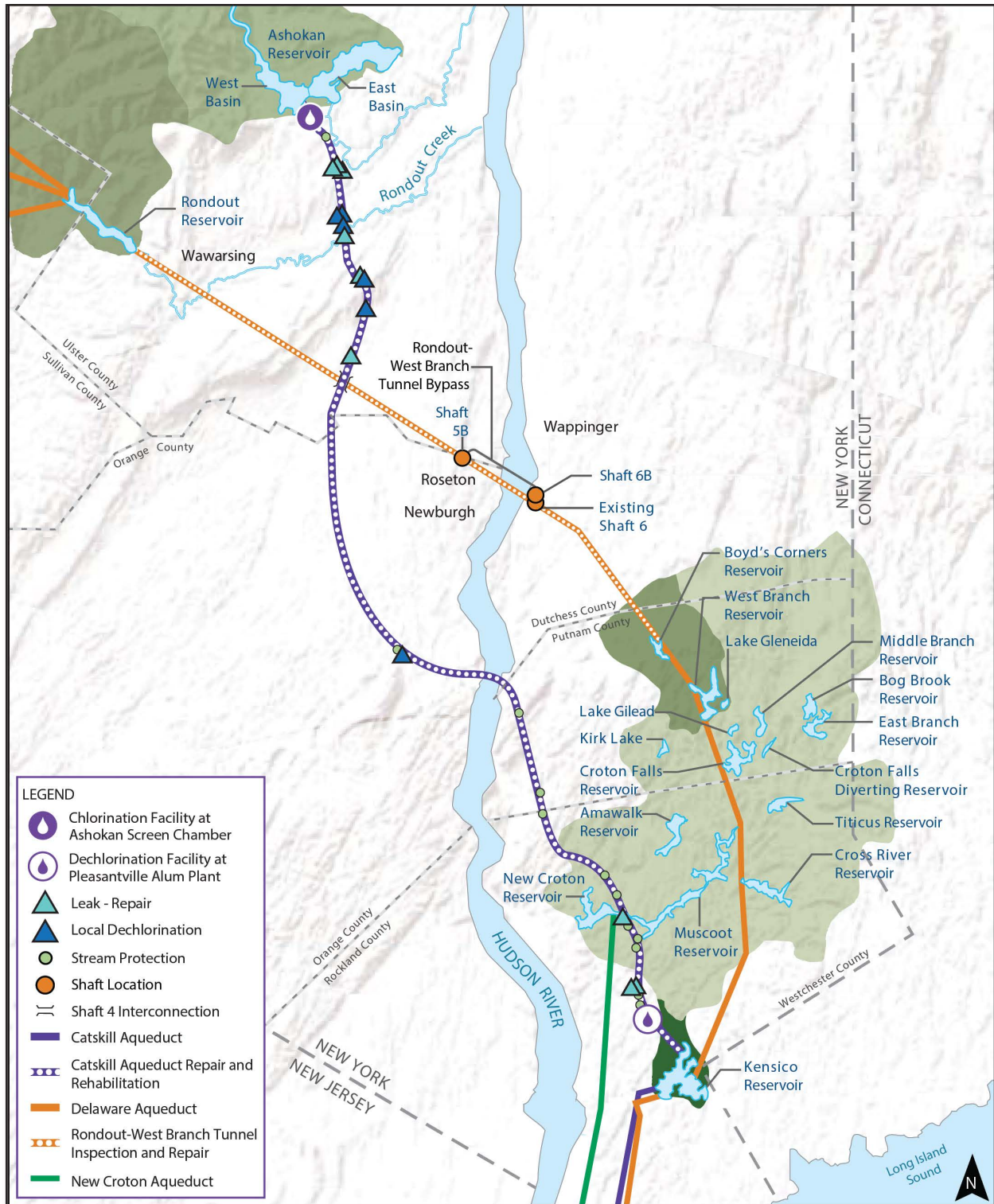
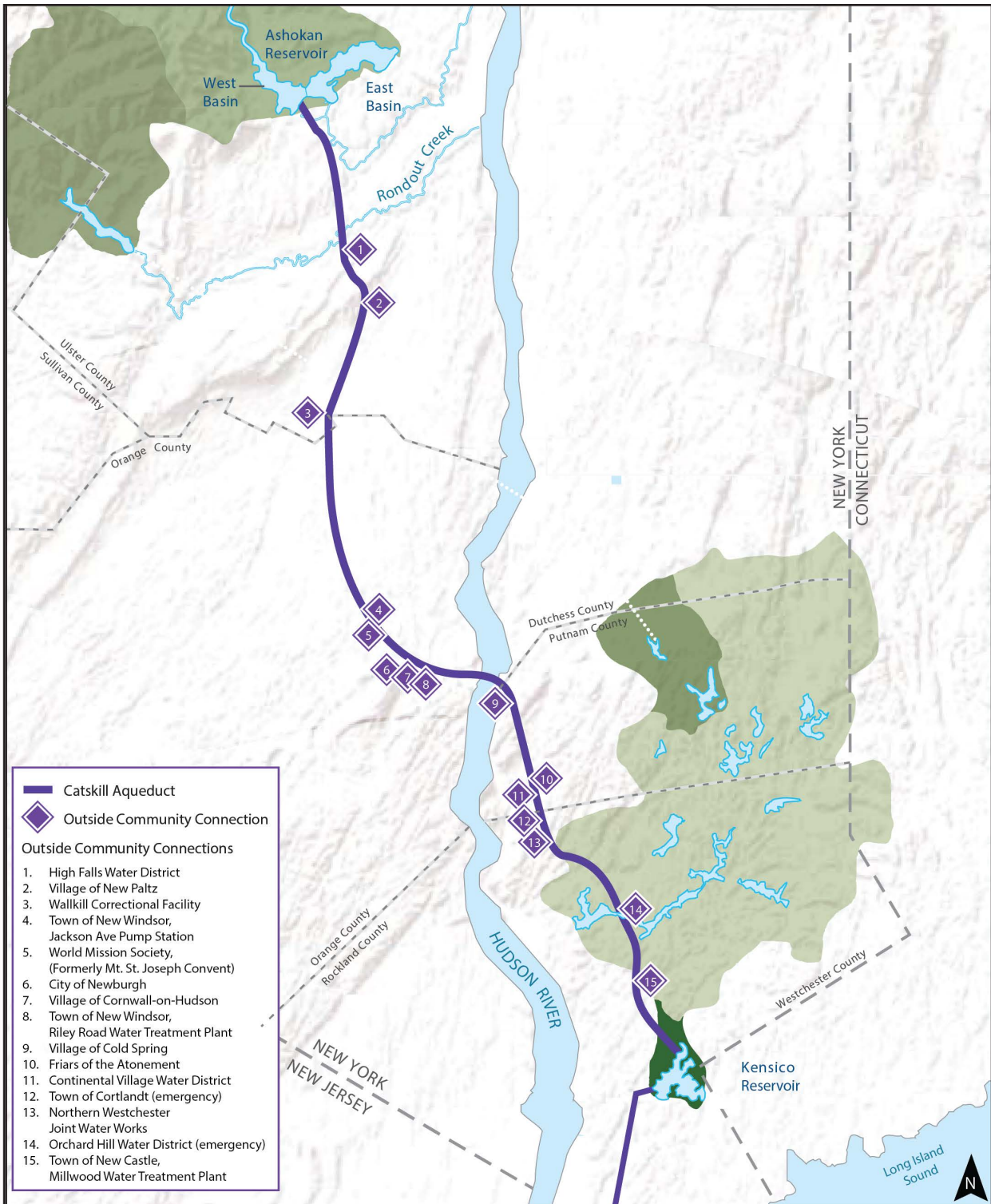


