Draft Environmental Impact Statement
Dollar General Retail Store
240 & 248 Buffalo Street, Gowanda, New York

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

In February 2019, the Village of Gowanda Board of Trustees (the "Board") received an application for Site Plan review from The Broadway Group, LLC ("the "Project Sponsor" or "Applicant") for a proposed Dollar General Retail Store (the "Project" or "Proposed Action") located at 240 & 248 Buffalo Street in the Village of Gowanda, New York (see **Appendix "A"** and **Appendix "B"** for Site location map and Site Plan application). On March 12, 2019, the Board classified the proposed action as "Unlisted" and declared itself Lead Agency pursuant to § 617.6 of the State Environmental Quality Review Act ("SEQRA") implementing regulations. On April 9, 2019, the Board issued a Positive Declaration in accordance with 6 NYCRR part 617, §§ 617.7 and 617.12 of SEQRA. The Board also determined that scoping for the DEIS be focused on five categories of impacts as identified in the Positive Declaration (land including stormwater runoff and drainage, traffic, noise and light, zoning and parking, and community character). Thereafter, the Village initiated a scoping process that focused on the five categories detailed in the Positive Declaration and a Public Scoping meeting was held on September 8, 2020 (see **Appendix "C"** for SEQRA documentation).

The following constitutes a Draft Environmental Impact Statement ("DEIS") which has been prepared by the Project Sponsor pursuant to SEQRA in order to provide a means for involved and interested agencies and the public to systematically consider possible adverse environmental impacts, alternatives, and relevant mitigation measures for the Proposed Action. This DEIS has been prepared to provide information and analyses in accordance with the Board's Positive Declaration and Final Scoping Document (**Appendix "C"**).

Once the Board accepts this DEIS as complete, a public review and comment period will follow. During that time, the Board will host a public hearing on the DEIS. Following the close of the public review period, the Lead Agency must prepare or cause to be prepared, a Final Environmental Impact Statement ("FEIS") which responds to comments from the public, involved and interested agencies. The FEIS will include substantive comments received and responses to those comments, revisions to the DEIS, and the reason(s) for those revisions.

At least ten days after the completion of the FEIS, the Board can issue a Findings Statement, in accordance with 6 NYCCR § 617.11, which identifies whether the Proposed Action minimizes or avoids potential adverse environmental impacts to the maximum extent practicable, and the that mitigation measures identified through the SEQRA process were incorporated. The determinations in the Findings Statement must be based on facts and conclusions that are derived from the SEQRA process.

1.2 Brief Description of the Proposed Action

The Proposed Action consists of the siting and construction of a small (9,100 SF) Dollar General retail store and associated parking and site improvements at 240 & 248 Buffalo Street in the village of Gowanda, New York. The Proposed Action will provide convenient neighborhood retail within the current Buffalo Street mixed-use corridor and within walking distance to residential areas along and adjacent to Buffalo Street. 240 & 248 Buffalo Street (the "Project Site") totals approximately 1.28 acres and is currently developed with two small residential structures.

1.3 Lead Agency Designation

The Village of Gowanda Board of Trustees declared its intent to act as Lead Agency, for purposes of the SEQRA review of the Proposed Action, in a letter dated March 12, 2019 **(Appendix "C**").

1.4 Interested and Involved Agencies

The following Involved and Interested Agencies have been identified for the Proposed Action:

1. Village of Gowanda Planning Board
2. Village of Gowanda Zoning Board of Appeals
3. New York State Department of Environmental Conservation ("NYSDEC")
4. New York State Department of Transportation (Region 5) ("NYSDOT")

1.5 Required Reviews and Approvals

The Project Sponsor seeks site plan approval for the Project from the Village of Gowanda. The Proposed Action received a variance approval from the Village's parking requirements on October 4, 2019; see **Appendix "D"**). In addition to local approvals, the Project Sponsor will submit a Notice of Intent to the New York State Department of Environmental Conservation (NYSDEC) indicating its compliance with the SPDES General Permit for Stormwater Discharges from Construction Activity, including preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP). A Highway Work Permit and/or Highway Occupancy Permit will also be required for the associated driveway/curb cut at Buffalo Street (U.S. Route 62).

1.6 Potential Impacts and Proposed Mitigation Measures

Potential impacts of the Proposed Action and any applicable proposed mitigation measures that would eliminate or minimize each impact are described in the DEIS. The summary of potential impacts and mitigation measures is presented in each subsection of Section 1.0 of the DEIS. Consistent with the scoping process, the DEIS thoroughly evaluates the potential impacts of the Proposed Action in the following categories: stormwater and drainage, traffic, noise and lighting, zoning and parking, and community character.

1.7 Project Alternatives

Alternatives to the Proposed Action examined in this DEIS include:

- No Action Alternative
- Design and Scale Alternative

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 Description of the Proposed Action

The Broadway Group, LLC (the "Project Sponsor" or "Applicant") proposes to construct a 9,100 square foot Dollar General retail store and associated site improvements (the "Project" or "Proposed Action") at 240 & 248 Buffalo Street, Gowanda, New York (the "Project Site"). The proposed small-box Dollar General retail store will be built consistent with the kind of development that is allowed within the Village of Gowanda, New York B-2 "Restricted Business" zoning district. The proposed building will be steel-framed, have a maximum dimension of 71 feet wide, 131 feet deep, and 18 feet tall. As currently designed, the proposed building will be located approximately 126.5 feet from the front property line, approximately 28 feet from the south property line, approximately 43.5 feet from the north property line, and approximately 78.6 feet from the west property line. A privacy fence will be installed along the north, west, and south property lines. Several existing trees will be retained to provide noise and light screening and a berm is proposed to be included along a portion of the south and east property lines.

Vehicle and pedestrian access to the Project Site will be from a single driveway connecting to Buffalo Street. In accordance with the approved variance (**Appendix "D"**), the Project Site will contain a total of 30 parking spaces located to the north and east of the proposed building. As part of the approved variance, two (2) accessible parking spaces will be located adjacent to the front/main entrance. Refer to Error! Reference source not found.**"** for the civil engineering site development plans.

As a retail store, the Project Site will be regularly accessed by merchandise delivery vehicles. These vehicles will make all deliveries along the north side of the building. The retailer receives deliveries from various food companies in addition to other deliveries. All deliveries will be made utilizing the flush loading area. No elevated loading dock is proposed or necessary. The proposed building will feature two (2) points of entry/exit. The main entrance will be located on the eastern side of the building facing Buffalo Street. A second, emergency exit door will be provided on the north side of the building facing the parking area. This entrance will be primarily inaccessible from the exterior and is intended to be utilized for exit only.

2.2 Site Location and Description

The Project Site is located in the Village of Gowanda, New York (Erie County, New York) on the westerly side of Buffalo Street (U.S. Route 62) near the intersection of Buffalo Street and Bader Avenue. The two parcels, 240 Buffalo Street (Lot 1) and adjacent 248 Buffalo Street (Lot 2), are currently occupied by residential structures with accessory structures, driveways, and sidewalks (see **Appendix "A"** for an aerial image of the Site).

Lot 1 is located directly to the south of Lot 2. Lot 1 is approximately 0.76 acres and contains a two-story single-family wood-framed house and a detached single-story two-car garage. Lot 2 is approximately 0.52 acres and contains a 1.5-story single-family wood-framed house and an attached single-story single-car garage. There are no other accessory buildings on the lots. The remainder of both lots contain driveways, sidewalks, other minor paved areas, lawn, trees, and limited landscaping. Pedestrian and vehicle access to both lots is provided by sidewalks and driveways and curb cuts onto Buffalo Street. See **Appendix "E"** for a land survey depicting existing site conditions.

Located in the Buffalo Street mixed-use corridor, both lots are within the B-2 "Restricted Business" zoning district which permits commercial uses as-of-right. Residential and commercial uses are located directly adjacent to and near the Project Site. Valu Home Center is located on a portion of an adjacent parcel to the rear of the Project Site and residential uses are located to the north and south of the Project Site. Refer to **Appendix "F"** for photographs of the existing commercial and residential uses within the Project Site vicinity.

2.3 Store Operation and Hours

Dollar General retail stores typically employ a total of eight (8) to twelve (12) people. Typical store hours are from 8:00 am to 10:00 pm, seven (7) days per week. Delivery times are scheduled for off-peak store hours to avoid any potential impacts to customers. Specific delivery times will vary based upon the individual supplier and timing of the supplier's delivery route. Deliveries must occur when employees are available to receive and stock merchandise.

2.4 Project Purpose, Need, and Benefits

The Proposed Action would provide additional retail options to the local community of the village of Gowanda and the surrounding communities. The Proposed Action would increase real estate and sales taxes as well as employment once completed. The retail store and site would be taxed based on a fair market value which in turn would be more than the Site's current value, therefore, increasing the real estate taxes of the Village. The Proposed Action is expected to increase construction employment in the short term and increase the demand for commercial goods and services as well as employment opportunities within the local area over the long term.

3.0 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

3.1 Stormwater and Drainage

3.1.1 Setting

The Site is currently a residential use with two houses and vegetative cover, brush, and gravel drives. The Site slopes gently from east to west with elevations ranging from 764 to 776 above mean sea level, respectively. Stormwater runoff from the Site travels overland to the southwest and west property line of the Project Site. The Project Site is bordered by residential properties to the south and Valu Home Center to the north, with residential to the northeast. According to the Federal Emergency Management Agency (FEMA) flood hazard map, the Project Site is in an area of minimal flood hazard (i.e., not located in a 100-year or 500-year floodplain).

3.1.2 Potential Impacts

The Proposed Action includes a 1-story retail building (approx. 9,000 SF), related bituminous pavement parking and drive areas, concrete sidewalk and loading area pavement, and a landscaped perimeter to be restored with sod over the disturbance limits. In addition, the on-site impervious area is proposed to drain to two bioretention basins to be located on the western portion of the Project Site. The purpose of the bioretention basins will be to allow stormwater to infiltrate into the ground rather than discharging off-site. While stormwater is infiltrated using this practice, it also filters particulates out of the stormwater before it enters the groundwater table.

The Project Sponsor's design engineer has prepared a Stormwater Pollution Prevention Plan ("SWPPP") to address pre- and post-construction stormwater management practice requirements (see **Appendix "G"**). During construction activities, best management practices to minimize erosion and sedimentation will be implemented in accordance with New York State standards and requirements. A Notice of Intent seeking coverage under the SPDES General Permit for Stormwater Discharges from Construction Activity GP-0-20-001) was submitted to the NYSDEC for the Proposed Action and an acknowledgement was subsequently received (see **Appendix "G**").

To address post-construction stormwater management practice requirements, two bioretention basins will be constructed on the Project Site. The eastern-most bioretention basin will collect the storm water from the proposed parking lot via a series of catch basins. This bioretention basin is designed with an overflow spillway that discharges into the western-most bioretention basin. The roof runoff will be collected by 6 downspouts on the south side of the proposed retail building which will be connected via piping to the western-most bioretention basin. The western-most bioretention basin is also designed for stormwater detention by implementation of an outlet control structure. This outlet control structure limits the flow of stormwater that can be discharged through the outlet pipe to the outlet point at the southwest corner of the Site (existing Site topographic low point).

During an extreme flood event (100-yr, 24-hr storm), the bioretention basins may become full. An extreme flood event has a 1% chance of occurring in a given year, making it a rare occurrence. In this rare occurrence, the western-most bioretention basin is designed with an emergency spillway, which allows the excess stormwater to discharge at a designated location. The spillway will direct the stormwater to the same location as the control structure outlet (existing Site topographic low point). Post-development runoff rates computed by the site design engineer are shown to be less than the runoff rates of the existing, pre-development site conditions. This means the Proposed Action reduces the rate at which storm water travels off-site, therefore decreasing the likelihood of flooding neighboring properties when compared to the existing site conditions.

Total Tributary Area = 1.28 ac.
Total Area of Disturbance = 1.23 ac.
Proposed Pervious Area = 0.55 ac.
Proposed Impervious Area = 0.73 ac.
Pre-Development Extreme Flood Flow Rate = 1.90 cfs
Post-Development Extreme Flood Flow Rate = 0.21 cfs

As shown in the Grading Plan and the stormwater management report in Appendix "U" of the SWPPP (**Appendix "G"**), the Proposed Action will not increase stormwater flow onto the adjacent roadway system or neighboring properties. Bioretention basins are proposed to provide water quality treatment of 100% of water quality volume for the impervious surfaces on the Project Site. Per the New York State Stormwater Management Design Manual, the Project is required to treat 100% of water quality volume for all new impervious areas and 25% of water quality volume for existing impervious areas. Since the Project Site will treat 100% of all impervious area, the proposed design exceeds water quality compliance requirements. With a significant reduction in stormwater runoff rate and water quality treatment meets permit requirements, adverse stormwater or drainage impacts from the Proposed Action are not anticipated.

3.1.3 Mitigation

The Project Sponsor has obtained coverage from the NYSDEC under the SPDES General Permit for Stormwater Discharges from Construction Activity GP-0-20-001) and will implement pre- and post-construction stormwater management practice to minimize stormwater-related impacts. Given these practices combined with the fact that the proposed runoff will be less than existing conditions, adverse impacts from the new development are not expected and stormwater or drainage mitigation is not warranted.

3.2 Traffic

3.2.1 Setting

The Project Site is located on Buffalo Street. Buffalo Street is designated as U.S. Route 62 and NY Route 39, owned by the NYS Department of Transportation (NYSDOT), is classified as "Principal Arterial Other," has one travel lane in each direction with a center turn lane, has a posted speed limit of 35 miles per hour (MPH), and an Average Annual Daily Traffic (AADT) Volume of 9,704. NYSDOT data indicates 7.38% of AADT volume is made by trucks with 157 trailer trucks and 559 non-trailer trucks. Buffalo Street (U.S. Route 62) continues north to Hamburg, New York and Buffalo, New York, and south through the Village of Gowanda, several villages, and the State of Pennsylvania. Buffalo Street adjacent to the Project Site contains sidewalks on both sides of the road.

Using methodologies and data from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, trip generation estimates for the number of new trips and pass-by trips generated by the Proposed Action were completed for the weekday morning and evening peak hours. The ITE Land Use Code 814 – Variety Store was utilized to generate the estimated number of trips. Trips were generated for the weekday AM and PM peak hours of adjacent street traffic because this is the time period when the highest volume of traffic is on the adjacent roadway and that volume combined with the traffic generated by the Proposed Action will have the greatest potential impact to adjacent intersections.

Vehicle trips generated by a project can be separated into two major categories: pass-by trips and non-pass-by trips. A pass-by trip is made as an intermediate stop on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing by the Site on an adjacent roadway that offers direct access to the proposed development. Thus, these pass-by trips do not add new traffic to the adjacent street system and may be reduced from the total trips generated by the Proposed Action. The ITE Trip Generation Handbook, 3rd Edition (September 2017), estimates the average pass-by trip percentage for a variety store is 34% for the weekday PM peak period. There is no data for the weekday AM peak period. To be conservative, a 30% pass-by credit was utilized for the weekday PM peak hour and assumed all trips during the AM peak hour will be new trips. The ITE estimated trips are summarized in Table 1 below.

Table 1: ITE Estimated Vehicle Trips

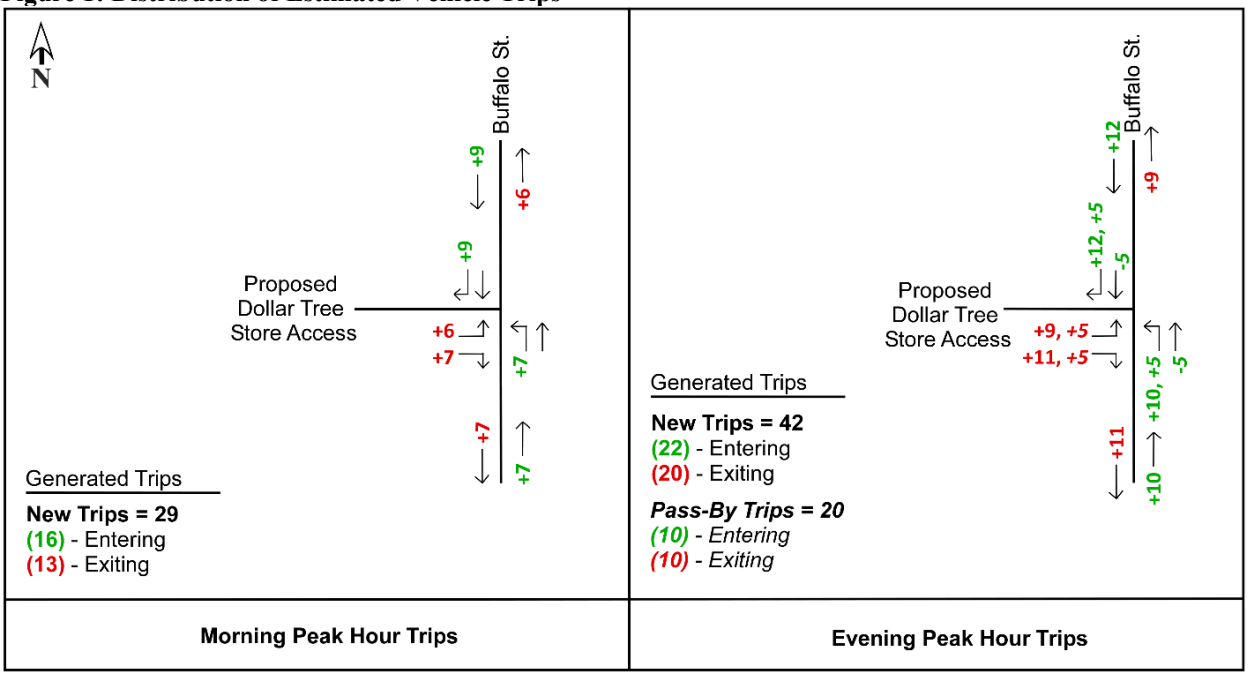
	Weekday AM Peak Hour			Weekday PM Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total
Generated Trips	16	13	29	32	30	62
Pass-By Trips	-	-	-	-10	-10	-20
New Trips	16	13	29	22	20	42

Review of historical traffic data from the Greater Buffalo Niagara Regional Transportation Council (GBNRTC) Transportation Data Management System indicates that traffic volumes on Buffalo Street in the Village of Gowanda, New York are experiencing a long term negative to zero growth trend and that the directional distribution of traffic volumes on Buffalo Street is approximately 45% northbound and 55% southbound.

3.2.2 Potential Impacts

Distribution of the new trips and pass-by trips generated by the Proposed Action onto the adjacent roadway network during the morning and evening peak hours are depicted in Figure 1 below.

Figure 1: Distribution of Estimated Vehicle Trips



The distribution of traffic shows that during the AM peak hour there will be an additional 9 trips arriving from the north and 7 trips from the south. There will be 6 trips exiting to the north and 7 trips exiting to the south during this same period. During the PM peak hour there will be 12 trips arriving from the north and 10 trips from the south and 9 trips exiting to the north and 11 trips exiting to the south. ITE Trip Generation data statistics for the morning peak and evening peak hours are provided in **Appendix "H"** of this DEIS.

Buffalo Street consists of a single lane in each direction with a two-way center turn lane. The average annual daily traffic on Buffalo Street is approximately 10,000 vehicles per day with approximately 650 vehicles per hour (VPH) during the AM peak hour and 850 VPH during PM peak hour. Given the low volume of new traffic that will be generated by the Proposed Action, it is not likely that there will be an impact to adjacent intersections and the volume of traffic generated is typically within the daily variation of traffic (10% on any given day) for Buffalo Street. In addition, the trips generated by the Proposed Action is substantially less than the 100-trip threshold in SEQRA. Projects near or exceeding this threshold are typically required to prepare a traffic impact study.

3.2.3 Mitigation

Based on the ITE estimate of vehicle trips for the Proposed Action and the limited impact on the adjacent road/intersections, mitigation is not warranted.

3.3 Noise and Light

3.3.1 Setting

Noise associated with the existing sites is associated with residential activities including entering and exiting vehicles, car doors opening and closing, air conditioning units, lawn mowers, and other noises. The ambient noise on the Project Site is primarily affected by the traffic along Buffalo Street and varies greatly depending upon the amount of traffic and type of traffic on the roadway, and the time of day. When a semi-trailer passes the Project Site, the noise level on the Project Site is likely above 80 decibels. When passenger vehicles and smaller, non-diesel trucks, pass the Project Site, the level is anticipated to be in the range of 70-80 decibels.

The Project Site currently has artificial lighting from the two residential structures and receives spillover artificial lighting from adjacent streetlights on Buffalo Street, the Valu Home Center, other adjacent and nearby commercial and residential properties, and from lights of vehicles traveling along Buffalo Street.

3.3.2 Potential Impacts

The Proposed Action includes the construction of a small Dollar General retail store. Noise associated with construction activities would include noises from construction equipment, machinery, and generators for the demolition of the current residential structures, grading of the site, construction of the small retail store, and site preparations including paving of the proposed parking lot and sidewalks, landscaping, stormwater management facilities, and construction of the proposed privacy fence.

Noise associated with the Proposed Action during operation include entering and exiting vehicles, delivery vehicles, customer/employee vehicles, opening and closing vehicle doors, limited noise from pedestrians/customers entering and exiting the store, and noise from building operations such as air conditioning units. Noise associated with store operations are not anticipated to be loud, discordant, or disagreeable in comparison with existing ambient noise. Ambient noise associated with activities adjacent to and near the Project Site are not anticipated to change during construction or store operation.

The Proposed Action includes artificial safety and security lighting which will be shielded and downward directing. Building-mounted lighting is proposed for the north and east facades. A ground-mounted light directed downward is proposed for the eastern edge of the parking lot. The Proposed Action includes the installation of a berm along the south and east property lines (to prevent light spillover from the Project Site and/or vehicles moving within the Project Site), additional tree plantings along the north and south property lines, and the construction of a privacy fence bordering the north, west, and south edges of the Project Site (see revised Landscaping Plan, **Appendix "I"**).

According to the Photometric Plans (**Appendix "J"**), the proposed lighting design uses a limited number of lighting fixtures for parking and safety, and all fixtures will be shielded and downward directed. The design also includes the lesser wattage options for luminaires which will produce less lumens which will reduce the potential for causing glare. According to the drawing plan set (**Appendix "K"**), a privacy fence will be installed along the perimeter of the Project Site. The Photometric Plan accounts for this privacy fence as a light barrier which will minimize light spillage onto neighboring properties. Also, as indicated in the Photometric Plan, light from the proposed site lighting does not reach Buffalo Street /State Route 62. The Proposed Action does not include the use of up-lighting or site lighting to illuminate signs or accessory structures.

3.3.3 Mitigation

The Project Sponsor designed the building and Site to complement existing commercial uses within the Village and the Buffalo Street corridor, and to be consistent with the Village's Zoning Code. Development of the Proposed Action will include a privacy fence along the north, west, and south sides of the Project Site and will provide buffer/shielding from proposed on-site artificial lighting and operational noise. In addition, a berm to minimize potential off-site light spillover effects (including stationary site-related and vehicle headlight-related potential impacts) will be installed on the south and east (front) portion of the Project Site. Hours of operation will be limited to 8:00 am to 10:00 pm, seven (7) days per week, further mitigating any potential operational noise impacts. Based on the proposed design of the

Project, no significant adverse impacts to ambient noise and light conditions are anticipated. Therefore, no mitigation measures are warranted.

3.4 Zoning and Parking

3.4.1 Setting

Both 240 and 248 Buffalo Street are currently zoned B-2 "Restricted Business" which permits the following uses (see **Appendix "L")**: mobile homes located in mobile home parks of not less than twenty (20) acres; stores and shops for the conduct of any retail business; personal service shops, hand laundries; banks, offices, studios; shops for custom work, for making articles or products to be sold at retail on the premises; funeral directing; funeral home; parkway or bus passenger station, telegraph office, electric substation, printing plant candy shop and machine shop; wholesale business; and accessory buildings and accessory uses. Residential single-family or multi-family uses are not listed as permitted or permitted with a special use permit in the B-2 "Restricted Business" zoning district. Within the B-2 "Restricted Business" zoning district, building height is limited to three (3) stories but not exceeding forty (40) feet; lot coverage shall not cover more than fifty (50) percent of the area of the lot; side yards must have a minimum width of six (6) feet, but not less than fifteen (15) feet total; year yards must have a depth of thirty (30) feet; buildings cannot be built to be nearer the street line upon which it fronts than the average setback of any building on the same side of the street within the block; and off-street parking must include one (1) space per two hundred (200) square feet of floor area in retail use.

3.4.2 Impact

The Proposed Action does not include a zoning map amendment as the current B-2 "Restricted Business" zoning district allows as of right "stores and shops for the conduct of any retail business" uses. The Proposed Action including the proposed building and associated site improvements comply with the requirements and regulations of the B-2 "Restricted Business" zoning district including proposed use, building height, lot coverage, side yard setback, rear yard setback, and front yard setback. A zoning variance for the number of on-site parking spaces was requested and approved by the Village of Gowanda Zoning Board of Appeals (**Appendix "D"**).

3.4.3 Mitigation

The Project Applicant designed the building and Site to be consistent with the Village's Zoning Code. Development of the Proposed Action is not anticipated to result in any significant adverse impacts to zoning and parking, and therefore mitigation is not warranted.

3.5 Community Character

3.5.1 Setting

The Project Site is located on the westerly side of Buffalo Street (U.S. Route 62) near the intersection of Buffalo Street and Bader Avenue. 240 Buffalo Street (Lot 1) and adjacent 248 Buffalo Street (Lot 2) are currently occupied by residential structures while the Buffalo Street corridor currently is a mix of uses including commercial and residential. As shown in **Appendix "F"**, Valu Home Center is located to a portion of the rear of the Project Site and residential uses are located to the North and South of the Project Site. As shown in **Appendix "F**", the adjacent and nearby built environment includes commercial businesses such as Valu Home Center, Kwik Fill, Al Schaefer Auto, Stockwell Auto Care, McDonald's, Robo Car Wash, Tim Hortons, and Gowanda Collision. Supporting these commercial uses are access driveways, parking lots, and landscaping. Similarly, residential uses include driveways, parking areas, and garages. The existing visual character of the Project Site and adjacent Buffalo Street is shown in **Appendix "F"**.

The scale of existing buildings on the Project Site, adjacent to the Site, and nearby consist of 1-story commercial structures and 1-2 story residential structures. The design of adjacent and nearby commercial structures is consistent with typical commercial facades including concrete masonry units, brick facades, steel cladding, large fenestration/windows, flat roofs, and signage. The function of these existing adjacent and nearby commercial businesses is typical and includes parking areas for customers, employees, and deliveries, storage and delivery areas, and ingress and egress drives.

According to the New York State Historic Preservation Office ("NYSHPO") Cultural Resource Information System ("CRIS"), the Project Site does not contain, nor is substantially contiguous to, a building, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places. Specifically, Lot 1 has a status of "Not Eligible" and Lot 2 has a status of "Undetermined."

The Town of Collins and Village of Gowanda published a joint Master Plan (also referred to within the document as a "Comprehensive Plan") in 1999. The Master Plan includes sections on land use, transportation, infrastructure, cultural resources, historic resources, visual (scenic) resources, open space and recreation, economic development, agricultural, housing, and environmental.

- **Land Use:** Land use goals within the Master Plan include the following: 1) reduce conflicts between various competing land uses; 2) preserve and protect agriculture as a viable and separate land use; 3) encourage commercial development within the Village and the Hamlets of Collins and Collins Center; and 4) Encourage "in-filling" of appropriate land uses, especially in the already developed areas of the community. The goal of reducing conflicts between various competing land uses is supported by four objectives: a) by coordinating the master plans of Collins and Gowanda; b) by reviewing the zoning ordinances to ensure consistency with the master plan; c) by seeking to direct development to areas which were previously developed, or which are adjacent to developed areas; and d) by ensuring that the consistency between zoning and master planning is maintained through limiting "spot" zoning.

- **Transportation:** Transportation goals within the Master Plan include: 1) minimize traffic congestion, and maintain existing roads; 2) encourage the continuation of alternative transportation services throughout the community; and 3) support the continued development of railroad facilities throughout the community for commercial uses, while promoting the development of passenger service for tourism/excursion purposes.

- **Infrastructure:** Infrastructure goals within the Master Plan include: 1) promote development of government services and utilities in an efficient, cost effective manner; and 2) discourage intense development in areas which do not have water or sewer service.

- **Cultural, Historic, and Visual (scenic) Resources:** Goals within the Master Plan include: 1) develop a Preservation/Enhancement Action Plan to recognize, protect and enhance the historic, cultural and visual resources in the Town and Village and thus promote a vibrant, revitalized community with new opportunities for tourism and economic development; 2) identify and adopt appropriate guidelines and regulations to protect these resources in the Town and Village; and 3) integrate Cultural, Historic and Visual Resources Action Plan Efforts with Economic Development and Tourism Activities to encourage revitalization of the Town and Village.

- **Open Space and Recreation:** Goals within the Master Plan include: 1) preserve and enhance permanent open space in the community; and 2) Provide additional recreation facilities where needed.

- **Economic Development:** Goals within the Master Plan include: 1) preserve and strengthen the local economic base; 2) re-use former site of economic activity; 3) encourage growth of commercial development within already developed areas, such as the Village and the Hamlets of Collins and Collins Center; and 4) foster a competitive business climate to ensure quality services and pricing.

- **Agricultural:** Goals within the Master Plan include: stabilize and strengthen the local farming community.

- **Housing:** Goals within the Master Plan include: 1) promote affordable housing choices and opportunities; and 2) maintain and improve the quality of existing housing stock.

- **Environmental:** Goals within the Master Plan include: 1) preserve and maintain the quality of the community's natural features, such as floodplains, water bodies, wetlands, forested lands; and 2) protect the

quality of both groundwater and surface water supplies in the community

3.5.2 Potential Impacts

The Proposed Action was designed to complement the existing mixed-use corridor including existing adjacent and nearby commercial buildings, the existing Zoning Code, and Master Plan. The design of the Proposed Action includes a one-story steel-framed building with steel cladding, large fenestration/windows, a flat roof, signage, and exterior lighting consistent with the predominant architectural scale and character of other commercial uses along Buffalo Street. The Proposed Action also includes a parking lot, ingress/egress vehicle access drive, and pedestrian sidewalks consistent with other commercial uses along Buffalo Street. The Proposed Action includes retention of some existing on-site trees which is consistent with the landscaping character of other commercial uses along Buffalo Street. The Project Site is currently zoned B-2 "Restricted Business" which permits "stores and shops for the conduct of any retail business" uses. The Proposed Action complies with the requirements and regulations of the B-2 "Restricted Business" zoning district including proposed use, building height, lot coverage, side yard setback, rear yard setback, and front yard setback. A zoning variance for the number of on-site parking spaces was requested and approved by the Village of Gowanda Zoning Board of Appeals (**Appendix "D"**). The Proposed Action will not have a significant impact on community character including existing and nearby land uses and predominant architectural scale and character of adjacent and nearby commercial uses.

The Proposed Action will result in more vehicular trip generation than the existing Project Site. Given the low volume of new traffic that will be generated by the Proposed Action, it is not likely that there will be an impact to adjacent intersections and the volume of traffic generated is typically within the daily variation of traffic (10% on any given day) for Buffalo Street. In addition, the trips generated by the Proposed Action is substantially less than the 100-trip threshold in SEQRA. Projects near or exceeding this threshold are typically required to prepare a traffic impact study. The Proposed Action will not have a significant impact on community character including existing transportation infrastructure.

The Project Site does not currently contain and is not adjacent to existing public/community facilities, structures, parks, open space, recreation, officially recognized or designated public spaces, or areas of historic importance. In addition, the Proposed Action, the construction of a small Dollar General retail store and associated site improvements, will not result in an increase in population and will not create a demand for additional community services such as schools, police, and fire. The Project Site currently contains two privately owned single-family residential structures that are not part of an affordable housing complex or owned by a municipal housing authority. The removal of these residential structures will not have a significant impact on affordable or low-income housing. The Proposed Action will provide additional shopping and employment opportunities within the Village of Gowanda and along an active corridor (Buffalo Street). The Proposed Action would enhance the utilization of the Project Site and add to the economic/employment activity of the Village. The Proposed Action will not have a significant impact on community character including existing facilities, structures, parks, open space, recreation, officially recognized or designated public spaces, areas of historic importance, community services, or affordable or low-income housing.

3.5.3 Mitigation

The Project Applicant designed Proposed Action to complement existing commercial uses within the Village and the Buffalo Street corridor, and to be consistent with the Village's Zoning Code. The Proposed Action is not anticipated to result in any significant adverse impacts to community character and therefore mitigation is not warranted.

4.0 OTHER ENVIRONMENTAL IMPACTS

4.1 Unavoidable Adverse Environmental Impacts

As with any development project, there are certain impacts that cannot be mitigated, and typically include those associated with construction. While these impacts cannot be mitigated, they are short term and temporary in nature and will not have a long-term adverse impact on the environment. Construction activities will create additional noise during construction hours for the duration of construction. This is generally mitigated with reasonable hours of work; however, some impact is unavoidable. Additionally, any construction will have a visual impact on its setting. During construction this may be disturbed soils, piles of construction materials, and a partially constructed Project Site or building. However, once construction is complete there will still be a change in the visual setting. As set forth in this DEIS, this alteration is not expected to create a significant adverse impact. However, some residents may perceive a change in the area as an adverse impact. Generally, the unavoidable adverse impacts are limited to those associated with construction and are not significant.

4.2 Irreversible and Irretrievable Commitment of Resources

This section identifies the unavoidable environmental impacts of the implementation of the Proposed Action that will irreversibly curtail the range of potential uses of the environment or result in the commitment of resources that are neither renewable nor recoverable. An irreversible commitment results in environmental changes that cannot, at a future date, be altered to restore the environment to its preconstruction state. Resources include not only the commitment of labor, fiscal resources, and materials, but also natural resources committed as a result of project construction, operation and maintenance.

Land development projects require a short-term and long-term commitment of natural resources for construction and operation. Some of these resources include structural steel, gravel, wood, and concrete. The long-term commitment of these materials will limit their availability for future uses. However, the actual amount of materials used will comprise a very small percentage of the U.S. and world production of these materials. Some materials, at the end of the project life, such as steel and stone, will be available for reclamation and recycling. Therefore, the Proposed Action will not have a significant impact on the availability of these materials.

Development of the Proposed Action will require the commitment of previously developed, yet currently underutilized urban land for the life span of the project. This land use is considered an irreversible commitment, but only during the expected lifetime of the development. Once the land is no longer needed for buildings and ancillary facilities, they can be removed, and the land can be converted to a different purpose. Therefore, in the long-term, this is neither an irreversible, nor irretrievable commitment of resources.

Construction, operation, and maintenance of the Proposed Action will require irreversible and irretrievable commitments of human and fiscal resources to design, build, operate and maintain the facilities. Human and financial resources will also be expended by the local, state, and federal governments for the planning, environmental reviews, permitting and monitoring of any future developments.

Project construction and maintenance work will irretrievably commit energy resources derived from petroleum products and electricity. Fuels and electrical energy will be consumed during the manufacturing and transport of materials and workers to be used for site development. Additional fuel will be expended by construction equipment used to construct the facilities. Some fuels will also be used by maintenance vehicles and equipment during the lifetime of the development. Fuels and electrical energy will be consumed for heating and cooling of the building during the life of the development. These commitments will be minor and will not affect the local energy supply and therefore will not have a significant impact.

4.3 Growth-Inducing, Cumulative, and Secondary Impacts

This section describes the potential growth inducing impacts the proposed Dollar General retail store may have on the community. The Proposed Action will cause an expansion of jobs in the community, but is not expected to have an effect on the Village's population, or otherwise increase the burden on any municipal or community service provider (e.g., police, fire, ambulance) in any meaningful way. The Project Site will be developed in accordance with the

Village's Zoning Code. The lands surrounding the Project Site will remain unchanged. The Proposed Action is harmonious with and implements the Village's desire, as stated in the Master Plan, to recruit new employment and shopping opportunities. The Proposed Action is located in the Buffalo Street corridor which contains mixed-uses including commercial, and the property is zoned B-2 "Restricted Business" which allows "stores and shops for the conduct of any retail business." In the opinion of the Project Sponsor, the Proposed Action does not represent a precedent-setting action which would spur additional development, either small-scale or large-scale, in this area. It is not anticipated that the development of the Proposed Action will directly induce growth either in the vicinity of the Project Site or elsewhere in the Village of Gowanda that would not have otherwise occurred.

4.4 Energy Use and Conservation

Energy resource consumption would occur during the construction and operation of the Proposed Action. Both short term and long-term energy consumption effects are associated with all commercial construction projects. Energy consumption impacts, during construction of the Proposed Action, would occur primarily due to the consumption of fossil fuels through the operation of power equipment and construction vehicles.

Once constructed, the 9,100 square foot occupied commercial space would place long-term demands on various energy sources. In commercial retail spaces, energy would be consumed for space heating, air-conditioning, water heating, lighting, and the use of various appliances and electrical equipment. The Energy Information Administration (EIA) of the United States (US) conducted a Commercial Building Energy Consumption Survey (CBECS) which provided statistical information on the use of commercial energy in the U.S. CBECS data for New York State indicated that retail space consumes approximately 73,900 BTUs of energy per square foot annually in the State. Therefore, it is expected that the 9,100 square foot completed Dollar General store would consume approximately 672 million BTUs of energy annually.

Energy conservation in New York is regulated at the State level for new commercial construction. The Proposed Action would be constructed in accordance with the New York State Energy Conservation Construction Code (ECCCNYS). In effect since 2002, ECCCNYS specifies basic requirements that are mandatory for newly constructed buildings. Requirements apply to heating and cooling systems, hot water systems, electrical systems, construction materials, equipment specifications and building sealing and insulation. The Proposed Action would include energy and fuel reducing measures during construction and long-term operation and would comply with ECCCNYS requirements.

The construction of the Proposed Action may increase localized air emissions primarily from the use of diesel fuel to operate construction vehicles and equipment. The use of these vehicles would occur sporadically over the build out of the Proposed Action. Pollution comes from the combustion process in the form of exhaust and can include hydrocarbons, carbon monoxide, and nitrogen oxides. Well-maintained vehicles and equipment would help to reduce emissions and lessen the impact of air emissions during the Proposed Action's construction.

Long-term energy and fuel reducing measures would ultimately occur through the compliance of the Proposed Action with ECCCNYS requirements. As designed, the Proposed Action would follow the applicable requirements stated in the ECCCNYS. ECCCNYS requirements, as stated above, apply to the building envelope, mechanical systems, and lighting.

The New York State Energy Research and Development Authority and the Public Service Commission promote compliance with Energy Star® and New York Energy Smarts programs by construction firms, building management firms and storeowners that encourage the use of energy conserving appliances, materials, technologies and building techniques. Compliance with provisions of these energy conservation programs would reduce the overall long-term consumption of the Proposed Action.

As noted, the Proposed Action will comply with required energy measures. The Proposed Action does not include additional alternatives or mitigation measures to reduce energy and fuel demands. On-site renewable energy sources not requiring fossils fuels, such as solar and wind generation are not proposed for this Proposed Action.

