# APPENDIX 18.2
# AMBREY TRAFFIC

# Appendix 18.2: Ambrey Pond Reservoir Alternative Traffic Impact Study

## A. INTRODUCTION

The Ambrey Pond Reservoir Alternative would construct a Water Treatment Plant and Pump Station in the Town of Stony Point, Rockland County, New York. The alternative involves five components: a) Ambrey Pond Reservoir b) Stony Point Dam and Reservoir c) Water Treatment Plant and Pump Station d) Raw Water Transmission Line and e) Finished Water Main. Figure 18-2-1 presents the transportation network and identifies the project sites.

HDR Engineering (HDR) has been retained by United Water New York to analyze the traffic impacts associated with the Ambrey Pond Reservoir Alternative. This Traffic Impact Study has been prepared to document the findings and conclusions of the analysis undertaken to measure the traffic impacts associated with the alternative's construction.

## B. PRINCIPAL CONCLUSIONS

The Ambrey Pond Reservoir Alternative would not create a significant impact on traffic conditions on the local roadways. Some impacts would occur during the construction period; however, with mitigation at two unsignalized intersections during the peak hours, the intersections within the study area would continue to operate at overall acceptable Levels of Service (LOS).

Based on field observations and detailed analysis undertaken in preparation of this Traffic Impact Study, the following findings are presented:

- Preliminary studies indicate that the Ambrey Pond Reservoir Alternative would not create a significant volume of site-generated traffic once operational. Estimates indicate the Water Treatment Plant and Pump Station would generate four to six employee trips on a daily basis with occasional visitors and deliveries.

- Greater traffic impacts would occur during the construction of the alternative. On this basis, the Traffic Impact Study provides an assessment and capacity analysis of the temporary traffic impacts generated due to the construction process.

- Site-generated traffic for the Ambrey Pond Reservoir Alternative's construction period during the AM and PM peak hours would be approximately 146 trips.

- A capacity analysis was conducted for the weekday AM and PM peak hours to

8.24.08

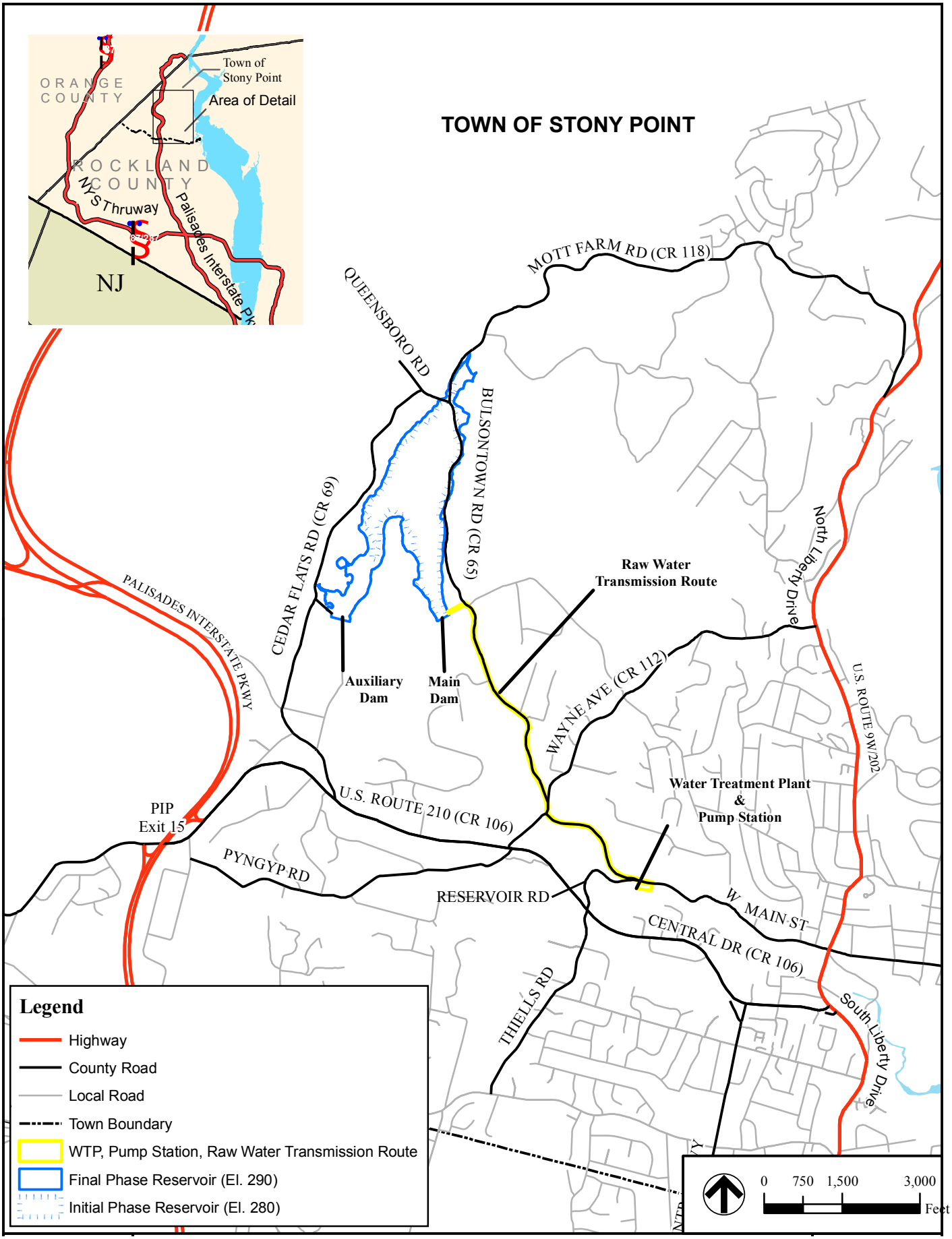


Figure 18.2-1

**Ambrey Pond Alternative Transportation Network**

assess alternative-related traffic impacts during the construction period. No construction activity is anticipated for the weekend periods.

- Table 18.2-1 summarizes the results of the capacity analyses conducted for each intersection included in this study. LOS and average delay, expressed in seconds per vehicle, is listed in the following table.