Figure 2: Catskill Aqueduct Repair and Rehabilitation





Not To Scale
For Illustrative Purposes Only

Figure 3: Outside Community Connections



3.0 PROPOSED NEW PALTZ TEMPORARY TRANSMISSION WATER MAIN

3.1 PURPOSE AND NEED

The Catskill Aqueduct Repair and Rehabilitation (repair and rehabilitation) project must be completed prior to the planned shutdown of the RWBT in 2022. The repair and rehabilitation will require the Catskill Aqueduct to be out of service for up to 10 weeks at a time in 2018, 2019, and 2020.

New Paltz draws water from the Catskill Aqueduct as its primary source of drinking water and does not currently have a back-up supply capable of fully sustaining its supply needs during the proposed aqueduct shutdown. New Paltz is undertaking independent projects consisting of development of a new well field, upgrading its existing reservoir system, and implementing demand management initiatives in order to meet demand during the Catskill Aqueduct shutdown periods to provide a long-term back-up supply independent of the City's water supply system. However, in order to limit impact to the repair and rehabilitation construction if these projects are not fully implemented, DEP is proposing an alternate supply of water to New Paltz. This would be implemented directly by DEP and allow segments of the aqueduct to be unwatered to allow in-aqueduct repairs thereby maintaining a supply of water to New Paltz and not impacting the shutdown of the RWBT and the interconnection of the new bypass tunnel in 2022.

3.2 PROJECT DESCRIPTION

DEP is proposing an approach that would consist of several shorter duration shutdowns (up to 10 days each) in 2018 and/or 2019 that would coincide with the complete 10-week aqueduct shutdowns for locations south of the Catskill Aqueduct's Wallkill Pressure Tunnel. This would allow New Paltz to meet demand by refilling its Lower Reservoir between each short shutdown. For the 10-week shutdown in 2020 to allow completion of biofilm removal, DEP is designing an approximately 2.3 mile temporary transmission water main (temporary pipeline or pipeline) that will extend overland from the Wallkill Pressure Tunnel Downtake to a Village of New Paltz existing raw water pipeline at Mountain Rest Road that directs water to New Paltz's Lower Reservoir (see Figure 4). The temporary pipeline will be placed at grade along the Catskill Aqueduct, primarily for use during the 2020 shutdown, although DEP may choose to install the temporary pipeline earlier for use during either the 2018, 2019, and/or 2020 shutdowns. If Catskill Aqueduct shutdowns are required beyond 2020, then the temporary pipeline may be used during additional shutdowns. Once the project is complete, the temporary pipeline will be removed.

The temporary pipeline will be supplied with water pumped from the Wallkill Downtake which will be back fed (re-supplied) via the Delaware Aqueduct through an existing interconnection at Delaware Aqueduct Shaft 4 in Gardiner, New York. This will allow the portion of the Catskill Aqueduct north of the Wallkill Pressure Tunnel to remain unwatered for a prolonged period of time so that biofilm removal and other in-aqueduct construction activities can occur. During use of this temporary pipeline, a bulkhead may be constructed inside the aqueduct to allow southern sections of the aqueduct to remain unwatered to facilitate repair and rehabilitation work.