4.5 Solid Waste Management

Solid waste generation will be limited to debris and materials generated during construction and general refuse generated during store operations. Solid waste generated during project operations will be managed by a third-party solid waste management company. The Project Site will include an on-site 10-yard capacity dumpster which will be emptied once per week. The Proposed Action will be consistent with the State or locally adopted solid waste management plan and impacts on solid waste management will not be significant.

4.6 Climate Change

As previously described, energy will be consumed during the construction and long-term operation of the Proposed Action. Related to this is the generation of gaseous emissions from energy consumption from construction and operations. These emissions are a scientifically well-established contributor to global climate change through a mechanism known as "the greenhouse effect," and are termed "greenhouse gases." Noted previously, the Proposed Action is a small retail store and will be constructed in accordance with the ECCCNYS and will not have a significant impact or contribution towards climate change.

5.0 ALTERNATIVES

Two alternatives to the Proposed Action have been developed and compared with the Proposed Action. The alternatives have been analyzed with respect to their potential impact on the impact categories as identified by the Board of Trustees' Positive Declaration and scoping process. The alternatives are described as follows:

5.1 No Build Alternative

A no-build alternative is required by SEQRA to be discussed in this DEIS. For the Project Site, the no-build alternative assumes the Site would continue to remain in its current state. The no-build alternative would not provide for any of the beneficial impacts of the Proposed Action. An analysis of the no-build alternative is as follows.

1. Stormwater and Drainage: The no-build alternative would have no impact on stormwater flows or drainage patterns. However, increased stormwater capture and improved drainage conditions on the Project Site would not be realized.
2. Traffic: The no-build alternative would have no impact on traffic conditions on or in the vicinity of the Project Site.
3. Noise and Light: The no-build alternative would have no impact on existing ambient noise and lighting levels on or in the vicinity of the Project Site.
4. Zoning and Parking: Maintaining the current residential use would be inconsistent with the current B-2 "Restricted Business" use that is permitted on the Project Site. Residential single-family or multi-family uses are not listed as permitted or permitted with a special use permit in the B-2 "Restricted Business" zoning district. The existing parking associated with the residential properties would remain unchanged, and no expanded parking serving the proposed retail store would be constructed.
5. Community Character: If the no-build alternative is implemented, the existing state of the Project Site would remain in residential use.
6. Fiscal and Socio-Economic Impacts: Implementation of no-build alternative would leave the Project Site in its current residential state. The lack of new development on the Project Site would preclude any meaningful economic contribution that the Proposed Action would make in terms of tax revenues. Under the no-build alternative, the County, Village, Gowanda Central School District, and other taxing jurisdictions would not realize additional tax revenue.

In summary, the no-build alternative would not serve the objectives of the Applicant, nor would it serve the objectives and interests of the people of the Village of Gowanda, as the existing residential uses are inconsistent with the Village Zoning Code which seeks to transition from residential to commercial uses in the Buffalo Street corridor. Further, the no-build alternative is not a likely long-term alternative as the privately-owned parcel has more value following development. Existing real property tax revenues would remain the same. The no-build alternative would not provide the positive beneficial impacts that are expected to occur with the Proposed Action, including providing residents with access to low-cost household goods. Additional net tax revenue would not be received by the County, Village, Gowanda Central School District, and other taxing authorities. The residents of the Village would not see a net reduction in their respective tax burdens, which they would otherwise see if the Project is developed. If the no-build alternative were chosen as the preferred alternative, any future development of the Project Site would be subject to site plan approval by the Village Planning Board.

5.2 Design and Scale Alternative

The Proposed Action, except for on-site parking for which a variance was granted by the Village, meets the bulk, area, and use requirements of the Village Zoning Code's B-2 Restricted Business district. The proposed one-story building will be 18 feet in height, which is significantly less than the maximum story/height (three stories, 40 feet) permitted in the B-2 district. A three-story building which is permitted within the B-2 Restricted Business district would be in significant contrast in terms of height compared to existing buildings in the vicinity of the Project Site. Proposed building lot coverage is also significantly less (approximately 27 percent) than the 50 percent maximum allowed by the B-2 district zoning requirements, and significant landscaping (berms and trees) is proposed along the perimeter of the Project Site (side and front yards) which is in addition to the requirements of the code (none required). The

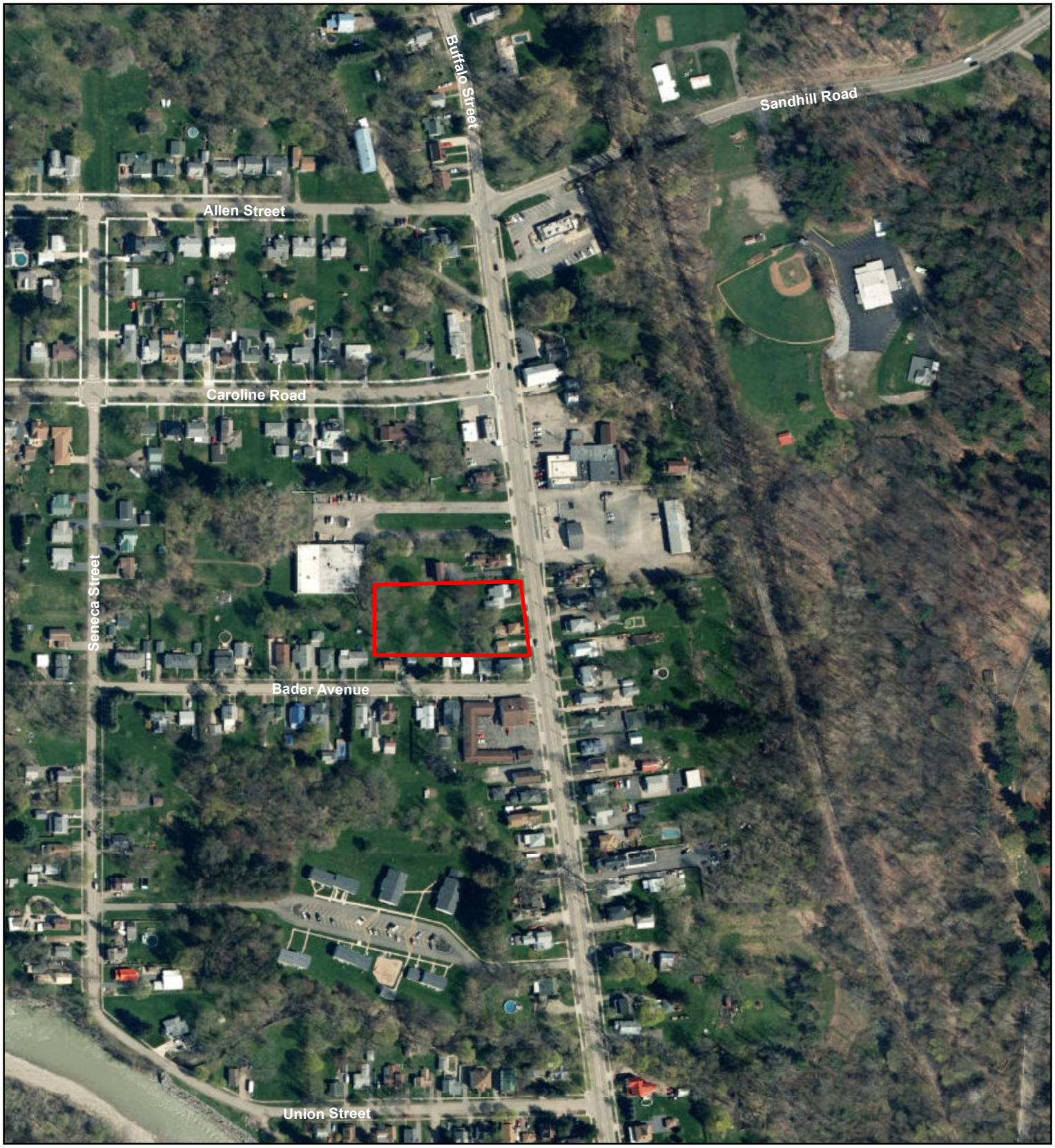
proposed building setback is also deeper than what the code requires. From a height and scale perspective, the Proposed Action, as designed, effectively minimizes potential impacts.

The Proposed Action is also a permitted use within the B-2 Restricted Business zoning district. Other uses permitted as-of-right within the B-2 district include mobile homes, personal service shops, banks, offices and studios, custom workshops, and funeral homes. Thus, the Applicant can build, as-of-right, any of these structures in lieu of the Proposed Action. Furthermore, with a special use permit, other uses such as light manufacturing may also be permitted in the B-2 district. Although permitted as-of-right or through issuance of a special use permit, a majority of these other allowed uses would not necessarily be less impactful than the Proposed Action.

The various versions of a retail store project that could be developed under the existing zoning code through application of permitted maximum bulk and area requirements, would have an equal or, in most cases, a substantially greater impact than the Proposed Action. This would include greater impact on visual resources, land, traffic, water usage, and sewer flows. Moreover, the Proposed Action is more desirable than many of the other uses that are allowed by the Village Zoning Code as-of-right. Finally, none of the alternative design and scale options that could be developed in accordance with the zoning requirements of the B-2 district, would meet the Applicant's objective to develop a stand-alone retail structure, which as previously indicated, is permitted as-of-right.

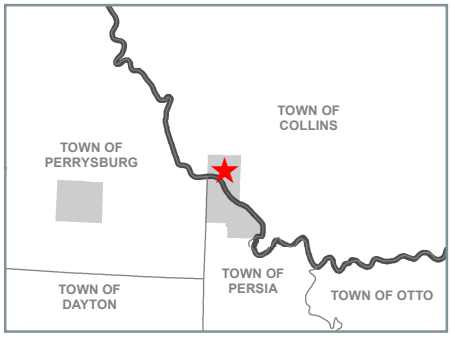
6.0 APPENDICES

Appendix A
Project Location Map



Legend

Site Area (240 & 248 Buffalo Street)



0 75 150 300 Feet

LOCATION MAP

PROPOSED DOLLAR GENERAL RETAIL STORE
240 & 248 BUFFALO STREET, GOWANDA, NY

Appendix B
Site Plan Application

VILLAGE OF GOWANDA

BUIDLING PERMIT APPLICATION FORM

Code Enforcement Officer, Larry Green 716-680-2691

Property Address: 240 & 248 Buffalo Street Gowanda, NY 14070

Tax Parcel Number: Section # _____ Block # _____ Lot # _____

Property Owners: Name Lou Ann Hellman Address 248 Buffalo Street Gowanda, NY

Phone 716-532-3502 Email _____ Fax _____

Name Ralph Hill Address 240 Buffalo Street Gowanda, NY

Phone 716-904-3911

Applicant (other than owner): Name The Broadway Group, LLC Addres P.O. Box 18968 Huntsville, AL 35804

Phone 256-533-7287 Email m.ballard@broadwaygroup.net Fax _____

Contractor: Name Broadway Const. Co. LLC. Address P.O. Box 18968 Huntsville, AL 35804

Phone 256-533-7287 Email m.ballard@broadwaygroup.net. Fax _____

Specialized Inspector: Name _____ Address _____

Phone _____ Email _____ Fax _____

Proposed Work: New Residential ___ New Commercial X Addition ___ Repair ___ Alteration ___

Garage ___ Pole Barn ___ Change of Occupancy ___ Deck ___ Energy System ___

Communications Tower ___ Heating/Cooling/Generator ___ Electrical ___ Plumbing ___

Other _____

Total Square Footage 9,100 Length 130' Width 70' Height/Stories 1 @ 18'

Total Estimated Cost (including Labor and Material $ 375,000

Scope of Work: Construct single tenant Dollar General retail store & associated parking areas

Manufactured Home: Number _____ NYS Certified Installer/ Mechanic _____

Footer: Material Concrete w/ Rebar Width 16" Depth 12"

Foundation: Material Concrete w/ Rebar Width 8" Depth 3 1/2'

Floors: Material Concrete Size 4" deep Spacing _____ Insulation R # _____

Sheeting: _____

Exterior Walls: Material Metal/Drywall Size _____ Spacing _____ Insulation R # 19

Sheeting _____ Siding Metal

Roof System: Material Metal Size _____ Spacing _____ Insulation R # 25 w/R5 Thermal Block

Sheeting _____ Pitch 3:12 Roof Material Metal

(Truss Roof – Include Engineered Truss document with application)

Heating / Cooling Type Gas Heat Gas ~~✓~~ Electric A/C Wood ___ Other _____

Smoke Detectors Locations ~~Text~~ N/A

Carbon Dioxide Dioxide Detectors Locations N/A

Signature of ~~Property Owner~~ Applicant _____ **Date** 2/4/19

****

Permit Number _____ CEO Initial _____

Appendix C
SEQRA Documentation

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Gowanda, NY Dollar General		
Project Location (describe, and attach a general location map): 240 & 248 Buffalo St., Gowanda, NY (Between Bader Ave and Caroline Rd)		
Brief Description of Proposed Action (include purpose or need): To demolish existing buildings and construct new retail store with associated parking and utilities.		
Name of Applicant/Sponsor: The Broadway Group, LLC	Telephone: 256-533-7287 E-Mail: melissa.ballard@broadwaygroup.net	
Address: P.O. Box 18968		
City/PO: Huntsville - PO 18968	State: AL	Zip Code: 35801
Project Contact (if not same as sponsor; give name and title/role): Melissa Ballard / Due Diligence Coordinator	Telephone: 256-533-7287 E-Mail: melissa.ballard@broadwaygroup.net	
Address: P.O. Box 18968		
City/PO: Huntsville - PO 18968	State: AL	Zip Code: 35801
Property Owner (if not same as sponsor): LouAnn Hellman (parcel #349.11-3-25) Ralph Hill (parcel #349.11-3-26)	Telephone: Hellman / Hill E-Mail:	
Address: Hellman 248 Buffalo St / Hill 240 Buffalo St		
City/PO: Gowanda	State: NY	Zip Code: 14070

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees ☐Yes☑No		
b. City, Town or Village Planning Board or Commission ☑Yes☐No	Village Board - Site Plan Approval	2/4/2019
c. City Council, Town or Village Zoning Board of Appeals ☑Yes☐No	Village Zoning Board of Appeals - Variance	3/1/2019
d. Other local agencies ☐Yes☑No		
e. County agencies ☐Yes☑No		
f. Regional agencies ☐Yes☑No		
g. State agencies ☑Yes☐No	NYSDOT NYSDEC	3/1/2019 3/1/2019
h. Federal agencies ☐Yes☑No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☐Yes☑No

If Yes, identify the plan(s):

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes☑No

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
B-2 (Business)

b. Is the use permitted or allowed by a special or conditional use permit? Permitted Use ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? N/A

C.4. Existing community services.

a. In what school district is the project site located? Gowanda Central School District

b. What police or other public protection forces serve the project site?
Village of Gowanda Police Dept.

c. Which fire protection and emergency medical services serve the project site?
Village of Gowanda Fire Dept.

d. What parks serve the project site?
N/A

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Commercial retail

b. a. Total acreage of the site of the proposed action? 1.28 acres
b. Total acreage to be physically disturbed? 1.23 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 1.28 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☑ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 6 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☐Yes ☑No
If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☑Yes ☐No
If Yes,
i. Total number of structures 1
ii. Dimensions (in feet) of largest proposed structure: 18' height; 70' width; and 130' length
iii. Approximate extent of building space to be heated or cooled: 9,100 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐Yes ☑No
If Yes,
i. Purpose of the impoundment:
ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐Other specify:
iii. If other than water, identify the type of impounded/contained liquids and their source.
iv. Approximate size of the proposed impoundment. Volume: million gallons; surface area: acres
v. Dimensions of the proposed dam or impounding structure: height; length
vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☐Yes ☑No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)
If Yes:
i. What is the purpose of the excavation or dredging?
ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?
- Volume (specify tons or cubic yards):
- Over what duration of time?

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.
iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☑No
If yes, describe.
v. What is the total area to be dredged or excavated? acres
vi. What is the maximum area to be worked at any one time? acres
vii. What would be the maximum depth of excavation or dredging? feet
viii. Will the excavation require blasting? ☐Yes ☑No
ix. Summarize site reclamation goals and plan:

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐Yes ☑No
If Yes:
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description):

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will proposed action cause or result in disturbance to bottom sediments? ☐Yes☐No
If Yes, describe:

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? ☐Yes☐No
If Yes:

- acres of aquatic vegetation proposed to be removed:
- expected acreage of aquatic vegetation remaining after project completion:
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access):
- proposed method of plant removal:
- if chemical/herbicide treatment will be used, specify product(s):

v. Describe any proposed reclamation/mitigation following disturbance:

c. Will the proposed action use, or create a new demand for water? ☑Yes☐No
If Yes:

i. Total anticipated water usage/demand per day: 200 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑Yes☐No
If Yes:

- Name of district or service area: Village of Gowanda Water Department
- Does the existing public water supply have capacity to serve the proposal? ☑Yes☐No
- Is the project site in the existing district? ☑Yes☐No
- Is expansion of the district needed? ☐Yes☑No
- Do existing lines serve the project site? ☑Yes☐No

iii. Will line extension within an existing district be necessary to supply the project? ☐Yes☑No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project:
- Source(s) of supply for the district:

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐Yes☑No
If, Yes:

- Applicant/sponsor for new district:
- Date application submitted or anticipated:
- Proposed source(s) of supply for new district:

v. If a public water supply will not be used, describe plans to provide water supply for the project:

vi. If water supply will be from wells (public or private), maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☑Yes☐No
If Yes:

i. Total anticipated liquid waste generation per day: 200 gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):
Sanitary wastewater

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑Yes☐No
If Yes:

- Name of wastewater treatment plant to be used: Gowanda sanitary Sewer Department
- Name of district: Village of Gowanda
- Does the existing wastewater treatment plant have capacity to serve the project? ☑Yes☐No
- Is the project site in the existing district? ☑Yes☐No
- Is expansion of the district needed? ☐Yes☑No

- Do existing sewer lines serve the project site? ☑Yes ☐No
- Will line extension within an existing district be necessary to serve the project? ☐Yes ☑No

  If Yes:
  - Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☑No

If Yes:
- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: None.

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑Yes ☐No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 0.70 acres (impervious surface)

_____ Square feet or 1.28 acres (parcel size)

ii. Describe types of new point sources. No new point source. No outlet-the pond infiltrates storm water.

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

All runoff will be collected in the proposed infiltration pond

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐Yes ☑No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐Yes ☑No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐Yes ☑No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:
- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☑ Morning ☑ Evening ☐Weekend
☑ Randomly between hours of 7:30-8:30am to 4:30-5:30p.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: 0.2

iii. Parking spaces: Existing 0 Proposed 30 Net increase/decrease +30

iv. Does the proposed action include any shared use parking? ☐Yes ☑No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:
Existing residential drives will be demolished and a new commercial access drive per NYSDOT standards will be built to serve the new development.

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☑No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☑No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☑No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☑Yes ☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):
Local electric provider NYSEC

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☐Yes ☑No

l. Hours of operation. Answer all items which apply.

i. During Construction:
- Monday - Friday: N/A
- Saturday: N/A
- Sunday: N/A
- Holidays: N/A

ii. During Operations:
- Monday - Friday: 7:00am-10:00pm
- Saturday: 7:00am-10:00pm
- Sunday: 7:00am-10:00pm
- Holidays: Closed 5 major national holidays

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

During construction only between village-allowed construction hours of operation.

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☑ No

Describe: _____

n.. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

Underground connection conduits form the building to the parking lot light poles and street sign.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☑ No

Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally describe proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☑ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : 1 tons per month (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: _____
- Operation: No recycling anticipated.

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: _____
- Operation: 2 standard dumpsters with trash enclosure collected by local collection service.

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

Existing site consists of two residential lots, commercial use in the vicinity. Proposed commercial use for this project. Residential lot immediately to the south and north.

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.1	0.7	+0.6
• Forested			
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	1.18	0.58	-0.6
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)			
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? ☐Yes ☑No
i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐Yes ☑No
If Yes,
i. Identify Facilities:

_____
_____

e. Does the project site contain an existing dam? ☐Yes ☑No
If Yes:
i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection:

_____
_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐Yes ☑No
If Yes:
i. Has the facility been formally closed? ☐Yes ☑ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____
_____

iii. Describe any development constraints due to the prior solid waste activities: _____
_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐Yes ☑No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____
_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐Yes ☑ No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐Yes ☑No

☐ Yes – Spills Incidents database — Provide DEC ID number(s): _____
☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____
☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____
_____
_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐Yes ☑No
If yes, provide DEC ID number(s): _____
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

_____
_____

v. Is the project site subject to an institutional control limiting property uses? ☐Yes ☑No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐Yes ☑No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? TBD- feet

b. Are there bedrock outcroppings on the project site? ☐Yes ☑No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____%

c. Predominant soil type(s) present on project site: TBD BY GEOOTECH REPORT _____%
_____%
_____%

d. What is the average depth to the water table on the project site? Average: TBD feet

e. Drainage status of project site soils: ☐ Well Drained: _____% of site
☑ Moderately Well Drained: 100 % of site
☐ Poorly Drained _____% of site

f. Approximate proportion of proposed action site with slopes: ☑ 0-10%: 80 % of site
☑ 10-15%: 5 % of site
☑ 15% or greater: 15 % of site

g. Are there any unique geologic features on the project site? ☐Yes ☑No
If Yes, describe: N/A

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☐Yes ☑No

ii. Do any wetlands or other waterbodies adjoin the project site? ☐Yes ☑No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☐Yes ☑No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐Yes ☑No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____
N/A

i. Is the project site in a designated Floodway? ☐Yes ☑No

j. Is the project site in the 100 year Floodplain? ☐Yes ☑No

k. Is the project site in the 500 year Floodplain? ☐Yes ☑No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐Yes ☑No
If Yes:

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:
N/A

n. Does the project site contain a designated significant natural community? ☐Yes ☑No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation):
ii. Source(s) of description or evaluation:
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐ Yes ☑No

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes ☑No
If yes, give a brief description of how the proposed action may affect that use:

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐Yes ☑No
If Yes, provide county plus district name/number:

b. Are agricultural lands consisting of highly productive soils present? ☐Yes ☑No
i. If Yes: acreage(s) on project site?
ii. Source(s) of soil rating(s):

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent:

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No
If Yes:
i. CEA name:
ii. Basis for designation:
iii. Designating agency and date:

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☐ Yes ☑ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☑ No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name THE BROADWAY GROUP. LLC Date 2/4/2019

Signature _____ Title MANAGER

PRINT FORM

A RESOLUTION OF THE VILLAGE OF GOWANDA BOARD OF TRUSTEES
Re: Site Plan Review for Dollar General Development
Designation of Lead Agency

WHEREAS, the Village of Gowanda (the "Village") has received an application from the Broadway Group requesting Site Plan approval for a new commercial construction of a Dollar General Store in the Village; and

WHEREAS, the Village wishes to conduct a coordinated review and assume the Lead Agency role under the State Environmental Quality Review Act; and

WHEREAS, the Village has determined that the application for Site Plan Review is complete.

NOW, THEREFORE, BE IT:

RESOLVED, that the Village directs the Broadway Group be advised the Site Plan application is complete; and be it further

RESOLVED, that the Village designates itself Lead Agency for the purposes of the SEQR review and directs the Clerk to advise all other involved agency of the Village's assumption of Lead Agency status; and be it further

RESOLVED, that the Broadway Group be advised by written correspondence that the Village will need an additional 30 days to complete its review of the potential impacts of the project and issue the Determination of Significance; and be it further

RESOLVED, this Resolution shall take effect immediately; and be it further

RESOLVED, that a copy of this Resolution be filed in the office of the Clerk of the Village of Gowanda.

STATE OF NEW YORK)
) **SS:**
COUNTY OF CATTARAGUS)

THIS IS TO CERTIFY that I, the undersigned Village Clerk of the Village of Gowanda, does hereby certify that the above is a true and exact copy of a Resolution adopted by the Board of Trustees of the Village of Gowanda at a meeting of said Board held on March 12, 2019.

IN WITNESS WHEREOF, I have hereunto set my and seal this 12 day of March 12, 2019.

Gowanda Village Clerk

VILLAGE OF GOWANDA

"Gateway to the Southern Tier"

27 E. Main Street • Gowanda, NY 14070

(716) 532-3353 • Fax (716) 532-2938

"The Village of Gowanda is an Equal Opportunity Provider and Employer"

March 27, 2019

The Broadway Group LLC
P.O. Box 18968
Huntsville, Alabama 35801

Attn: Melissa Ballard- Due Diligence Coordinator

Re: Gowanda New York Dollar General Project

Dear Sirs:

Please be advised that the Village Board of Trustees has reviewed the materials submitted to the Village in support of the project referenced as "Gowanda, NY Dollar General."

The application forms are complete and the Village has designated itself as Lead Agency for the purpose of implementing the New York State Environmental Quality Review Act ("SEQRA") process. The Village requires additional time to complete its review of the Full Environmental Assessment Form you submitted. The Village intends to complete its review and make its SEQRA Determination of Significance at the April 9, 2019 regular Village Board meeting.

A public hearing on the Project will be scheduled and you will be advised in advance of such hearing as required by the statute.

The Village's Site Plan Review Local Law provides that the Village may require an Applicant to reimburse it for costs incurred in the Site Plan Review process for third party assistance. The Village will invoice these expenses as, when and if, they are incurred, on a monthly basis and reimbursement to the Village will be due within 30 days of receipt of the invoice. Understand that the review of substantial construction projects is not within the regular capacity of the Village budget. The Village will incur these expenses to properly process your application and your failure to pay them when due will delay processing.

The Broadway Group
March 27, 2019
Attn: Melissa Ballard

A variance will be required for the Project but we do not yet have your application for the variance. The application should be sent to the Village office at 27 E. Main Street, attention Code Enforcement Officer.

Thank you for your interest in the Village of Gowanda. Please direct any questions to our Village Clerk, Danielle Wagner, at (716) 532-3353 or by email to: gowclerk@gmail.com, and Ms. Wagner will direct your inquiry to the appropriate party for response.

Sincerely,

David Smith, Mayor

cc: Village Clerk
Village Board of Trustees
Village Treasurer
Village Attorney
Village Engineer
Village CEO

Part 2 is to be completed by the lead agency. Part 2 is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

If the lead agency is a state agency **and** the action is in any Coastal Area, complete the Coastal Assessment Form before proceeding with this assessment.

Tips for completing Part 2:

- Review all of the information provided in Part 1.
- Review any application, maps, supporting materials and the Full EAF Workbook.
- Answer each of the 18 questions in Part 2.
- If you answer **"Yes"** to a numbered question, please complete all the questions that follow in that section.
- If you answer **"No"** to a numbered question, move on to the next numbered question.
- Check appropriate column to indicate the anticipated size of the impact.
- Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "Moderate to large impact may occur."
- The reviewer is not expected to be an expert in environmental analysis.
- If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- When answering a question consider all components of the proposed activity, that is, the "whole action".
- Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- Answer the question in a reasonable manner considering the scale and context of the project.

1. Impact on Land
Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site. (See Part 1. D.1)
If "Yes", answer questions a - j. If "No", move on to Section 2.

☐ NO ☒ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	☐ *	☐
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	☐ *	☐
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	☐ *	☐
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	☒	☐
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	☒	☐
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	☐	☒
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	☒	☐
h. Other impacts: _____		☐	☐

* The Applicant hAs not submitted sufficient information to make this assesssment; Lead Agency assumes potential for impact until sufficient information is provided.

2. Impact on Geological Features

The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1. E.2.g) ☒ NO ☐ YES

If "Yes", answer questions a - c. If "No", move on to Section 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Identify the specific land form(s) attached: _____ _____	E2g	☐	☐
b. The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature: _____	E3c	☐	☐
c. Other impacts: _____ _____		☐	☐

3. Impacts on Surface Water

The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes). (See Part 1. D.2, E.2.h) ☒ NO ☐ YES

If "Yes", answer questions a - l. If "No", move on to Section 4.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may create a new water body.	D2b, D1h	☐	☐
b. The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D2b	☐	☐
c. The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D2a	☐	☐
d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E2h	☐	☐
e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.	D2a, D2h	☐	☐
f. The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D2c	☐	☐
g. The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D2d	☐	☐
h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D2e	☐	☐
i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E2h	☐	☐
j. The proposed action may involve the application of pesticides or herbicides in or around any water body.	D2q, E2h	☐	☐
k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D1a, D2d	☐	☐

l. Other impacts: _____		☐	☐

4. Impact on groundwater

The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer. (See Part 1. D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t)

☒ NO ☐ YES

If "Yes", answer questions a - h. If "No", move on to Section 5.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D2c	☐	☐
b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source: _____	D2c	☐	☐
c. The proposed action may allow or result in residential uses in areas without water and sewer services.	D1a, D2c	☐	☐
d. The proposed action may include or require wastewater discharged to groundwater.	D2d, E2l	☐	☐
e. The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D2c, E1f, E1g, E1h	☐	☐
f. The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D2p, E2l	☐	☐
g. The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	E2h, D2q, E2l, D2c	☐	☐
h. Other impacts: _____		☐	☐

5. Impact on Flooding

The proposed action may result in development on lands subject to flooding. (See Part 1. E.2)

☒ NO ☐ YES

If "Yes", answer questions a - g. If "No", move on to Section 6.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in development in a designated floodway.	E2i	☐	☐
b. The proposed action may result in development within a 100 year floodplain.	E2j	☐	☐
c. The proposed action may result in development within a 500 year floodplain.	E2k	☐	☐
d. The proposed action may result in, or require, modification of existing drainage patterns.	D2b, D2e	☐	☐
e. The proposed action may change flood water flows that contribute to flooding.	D2b, E2i, E2j, E2k	☐	☐
f. If there is a dam located on the site of the proposed action, is the dam in need of repair, or upgrade?	E1e	☐	☐

		☐	☐

6. Impacts on Air

The proposed action may include a state regulated air emission source. (See Part 1. D.2.f., D.2.h, D.2.g) ☒NO ☐YES

If "Yes", answer questions a - f. If "No", move on to Section 7.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels:			
i. More than 1000 tons/year of carbon dioxide (CO_2)	D2g	☐	☐
ii. More than 3.5 tons/year of nitrous oxide (N_2O)	D2g	☐	☐
iii. More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs)	D2g	☐	☐
iv. More than .045 tons/year of sulfur hexafluoride (SF_6)	D2g	☐	☐
v. More than 1000 tons/year of carbon dioxide equivalent of hydrochloroflourocarbons (HFCs) emissions	D2g	☐	☐
vi. 43 tons/year or more of methane	D2h	☐	☐
b. The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous air pollutants.	D2g	☐	☐
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU's per hour.	D2f, D2g	☐	☐
d. The proposed action may reach 50% of any of the thresholds in "a" through "c", above.	D2g	☐	☐
e. The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D2s	☐	☐
f. Other impacts: _____		☐	☐

7. Impact on Plants and Animals

The proposed action may result in a loss of flora or fauna. (See Part 1. E.2. m.-q.) ☒NO ☐YES

If "Yes", answer questions a - j. If "No", move on to Section 8.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2o	☐	☐
b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E2o	☐	☐
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2p	☐	☐
d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E2p	☐	☐

e. The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E3c	☐	☐
f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source: _____	E2n	☐	☐
g. The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E2m	☐	☐
h. The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information source: _____ _____	E1b	☐	☐
i. Proposed action (commercial, industrial or recreational projects, only) involves use of herbicides or pesticides.	D2q	☐	☐
j. Other impacts: _____ _____		☐	☐

8. Impact on Agricultural Resources

The proposed action may impact agricultural resources. (See Part 1. E.3.a. and b.) ☒NO ☐YES

If "Yes", answer questions a - h. If "No", move on to Section 9.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E2c, E3b	☐	☐
b. The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc).	E1a, E1b	☐	☐
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E3b	☐	☐
d. The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District, or more than 10 acres if not within an Agricultural District.	E1b, E3a	☐	☐
e. The proposed action may disrupt or prevent installation of an agricultural land management system.	E1 a, E1b	☐	☐
f. The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C2c, C3, D2c, D2d	☐	☐
g. The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C2c	☐	☐
h. Other impacts: _____		☐	☐

9. Impact on Aesthetic Resources

The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (Part 1. E.1.a, E.1.b, E.3.h.)

☒ NO ☐ YES

If "Yes", answer questions a - g. If "No", go to Section 10.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E3h	☐	☐
b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E3h, C2b	☐	☐
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	E3h	☐ ☐	☐ ☐
d. The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	E3h E2q, E1c	☐ ☐	☐ ☐
e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E3h	☐	☐
f. There are similar projects visible within the following distance of the proposed project: 0-1/2 mile ½ -3 mile 3-5 mile 5+ mile	D1a, E1a, D1f, D1g	☐	☐
g. Other impacts: _____		☐	☐

10. Impact on Historic and Archeological Resources

The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1. E.3.e, f. and g.)

☒ NO ☐ YES

If "Yes", answer questions a - e. If "No", go to Section 11.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on the National or State Register of Historical Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places.	E3e	☐	☐
b. The proposed action may occur wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory.	E3f	☐	☐
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source: _____	E3g	☐	☐

d. Other impacts: _____		☐	☐
e. If any of the above (a-d) are answered "Moderate to large impact may occur", continue with the following questions to help support conclusions in Part 3:			
i. The proposed action may result in the destruction or alteration of all or part of the site or property.	E3e, E3g, E3f	☐	☐
ii. The proposed action may result in the alteration of the property's setting or integrity.	E3e, E3f, E3g, E1a, E1b	☐	☐
iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.	E3e, E3f, E3g, E3h, C2, C3	☐	☐

11. Impact on Open Space and Recreation

The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan.
(See Part 1. C.2.c, E.1.c., E.2.q.)

☒ NO ☐ YES

If "Yes", answer questions a - e. If "No", go to Section 12.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.	D2e, E1b E2h, E2m, E2o, E2n, E2p	☐	☐
b. The proposed action may result in the loss of a current or future recreational resource.	C2a, E1c, C2c, E2q	☐	☐
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C2a, C2c E1c, E2q	☐	☐
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C2c, E1c	☐	☐
e. Other impacts: _____		☐	☐

12. Impact on Critical Environmental Areas

The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1. E.3.d)

☒ NO ☐ YES

If "Yes", answer questions a - c. If "No", go to Section 13.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
c. Other impacts: _____		☐	☐

13. Impact on Transportation
The proposed action may result in a change to existing transportation systems. ☐ NO ☒ YES
(See Part 1. D.2.j)
If "Yes", answer questions a - f. If "No", go to Section 14.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Projected traffic increase may exceed capacity of existing road network.	D2j	☐	☐
b. The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D2j	☐	☐
c. The proposed action will degrade existing transit access.	D2j	☐	☐
d. The proposed action will degrade existing pedestrian or bicycle accommodations.	D2j	☐	☐
e. The proposed action may alter the present pattern of movement of people or goods.	D2j	☐	☐
f. Other impacts: potential Negative traffic impacts - reduction in grade of service		☐	☒

14. Impact on Energy
The proposed action may cause an increase in the use of any form of energy. ☐ NO ☐ YES
(See Part 1. D.2.k)
If "Yes", answer questions a - e. If "No", go to Section 15.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action will require a new, or an upgrade to an existing, substation.	D2k	☐	☐
b. The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D1f, D1q, D2k	☐	☐
c. The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D2k	☐	☐
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D1g	☐	☐
e. Other Impacts: impacts on increased energy BE cannot be determined because Applicant has not provided necessary information.		☐	☒

15. Impact on Noise, Odor, and Light
The proposed action may result in an increase in noise, odors, or outdoor lighting. ☐ NO ☒ YES
(See Part 1. D.2.m., n., and o.)
If "Yes", answer questions a - f. If "No", go to Section 16.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may produce sound above noise levels established by local regulation.	D2m	☐	☒
b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D2m, E1d	☒	☐
c. The proposed action may result in routine odors for more than one hour per day.	D2o	☒	☐

d. The proposed action may result in light shining onto adjoining properties.	D2n	☐	☒
e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.	D2n, E1a	☒	☐
f. Other impacts: _____ _____		☐	☐

16. Impact on Human Health

The proposed action may have an impact on human health from exposure to new or existing sources of contaminants. (See Part 1.D.2.q., E.1. d. f. g. and h.) ☒ NO ☐ YES

If "Yes", answer questions a - m. If "No", go to Section 17.

	Relevant Part I Question(s)	No,or small impact may cccur	Moderate to large impact may occur
a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E1d	☐	☐
b. The site of the proposed action is currently undergoing remediation.	E1g, E1h	☐	☐
c. There is a completed emergency spill remediation, or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E1g, E1h	☐	☐
d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction).	E1g, E1h	☐	☐
e. The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E1g, E1h	☐	☐
f. The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D2t	☐	☐
g. The proposed action involves construction or modification of a solid waste management facility.	D2q, E1f	☐	☐
h. The proposed action may result in the unearthing of solid or hazardous waste.	D2q, E1f	☐	☐
i. The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D2r, D2s	☐	☐
j. The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E1f, E1g E1h	☐	☐
k. The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E1f, E1g	☐	☐
l. The proposed action may result in the release of contaminated leachate from the project site.	D2s, E1f, D2r	☐	☐
m. Other impacts: _____ _____		☐	☐

17. Consistency with Community Plans

The proposed action is not consistent with adopted land use plans. (See Part 1. C.1, C.2. and C.3.) ☐ NO ☒ YES

If "Yes", answer questions a - h. If "No", go to Section 18.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C2, C3, D1a E1a, E1b	☐	☒
b. The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C2	☒	☐
c. The proposed action is inconsistent with local land use plans or zoning regulations.	C2, C2, C3	☐	☒
d. The proposed action is inconsistent with any County plans, or other regional land use plans.	C2, C2	☐	☐
e. The proposed action may cause a change in the density of development that is not supported by existing infrastructure or is distant from existing infrastructure.	C3, D1c, D1d, D1f, D1d, E1b	☐	☐
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C4, D2c, D2d D2j	☒	☐
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C2a	☒	☐
h. Other: Items "d" and "e" unknown		☐	☐

18. Consistency with Community Character

The proposed project is inconsistent with the existing community character. (See Part 1. C.2, C.3, D.2, E.3) ☐ NO ☒ YES

If "Yes", answer questions a - g. If "No", proceed to Part 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community.	E3e, E3f, E3g	☒	☐
b. The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C4	☒	☐
c. The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C2, C3, D1f D1g, E1a	☐	☐
d. The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C2, E3	☒	☐
e. The proposed action is inconsistent with the predominant architectural scale and character.	C2, C3	☐	☐
f. Proposed action is inconsistent with the character of the existing natural landscape.	C2, C3 E1a, E1b E2g, E2h	☐	☐
g. Other impacts: Significant community opposition to location of proposed action		☐	☒

PRINT FULL FORM

Date :

Full Environmental Assessment Form
Part 3 - Evaluation of the Magnitude and Importance of Project Impacts
and
Determination of Significance

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

Reasons Supporting This Determination:
To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

1. Impacts to Land cannot be fully assessed; Applicant has not submitted sufficient information. Lead Agency assumes a potential for at least moderate impact until sufficient information is provided to establish there will be no or minimal impacts.

2. The proposed Project has the potential to have an adverse impact on traffic. No traffic information has been submitted by Applicant. Degradation of levels of service will be permanent, not temporary or limited to construction period. No information has been provided on traffic during construction, the need to temporarily stop traffic during construction, or the duration of such potential impacts. Lead Agency assumes a potential for at least moderate impact until sufficient information is provided to establish there will be no or minimal impacts.