**TABLE 18.2-1**
**OVERALL LEVEL-OF-SERVICE SUMMARY**

| | WEEKDAY AM PEAK HOUR | | | WEEKDAY PM PEAK HOUR | | |
|---|---|---|---|---|---|---|
| | Existing | No-Build | Build | Existing | No-Build | Build |
| INTERSECTION | LOS/ Delay | LOS/ Delay | LOS/ Delay | LOS/ Delay | LOS/ Delay | LOS/ Delay |
| U.S. Route 202/9W and West Main St. (CR 108) | B/10.3 | B/11.5 | B/11.6 | B/12.5 | D/35.4 | D/38.2 |
| U.S. Route 202/9W and Central Drive (CR 106)/Shopping Center Dr. | B/14.0 | B/15.0 | B/16.1 | C/20.8 | D/46.1 | D/47.0 |
| Central Drive (CR 106) and Reservoir Rd. | c/24.3 | d/29.7 | A/7.6* | f/73.0 | f/>99.9 | B/12.1* |
| Central Drive (CR 106) and Old Route 202/ Pyngyp Rd. | b/14.6 | c/15.4 | A/7.6* | f/86.9 | f/>99.9 | B/12.6* |
| Central Drive (CR 106) and Cedar Flats Rd. (CR 69) | b/14.9 | c/15.9 | c/16.2 | b/13.9 | c/16.1 | c/16.8 |
| Queensboro Rd. (CR 69A) and Bulsontown Rd. (CR 65)/Mott Farm Rd.(CR 118) | a/8.7 | a/8.7 | a/8.7 | a/8.7 | a/8.7 | a/8.7 |
| W.Main Street and Site Driveway | N/A | N/A | b/10.4 | N/A | N/A | b/10.8 |
| Bulsontown Rd and Site Driveway | N/A | N/A | a/8.5 | N/A | N/A | a/8.7 |

NOTE: Signalized intersections are denoted by uppercase letters.

Unsignalized intersections are denoted by lowercase letters.

Overall delay at unsignalized intersections is based upon the critical approach.

*With mitigation

- The results of the capacity analysis indicate that all signalized intersections would operate at an acceptable LOS "D" or better under the Build Condition.

- The unsignalized intersections of Central Drive (CR 106) with both Reservoir Road and

Old Route 202 would operate at LOS "f" during the Peak PM Existing, No-Build and Build conditions. A temporary traffic signal could be installed or provisions could be made for a traffic control officer to direct traffic to mitigate the construction impacts during the peak hours of Phase 1 construction.

- Schools in the Ambrey Pond Reservoir Alternative study area are: Stony Point Elementary, Immaculate Conception School and James A. Farley Middle School are located approximately 1/4-mile southeast of the Ambrey Pond Reservoir Alternative site in the Town of Stony Point.

- Emergency services locations include Helen Hays Hospital is located on U.S. Route 9W immediately north of Sullivan Drive and Volunteer Fire House located on Railroad Avenue immediately east of U.S. Route 9W.

- There are bus stops along U.S. Route 9W at Main Street. The public bus transportation is provided by the Red and Tan Lines, Transport of Rockland and Transportation Resources Intra-County for Physically Handicapped and Senior Citizens, Inc. (T.R.I.P.S.).

- There is a railroad crossing located southeast of the Ambrey Pond Reservoir Alternative site crossing Railroad Avenue and the rail line continues to the north crossing East Main Street.

- The immediate vicinity of the Ambrey Pond Reservoir Alternative site has no established bikeways. Some of the intersections have very minimal pedestrian movement, in conflict with existing traffic. There are actuated pedestrian buttons located at all two signalized intersections.

## C. STUDY METHODOLOGY

The Ambrey Pond Reservoir Alternative would construct a Water Treatment Plant and Pump Station in the Town of Stony Point, Rockland County, New York. The alternative involves five components: a) Ambrey Pond Reservoir b) Stony Point Dam and Reservoir c) Water Treatment Plant and Pump Station d) Raw Water Transmission Line and e) Finished Water Main.

The Ambrey Pond Reservoir Alternative would not generate a significant volume of traffic once the site is operational; however, the Traffic Impact Study has been conducted to include an analysis of traffic impacts associated with construction of the Ambrey Pond Reservoir Alternative.

Once operational, preliminary estimates indicate the Water Treatment Plant and Pump Station would generate four to six employee trips on a daily basis with occasional visitors and deliveries. However, greater traffic impacts would occur during the construction of the Ambrey Pond

Reservoir Alternative. On this basis, the Traffic Impact Study provides an assessment and analysis of the temporary traffic impacts generated due to projected construction process.

The following sections of this report provide a description of the existing roadway network and traffic volumes, projections of future No-Build conditions including other developments and estimated background traffic growth, projections of site-generated traffic and future Build conditions for the Ambrey Pond Reservoir Alternative.

## D. DESCRIPTION OF EXISTING ROADWAY NETWORK

The transportation network surrounding the Water Treatment Plant and Pump Station Area includes local and regional roadways serving the project site, rail transportation, public transportation and navigation. The Ambrey Pond Reservoir Alternative study area, as illustrated in Figure 18.2-1, includes the following significant roadways; Palisades Interstate Parkway, US Route 9W/202, and County Route 106 (210).

### ROADWAYS

Roadways are discussed in order of size and proximity to the Ambrey Pond Reservoir Alternative site and in terms of use during construction and operation of the Water Treatment Plant and Pump Station.

In general, the environment surrounding the site is predominantly residential. The following is a brief description of all the area roadways in the vicinity of the proposed site.

*PRIMARY ROADS*

New York State Thruway (I-87/287) is a major roadway that begins in New York City and travels east-west across Rockland County and forms a junction with the Palisades Interstate Parkway in the Village of West Nyack. The I-87 roadway continues north through Albany. Although speed limits vary throughout the length of the roadway, the maximum speed limit is posted at 55 mph in the vicinity of the Ambrey Pond Reservoir Alternative site.

Palisades Interstate Parkway (PIP) is a 38-mile long stretch of roadway that runs north/south through Bergen, Rockland, and Orange Counties. The southern terminus of the parkway begins at the junction between I-95/U.S. 1-9/U.S. 46/U.S. 4 in New Jersey and heads north into New York State entering Rockland County in the village of Palisades. The Palisades Interstate Parkway then intersects Cedar Pond Road at Interchange 15 in the Town of Stony Point. The Palisades Interstate Parkway is not open to commercial traffic and therefore is commonly used by commuters.

*SECONDARY ROADS*

U.S. Route 9W/202 runs north from the village of West Haverstraw into the town of Stony Point as South Liberty Drive. South Liberty Drive becomes North Liberty Drive at the intersection with Route 210 (Central Avenue). North Liberty Drive continues up into Tompkins Cove as U.S. 9W/202. The posted speed limit along U.S. Route 9W/202 in the vicinity of this alternative's site is 30 mph.

*LOCAL ROADS*

West Central Drive or County Route (CR) 106 (210) is an east-west roadway that intersects with U.S. Route 9W/202 located in the Town of Stony Point. CR 106 (210) is accessible from the Palisades Interstate Parkway Exit 15 in which the two roads form a major junction. Route 106 (210) is a 4-mile long road and is generally an east/west oriented roadway. CR 106 (210) is a 1-2 lane roadway with a varying speed limit ranging from 30 to 45 mph.

Bulsontown Road (CR 65) runs parallel with Cedar Flats Road and originates at a junction with Wayne Avenue (CR 112) and Mott Farm Road (CR 118). The southern terminus of Bulsontown Road merges with Old Route 210. No posted limit was observed along Bulsontown Road, as such, the town speed limit of 30 mph is in effect.