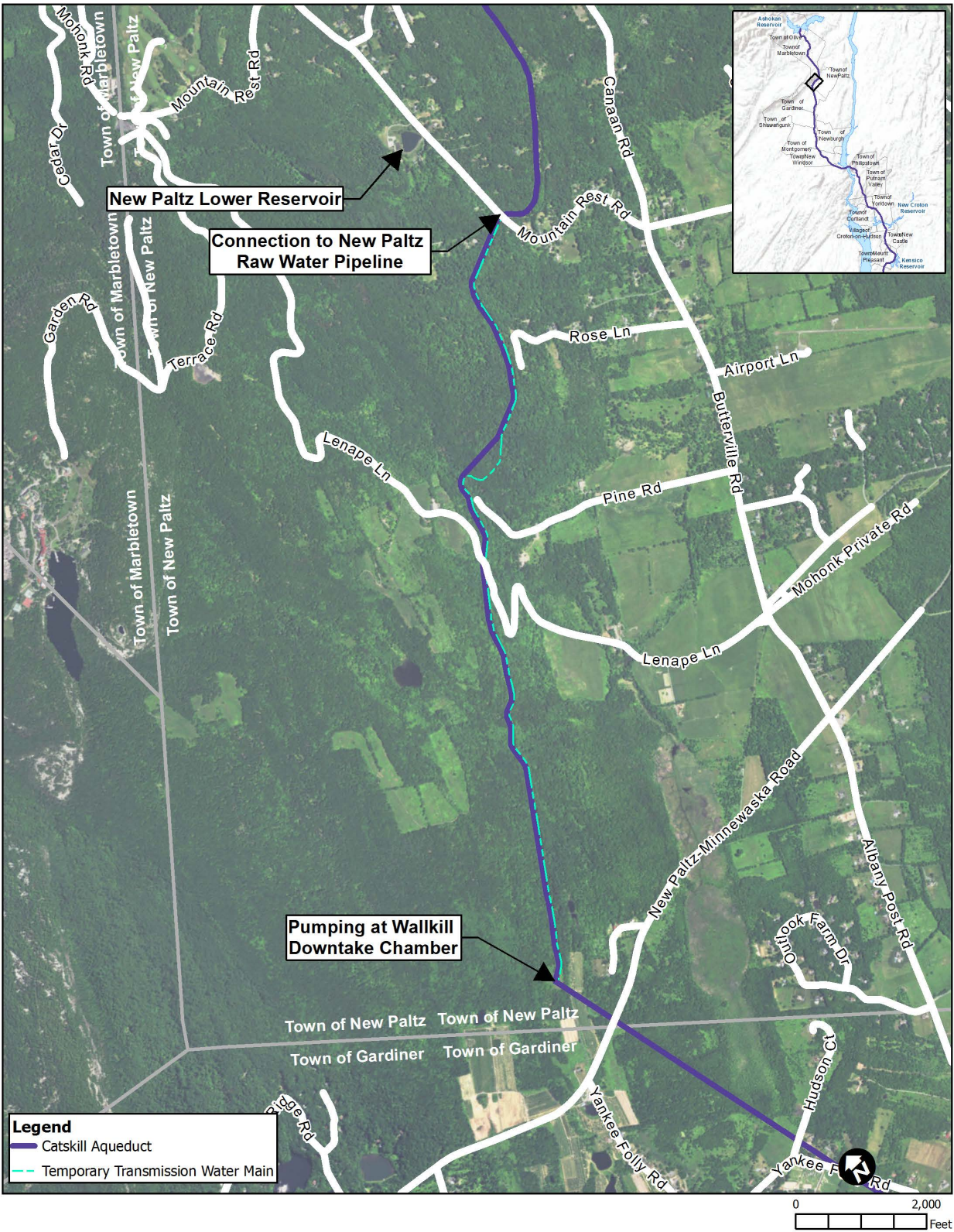


Figure 4: Site Location Map



3.3 PROJECT SCHEDULE

For the purpose of the SEIS analyses, it will be conservatively assumed that construction of the New Paltz Temporary Transmission Water Main would be completed in 2018 prior to the first shutdown associated with the repair and rehabilitation project, and would remain in place until after the final shutdown, anticipated in 2020.

3.4 PROJECT APPROVALS AND COORDINATION

The Proposed Project would require permits and approvals from State and local agencies. Anticipated permits and approvals are listed in **Table 2**.

Table 2: Summary of Potential Discretionary Permits and Approvals for New Paltz Temporary Transmission Water Main

Agency/Entity	Permit and/or Approval
<i>State</i>	
NYS Department of Environmental Conservation	SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-15-002)
NYS Department of Health	Approval of Plans for Public Water Supply Improvement
<i>Local</i>	
Village of New Paltz	Connection to Distribution System
Ulster County Department of Health	Approval of Plans for Public Water Supply Improvement Review

3.5 ANALYTICAL FRAMEWORK FOR SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

As the Lead Agency, DEP is required to examine the environmental effects of a proposed action and, to the maximum extent practicable, avoid, or mitigate potentially significant adverse environmental impacts, consistent with social, economic, and other essential considerations.

This environmental review is being prepared in accordance with New York's SEQRA and the City's CEQR process. Any proposed action funded, approved, or directly undertaken by a New York State or local agency must comply with the provisions of SEQRA and its implementing regulations (6 NYCRR Part 617). As a consequence, the New Paltz Temporary Transmission Water Main Project is subject to review under SEQRA. In addition, since the proposed action is being undertaken by a City agency, it is also subject to review under CEQR requirements, as set forth in 62 RCNY Chapter 5 and Executive Order 91 of 1977, CEQR regulations, and CEQR amendments, as well as the State Environmental Review Process (SERP), as required by the State Revolving Loan Fund Program. The City's *CEQR Technical Manual* provides guidelines for conducting environmental reviews performed under CEQR.