3. The location of the proposed Project is adjacent to residential homes which will be adversely impacted by both noise levels and lighting and the Lead Agency determines that such potential impacts may be moderate to large.

4. The proposed Project is inconsistent with the municipality's plan to have a central business district separate from the residential areas of the Village. The proposed Project will require acquisition and demolition of existing residential homes in a predominantly residential area. The proposed Project will require a variance from the Village of Gowanda Code as it has insufficient space to provide Code-required parking spaces. A similar retail store is located less than 1/2 mile from the proposed Project, which has the potential to adversely impact existing local businesses and result in closures and abandoned buildings. The Project has the potential for such impacts to be moderate to large.

5. The proposed Project is not consistent with Community Character. There is significant community opposition to the Project, particularly its location. Residents have submitted petitions in opposition to the Project signed by approx. 25% of Village residents and information to the Village Board of Trustees regarding long-term failure of the Company to maintain upkeep and cleanliness of its retail stores. The Village of Gowanda is approximately 1.6 square miles and has a population of approx. 2200 people and is considered a small village in an otherwise rural area. The proposed Project has the potential to adversely impact the quality of the residential areas surrounding it and degrade the property values of adjacent residences, potentially creating a domino effect of homes transitioning to non-owner occupied rental units. As a result of #4 and #5 the project has a moderate to large potential for adverse impacts in these areas.

Determination of Significance - Type 1 and Unlisted Actions

SEQR Status: ☐ Type 1 ☑ Unlisted

Identify portions of EAF completed for this Project: ☑ Part 1 ☑ Part 2 ☑ Part 3

Upon review of the information recorded on this EAF, as noted, plus this additional support information
information submitted by Applicant, review of available recods within the municipality and review of Project submittals by the Village Code Enforcement Officer, Village Engineer and Village Board of Trustees. The Village Board of Trustees has also considered information submitted to the Village by Village residents in opposition to the project.

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the
Village Board of Trustees as lead agency that:

☐ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.7(d)).

☑ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action: Gowanda, New York Dollar General

Name of Lead Agency: Village of Gowanda Board of Trustees

Name of Responsible Officer in Lead Agency: David Smith

Title of Responsible Officer: Mayor

Signature of Responsible Officer in Lead Agency: Date: April 9, 2019

Signature of Preparer (if different from Responsible Officer) Date: Aprol 9, 2019

For Further Information:

Contact Person: Danielle Wagner, Clerk

Address: 27 E Main Street, Gowanda, New York 14070

Telephone Number: (716) 532-3353

E-mail: gowclerk@gmail.com

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin: http://www.dec.ny.gov/enb/enb.html

PRINT FULL FORM

State Environmental Quality Review
POSITIVE DECLARATION
Notice of Intent to Prepare a Draft EIS
Determination of Significance

Project Number **Date**

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law.

The Village of Gowanda Board of Trustees as lead agency, has determined that the proposed action described below may have a significant impact on the environment and that a Draft Environmental Impact Statement will be prepared.

Name of Action:

Gowanda, New York Dollar General

SEQR Status: Type 1 ☐
Unlisted ☑

Scoping: No ☐ Yes ☑ If yes, indicate how scoping will be conducted:
Lead Agency requests a scoping meeting with Applicant to focus issues to be addressed in EIS.

Description of Action:

Demolition of existing residential home to construct new retail store with associated parking.

Location: (Include street address and the name of the municipality/county. A location map of appropriate scale is also recommended.)
240 & 248 Buffalo, Street, Gowanda, New York

Reasons Supporting This Determination:

See Attached Sheet.

For Further Information:

Contact Person: Danielle Wagner, Village Clerk

Address: 27 E. Main Street, Gowanda, New York 14070

Telephone Number: (716)-532-3353

A copy of this notice must be sent to:

Department of Environmental Conservation, 50 Wolf Road, Albany, New York 12233-1750

Chief Executive Officer, Town/City/Village of

Any person requesting a copy

All Involved agencies

Applicant (If any)

Environmental Notice Bulletin, Room 538, 50 Wolf Road, Albany, NY 12233-1750

website

ATTACHMENT TO SEQRA POSITIVE DECLARATION FOR

PROJECT: GOWANDA, NEW YORK DOLLAR GENERAL

1. Impacts to Land cannot be fully assessed; Applicant has not submitted sufficient information. Lead Agency assumes a potential for at least moderate impact until sufficient information is provided to establish there will be no or minimal impacts.

2. The proposed Project has the potential to have an adverse impact on traffic. No traffic information has been submitted by Applicant. Degradation of levels of service will be permanent, not temporary or limited to construction period. No information has been provided on traffic during construction, the need to temporarily stop traffic during construction, or the duration of such potential impacts. Lead Agency assumes a potential for at least moderate impact until sufficient information is provided to establish there will be no or minimal impacts.

3. The location of the proposed Project is adjacent to residential homes which will be adversely impacted by both noise levels and lighting and the Lead Agency determines that such potential impacts may be moderate to large.

4. The proposed Project is inconsistent with the municipality's plan to have a central business district separate from the residential areas of the Village. The proposed Project will require acquisition and demolition of existing residential homes in a predominantly residential area. The proposed Project will require a variance from the Village of Gowanda Code as it has insufficient space to provide Code-required parking spaces. A similar retail store is located less than 1/2 mile from the proposed Project, which has the potential to adversely impact existing local businesses and result in closures and abandoned buildings. The Project has the potential for such impacts to be moderate to large.

5. The proposed Project is not consistent with Community Character. There is significant community opposition to the Project, particularly its location. Residents have submitted petitions in opposition to the Project signed by approx. 25% of Village residents and information to the Village Board of Trustees regarding long-term failure of the Company to maintain upkeep and cleanliness of its retail stores. The Village of Gowanda is approximately 1.6 square miles and has a population of approx. 2200 people and is considered a small village in an otherwise rural area. The proposed Project has the potential to adversely impact the quality of the residential areas surrounding it and degrade the property values of adjacent residences, potentially creating a domino effect of homes transitioning to non-owner occupied rental units. As a result of #4 and #5 the project has a moderate to large potential for adverse impacts in these areas.

SEQRA POSITIVE DECLARATION
DETERMINATION OF SIGNIFICANE
AND
NOTICE OF SCOPING

DATE: September 2, 2020

LEAD AGENCY: THE VILLAGE OF GOWANDA BOARD OF TRUSTEES
ADDRESS: 27 EAST MAIN STREET
GOWANDA, NY 14070

THIS NOTICE IS ISSUED PURSUANT TO 6 N.Y.C.R.R. PART 617, THE IMPLEMENTING REGULATIONS PERTAINING TO ARTICLE 8 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW (STATE ENVIRONMENTAL QUALITY REVIEW ACT).

THE LEAD AGENCY HAS DETERMINED THAT THE PROPOSED ACTION DESCRIBED BELOW MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AND THAT PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT STATEMENT WILL BE REQUIRED.

A COPY OF THE DRAFT SCOPE IS ATTACHED. WRITTEN COMMENTS ON THE DRAFT SCOPE ARE REQUESTED AND WILL BE ACCEPTED BY THE LEAD AGENCY UNTIL OCTOBER 9, 2020.

PROJECT: Dollar General Retail Store
AGENCY: Village of Gowanda Board of Trustees
C/O Danielle Wagner, Village Clerk
ADDRESS: 27 East Main Street, Gowanda, NY 14070

ERIE COUNTY TAX MAP PARCEL #: 349.11-3-25 (248 Buffalo Street, Gowanda, NY), 349.11-3-26 (240 Buffalo Street, Gowanda, NY)

LOCATION: 240 & 248 Buffalo Street, Gowanda, NY 14070

DESCRIPTION OF PROJECT: Demolition of existing residential home to construct new retail store with associated parking.

SEQRA CLASSIFICATION: Unlisted Action

REASONS SUPPORTING THIS DETERMINATION:

1. Impacts to Land cannot be fully assessed; Applicant has not submitted sufficient information. Lead Agency assumes a potential for at least moderate impact until sufficient information is provided to establish there will be no or minimal impacts.

2. The proposed Project has the potential to have an adverse impact on traffic. No traffic information has been submitted by Applicant. Degradation of levels of service will be permanent, not temporary or limited to construction period. No information has been provided on traffic during construction, the need to temporarily stop traffic during construction, or the duration of such potential impacts. Lead Agency assumes a potential for at least moderate impact until sufficient information is provided to establish there will be no or minimal impacts.

SEQRA POSITIVE DECLARATION AND NOTICE OF SCOPING- PAGE 2

PROJECT: Dollar General Retail Store

REASONS SUPPORTING THIS DETERMINATION CONTINUED:

3. The location of the proposed Project is adjacent to residential homes which will be adversely impacted by both noise levels and lighting and the Lead Agency determines that such potential impacts may be moderate to large.

4. The proposed Project is inconsistent with the municipality's plan to have a central business district separate from the residential areas of the Village. The proposed Project will require acquisition and demolition of existing residential homes in a predominantly residential area. The proposed Project will require a variance from the Village of Gowanda Code as it has insufficient space to provide Code-required parking spaces. A similar retail store is located less than ½ mile from the proposed Project, which has the potential to adversely impact existing local businesses and result in closures and abandoned buildings. The Project has the potential for such impacts to be moderate to large.

5. The proposed Project is not consistent with Community Character. There is significant community opposition to the Project, particularly its location. Residents have submitted petitions in opposition to the Project signed by approx. 25% of Village residents and information to the Village Board of Trustees regarding long-term failure of the Company to maintain upkeep and cleanliness of its retail stores. The Village of Gowanda is approximately 1.6 square miles and has a population of approx. 2,200 people and is considered a small village in an otherwise rural area. The proposed Project has the potential to adversely impact the quality of the residential areas surrounding it and degrade the property values of adjacent residences, potentially creating a domino effect of homes transitioning to non-owner occupied rental units. As a result of #4 and #5 the project has a moderate to large potential for adverse impacts in these areas.

FOR FURTHER INFORMATION AND TO SUBMIT WRITTEN SCOPING COMMENTS CONTACT:

Danielle Wagner, Village Clerk
27 E. Main Street
Gowanda, NY 14047

BY ORDER OF: **Mayor David Smith, Village of Gowanda**
Board of Trustees of the Village of Gowanda

Village of Gowanda, New York
DRAFT SCOPING DOCUMENT

Dollar General Retail Store
240 & 248 Buffalo Street, Gowanda, NY

This document identifies the issues to be addressed in the Draft Environmental Impact Statement (DGEIS) for the proposed Dollar General Retail Store located at 240 & 248 Buffalo Street, Gowanda, NY ("Site"). This Draft Scoping Document was prepared in general accordance with 6 NYCRR Part 617.8 (e)(1) through (7).

Name of Action:
Dollar General Retail Store

Lead Agency:
Village of Gowanda Board of Trustees

Lead Agency Contact:
Danielle Wagner, Village Clerk
Village of Gowanda
27 East Main Street
Gowanda, NY 14070
(716) 532-3353
gowandavillageth@gmail.com

Classification of Action: Unlisted

Scoping Meeting: A Public Scoping Meeting to receive comments on the draft scoping document will be held on September 8, 2020 at 7:30 PM at the Hollywood Theater, 39 W Main St, Gowanda, NY 14070.

Written Scoping Comments: Written public comments on the draft scoping document will be accepted by the Lead Agency until 5 PM on October 9, 2020.

Description of Proposed Action:

The Broadway Group, LLC (the "Applicant") proposes to construct a 9,100 +/- SF Dollar General Retail Store with surface parking and a stormwater management system at 240 and 248 Buffalo Street in the Village of Gowanda, Erie County, New York ("Project"). The Site is currently occupied by two residential houses which will be demolished to accommodate the Project.

The Village of Gowanda Board of Trustees declared its intent to act as Lead Agency, for purposes of SEQRA, on March 12, 2019. The SEQRA Positive Declaration and Notice of Intent to prepare a DEIS were also issued on April 9, 2019.

The format and scope of the DEIS pursuant to 617.9(b) is as follows:

Cover sheet and General Information

A DEIS Cover Sheet will be provided that includes:

- Title of the document;
- Title of the Proposed Action;
- Location of the Proposed Action;
- Name, address and phone number of the Lead Agency, including name of the contact person;
- Name, address and phone number of the preparer of the DEIS and contact person;
- Date and acceptance of the DEIS (to be inserted at later time); and
- Date of the public hearing and deadline by which comments on the DEIS should be provided (to be inserted at later time).

In addition:

- The DEIS will include a list of the participating consultant(s), with their address, telephone number and project responsibilities; and
- The DEIS will include a Table of Contents, List of Exhibits, List of Tables and List of Appendices.

1.0 EXECUTIVE SUMMARY

1.1 Introduction

1.2 Brief Description of the Proposed Action (Provide a brief overall description of the Proposed Action).

1.3 Lead Agency Designation (Describe the Village's Lead Agency designation process pursuant to SEQR).

1.4 Interested and Involved Agencies (Describe the Involved and Interested agencies identified by the Village and the SEQRA coordinated review process. These agencies consist of the Village of Gowanda Planning Board, the Village of Gowanda Zoning Board of Appeals, the New York State Department of Environmental Conservation, and the New York State Department of Transportation).

1.5 Required Reviews and Approvals (Identify the required agency reviews and approvals necessary for the Proposed Action).

1.6 Potential Impacts and Mitigation Measures (Provide a brief summary of the potential adverse impacts of the Proposed Action; provide brief summaries of the identified impact avoidance and mitigation techniques and strategies, if any, to be used as part of the Proposed Action).

1.7 Project Alternatives (Provide a brief description of the alternative actions considered in lieu of the Proposed Action, including SEQRA's requisite "No-Action Alternative" and the Proposed Action Alternative).

2.0 DESCRIPTION OF PROPOSED ACTION

2.1 Description of the Proposed Action (Describe the Proposed Action, providing its general location, proposed building/site dimensions and features, and applicable zoning).

2.2 Site Location and Description (Describe and map the location of the Proposed Action in terms of its general character, land use pattern and overall environmental conditions and/or significant features)

2.3 Store Operation and Hours (Provide a brief description of the project's typical employment, proposed days/hours of operation, and store deliveries).

2.4 Project Purpose, Need, and Benefits (Provide a brief description of the Proposed Action's benefits to the local and surrounding communities, its benefits on real estate and sales taxes, and construction and operational employment).

2.5 Required Reviews and Approvals (Provide brief discussion and/or list of the required agency permits, reviews and approvals necessary for the Proposed Action).

3.0 ENVIRONMENTAL SETTING, POTENTIAL IMPACTS AND MITIGATION

3.1 Stormwater and Drainage

- 3.1.1 Setting (Describe the general setting of the project site's existing drainage patterns, topography and floodplains).
- 3.1.2 Potential Impacts (Describe the potential impacts from the Project on its potential to increase erosion and sedimentation and flooding. The analysis will be based on the Project Stormwater Pollution Prevention Plan (SWPPP) and the proposed stormwater management facilities proposed for the Site and its conformance with the latest version of the New York State Stormwater Design Manual (SDM) and the State Pollutant Discharge Elimination System General Permit for Stormwater Discharges from Construction Activity (SPDES). The geotechnical investigation report will also be reviewed and assessed to identify any impacts).
- 3.1.3 Mitigation (Describe mitigation measures, if applicable)

3.2 Traffic

- 3.2.1 Setting (Describe the existing local road and state highway network as well as existing Average Annual Daily Traffic (AADT) in the vicinity of the Site).
- 3.2.2 Potential Impacts (Based on a Trip Generation and Distribution Analysis, describe the distribution of the new trips and pass-by trips generated by the Project onto the adjacent roadway network during the morning and evening peak hours and its potential impact on the roadway network).
- 3.2.3 Mitigation (Describe mitigation measures, if applicable).

3.3 Noise and Light

3.3.1 Setting (Describe the ambient noise environment in and around the Site including noise from nearby residential activities (e.g., entering and exiting vehicles, car doors, air conditioning units, lawn mowers) and ambient noise from traffic along Buffalo Street; Describe the Site's existing artificial lighting from the two residential structures and spillover artificial lighting from adjacent streetlights, the Valu Home Center, other adjacent and nearby commercial and residential properties, and from lights of vehicles traveling along Buffalo Street).

3.3.2 Potential Impacts (Provide a qualitative analysis of noise associated with the Proposed Action's construction activities including noises from construction equipment, machinery, and generators for the demolition of the current residential structures, grading of the site, construction of the small retail store, and site preparations including paving of the proposed parking lot and sidewalks, landscaping, and construction of the proposed privacy fence; Provide a qualitative analysis of noise associated with the Proposed Action during operation including entering and exiting vehicles, delivery vehicles, customer/employee vehicles, opening and closing vehicle doors, limited noise from pedestrians/customers entering and exiting the store, and noise from building operations such as air conditioning units; Determine whether the Proposed Action's store operations will produce loud, discordant, or disagreeable noise in comparison with existing ambient noise environment and whether ambient noise associated with activities adjacent to and near the Site are anticipated to change during construction or store operation; Describe the potential impacts from the Project's artificial safety and security lighting and their spillover impacts on adjacent properties. The photometric lighting plans developed for the project site will be used as the basis for determining potential lighting impacts from the Proposed Action).

3.3.3 Mitigation (Describe mitigation measures, if applicable).

3.4 Zoning and Parking

3.4.1 Setting (Describe the Site's current "Restricted Business" zoning and its permitted uses; bulk requirements including building height requirements; lot coverage; side yards; rear yards; setbacks; and off-street parking).

3.4.2 Potential Impacts (Describe the Proposed Action's compliance with the requirements and regulations of the B-2 "Restricted Business" zoning district including proposed use, building height, lot coverage, side yard setback, rear yard setback, and front yard setback. Describe the Proposed Action's zoning variance applicable to the proposed on-site parking spaces per the Village Zoning Code).

3.4.3 Mitigation (Describe mitigation measures, if applicable).

3.5 Community Character

3.5.1 Setting (Include a qualitative narrative of existing community character in the vicinity of the project site including a description of the current built environment, visual character, land uses, the proposed project's scale, siting, design and function, and the Site's proximity to any historic districts or buildings).

3.5.2 Potential Impacts (Evaluate the balance between commercial and residential uses in the area in the context of the Proposed Action and determine the level of potential impact, if any, including whether it will impact visual character and whether its scale, design, layout, etc. will be in sharp contrast to surrounding land uses. An assessment regarding whether the Proposed Action will create odors, light, noise or traffic impacts that are sharply different than what currently exists will also be included in this section.

3.5.3 Mitigation (Describe mitigation measures, if applicable).

4.0 OTHER ENVIRONMENTAL IMPACTS

4.1 Unavoidable Adverse Environmental Impacts (Provide a list and brief descriptions of those adverse impacts that cannot be avoided).

4.2 Irreversible and Irretrievable Commitment of Resources (Identify the natural and human resources to be substantially consumed, converted, or made unavailable for future use as a result of the Proposed Action).

4.3 Growth-Inducing, Cumulative and Secondary Impacts (Identify growth-inducing aspects of the Proposed Action including its effects on the expansion of jobs in the community, the Village's population, or its potential impacts on any municipal or community service provider (e.g., police, fire, ambulance; Describe the potential impacts on lands surrounding the Project Site and its consistency with the Village Master Plan and Zoning Code; Describe whether the Proposed Action represents a precedent-setting action which would spur additional development, either small-scale or large-scale, in this area).

4.4 Energy Use and Conservation (Provide a discussion of those aspects of the Proposed Action that would contribute to an increase in energy use, as well as potential options for energy conservation).

4.5 Climate Change (Provide a discussion of measures to avoid or reduce both the Proposed Action's impacts on climate change and associated impacts due to the effects of climate change such as sea level rise and flooding).

5.0 ALTERNATIVES

5.1 No Action Alternative (Evaluate the scenario where the status of existing land use remains unchanged).

5.2 Proposed Action Alternative (design and scale of the proposed action alternative).

6.0 REFERENCES (Provide listing of the various documents and information sources utilized in the preparation of the DEIS.)

Appendices

The following are the appendices anticipated to be included in the DEIS:

- Project Location Map
- Village of Gowanda Board of Trustees SEQR Documentation
- Proposed Action Variance Application and Approval Letter
- Land Survey with Existing Site Conditions
- Civil Engineering Site Development Plans
- Stormwater Pollution Prevention Plan
- Geotechnical Investigation Report
- Trip Generation Data/Estimates
- Photometric Plans
- Excerpt from Village of Gowanda Zoning Code
- Village of Gowanda Zoning Map
- Existing Commercial and Residential Uses and Visual Character Near the Site

Appendix D
Zoning Variance Application and Approval Letter

APPLICATION FOR VARIANCE
VILLAGE OF GOWANDA
ZONING BOARD OF APPEALS

Premises affected:

SBL No. 349.11-3-26 AND 349.11-3-25 (to be combined)

Property Address 240+248 Buffalo St. Gowanda, NY 14070

Owner of Property: Ralph Hill - 240 Buffalo St.
LouAnn Itellman - 248 Buffalo St.

Mailing Address: Same

Zone: B2

Size of Lot: 1.28 acres (includes both lots) total

State prior use Houses

Size of Building (at street level) 70' feet front 130' feet deep

Percentage of lot occupied by buildings 16 %

Height of Building 18 feet Stories 1

Set back from front property line 127 feet

Set back from right side property line 62 feet

Set back from left side property line 28.27 feet

AFFIDAVIT OF APPLICANT

State of New York
County of Erie/County of Cattaraugus
Village of Gowanda

Robert M. Broadway, Manager of The Broadway Group, LLC of full age, being duly sworn according to law, on oath, deposes and says that all of the above statements are true.

Sworn to and subscribed before me this

14th Day of June 2019

Signature of Applicant before Notary

Melissa D Ballard
Notary Public, State of ~~New York~~ Alabama

MELISSA D. BALLARD NOTARY PUBLIC ALABAMA STATE AT LARGE

My Commission Expires 04/03/2021

APPLICATION FOR VARIANCE
VILLAGE OF GOWANDA
ZONING BOARD OF APPEALS

Date 6/14/19

To the Board of Appeals:

An appeal is hereby made for a variance from the terms of Article II, Section 30.26 of the Village of Gowanda Zoning Ordinance so as to permit (describe what you're planning to do)
Reduce the number of required parking spaces from 36 to 30.

This appeal is based on the decision made by the Code Enforcement Officers of the Village of Gowanda that this could not be done because (explain why you cannot do so)
Width of the property does not allow for an additional row of parking along the North drive aisle.

Applicant seeks a variance under Section 31.6 of the Village of Gowanda Municipal Code,

APPLICANT'S ADDRESS (if different from above) P.O. Box 18968 Huntsville, AL 35804
Phone: 256-533-7287
Attorney for applicant (if any) David Stapleton
Attorney's Address: 306 Spring St. Jamestown, NY 14702
Attorney's Telephone: 716-483-3017

In support thereof submits the following documents:

(3) Copies of detailed plans showing site, elevations and plans of structures and accessory use areas and landscaped development of the entire parcel devoted to the Special Permit Use.

(3) Copies of the location map showing the relationship of the proposed site to the surrounding neighborhood, traffic ways, land uses, and other pertinent data.

(3) Copies of (any other information you may desire to present): _____

The applicant alleges:

(1) Would be in harmony with the character of the neighborhood because it is centrally located on a main thoroughfare with existing businesses and in an area zoned business.

(2) And that it would not be detrimental to the property of persons in the neighborhood because: We employ 8-10 full and part-time and generate significant tax revenue putting money back into the community.

Signature of Applicant — Date 6/14/19

Signature of Landowner — Date

Zoning Board of Appeals
Meeting Minutes
October 4, 2019

The Zoning Board of Appeals meeting was called to order by Chairman Bob Tiller at 9:00 AM at the Municipal Hall.

Present: Bob Tiller
Dorothy Selan
Lou Gabel

The purpose of the meeting to review a parking lot variance submitted by The Broadway Group. The Zoning Board reviewed the variance.

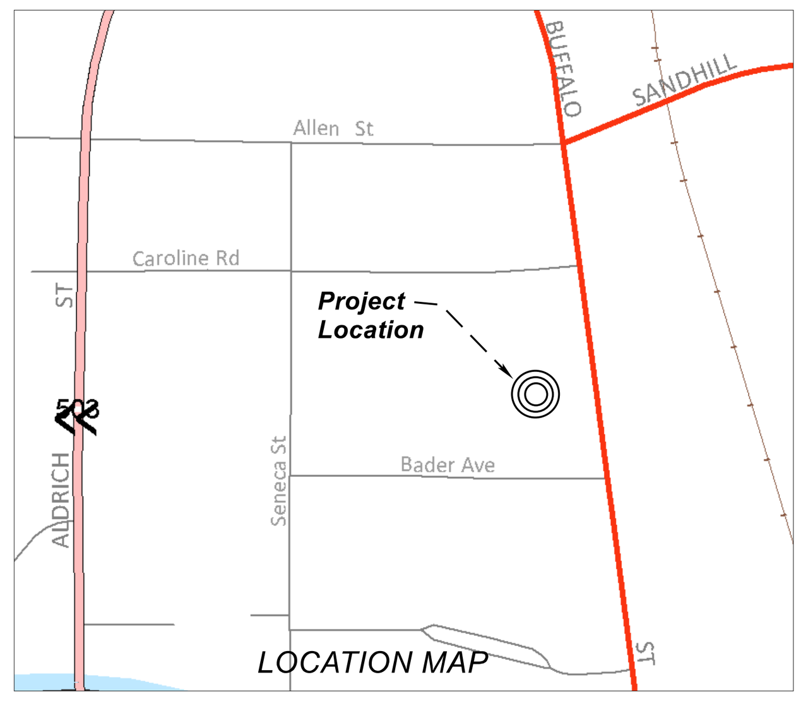
No public comment.

Motion was made to approve the variance 3-0.

Meeting adjourned at 9:30 AM.

Respectfully Submitted
Danielle Wagner
Village Clerk

Appendix E
Land Survey with Existing Site Conditions



LINE	BEARING	HORIZ DIST
L1	N 1°35'00" E	6.72'

HISTORIC DESCRIPTIONS:

Lands of Lou Ann Heilman - 248 Buffalo Street:

All that certain piece or parcel of land situate in the Village of Gowanda, Town of Collins, County of Erie, State of New York, being part of Lot 37, Township 6, Range 8 of the Holland Land Company's Survey, bounded and described as follows:
BEGINNING on the west line of Buffalo Street 6 rods south of the southeast corner of lands formerly owned by Fred Minekime by deed recorded in liber 245 of deeds at page 485, said point of beginning also located 151.52 feet north of the north line of Bader Avenue as measured along the said west line of Buffalo Street; thence north along the west line of Buffalo Street 74.01 feet to the southeast corner of lands conveyed to William D. and Anne H. Connolly by deed recorded in Liber 9722 of deeds at page 225; thence west, along said Connolly's south bounds 328.08 feet to lands formerly owned by Asahel Camp and also being the west line of lands conveyed to Jacob W. Linz and Clara E. Linz by deed recorded in Liber 1495 of deeds at page 306; thence south along said Linz's west line 62.69 feet to the southwest corner of said Linz, said point also being located 147.93 feet north of the north line of Bader Avenue; thence east along said Linz's south bounds 338.6 feet to the point or place of beginning.

Lands of Ralph Hill - 240 Buffalo Street:

All that certain piece or parcel of land situate in the Village of Gowanda, Town of Collins, County of Erie, State of New York, being part of Lot 37, Township 6, Range 8 of the Holland Land Company's Survey, bounded and described as follows:
BEGINNING on the west line of Buffalo Street at a point 2 rods southerly from the southeast corner of a ½ acre tract of land, deeded to Ralph Plumb by Hosea Stewart on the 16th day of January, 1840; thence running westwardly on a line parallel with the south bounds fo the said land deeded to Ralph Plumb by Hosea Stewart at the distance of 2 rods south therefrom 20 rods to lands now or formerly owned by Asahel Camp; thence southerly bounding on Asahel Camp 6 rods; thence eastwardly on a line parallel with the first above mentioned line 20 rods to Buffalo Street; thence northerly bounding on Buffalo Street 6 rods to the place of beginning, containing 120 rods of land, being the 80 rods of land which was conveyed to Lyman Rolfe by John Thatcher and wife by deed dated the 10th day of March 1843, and the south 40 rods of the land conveyed to Lyman Rolfe by Wilson T. Adams and wife by deed dated the 7th day of May 1844, and being the same premises conveyed to William Boller by Charles B. Rolfe and others by deed dated the 11th day of May 1864.

CURRENT DESCRIPTION:

OVERALL DESCRIPTION OF 240 BUFFALO STREET AND 248 BUFFALO STREET

All that tract or parcel of land, situate in the Village of Gowanda, Town of Collins, County of Erie, State of New York; being a part of Lot 37, Town 6, Range 8, of the Holland Land Company's Survey, and being bounded and described as follows:

BEGINNING at a solid 1 inch iron pin found on the west line of Buffalo Street at the southeast corner of land conveyed to Ralph Hill by deed recorded in Liber 10935, Page 5550 on July 10, 1998, said point being North 7 degrees 23 minutes 05 seconds West, a distance of 55.85 feet as measured along the west line of Buffalo Street, from the intersection of the west line of Buffalo Street and the north line of Bader Avenue;

THENCE along the south line of Ralph Hill the following three courses and distances:

1. South 89 degrees 51 minutes 20 seconds West, a distance of 121.12 feet to a found 1 inch iron pipe;

2. South 89 Degrees 46 Minutes 10 Seconds West, a distance of 132.15 feet to a found ½ inch iron pipe;

3. South 89 Degrees 52 Minutes 56 Seconds West, a distance of 98.56 feet to a found 1 inch iron pipe at the southwest corner of Ralph Hill;

THENCE North 00 Degrees 32 Minutes 44 Seconds East, along the west line of Ralph Hill, a distance of 95.87 feet to a found 1 inch iron pipe at the northwest corner of Ralph Hill, said point also being the southwest corner of lands conveyed to Lou Ann Heilman by deed recorded in Liber 11093, Page 1069 on March 31, 2005;

THENCE along the west line of Heilman the following two courses and distances:

1. North 01 Degrees 35 Minutes 00 Seconds East, a distance of 6.72 feet to a found ¾ inch iron pin;

2. North 00 Degrees 33 Minutes 00 Seconds East, a distance of 56.08 feet to a found 3/8 inch bolt at the northwest corner of Heilman;

THENCE North 88 Degrees 11 Minutes 46 Seconds East, along the north line of Heilman, a distance of 328.35 feet to a set ¾ inch rebar with cap at the northeast corner of Heilman, said point being on the west line of the aforementioned Buffalo Street;

THENCE along the west line of Buffalo Street the following two courses and distances:

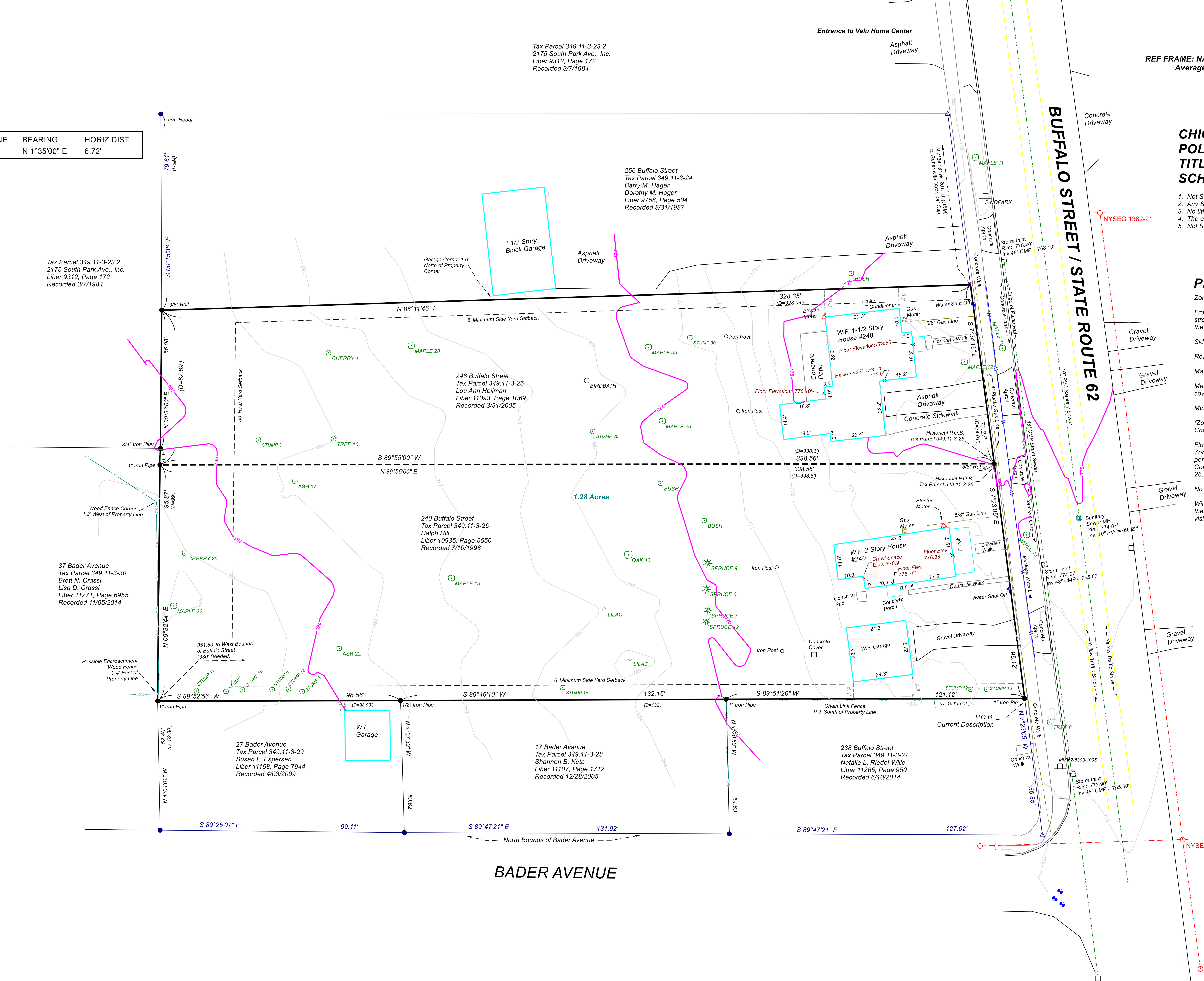
1. South 7 Degrees 34 Minutes 18 Seconds East, a distance of 73.27 feet to a found 5/8 inch rebar;

2. South 7 Degrees 23 Minutes 05 Seconds East, a distance of 96.12 feet to the Point of Beginning. Containing 1.28 acres.

Courses are grid north NAD_83(2011)(EPOCH:2010.0000) SPC (3103 NY West)from GNSS Observations and OPUS Post Processing with an average combined factor of 0.99991610. The distances recited herein are grid distances.

Subject to easements, leases, rights of ways and restrictions of record that may validly affect the above-described parcel.

According to a survey and plat prepared by Daniel L. Barry Land Surveyor LLC, bearing a revision date of January 24, 2019 and designated as job number 4694-18, a copy of which is filed along with this document.



Grid North
SPC (3103 NY W)
From GNSS Observations
and OPUS Post Processing
REF FRAME: NAD_83(2011)(EPOCH:2010.0000)
Average Combined Factor: 0.99991610
Vertical Datum: NAVD88
Distances are Grid Distances

CHICAGO TITLE INSURANCE COMPANY
POLICY NUMBER 5116563
TITLE COMMITMENT DATE: 11/29/2018
SCHEDULE B, SECTION II EXCEPTIONS:

1. Not Survey Related.
2. Any State of Facts a precise survey and inspection of the premises would disclose.
3. No title is insured to the land lying with the lines of Buffalo Street.
4. The exact acreage of the premises herein is not insured.
5. Not Survey Related.

PROPERTY DETAILS:

Zoning Classification: B2 Business

Front Yard Setback: No building shall be erected or altered to be nearer the street line upon which it fronts than the average setback of any building on the same side of the street within the block. (Not Plotted)

Side Yard Setback: 6 Feet, but not less than 15 feet total (Plotted)

Rear Yard Setback: 30 Feet (Plotted)

Maximum Building Height: 3 stories but not exceeding 40 feet

Maximum Lot Coverage: All Buildings including accessory buildings shall not cover more than 50% of the area of the lot.

Minimum Lot Width: Not listed

(Zoning, Setback, and Lot Requirements provided by the Village of Gowanda Code Enforcement Officer)

Flood Zone: Tax Parcels 349.11-3-25 and 349.11-3- 26 are located in Flood Zone X (areas determined to be outside the 0.2% annual chance floodplain), per Flood Insurance Rate Map for the Village of Gowanda. Community Number 360075, Panel 756, Suffix G, Effective Date: September 26, 2008

No wetland markers were found during the course of this survey.

Winter Conditions existed during the course of the fieldwork for this survey, therefore snow and ice may have obscured features that would normally be visible.

20' 0 20' 40'

ALTA/NSPS Land Title Survey For

The Broadway Group

240 and 248 Buffalo Street, Village of Gowanda
Part of HLCS Lot 37, Town 6, Range 8
County of Erie, State of New York

Job No. 4694-18
Dated: December 12, 2018

To The Broadway Group, LLC dba TBG Alabama, LLC:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1-6, 7a, 8, 9, 11, 13, 14, 18, and 19 of Table A thereof.

Per the New York State Education Law, Article 145, Section 7209, it is a violation of law for any person, unless he is acting under the direction of a NYS Licensed Land Surveyor, to alter any item on this document in anyway. If any item on this document is altered in any way, the altering NYS Licensed Land Surveyor must affix his seal and the notation "altered by", followed by his signature, the date of the alteration, and a specific description of the alteration.

Note: the date shown on this plat is the date of the completion of the field survey work.
This map is void if used with an affidavit of no change.
This survey was prepared without the benefit of an abstract of title, therefore the facts shown upon this survey are subject to issues of title possibly adversely affecting the property that an up to date abstract may show.
Reproduction or copying of this document may be a violation of copyright law unless permission of the author and/or copyright holder is obtained.

Only originals of this survey map, marked with an original of an embossed seal, and signed in red, shall be considered to be true, valid survey maps.