Cedar Flats Road (CR69) is a 1.8-mile stretch of road that runs north-south from its southern terminus that begins at the intersection with Central Drive (CR 106). The roadway continues north to terminate at Mott Farm Road (CR 118) and Bulsontown Road (CR 65). The roadway is rural and utilized primarily by residents of the neighborhood surrounding the Ambrey Pond system. Commercial trucks do use the stretch of road for potable well maintenance. The roadway serves as a one-way entrance route onto the Palisades Interstate Parkway. Cedar Flats Road (CR 69) has a posted speed limit of 30 mph.

West Main Street (CR 108) is a 1.2-mile stretch of road that runs east/west from its eastern terminus that begins at the intersection with U.S. Route 9W/202. The roadway continues west to terminate at Bulsontown Road (C.R. 65). The roadway is rural and utilized primarily by residents of the neighborhood surrounding the Ambrey Pond system. The posted speed limit along West Main Street is 30 mph.

Mott Farm Road (CR 118) is located in Tomkins Cove and is a 2.5-mile length of roadway that primarily runs east-west from Bulsontown Road to U.S. 9W/U.S. 202. No posted limit was observed along Mott Farm Road, as such, the town speed limit of 30 mph is in effect.

Queensboro Road (CR 69A) runs east-west and links Mott Farm Road with Cedar Flats Road and at its western terminus the road dead ends. No posted limit was observed along Queensboro Road, as such, the town speed limit of 30 mph is in effect.

Reservoir Road runs parallel with Old Route 210 and originates at a junction with County Route 106 and terminates at West Main Street. A posted non-standard speed limit of 15 mph was observed along Reservoir Road.

Thiells Road is a two lane roadway which runs parallel with Pyngyp Road and originates at a junction with County Route 106. Thiells Road has posted speed limit of 30 mph.

Pyngyp Road is a two lane roadway which runs parallel with Thiells Road and originates at a junction with County Route 106. No posted limit was observed along Pyngyp Road, as such, the town speed limit of 30 mph is in effect.

**OTHER RELEVANT INFORMATION**

Schools in the Ambrey Pond Reservoir Alternative study area are: Stony Point Elementary, Immaculate Conception School and James A. Farley Middle School are located approximately 1/4-mile east and south of the Ambrey Pond Reservoir Alternative site in the Town of Stony Point.

Emergency services locations include Helen Hays Hospital is located on U.S. Route 9W immediately north of Sullivan Drive and Volunteer Fire House located on Railroad Avenue immediately east of U.S. Route 9W.

There are bus stops along U.S. Route 9W at Main Street. The public bus transportation is provided by the Red and Tan Lines, Transport of Rockland and Transportation Resources Intra-County for Physically Handicapped and Senior Citizens, Inc. (T.R.I.P.S.).

There is a railroad crossing located southeast of the project site crossing Railroad Avenue and the rail line continues to the north crossing East Main Street.

The immediate vicinity of the Ambrey Pond Reservoir Alternative site has no established bikeways. Some of the intersections have very minimal pedestrian movement, in conflict with existing traffic.

## E. EXISTING TRAFFIC VOLUMES

*STUDY LOCATIONS*

To identify baseline traffic volumes within the Ambrey Pond Reservoir Alternative study area representatives of HDR conducted peak hour manual traffic volume surveys at six intersections during the typical weekday peak periods and installed Automatic Traffic Recorders (ATRs) at four locations to capture daily and hourly traffic volumes by direction. All traffic data collection was conducted during typical weekdays when local schools are in session and were not impacted by inclement weather conditions or holidays/special events. The locations of the manual turning movement counts are presented in the Appendix 18.2.1 and identified as follows:

*Signalized Intersections*

1. West Main Street (CR 108) and U.S. Route 9W/202
2. Central Drive (CR 106) and U.S. Route 9W/202

*Unsignalized Intersections*

1. Central Drive (CR 106) and Reservoir Road
2. Central Drive (CR 106) and Old Route 210/Pyngyp Road
3. Central Drive (CR 106) and Cedar Flats Road
4. Mott Farm Road (CR 118) and Queensboro Road (CR 69A)/Bulsontown Road (CR 65)

In addition to these existing study locations, all potential new locations (i.e., site driveways) were analyzed as well.

*TRAFFIC COUNTS*

Representatives of HDR conducted manual turning movement counts at the locations mentioned above for typical weekday peak period conditions from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM on June 10th, 16th and 17th, 2008.

In addition to the manual traffic counts, Automatic Traffic Recorder (ATRs) counts were performed for one week period (June 16, 2008 to June 23, 2008) and field observations were performed to determine roadway geometry, lane widths, traffic control, etc.

The manual turning movement count data were reduced to determine the peak hour volumes (PHVs) and peak hour factors (PHFs) at the intersections. Copies of the field data sheets are provided in Appendix 18.2.1. A review of the survey data indicated the average peak hour of traffic activity occurred from 7:00 – 8:00 AM during the weekday morning period and from 5:00 - 6:00 PM during the weekday afternoon.

The intersection traffic counts were combined to create an existing conditions traffic network for the AM and PM peak hours. The traffic volumes were calibrated based on field observations and the 2008 existing conditions. The existing traffic volume networks for the AM and PM peak hour periods are illustrated on Figures 2.2.2.1 and 2.2.2.2 and contained in Appendix 18.2.1.

## F. GENERAL BACKGROUND GROWTH AND OTHER PROPOSED DEVELOPMENTS

For purposes of conducting this traffic analysis, a growth rate of one percent per year has been added to the 2008 baseline traffic volumes to account for general background growth within the immediate vicinity of the Ambrey Pond Reservoir Alternative study area. This growth rate was compounded on an annual basis for seven years to an estimated design year of 2015, resulting in an overall compounded growth rate of 7.2 percent. The growth rate was determined based upon information contained in the 2006 NYSDOT traffic volume report along the 9W corridor and County Routes.

Based on discussions with officials from Rockland County, the Town of Stony Point and Town of Haverstraw, it was determined that the following two adjacent developments should be included in the development of the No-Build Traffic Volumes:

- CVS and Providence Bank Developments will be located in the Town of Stony Point at the intersection of U.S. Route 9W and Filors Lane. The CVS Pharmacy is approximately 13,000 square feet and the Providence Bank is approximately 3,600 square feet. These land use types typical target existing traffic on U.S. Route 9W and can comprise of as much as twenty percent or more of "Pass-By" traffic.

- ShopRite Development will be located in the Town of Stony Point on Kayfries Drive and U.S. Route 9W. This development is currently under the review of the planning board.

The traffic volumes associated with the adjacent developments are shown on Figures 2.3.1 through 2.3.3 in Appendix 18.2.1.