As noted in the SEQRA regulations (6 NYCRR § 617(a)(7)), a SEIS may be required if there are changes in a proposed project, newly discovered information, or changes in circumstances related to the project. Since the issuance of the DEIS in September 2016, DEP has identified the need to develop an alternative method to supply water to New Paltz during shutdowns of the aqueduct as part of the repair and rehabilitation project if New Paltz is unable to implement the independent water supply projects that are currently being advanced. DEP is proposing to install an overland temporary pipeline from the Wallkill Downtake Chamber to New Paltz's raw water pipeline, located adjacent to Mountain Rest Road, and ultimately to New Paltz's Lower Reservoir. As this alternative was developed after the UWSR DEIS was issued, DEP will be analyzing this alternative in a SEIS.

The SEIS will describe the analytical framework that will be used to assess the potential for impacts associated with the Proposed Project. It will define the assessment conditions; build year (construction and operation); impact assessment categories; and impact thresholds as follows:

- **Existing Conditions.** In the SEIS, existing conditions will be described in order to establish a baseline against which future conditions can be projected.
- **No Build Conditions.** Using existing conditions as a baseline, conditions known to occur or expected to occur in the future, regardless of the Proposed Project, are then evaluated for the Proposed Project's analysis year(s). This is the "No Build" or "Future without the Proposed Project" and is the baseline condition against which the effects of the Proposed Project are measured.
- **Analysis Year.** The analysis year refers to the future year when a proposed project is likely to affect its environmental setting. The analysis year is representative of the anticipated construction and/or operational years.
- **Probable Impacts with the Proposed Project (With-Action Condition).** Potential changes resulting from temporary construction or operation of the New Paltz Temporary Transmission Water Main Project will be compared to the No Build condition to assess the potential for significant adverse impacts. This comparison provides for an understanding of the potential impacts that could result with the Proposed Project. Future conditions would be evaluated and represent a "reasonable worst-case scenario" in order to determine the probable impacts with the Proposed Project.

3.6 ORGANIZATION AND SCOPE OF THE SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

As discussed above, since the sponsor of the Proposed Project is DEP, a New York City agency, it is subject to CEQR in addition to SEQRA. The City of New York's *CEQR Technical Manual* provides suggested methodologies for conducting environmental assessments performed under CEQR.

The methodologies in the *CEQR Technical Manual* provide a structured approach to addressing the potential for significant adverse impacts, and this Draft Scope of Work follows its suggested analytical approaches for a targeted environmental review. These methodologies are considered

to be appropriate technical analysis methods and guidelines for environmental impact assessment of discretionary actions in New York City. However, since the Proposed Project has the potential to affect locations outside the City, locally and/or State-accepted EIS methodologies will be applied, as applicable.

The remainder of this Draft Scope of Work describes the analysis methodologies that will be used in the SEIS to assess the potential environmental effects of the Proposed Project.

- **Sections 3.6.1 and 3.6.2** outline the Executive Summary and Project Description to be included in the SEIS.
- **Section 3.6.3** describes the methodologies that will be used to analyze the potential impacts of the Proposed Project.
- **Section 3.6.4** describes how the Proposed Project's cumulative effects will be assessed.
- **Sections 3.6.5, 3.6.6, 3.6.7, and 3.6.8** describe how the SEIS will identify any required mitigation measures, as well as disclose any growth inducing effects, unavoidable adverse impacts, and irreversible and irretrievable commitment of resources.
- **Section 3.6.9** states that a glossary of acronyms will be included as part of the SEIS.

3.6.1 Executive Summary

The SEIS will include an Executive Summary providing the reader with a clear understanding of the information found in the main body of the SEIS. A synopsis of all potential significant adverse impacts from the construction and temporary operation of the Proposed Project, along with proposed mitigation measures for such impacts, if applicable, will be summarized in this chapter. Specifically, the Executive Summary will include:

- A brief description of the Proposed Project, including a summary of the overall UWSR Project and its interrelationship to the Proposed Project, background leading to its development and anticipated analysis year(s).
- A list of involved and interested agencies, and required approvals/permits.
- A concise list of any anticipated significant adverse impacts and proposed mitigation measures.

3.6.2 Project Description

This chapter of the SEIS will describe the Proposed Project and provide the public and decision-makers with the context within which to evaluate the Proposed Project.

The Project Description chapter will contain an overview of the UWSR and the repair and rehabilitation project, a detailed description of the proposed New Paltz Temporary Transmission Water Main Project, a list of all actions and approvals associated with the Proposed Project, identification of the applicant, and a discussion of the regional setting for the Proposed Project. It

will also incorporate a statement of purpose and need for the Proposed Project and a discussion of the interrelationship of the Proposed Project to the larger UWSR program. An overview of the Proposed Project's construction and operations schedule will also be provided, and locations where construction may occur (including construction staging areas) will be identified.

3.6.3 Probable Impacts of the Proposed Project

3.6.3.1 Overview

As described above, the Proposed Project involves the construction and temporary operation of an overland temporary pipeline to supply raw water to New Paltz during the planned Catskill Aqueduct shutdowns. This portion of the SEIS will provide a detailed assessment of potential impacts related to the Proposed Project.