REVISIONS

1/24/2019 - ALTA NOTES ADDED

LEGEND

Symbol	Meaning	Symbol	Meaning
●	Found Iron Stake	-○-	Power Pole
○	Set 3/4" Rebar with Cap	MM	Mile Marker
△	Point or Angle Point	P.O.B.	Point of Beginning
◐	Water Valve	(D&M)	Deed and Measured

Daniel L. Barry Land Surveyor LLC
Licensed in New York and Pennsylvania
92 Baxter Avenue
Lakewood, NY 14750
Phone: 716-763-1254
Facsimile: 716-763-0915

Daniel L. Barry NY PLS # 049433 PA PLS # 37799-R

Scott R. Johnson NY PLS # 50947 PA PLS # 075385

Traverse PC

Appendix F
Existing Commercial and Residential Uses and Visual Character Near the Site

Property Currently

Aerial – Trade Area

Gowanda, NY
Site

Gowanda, NY
Left of Site

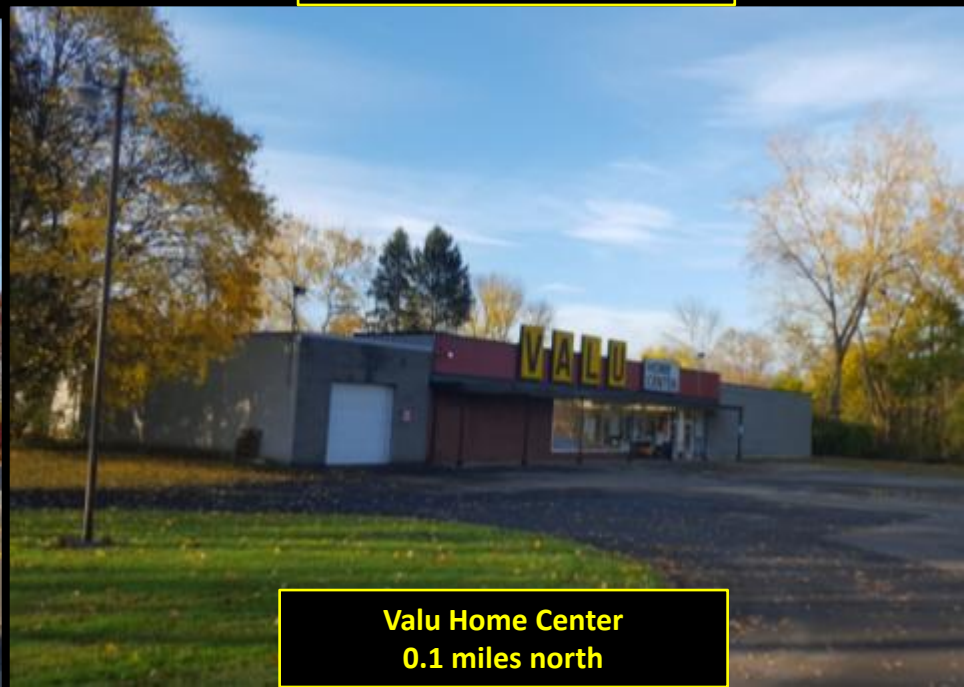
Gowanda, NY
Right of Site

Surrounding Businesses

Robo Car Wash
180 ft north

Stockwell Auto Care
371 ft north

Kwik Fill
449’ north



Valu Home Center
0.1 miles north

Surrounding Businesses

McDonald's
0.2 mile north

Tim Horton's
0.3 miles south

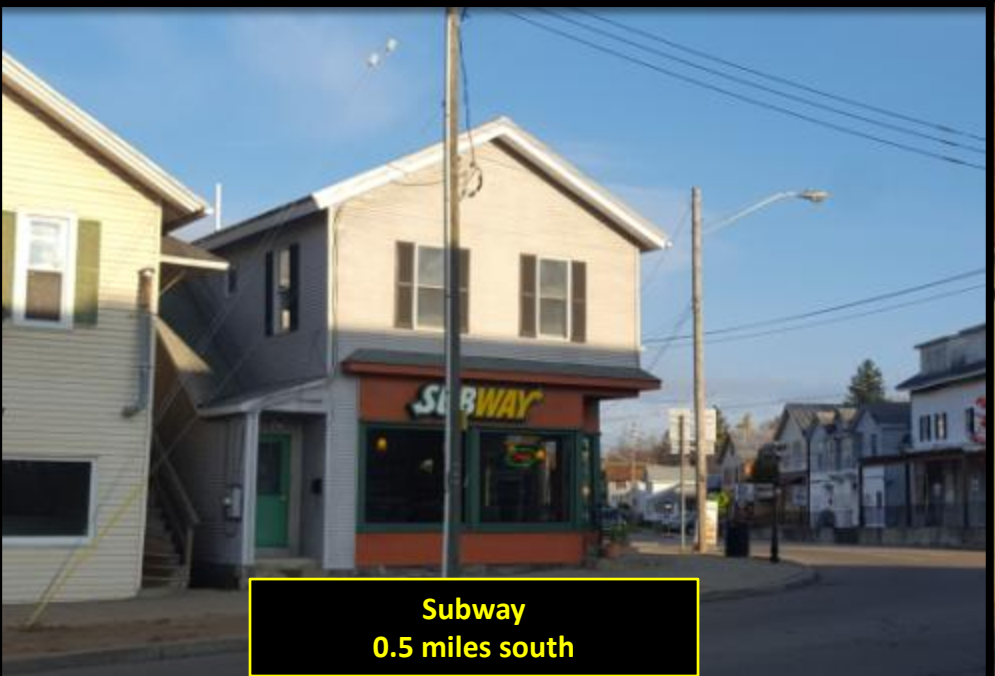
Gowanda Collision
0.4 miles south

Village Laundromat
0.4 miles south

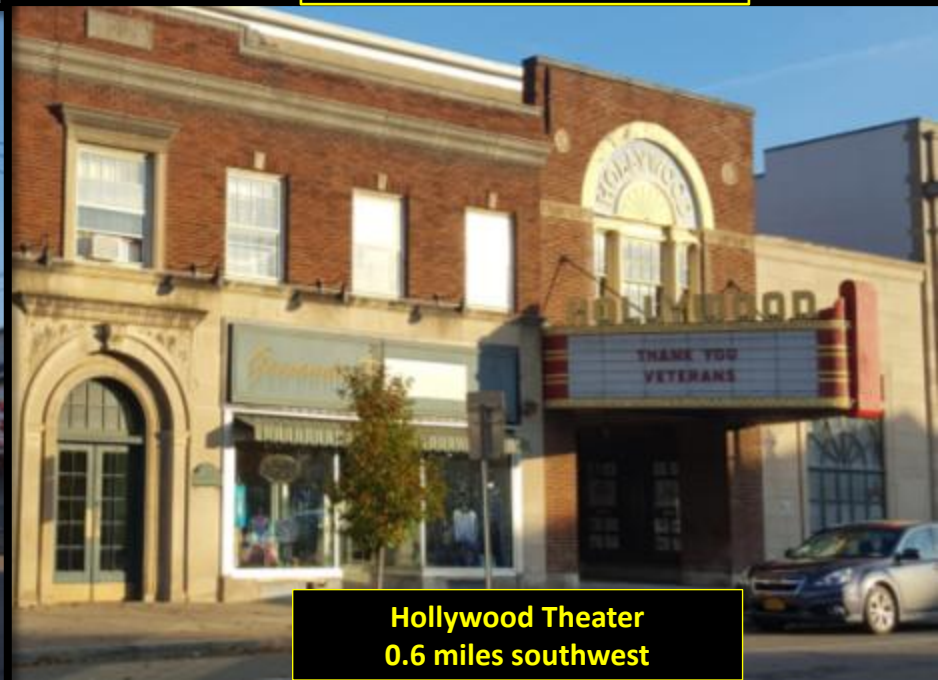
Surrounding Businesses

Shop N' Save
0.4 miles south

Red's Dogs & Cones
0.4 mile NE



Subway
0.5 miles south



Hollywood Theater
0.6 miles southwest

Appendix G
Stormwater Pollution Prevention Plan (SWPPP)

STORM WATER POLLUTION PREVENTION PLAN

For

CONSTRUCTION ACTIVITIES

At

The Broadway Group, LLC
240 & 248 Buffalo Street
Gowanda, New York 14070

Prepared for:

The Broadway Group LLC
216 Westside Square
Huntsville, Alabama 35801
Phone: (256)-533-7287

Prepared by:

CEI Engineering Associates, Inc.
3108 SW Regency Parkway, Suite 2
Bentonville, AR 72712
Ph: (479) 273-9472
Fax: (479) 273-0844

Project Number:
31140.0

Rev-01
July 14, 2020

EXECUTIVE SUMMARY

The Storm Water Pollution Prevention Plan (SWPPP) includes, but is not limited to this SWPPP and appendices, the Erosion and Sedimentation Control Plan included in the Construction Drawings, the Notice of Intent, Permit Authorization, General Permit, Notice of Termination, or Notice of Discontinuation, all records of inspections and activities which are created during the course of the project, and other documents as may be included by reference to this SWPPP. Changes, modifications, revisions, additions or deletions shall become part of this SWPPP as they occur.

Note: General Contractor must certify this SWPPP in the format included immediately preceding this section. All signed certifications must be kept with the SWPPP documents and be available for inspection.

The General Contractor and all subcontractors involved with a construction activity that disturbs site soil or who implement a pollutant control measure identified in the Storm Water Pollution Prevention Plan must comply with the following requirements of the New York State Pollution Discharge Elimination Systems (SPDES) General Permit ("General Permit") and any local governing agency having jurisdiction concerning erosion and sedimentation control:

A. The Broadway Group LLC is required to obtain coverage under the New York State SPDES General Permit as the area of disturbance is greater than 1 acre. Coverage is obtained by completing a Notice of Intent (NOI) and paying any application fees.

   The NOI can be completed and electronically submitted via: http://www.dec.ny.gov/

   A copy of the SWPPP, signed NOI, and Permit Authorization must be sent to

   New York State Department of Environmental Conservation
   Bureau of Water Permits
   625 Broadway, 4th Floor
   Albany, New York 12233-3505

B. Earth disturbing activities may commence immediately upon award, however, if coverage under the New York State SPDES General Permit is required during construction than earth disturbing activities cannot commence until a Permit Authorization has been obtained from the Department of Environmental Conservation and displayed at the construction site.

C. The SWPPP has been prepared in accordance with the New York State SPDES General Permit requirements.

D. Any discharges during construction shall not cause violations of the Water Quality Standards of the New York State Department of Environmental Conservation.

E. **Contact Information:** The General Contractor must provide names, company names, and telephone numbers for the project Compliance Officer, Superintendents, and 24-hour Emergency Contact. That information must be kept with this SWPPP and be kept up-to-date.

F. **Public Posting:** Post permit authorization at the jobsite before beginning BMP installation. The following information must be posted near the construction exit in a prominent place

for public viewing until the completion of construction and termination of permit coverage: 1) Notice of Intent (found in Appendix D); 2) Permit Authorizations (found in Appendix J), and 3) The location of the SWPPP on site. All posted documents must be maintained in a legible condition throughout construction.

G. **Pre-Construction Meeting:** A pre-construction meeting shall be setup by the contractor upon completing the installation of the initial BMPs. The contractor shall invite the owner/construction manager, applicable local and/or state agencies, and all contractors/subcontractors that will perform excavation activities at the site at least seven (7) days prior to the intended meeting. At the meeting, the Erosion Control Plan, SWPPP, and New York State SPDES General Permit requirements shall be discussed in detail and made aware of the consequences of non-compliance.

J. **Retention of Records:** A complete copy of the SWPPP, including copies of all inspection reports, plan revisions, etc., must be retained at the project site at all times during the duration of the project and kept in the permanent project records of the General Contractor for at least three years after project completion.

K. **General Permit Expiration Date:** January 28, 2025. It is not anticipated that construction activities will extend beyond the expiration date. However, if they do, the SWPPP must be updated in accordance with the new General Permit which may include submitting a new NOI package to the Department of Environmental Conservation for review.

L. **Contractor/Sub-Contractor List:** The General Contractor must provide names and addresses of all subcontractors working on this project who will be involved with the major construction activities that disturb site soil ("Sub-Contractor List"), see Appendix B. That information must be kept with this SWPPP.

M. The General Contractor and all subcontractors involved with the major construction activities that disturb site soil must sign a copy of the appropriate certification statement included in Appendix H. That information must be kept with this SWPPP.

N. **Inspections:** Regular inspections must be made to determine effectiveness of the SWPPP.

The required form is included as Appendix E. Upon award, the contractor must complete the Contractor's Inspector Delegation of Authority form. The completed form must be kept within Appendix E throughout construction.

The Superintendents shall also train all on-site subcontractors and contractor personnel periodically (i.e. once every two weeks). Formal training via universities and/or third party organizations are not required. This can be simply gathering everyone on-site for a quick "tailgate meeting" and discuss the General Permit and SWPPP requirements and importance of implementing and maintaining temporary BMPs provided on-site. The Superintendents must complete a separate Trained Contractor Personnel Log (see Appendix R) for each "tailgate meeting" and retain a completed copy within Appendix R.

The SWPPP, including the best management practices implemented on the jobsite, shall be modified as needed to reduce or prevent pollutants from discharging from the site. Modifications to BMPs that change a hydrologic design component (diversions, basins, etc.) must first be approved by the Owner and Engineer.

The inspector must be a person familiar with the site, the nature of the major construction activities, and qualified to evaluate both overall system performance and individual component performance. The inspector must either be someone empowered to implement BMPs in order to increase effectiveness to an acceptable level or someone with the authority to cause such things to happen.

The New York State SPDES Construction General Permit requires the Owner or Operator to have a Qualified Inspector conduct site inspections in conformance with the General Permit, Part IV, Inspection and Maintenance Requirements. The "Qualified Inspector" shall meet the requirements of the definition of "Qualified Inspector" as outlined in the General Permit. The "Trained Contractor" identified in the General Permit cannot conduct the "Qualified Inspector" site inspections unless they meet the qualifications of "Qualified Inspector" as outlined in the General Permit.

Inspection Frequency Reduction

A Qualified Inspector shall conduct site inspections for all construction activities as outlined in the General Permit.

Unless otherwise notified by the State of New York, the Qualified Inspector shall conduct site inspections in accordance with the following and the General Permit.

- Construction site where soil disturbance activities are on-going, at least once every seven (7) calendar days.
- Construction sites where soil disturbance activities are on-going and the Owner or Operator has received authorization in accordance with General Permit Part II.D.3 to disturb greater than five (5) acres of soil at any one time, and for sites that directly discharge to a 303(d) segment or is located in a watershed listed in the General Permit, conduct at least two (2) site inspections every sever (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

Inspection frequency may be reduced under the following conditions:

1) No active on-site construction activities and site is adequately temporarily stabilized.
2) Temporary cover has been provided across the entire site and no BMPs remain. Situation: waiting for grass to grow, but grass is dormant.
3) Runoff is unlikely due to winter conditions (e.g. site is covered with snow or ice) or due to extreme drought.

If the above conditions are met, the inspections could be reduced to once per 30 calendar days until thawing or precipitation results in runoff or construction activities resume.

Qualified Inspector shall prepare an inspection report subsequent to each and every inspection and at minimum the report shall include the items listed in the General Permit Part IV.C.4.

Within one business day of the completion of an inspection, the Qualified Inspector shall notify the Owner or Operator and Contractor of any corrective actions that need to be

taken. Contractor shall begin implementing corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

O. **Discharge of Petroleum Products and Hazardous Substances:** Discharge of oil or other hazardous substances into storm water or the storm water (storm sewer) system is subject to reporting and cleanup requirements. Refer to the General Permit for additional information. A Copy of the General Permit is included as Appendix I.

P. **Project Completion:** Once the site reaches final stabilization with all permanent erosion and sedimentation controls installed, all temporary erosion and sedimentation controls removed, the owner inspects and verifies final stabilization has been achieved at the site. The owner shall then sign the Notice of Termination (NOT) form and submit to **New York State Department of Environmental Conservation** within 30 days after final stabilization.

NOTE: Stabilization requirements include all areas covered by applicable permits, including out lots and utility easements. Authorization to discharge under this general permit terminates immediately upon removal of the applicable site notice. Compliance with the conditions and requirements of this permit is required until the site notice is removed.

Q. **Weekly Stormwater Meeting:** A weekly storm water meeting will be held by the General Contractor with all contractors and subcontractors involved in ground-disturbing activities to review the requirements of the Permits, the SWPPP, and address any problems that have arisen in implementing the SWPPP or maintaining the BMPs. Contractor shall maintain a log of all weekly meetings and document the issues addressed in the meetings. The weekly meeting form is found in Appendix N and must be completely filled out each week.

R. **General Contractors Responsibility:** This SWPPP intends to control water-borne and liquid pollutant discharges by some combination of interception, sedimentation, filtration, and containment. The General Contractor and subcontractors implementing this SWPPP must remain alert to the need to periodically refine and update the SWPPP in order to accomplish the intended goals. The General Contractor is ultimately responsible for all site conditions and permit compliance.

S. **SWPPP Updates and Amendments:** The General Contractor must update the SWPPP and Site Maps daily to reflect the progress of construction activities and general changes to the project site. SWPPP contact and contractor information and the record of site stabilization activities log must be maintained by the General Contractor throughout the project.

BMPs that do not impact the hydraulic design of the site may be modified or added by the General Contractor, and site maps updated accordingly, as needs arise. Examples of BMPs that do not typically impact the hydraulic design of the site include silt fence, silt dike, wattles, construction exit and various forms of temporary and permanent erosion controls (blankets, nets, seed, sod, etc.). Examples of BMPs that commonly impact hydraulic design include storm water basins, diversions, check dams, inlet protection or any product, process or system that changes the storm water flow path or storm water storage capacity of the site or is located in an area of concentrated flow.

The General Contractor must submit a request for information (RFI) to the Engineer and obtain written approval from the Engineer before modifying or adding sediment controls that may impact the hydraulic design of the site.

In accordance with New York State SPDES General Permit, the SWPPP must be amended or updated at a minimum whenever the:

- Design, operation, or maintenance of BMPs is changed;
- Design of the construction project is changed that could significantly affect the quality if the stormwater discharges;
- Permittee's inspections indicate deficiencies in the SWPPP or any BMP;
- Department notifies the permittee in writing of deficiencies in the SWPPP;
- SWPPP is determined to be ineffective in minimizing or controlling erosion and sedimentation (e.g. there is visual evidence of excessive site erosion or excessive sediment deposits in streams or lakes); and
- Department determines violations of water quality standards may occur or have occurred.

Any SWPPP or Site Map updates or amendments must be recorded in Appendix P.

T. **Log of Construction Activities:** A record of dates must be maintained when:

- major ground-disturbing activities including earthwork or grubbing occur;
- construction activities temporarily or permanently cease on a portion of the site;
- stabilization measures are initiated or completed; and
- BMPs are installed or permanently removed.

This log must be maintained until the project completion.

A Record of Stabilization and Construction Activity Dates (Stabilization) log for documenting such activities is included in Appendix G. The General Contractor shall complete, at a minimum, 1-page of Stabilization log entries for each month of active construction.

Controls must be in place down gradient of any ground-disturbing activities prior to the commencement of up gradient construction activities and noted on the Site Maps and the Stabilization log. Site Map and Stabilization log comments and entries must complement one another with greater detail provided in the Stabilization log as needed.

U. **Stormwater Team:** The following table encompasses the stormwater team for this project and their responsibilities of the SWPPP.

Position	Firm/Company	Name	Responsibility
Civil Engineer	CEI Engineering Associates, Inc.	Andrew Slyter, P.E. Senior Project Engineer	SWPPP Developer
Owner/Developer	The Broadway Group, LLC	Melissa Ballard Development Manager	Owner/Operator
General Contractor	TBD	TBD	Implement, Inspect,

			and Modify SWPPP
Sub-Contractor	TBD	TBD	Implement SWPPP
Sub-Contractor	TBD	TBD	Implement SWPPP
Sub-Contractor	TBD	TBD	Implement SWPPP
Sub-Contractor	TBD	TBD	Implement SWPPP
Sub-Contractor	TBD	TBD	Implement SWPPP

V. **Potential Construction Site Pollutants:** Construction phase pollutant sources anticipated at the site are disturbed (bare) soil, vehicle fuels and lubricants, chemicals and coatings associated with site or building construction and pavement installation, construction-generated litter and debris, and building materials, among several others, per Table 1. Without adequate control, there is potential for each type of pollutant to be transported by stormwater or wind. The purpose of this SWPPP is to prevent pollution of the ground, water or air from pollutants, including, but not limited to, those mentioned in this paragraph.

Table 1. Potential Construction Site Pollutants

Material/Chemical	Physical Description	Stormwater Pollutants	Location or related Construction Activity
Sediment	Various colored soil particles, turbid water (dissolved sediments)	Turbidity, suspended sediment, metals and nutrients attached to sediment particles	Clearing and grubbing operations, grading and site excavation operations, vehicle tracking, topsoil stripping and stockpiling, landscaping operations
Pesticides (insecticides, fungicides, herbicides, rodenticides)	Various colored to colorless liquid, powder, pellets, or grains	Chlorinated hydrocarbons, organophosphates, carbamates, arsenic	Herbicides used for noxious weed control
Fertilizer	Liquid or solid grains	Nitrogen, phosphorous	Newly seeded areas
Plaster	White granules or powder	Calcium sulphate, calcium carbonate, sulfuric acid	Wall construction
Cleaning solvents	Colorless, blue, or yellow-green liquid	Perchloroethylene, methylene chloride, trichloroethylene, petroleum distillates	No equipment cleaning allowed in project limits
Asphalt	Black solid	Oil, petroleum distillates	Streets and roofing
Concrete	White solid/grey liquid	Limestone, sand, pH, chromium	Curb and gutter, building construction
Glue, adhesives	White or yellow liquid	Polymers, epoxies	General construction
Paints	Various colored liquid	Metal oxides, stoddard solvent, talc, calcium carbonate, arsenic	General construction
Curing compounds	Creamy white liquid	Naphtha	Curb and gutter

Wood preservatives	Clear amber or dark brown liquid	Stoddard solvent, petroleum distillates, arsenic, copper, chromium	General construction
Hydraulic oil/fluids	Brown oily petroleum hydrocarbon	Mineral oil	Leaks or broken hoses from equipment
Gasoline	Colorless, pale brown or pink petroleum hydrocarbon	Benzene, ethyl benzene, toluene, xylene, MTBE	Secondary containment/staging area, vehicle leaks
Diesel Fuel	Clear, blue-green to yellow liquid	Petroleum distillate, oil & grease, naphthalene, xylenes	Secondary containment/staging area, vehicle leaks
Kerosene	Pale yellow liquid petroleum hydrocarbon	Coal oil, petroleum distillates	Secondary containment/staging area

Note: Additional materials maybe present at the construction site that may be a source of pollution, the contractor shall follow all manufacturer specifications for storage and handling.

I. INTRODUCTION

This SWPPP has been prepared for major activities associated with construction of:

The Broadway Group, LLC – Gowanda, New York

This SWPPP, including the applicable General Permit, includes the elements necessary to comply with the national General Permit for construction activities administered by the U.S. Environmental Protection Agency (EPA) under the New York State Pollution Discharge Elimination System (SPDES) program and all local governing agency requirements. This SWPPP must be implemented at the start of construction.

Construction phase pollutant sources anticipated at the site are disturbed (bare) soil, vehicle fuels and lubricants, chemicals and coatings associated with site or building construction and pavement installation, construction-generated litter and debris, and building materials, see Table 1 above. Without adequate control there is a potential for each type of pollutant to be transported by storm water.

Project construction will consist primarily a new 9,026 square foot retail building with bituminous parking lot, concrete sidewalks and stormwater improvements.

A. Purpose

A major goal of pollution prevention efforts during project construction is to control soil and pollutants that originate on the site and prevent them from flowing to surface waters. The purpose of this SWPPP is to provide guidelines for achieving that goal. A successful pollution prevention program also relies upon careful inspection and adjustments during the construction process in order to enhance its effectiveness.

B. Scope

This SWPPP must be implemented before construction begins on the site. It primarily addresses the impact of storm rainfall and runoff on areas of the ground surface disturbed during the construction process. In addition, there are recommendations for controlling other sources of pollution that could accompany the major construction activities. This SWPPP will terminate when disturbed areas are stabilized, permanent erosion and

sedimentation controls installed, temporary erosion and sedimentation controls removed, construction activities covered herein have ceased, and a completed Notice of Termination (NOT) is mailed to the governing agency.

Forms which are necessary for implementing the SWPPP are included herein.

The New York State SPDES General Permit for Storm Water Discharges Associated with Construction Activities prohibits most non-storm water discharges during the construction phase. Allowable non-storm water discharges that could occur during construction on this project, which would therefore be covered by the General Permit, Part 1.E, include:

1. Discharges from firefighting activities, fire hydrant flushings
2. Water only (i.e. without detergents or additives) rinsing of streets and buildings; and to control dust in accordance with the SWPPP
3. Uncontaminated groundwater or spring water
4. Pavement wash water where spills or leaks of toxic or hazardous materials have not occurred

Best Management Practices must be implemented for the above allowable foreseeable discharges for the duration of the permit. Each non-storm water discharge should be noted in the SWPPP and weekly inspection with the exception of discharges from firefighting activities.

The techniques described in this SWPPP focus on providing control of pollutant discharges with practical approaches that utilize readily available expertise, materials, and equipment.

The Owner referred to in this SWPPP is:

The Broadway Group, LLC
216 Westside Square
Huntsville, AL 35801
Phone: (256)-533-7287

The General Contractor shall construct the site development improvements while working under contract with the Owner.

II. PROJECT DESCRIPTION

Described below are the major construction activities that are the subject of this SWPPP. They are presented in the order (or sequence) they are expected to begin, but each activity will not necessarily be completed before the next begins. Also, these activities could occur in a different order if necessary to maintain adequate erosion and sedimentation control.

All activities and the timeframe (beginning and ending dates) shall be noted on the Site Map and the "Record of Stabilization and Construction Activity Dates" form found in Appendix G.

Sequence of Construction:

1. Construct stabilized construction entrance.

2. Construct the silt fences on the site.
3. Prepare temporary parking and storage area.
4. Clear and grub the site.
5. Begin grading the site and construct the bioretention pond.
6. Start construction of building pad and structures.
7. Protect the bioretention pond from compaction.
8. Temporarily seed denuded area.
9. Install utilities and underdrains.
10. Prepare site for paving
11. Pave site.
12. Complete Grading and install permanent sod and planting.
13. Remove all temporary erosion and sediment control devices (only if site is stabilized).

The actual schedule for implementing pollutant control measures will be determined by project construction progress. Down slope protective measures must always be in place before soil is disturbed.

Construction is anticipated to start on 04/01/2021 and be completed on 08/01/2021.

III. SITE DESCRIPTION

Included as part of this SWPPP is the Erosion Control Plan for the proposed distribution center expansion.

A. Site Location - This site is located at the Buffalo street, Gowanda, NY. The site is located at Latitude 42°28'15" N and Longitude 78°56'09" W. A Vicinity Map is included in Appendix C. The site is bordered by State Route 62 to the east, Bader Avenue to the south and private properties to the north and west. The site is currently two lots occupied by residential homes.

B. Site Soils – Site soil consist of Chenango gravelly loam, which is primarily hydrologic soil group A as depicted in the Web Soil Survey. For additional information on the site soils, see Appendix K. A Geotechnical Investigation Report was prepared for the site by Terracon and is included in Appendix K.

Total Area and Disturbed Area - The entire site is 1.28+/- acres and the total area to be disturbed during this development is anticipated to be approximately 1.23+/- acres. The runoff Curve Number of the site before construction is 53 and after construction is completed will be 83.

C. Post Construction Stormwater Management – Post Construction Stormwater Management is proposed for this project. Specifically, bioretention and detention ponds are proposed. The ponds have been designed to meet the performance criteria in the New York State Stormwater

Management Design Manual. The locations, dimensions and details of the ponds are indicated on the Construction Drawings. The contractor shall protect the ponds from sedimentation during construction. A Stormwater Modeling and Analysis Report is included in Appendix U and a Geotechnical Investigation Report including Infiltration Testing is included in Appendix K.

D. Quality of Receiving Surface Waters and Wetlands – The site discharges into via surface drainage that ultimately leads to Cattaraugus Creek. A USGS Map is included in Appendix C. Receiving water for the site is Cattaraugus Creek and is not listed on the 303d list for impaired waters for Erie County. The property is located in Zone X per FIRM Panel Map #36029C0756H, effective June 7, 2019. No wetlands are present on the site.

E. Threatened and Endangered Species and Historical Properties – Based on site visits and aerial photographs of the site, no threatened/endangered species and historical properties are anticipated to be impacted during construction as this site is a currently located within an urban environment. Any wildlife is not to be adversely affected or harmed during construction under any circumstances.

F. Erosion and Sedimentation Control Plan - An Erosion Control plan is included as part of this Storm Water Pollution Prevention Plan. Refer to Erosion Control plan for detailed site map (or maps) indicating the following:

1) Direction(s) of stormwater flow and approximate slopes anticipated after grading activities;
2) Areas of soil disturbance and areas that will not be disturbed (or a statement that all areas of the site will be disturbed unless otherwise noted);
3) Location of major structural and non-structural BMPs identified in the SWPPP;
4) Locations where stabilization practices are expected to occur;
5) Locations of off-site material, waste, borrow or equipment storage areas;
6) Locations of all waters of the United States (including wetlands);
7) Locations where stormwater discharges to a surface water; and
8) Areas where final stabilization has been accomplished and no further construction-phase permit requirements apply.

IV. STORM WATER POLLUTION PREVENTION MEASURES AND CONTROLS

A variety of storm water pollutant controls are recommended for this project. Some controls are intended to function temporarily and will be used as needed for pollutant control during the construction period. These include temporary sediment barriers and permanent storm retention ponds (which can also function as permanent sediment basins). For most disturbed areas, permanent stabilization will be accomplished by covering the soil with pavement, building, or vegetation.

A. Erosion and Sediment Controls

1. Minimization of Disturbed Areas - Note to General Contractor: Owner has authority to limit surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and embankment operations and to direct General Contractor to provide immediate permanent or temporary pollution control measures

2. Soil Stabilization - The purpose of soil stabilization is to prevent soil from leaving the site. In the natural condition, soil is stabilized by native vegetation. The primary

technique to be used at this project for stabilizing site soil will be to provide a protective cover of turf grass, pavement, or building.

a) Temporary Seeding or Stabilization - Must initiate stabilization measures immediately, but no more than 14 days after construction activity ceases on any particular area, all disturbed ground where there will not be construction for longer than 14 days must be seeded with fast-germinating temporary seed and protected with mulch. Stockpiles and diversion ditches/berms must be stabilized to prevent erosion and dust issues.

   The General Permit defines immediately as the following: As soon as practicable, but no later than the end of the next work day, following the day when earth-disturbing activities have temporarily or permanently ceased.

   Note to General Contractor: Temporary stabilization is not achieved simply through seeding. In order for an area or stockpile to be sufficiently stabilized via temporary vegetation, seed must germinate, grow and provide adequate vegetative density.

b) Permanent Seeding - All areas at final grade must be seeded or sodded immediately, but no more than 14 days after completion of the major construction activity. Except for small level spots, seeded areas should generally be protected with mulch. Seed immediately after final grade is achieved and soils are prepared to take advantage of soil moisture and seed germination. At the completion of ground-disturbing activities the entire site must have permanent vegetative cover, meeting vegetative density requirements, or mulch per landscape plan, in all areas not covered by hardscape (pavement, buildings, etc.).

   Except for small (<100 sq.ft.) level spots, seeded areas should be protected with mulch, tackifier or a rolled erosion control product. Mulch must be crimped by disc or other machinery.

   To minimize the potential for erosion and maximize seed germination & growth, the General Contractor must evaluate the short and long-term local forecast prior to applying permanent seed or sod.

   The General Permit defines immediately as the following: As soon as practicable, but no later than the end of the next work day, following the day when earth-disturbing activities have temporarily or permanently ceased.

c) Slope stabilization – If a disturbed slope is greater than 3:1 or 3% for greater than 150 feet, than the slopes must be seeded or sodded immediately, but no more than 7 days after completion of the major construction activity. Seed immediately after final grade is achieved and soils are prepared to take advantage of soil moisture and seed germination. At the completion of ground-disturbing activities the entire site must have permanent vegetative cover, meeting vegetative density requirements, or mulch per landscape plan, in all areas not covered by hardscape (pavement, buildings, etc.).

c) Final site stabilization is achieved when perennial vegetative cover provides permanent stabilization with a density greater than **70 percent** over the entire area to be stabilized by vegetative cover. This area is exclusive of areas that are covered with rock (crushed granite, gravel, etc.) or landscape mulch, paved or have a building or other permanent structure on them.

3. Structural Controls – These controls include stabilization measures to be used for controlling erosion from disturbed areas and structural controls to divert runoff and remove sediment. Erosion and sediment controls are implemented during the construction period to prevent and/or control the loss of soil from the construction site into the receiving waters. Refer to the Erosion Control Plan for the locations and details of Erosion Control Measures. The following is a brief description of appropriate erosion control measures.

   a) Sediment Basin **(This control is not specified at this time)** – Sediment basins are required, where feasible for common drainage locations that serve an area with five (5) or more acres disturbed at one time, a temporary (or permanent) sediment basin that provides storage for a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained, or equivalent control measures, shall be provided where attainable until final stabilization of the site. Where rainfall data is not available or a calculation cannot be performed, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage per acre drained is required where attainable until final stabilization of the site. When calculating the volume of runoff from a 2-year, 24-hour storm event, it is not required to include the flows from offsite areas and flow from onsite areas that are either undisturbed or have already undergone final stabilization, if these flows are diverted around both the disturbed areas of the site and the sediment basin. In determining whether installing a sediment basin is feasible, the permittee may consider factors such as site soils, slope, and available area on site, public safety, precipitation patterns, site geometry, site vegetation, infiltration capacity, geotechnical factors, depth to groundwater and other similar considerations. Where sediment basins are not feasible, equivalent control measures, which may include a series of smaller sediment basins, must be used. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction area.

   b) Sediment Traps **(This control is not specified at this time)** – Sediment Traps may also be used to control solids in storm water runoff for drainage locations serving less than five (5) acres. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction. Alternatively, a sediment trap that provides storage for a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained, or equivalent control measures, may be provided or where rainfall data is not available or a calculation cannot be performed, a temporary (or permanent)

sediment trap providing 3,600 cubic feet of storage per acre drained may be provided.

c) Rock Outlet Protection - Hand placed rip-rap pads shall be provided at discharge points in accordance with the Erosion Control Plan, see Erosion and Sedimentation Control Details. These rip-rap pads shall be placed as soon as practicable.

d) Silt Fence - Silt fence is a synthetic permeable woven or non-woven geotextile fabric incorporating metal support stakes at intervals sufficient to support the fence (5-feet maximum distance between posts), water, and sediment retained by the fence. The fence is designed to retain sediment-laden storm water and allow settlement of suspended soils before the storm water flows through the fabric and discharges off-site. Silt fence shall be located on the contour to capture overland, low-velocity sheet flows and is typically installed with a wire fence backing for additional support. Wire fence backing is required unless the silt fence is installed using the slicing method as the slicing method ensures the silt fence fabric is anchored securely in the ground.

Install silt fence at a fairly level grade along the contour with the ends curved uphill to provide sufficient upstream storage volume for the anticipated runoff. Drainage areas shall not exceed ½ acre per 100 feet of wire-reinforced silt fence for slopes less than 2 percent.

e) Check Dams **(This control is not specified at this time)** - Defined channels subject to concentrated flows in larger quantities and higher velocities may be protected with rock or other manufactured device (Geo-ridge for example) that can be used as a check dam. The dams impound sediment-laden water and allow for settlement of suspended soil before the storm water flows over and through the device. Dams shall be placed along the water course at linear intervals in which the elevation of the bottom of the upper most check dam is at the same elevation as the top of the check dam immediately below it. This will allow the most ponding capacity and will not increase the velocity of the water flowing along the channel.

Location and spacing of check dams are shown on the Site Maps. Check dams are composed of crushed stone or rip rap or of other manufactured devices. See the detail sheet within the Construction Drawings for the types of dams to be used on this site.

f) Diversion Ditch/Berm **(This control is not specified at this time)** - Diversion ditches (swales) and berms (dikes) are constructed as shown on the Site Maps at locations within the construction site to intercept overland flow and direct or divert flow to a sediment basin or other point where discharge can be controlled. Ditches are excavated in the surface soils with the spoils from the excavation typically placed along the downstream edge of the ditch to provide additional capacity. Berms are built up on the surface soils and compacted to create a stable diversion.

g) Erosion and Sedimentation Control Plan - Structural control locations are

illustrated in the Erosion and Sedimentation Control Plan. Structural controls that will be used during construction activities include: silt fence, rock check dams, stabilized construction entrance, rock outlet protection and inlet protection.

h) Earth stockpiles - Filter fabric fences or other appropriate sediment barrier around temporary earth stockpiles while they are in use.

i) Storm Drain Inlet Protection - Curb and grated inlets are protected from the intrusion of sediment through a variety of measures as shown on the details included in the Construction drawings. The primary mechanism is to place controls in the path of flow sufficient to slow the sediment-laden water to allow settlement of suspended soils before discharging into the storm sewer. It is possible that as construction progresses from storm sewer installation through to paving that the inlet protection devices will change.

Inlet Protection shall be installed at all existing and proposed storm water inlets in accordance with the Erosion Control Plan, see Erosion and Sedimentation Control Details. These inlet protection devices shall be implemented as soon as the proposed storm water inlets are constructed.

Note to General Contractor: All inlet protection devices create ponding of storm water that can result in flooding or by-pass conditions.

j) Trench excavation - Trench excavation spoils not immediately hauled off will be backfilled into the trenches in a continuous operation. Excavated material required for backfilling will be placed next to the trenches, but no closer than half the depth of the trench, for safety reasons.

Any dewatering of trenches and excavations are prohibited unless managed by an appropriate control. Appropriate controls include, but are not limited to: weir tank, dewatering tank, gravity bag filter, sand media particulate filter, pressurized bag filter, cartridge filter or other appropriate control.

k) Construction Exit – All access points from the public street into the construction site shall include a construction exit composed of course stone to the dimensions shown on the Construction Drawings detail sheet. The rough texture of the stone helps to remove clumps of soil adhering to the construction vehicle tires through the action of vibration and jarring over the rough surface and the friction of the stone matrix against soils attached to vehicle tires.

In addition to the stone at the construction exit, it may be necessary to install devices such as pipes (cattle guard) to increase the vibration and jarring. It may also be necessary to install a wheel wash system. If this is done, a sediment trap control must be installed to treat the wash water before it discharges from the site.

All site access must be confined to the construction exit(s). Barricade to prevent use, any locations other than the construction exit(s) where vehicles or equipment may access the site. Use jersey barriers,

construction fencing/drums, etc. near construction exit(s) to prevent traffic by-pass or short circuiting.

l) Silt Dike on Existing Pavement **(This control is not specified at this time)** – Silt dikes are used to temporary detain and filter the sediment-laden water. It shall be placed as shown on the SWPPP and shall be triangular-shaped, having a height of at least eight to ten inches (8"-10") in the center with equal sides and a sixteen- to twenty-inch (16"-20") base. The triangular-shaped inner material shall be urethane foam. The outer cover shall be a woven geotextile fabric placed around the inner material and allowed to extend beyond both sides of the triangle two to three (2'-3') feet. Adhesive material shall be used to in-place the silt dike on pavement area.

m) Straw Wattles **(This control is not specified at this time)** – Straw wattles are a tubular device of varying size that consist of synthetic permeable net typically placed on the pavement to allow water and sediment retained by the device. The device will need to be staked in order to prevent the device from washing away. The device is designed to retain sediment-laden water to allow settlement of suspended soils before filtering through the mesh fabric and straw for discharge downstream. Install wattles at a fairly level grade (along the contour) to provide sufficient upstream storage volume for the anticipated runoff and overlap adjoining section at a minimum of 12".

n) Silt Socks – Silt Socks are a tubular device of varying size that consist of synthetic permeable net typically placed on the pavement to allow water and sediment retained by the device. The device will need to be staked in order to prevent the device from washing away. The device is designed to retain sediment-laden water to allow settlement of suspended soils before filtering through the mesh fabric and mulch for discharge downstream. Install wattles at a fairly level grade (along the contour) to provide sufficient upstream storage volume for the anticipated runoff and overlap adjoining section at a minimum of 12".

o) Big Reds – Big Reds are a tubular device of varying size that consist of synthetic permeable mesh fabric typically placed on the pavement to allow water and sediment retained by the device. The device is heavy enough to retain back concentrated flows, like at inlet structures. The device is designed to retain sediment-laden water to allow settlement of suspended soils before filtering through the mesh fabric and recycled rubber tire media for discharge downstream. Install Big Reds at a fairly level grade (along the contour) to provide sufficient upstream storage volume for the anticipated runoff and overlap adjoining section at a minimum of 12".

p) Erosion Eels – Erosion Eels are a tubular device of varying size that consist of synthetic permeable mesh fabric typically placed on the pavement to allow water and sediment retained by the device. The device is heavy enough to retain back concentrated flows, like at inlet structures. The device is designed to retain sediment-laden water to allow settlement of suspended soils before filtering through the mesh fabric and recycled rubber tire media for discharge downstream. Install Erosion Eels at a fairly level grade (along the contour) to provide sufficient upstream storage volume for

the anticipated runoff and overlap adjoining section at a minimum of 12".

q) ScourStop Outlet Protection **(This control is not specified at this time)** - Hand placed ScourStop pads shall be provided at discharge points in accordance with the Erosion Control Plan, see Erosion and Sedimentation Control Details. These pads shall be placed as soon as practicable after stabilization has been placed. The pads must be anchored in accordance with manufacturer specifications.