## G. 2015 NO-BUILD TRAFFIC VOLUMES

The Existing Traffic Volumes were projected to the future No-Build Design Year by applying the background growth rate previously identified. This growth rate was determined based upon information contained in the 2006 NYSDOT traffic volume report along the 9W corridor and County Routes. The projected background traffic volumes were then added to the volumes associated with the adjacent developments to form the 2015 No-Build Traffic Volumes.

Appendix 18.2.1 presents the 2015 No Build Traffic Volumes for the weekday AM Peak Hour and weekday PM Peak Hour, respectively. It is assumed that the current lane configurations and signal phasing would remain the same for all intersections within the Ambrey Pond Reservoir Alternative study area.

## H. SITE-GENERATED TRAFFIC VOLUMES

The ability of any roadway network to accommodate anticipated traffic is measured by comparing peak hour traffic volumes to roadway capacities. Thus, it is essential to determine the hourly traffic volumes to be generated by the Ambrey Pond Reservoir Alternative and add them to the No-Build Traffic Volumes for the peak hours.

As previously stated, the Ambrey Pond Reservoir Alternative would not generate a significant volume of traffic once the site was operational. Once operational, preliminary estimates indicate the Water Treatment Plant would generate four to six employee trips on a daily basis with occasional visitors and deliveries. On this basis a capacity analysis was not conducted for these conditions. However, a capacity analysis was conducted to assess the impacts associated with the alternative's construction. Although construction-related traffic impacts are experienced with any new developments and are typically tolerated due to their temporary stature and if they are managed effectively, a capacity analysis was conducted to fully assess the potential impacts related to heavy vehicle traffic volumes, employee trips and other construction-related traffic.

The Ambrey Pond Reservoir Alternative would construct a Water Treatment Plant and Pump Station in the Town of Stony Point, Rockland County, New York. The alternative involves five components: a) Ambrey Pond Reservoir b) Stony Point Dam and Reservoir c) Water Treatment Plant and Pump Station d) Raw Water Transmission Line and e) Finished Water Main.

Construction of the Ambrey Pond Reservoir Alternative would take place in three phases, in response to increases in demand within the UWNY service area and described herein.

**AMBREY POND RESERVOIR ALTERNATIVE PHASE 1**

Phase 1 would include:

- Upgrade of the existing Stony Point Dam and reservoir
- Construction of the Stony Point Water Treatment Plant with 2.5 (Million Gallons per Day ( MGD) capacity, including site improvement

- Construction of the Ambrey Pond Dam with a spillway elevation of 280 ft, producing a storage capacity of 300 MG, and including site preparation and improvement, and road relocation
- Construction of the raw water pump station adjacent to the Cedar Pond Brook reservoir and the raw water transmission line to convey water from that pump station to Ambrey Pond, at maximum planned capacity

Phase 1 would require about 900 days for completion. It would require the use of heavy construction equipment (e.g., cranes, loaders, excavators, dozers, backhoes and dump trucks) to prepare the site for the Ambrey Pond Dam and construct the dam, to install the Raw Water Transmission Line, to prepare the site of the Stony Point Water Treatment Plant and Pump Station and construct these facilities, and to install the Finished Water Mains. In addition, construction personnel, materials removal and materials delivery would require access to the sites over the adjacent public highways by various classes of vehicles ranging from private automobiles to tractor-trailers and dump trucks.

**AMBREY POND RESERVOIR ALTERNATIVE PHASE 2**

Phase 2 would consist of expansion of the Stony Point Water Treatment Plant to 5 MGD capacity. Phase 2 would take about 450 days for completion, and would require the use of heavy construction equipment (e.g., cranes, loaders, excavators, dozers, backhoes and dump trucks) on the site of the Stony Point Water Treatment Plant. In addition, construction personnel, materials removal and materials delivery would require access to the site over the adjacent public highways by various classes of vehicles ranging from private automobiles to tractor-trailers and dump trucks.

**AMBREY POND RESERVOIR ALTERNATIVE PHASE 3**

Phase 3 would include:

- Expansion of the Stony Point Water Treatment Plant to 7.5 MGD capacity
- Raising the Ambrey Pond Dam to a spillway elevation of 290 ft and construction of the auxiliary dam, producing a storage capacity of 600 MG, including associated site preparation and improvement, and road relocation

Phase 3 would require about 720 days to complete. It would require the use of heavy construction equipment (e.g., cranes, loaders, excavators, dozers, backhoes and dump trucks) on the site of the Stony Point Water Treatment Plant. In addition, construction personnel, materials removal and materials delivery would require access to the site over the adjacent public highways by various classes of vehicles ranging from private automobiles to tractor-trailers and dump trucks.

The following table summarizes the projected site-generated traffic for the construction efforts. Additional details are provided in Appendix 18.2.1. It is anticipated that all construction-related deliveries would be scheduled to avoid peak traffic conditions; however, HDR assumed 20 percent would arrive during the peak hour. Typically, construction workers are on-site before the regular commuter peak hour and frequently work a 7:00 AM to 4:00 PM shift; however, in an effort to be conservative HDR assumed that all workers would arrive during the early shoulder

of the morning peak hour (7:00 AM to 8:00 AM) and depart during the afternoon peak hour (5:00 PM to 6:00 PM). No construction activity is anticipated during the weekend periods. In an effort to be conservative, construction truck deliveries and employee vehicular traffic were increased by approximately two times than what is described in the following Table 18.2-2:

**Table 18.2-2**

**Site-Generated Construction Traffic Projections**

| Item | Phase 1 | Phase 2 | Phase 3 |
|---|---|---|---|
| Schedule | 900 days | 450 days | 720 days |
| Delivery Truck | 52 per day (32 per day avg.) | 3 per day (1 per day avg.) | 13 per day (8 per day avg.) |
| Concrete Truck | 48 per day max. (22 per day avg.) | 4 per day max. (1 per day avg.) | 5 per day max. (3 per day avg.) |
| Dump Truck | 42 loads per day (22 per day avg.) | 2 loads per day (1 per day avg.) | 31 loads per day (9 per day avg.) |
| Total Truck Trips | 142 per day | 9 per day | 49 per day |
| Peak Hour Trips – One-way (assume 20 percent) | 28 trucks peak hour | 2 trucks peak hour | 10 trucks peak hour |
| **Peak Hour Truck Trips - Roundtrip** | **56 trucks peak hour** | **4 trucks peak hour** | **20 trucks peak hour** |
| **Construction Worker Trips** | **90 worker peak hour** | **15 worker peak hour** | **20 worker peak hour** |
| **Total Trips** | **146 trips** | **19 trips** | **40 trips** |

For analysis purposes, Phase 1 was analyzed as it generates the maximum site trips during the three construction phases of the Ambrey Pond Reservoir Alternative.