A targeted or focused environmental review is anticipated based upon the nature of the Proposed Project. Those resource areas that are most likely to have the potential for a significant impact would be addressed in more detail, while a review of remaining resource areas may be limited or eliminated, where appropriate. Based on the nature of the Proposed Project, the limited amount of construction, and limited operational requirements, no detailed analyses related to land use and zoning, socioeconomics, community facilities, shadows, urban design and visual resources, and energy would be required. As applicable, the rationale for limiting or excluding further review of a specific issue or technical analysis is discussed within the following sections.

At a minimum, an initial screening will be completed in the SEIS for those environmental impact assessment categories for which more detailed assessments are not required. Using the methodology described below, applicable environmental impact assessment categories (e.g., natural resources, water and sewer infrastructure, etc.) will be evaluated for the Proposed Project. In some cases, specific assessment categories may be evaluated cumulatively with respect to both construction and operation.

For the Proposed Project, a 400-foot radius was circumscribed surrounding the limits of construction. Per the *CEQR Technical Manual*, a 400-foot radius study area allows for a proposed project's immediate effects on an area to be determined.

In addition to the general criteria for establishing study areas, the *CEQR Technical Manual* allows study areas to vary for specific impact categories, as appropriate. It was appropriate to establish impact category-specific study areas for natural resources and stationary noise assessments for the following reasons:

- Natural resources study area boundary would typically be smaller than the study area boundary. The natural resources study area would be focused on the immediate areas surrounding the work that could be directly or indirectly affected by the Proposed Project.
- The boundary of the study area for stationary noise would be based on a 1,500-foot radius surrounding the work site. Per the *CEQR Technical Manual*, receptors within a 1,500-foot radius from the Proposed Project that would have a direct line of sight of the Proposed Project should be considered for a stationary noise analysis.

3.6.3.2 Land Use, Zoning, and Public Policy

Activities associated with construction and temporary operation of the Proposed Project would occur in the Town of New Paltz, Ulster County, New York. The Proposed Project would involve the temporary placement of an overland pipeline along the Catskill Aqueduct that would extend approximately 2.3 miles from the Wallkill Downtake to Mountain Rest Road where the pipeline would be interconnected to an existing raw water pipeline that extends to New Paltz's Lower Reservoir. No change in or impacts to existing land uses or zoning would occur as part of the Proposed Project. The majority of the Proposed Project would occur within an existing utility corridor associated with the aqueduct. No detailed assessment of land use and zoning would therefore be completed. A review and analysis of public policy will be completed and this will outline and evaluate potential compliance with public policies that may apply to the study area, including any adopted or proposed neighborhood or community plans.

3.6.3.3 Socioeconomic Conditions

The Proposed Project would not result in (1) direct residential displacement; (2) direct business displacement; (3) indirect residential displacement; (4) indirect business displacement; and (5) adverse effects on a specific industry. In addition, the Proposed Project would not include any acquisition of land/easements; therefore, a socioeconomic assessment is not required.

3.6.3.4 Community Facilities and Services

Operation of the Proposed Project would not involve significant new populations and is therefore not anticipated to result in any changes to community services (e.g., schools, libraries, child care centers, healthcare facilities, police and fire protection). Upon completion of construction, no permanent workers would be associated with the operation of the temporary pipeline. Any community service needs (e.g., police associated with traffic control or equipment deliveries) required during construction would be limited and very short-term, likely a few days or a few weeks. As a result, no impacts to existing or the need for new community facilities and services is expected and no detailed assessment is required.

3.6.3.5 Open Space and Recreation

There are open space and recreational resources adjacent to the Catskill Aqueduct and the Proposed Project. An inventory of existing open space and recreational resources within the study area will be conducted utilizing existing information and data sources to determine if any resources would potentially be displaced or are located in close enough proximity to the Proposed Project to warrant an analysis of potential impacts. Results of the open space and recreation assessment and an assessment of conditions in the future with and without the Proposed Project will be presented in the SEIS.

3.6.3.6 Shadows

The Proposed Project would not result in any new structures that would have the potential to result in new shadow impacts to light-sensitive or other resources. No detailed analysis would therefore be required.

3.6.3.7 Historic and Cultural Resources

A portion of the Catskill Aqueduct within the study area is located within a historic resource. In addition, the Proposed Project would involve limited excavation associated with the placement of foundations for pipeline supports along the aqueduct and for the interconnection of the temporary pipeline to an existing New Paltz raw water pipeline within the Mountain Rest Road right-of-way. This section of the SEIS will include an assessment of the potential for impacts that could occur as a direct or indirect result of construction and temporary operation of the Proposed Project. This analysis will include identification of archeological and architectural resources that could be affected by the Proposed Project. The analysis will also utilize existing Phase 1A literature reviews already prepared and previous consultations with the State Historic Preservation Office (SHPO), where readily available.

3.6.3.8 Urban Design and Visual Resources

The Proposed Project would involve the construction and temporary operation of an overland pipeline and would not include the construction of any structures or significant and permanent physical changes to the project site. Upon completion of construction, no impacts to visual resources would occur. As a result, there would be no impacts related urban design and visual resources and no detailed assessment is required.

3.6.3.9 Natural Resources and Water Resources

According to the *CEQR Technical Manual*, a natural resource analysis is required if: (1) a natural resource is present on or near the site of a proposed project; and (2) the proposed project has the potential to disturb, impact, or affect that resource. If there is a potential for direct or indirect project-related adverse impacts to natural resources, then further analysis is required. Direct impacts are those that immediately interfere with or alter the resource by causing death, injury, harm, harassment, and/or displacement; impact baseline site conditions, such as filling or draining areas; construction of structures in the water; or the removal of vegetation (clearing and grading). Indirect impacts are those that affect a natural system or another resource that uses or relies upon habitat provided by the resource under study (habitat loss/loss of “critical” habitat).