B. Other Pollutant Controls

Control of sediments has been described previously. Other aspects of this SWPPP are listed below:

1. **Dust Control**

Construction traffic must enter and exit the site at the stabilized construction exit. The purpose is to trap dust and mud that would otherwise be carried off-site by construction traffic. Large areas of soil that are denuded of vegetation and have no protection from particles being picked up and carried by wind should be protected with a temporary cover or kept under control with water or other soil adhering products to limit wind transported particles exiting the site perimeter.

Water trucks or other dust control agents will be used as needed during construction to minimize dust generated on the site. Tackifiers may be used to hold soil in place and prevent dust. Manufacturer recommendations for application locations and rates must be used for dust control applications. Dust control must be provided by the General Contractor to a degree that is in compliance with applicable local and state dust control regulations.

2. **Dewatering**

Verify discharges from dewatering activities are allowed non-storm water discharges under the General Permit. Obtain a dewatering permit according to state and local regulations, if discharges from dewatering activities are not allowed under the General Permit. Discharges from dewatering operations must be directed through an appropriate pollution prevention/treatment measure, such as a pump discharge filter bag, sediment trap or sediment basin prior to being discharged from the site or into a water body of the State. Under no circumstances are discharges from dewatering operations to be discharged directly into streams, rivers, lakes or other areas off-site. Likewise, discharges into storm sewer systems that do not drain to a suitable on-site treatment facility, such as a basin, are also prohibited. Discharges from dewatering operations must also be conducted in a manner sufficient to prevent erosion from the discharge runoff.

Use best management practices when dewatering. Place intake hose on a flotation or similar device and do not pump directly from the bottom of the basin, trench, etc. Always pump through a sediment control BMP and dewater within the permitted limits of disturbance to ensure discharge criteria are achieved. Do not discharge on a slope greater than three percent or within 20' of a surface water body. Dewatering should not occur during or immediately after precipitation events, but exceptions will be evaluated on case by case basis.

3. **Solid Waste Disposal**
   No solid materials, including building materials, are allowed to be discharged from the site with storm water. All solid waste, including disposable materials incidental to the major construction activities, must be collected and placed in containers. The containers will be emptied as necessary by a contract trash disposal service and hauled away from the site. Covers for the containers will be provided as necessary to meet state and local requirements. Construct covers as practicable, or required, to prevent storm water contact and pollutant discharges from solid waste receptacles. The location of solid waste receptacles shall be shown on the Site Maps.

   Substances that have the potential for polluting surface and/or groundwater must be controlled by whatever means necessary in order to ensure that they do not discharge from the site. As an example, special care must be exercised during equipment fueling and servicing operations. If a spill occurs, it must be contained and disposed of so that it will not flow from the site or enter groundwater, even if this requires removal, treatment, and disposal of soil. In this regard, potentially polluting substances should be handled in a manner consistent with the impact they represent.

4. **Sanitary Facilities**
   All personnel involved with construction activities must comply with state and local sanitary or septic system regulations. Temporary sanitary facilities will be provided at the site throughout the construction phase. They must be utilized by all construction personnel and will be serviced by a commercial operator. The location of sanitary facilities shall be shown on the Erosion and Sedimentation Control Plan ("Site Map"). Portable toilets must be securely anchored and are not allowed within 30' of inlets or permitted limit of disturbance or within 50' of a water of the State.

5. **Non-Stormwater Discharges**
   Non-storm water components of site discharge must be clean water. Water used for construction which discharges from the site must originate from a public water supply or private well approved by the State Health Department. Water used for construction that does not originate from an approved public supply must not discharge from the site. It can be retained in the ponds until it infiltrates and evaporates. Other non-storm water discharges would include ground water. Only uncontaminated ground water can be discharged from the site, as allowed by and in accordance with applicable local ground water dewatering permits/regulations. When non-storm water is discharged from the site, it must be done in a manner such that it does not cause erosion of the soil during discharge.

   Process water such as power washing and concrete cutting must be collected for treatment and disposal. It is not to be flushed into the site storm drain system.

6. **Concrete Waste from Concrete Ready-Mix Trucks**
   Discharge of excess or waste concrete and/or wash water from concrete trucks will be allowed on the construction site, but only in specifically designated diked areas that have been prepared to prevent contact between the concrete and/or wash water and storm water that will be discharged from the site or in locations where waste concrete can be placed into forms to make riprap or other useful concrete products. The cured residue from the concrete washout diked areas shall be disposed in accordance with applicable state and federal regulations. The jobsite superintendent is responsible for

assuring that these procedures are followed. The location of concrete washout areas shall be shown on the Erosion and Sedimentation Plan ("Site Map"). Follow all applicable environmental regulations for concrete wash out pits.

7. **Masonry Area**
   Contractor shall identify masons' area on the site and indicate location on the Site Map. To the extent practical, all masonry tools, material, including sand and sacked cement or mortar materials, and equipment shall be located within the area identified. Runoff control, such as berms or diversion ditches, silt fence, straw wattles, or other means of containment shall be provided to prevent the migration of storm water pollutants in runoff from the masons' area. Receptacles for debris and trash disposal shall also be provided.

8. **Fuel Tanks**
   Temporary on-site fuel tanks for construction vehicles shall meet all state and federal regulations. Tanks shall have approved spill containment with the capacity required by the applicable regulations. From NFPA 30: All tanks shall be provided with secondary containment (i.e. containment external to and separate from primary containment). Secondary containment shall be constructed of materials of sufficient thickness, density, and composition so as not to be structurally weakened as a result of contact with the fuel stored and capable of containing discharged fuel for a period of time equal to or longer than the maximum anticipated time sufficient to allow recovery of discharged fuel. It shall be capable of containing 110% of the volume of the primary tank if a single tank is used, or in the case of multiple tanks, 150% of the largest tank or 10% of the aggregate, whichever is larger.

   The tanks shall be in sound condition free of rust or other damage which might compromise containment. Fuel storage areas will meet all TCEQ, EPA, OSHA and other regulatory requirements for signage, fire extinguisher, etc. Hoses, valves, fittings, caps, filler nozzles, and associated hardware shall be maintained in proper working condition at all times. The location of fuel tanks shall be shown on the Site Maps and shall be located to minimize exposure to weather and surface water drainage features.

   A Spill Prevention, Control and Countermeasure (SPCC) Plan must be developed if aboveground oil storage *capacity* at the construction site exceeds 1,320-gallons. Containers with a storage capacity of 55-gallons or less are not included when calculating site storage capacity. The General Contractor shall work with the CEC to develop and implement a SPCC Plan in accordance with the Oil Pollution Prevention regulation at Title 40 of the Code of Federal Regulations, Part 112, (40 CFR 112).

9. **Hazardous Material Management and Spill Reporting Plan**
   Any hazardous or potentially hazardous material that is brought onto the construction site will be handled properly in order to reduce the potential for storm water pollution. All materials used on this construction site will be properly stored, handled, dispensed and disposed of following all applicable label directions. Flammable and combustible liquids will be stored and handled according to 29 CFR 1926.152. Only approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids.

Material Safety Data Sheets (MSDS) information will be kept on site for any and all applicable materials.

In the event of an accidental spill, immediate action will be undertaken by the General Contractor to contain and remove the spilled material. All hazardous materials will be disposed of by the Contractor in the manner specified by federal, state and local regulations and by the manufacturer of such products. As soon as possible, the spill will be reported to the appropriate agencies. As required under the provisions of the Clean Water Act, any spill or discharge entering waters of the United States will be properly reported. The General Contractor will prepare a written record of any spill and associated clean-up activities of petroleum products or hazardous materials in excess of 1 gallon or reportable quantities, whichever is less. A spill report form is located in Appendix L. It is recommended that the contractor take photos to document spill clean-up measures and attach the photos to the Spill Report Form. All spill information must be transferred to the next inspection report and resolved as appropriate.

If the spill is greater than the applicable reportable quantity, the contractor must follow the information below.

Any release of hazardous substances in the amount equal to or in excess of the reportable quantity established under 40 CFR 117 or 40 CFR 302 which occurs during a 24 hour period:

a) The permittee is required to notify the National Response Center (NRC) (800-424-8802) and the NYS Spill Hotline (1-800-457-7362) as soon as permittee has knowledge of the discharge. Leaving messages on a department staff member voice-mail does not satisfy this reporting requirement;

b) Permittee shall record each reportable spill and make it available upon request. The department may also require the submittal of a written or electronic report detailing measures taken to clean up the spill within 5 days of the spill. The report must contain the type of material spilled, volume, date of spill, date of clean-up was completed, clean-up method, and final disposal method.

c) The SWPPP must be updated within 5 days of knowledge of the release: to provide a description of the release, the circumstances leading to the release, and the date of the release. This can be accomplished by including a copy of the written description of the release as described above in Item B.

In order to minimize the potential for a spill of petroleum product or hazardous materials to come in contact with storm water, the following steps will be implemented:

a) All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, additives for soil stabilization, concrete, curing compounds and additives, etc.) will be stored in a secure location, under cover, when not in use.
b) The minimum practical quantity of all such materials will be kept on the job site and scheduled for delivery as close to time of use as practical.

c) A spill control and containment kit (containing for example, absorbent material such as kitty litter or sawdust, acid neutralizing agent, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided on the construction site and location(s) shown on Site Maps.
d) All of the product in a container will be used before the container is disposed of. All such containers will be triple rinsed, with water prior to disposal. The rinse water used in these containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with storm water discharges.
e) All products will be stored in and used from the original container with the original product label.
f) All products will be used in strict compliance with instructions on the product label.
g) The disposal of excess or used products will be in strict compliance with instructions on the products label.

10. **Long-Term Pollutant Controls**
Storm water pollutant control measures installed during construction, that will also provide benefits after construction, include grass lined channels, and storm sewer system. Those sediment barriers that do not interfere with normal operations and appear to provide long-term benefits can be left in place after construction is completed.

C. Construction Phase "Best Management Practices"

Owner has authority to limit surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and embankment operations and to direct the General Contractor to provide immediate permanent or temporary pollution control measures.

During the construction phase, the General Contractor shall implement the following measures:

1. Materials resulting from the clearing and grubbing or excavation operations shall be stockpiled up slope from adequate sedimentation controls. Materials removed to an off-site location shall be protected with appropriate controls and properly permitted.

2. The General Contractor shall designate areas for equipment cleaning, maintenance, and repair. The General Contractor and subcontractors shall utilize such designated areas. Cleaning, maintenance, and repair areas shall be protected by a temporary perimeter berm, shall not occur within 150 feet of any waterway, water body or wetland, and in areas located as far as practical from storm sewer inlets.

3. Use of detergents for large scale washing is prohibited (i.e., vehicles, buildings, pavement surfaces, etc.)

4. Chemicals, paints, solvents, fertilizers, and other toxic materials must be stored in weatherproof containers. Except during application, the contents must be kept in trucks or within storage facilities. Runoff containing such material must be collected, removed from the site, treated, and disposed at an approved solid waste or chemical disposal facility.

V. LOCAL PLANS

To the best knowledge of all parties involved with the implementation of this SWPPP, all measures and considerations specified in this plan meet the requirements of SPDES General Permit, and Village of Gowanda and Erie County.

In addition to this SWPPP, construction activities associated with this project must comply with any guidelines set forth by local regulatory agencies. The General Contractor shall maintain documents evidencing such compliance the SWPPP.

VI. INSPECTIONS AND SYSTEM MAINTENANCE

Between the time this SWPPP is implemented and final Notice of Termination has been submitted, all disturbed areas and pollutant controls must be inspected at least once every seven calendar days or within 48 hours of the end of a 2-year, 24-hour storm event by a Qualified Person. Areas that have been finally stabilized must be inspected at least once per month. A Qualified Person is defined as a person knowledgeable in the principles and practice of erosion and sediment controls and pollution prevention, who possesses the skills to assess conditions at the construction site that could impact stormwater quality, and the skills to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of the General Permit. The purpose of site inspections is to assess performance of pollutant controls. The inspections will be conducted by the General Contractor's Storm Water Coordinator. Based on these inspections, the General Contractor will decide whether it is necessary to modify this SWPPP, add or relocate controls, or revise or implement additional Best Management Practices in order to prevent pollutants from leaving the site via storm water runoff. The General Contractor has the duty to cause pollutant control measures to be repaired, modified, maintained, supplemented, or take additional steps as necessary in order to achieve effective pollutant control.

Examples of specific items to evaluate during site inspections are listed below. This list is not intended to be comprehensive. During each inspection, the inspector must evaluate overall pollutant control system performance as well as particular details of individual system components. Additional factors should be considered as appropriate to the circumstances.

A. Construction Exit and Track Out

Locations where vehicles enter and exit the site must be inspected for evidence of off-site sediment tracking. A stabilized construction exit shall be constructed where vehicles enter and exit. Exits shall be maintained or supplemented with additional rock as necessary to prevent the release of sediment from vehicles leaving the site. Any sediment deposited on the roadway shall be swept as necessary throughout the day or at the end of every day and disposed of in an appropriate manner. Sediment shall **NOT** be washed into storm sewer systems.

B. Erosion Control Devices

Rolled erosion control products (nets, blankets, turf reinforcement mats) and marginally vegetated areas (areas not meeting required vegetative densities for final stabilization) must be inspected daily. Rilling, rutting and other signs of erosion indicate the erosion control device is not functioning properly and additional erosion control devices are warranted.

C. Sediment Control Devices

Sediment barriers, traps and basins must be inspected and they must be cleaned out at such time as their original capacity has been reduced by 50 percent. All material excavated from behind sediment barriers or in traps and basins shall be incorporated into on-site soils or spread out on an upland portion of the site and stabilized. To minimize the potential for sediment releases from the project site perimeter control devices shall be inspected with consideration given to changing up-gradient conditions.

D. Material Storage Areas

Material storage areas should be located to minimize exposure to weather. Inspections shall evaluate disturbed areas and areas used for storing materials that are exposed to rainfall for evidence of, or the potential for, pollutants entering the drainage system or discharging from the site. If necessary, the materials must be covered or original covers must be repaired or supplemented. Also, protective berms must be constructed, if needed, in order to contain runoff from material storage areas. All state and local regulations pertaining to material storage areas will be adhered to.

E. Vegetation

Consideration must be given to anticipated climate and seasonal conditions when specifying and planting seed. Seed shall be free of weedy species and appropriate for site soils and regional climate. Seed and mulch immediately after topsoil is applied and final grade is reached. Grassed areas shall be inspected to confirm that a healthy stand of grass is maintained. The site has achieved final stabilization once all areas are covered with building foundation or pavement, or have a stand of grass with a minimum of 70 percent density or greater of natural background cover over the entire vegetated area in accordance with the General Permit requirements. Vegetated areas must be watered, fertilized, and reseeded as needed to achieve this requirement. The vegetative density must be maintained through project completion to be considered stabilized. Areas protected by erosion control blankets are not permanently stabilized until the applicable General Permit requirement for final vegetative density is achieved.

Rip-rap, mulch, gravel, decomposed granite or other equivalent permanent stabilization measures may be employed in lieu of vegetation based on site-specific conditions and governing authority approval.

F. Discharge Points

All discharge points must be inspected to determine whether erosion and sediment control measures are effective in preventing discharge of sediment from the site or impacts to receiving waters.

G. Off-site Sediment Accumulation

If sediment is released from the construction site, any off-site accumulation of sediment shall be removed at a frequency sufficient to minimize off-site impacts to adjacent properties and infrastructure. The General Permit does not give authority to trespass onto other properties, therefore, this condition should be carried out along with the permission of adjacent property owners to remove sediment.

The SWPPP must explain how the person responsible for erosion control will be notified when stormwater runoff occurs. If weather conditions prevent correction of BMPs within 7 days, the reasons for the delay must be documented (including pictures) and there must be a narrative explaining why the work cannot be accomplished within the 7 day time period. The documentation

must be filed with the regular inspection reports. The permittee shall correct the problem as soon as weather conditions allow.

The Inspection Report Form (Appendix E) must identify all deficiencies, any corrections, whether they are identified during the current inspection or have occurred since the previous inspection, and any additional comments. For inspections following a measureable storm event, report shall clearly note the rainfall total as measured in the on-site rain gauge. Based on inspection results, any modification necessary to increase effectiveness of this SWPPP to an acceptable level must be made within seven calendar days of the inspection. The inspection reports must be complete and additional remarks should be included if needed to fully describe a situation. An important aspect of the inspection report is the description of additional measures that need to be taken to enhance plan effectiveness. The inspection report must identify whether the site was in compliance with the SWPPP at the time of inspection and specifically identify all incidents of non-compliance. All inspection reports shall be made available to the inspecting authority within 48 hours of a request. In accordance with the New York State SPDES General Permit, the Inspection Report must include at a minimum the following:

- Name(s) and qualifications of personnel making the inspection;
- Date(s) of the inspection;
- Major observations relating to the implementation of the storm water pollution prevention plan;
- Actions taken or necessary to correct the observed problem; and
- Listing of areas where land disturbance operations have permanently or temporarily stopped.

Any items found during the inspection must be remedied and resolved within 7 days, before the next inspection or storm event, to maintain continued effectiveness of the BMPs. If periodic inspection indicate that a BMP has been used inappropriately, or incorrectly, the operator must address the necessary replacement or modification required to correct the BMP within 48 hours of identification. Any corrective actions taken because of inspections must be documented in Appendix O.

The contractor shall maintain a rain gauge on the construction site at all times. Readings shall be recorded in Appendix R daily and retained within the SWPPP at all times during construction.

A project Superintendent must walk the site with the regulatory inspector and document any deficiencies noted during the inspection. Deficiencies of any type, field or documentation-related, identified during the regulatory inspection must be noted on the inspection form as a deficiency and resolved within 24 or 48-hours as appropriate.

The Department may require sampling and reporting as a result of illegal discharges, compliance issues, complaint investigations, or other such evidence of contamination from activities at the site. If such an action is needed, the Department will specify in writing any sampling requirements, including such information as location, extent, and parameters.

A log of all inspections by Federal, State, or local storm water or other environmental agencies shall be kept in the General Contractor SWPPP Binder. The log form can be found in Appendix M and must include the date and time of the visit and whether a report was issued or will be issued as a result of the inspection.

A responsible corporate officer must sign a letter delegating the site superintendent as the authorized position for conducting the required inspections. A draft form of this authorization is included in Appendix C. Inspector's qualifications must be entered on the Inspection Report Form. Inspection reports must include an original, authorized signature and date of the inspection. Inspection reports

must be retained by the General Contractor as an integral part of this SWPPP for at least five years from the date of submission of the Notice of Termination of permit coverage.

Ultimately, it is the responsibility of the General Contractor to assure the adequacy of site pollutant discharge controls. Actual physical site conditions or contractor practices could make it necessary to install more structural controls than are shown on the plans. (For example, localized concentrations of runoff could make it necessary to install additional sediment barriers.) Assessing the need for additional controls and implementing them or adjusting existing controls will be a continuing aspect of this SWPPP until the site achieves final stabilization.

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APPENDIX "F" - NOTICE OF TERMINATION (NOT)

APPENDIX "G" - RECORD OF STABILIZATION AND CONSTRUCTION ACTIVITIES DATES

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APPENDIX "R" - SWPPP TRAINING LOG

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APPENDIX "T" - EROSION CONTROL PLAN & DETAILS

APPENDIX "U" – STORMWATER MANAGEMENT REPORT

APPENDIX “A”

CONTACT LIST

CONTACT LIST

Contacts for: **The Broad Way Group, LLC – Gowanda, NY** Date: _____

Responsible for conducting monthly inspections, conducting the final site inspection after verifying final stabilization and overseeing compliance with all applicable permits, the Clean Water Act, and the site SWPPP.

Responsible Contractor's Compliance Officer:

Name: _____

Company: _____

Phone: _____

Responsible for the supervision or completion of construction at a site and able to adequately identify and implement storm water sediment and erosion control practices and effectively instruct employees and contractors in the implementation of such practices.

Project Superintendent:

Name: _____

Company: _____

Phone (office): _____

Phone (mobile): _____

Responsible for SWPPP inspections at a site; is available 24-hours a day and can easily visit the site when needed in case of an emergency; able to adequately identify and implement storm water sediment and erosion control practices and effectively instruct employees and contractors in the implementation of such practices.

24-hour Emergency Contact:

Name: _____

Company: _____

Phone (office): _____

Phone (mobile): _____

Responsible for overseeing activities and work at a site; has the authority to direct employees and contractors to undertake actions to comply with all applicable permits, the Clean Water Act, and the site's SWPPP.

Construction Manager:

Name: _____

Company: _____

Phone (office): _____

Phone (mobile): _____

Note to General Contractors: Date this form each time contact information is added or updated. Do not erase information from this form. If information is incorrect or outdated, line through incorrect / outdated information and write in correct / new information. If contact information changes more than once create a new updated Contact List, date, and place on top of old Contact List in the SWPPP Binder.

APPENDIX “B”

CONTRACTOR/SUB-CONTRACTOR LIST

The Broad Way Group, LLC – Gowanda, NY

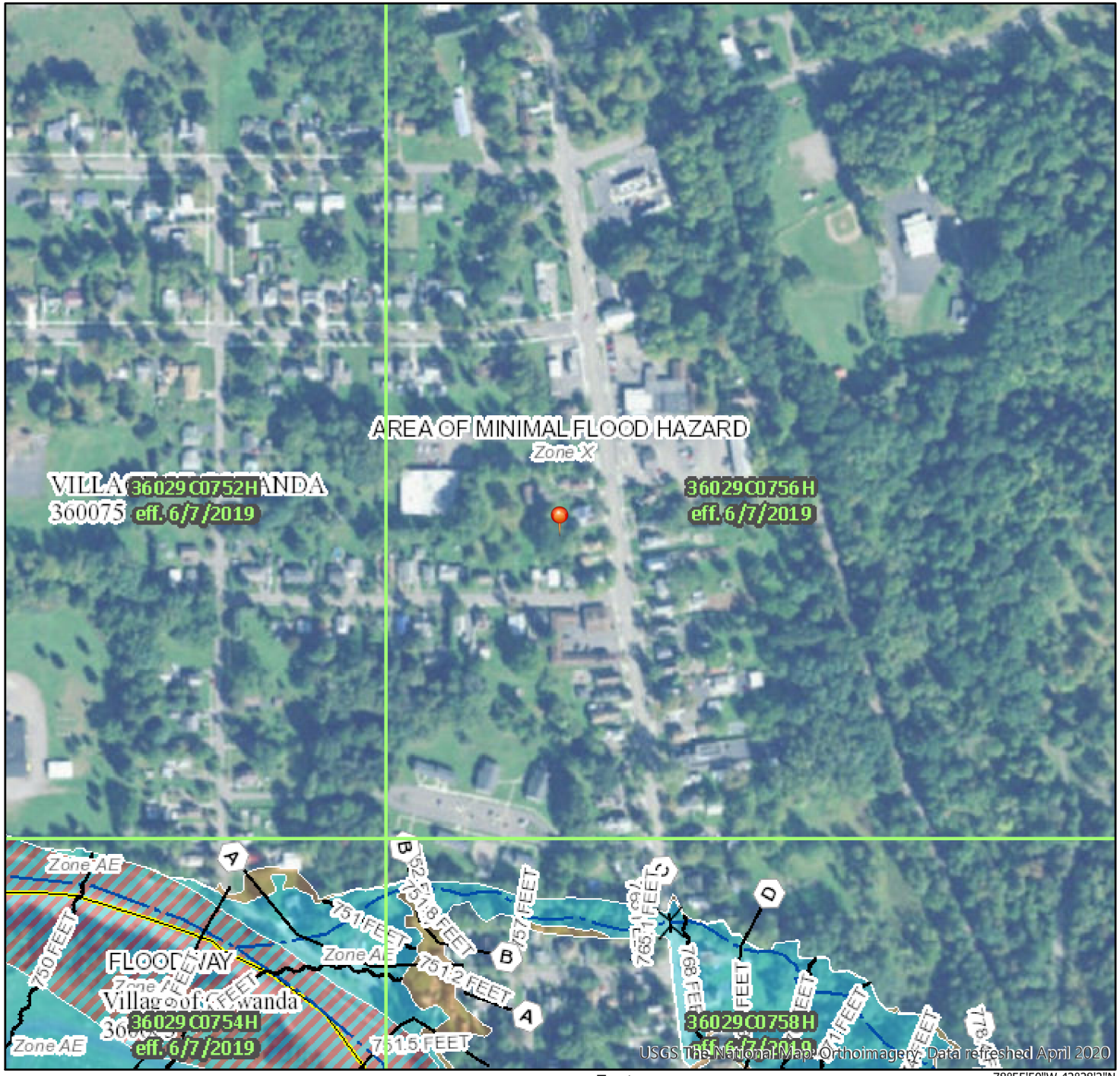
Company/Firm	Name	Address	Phone Number	Responsibility/Trade

APPENDIX “C”

MAPS

National Flood Hazard Layer FIRMette

78°56'28"W 42°28'28"N



78°55'50"W 42°28'2"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

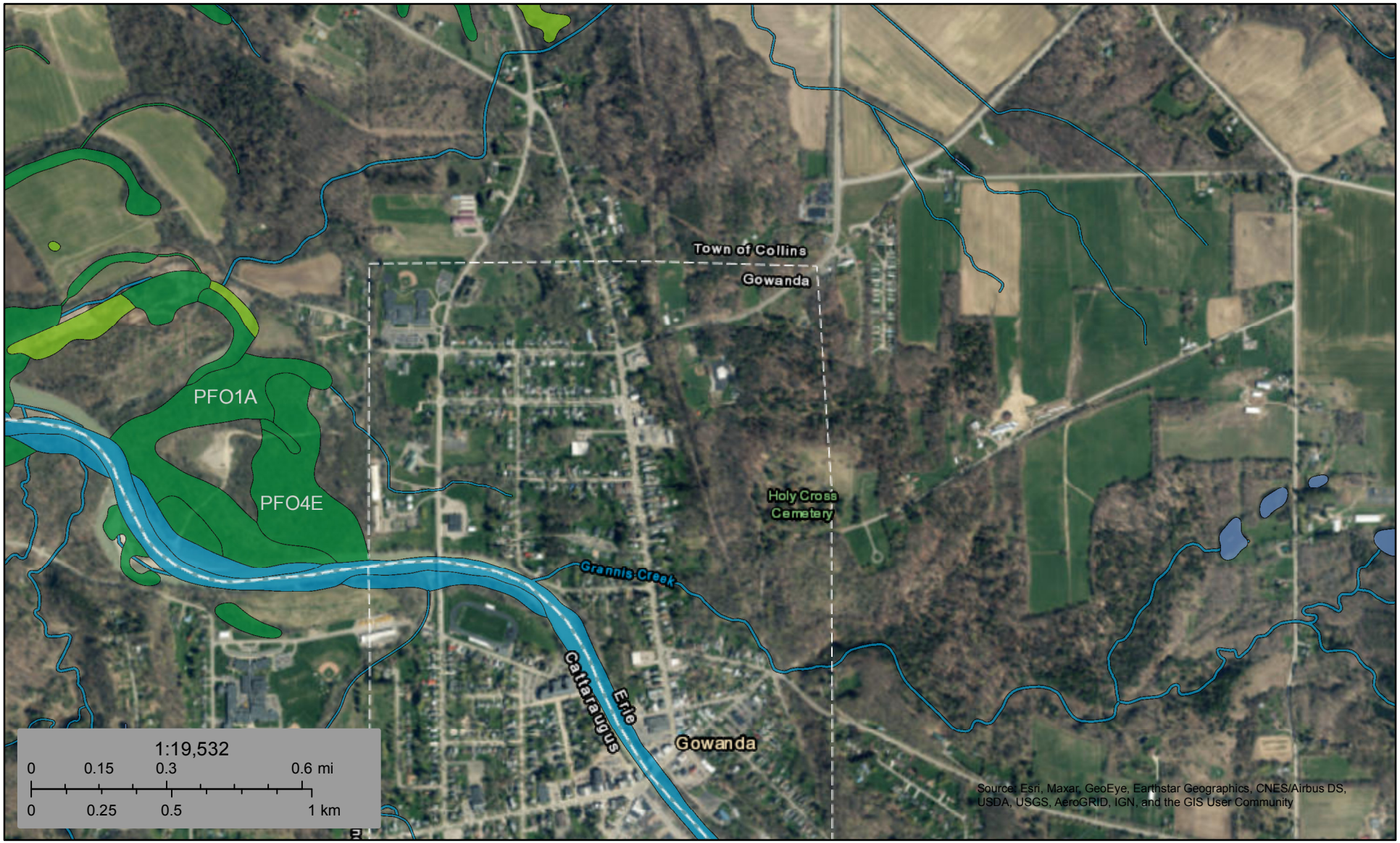
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/17/2020 at 10:35 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

U.S. Fish and Wildlife Service

National Wetlands Inventory

240 & 248 Buffalo Street



June 18, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

248 Buffalo St.
cription for your map.

Legend
240 Buffalo St
Elkdash Refuge
Feature 1
Feature 2
Feature 3
Feature 4
First Baptist C
Gowanda Fire
Gowanda Mid
Mendenhall Gl
Tri County Dev

438
505
Baggad Rd
Allen Street Extension
Allen St
Sand Hill Rd
Sandhill Rd
Careline Rd
Cemetery Rd
240 Buffalo St
Bader Ave
Seneca St
503A
Aldrich St
84
Union St
Panther Dr
N Water St
62
Perry St
Buffalo St
74
Earth

APPENDIX “D”

NOTICE OF INTENT (NOI)

Table of Contents

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Project Details 3
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NOI for coverage under Stormwater General Permit for Construction Activity

version 1.23

(Submission #: HP0-KJ7C-1VVG4, version 2)

Details

Submitted	7/15/2020 (0 days ago) by Ivan Jankun
Alternate ID	Broadway Group Retail
Submission ID	HP0-KJ7C-1VVG4
Submission Reason	New
Status	Deemed Complete
Active Steps	Under Review

Form Input

Owner/Operator Information

Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)
The Broadway Group, LLC

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
Ballard

Owner/Operator Contact Person First Name
Melissa

Owner/Operator Mailing Address
216 Westside Square

City
Huntsville

State
Alabama

Zip
35801

Phone
256-533-7287

Email
melissa.ballard@broadwaygroup.net

Federal Tax ID
20-4995213

Project Location

Project/Site Name
Broadway Group Retail

Street Address (Not P.O. Box)
240 & 248 Buffalo Street

Side of Street
West

City/Town/Village (THAT ISSUES BUILDING PERMIT)
Gowanda

State
NY

Zip
14070

County
ERIE

DEC Region
9

Name of Nearest Cross Street
Bader Avenue

Distance to Nearest Cross Street (Feet)
100

Project In Relation to Cross Street
North

Tax Map Numbers Section-Block-Parcel
349.11-3-25

Tax Map Numbers
349.11-3-26

1. Coordinates

Provide the Geographic Coordinates for the project site. The two methods are:
- Navigate to the project location on the map (below) and click to place a marker and obtain the XY coordinates.
- The "Find Me" button will provide the lat/long for the person filling out this form. Then pan the map to the correct location and click the map to place a marker and obtain the XY coordinates.

Navigate to your location and click on the map to get the X,Y coordinates
42.47096730000001,-78.9356968

Project Details

2. What is the nature of this project?
Redevelopment with increase in impervious area

3. Select the predominant land use for both pre and post development conditions.

Pre-Development Existing Landuse
Single Family Home

Post-Development Future Land Use
Commercial

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area.

*** ROUND TO THE NEAREST TENTH OF AN ACRE. ***

Total Site Area (acres)
1.28

Total Area to be Disturbed (acres)
1.23

Existing Impervious Area to be Disturbed (acres)
0.12

Future Impervious Area Within Disturbed Area (acres)
0.73

5. Do you plan to disturb more than 5 acres of soil at any one time?
No

---

6. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.

A (%)
100

B (%)
0

C (%)
0

D (%)
0

7. Is this a phased project?
No

8. Enter the planned start and end dates of the disturbance activities.

Start Date
4/1/2021

End Date
8/1/2021

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
Cattaraugus Creek

9a. Type of waterbody identified in question 9?
Stream/Creek Off Site

Other Waterbody Type Off Site Description
NONE PROVIDED

10. Has the surface waterbody(ies in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001?
No

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001?
No

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters?
No

If No, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey?
NONE PROVIDED

If Yes, what is the acreage to be disturbed?
NONE PROVIDED

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?
No

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?
No

16. What is the name of the municipality/entity that owns the separate storm sewer system?
NONE PROVIDED

17. Does any runoff from the site enter a sewer classified as a Combined Sewer?
No

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?
No

19. Is this property owned by a state authority, state agency, federal government or local government?
No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.)
No

Required SWPPP Components

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?
Yes

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)?
Yes

If you answered No in question 22, skip question 23 and the Post-construction Criteria and Post-construction SMP Identification sections.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual?
Yes

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:
Professional Engineer (P.E.)

SWPPP Preparer
CEI Engineering INC.

Contact Name (Last, Space, First)
Slyter, Andrew

Mailing Address
3108 SW Regency Parkway, Suite 2

City
Bentonville

State
Arkansas

Zip
72712

Phone
479-273-9472

Email
aslyter@ceieng.com

Download SWPPP Preparer Certification Form
Please take the following steps to prepare and upload your preparer certification form:

1) Click on the link below to download a blank certification form
2) The certified SWPPP preparer should sign this form
3) Scan the signed form
4) Upload the scanned document
Download SWPPP Preparer Certification Form

Please upload the SWPPP Preparer Certification
swpppcert - Signed.pdf - 06/18/2020 04:03 PM
Comment
NONE PROVIDED

Erosion & Sediment Control Criteria

25. Has a construction sequence schedule for the planned management practices been prepared?
Yes

26. Select all of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural
Silt Fence
Stabilized Construction Entrance
Storm Drain Inlet Protection

Biotechnical
None

Vegetative Measures
Seeding
Sodding

Permanent Structural
Riprap Slope Protection

Other
Pernament Bioretention Pond

Post-Construction Criteria

*** IMPORTANT: Completion of Questions 27-39 is not required if response to Question 22 is No.**

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.
Preservation of Undisturbed Area

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).
All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout). (Acre-feet)
0.06

29. Post-construction SMP Identification
Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28).

Identify the SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use the Post-Construction SMP Identification section to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29. (acre-feet)
0.06

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28)?
Yes

If Yes, go to question 36. If No, go to question 32.

32. Provide the Minimum RRv required based on HSG. [Minimum RRv Required = (P) (0.95) (Ai) / 12, Ai=(s) (Aic)] (acre-feet)
NONE PROVIDED

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?
NONE PROVIDED

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. SMPs
Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30).

Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question #29. (acre-feet)
NONE PROVIDED

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).
NONE PROVIDED

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)?
NONE PROVIDED

If Yes, go to question 36.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv required and provided or select waiver (#36a), if applicable.

CPv Required (acre-feet)
NONE PROVIDED

CPv Provided (acre-feet)
NONE PROVIDED

36a. The need to provide channel protection has been waived because:
Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (#37a), if applicable.

Overbank Flood Control Criteria (Qp)

Pre-Development (CFS)
0.16

Post-Development (CFS)
0

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)
1.90

Post-Development (CFS)
0.28

37a. The need to meet the Qp and Qf criteria has been waived because:
NONE PROVIDED

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?
Yes

If Yes, Identify the entity responsible for the long term Operation and Maintenance
NONE PROVIDED

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.
July 15, 2020 changes: a) Sections 4: Future Impervious Area within Disturbed Area (acres) has changed from 0.7 to 0.73. b) Section 28: from 0.071 to 0.06. c) Section 30: from 0.074 to 0.06. d) Section "Post-Construction SMP Identification" - "Total Contributing Impervious Acres for Bioretention (F-5)" has changed from 0.15 to 0.73. Edits were made to a project with an existing permit ID of NYR11G773.