## I. ASSIGNMENT OF SITE-GENERATED TRAFFIC

Distribution patterns for the Ambrey Pond Reservoir Alternative are based on an evaluation of current traffic patters in the immediate vicinity of the subject property. Based on this evaluation it is estimated that approximately 65 percent of the total truck site-generated traffic would have an origin/destination to the south via U.S. Route 9W, and 35 percent arriving/departing to the north via U.S. Route 9W. Similarly, approximately 33 percent of the total construction worker site-generated traffic would have an origin/destination to the south via U.S. Route 9W, 33 percent arriving/departing to the north via U.S. Route 9W, and 34 percent utilizing local roadways and the Palisades Parkway.

It is anticipated that all commercial truck and heavy vehicle traffic would be directed to avoid local roadways and follow designated truck routes such as U.S. Route 9W and County Route 106.

Appendix 18.2.1 presents a detailed breakdown of construction-related site-generated traffic by peak hour and trip type (construction worker and truck trips).

## J. 2015 BUILD TRAFFIC VOLUMES

The projected site-generated traffic volumes were added to the 2015 No-Build Traffic Volumes to create the 2015 Build Traffic Volumes, which for the AM Peak Hour and PM Peak Hour, are shown in Appendix 18.2.1.

## K. DESCRIPTION OF CAPACITY ANALYSIS

Procedures have been established by the Transportation Research Board through which roadway segments and intersections can be tested to determine their ability to accommodate traffic volumes. These procedures are described in this section.

The capacity analyses for the Ambrey Pond Reservoir Alternative study area intersections are based on the methodologies described in the *2000 Highway Capacity Manual (HCM)*, and used Synchro Software, Version 6 (Build 614) to determine the LOS. Analyses were completed for Existing, No Build, and Build Conditions. Traffic operations are defined by LOS, which is a qualitative measure that associates LOS with vehicle delays. The Capacity Summary Results are found in Appendix 18.2.1. Table 18.2-3 summarizes the relationship between LOS and delay at intersections.

**Table 18.2-3**
**Level-Of-Service (LOS) Criteria for Intersections**

| Level-Of-Service (LOS) | Signalized Intersection Average Total Delay (seconds/vehicle) | Unsignalized Intersection Average Total Delay (seconds/vehicle) |
|---|---|---|
| A | ≤10 | ≤10 |
| B | > 10 and ≤ 20 | > 10 and ≤ 15 |
| C | > 20 and ≤ 35 | > 15 and ≤ 25 |
| D | > 35 and ≤ 55 | > 25 and ≤ 35 |
| E | > 55 and ≤ 80 | > 35 and ≤ 50 |
| F | > 80 | > 50 |

*Source: Highway Capacity Manual, Transportation Research Board; Washington, DC; 2000.*

**LOS A** represents ideal conditions. LOS F represents conditions characterized by long delays and traffic operational breakdowns at the signalized intersection. LOS B, C, D, and E are the gradual increments between ideal conditions (LOS A) and traffic operational breakdown conditions (LOS F). A further description of LOS is as follows:

LOS A describes operations with low control delay, up to 10 seconds per vehicle. This LOS occurs when progression is extremely favorable and most vehicles arrive at the intersection during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.

**LOS B** describes operations with control delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

**LOS C** describes operations with control delay greater than 20 and up to 35 seconds per vehicle. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

**LOS D** describes operations with control delay greater than 35 and up to 55 seconds per vehicle. At this level, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

**LOS E** describes operations with control delay greater than 55 and up to 80 seconds per vehicle. These higher delay values generally indicate poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent.

**LOS F** describes operations with control delay in excess of 80 seconds per vehicle. This is considered unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high volume-to-capacity ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delays.

For the unsignalized intersections, delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line: LOS A describes operations with very low delay; LOS B, LOS C, and LOS D describes operations with delays in the which is considered to be acceptable delay. LOS F describes operation with delays in excess of 50.0 seconds per vehicle, which is considered unacceptable to most drivers. This condition exists when there are insufficient gaps of suitable size to allow side street traffic to cross safely through a major vehicular traffic stream.

# L. LOCATION NO. 1 – U.S. ROUTE 202/9W AND WEST MAIN STREET (CR 108)

## EXISTING CONDITIONS

U.S. Route 202 /9W forms the northbound and southbound legs of this four-legged, signalized intersection with West Main Street (CR 108). The northbound and southbound approaches of U.S. Route 202 /9W provide one shared left-turn/through/right-turn lane. The eastbound West Main Street approach provides one shared left-turn/through/right-turn lane. The westbound West Main Street approach provides one shared through/right-turn lane and a left-turn lane. This four-legged intersection is controlled by an actuated traffic signal and is under the jurisdiction of NYSDOT.

## CAPACITY ANALYSIS

Capacity analyses were conducted for this location utilizing the 2008 Existing and 2015 No-Build/Build for the Peak Weekday Hours. The results of these analyses are shown in the following tables:

**TABLE 18.2-4**

**WEST MAIN STREET/ EAST MAIN STREET & U.S. ROUTE 9W**

**WEEKDAY AM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | |
|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay |
| **U.S. ROUTE 9W** | | | | | | |
| Northbound LTR | A | 6.0 | A | 7.0 | A | 7.2 |
| **U.S. ROUTE 9W** | | | | | | |
| Southbound LTR | A | 7.7 | A | 9.3 | B | 10.1 |
| **WEST MAIN STREET** | | | | | | |
| Eastbound LTR | A | 9.4 | A | 9.0 | A | 8.9 |
| **EAST MAIN STREET** | | | | | | |
| Westbound L | C | 31.6 | C | 32.7 | C | 31.9 |
| Westbound TR | B | 19.5 | B | 19.4 | B | 18.8 |
| **OVERALL** | **B** | **10.3** | **B** | **11.5** | **B** | **11.6** |

**TABLE 18.2-5**
**WEST MAIN STREET/ EAST MAIN STREET & U.S. ROUTE 9W**
**WEEKDAY PM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | |
|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay |
| **U.S. ROUTE 9W** | | | | | | |
| Northbound LTR | A | 9.7 | D | 43.4 | D | 46.7 |
| **U.S. ROUTE 9W** | | | | | | |
| Southbound LTR | A | 6.7 | B | 10.3 | B | 10.5 |
| **WEST MAIN STREET** | | | | | | |
| Eastbound LTR | B | 18.2 | C | 28.3 | C | 34.5 |
| **EAST MAIN STREET** | | | | | | |
| Westbound L | D | 35.0 | F | 92.1 | F | 97.6 |
| Westbound TR | B | 15.5 | B | 19.1 | B | 14.9 |
| **OVERALL** | **B** | **12.5** | **D** | **35.4** | **D** | **38.2** |

**RECOMMENDED IMPROVEMENTS**

As can be seen in the previous tables, the overall intersection delay would minimally increase during the AM and PM Peak Hours under the No-Build to Build Conditions. The estimated change in operating conditions under the Build Condition is summarized as follows:

- Weekday AM Peak Hour –
  - The southbound approach changes from LOS A to LOS B due to an increase delay from 9.3 seconds to 10.1 seconds, or 0.8 seconds.
- Weekday PM Peak Hour –
  - The westbound left turn movement LOS remained at a LOS "F" with a minimal increase in delay from 92.1 seconds to 97.6 seconds, or 5.5 seconds.