A detailed natural resources analysis for a proposed project is not generally warranted if:

- The site and surrounding area is mostly devoid of natural resources;
- Habitat for natural resources or sensitive species does not exist on the proposed project site;
- Disturbance of the subsurface would not impact areas on which other natural systems are dependent; and/or
- The potential for disturbance from the project has been previously deemed insignificant by a government agency with jurisdiction over that resource, and conditions have not changed significantly since prior permits were issued for other projects with the same level of disturbance.

The Proposed Project has the potential to require some clearing of vegetation during construction activities; however, limited or no tree clearing is anticipated. In addition, there are numerous surface water streams in the study area that currently cross the Catskill Aqueduct in a series of culverts and a bridge which would be crossed by the temporary pipeline. Pipeline blow-off locations would also be located at several locations along the length of the temporary pipeline to allow for the periodic release of untreated, raw water from the pipeline to surface water.

An initial analysis will be conducted to determine whether a more detailed natural resources analysis is warranted for a specific species or habitat associated with the Proposed Project. The initial analysis will include a combination of desktop analyses, previous agency consultations, and information acquired from previous site surveys, where available. The desktop analyses will be used to identify existing natural resources within the study area that could be affected by construction and temporary operation of the Proposed Project. A natural resources analysis considers species in the context of the surrounding environment, habitat, or ecosystem and, if these are present, an analysis of the Proposed Project's potential to impact those resources is required. Such resources include groundwater, soils and geologic features, numerous types of natural and human-created aquatic and terrestrial habitats, and any areas used by wildlife.

The SEIS will include a description of the proposed construction and operation of the pipeline and the potential impacts of these to natural resources as applicable. No impacts to groundwater are anticipated. Existing conditions will be described and an estimate of potential impacts to natural resources due to the Proposed Project would be provided. Protective measures that would be incorporated into the Proposed Project (e.g., silt fence, hay bales, etc.), as well as proposed restoration of existing vegetation (e.g., reseeding), if applicable, to address or limit potential impacts would also be discussed.

3.6.3.10 Hazardous Materials

There would be a limited amount of ground disturbance associated with the Proposed Project primarily associated with the establishment of foundations to support the temporary pipeline and the interconnection of this main to an existing raw water pipeline. The evaluation of current environmental conditions will use the results of the Phase I Environmental Site Assessment (ESA) completed as part of the UWSR DEIS. Applicable information from the Phase I will be summarized in the SEIS. The SEIS will include a description of measures that would be incorporated into the Proposed Project, such as compliance with existing regulatory requirements, implementation of subsurface testing (if warranted) prior to construction to determine the need for special handling of excavated materials, and a summary of protocols to be implemented during construction of the Proposed Project to limit public and construction workers' exposure to potential contaminants.

The temporary operation of the Proposed Project would also include the on-site storage of diesel fuel enclosed in a secondary containment system. The SEIS will include a discussion of the potential impacts from the storage of diesel fuel on-site.

3.6.3.11 Water and Sewer Infrastructure

The Proposed Project would not create any significant changes in the number and intensity of users in the study area that would adversely impact wastewater collection and treatment capacity. No significant new sources of wastewater would be generated as a result of the Proposed Project; as a result, a detailed assessment of impacts to sewer infrastructure is not warranted.

The temporary operation of the Proposed Project would also not result in any significant change in existing impervious surfaces or stormwater conveyances. DEP would implement appropriate erosion and sediment control measures to limit potential impacts during construction. Potential access and/or staging areas would be limited or within existing developed areas and are not anticipated to include any or significant ground disturbance. No impacts to stormwater infrastructure are anticipated and a detailed analysis would not be required.

The Proposed Project would involve the construction and operation of a temporary water transmission main to provide water supply to New Paltz when DEP requires shutdown of the Catskill Aqueduct to facilitate biofilm removal and repair and rehabilitation work. This chapter of the SEIS would provide a general overview of the existing New Paltz water supply system and a discussion of current and future (Build Year) water supply needs. The operation of the Proposed Project and its impacts upon existing water infrastructure and supply needs in New Paltz would be discussed.

3.6.3.12 Solid Waste and Sanitation Services

The construction and temporary operation of the temporary pipeline is not expected to result in a significant increase in solid waste generation or change the way solid waste is currently handled. Little or no solid waste would be generated as a result of the operation of the temporary pipeline. Construction of the Proposed Project may necessitate the disposal of construction debris, but this would be limited. Therefore, a detailed assessment is not required.

3.6.3.13 Energy

The construction and operation of the Proposed Project is not anticipated to result in a significant increase in energy use. Operation of the Proposed Project would include the installation and use of two pumps and powered by diesel generators (one primary and one backup); however, this is not anticipated to result in any significant increased need for energy. No new electrical or gas service is anticipated as part of the Proposed Project. No detail assessment of energy usage is anticipated and a brief qualitative discussion will be provided.

3.6.3.14 Transportation

Upon initiation of operation it is anticipated that a minimal number of employee vehicles would be generated on a daily basis and on many days there would be no employees traveling to or from the site. Therefore, in accordance with the *CEQR Technical Manual*, a detailed traffic study would not be warranted for operations because the trip generation would be well below the 50 peak-hour passenger car equivalent (PCE) threshold for analysis. Analysis of potential construction-related transportation impacts is discussed in Section 3.6.3.20 below.