Post-Construction SMP Identification

Runoff Reduction (RR) Techniques, Standard Stormwater Management Practices (SMPs) and Alternative SMPs
Identify the Post-construction SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

RR Techniques (Area Reduction)

Round to the nearest tenth

Total Contributing Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

RR Techniques (Volume Reduction)

Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

Total Contributing Impervious Acres for Vegetated Swale (RR-5)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Garden (RR-6)
NONE PROVIDED

Total Contributing Impervious Acres for Stormwater Planter (RR-7)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)
NONE PROVIDED

Total Contributing Impervious Acres for Porous Pavement (RR-9)
NONE PROVIDED

Total Contributing Impervious Acres for Green Roof (RR-10)
NONE PROVIDED

Standard SMPs with RRv Capacity

Total Contributing Impervious Acres for Infiltration Trench (I-1)
NONE PROVIDED

Total Contributing Impervious Acres for Infiltration Basin (I-2)
NONE PROVIDED

Total Contributing Impervious Acres for Dry Well (I-3)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Infiltration System (I-4)
NONE PROVIDED

Total Contributing Impervious Acres for Bioretention (F-5)
0.73

Total Contributing Impervious Acres for Dry Swale (O-1)
NONE PROVIDED

Standard SMPs

Total Contributing Impervious Acres for Micropool Extended Detention (P-1)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Pond (P-2)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Extended Detention (P-3)
NONE PROVIDED

Total Contributing Impervious Acres for Multiple Pond System (P-4)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Pond (P-5)
NONE PROVIDED

Total Contributing Impervious Acres for Surface Sand Filter (F-1)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Sand Filter (F-2)
NONE PROVIDED

Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)
NONE PROVIDED

Total Contributing Impervious Acres for Organic Filter (F-4)
NONE PROVIDED

Total Contributing Impervious Acres for Shallow Wetland (W-1)
NONE PROVIDED

Total Contributing Impervious Acres for Extended Detention Wetland (W-2)
NONE PROVIDED

Total Contributing Impervious Acres for Pond/Wetland System (W-3)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Wetland (W-4)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Swale (O-2)
NONE PROVIDED

Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Total Contributing Impervious Area for Hydrodynamic
NONE PROVIDED

Total Contributing Impervious Area for Wet Vault
NONE PROVIDED

Total Contributing Impervious Area for Media Filter
NONE PROVIDED

"Other" Alternative SMP?
NONE PROVIDED

Total Contributing Impervious Area for "Other"
NONE PROVIDED

Provide the name and manufaturer of the alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

Manufacturer of Alternative SMP
NONE PROVIDED

Name of Alternative SMP
NONE PROVIDED

Other Permits

40. Identify other DEC permits, existing and new, that are required for this project/facility.
None

If SPDES Multi-Sector GP, then give permit ID
NONE PROVIDED

If Other, then identify
NYR

41. Does this project require a US Army Corps of Engineers Wetland Permit?
No

If "Yes," then indicate Size of Impact, in acres, to the nearest tenth
NONE PROVIDED

42. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.
NYR

MS4 SWPPP Acceptance

43. Is this project subject to the requirements of a regulated, traditional land use control MS4?
No

If No, skip question 44

44. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?
NONE PROVIDED

MS4 SWPPP Acceptance Form Download
Download form from the link below. Complete, sign, and upload.
MS4 SWPPP Acceptance Form

MS4 Acceptance Form Upload
NONE PROVIDED
Comment
NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download
Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.
Owner/Operator Certification Form (PDF, 45KB)

Upload Owner/Operator Certification Form
2271_001 - owner certification for NOI.pdf - 06/18/2020 04:04 PM
Comment
NONE PROVIDED

Attachments

Date	Attachment Name	Context	User
6/18/2020 4:04 PM	2271_001 - owner certification for NOI.pdf	Attachment	Ivan Jankun
6/18/2020 4:03 PM	swpppcert - Signed.pdf	Attachment	Ivan Jankun

Status History

	User	Processing Status
7/15/2020 10:32:20 AM	Ivan Jankun	Draft
7/15/2020 12:04:15 PM	Ivan Jankun	Submitted
7/15/2020 12:30:26 PM	DAVID GASPER	Deemed Complete

Processing Steps

Step Name	Assigned To/Completed By	Date Completed
Form Submitted	Ivan Jankun	7/15/2020 12:04:15 PM
Under Review	DAVID GASPER	

Revisions

Revision	Revision Date	Revision By
Revision 1	6/18/2020 10:13 AM	Ivan Jankun
Revision 2	7/15/2020 10:32 AM	Ivan Jankun

APPENDIX “E”

INSPECTION REPORT (SAMPLE FORM)
&
GENERAL CONTRACTOR(S) DELEGATED INSPECTOR FORM

STORM WATER POLLUTION PREVENTION PLAN INSPECTION REPORT

The Broadway Group, LLC – Gowanda, NY *Completion Date:* _____

Contractor: _____ Inspector: _____ Inspection Date: _____

Inspector's Qualifications*:

_____

SITE CONDITIONS:

POLLUTANT CONTROL	IN CONFORMANCE	EFFECTIVE	LOCATION OF NON-CONFORMANCE
Construction Entrance	YES NO NA	YES NO NA	
Sediment Barriers, Fences, etc.	YES NO NA	YES NO NA	
Storage/Disposal Areas	YES NO NA	YES NO NA	
Sediment Pond	YES NO NA	YES NO NA	
Outfall Locations	YES NO NA	YES NO NA	
Other	YES NO NA	YES NO NA	

DEFICIENCIES NOTED: (Explain each "NO" circled above)

REMEDIAL ACTIONS TO BE TAKEN:

COMMENTS:

Based on the results of the inspection, necessary control modifications shall be implemented within 7 calendar days. This report shall be kept on file by the General Contractor as part of the Storm Water Pollution Prevention Plan for at least 5 years from the date of completion and submission of the Notice of Termination.

Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name: _____
Address: _____
Phone: _____
_____ Date: _____
(Authorized Signature*)

*It is the General Contractor's responsibility to insure that the inspector has been properly authorized under the applicable General Permit Regulations to sign these inspection forms. REVISED 2/4/03

General Contractor's Inspector
Delegation of Authority

The Broadway Group, LLC – Gowanda, NY

I, _____ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

_____ (name of person or position)
_____ (company)
_____ (address)
_____ (city, state, zip)
_____ (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in New York State SPDES General Permit for Stormwater Discharges, and that the designee above meets the definition of a "duly authorized representative" as set forth in the New York State SPDES General Permit for Stormwater Discharges.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____

Company: _____

Title: _____

Signature: _____

Date: _____

APPENDIX “F”

NOTICE OF TERMINATION (NOT)

NOTICE of TERMINATION

Two copies of the Notice of Termination must be completed when construction activities that disturb site soils have been completed and the site has achieved final stabilization. One should be forwarded to the Construction Manager. The other should be sent via registered or certified mail, with return receipt requested, to the following address:

New York State
Department of Environmental Conservation
Bureau of Water Permits
Albany, New York 12233-3505

APPENDIX "G"

RECORD OF STABILIZATION AND
CONSTRUCTION ACTIVITY DATES

SITE STABILIZATION and CONSTRUCTION ACTIVITY DATES

A record of dates when stabilization measures are initiated, when major grading activities occur, and when construction activities temporarily or permanently cease on a portion of the site shall be maintained until final site stabilization is achieved and the Notice of Termination is filed.

MAJOR STABILIZATION AND GRADING ACTIVITIES

Description of Activity:____
Site Contractor: ________________________Begin (date): ________________ End(date):__________________
Location:____

Description of Activity:____
Site Contractor: ________________________Begin (date): ________________ End(date):__________________
Location:____

Description of Activity:____
Site Contractor: ________________________Begin (date): ________________ End(date):__________________
Location:____

Description of Activity:____
Site Contractor: ________________________Begin (date): ________________ End(date):__________________
Location:____

Description of Activity:____
Site Contractor: ________________________Begin (date): ________________ End(date):__________________
Location:____

Description of Activity:____
Site Contractor: ________________________Begin (date): ________________ End(date):__________________
Location:____

Description of Activity:____
Site Contractor: ________________________Begin (date): ________________ End(date):__________________
Location:____

Description of Activity:____
Site Contractor: ________________________Begin (date): ________________ End(date):__________________
Location:____

Description of Activity:____
Site Contractor: ________________________Begin (date): ________________ End(date):__________________
Location:____

Description of Activity:____
Site Contractor: ________________________Begin (date): ________________ End(date):__________________
Location:____

Description of Activity:____
Site Contractor: ________________________Begin (date): ________________ End(date):__________________
Location:____

APPENDIX “H”

OWNER & GENERAL CONTRACTOR CERTIFICATIONS

Storm Water Pollution Prevention Plan

OWNER CERTIFICATION

The Broadway Group LLC
Buffalo Street
Gowanda, New York

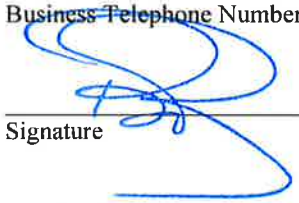
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Owner implementing the SWPPP:

The Broadway Group, LLC
Business Name

P.O. Box 18968, Huntsville, AL 35804
Business Address

256-533-7287
Business Telephone Number



Signature

Robert M. Broadway, Member
Print Name and Title

Storm Water Pollution Prevention Plan

CONTRACTOR/SUBCONTRACTOR CERTIFICATION

The Broadway Group LLC
Buffalo Street
Gowanda, New York

"*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

Contractor/Subcontractor implementing the SWPPP:

_____
Business Name

_____
Business Address

_____
Business Telephone Number

_____
Signature

_____
Print Name and Title

APPENDIX "I"

GENERAL PERMIT

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature

Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

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Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges* to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;

2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State.*

3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the *Stormwater Pollution Prevention Plan* (“SWPPP”) the reason(s) for the

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:

   (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s;

   (ii) Control stormwater *discharge*s, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;

   (iii) *Minimize* the amount of soil exposed during *construction activity*;

   (iv) *Minimize* the disturbance of *steep slopes*;

   (v) *Minimize* sediment *discharge*s from the site;

   (vi) Provide and maintain *natural buffer*s around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharge*s, unless *infeasible*;

   (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;

   (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

   (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:

(i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;

(ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and

(iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited *Discharges*.** The following *discharge*s are prohibited:

(i) Wastewater from washout of concrete;

(ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

(iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;

(iv) Soaps or solvents used in vehicle and equipment washing; and

(v) Toxic or hazardous substances from a spill or other release.

f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices ("SMPs") are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

(i) Runoff Reduction Volume ("RRv"): Reduce the total Water Quality Volume ("WQv") by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site discharges directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria ("Qp"): Requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria ("Qf"): Requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watershed

(i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site *discharge*s directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

c. Sizing Criteria for Redevelopment Activity

(i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.

(1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or

(2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or

(3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or

(4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

(ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharge*s; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.

3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharge*s from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.

4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

1. *Discharge*s after *construction activities* have been completed and the site has undergone *final stabilization*;

2. *Discharge*s that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;

3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;

4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;

6. *Construction activities* for residential, commercial and institutional projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

7. *Construction activities* for linear transportation projects and linear utility projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:

   a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.

      - 1-5 acres of disturbance - 20 feet
      - 5-20 acres of disturbance - 50 feet
      - 20+ acres of disturbance - 100 feet, or

   b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
      (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
      (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
      (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
      (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or

   c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

(i) No Affect
(ii) No Adverse Affect
(iii) Executed Memorandum of Agreement, or

d. Documentation that:

(i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharge*s from *construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the “MS4 SWPPP Acceptance” form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.

3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4* . This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (http://www.dec.ny.gov/). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

   NOTICE OF INTENT
   NYS DEC, Bureau of Water Permits
   625 Broadway, 4th Floor
   Albany, New York 12233-3505

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.

4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.

2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:

   a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (http://www.dec.ny.gov/) for more information,

   b. where required, all necessary Department permits subject to the *Uniform Procedures Act ("UPA")* (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators* of *construction activities* that are required to obtain *UPA* permits

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

c. the final SWPPP has been prepared, and

d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.

3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:

   a. For *construction activities* that are <u>not</u> subject to the requirements of a *regulated, traditional land use control MS4*:

      (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or

      (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has <u>not</u> been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;

      (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:

(i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "*MS4* SWPPP Acceptance" form, or

(ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.

4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.

2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor's or subcontractor's certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.

3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

use control MS4, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.

c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.

e. The *owner or operator* shall include the requirements above in their SWPPP.

4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..

5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of *a construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

   An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4,* the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.

2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.

3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.

2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.

3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.

4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:

    a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*;

c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* the Department or other regulatory authority; and

d. to document the final construction conditions.

5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.

6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor.* The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

   The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

   "I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharge*s from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

    a. Background information about the scope of the project, including the location, type and size of project

b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge*(s);

c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);

d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;

e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;

f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;

g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;

i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;

k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and

l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

   Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

   The post-construction stormwater management practice component of the SWPPP shall include the following:

   a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;

c. A Stormwater Modeling and Analysis Report that includes:
   (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;

   (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;

   (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;

   (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

   (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and

   (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;

d. Soil testing results and locations (test pits, borings);

e. Infiltration test results, when required; and

f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria,* Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators* of *construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators* of the *construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.

3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:

   a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:

a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization,* and all temporary, structural erosion and sediment control measures have been removed*;* and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.

e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization,* all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

a. Date and time of inspection;

b. Name and title of person(s) performing inspection;

c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;

e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;

f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;

g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;

i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);

k. Identification and status of all corrective actions that were required by previous inspection; and

l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector.* Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

   a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;

c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.

d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.

3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.

4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the "MS4 Acceptance" statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) required in Part V.A.3. of this permit.

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:

   a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),

c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,

d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator,* its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit , or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:

    a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) the chief executive officer of the agency, or

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4,* or by a duly authorized representative of that person.

   It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge*(s), the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner’s or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.

4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.

2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
Cpv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DOW – Division of Water
EAF – Environmental Assessment Form
ECL - Environmental Conservation Law
EPA – U. S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review
SEQRA - State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property –means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both "sewage" and "stormwater".

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for "*Construction Activity(ies)*" also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for "*Commence (Commencement of) Construction Activities"* and "*Larger Common Plan of Development or Sale" also.*

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment –means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department's rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term “plan” in “larger common plan of development or sale” is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same “common plan” is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State*;*
(ii) Designed or used for collecting or conveying stormwater;
(iii) Which is not a *combined sewer*; and
(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer –means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means any source of water pollution or pollutants which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Performance Criteria – means the design criteria listed under the "Required Elements" sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%) , or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – means a project specific report, including construction drawings, that among other things: describes the construction activity(ies), identifies the potential sources of pollution at the *construction site*; describes and shows the stormwater controls that will be used to control the pollutants (i.e. erosion and sediment controls; for many projects, includes post-construction stormwater management controls); and identifies procedures the *owner or operator* will implement to comply with the terms and conditions of the permit. See Part III of the permit for a complete description of the information that must be included in the SWPPP.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint source*s, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C or not *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover
- Cross-country ski trails and walking/hiking trails
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path.
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

Table 1 (Continued) CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Table 2

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover,* and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

- Entire New York City Watershed located east of the Hudson River **-** Figure 1
- Onondaga Lake Watershed **-** Figure 2
- Greenwood Lake Watershed **-**Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

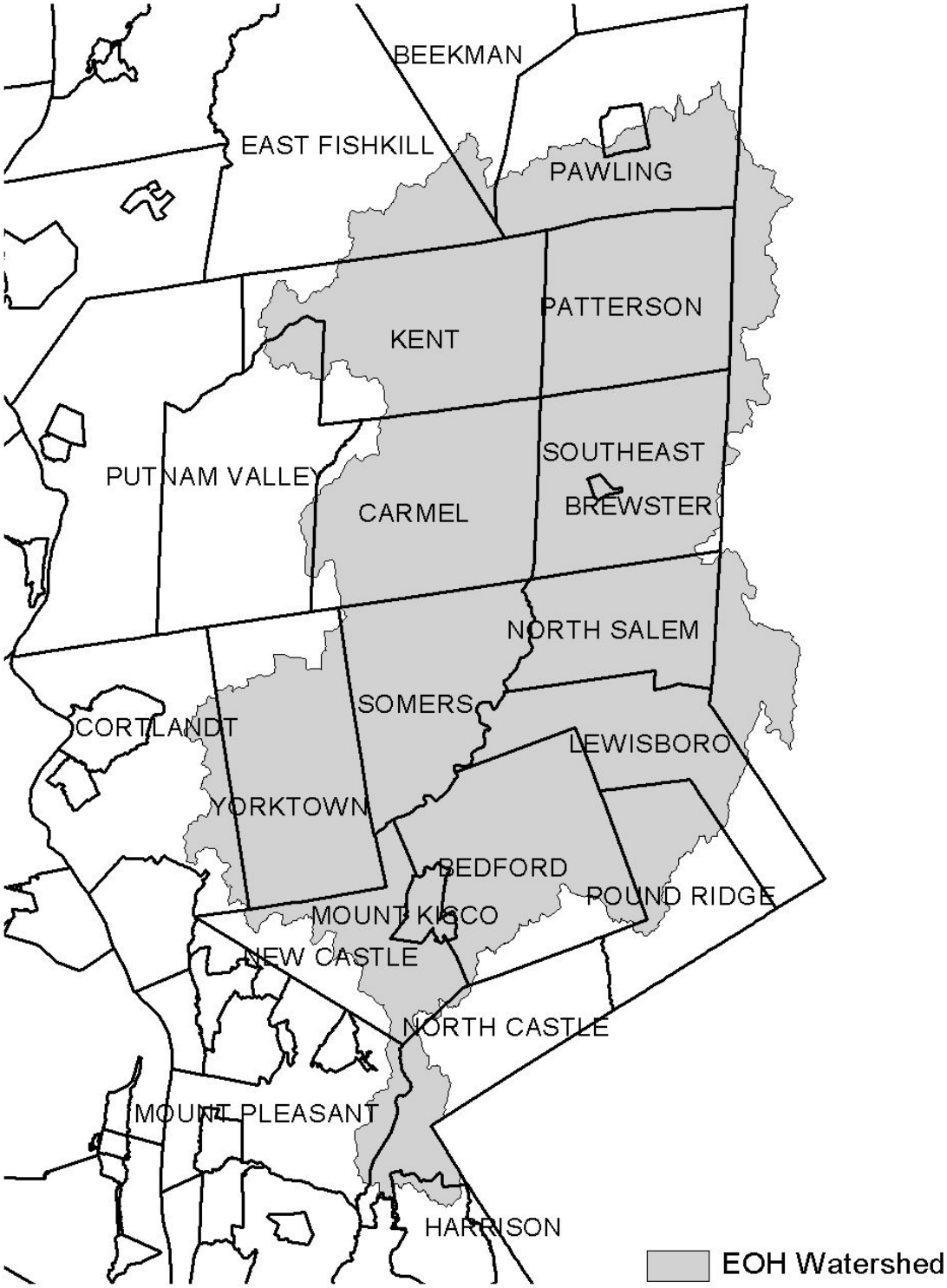


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

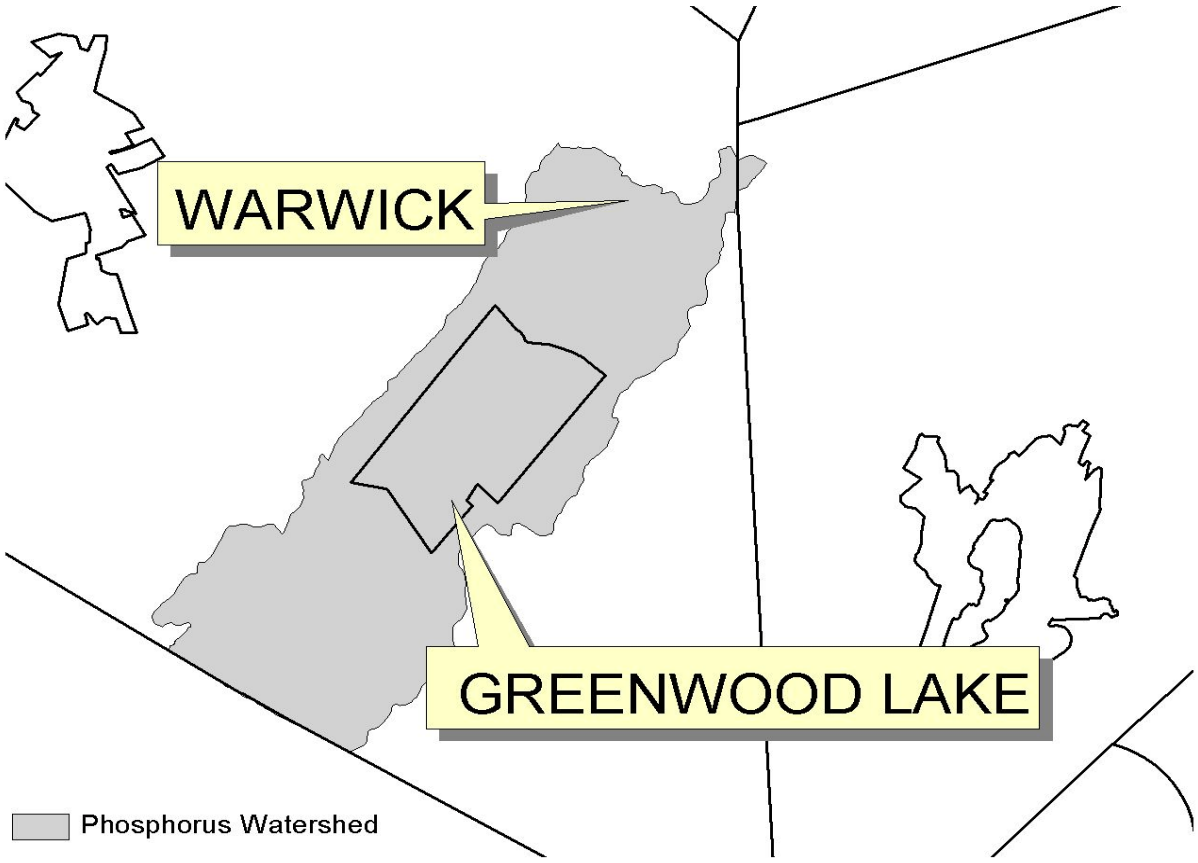


Figure 4 - Oscawana Lake Watershed

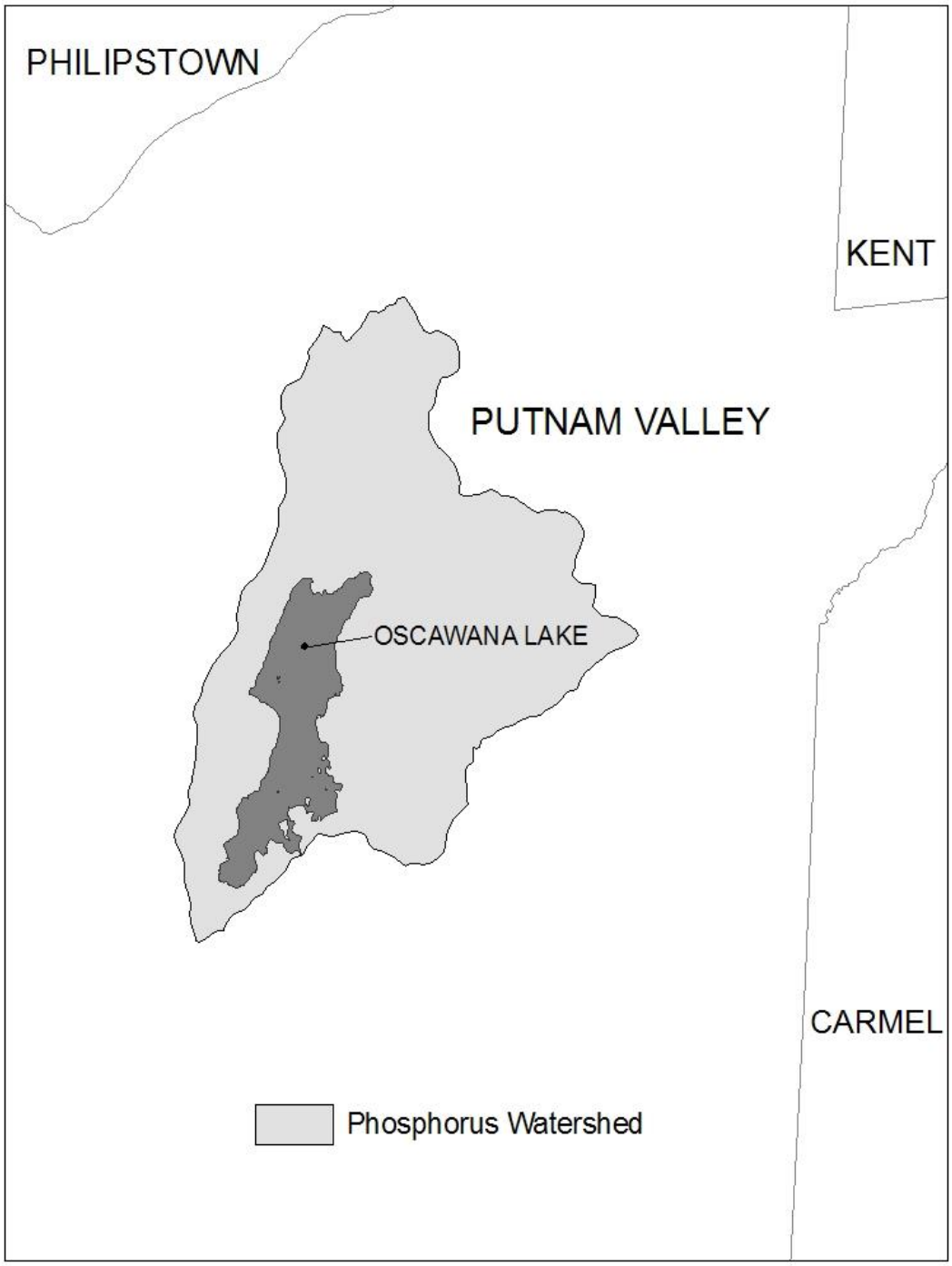
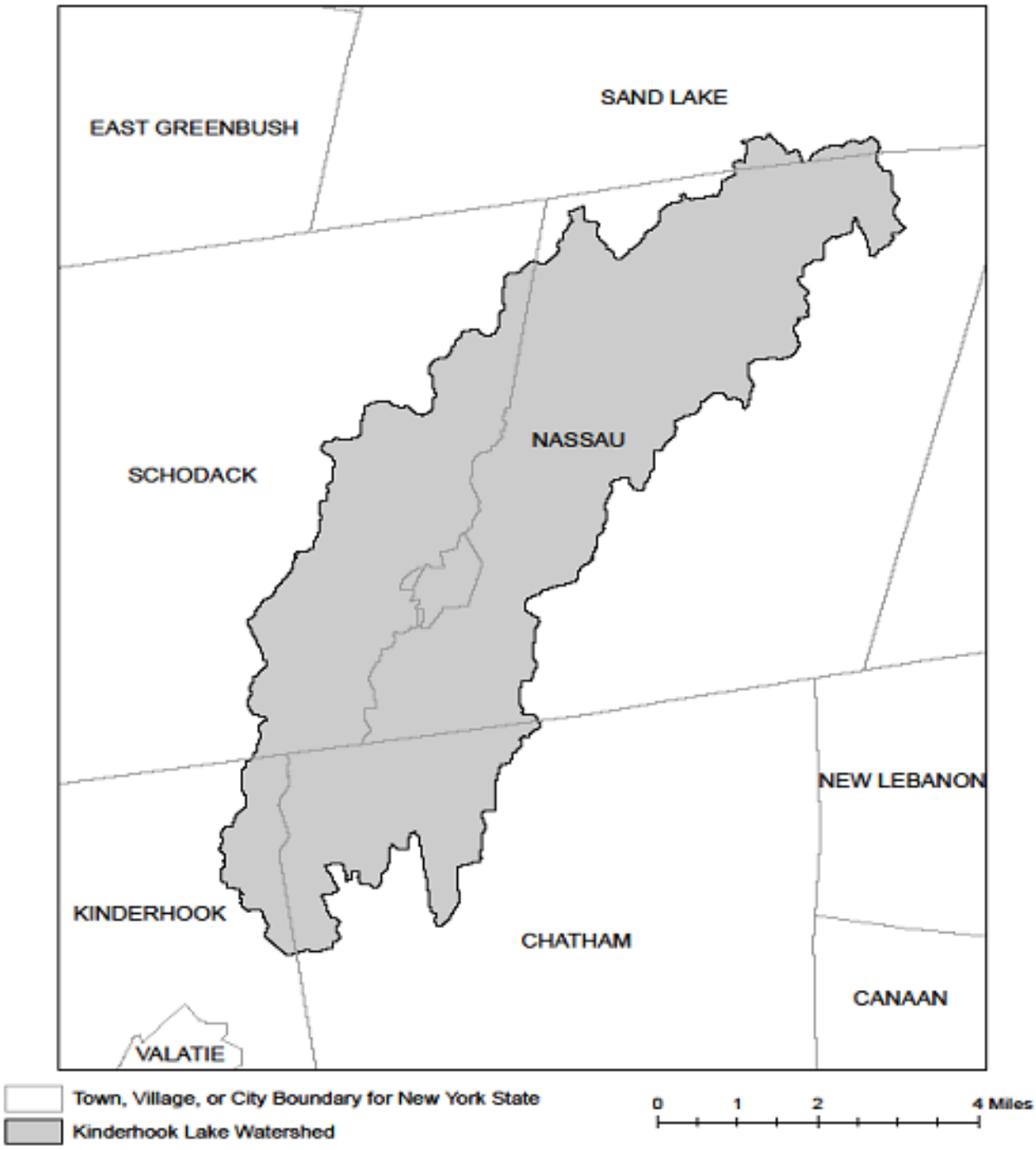


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River **-** See Figure 1 in Appendix C

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribs to Lake Lonely	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

APPENDIX F – List of NYS DEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	100 Hillside Avenue, Suite 1w White Plains, NY 10603 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

APPENDIX “J”

PERMIT AUTHORIZATION

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Water, Bureau of Water Permits
625 Broadway, Albany, New York 12233-3505
P: (518) 402-8111 F: (518) 402-9029
www.dec.ny.gov

6/29/2020

The Broadway Group, LLC
Melissa Ballard
216 Westside Square
Huntsville, Alabama 35801

RE: ACKNOWLEDGMENT of NOTICE OF INTENT for Coverage Under SPDES General Permit for Storm Water Discharges from CONSTRUCTION ACTIVITY – General Permit No. GP-0-20-001

Dear Prospective Permittee:

This is to acknowledge that the New York State Department of Environmental Conservation (Department) has received a complete Notice of Intent (NOI) for coverage under General Permit No. GP-0-20-001 for the construction activities located at:

Broadway Group Retail
240 & 248 Buffalo Street
Gowanda, NY 14070 County: **ERIE**

Pursuant to Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, and ECL Article 70, discharges in accordance with GP-0-20-001 from the above construction site will be authorized **5** business days from **6/18/2020,** which is the date we received your final NOI, unless notified differently by the Department.

The permit identification number for this site is: **NYR11G773**. Be sure to include this permit identification number on any forms or correspondence you send us. When coverage under the permit is no longer needed, you must submit a Notice of Termination to the Department.

This authorization is conditioned upon the following:

1. The information submitted in the NOI received by the Department on **6/18/2020** is accurate and complete.

2. You have developed a Stormwater Pollution Prevention Plan (SWPPP) that complies with GP-0-20-001 which must be implemented as the first element of construction at the above-noted construction site.

3. Activities related to the above construction site comply with all other requirements of GP-0-20-001.

4. Payment of the annual $110 regulatory fee, which is billed separately by the Department in the late fall. The regulatory fee covers a period of one calendar year. In addition, since September 1, 2004, construction stormwater permittees have been assessed an initial authorization fee which is now $110 per acre of land disturbed and $675 per acre of future impervious area. The initial authorization fee covers the duration of the authorized disturbance.

5. When applicable, project review pursuant to the State Environmental Quality Review Act (SEQRA) has been satisfied.

6. You have obtained all necessary Department permits subject to the Uniform Procedures Act (UPA). You should check with your Regional Permit Administrator for further information.

***Note: Construction activities cannot commence until project review pursuant to SEQRA has been satisfied, when SEQRA is applicable; and, where required, all necessary Department permits subject to the UPA have been obtained.**

Please be advised that the Department may request a copy of your SWPPP for review.

Should you have any questions regarding any aspect of the requirements specified in GP-0-20-001, please contact Dave Gasper at (518) 402-8114.

Sincerely,

David Gasper

David Gasper
Environmental Engineer

cc: RWE - **9**
SWPPP Preparer
CEI Engineering INC.
Slyter, Andrew
3108 SW Regency Parkway, Suite 2
Bentonville, Arkansas 72712

APPENDIX “K”

SOIL REPORT AND MAP

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Erie County, New York

January 25, 2019

Custom Soil Resource Report
Soil Map

Map Scale: 1:735 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 35 70 140 210

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Erie County, New York
Survey Area Data: Version 18, Sep 2, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Apr 17, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CkB	Chenango gravelly loam, 3 to 8 percent slopes	2.8	100.0%
Totals for Area of Interest		**2.8**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Erie County, New York

CkB—Chenango gravelly loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9rkq
Elevation: 600 to 1,800 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Chenango and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chenango

Setting

Landform: Valley trains, terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, derived mainly from sandstone, shale, and siltstone

Typical profile

H1 - 0 to 8 inches: gravelly loam
H2 - 8 to 30 inches: very gravelly loam
H3 - 30 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Valois

Percent of map unit: 5 percent
Hydric soil rating: No

Allard

Percent of map unit: 5 percent
Hydric soil rating: No

Alton

Percent of map unit: 5 percent
Hydric soil rating: No

Castile

Percent of map unit: 5 percent
Hydric soil rating: No

Red hook

Percent of map unit: 5 percent
Hydric soil rating: No

Geotechnical Engineering Report

Dollar General Store
Gowanda, New York
June 5, 2020
Terracon Project No. J5195141

Prepared for:
The Broadway Group, LLC
Huntsville, Alabama

Prepared by:
Terracon Consultants-NY, Inc.
Buffalo, New York

June 5, 2020

The Broadway Group, LLC
216 West Side Square
Huntsville, Alabama 35804

Attn: Ms. Melissa Ballard, Development Manager
P: (256) 533-7287
E: Melissa.ballard@broadwaygroup.net

Re: Geotechnical Engineering Report
Dollar General Store
240 and 248 Buffalo Street
Gowanda, New York
Terracon Project No. J5195141

Dear Ms. Ballard:

We have completed the Geotechnical Engineering services for the above referenced project. This study was performed in general accordance with Terracon Proposal No. DG190099/PT2195-PJ5195141 dated July 24, 2019. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, floor slabs and pavements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants-NY, Inc.

Zeru B. Kiffle, E.I.T.
Staff Engineer

Michele A. Fiorillo, P.E.
Geotechnical Department Manager

REPORT TOPICS

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Note: This report was originally delivered in a web-based format. **Orange Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the ***GeoReport*** logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES
PHOTOGRAPHY LOG
SITE LOCATION AND EXPLORATION PLANS
EXPLORATION RESULTS
SUPPORTING INFORMATION

Note: Refer to each individual Attachment for a listing of contents.

Geotechnical Engineering Report

Dollar General Store
240 and 248 Buffalo Street
Gowanda, New York

Terracon Project No. J5195141

June 5, 2020

INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed Dollar General Store to be located at 240 and 248 Buffalo Street in Gowanda, New York. The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Site preparation and earthwork
- Demolition considerations
- Excavation considerations
- Dewatering considerations
- Foundation design and construction
- Floor slab design and construction
- Seismic site classification per IBC
- Frost considerations
- Pavement design and construction
- Infiltration considerations

The geotechnical engineering Scope of Services for this project included the advancement of 5 test borings within the proposed building, 3 borings in proposed pavement areas, and 1 boring within the footprint of the stormwater management areas (SMA). The borings designated as B-1 through B-5, P-1 through P-3, and SW-1, were advanced to depths ranging from approximately 6 to 16 feet below existing site grades. Three PVC pipes were installed for infiltration testing at three locations (IT-1, IT-2 and SW-1a) located in proximity to the test boring SW-1.

Maps showing the site and boring locations are shown in the **Site Location** and **Exploration Plan** sections, respectively. The boring logs and infiltration test results are included in the **Exploration Results** section.

SITE CONDITIONS

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
Parcel Information	The project is located at 240 and 248 Buffalo Street in Gowanda, New York. The center of the site is located at approximate latitude 42.4708° N and longitude 78.9362° W. See **Site Location**
Existing Improvements	Approximate 1.26-acre tract of residential-use property improved with two separate residential homes.  (Aerial Image from Google Earth Pro.)
Current Ground Cover	Open grass-covered and lightly- wooded lot.
Existing Topography (Based on ALTA Survey)	The site slopes down gently from eastern portion to the western portion, with ground surface elevations (El.) of approximately 764 to 776 feet (NADV 88).
Geology[1]	The project is located within the Erie Lowlands physiographic province. Geological mapping identifies surficial deposits at the project site as alluvium deposits and lacustrine silt and clay and the underlain bedrock as shale or siltstone of Machias Formation in the Upper Devonian unit age.

1. References: Fisher, D.W., Isachsen, Y.W., and Rickard, L.V., 1970, Geologic Map of New York State, consisting of 5 sheets: Niagara, Finger Lakes, Hudson-Mohawk, Adirondack, and Lower Hudson, New York State Museum and Science Service, Map and Chart Series No. 15, scale 1: 250,000.

We also collected photographs at the time of our field exploration program. Representative photos are provided in our **Photography Log**.

PROJECT DESCRIPTION

Our understanding of the project conditions is as follows:

Item	Description
Information Provided	The following information was provided to our office: ■ Preliminary Site Plan dated August 27, 2018 ■ Grading Plan (Sheet No. C3, Revision date January 01, 2019. ■ Site-Aerial ■ Civil Plans dated 1/31/2019 (3 pages) ■ Alta Survey dated 1/24/2019
Project Description	Construction of a Dollar General Store with associated paved parking and drive areas. A stormwater management area is proposed for the western quadrant of the site.
Proposed Structure	Approximate 9,026-square foot one-story building with associated paved parking and drive areas.
Building Construction	■ Steel frame ■ Reinforced concrete foundation ■ Slab-on-grade
Finished Floor Elevation (FFE)	El. 772.5 feet
Maximum Loads[1] (assumed)	■ Columns: 20 to 50 kips ■ Continuous Load-Bearing Walls: less than 3 kips per linear foot (klf) ■ Max. Uniform Slabs: less than 250 pounds per square foot (psf)
Grading/Slopes	■ The new building finished floor elevation (FFE) is expected to be at El. 772.5 feet. Existing grades within the proposed building footprint range from El. 766 to 770 feet. We anticipate up to 6 feet of earthwork fill may be required within the building footprint to attain the proposed FFE. ■ The bottom of the stormwater management area (SMA) is expected to be at El.763. Existing grades within the footprint of the SMA range from about El. 764 to 765 feet. An approximately 4-foot high berm is proposed around the SMA. Final slope angles of as steep as 3H:1V (Horizontal: Vertical) are expected.
Pavements (assumed)	Assumed traffic is as follows: ■ Car Parking: 1.54 equivalent Single Axle Loads (ESALs) per day ■ Drive Areas: 4.20 ESALs per day

1. Please contact our office if structural loads are significantly higher than the loads reported above.

GEOTECHNICAL CHARACTERIZATION

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, geologic setting and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of site preparation and foundation options. Conditions encountered at each exploration point are indicated on the individual logs. The individual logs can be found in the **Exploration Results** section and the GeoModel can be found in the **Figures** section of this report.

As part of our analyses, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name[1]	General Description
1	**Surface**	Topsoil
2	**Native Soil**	Mixtures of clay, silt, sand with gravel (CL-ML, ML, SM); brown, orange-brown to gray; soft to stiff or very loose to very dense
3	**Weathered bedrock**[2]	Highly weathered siltstone and/or shale, gray or black

1. The dimensions of the sampling equipment may preclude sampling particles larger than 2-inch in any dimension
2. Highly weathered bedrock was encountered in B-2 through B-5 and SW-1 at depths of about 7 to 13 feet below the existing grades. The drillers were able to sample and/or auger several feet within the highly weathered bedrock.

Groundwater Conditions

We monitored the boreholes for the presence and level of groundwater at completion of sampling and/or a while after completion of sampling. The groundwater levels at each exploration location can be found on the boring in **Exploration Results**. Summary of the groundwater table at the exploration locations are presented below.

Boring No.	Groundwater level at 1st observation (ft.)	Groundwater level at 2nd observation (ft)	Groundwater level at 3rd observation (while drilling) (ft.)
B-1	4.5 ft. at completion of sampling	---	---
B-2	7 ft. at completion of sampling on 5/21/20	7 ft. at 4 pm on 5/21/20	8 ft. at 9 am on 5/22/20 (after 1 day)

Boring No.	Groundwater level at 1st observation (ft.)	Groundwater level at 2nd observation (ft)	Groundwater level at 3rd observation (while drilling) (ft.)
B-3	3.5 ft. at completion of sampling on 5/21/20	4 ft. at 9 am on 5/22/20	---
B-4	6 ft. at completion of sampling on 5/21/20	6 ft. at 9 am on 5/22/20	---
B-5	13.5 ft. at completion of sampling on 5/21/20	4.5 ft. at 4 pm on 5/21/20	4.5 ft. at 9 am on 5/22/20 (after 1 day)
SW-1	4 ft. at completion of sampling	---	---

Note: Groundwater was not encountered at the time of drilling or upon completion in the remainder of the borings.

Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the borings were performed. Water may also become temporarily perched over low permeability layers or bedrock. Groundwater levels during construction or at other times in the life of the structure may be higher or lower than the levels indicated on the boring logs. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

GEOTECHNICAL OVERVIEW

In general, the site is suitable for the proposed construction based upon geotechnical conditions encountered during the exploration program. The proposed building may be supported on shallow foundation bearing upon compacted Structural Fill placed upon stable native soil.

Fill was not encountered at the location of the borings. It should be noted that the observations are based solely upon the results of borings completed at discrete locations. If fill and soft soils are encountered during construction, this material should be removed and replaced with compacted Structural Fill within the foundation bearing zone, which is defined as the volume below 2/3 horizontal (H) to 1 vertical (V) lines extending outward and downward from the lower edges of the footing.

The **Shallow Foundations** section addresses support of the building bearing upon compacted Structural Fill placed upon stable native soil. The **Floor Slabs** section addresses slab-on-grade support of the building. The **Pavements** section addresses recommendation for support of pavement.

Filled slopes composed of compacted Structural soils should be no steeper than one (1) vertical on three (3) horizontal. To reduce erosion potential, we recommend a diversion swale at the top of the slope to prevent off-site drainage from running onto the slope. Slopes should be vegetated as soon as possible after grading and protected from erosion until vegetation is established. Erosion control matting may be required until vegetation is established. Slope planting should consist of ground vegetation that possess deep, dense root structures that require minimum irrigation. It is the responsibility of the owner to maintain such planting.

We recommend the Geotechnical Engineer be retained to evaluate soil bearing subgrades exposed after excavation to confirm they are suitable for footing, slab, or pavement support. Subsurface conditions in the explorations have been reviewed and evaluated with respect to the proposed construction plans known to us at this time.

The **General Comments** section provides an understanding of the report limitations.

EARTHWORK

Earthwork will include clearing and grubbing, removal of topsoil and any unsuitable soft soil, excavations, and fill placement. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include critical quality criteria as necessary to render the site in the state considered in our geotechnical engineering evaluation for foundations, floor slabs and pavements.

Demolition

Although the borings did not encounter remains of buried structures (i.e. slabs; foundations; pavements; sidewalks; abandoned underground utilities and/or storage tanks; etc.), it is possible that such elements may be found during construction. Recommendations for buried structures are presented below:

- Existing structures and utilities (if encountered) beneath proposed foundations should be removed in their entirety; utilities relocated, if needed.
- Existing structures should be removed from proposed pavement or floor slab areas to a minimum depth of 3 feet below of the subgrade. Existing floor slabs (if left in place at a minimum depth of 3 feet below the bottom of the pavement or floor slab subgrade) should be broken up to promote drainage and minimize the potential for trapped water.
- The void created from removal of existing structure should be backfilled with approved Structural Fill placed and compacted in accordance with recommendations presented herein.
- Existing underground pipes may remain in-place if the top of the pipe is at least 2 ft below pavement subgrade or floor slab bottom and filled with Flowable Fill with a compressive strength between 100 and 200 psi.

- Existing piping/structures should be disconnected from other existing piping intended to be left in place and functioning, and properly capped prior to placing Flowable Fill.

Site Preparation

Prior to placing new fill, any vegetation, root mat, stumps, and soft soils should be removed. Complete stripping of the topsoil should be performed in the proposed building and new pavement areas.

Subgrades should be proof-rolled with a minimum 10-ton (static weight) smooth drum roller compactor. We recommend a minimum of two overlapping passes in one direction, followed by two overlapping passes in a direction perpendicular to the first set of passes. The intent is to compact areas with relatively loose surficial soil, to re-compact areas loosened by stripping operations, and to identify unacceptable subgrade areas. As an alternative, proof-rolling can also be performed with an adequately loaded vehicle such as a fully loaded tandem axle dump truck or other heavy, rubber-tired construction equipment weighing at least 20 tons.

Areas that exhibit excessive pumping, waving, or rutting during proof rolling should be scarified, dried, and recompacted, or undercut and replaced with compacted Structural Fill as recommended by the Geotechnical Engineer. Unstable subgrades, as identified by the Geotechnical Engineer, should be over-excavated from the building footprint, foundation bearing zones, and pavement areas to competent material and replaced with compacted Structural Fill. When excavation of unsuitable materials is required, it should be performed in a manner to limit disturbance of the underlying suitable material. The excavation should be performed under the observation of the Geotechnical Engineer to evaluate required excavation depths.

Fill Material Types

Fill material should meet the following material property requirements:

Type [1,2,3]	NYSDOT Item Number	Acceptable Location for Placement
General Fill	Embankment in Place, Item 203.03	For general site grading or as embankment fill where finished grade is no steeper than 3H:1V. General Fill should not be placed within the foundation bearing zone of settlement sensitive structures.
Underdrain Filter Material	Underdrain Filter Material, ■ Item No. 733-2001, Type 1 ■ Item 733-2002, Type 2	Generally used in drainage systems

Type [1,2,3]	NYSDOT Item Number	Acceptable Location for Placement
Structural Fill	Subbase Course Type 2, Item 304.12	Beneath foundations
Subgrade Fill	Select Granular Fill, Item 733-1101 (with the percent passing the No. 200 sieve adjusted to less than 25 percent)	Below Aggregate Base/Subbase Course in pavement and building areas.
Aggregate Base/ Subbase Course	Subbase Course Type 2, Item 304.12	Below floor slabs or pavements as aggregate base course
Crushed Stone	Crushed Stone, Item 703-0201	Generally used to level subgrades at the bottom of pipe trenches and to facilitate dewatering.
Non-Frost Susceptible (NFS) Fill	■ Select Granular Fill, Item 203.07 (with the percent passing the No. 200 sieve adjusted to 0-5 percent); ■ Stone Size Designation #2, 3, 3A, and 4A (Table 703-4 of NYSDOT Standard Specifications) [4]	Exterior slabs, sidewalks.
Lean Concrete	Not applicable	Lean Concrete should be self-compacting concrete with a compressive strength between 750 and 2,000 psi.
Flowable Fill	Controlled Low Strength Material (CLSM), NYSDOT Item 204.01	With a compressive strength between 100 and 200 psi.

1. Fill should consist of approved materials that are free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation prior to use on this site.
2. Crushed Stone should be uniform ¾-inch angular Crushed Stone wrapped in a separation geotextile (Mirafi 140N, or approved equivalent).
3. NFS Fill should contain less than 5 percent material passing No. 200 sieve size and have a maximum particle size of 3 inches. NFS Fill should wrapped in a separation geotextile (Mirafi 140N, or approved equivalent).

Excavated on-site soils are anticipated to consist primarily of fine sand, silt, clay and gravel mixtures. We do not recommend reusing excavated soils as Structural Fill. It is our opinion that excavated non-organic soils (free of roots, oversized particles, large fragments of debris, and vegetation and other deleterious materials) may be suitable for reuse as General Fill to attain proposed subgrade elevation, provided material larger than 6 inches in size is removed, and that during construction proper compaction and optimum moisture content can be achieved. If construction is performed during the wet season, it is possible the moisture content of the excavated soils is in excess of the optimum moisture content required to achieve proper compaction, and that proper compaction of the on-site soils may be very difficult to achieve. Saturated soils which cannot achieve compaction should be removed or used in non-structural areas where significant post construction settlement is acceptable. The contractor is ultimately responsible for moisture conditioning of fill/backfill materials to achieve proper compaction.

Fill Compaction Requirements

Structural and General fill should meet the following compaction requirements.

Item	Structural Fill	General Fill
Maximum Lift Thickness	12 inches or less in loose thickness when heavy, self-propelled compaction equipment is used. 6 to 8 inches in loose thickness when hand-guided equipment (i.e. jumping jack or plate compactor) is used.	Same as Structural fill
Minimum Compaction Requirements [1, 2, 3]	95% of maximum dry density below foundations and within 1 foot of finished pavement subgrade 92% of max. above foundations, below floor slabs, and more than 1 foot below finished pavement subgrade	85% of max.
Water Content Range [1]	Workable moisture levels	As required to achieve min. compaction requirements

Item	Structural Fill	General Fill

1. Maximum density and optimum water content as determined by the modified Proctor test (ASTM D 1557).
2. We recommend testing fill for moisture content and compaction during placement. Should the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested, as required, until the specified moisture and compaction requirements are achieved. The zone of fill compacted to meet this criterion should extend at least 5 feet horizontally beyond the building footprint.
3. For NFS fill material (with less than 5 percent fines), compaction testing is typically not feasible. We recommend that NFS fill be thoroughly tamped in place in horizontal lifts not to exceed 6 inches loose thickness. Compaction should be by uniform passes of compaction equipment in sufficient number, but not less than four passes, such that no further consolidation is evident. The NFS fill should not be dumped into place but should be distributed in horizontal lifts by blading and dozing in such a manner as to ensure proper placement into final position.

Utility Trench Backfill

Trench excavations should be wide enough to permit construction including backfill placement and compaction. Trenches should be backfilled with material that approximately matches the permeability characteristics of the surrounding soil to reduce the infiltration and preferential conveyance of surface water through the trench backfill. Fill placed as backfill for utilities located below the slab should consist of compacted Structural Fill or suitable bedding material.

Utility trenches are a common source of water infiltration and migration. All utility trenches that penetrate beneath the building should be effectively sealed to restrict water intrusion and flow through the trenches, which could migrate below the building. The trench backfill should incorporate an effective trench plug that extends at least 5 feet out from the face of the building exterior. The plug material should consist of cementitious flowable fill or low permeability clay. The trench plug material should be placed to surround the utility line. If used, the clay trench plug material should be placed and compacted to comply with the water content and compaction recommendations for Structural Fill stated previously in this report.

Grading and Drainage

Grades must provide effective drainage away from the building during and after construction and should be maintained throughout the life of the structure. Water retained next to the building can result in soil movements greater than those discussed in this report. Greater movements can result in unacceptable differential floor slab and/or foundation settlements, cracked slabs and walls, and roof leaks. The roof should have gutters/drains with downspouts discharging onto splash blocks at a distance of at least 10 feet from the buildings.

Exposed ground should be sloped and maintained at a minimum 5 percent away from the building for at least 10 feet beyond the perimeter of the building. Locally, flatter grades may be necessary to transition ADA access requirements for flatwork. After buildings construction and landscaping,

final grades should be verified to document effective drainage has been achieved. Grades around the structure should also be periodically inspected and adjusted as necessary as part of the structure's maintenance program. Where paving or flatwork abuts the structure a maintenance program should be established to effectively seal and maintain joints and prevent surface water infiltration.

Earthwork Construction Considerations

Shallow excavations, for the proposed structure, should be feasible with conventional construction equipment. Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of foundations and floor slabs. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over, or adjacent to, construction areas should be removed. If the subgrade freezes, desiccates, saturates, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and recompacted, prior to floor slab construction.

The groundwater table could affect over-excavation efforts, especially for over-excavation and replacement of lower strength soils (if required). Dewatering, if required, can likely be accomplished using filtered pumps placed in sump pits filled with crushed stone. If ¾-inch crushed stone is used, a geotextile separation fabric (Mirafi 140N, or approved equivalent) should be placed between the crushed stone and on-site soil.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local, and/or state regulations. The contractor should be aware that slope height, slope inclination, and excavation depth should in no instance exceed OSHA guidelines. OSHA guidelines are strictly enforced and if they are not followed, the owner, contractor, and/or earthwork and utility subcontractor could be liable and subject to substantial penalties.

The contractor must evaluate soil conditions during excavations since variations in the soil can occur across the site. We recommend that the excavations be monitored continuously for signs of deterioration such as seepage of water or sloughing of soil into the excavation. Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information and recommendations provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety, or the contractor's activities; such responsibility shall neither be implied nor inferred.

Construction Observation and Testing

The earthwork efforts should be monitored under the direction of the Geotechnical Engineer. Monitoring should include documentation of adequate removal of unsuitable fill, proofrolling and mitigation of areas delineated by the proof-roll to require mitigation.

Each lift of compacted fill should be tested, evaluated, and reworked as necessary until approved by the Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 2,500 square feet of compacted fill in the building areas and 5,000 square feet in pavement areas. One density and water content test for every 50 linear feet of compacted utility trench backfill.

In areas of foundation excavations, the bearing subgrade should be evaluated under the direction of the Geotechnical Engineer. If unanticipated conditions are encountered, the Geotechnical Engineer should prescribe mitigation options.

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer's evaluation of subsurface conditions, including assessing variations and associated design changes.

SHALLOW FOUNDATIONS

If the site has been prepared in accordance with the requirements noted in **Earthwork**, the following design parameters are applicable for shallow foundations.

Design Parameters – Compressive Loads

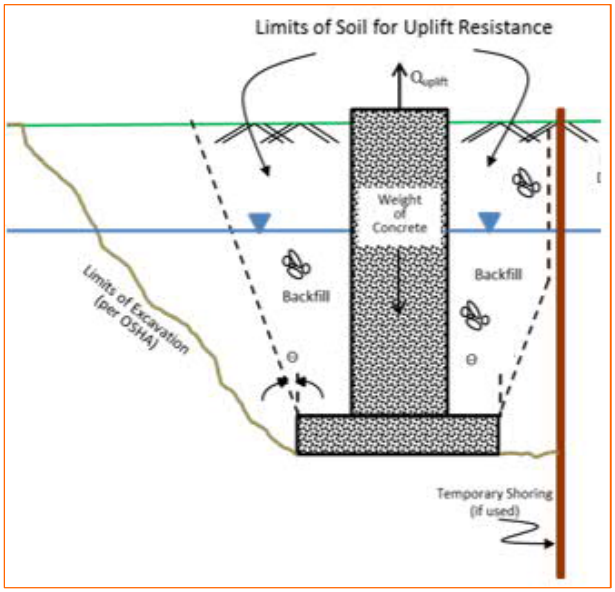
Item	Description
Maximum Net Allowable Bearing Pressure [1, 2]	2,500 psf
Required Bearing Stratum [3]	Minimum 18 inches compacted Structural Fill placed upon stable proofrolled/compacted stable subgrades The Structural Fill should be placed in two, 9-inch thick compacted lifts, and should extend a minimum lateral distance of 18 inches from the edge of the foundations.
Minimum Foundation Dimensions	Columns: 30 inches Continuous: 18 inches
Ultimate Passive Resistance [4] **(equivalent fluid pressures)**	390 pcf (compacted Structural Fill)

Item	Description
Ultimate Coefficient of Sliding Friction [5]	0.50 (Footing on compacted Structural Fill)
Minimum Embedment below Finished Grade [6]	Exterior footings in unheated areas: 48 inches Exterior footings in heated areas: 48 inches Interior footings in heated areas: 18 inches
Estimated Total Settlement from Structural Loads [2]	Less than about 1 inch
Estimated Differential Settlement [2, 7]	About 2/3 of total settlement

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. An appropriate factor of safety has been applied. These bearing pressures can be increased by 1/3 for transient loads unless those loads have been factored to account for transient conditions. Values assume that exterior grades are no steeper than 20% within 10 feet of structure.
2. Values provided are for maximum loads noted in **Project Description**.
3. Unsuitable or soft soils should be over-excavated and replaced per the recommendations presented in the **Earthwork**.
4. Use of passive earth pressures require the sides of the excavation for the spread footing foundation to be nearly vertical and the concrete placed neat against these vertical faces or that the footing forms be removed and compacted Structural Fill be placed against the vertical footing face. The Structural Fill must extend out and up from the base of the foundation at an angle of at least 60 degrees from vertical for the passive case.
5. Can be used to compute sliding resistance where foundations are placed on suitable soil/materials. Should be neglected for foundations subject to net uplift conditions.
6. Embedment necessary to minimize the effects of frost and/or seasonal water content variations. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal feet of the structure.
7. Differential settlements are as measured over a span of 50 feet.

Design Parameters - Uplift Loads

Uplift resistance of spread footings can be developed from the effective weight of the footing and the overlying soils. As illustrated on the subsequent figure, the effective weight of the soil prism defined by diagonal planes extending up from the top of the perimeter of the foundation to the ground surface at an angle, θ, of 20 degrees from the vertical can be included in uplift resistance. The maximum allowable uplift capacity should be taken as a sum of the effective weight of soil plus the dead weight of the foundation, divided by an appropriate factor of safety. A maximum total unit weight of 120 pcf should be used for the backfill. This unit weight should be reduced to 60 pcf for portions of the backfill or natural soils below the groundwater elevation.

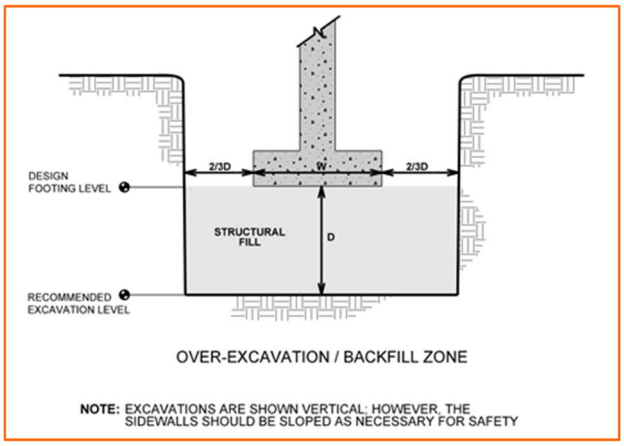


Foundation Construction Considerations

As noted in **Earthwork**, the footing excavations should be evaluated under the direction of the Geotechnical Engineer. Prior to placing concrete, the base of all foundation excavations should be free of water and loose soil. Any large cobbles and/or boulders encountered beneath the proposed foundations at the bearing grade elevation should be removed from the bearing surface, as necessary to prevent hard points, and then backfilled with properly compacted Structural Fill.

Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material, or any loose/disturbed material in the bottom of the footing excavations should be removed/reconditioned before foundation concrete is placed.

Over-excavation for removal of unsuitable soils below footings should be conducted as shown below. The over-excavation should be backfilled up to the footing base elevation, with imported Structural Fill placed, as recommended in the **Earthwork** section.



As an alternative, if unsuitable bearing soils are encountered at the base of the planned footing excavation, the excavation should be extended deeper to suitable soils, and the over-excavation should be backfilled up to the footing base elevation footings with Lean Concrete backfill placed in the excavations. The Lean Concrete should extend a minimum lateral distance of 3 inches beyond the edges of the foundation.

SEISMIC CONSIDERATIONS

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the International Building Code (IBC). Based on the soil or rock properties encountered at the site and as described on the exploration logs and results, it is our professional opinion that the **Seismic Site Classification** is **D**. Subsurface explorations at this site were extended to a maximum depth of 16 feet. The site properties below the boring depth to 100 feet were estimated based on our experience and knowledge of geologic conditions of the general area. Additional deeper borings or geophysical testing may be performed to confirm the conditions below the current boring depth.

FLOOR SLABS

Design parameters for floor slabs assume the requirements for **Earthwork** have been followed. Special attention should be given to positive drainage away from the structure and positive drainage of the Aggregate Base beneath the floor slab.

Floor Slab Design Parameters

Item	Description
Floor Slab Support [1]	Minimum 15 inches of Aggregate Base material compacted to at least 95% of Modified Proctor (ASTM D 1557) placed directly upon proofrolled stable on-site subgrade soils.
Estimated Modulus of Subgrade Reaction [2]	80 pounds per square inch per inch (psi/in) for point loads

1. Floor slabs should be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.
2. Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in **Earthwork**, and the floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower.

The use of a vapor retarder should be considered beneath concrete slabs on grade covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

Saw-cut control joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations refer to the ACI Design Manual. Joints or cracks should be sealed with a water-proof, non-extruding compressible compound specifically recommended for heavy duty concrete pavement and wet environments.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing or other means.

Floor Slab Construction Considerations

Finished subgrade within and for at least 10 feet beyond the floor slab should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become damaged or desiccated prior to construction of floor slabs, the affected material should be removed, and Structural Fill should be added to replace the resulting excavation. Final conditioning of the finished subgrade should be performed immediately prior to placement of the floor slab support course.

The Geotechnical Engineer should approve the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel and concrete. Attention should

be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

PAVEMENTS

General Pavement Comments

Pavement designs are provided for the traffic conditions and pavement life conditions as noted in **Project Description** and in the following sections of this report. A critical aspect of pavement performance is site preparation. Pavement designs, noted in this section, must be applied to the site, which has been prepared as recommended in the **Earthwork** section.

Pavement Design Parameters

Pavement designs were based on *AASHTO Guide for Design of Pavement Structures (1993)* and our experience with similar projects. The thickness of each course is a function of subgrade strength, traffic, design life, serviceability factors, and frost susceptibility.

A subgrade CBR of 3 was used for the AC pavement designs, and a modulus of subgrade reaction of 100 pci was use for the PCC pavement designs. The values were empirically derived based upon our experience with the on-site soils and our understanding of the quality of the subgrade as prescribed by the **Site Preparation** conditions as outlined in **Earthwork**. A modulus of rupture of 600 psi was used for pavement concrete.

Pavement Section Thicknesses

Frost susceptibility is a major factor in the overall pavement section thickness. The total pavement structural sections presented in this report are based also upon the expected depth of freeze, which for the project site is anticipated at 48 inches.

Because of the fine-grained nature of the in-situ soil, and possible variations across the site of subgrade material (i.e., existing fill, native soils, and compacted Structural Fill), we recommend a separation high-strength woven geotextile (such as HP270 or approved equivalent), be placed upon all new approved flexible and rigid pavement subgrades prior to placing the subbase course materials. All underground utilities should be installed prior to geotextile placement. The geotextile will provide separation (i.e., mitigate migration of fines into the overlying subbase course material, which may contribute to its degradation and loss of strength), filtration (i.e., allow for movement of water across the plane of the geotextile with limited soil loss), confinement (i.e., restrain lateral movement of the aggregate), and reinforcement.

The following tables provide options for Asphaltic Concrete and for Portland Cement Sections:

Asphaltic Concrete Design		
Layer	**Thickness (inches)**	
	Light Duty [1]	**Heavy Duty** [1]
Asphalt Top Course [2]	1.5	1.5
Asphalt Binder Course [2]	2.5	3.5
Aggregate Base Course [2]	12.0	12.0

1. See **Project Description** for more specifics regarding pavement type.
2. All materials should meet the current NYSDOT Department of Transportation (NYSDOT) Standard Specifications.
   - Asphalt Top Course – NYSDOT Section 402 for Type 12.5 F2 Top Course HMA, Item No. 402.127202
   - Asphalt Binder Course – NYSDOT Section 402 for Type 19 F9 Binder Course HMA, Item No. 402.197902
   - Aggregate Base Course – NYSDOT Section 304 for Type 2 Subbase Course, Item No. 304.12

Portland Cement Concrete Design		
Layer	**Thickness (inches)**	
	Light Duty [2,3]	**Heavy Duty** [2,3,4]
PCC [1]	6.0	8.0
Aggregate Base [1]	12.0	12.0

1. All materials should meet the current State, County, and City Department of Transportation (NYSDOT) Standard Specifications for Highway and Bridge Construction.
   - Concrete Pavement, NYSDOT Portland Cement Concrete Section 502, with a minimum compressive strength of 4,000 psi at 28 days.
   - Aggregate Base Course, NYSDOT Section 304 for Type 2 Subbase Course, Item No. 304.12
2. Proper joint spacing will be required to prevent excessive slab curling and shrinkage cracking. Joints should be sealed to prevent entry of foreign material and doweled where necessary for load transfer.
3. Where practical, we recommend early-entry cutting of crack-control joints in PCC pavements. Cutting of the concrete in its "green" state typically reduces the potential for micro-cracking of the pavements prior to the crack control joints being formed, compared to cutting the joints after the concrete has fully set. Micro-cracking of pavements may lead to crack formation in locations other than the sawed joints, and/or reduction of fatigue life of the pavement.
4. In areas of anticipated heavy traffic, fire trucks, delivery trucks, or concentrated loads (e.g. dumpster pads), and areas with repeated turning or maneuvering of heavy vehicles.

The estimated pavement sections provided in this report are minimums for the assumed design criteria, and as such, periodic maintenance should be expected. Areas for parking of heavy vehicles, concentrated turn areas, and start/stop maneuvers could require thicker pavement sections. Edge restraints (i.e. concrete curbs or aggregate shoulders) should be planned along curves and areas of maneuvering vehicles. A maintenance program that includes surface sealing, joint cleaning and sealing, and timely repair of cracks and deteriorated areas will increase the pavement's service life. As an option, thicker sections could be constructed to decrease future maintenance.

Pavement Drainage

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. In addition, the pavement subgrade should be graded to provide positive drainage within the granular base section. Appropriate sub-drainage or connection to a suitable daylight outlet should be provided to remove water from the granular subbase. Subdrains (if any) should be sloped to provide positive gravity drainage to reliable discharge points. Periodic maintenance of subdrains is required for long-term proper performance.

Openings in pavements, such as decorative landscaped areas, are sources for water infiltration into surrounding pavement systems. Water can collect in the islands and migrate into the surrounding subgrade soils thereby degrading support of the pavement. This is especially applicable for islands with raised concrete curbs, irrigated foliage, and low permeability near-surface soils. The civil design for the pavements with these conditions should include features to restrict or to collect and discharge excess water from the islands. Examples of features are edge drains connected to the storm water collection system, longitudinal subdrains, or other suitable outlet and impermeable barriers preventing lateral migration of water such as a cutoff wall installed to a depth below the pavement structure.

Pavement Maintenance

The pavement sections represent minimum recommended thicknesses and, as such, periodic maintenance should be anticipated. Therefore, preventive maintenance should be planned and provided for through an on-going pavement management program. Maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment. Maintenance consists of both localized maintenance (e.g. crack and joint sealing and patching) and global maintenance (e.g. surface sealing). Preventive maintenance is usually the priority when implementing a pavement maintenance program. Additional engineering observation is recommended to determine the type and extent of a cost-effective program. Even with periodic maintenance, some movements and related cracking may still occur, and repairs may be required.

Pavement performance is affected by its surroundings. In addition to providing preventive maintenance, the civil engineer should consider the following recommendations in the design and layout of pavements:

- Final grade adjacent to paved areas should slope down from the edges at a minimum 2%
- Subgrade and pavement surfaces should be properly sloped to promote proper surface drainage
- Drainage systems should be installed below pavements where surrounding areas are anticipated to be wet frequently
- Joint sealant and seal cracks should be installed immediately
- Seal all landscaped areas in or adjacent to pavements to reduce moisture migration to subgrade soils

STORMWATER MANAGEMENT

We understand that a stormwater management area is proposed at the site. Soil samples recovered from boring SW-1 were observed by our geologist for redoximorphic features to estimate the seasonal high-water table level in the vicinity of the proposed stormwater management area. Redoximorphic features (a gray or bluish-gray colored soil matrix) and mottling are formed by the process of reduction, translocation, and/or oxidation of iron and manganese oxides as the water table fluctuates. A soil layer exhibiting redoximorphic features can be representative of the seasonal high-water table level. Based on our observations during sampling, possible redoximorphic features were observed beginning at a depth of approximately 3 to 4 feet below existing grades. This observation, combined with groundwater measured at a depth of approximately 4 feet deep, indicates that the seasonal high-water table in the vicinity of boring SW-1 is at approximately 3 feet below existing grades.

Three PVC pipes were installed for infiltration testing (IT-1, IT-2 and SW-1a) in proximity test boring SW-1 for infiltration testing. Infiltration testing results are included in the **Exploration Results** section.

FROST CONSIDERATIONS

The soils on this site are frost susceptible, and small amounts of water can affect the performance of the slabs on-grade, sidewalks, and pavements. Exterior slabs should be anticipated to heave during winter months. If frost action needs to be eliminated in critical areas, we recommend the use of non-frost susceptible (NFS) fill or structural slabs (for instance, structural stoops in front of building doors). Placement of NFS material in large areas may not be feasible; however, the following recommendations are provided to help reduce potential frost heave:

- Provide surface drainage away from the building and slabs, and toward the site storm drainage system.
- Install drains around the perimeter of the building, stoops, below exterior slabs, and connect them to the storm drainage system.
- Grade clayey subgrades, so groundwater potentially perched in overlying more permeable subgrades, such as sand or aggregate base, slope toward a site drainage system.
- Place NFS fill as backfill beneath slabs and pavements critical to the project.
- Place a 3 horizontal to 1 vertical (3H:1V) transition zone between NFS fill and other soils.
- Place NFS materials in critical sidewalk areas.

GENERAL COMMENTS

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Natural variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence or collaboration through this system are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing.

Site safety, and cost estimating including, excavation support, and dewatering requirements/design are the responsibility of others. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

FIGURES

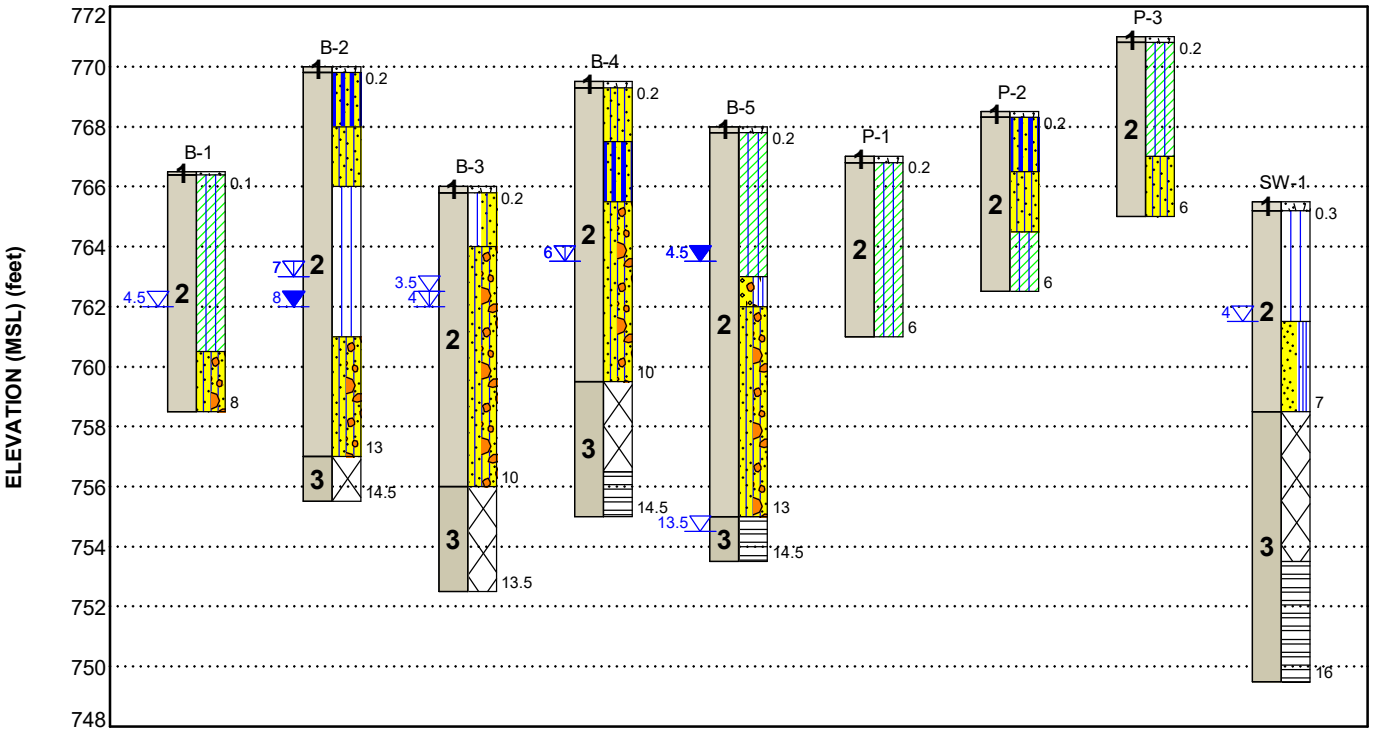
Contents:

GeoModel

GEOMODEL

Dollar General Store ■ Gowanda, NY
Terracon Project No. J5195141

Terracon GeoReport



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	Surface	Topsoil
2	Native Soil	Mixtures of clay, silt, sand with gravel (CL-ML, ML, SM); brown, orange-brown to gray; soft to stiff or very loose to very dense
3	Weathered bedrock	Highly weathered siltstone and/or shale, gray or black

LEGEND

- Topsoil
- Silty Clay
- Silty Sand with Gravel
- Sandy Silt
- Silty Sand
- Silt
- Weathered Rock
- Silt with Sand
- Highly Weathered Shale
- Well-graded Sand with Silt and Gravel
- Poorly-graded Sand with Silt

- First Water Observation
- Second Water Observation
- Third Water Observation

Groundwater levels are temporal. The levels shown are representative of the date and time of our exploration. Significant changes are possible over time.
Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project.
Numbers adjacent to soil column indicate depth below ground surface.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES

Field Exploration

Number of Explorations	Depth (feet)	Location
4 borings (B-1 through B-4)	8 to 14.5	Proposed building corners
1 boring (B-5)	14.5	Proposed building center
3 borings (P-1 through P-3)	6	Pavement Area
1 boring (SW-1)	16	Stormwater Management Area

Boring Layout and Elevations: Terracon personnel provided the boring layout. Coordinates were obtained with a handheld GPS unit (estimated horizontal accuracy of about ±20 feet) and approximate elevations were obtained from the ALTA Survey plan provided by The Broadway Group. If elevations and a more precise boring layout are desired, we recommend borings be surveyed following completion of fieldwork.

Subsurface Exploration Procedures: We advanced the borings with a track-mounted rotary drill rig using continuous hollow stem flight augers. Soil sampling was completed using a split-spoon sampler, as indicated in the boring logs. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon is driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the middle 12 inches of a normal 24-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. We observed and recorded groundwater levels during drilling and sampling. For safety purposes, all borings were backfilled with auger cuttings after their completion.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials encountered during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. Based on the material's texture and plasticity, we described and classified the soil samples in accordance with the Unified Soil Classification System. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Infiltration Testing

Three PVC pipes were installed for infiltration testing (IT-1, IT-2 and SW-1a) in proximity to SW-1 at depths ranging from approximately 3.5 to 5 feet below the existing surface. The infiltration test at each location was performed in general accordance with NYDEC Stormwater Management Design Manual - Appendix D. Infiltration Testing Requirements. The infiltration testing was performed as follow:

- Upon reaching the planned boring depth, a solid, 4-inch diameter PVC pipe was firmly seated into the bottom of the borehole.
- The pipe was filled with water to a depth of 24 inches above the bottom of the borehole and allowed to pre-soak for 24 hours to simulate saturated conditions.
- After 24 hours, water was added to the casing, as necessary, to bring the water level to a depth of 24 inches above the bottom of the borehole and the drop in the water level was monitored and measured after 1 hour.
- The monitoring process was repeated a total of four times.

Upon completion of the field testing, the pipes were removed, and the boreholes were backfilled with the soil cuttings. Infiltration test results are included in the **Exploration Results** section.

Photo 1: Facing west from eastern portion of site (between the existing homes)

Photo 2: Facing south from the northwestern corner of the site

Photo 3: Facing southeast from the northwestern corner of the site

Photo 4: Facing northwest from the eastern edge of the site (between the existing homes)

Photo 5: Facing east from the northwestern corner of the site

Photo 6: Facing southwest from the eastern edge of the site (between the existing homes)

SITE LOCATION AND EXPLORATION PLANS

Contents:

Site Location Plan
Exploration Plan with Aerial Image
Exploration Plan with Project Overlay

Note: All attachments are one page unless noted above.

SITE LOCATION

Dollar General ■ Gowanda, NY
Terracon Project No. J5195141

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: GOWANDA, NY (1/1/1976).

EXPLORATION PLAN WITH AERIAL IMAGE

Dollar General ■ Gowanda, NY

Terracon Project No. J5195141

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN WITH PROJECT OVERLAY

Dollar General ■ Gowanda, NY

Terracon Project No. J5195141

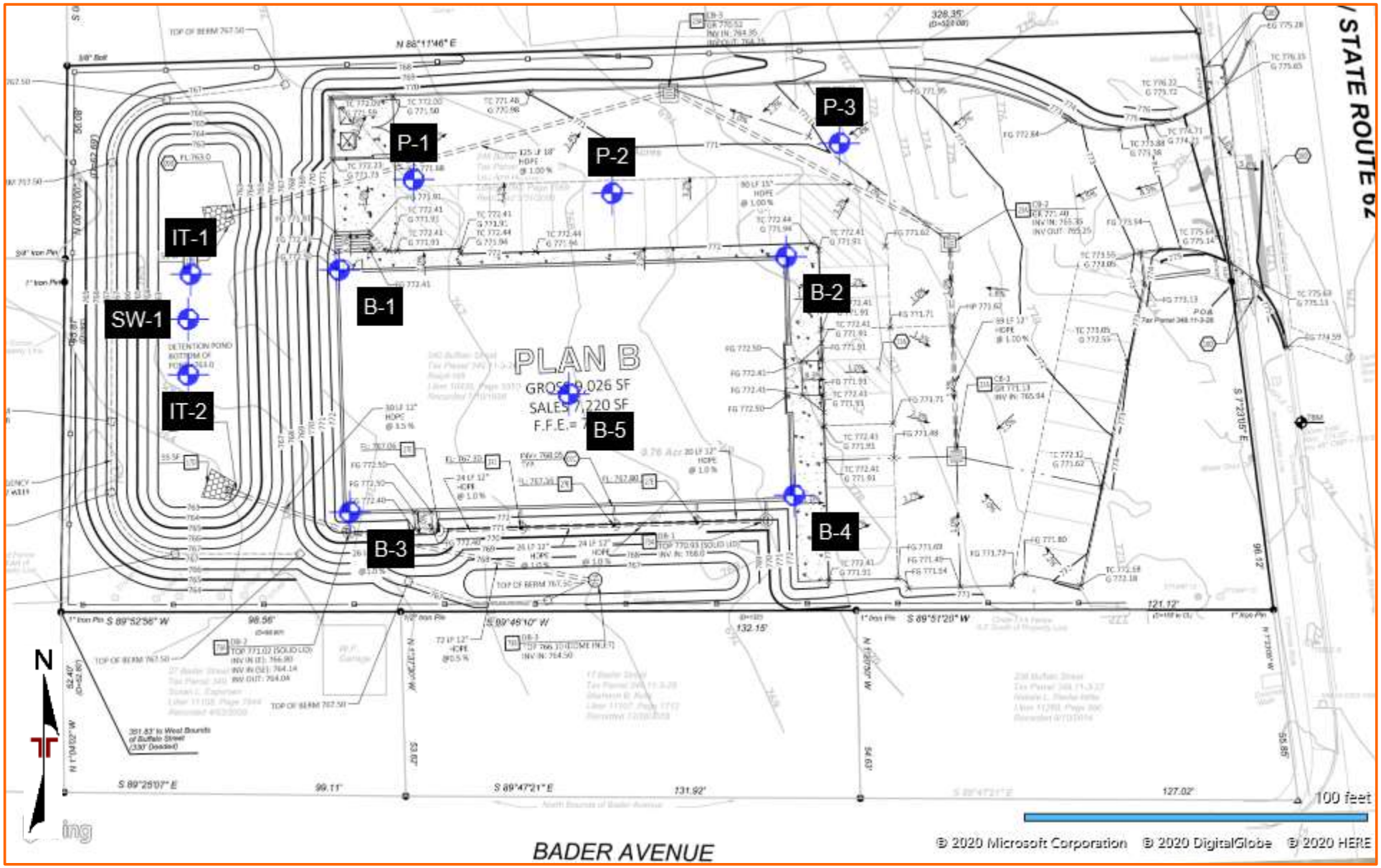


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

EXPLORATION RESULTS

Contents:

Boring Logs (9 pages)
Infiltration Test Results

Note: All attachments are one page unless noted above.