The increase in delay in the westbound approach during the PM peak hour can be attributed to the additional construction worker trips originating from the Water Treatment Plant and utilizing the eastbound approach to this intersection. As the westbound East Main Street approach will fail in the No-Build condition, an increase in traffic along the eastbound approach during the Build condition which operates at a LOS "C" decreases the amount of gaps in the through stream

of traffic, the delay in the westbound approach increases. As there would be no change in LOS, no improvements are recommended at this location.

## M. LOCATION NO. 2 – U.S. ROUTE 202/9W AND CENTRAL DRIVE (CR 106)/SHOPPING CENTER DRIVEWAY

### EXISTING CONDITIONS

U.S. Route 202 /9W forms the northbound and southbound legs of this four-legged, signalized intersection with Central Drive (CR 106)/Shopping Center Driveway. The northbound U.S. Route 202 /9W provides one left turn lane and a shared through/right-turn lane. The southbound U.S. Route 202 /9W provides one left turn lane, a through lane and a right-turn lane. The eastbound Central Drive approach provides one left turn lane and a shared through/right-turn lane. The westbound Shopping Center Driveway approach provides one shared left/through/right-turn lane. This four-legged intersection is controlled by an actuated traffic signal and is under the jurisdiction of NYSDOT.

### CAPACITY ANALYSIS

Capacity analyses were conducted for this location utilizing the 2008 Existing and 2015 No-Build/Build for the Peak Weekday Hours. The results of these analyses are shown in the following tables:

**TABLE 18.2-6**

**ROUTE 106 & U.S. ROUTE 9W WEEKDAY AM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | |
|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay |
| **U.S. ROUTE 9W** | | | | | | |
| Northbound L | A | 9.1 | B | 10.2 | B | 11.8 |
| Northbound TR | B | 11.1 | B | 11.9 | B | 12.3 |
| **U.S. ROUTE 9W** | | | | | | |
| Southbound L | A | 9.9 | B | 10.5 | B | 10.9 |
| Southbound T | B | 19.7 | C | 22.2 | C | 25.3 |
| Southbound R | A | 3.6 | A | 3.8 | A | 4.0 |
| **ROUTE 106** | | | | | | |
| Eastbound L | C | 27.3 | C | 27.8 | C | 29.6 |
| Eastbound TR | A | 7.2 | A | 6.9 | A | 6.6 |
| **ROUTE 106** | | | | | | |
| Westbound LTR | B | 13.1 | B | 12.8 | B | 12.9 |
| **OVERALL** | **B** | **14.0** | **B** | **15.0** | **B** | **16.1** |

**TABLE 18.2-7**

**ROUTE 106 & U.S. ROUTE 9W WEEKDAY PM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | |
|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay |
| **U.S. ROUTE 9W** | | | | | | |
| Northbound L | B | 14.3 | C | 32.3 | D | 40.1 |
| Northbound TR | C | 23.5 | E | 55.4 | E | 55.4 |
| **U.S. ROUTE 9W** | | | | | | |
| Southbound L | B | 12.6 | B | 14.0 | B | 14.0 |
| Southbound T | C | 26.0 | E | 67.0 | E | 67.0 |
| Southbound R | A | 4.3 | A | 4.8 | A | 4.8 |
| **ROUTE 106** | | | | | | |
| Eastbound L | C | 33.1 | E | 62.7 | E | 75.2 |
| Eastbound TR | A | 6.7 | A | 5.6 | A | 5.1 |
| **ROUTE 106** | | | | | | |
| Westbound LTR | A | 9.9 | A | 9.4 | A | 9.4 |
| **OVERALL** | **C** | **20.8** | **D** | **46.1** | **D** | **47.0** |

**RECOMMENDED IMPROVEMENTS**

As can be seen in the previous tables, the overall intersection delay would minimally increase during the AM and PM Peak Hours under the Build Condition. The estimated change in operating conditions under the Build Condition is summarized as follows:

- Weekday AM Peak Hour –
  - No change in Level of Service is experienced along all movements during the No-Build and Build conditions.
  - Each movement operates at a Level of Service "C" or better.
- Weekday PM Peak Hour –
  - The northbound left turn movement changes from LOS "C" to LOS "D" due to an increase delay from 32.3 seconds to 40.1 seconds, or 7.8 seconds.
  - The overall intersection delay increases from 46.1 to 47.0, a change of 0.9 seconds
  - The Eastbound Central Drive left turn lane delay increases from 62.7 to 75.2, an increase of 12.5 seconds.

The increase in delay in the westbound approach during the PM peak hour can be attributed to the additional construction worker trips and originating from the both sites and utilizing the eastbound approach to this intersection. As there would be no change in LOS, no improvements are recommended at this location.

## N. LOCATION NO. 3 – CENTRAL DRIVE (CR 106) AND RESERVOIR ROAD

### EXISTING CONDITIONS

Central Drive (CR 106) forms the eastbound and westbound approaches of this four-legged, unsignalized intersection with Reservoir Road. The westbound Central Drive approach provides a shared left/through and a shared through/right turn lanes. The eastbound Central Drive approach provides a shared left/through lane and a right turn lane. The northbound Reservoir Road approach provides a shared left/through/right turn lane. Both the Reservoir Road northbound and southbound approaches are under STOP control.

### CAPACITY ANALYSIS

Capacity analyses were conducted for this location utilizing the 2008 Existing and 2015 No-Build/Build for the Peak Weekday Hours. The results of these analyses are shown in the following tables:

**TABLE 18.2-8**

**ROUTE 106 & RESERVOIR ROAD/ THIELLS ROAD**

**WEEKDAY AM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | | 2015 Build Mitigation | |
|---|---|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay |
| **THIELLS ROAD** | | | | | | | | |
| Northbound LTR | c | 24.3 | d | 29.7 | e | 39.8 | B | 11.5 |
| **RESERVOIR ROAD** | | | | | | | | |
| Southbound LTR | c | 15.4 | c | 16.8 | c | 24.8 | A | 7.9 |
| **ROUTE 106** | | | | | | | | |
| Eastbound LT | a | 0.4 | a | 0.4 | a | 0.9 | A | 5.0 |
| Eastbound R | - | 0.0 | - | 0.0 | - | 0.0 | A | 0.4 |
| **ROUTE 106** | | | | | | | | |
| Westbound LTR | a | 1.8 | a | 1.8 | a | 1.7 | A | 9.2 |
| **OVERALL** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A** | **7.6** |