3.6.3.15 Air Quality

Temporary operation of the Proposed Project would not result in a significant increase in vehicular traffic, with a minimal number of employee vehicles expected daily. As a result, the maximum hourly incremental traffic generated by the project would not exceed the *CEQR Technical Manual* carbon monoxide (CO) screening threshold of 170 peak-hour trips at nearby intersections in the study area, or the particulate matter (PM_{2.5}) emission screening threshold discussed in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*. As such, an assessment of operational mobile source air quality emissions is not warranted.

No significant new air emissions sources are proposed with the exception of a diesel generator located at the Wallkill Downtake Chamber site which would be used during each 10-week aqueduct shutdown when the temporary transmission main would be in service. An operational stationary air discussion will be included within the SEIS specific to the generator that is proposed and the potential for air emissions from this. As a result, a detailed stationary air quality analysis for operations is not anticipated.

A discussion of the assessment of potential impacts to air quality as a result of construction of the Proposed Project is outlined in Section 3.6.3.20 below.

3.6.3.16 Greenhouse Gas Emissions and Climate Change

Typically, projects with larger-scale activities include a greenhouse gas (GHG) analysis focused mainly on CO₂, NO₂, and methane, pollutants associated with fossil fuel combustion. However, since no significant stationary or mobile fossil fuel combustion sources are proposed as part of the Proposed Project, there would be no significant direct or indirect sources of these compounds. Furthermore, upstream emissions related to the production of construction materials would be negligible and electricity use would also be temporary and minimal, and would not require any additional power supply from the local grid. There would be negligible construction and temporary operational GHG emissions associated with the Proposed Project, and, therefore no further assessment is required.

3.6.3.17 Noise

Operation of the Proposed Project would not result in a significant increase in mobile noise, as the very limited vehicular traffic anticipated would consist of passenger vehicles. The maximum hourly incremental traffic generated by the project is not expected to exceed the *CEQR Technical Manual* screening threshold of an increase in noise PCEs by 100 percent or more in the future with the Proposed Project. As such, an assessment of operational mobile source noise emissions is not warranted.

Operation of the Proposed Project would result in additional sources of stationary noise emissions from a diesel-powered generator that would power a new submersible pump during the 10-week shutdowns when the temporary transmission main would be used. For the stationary noise sources, an initial assessment will be performed to assess the potential for noise impacts. This will include an identification of sensitive receptors located within a 1,500-foot radius of the emissions source and those with a direct line of site to the project site. The maximum emissions will be considered at the nearest noise-sensitive receptor(s) which will be utilized to determine if

a more detailed noise analysis is required. If there is the potential for impacts, a detailed stationary source analysis will be performed. The detailed stationary operational noise analysis would be performed using a spreadsheet model or CadnaA, an acoustical three-dimensional noise model, to determine the total noise level that would be emitted at the nearest noise-sensitive receptor(s) due to the proposed on-site operation activities. If predicted noise levels are not in compliance with the *CEQR Technical Manual* impact thresholds and/or applicable local noise codes:

- Maximum allowable cumulative noise levels for new equipment would be established for incorporation into the project design and specifications; and
- Measures that could be implemented as part of the Proposed Project to reduce noise levels and achieve compliance with requirements will be evaluated.

A discussion of the assessment of potential noise impacts associated with construction of the Proposed Project is described in Section 3.6.3.20 below.

3.6.3.18 Neighborhood Character

An initial analysis of the potential for construction and operation of the Proposed Project to affect neighborhood character will be included in the SEIS. The neighborhood character assessment will be conducted as follows:

- Based on planned development projects in the vicinity of the proposed site, public policy initiatives, and planned public improvements, anticipated changes in the character of the area in the future without the Proposed Project will be summarized.
- The predominant factors that contribute to defining the character of the neighborhood surrounding the project site will be described. The Proposed Project's effect on neighborhood character will be assessed using the analyses of potential impacts for various technical areas—i.e., urban design and visual resources, historic resources, socioeconomic conditions, traffic, and noise.

3.6.3.19 Public Health

According to the *CEQR Technical Manual*, a public health assessment may be warranted if an unmitigated significant adverse impact is identified in other CEQR analysis areas, such as air quality, drinking water quantity and quality, hazardous materials, or noise. Although such an impact is not expected for the Proposed Project, if one is identified a public health assessment will be prepared and presented in the SEIS.

3.6.3.20 Construction

This chapter of the SEIS will include a description of the construction activities and equipment associated with the Proposed Project. For the purposes of this SEIS, the build year for the Proposed Project would be 2018. The description of construction activities and equipment will include mobilization, site preparation, construction, and demobilization, as appropriate, as well the types of equipment that will be present on-site to carry out these activities.

Traffic and Transportation

The construction transportation assessment presented in the SEIS will consider the increase in vehicle trips from construction workers, construction vehicles, and equipment to and from the site. While not anticipated, the potential for temporary lane closures that could temporarily affect traffic movement near the site would be discussed. It is assumed that construction vehicles would proceed to the site from the closest truck route, approaching the aqueduct from both ends of the study area.

The SEIS will include an initial assessment to identify the project-related construction worker and truck trips. Construction worker parking and truck delivery staging will also be addressed. The construction transportation analysis will take into account several factors, including: trip distribution; departure/arrival patterns; and anticipated vehicular trips during construction for the proposed actions. Construction duration for initial installation and eventual removal is anticipated to be less than one year.