**TABLE 18.2-9**
**ROUTE 106 & RESERVOIR ROAD/ THIELLS ROAD**
**WEEKDAY PM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | | 2015 Build Mitigation | |
|---|---|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay |
| **THIELLS ROAD** | | | | | | | | |
| Northbound LTR | f | 73.0 | f | >99.9 | f | >99.9 | B | 18.6 |
| **RESERVOIR ROAD** | | | | | | | | |
| Southbound LTR | d | 28.0 | f | >99.9 | f | >99.9 | A | 9.9 |
| **ROUTE 106** | | | | | | | | |
| Eastbound LT | a | 1.7 | a | 1.8 | a | 1.8 | B | 11.9 |
| Eastbound R | - | 0.0 | - | 0.0 | - | 0.0 | A | 1.6 |
| **ROUTE 106** | | | | | | | | |
| Westbound LTR | a | 2.1 | a | 2.3 | a | 2.3 | B | 10.3 |
| **OVERALL** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **B** | **12.1** |

**RECOMMENDED IMPROVEMENTS**

- Weekday AM Peak Hour –
  - The northbound approach changes from LOS "d" to LOS "e" due to an increase delay from 29.7 seconds to 39.8 seconds, or 10.1 seconds.
- Weekday PM Peak Hour –
  - The northbound and southbound approaches will operate at a LOS "f" for both the No-Build and Build conditions.

The increase in delay during both the AM and PM peak hours can be attributed to the additional construction worker trips and construction vehicles originating from the alternative's sites and utilizing the southbound approaches to this intersection. A temporary traffic signal could be

installed or provisions could be made for a traffic control officer to direct traffic to mitigate the construction impacts during the peak hours of Phase 1 construction.

## O. LOCATION NO. 4 – CENTRAL DRIVE (CR 106) AND OLD ROUTE 202/PYNGYP ROAD

### EXISTING CONDITIONS

Central Drive (CR 106) forms the eastbound and westbound approaches of this four-legged, unsignalized intersection with Pyngyp Road. The eastbound Central Drive approach provides a shared left/through lane and right turn lane. The westbound Central Drive approach provides a shared left/through/right turn lane. Both the northbound and southbound Pyngyp and Old Route 202 approaches provide a shared left/through/right turn lane. The northbound Pyngyp Road and southbound Old Route 210 approaches are under STOP control.

### CAPACITY ANALYSIS

Capacity analyses were conducted for this location utilizing the 2008 Existing and 2015 No-Build/Build for the Peak Weekday Hours. The results of these analyses are shown in the following tables:

**TABLE 18.2-10**

**ROUTE 106 & OLD ROUTE 210/ PYNGYP ROAD**

**WEEKDAY AM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | | 2015 Build Mitigation | |
|---|---|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay |
| **PYNGYP ROAD** | | | | | | | | |
| Northbound LTR | b | 14.6 | c | 15.4 | c | 16.3 | A | 8.6 |
| **OLD ROUTE 210** | | | | | | | | |
| Southbound LTR | b | 12.5 | b | 13.2 | c | 16.9 | A | 5.3 |
| **ROUTE 106** | | | | | | | | |
| Eastbound LT | a | 1.4 | a | 1.5 | a | 1.9 | B | 11.4 |
| Eastbound R | - | 0.0 | - | 0.0 | - | 0.0 | A | 6.0 |
| **ROUTE 106** | | | | | | | | |
| Westbound LTR | a | 0.6 | a | 0.6 | a | 0.6 | A | 5.3 |
| **OVERALL** | | | | | | | **A** | **7.6** |

**TABLE 18.2-11**
**ROUTE 106 & OLD ROUTE 210/ PYNGYP ROAD**
**WEEKDAY AM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | | 2015 Build Mitigation | |
|---|---|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay |
| **PYNGYP ROAD** | | | | | | | | |
| Northbound LTR | d | 25.4 | d | 31.7 | d | 33.9 | B | 10.8 |
| **OLD ROUTE 210** | | | | | | | | |
| Southbound LTR | f | 86.9 | f | >99.9 | f | >99.9 | B | 16.5 |
| **ROUTE 106** | | | | | | | | |
| Eastbound LT | a | 4.3 | a | 4.6 | a | 4.8 | B | 19.4 |
| Eastbound R | - | 0.0 | - | 0.0 | - | 0.0 | A | 3.2 |
| **ROUTE 106** | | | | | | | | |
| Westbound LTR | a | 1.1 | a | 1.2 | a | 1.1 | A | 3.4 |
| **OVERALL** | | | | | | | **B** | **12.6** |

**RECOMMENDED IMPROVEMENTS**

- Weekday AM Peak Hour –
  - The southbound approach changes from LOS "b" to LOS "c" due to an increase delay from 13.2 seconds to 16.9 seconds, or 3.7 seconds.
- Weekday PM Peak Hour –
  - The southbound approaches will operate at a LOS "f" for both the No-Build and Build conditions.

The increase in delay during both the AM and PM peak hours can be attributed to the additional construction worker trips and construction vehicles originating from the alternative's sites and utilizing the southbound approaches to this intersection. A temporary traffic signal could be

installed or provisions could be made for a traffic control officer to direct traffic to mitigate the construction impacts during the peak hours of Phase 1 construction.

## P. LOCATION NO. 5 – CENTRAL DRIVE (CR 106) AND CEDAR FLATS ROAD (CR 69)

### EXISTING CONDITIONS

Central Drive (CR 106) forms the eastbound and westbound approaches of this three-legged, unsignalized intersection with Cedar Flats Road. The westbound Central Drive approach provides a through and a right turn lane. The eastbound Central Drive approach provides a shared left/through lane and through lane. The southbound Cedar Flats Road provides a left/right turn lane. The southbound Cedar Flats Road approach is under STOP control.

### CAPACITY ANALYSIS

Capacity analyses were conducted for this location utilizing the 2008 Existing and 2015 No-Build/Build for the Peak Weekday Hours. The results of these analyses are shown in the following tables:

**TABLE 18.2-12**
**ROUTE 106 & CEDAR FLATS ROAD**
**WEEKDAY AM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | |
|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay |
| **CEDAR FLATS ROAD** | | | | | | |
| Southbound LR | b | 14.9 | c | 15.9 | c | 16.2 |
| **ROUTE 106** | | | | | | |
| Eastbound LT | a | 1.2 | a | 1.3 | a | 1.2 |

**TABLE 18.2-13**
**ROUTE 106 & CEDAR FLATS ROAD**
**WEEKDAY PM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | |
|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay |
| **CEDAR FLATS ROAD** | | | | | | |
| Southbound LR | b | 13.9 | c | 16.1 | c | 16.8 |
| **ROUTE 106** | | | | | | |
| Eastbound LT | a | 2.2 | a | 2.3 | a | 2.3 |

### RECOMMENDED IMPROVEMENTS

As can be seen in the table above, the Ambrey Pond Reservoir Alternative would not have a significant impact on the operating conditions of this intersection. All turning movements will continue to operate at a LOS "c" or better for all conditions. Therefore, there are no improvements recommended for this location.