Level 1 (Trip Generation) and Level 2 (Trip Assignment) assessments will be conducted as described above to determine if the analysis thresholds in the *CEQR Technical Manual* would be exceeded. While not anticipated, if this initial analysis identifies an exceedance of the *CEQR Technical Manual* quantified transportation analyses thresholds (e.g., 50 or more vehicle trips during a given peak hour at an intersection), a detailed transportation analysis will be conducted. While not anticipated, if substantive road closures/traffic detours are required during construction, a detailed construction transportation analysis would also be conducted. In the detailed construction transportation analysis, existing traffic data will be utilized, where available, to establish existing traffic service levels at key intersections where the routes to/from the project site may overlap or cross (i.e., inbound divergence points and outbound convergence points). The estimated peak-hour trips associated with construction of the Proposed Project during peak construction will then be overlaid onto the future baseline traffic network and compared to the impact criteria outlined in the *CEQR Technical Manual*, in order to determine the potential for significant adverse traffic impacts. If any significant adverse impacts are predicted, mitigation measures will be developed.

Air Quality

Construction stationary and mobile air assessments will be performed and discussed within the SEIS. Construction activities would be short-term in nature. An assessment of emissions from construction equipment, worker and delivery vehicles, as well as fugitive dust emissions will be performed. For on-site construction sources, the assessment will review the projected activity at the site in the context of construction intensity, duration, and location of emissions relative to nearby sensitive locations; and will identify any project-specific control measures that could be implemented to reduce the effects of construction on air emissions. The number of heavy equipment units that would be needed at a single time would be limited (e.g., generator, grader, excavator, fans, material delivery trucks). For mobile construction sources, an initial site-wide mobile assessment will be performed to confirm that the *CEQR Technical Manual* mobile source screening thresholds would not be exceeded. As such, detailed analyses of construction stationary and mobile air quality emissions are not warranted.

Noise

An initial assessment of noise emissions that would be generated by the Proposed Project's construction activity will be performed. The assessment will review the projected activity and equipment at the site in the context of construction intensity, duration, and location of emissions relative to nearby sensitive receptors; and will identify any project-specific control measures that could be implemented to reduce construction-related noise. Measures for compliance with DEP Rules for Citywide Construction Noise Mitigation and the New York City Noise Control Code will be qualitatively discussed.

For mobile construction sources, a mobile source assessment will be performed to confirm that the construction of the Proposed Project would not result in a doubling of existing noise PCEs, and therefore the *CEQR Technical Manual* mobile source screening threshold would not be exceeded. If any locations are predicted to experience more than a doubling of noise PCEs, which would translate to a 3 dB(A) increase in noise levels, an evaluation of the construction duration and location of emissions relative to nearby sensitive receptors will be performed to determine if a detailed mobile noise analysis is warranted.

For the stationary construction noise sources, an initial assessment will be performed to assess the potential for noise impacts. This will include an identification of noise-sensitive receptors located within a 1,500-foot radius of the emissions source and those with a direct line of site to the construction work area. If noise-sensitive receptors would be located within 1,500 feet, an evaluation of the stationary noise sources to be used during construction will be performed to determine if a stationary noise impact analysis is warranted. If warranted, a stationary noise impact analysis will be performed to determine whether construction would comply with local noise code scheduling requirements. The maximum emissions will be considered at the nearest noise-sensitive receptor(s).

If this assessment identifies the potential for significant adverse impacts from on-site construction activities and an exceedance of the screening thresholds, a detailed analysis of noise during construction will be performed. Potential noise impacts due to construction-related stationary and mobile sources will be examined. One representative reasonable worst-case time period (i.e., day) during the construction peak period will be selected for analysis. During the representative reasonable worst-case time period, noise levels due to construction activities at the selected site will be predicted for representative nearby sensitive receptors. For on-site construction sources, where the assessment identifies the potential for significant adverse impacts, an analysis of on-site construction activities will be conducted using a spreadsheet model or CadnaA, an acoustical three-dimensional noise model to determine the potential for significant adverse noise impacts. In addition, if required, a mobile source analysis at representative major convergence roadways adjacent to noise-sensitive receptors would be conducted using the Federal Highway Administration Traffic Noise Model (TNM). Based on the results of the construction noise analysis, if necessary, the feasibility, practicability, and effectiveness of implementing measures to mitigate significant construction noise impacts will be examined.

3.6.4 Cumulative Effects

Cumulative impacts are two or more individual effects on the environment that, when taken together, compound or increase each other. The SEIS will evaluate the potential cumulative impacts from construction and operation of the Proposed Project, as applicable.

3.6.5 Mitigation

If any potential for significant adverse impacts resulting from the construction and temporary operation of the Proposed Project are identified in the analysis areas discussed above, practicable measures that could avoid or mitigate those impacts will be identified in this chapter of the SEIS.

3.6.6 Growth Inducing Effects of Proposed Project

This chapter will discuss whether there is the potential for growth inducing impacts to occur as a result of the Proposed Project. While not anticipated, the discussion will focus on whether the Proposed Project would trigger additional development.

3.6.7 Unavoidable Adverse Impacts

If any unavoidable adverse impacts are expected to result from the Proposed Project, they will be disclosed and discussed in this section of the SEIS.

3.6.8 Irreversible and Irrecoverable Commitment of Resources

While not anticipated, this section of the SEIS will disclose any irretrievable commitment of resources that the Proposed Project may require.

3.6.9 Glossary of Acronyms

The SEIS will include a glossary of acronyms.