## Q. LOCATION NO. 6 – QUEENSBORO ROAD (CR 69A) AND BULSONTOWN ROAD (CR 65)/MOTT FARM RAOD (CR 118)

### EXISTING CONDITIONS

Queensboro (CR 69A) forms the southbound approach and Bulsontown Road forms the northbound approach to this three-legged, unsignalized intersection with Mott Farm Road (CR 118). The southbound Queensboro approach provides shared left/through turn lane and the northbound Bulsontown Road provides a shared through/right turn lane. The westbound Mott Farm Road (CR 118) provides a shared left/right turn lane and is under STOP control.

### CAPACITY ANALYSIS

Capacity analyses were conducted for this location utilizing the 2008 Existing and 2015 No-Build/Build for the Peak Weekday Hours. The results of these analyses are shown in the following tables:

**TABLE 18.2-14**

**QUEENSBORO ROAD/ BULSONTOWN ROAD & MOTT FARM ROAD**

**WEEKDAY AM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | |
|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay |
| **BULSONTOWN ROAD** | | | | | | |
| Northbound TR | - | 0.0 | - | 0.0 | - | 0.0 |
| **QUEENSBORO ROAD** | | | | | | |
| Southbound LT | a | 4.9 | a | 5.1 | a | 5.1 |
| **MOTT FARM ROAD** | | | | | | |
| Westbound LR | a | 8.7 | a | 8.7 | a | 8.7 |

**TABLE 18.2-15**

**QUEENSBORO ROAD/ BULSONTOWN ROAD & MOTT FARM ROAD**

**WEEKDAY PM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | |
|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay |
| **BULSONTOWN ROAD** | | | | | | |
| Northbound TR | - | 0.0 | - | 0.0 | - | 0.0 |
| **QUEENSBORO ROAD** | | | | | | |
| Southbound LT | a | 6.2 | a | 6.2 | a | 6.2 |
| **MOTT FARM ROAD** | | | | | | |
| Westbound LR | a | 8.7 | a | 8.7 | a | 8.7 |

### RECOMMENDED IMPROVEMENTS

As can be seen in the table above, the Ambrey Pond Reservoir Alternative would not have a significant impact on the operating conditions of this intersection. All turning movements will continue to operate at LOS "a" for all conditions. Therefore, there are no improvements recommended for this location.

## R. LOCATION NO. 7 – BULSONTOWN ROAD AND SITE DRIVEWAY NO. 1

### POTENTIAL CONDITIONS

This intersection would be a three-legged, unsignalized intersection with the Ambrey Pond Reservoir Alternative Site Driveway forming the eastbound approach, and Bulsontown Road forming the northbound and southbound approaches. The northbound Bulsontown Road would consist of one shared left/through lane and the southbound approach would consist of one shared through/right-turn lane. The eastbound site driveway approach would consist of one shared left/right-turn lane and be under STOP control.

### CAPACITY ANALYSIS

Capacity analyses were conducted at this location using the 2015 Build Traffic Volumes. The results of this analysis are shown in the following table:

**TABLE 18.2-16**
**SITE DRIVEWAY NO. 1 & BULSONTOWN ROAD**
**WEEKDAY AM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | |
|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay |
| **BULSONTOWN ROAD** | | | | | | |
| Northbound LT | N/A | N/A | N/A | N/A | a | 6.0 |
| **SITE DRIVEWAY #1** | | | | | | |
| Eastbound LR | N/A | N/A | N/A | N/A | a | 8.5 |

**TABLE 18.2-17**
**SITE DRIVEWAY NO. 1 & BULSONTOWN ROAD**
**WEEKDAY AM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | |
|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay |
| **BULSONTOWN ROAD** | | | | | | |
| Northbound LT | N/A | N/A | N/A | N/A | a | 4.1 |
| **SITE DRIVEWAY #1** | | | | | | |
| Eastbound LR | N/A | N/A | N/A | N/A | a | 8.7 |

### RECOMMENDED IMPROVEMENTS

As can be seen in the table above, the alternative's driveway would operate at a LOS "a" under all conditions. As such, the Ambrey Pond Reservoir Alternative would not have a significant impact on the operating conditions of this intersection. Therefore, there are no improvements recommended for this location other than the construction of the driveway.

## S. LOCATION NO. 8 – WEST MAIN STREET AND SITE DRIVEWAY NO. 2

### POTENTIAL CONDITIONS

This intersection would be a three-legged, unsignalized intersection with the Ambrey Pond Reservoir Alternative Site Driveway forming the northbound and West Main Street forming the eastbound and westbound approaches. The eastbound West Main Street would consist of one

shared through/right-turn and the westbound approach would consist of one shared left-turn/through lane. The northbound site driveway approach would consist of one shared left/right-turn lane and be under STOP control.

**CAPACITY ANALYSIS**

Capacity analyses were conducted at this location using the 2015 Build Traffic Volumes. The results of this analysis are shown in the following table:

**TABLE 18.2-18**
**WEST MAIN STREET & SITE DRIVEWAY NO. 2**
**WEEKDAY AM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | |
|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay |
| **SITE DRIVEWAY #2** | | | | | | |
| Northbound LR | N/A | N/A | N/A | N/A | b | 10.4 |
| **WEST MAIN STREET** | | | | | | |
| Westbound LT | N/A | N/A | N/A | N/A | a | 0.7 |

**TABLE 18.2-19**
**WEST MAIN STREET & SITE DRIVEWAY NO. 2**
**WEEKDAY AM PEAK HOUR**

| Movement | 2008 Existing | | 2015 No-Build | | 2015 Build | |
|---|---|---|---|---|---|---|
| | LOS | Delay | LOS | Delay | LOS | Delay |
| **SITE DRIVEWAY #2** | | | | | | |
| Northbound LR | N/A | N/A | N/A | N/A | b | 10.8 |
| **WEST MAIN STREET** | | | | | | |
| Westbound LT | N/A | N/A | N/A | N/A | - | 0.0 |

**RECOMMENDED IMPROVEMENTS**

As can be seen in the table above, the proposed driveway will operate at a LOS "b" or better under all conditions. As such, the project will not have a significant impact on the operating

conditions of this intersection. Therefore, there are no improvements recommended for this location other than the construction of the driveway.

## T. ACCIDENT ANALYSIS

Accident data was requested by the New York State Department of Transportation (NYSDOT) for the most-recent three year period. The requested information included a copy of all detailed accident reports of roadways and intersections within the study area. Upon receipt, the data will be analyzed to identify accident types, patterns, possible causes and safety deficient locations. NYSDOT has responded to this request and is in the process of compiling the data.

✷