BORING LOG NO. B-1

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.4709° Longitude: -78.9364°

Approximate Surface Elev.: 766.5 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1		0.1	766.5+/-					
			TOPSOIL					
			SILTY CLAY (CL-ML), trace sand, orange-brown, soft				12	1-2-1-3 N=3
			Becomes orange-brown and gray, stiff				13	2-5-6-7 N=11
2			Becomes medium stiff	5	▽		11	3-2-2-1 N=4
		6.0	760.5+/-					
			SILTY SAND WITH GRAVEL (SM), numerous weathered siltstone fragments, gray, very dense				10	16-17-50/5"
		8.0	758.5+/-					
			Sample Spoon Penetration refusal encountered at 7.4' BGS. Auger Penetration Refusal encountered at 8 Feet					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

▽ *4.5' BGS at completion of sampling*

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-22-2020	Boring Completed: 05-22-2020
Drill Rig: CME-550X	Driller: B. Duffey
Project No.: J5195141	

BORING LOG NO. B-2

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.4709° Longitude: -78.9359°

Approximate Surface Elev.: 770 (Ft.) +/-

MODEL LAYER	DEPTH	ELEVATION (Ft.)		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1	0.2	770+/-	**TOPSOIL**					
			SANDY SILT (ML), trace clay, brown, soft				11	1-2-2-2 N=4
	2.0	768+/-						
			SILTY SAND (SM), trace clay, orange brown, loose				15	2-3-4-4 N=7
	4.0	766+/-						
2			**SILT (ML)**, trace sand, trace clay, orange brown and gray, medium stiff	5			14	1-1-3-4 N=4
			Becomes brown gray		▽		14	3-3-4-5 N=7
	9.0	761+/-			▼			
			SILTY SAND WITH GRAVEL (SM), trace siltstone fragments, brown gray, very dense				0	WOH/1.0-4-5 N=4
				10			8	10-50-50/1"
	13.0	757+/-						
3			**HIGHLY WEATHERED SILTSTONE**, gray				12	25-48-50/2"
	14.5	755.5+/-						
			Sample spoon Penetration Refusal encountered at 14.5 Feet					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:
WOH = Weight of Hammer and Rods

WATER LEVEL OBSERVATIONS

▽ *7' BGS at completion of sampling*

▽ *7' BGS at end of day*

▼ *8' BGS at 0900 on 5/22/20*

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-21-2020 | Boring Completed: 05-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5195141

BORING LOG NO. B-3

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.4707° Longitude: -78.9364°

Approximate Surface Elev.: 766 (Ft.) +/-

MODEL LAYER	DEPTH	ELEVATION (Ft.)	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1	0.2	766+/-	**TOPSOIL**					
			SILT WITH SAND (ML), trace clay, orange brown, soft				9	2-1-3-4 N=4
	2.0	764+/-						
2			**SILTY SAND WITH GRAVEL (SM)**, brown, loose to medium dense		▽		13	4-8-8-7 N=16
			saturated		▽			
				5			6	3-3-4-4 N=7
							0	2-2-2-1 N=4
			Becomes gray, contains occasional cobble fragments, very dense				2	14-50/2"
	10.0	756+/-		10				
3			**HIGHLY WEATHERED SILTSTONE**, gray				9	2-17-23-20 N=40
							2	50/4"
	13.5	752.5+/-						
			Sample spoon Penetration Refusal encountered at 13.5 Feet					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:

WATER LEVEL OBSERVATIONS

▽ *3.5' BGS at completion of sampling*

▽ *4' BGS at 0900 on 5/22/20*

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-21-2020 | Boring Completed: 05-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5195141

BORING LOG NO. B-4

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.4707° Longitude: -78.9359°

Approximate Surface Elev.: 769.5 (Ft.) +/-

MODEL LAYER	DEPTH	ELEVATION (Ft.)		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1	0.2	769.5+/-	**TOPSOIL**					
			SILTY SAND (SM), trace gravel, trace clay, orange brown, loose				15	2-2-2-2 N=4
	2.0	767.5+/-						
			SANDY SILT (ML), trace gravel, occasional clay partings, orange brown, medium stiff				14	2-3-4-5 N=7
	4.0	765.5+/-						
2			**SILTY SAND WITH GRAVEL (SM)**, trace clay, brown, loose to medium dense	5	▽		15	4-4-8-5 N=12
							7	5-5-3-3 N=8
			Becomes brown gray, very loose				7	2-1-2-2 N=3
	10.0	759.5+/-		10				
3			**HIGHLY WEATHERED SILTSTONE**, olive gray				6	4-8-8-15 N=16
	13.0	756.5+/-						
			HIGHLY WEATHERED SHALE, gray					
	14.5	755+/-					5	35-50/1"
			Sample spoon Penetration Refusal encountered at 14.5 Feet					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

▽ *6' BGS at completion of sampling*

▽ *6' BGS at 0900 on 5/22/20*

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-21-2020 | Boring Completed: 05-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5195141

BORING LOG NO. B-5

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.4708° Longitude: -78.9362°

Surface Elev.: 768 (Ft.)

MODEL LAYER	DEPTH	ELEVATION (Ft.)		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1	0.2	768	**TOPSOIL**					
			SILTY CLAY (CL-ML), trace sand, brown gray, very soft				10	WOH/1.0-1-3 N=1
			Becomes orange brown, stiff				14	2-3-6-5 N=9
	5.0	763		5	▼		15	5-6-4-5 N=10
			WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM), brown, medium dense					
	6.0	762						
2			**SILTY SAND WITH GRAVEL (SM)**, orange brown, loose to medium dense				7	6-5-4-6 N=9
							6	3-3-2-1 N=5
			Contains occasional siltstone fragments	10			4	1-8-8-5 N=16
	13.0	755			▽			
3			**HIGHLY WEATHERED SHALE**, gray				2	50/4"
	14.5	753.5						
			Sample spoon Penetration Refusal encountered at 14.5 Feet					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:
WOH = Weight of Hammer and Rods

WATER LEVEL OBSERVATIONS

▽ *13.5' BGS at completion of sampling*

▽ *4.5' BGS at end of day*

▼ *4.5' BGS at 0900 on 5/22/20*

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-21-2020 | Boring Completed: 05-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5195141

BORING LOG NO. P-1

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.471° Longitude: -78.9363°

Surface Elev.: 767 (Ft.)

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1		0.2	767					
		TOPSOIL						
2		**SILTY CLAY (CL-ML)**, trace sand, brown gray, very soft					11	1-1-1-1 N=2
		Becomes orange brown and gray, medium stiff					16	4-4-4-4 N=8
		Becomes brown gray		5			17	4-4-4-3 N=8
		6.0	761					
		Boring Terminated at 6 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

None encountered at completion of sampling

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-22-2020	Boring Completed: 05-22-2020
Drill Rig: CME-550X	Driller: B. Duffey
Project No.: J5195141	

BORING LOG NO. P-2

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.4709° Longitude: -78.9361°

Surface Elev.: 768.5 (Ft.)

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1		0.2	768.5					
		TOPSOIL						
		SANDY SILT (ML), trace clay, brown gray, very soft					13	1-1-1-1 N=2
		2.0	766.5					
2		**SILTY SAND (SM)**, trace clay, brown gray, loose					11	3-4-4-3 N=8
		4.0	764.5					
		SILTY CLAY (CL-ML), trace sand, orange brown and gray, medium stiff		5			14	3-3-2-3 N=5
		6.0	762.5					
		Boring Terminated at 6 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:

WATER LEVEL OBSERVATIONS

None encountered at completion of sampling

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-22-2020 | Boring Completed: 05-22-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5195141

BORING LOG NO. P-3

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.471° Longitude: -78.9359°

Surface Elev.: 771 (Ft.)

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1		0.2	771					
		TOPSOIL						
2		**SILTY CLAY (CL-ML)**, trace sand, brown gray, soft to medium stiff					12	1-1-1-1 N=2
							17	2-3-4-4 N=7
		4.0	767					
		SILTY SAND (SM), trace clay, brown, loose		5			16	4-3-3-4 N=6
		6.0	765					
		Boring Terminated at 6 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:

WATER LEVEL OBSERVATIONS

None encountered at completion of sampling

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-21-2020 | Boring Completed: 05-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5195141

BORING LOG NO. SW-1

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.4708° Longitude: -78.9366°

Surface Elev.: 765.5 (Ft.)

MODEL LAYER	DEPTH	ELEVATION (Ft.)		RECOVERY (In.)	FIELD TEST RESULTS
1	0.3	765	**TOPSOIL**		
2	4.0	761.5	**SILT (ML)**, trace sand, trace clay, orange brown, soft to stiff	10	1-1-2-3 N=3
				14	5-4-5-4 N=9
	7.0	758.5	**POORLY GRADED SAND WITH SILT (SP-SM)**, trace gravel, fine grained, dark gray, very loose	6	2-1-1-1 N=2
3	12.0	753.5	**HIGHLY WEATHERED SILTSTONE**, with sand, gray	13	4-17-19-13 N=36
				6	13-10-12-19 N=22
				10	5-8-13-21 N=21
	16.0	749.5	**HIGHLY WEATHERED SHALE**, black	14	50-40-50/5"
				16	10-24-37-50 N=61
			Boring Terminated at 16 Feet		

DEPTH (Ft.): 5, 10, 15

WATER LEVEL OBSERVATIONS: ▽ 4' BGS at completion of sampling

SAMPLE TYPE

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:

WATER LEVEL OBSERVATIONS

▽ *4' BGS at completion of sampling*

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-22-2020 | Boring Completed: 05-22-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5195141

INFILTRATION TEST DATA SUMMARY

Project: Dollar General - Gowanda, NY
Weather: Mostly Cloudy
Presoak Date: 5/22/20

Terracon Project No.:J5195141
Tester : Blake Pilarski
Test Date: 5/27/2020

Test Location	Test Depth (Feet)	Soil Classification	Trial Number	Water Drop (inches)	Elapsed Time (hours)	Infiltration Rate (inches/hour)
SW-1a (installed at a distance of about 5 feet from SW-1)	5.5	Silt	1	0.0	1	0.0
			2	0.2	1	0.2
			3	0.1	1	0.1
			4	0.1	1	0.1
			Average infiltration rate for the four trials was 0.1 inches per hour. Infiltration rate of the final trial was 0.1 inches per hour.			
IT-1	3.0	Silt	1	0.4	1	0.4
			2	0.4	1	0.4
			3	0.2	1	0.2
			4	0.4	1	0.4
			Average infiltration rate for the four trials was 0.4 inches per hour. Infiltration rate of the final trial was 0.3 inches per hour.			
IT-2	3.5	Silt	1	0	1	0
			2	0	1	0
			3	0	1	0
			4	0	1	0
			Average infiltration rate for the four trials was 0.00 inches per hour. Infiltration rate of the final trial was 0.00 inches per hour.			

Testing was conducted in general accordance with Appendix D of the New York State Storm Water Management Design Manual.

SUPPORTING INFORMATION

Contents:

General Notes
Unified Soil Classification System
Description of Rock Properties

Note: All attachments are one page unless noted above.

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS
Dollar General Store ■ Gowanda, NY
Terracon Project No. J5195141

SAMPLING	WATER LEVEL	FIELD TESTS
Standard Penetration Test	**Water Initially Encountered** **Water Level After a Specified Period of Time** **Water Level After a Specified Period of Time** **Cave In Encountered** Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	**N** Standard Penetration Test Resistance (Blows/Ft.) **(HP)** Hand Penetrometer **(T)** Torvane **(DCP)** Dynamic Cone Penetrometer **UC** Unconfined Compressive Strength **(PID)** Photo-Ionization Detector **(OVA)** Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

LOCATION AND ELEVATION NOTES

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance		CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance		
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength Qu, (tsf)**	**Standard Penetration or N-Value Blows/Ft.**
Very Loose	0 - 3	Very Soft	less than 0.25	0 - 1
Loose	4 - 9	Soft	0.25 to 0.50	2 - 4
Medium Dense	10 - 29	Medium Stiff	0.50 to 1.00	4 - 8
Dense	30 - 50	Stiff	1.00 to 2.00	8 - 15
Very Dense	> 50	Very Stiff	2.00 to 4.00	15 - 30
		Hard	> 4.00	> 30

RELEVANCE OF SOIL BORING LOG

The soil boring logs contained within this document are intended for application to the project as described in this document. Use of these soil boring logs for any other purpose may not be appropriate.

UNIFIED SOIL CLASSIFICATION SYSTEM

Terracon GeoReport

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	Cu ≥ 4 and 1 ≤ Cc ≤ 3 [E]		GW	Well-graded gravel [F]
			Cu < 4 and/or [Cc<1 or Cc>3.0] [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F, G, H]
			Fines classify as CL or CH		GC	Clayey gravel [F, G, H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	Cu ≥ 6 and 1 ≤ Cc ≤ 3 [E]		SW	Well-graded sand [I]
			Cu < 6 and/or [Cc<1 or Cc>3.0] [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G, H, I]
			Fines classify as CL or CH		SC	Clayey sand [G, H, I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above "A"		CL	Lean clay [K, L, M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K, L, M, N]
			Liquid limit - not dried			Organic silt [K, L, M, O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K, L, M]
			PI plots below "A" line		MH	Elastic Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K, L, M, P]
			Liquid limit - not dried			Organic silt [K, L, M, Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve.

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

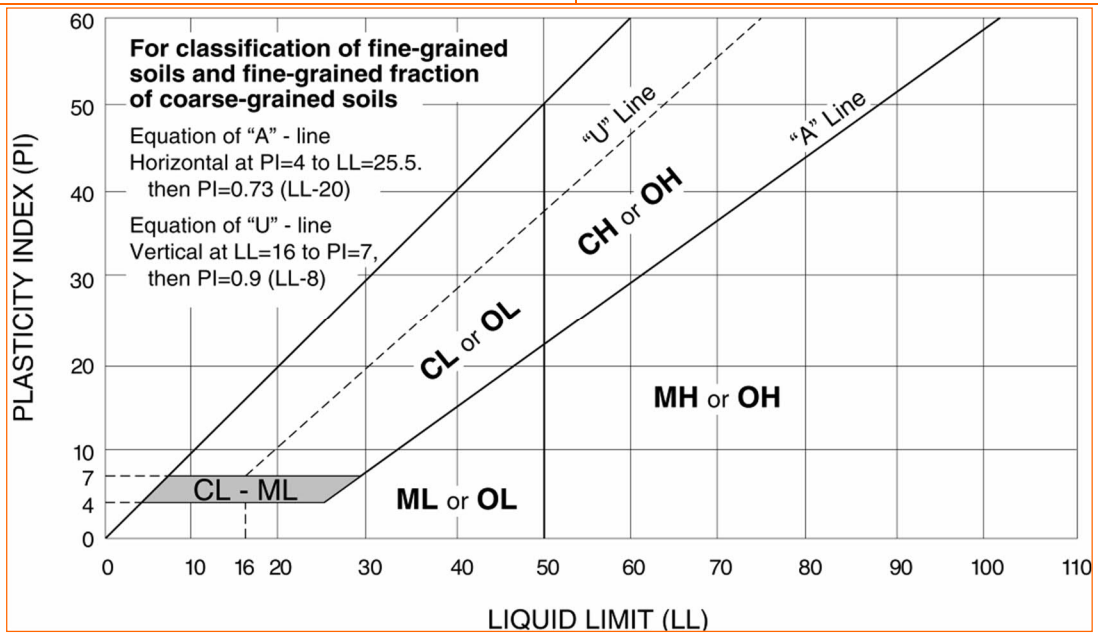
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



DESCRIPTION OF ROCK PROPERTIES

WEATHERING	
Term	**Description**
Unweathered	No visible sign of rock material weathering, perhaps slight discoloration on major discontinuity surfaces.
Slightly weathered	Discoloration indicates weathering of rock material and discontinuity surfaces. All the rock material may be discolored by weathering and may be somewhat weaker externally than in its fresh condition.
Moderately weathered	Less than half of the rock material is decomposed and/or disintegrated to a soil. Fresh or discolored rock is present either as a continuous framework or as corestones.
Highly weathered	More than half of the rock material is decomposed and/or disintegrated to a soil. Fresh or discolored rock is present either as a discontinuous framework or as corestones.
Completely weathered	All rock material is decomposed and/or disintegrated to soil. The original mass structure is still largely intact.
Residual soil	All rock material is converted to soil. The mass structure and material fabric are destroyed. There is a large change in volume, but the soil has not been significantly transported.

STRENGTH OR HARDNESS		
Description	**Field Identification**	**Uniaxial Compressive Strength, psi (MPa)**
Extremely weak	Indented by thumbnail	40-150 (0.3-1)
Very weak	Crumbles under firm blows with point of geological hammer, can be peeled by a pocket knife	150-700 (1-5)
Weak rock	Can be peeled by a pocket knife with difficulty, shallow indentations made by firm blow with point of geological hammer	700-4,000 (5-30)
Medium strong	Cannot be scraped or peeled with a pocket knife, specimen can be fractured with single firm blow of geological hammer	4,000-7,000 (30-50)
Strong rock	Specimen requires more than one blow of geological hammer to fracture it	7,000-15,000 (50-100)
Very strong	Specimen requires many blows of geological hammer to fracture it	15,000-36,000 (100-250)
Extremely strong	Specimen can only be chipped with geological hammer	>36,000 (>250)

DISCONTINUITY DESCRIPTION			
Fracture Spacing (Joints, Faults, Other Fractures)		**Bedding Spacing (May Include Foliation or Banding)**	
Description	**Spacing**	**Description**	**Spacing**
Extremely close	< ¾ in (<19 mm)	**Laminated**	< ½ in (<12 mm)
Very close	¾ in – 2-1/2 in (19 - 60 mm)	**Very thin**	½ in – 2 in (12 – 50 mm)
Close	2-1/2 in – 8 in (60 – 200 mm)	**Thin**	2 in – 1 ft. (50 – 300 mm)
Moderate	8 in – 2 ft. (200 – 600 mm)	**Medium**	1 ft. – 3 ft. (300 – 900 mm)
Wide	2 ft. – 6 ft. (600 mm – 2.0 m)	**Thick**	3 ft. – 10 ft. (900 mm – 3 m)
Very Wide	6 ft. – 20 ft. (2.0 – 6 m)	**Massive**	> 10 ft. (3 m)

Discontinuity Orientation (Angle): Measure the angle of discontinuity relative to a plane perpendicular to the longitudinal axis of the core. (For most cases, the core axis is vertical; therefore, the plane perpendicular to the core axis is horizontal.) For example, a horizontal bedding plane would have a 0-degree angle.

ROCK QUALITY DESIGNATION (RQD) [1]	
Description	**RQD Value (%)**
Very Poor	0 - 25
Poor	25 – 50
Fair	50 – 75
Good	75 – 90
Excellent	90 - 100

1. The combined length of all sound and intact core segments equal to or greater than 4 inches in length, expressed as a percentage of the total core run length.

Reference: U.S. Department of Transportation, Federal Highway Administration, Publication No FHWA-NHI-10-034, December 2009
Technical Manual for Design and Construction of Road Tunnels – Civil Elements

APPENDIX “L”

SPILL REPORT FORM

Spill Report Form

The Broadway Group, LLC – Gowanda, NY

Spill Reported by: _____

Date/Time Spill: _____

Describe spill location and events leading to spill: _____

_____

Material spilled: _____

Source of spill: _____

Amount spilled: _____ Amount spilled to waterway: _____

Containment or clean up action: _____

_____

_____

_____

Approximate depth of soil excavation: _____

List Injuries or Personal Contamination: _____

Action to be taken to prevent future spills: _____

_____

Modifications to the SWPPP, including required sampling, necessary due to this spill: _____

_____

Agencies notified of the spill: _____

_____

_____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ _____

Contractor Superintendent Date

APPENDIX “M”

ADDITIONAL SITE INSPECTOR LOG

Federal, State, or Local Storm Water or other Environmental Inspector Site Visit Log

The Broadway Group, LLC – Gowanda, NY

Inspectors Name: ______________________ Agency: ______________________________

Contractors Representative Present: ____

Others Present:____

Comments: ____

Time and Date: ___________________________ Report Prepared: Yes No

Inspectors Name: ______________________ Agency: ______________________________

Contractors Representative Present: ____

Others Present:____

Comments: ____

Time and Date: ___________________________ Report Prepared: Yes No

Inspectors Name: ______________________ Agency: ______________________________

Contractors Representative Present: ____

Others Present:____

Comments: ____

Time and Date: ___________________________ Report Prepared: Yes No

Inspectors Name: ______________________ Agency: ______________________________

Contractors Representative Present: ____

Others Present:____

Comments: ____

Time and Date: ___________________________ Report Prepared: Yes No

Inspectors Name: ______________________ Agency: ______________________________

Contractors Representative Present: ____

Others Present:____

Comments: ____

Time and Date: ___________________________ Report Prepared: Yes No

APPENDIX "N"

WEEKLY STORMWATER MEETING LOG

Weekly Storm Water Meeting Review and Comment Form

The Broadway Group, LLC – Gowanda, NY

Project Site Superintendent: _____ Date and Time: _____

Others Present: NAME	TITLE	COMPANY

Installation/Removal of BMPs (include subcontractors performing the activities): _____

_____

BMP Maintenance and Repair (include subcontractors performing the activities): _____

_____

Non-effective BMPs: _____

_____

Efforts to mitigate or correct non-effective BMPs: _____

_____

Status of staging areas, storage, borrow, fill, concrete wash-out, and exits: _____

_____

Upcoming activities: _____

_____

Modifications or additions to SWPPP or project phasing: _____

_____

Findings, Conclusions & Additional Information: _____

APPENDIX "O"

CORRECTIVE ACTION LOG

The Broad Way Group, LLC – Gowanda, NY

Inspection Date	Inspector Name(s)	Description of BMP Deficiency	Corrective Action Needed (including planned date/responsible person)	Date Action Taken/Responsible person

APPENDIX “P”

SWPPP AMENDMENT LOG

The Broad Way Group, LLC – Gowanda, NY

Amendment No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

APPENDIX “Q”

RAIN GUAGE LOG

The Broad Way Group, LLC – Gowanda, NY

Date of Reading	Reading (in)	Date of Reading	Reading (in)

APPENDIX “R”

SWPPP TRAINING LOG

Stormwater Pollution Prevention Training Log

Project Name: **The Broadway Group, LLC – Gowanda, NY**

Project Location: **Buffalo Street, Gowanda, New York**

Instructor's Name(s):

Instructor's Title(s):

Course Location: __ Date: _____

Course Length (hours): _

Stormwater Training Topic: *(check as appropriate)*

- ❑ **Erosion Control BMPs**
- ❑ **Emergency Procedures**
- ❑ **Sediment Control BMPs**
- ❑ **Good Housekeeping BMPs**
- ❑ **Non-Stormwater BMPs**

Specific Training Objective:_____

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

APPENDIX “S”

ADDITIONAL INFORMATION

APPENDIX “T”

EROSION CONTROL PLAN AND DETAILS

Note: Refer to Erosion Control Plan(s) and related Detail Sheet(s) within the Site Development Plans under a separate cover.

APPENDIX “U”

STORMWATER MANAGEMENT REPORT

DRAINAGE REPORT

The Broadway Group, LLC
Village of Gowanda, NY
(Erie County)
240 & 248 Buffalo Street

Developer:
The Broadway Group, LLC
216 Westside Square
Huntsville, AL 35801
(256) 533-7287

BY:
CEI Engineering Associates, Inc.
550 Township Line Road, Suite 450
Blue Bell, PA 19422
(479) 273-9472

CEI Project No. 31140.0

July 13, 2020

The Broadway Group, LLC – Village of Gowanda, NY

Introduction:

The project site is approximately 1.28 acres of undeveloped land and is located at 240 & 248 Buffalo Street, approximately 50 feet north of Bader Ave. in the Village of Gowanda, Eric County, NY.

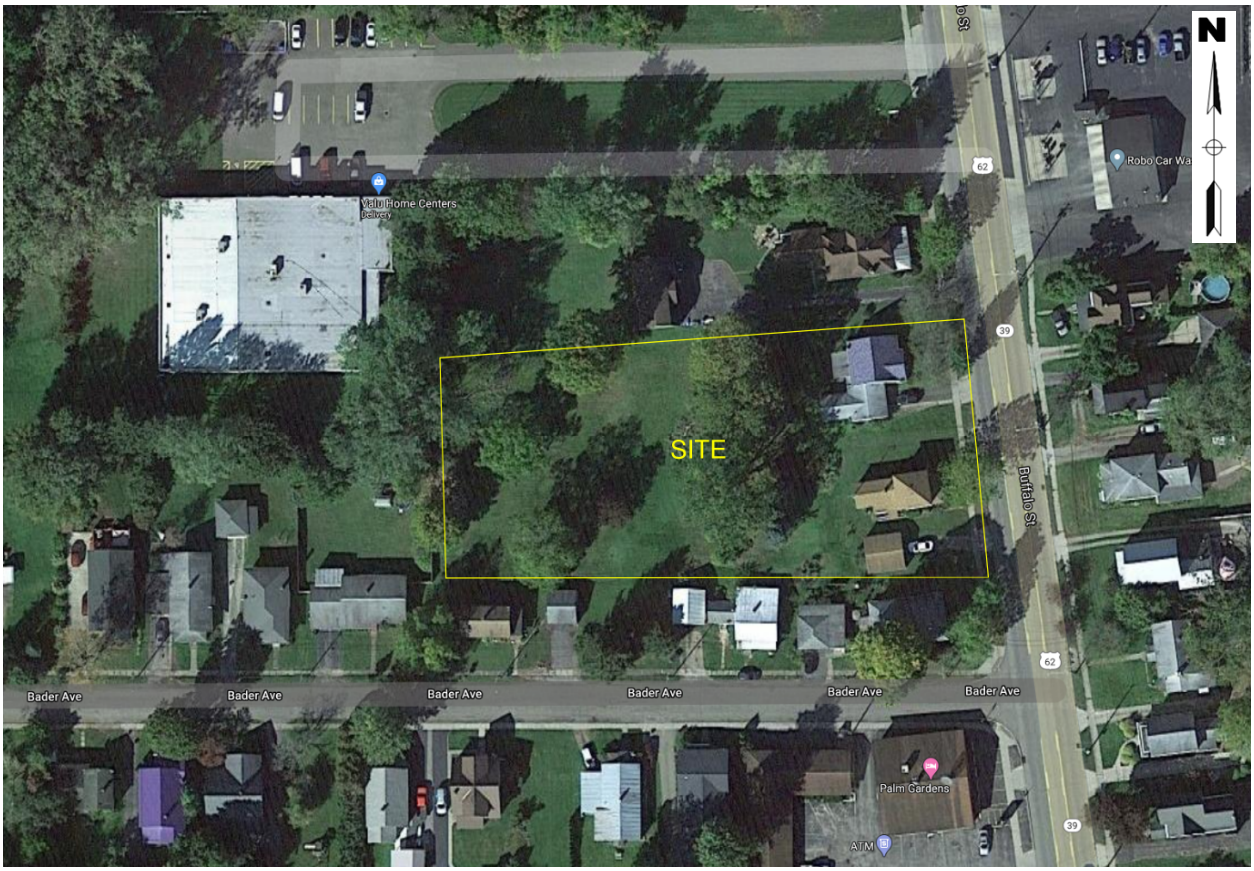


Figure 1. Location Map

This development will not increase water flow onto the roadway system. Runoff from site improvements is proposed to discharge west to proposed bioretention basins and proposed detention basin, with release from the detention basin to the west similar to existing conditions. A detention pond is proposed at the west side of the development that will reduce post-development runoff rates from the site to below existing, pre-development runoff rates, ensuring no adverse impact to the existing drainage conditions and receiving areas. In addition, bioretention ponds are proposed to provide water quality treatment of impervious surfaces per the New York State Stormwater Management Design Manual.

Background Information / Project Description:

The proposed project involves commercial development disturbing approximately 1.23 acres and generating approximately 0.73 acres of impervious surface consisting of the construction of a 1-story retail building (approx. 9,000 SF) and related parking and drive areas. The project will also

include installation of an on-site above ground stormwater management ponds with related storm sewer pipes and inlets.

Construction includes bioretention and detention ponds for on-site stormwater management, located at the rear of the development. Runoff from all new impervious surfaces will be collected by proposed inlets and pipes carrying runoff to the ponds. The detention pond outlet will be to the west meeting existing site conditions. Runoff rates from the development will be below existing, pre-development, site condition runoff rates.

On-site soils primarily consist of Chenango Gravelly Loam, 3 to 8 percent slopes, poorly drained and stratified per results from the NRCS USDA Web Soils Survey search (Appendix B). Subsoils were characterized as HSG A. HSG D was the classification used conservatively for the silty gravel subbase for design of the proposed detention BMP.

A Geotechnical Engineering Report was prepared by Terracon for the site (Appendix B). The Report indicates soils on the site are Silt and Poorly Graded Sand with Silt, with Highly Weathered Siltstone below. Part of the investigation, Terracon performed infiltration testing in the area of the proposed stormwater ponds. Based upon the analysis, soils on the site have very low infiltration potential. Therefore, underdrains are proposed beneath the proposed stormwater ponds and stormwater drainage has been analyzed with no infiltration benefit from underlying soils. The Report also indicated groundwater was encountered and determined approximate elevations. The lowest elevations of the proposed stormwater management ponds are proposed to be at least 2 feet above the determined groundwater elevations.

Methodology:

Design was based on the standards set forth by the Village of Gowanda, Erie County, and New York state regulations as found in the New York State Stormwater Management Design Manual. Above ground bioretention ponds were selected for stormwater quality site BMP and a detention pond is proposed to manage the peak flows from the 1-, 2-, 10-, and 100-year, 24-hour rainfall events to less than existing conditions. The system was also designed for water quality to provide storage volumes meeting SPDES requirements as outlined in Chapter 4 of the New York State Stormwater Management Design Manual.

The soil conservation service (SCS) unit hydrograph method was employed to determine runoff and for routing of storms through the detention system. Type II (24-hr) rainfall distribution was used and data was selected from regional rainfall depths for the Village of Gowanda.

Existing Condition:

The site is currently a residential use with two houses and vegetative cover, brush and gravel drives. Stormwater runoff from the site travels overland to the southwest and west property line of the site. The site is bordered by residential properties to the south and Valu Home Center to the north, with residential to the northeast. The total property is approximately 1.28 acres.

Total Tributary Area = 1.28 ac.
Pervious Area = 1.17 ac.
Impervious Area = 0.11 ac.

Please reference Appendix A for the Drainage Plan.

Proposed Condition:

The proposed site conditions include a 1-story retail building (approx. 9,000 SF), related bituminous pavement parking and drive areas, concrete sidewalk and loading area pavement, and a landscaped perimeter to be restored with sod over the disturbance limits. All on-site impervious area is proposed to drain to the proposed bioretention basins and the detention basin. The roof runoff is collected with downspouts on the south side of the building which are connected to a bioretention basin. The detention pond outlet will be to the west meeting existing site conditions. Runoff rates from the development will be below existing, pre-development, site condition runoff rates.

Total Tributary Area = 1.28 ac.
Pervious Area = 0.55 ac.
Impervious Area = 0.73 ac.

Please reference Appendix A for the Drainage Map.

Results of Analysis:

The table below summarizes the comparison of peak discharge rates from pre-development to post-development conditions for the runoff from the total site disturbance area. No off-site area was accounted for as each adjacent property drains away from the project area.

Total Site - Peak Runoff Rates (CFS)		
Storm Event (24-hr)	Pre	Post
1-year	0.00	0.00
2-year	0.00	0.00
10-year	0.16	0.01
100-year	1.90	0.21

Summary/Conclusions:

On-site drainage improvements include: collection of surface runoff in parking lot with a series of inlet structures, collection of roof runoff with a pipe connection, and an on-site above ground stormwater management ponds. These improvements will adequately convey all runoff through the site to the proposed retention / detention pond and provide runoff volume reduction and reduce post-developed runoff to less than pre-developed runoff for all design storms.

Drainage improvements as outlined in this report and depicted on the design drawings will not increase the risk of endangerment to life or have negative impacts on adjacent or downstream property or watersheds.

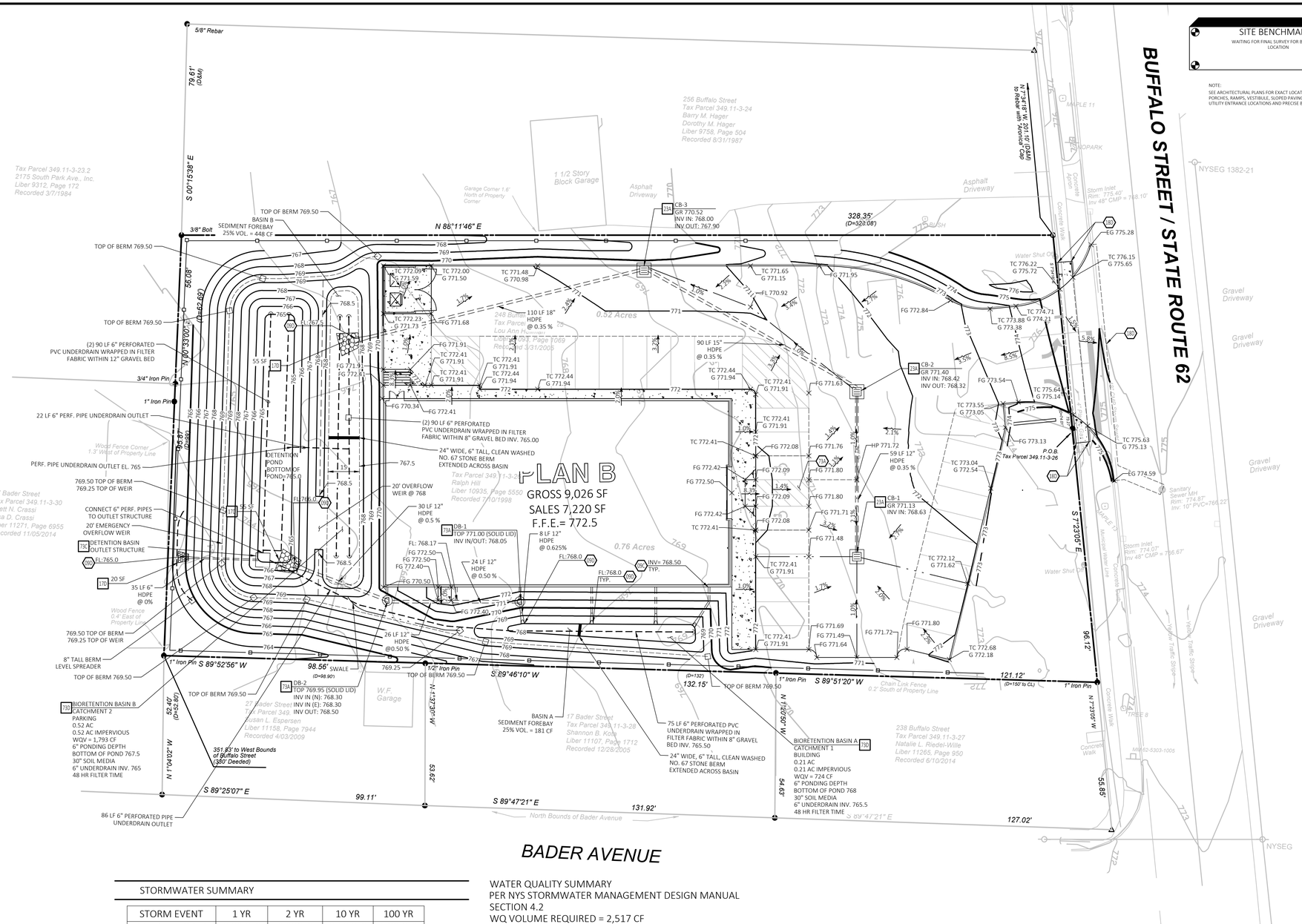
This drainage report has been prepared in general accordance with the current requirements of the applicable storm water jurisdictions and approving agencies. In addition, storm events/frequencies, run-off calculations, discharge criteria, pipe hydraulics, evaluation methods (including computer software applications), etc., have been based on the guidelines/requirements of these permitting entities and also reflect the application of generally accepted standard of

engineering practice. This design is based on, and limited by, the weather data, the analysis and their applicability as presented herein.

Respectfully Submitted,
CEI Engineering Associates

Andrew Slyter, P.E.
Senior Project Engineer

APPENDIX A
Drainage Map



SITE BENCHMARK

WAITING FOR FINAL SURVEY FOR BENCHMARK LOCATION

NOTE:
SEE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF PORCHES, RAMPS, VESTIBULE, SLOPED PAVING, TRUCK DOCKS, BUILDING UTILITY ENTRANCE LOCATIONS AND PRECISE BUILDING DIMENSIONS.

811 Know what's **below.** **Call** before you dig.

N

0 20' 30' 40'
SCALE IN FEET

LEGEND

EXISTING

- FOUND IRON STAKE
- SET 3/4" REBAR WITH CAP
- POINT OR ANGLE POINT
- WATER VALVE
- POWER POLE
- MM MILE MARKER
- P.O.B. POINT OF BEGINNING

PROPOSED

- PROPERTY LINE/RIGHT OF WAY LINE
- GRADE BREAK
- FLOW LINE
- XXX CONTOUR ELEVATIONS
- STORM DRAIN
- x XX.XX SPOT ELEVATIONS: TC = TOP OF CURB, G = GUTTER, FL = FLOW, INV = INVERT

GENERAL GRADING NOTES

A. PRIOR TO INSTALLATION OF STORM OR SANITARY SEWER, THE CONTRACTOR SHALL EXCAVATE, VERIFY, AND CALCULATE ALL CROSSINGS AND INFORM THE OWNER AND THE ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION. THE ENGINEER WILL BE HELD HARMLESS IN THE EVENT THE ENGINEER IS NOT NOTIFIED OF DESIGN CONFLICTS.

B. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND 4" OF TOPSOIL APPLIED. IF ADEQUATE TOPSOIL IS NOT AVAILABLE ON SITE, THE CONTRACTOR SHALL PROVIDE TOPSOIL, APPROVED BY THE OWNER, AS NEEDED. THE AREA SHALL THEN BE SEEDED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS (SEE LANDSCAPE PLAN FOR SEED MIX AND PROPER APPLICATION RATE). ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE PROJECT SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

C. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES.

D. UNLESS OTHERWISE SHOWN, CALLED OUT OR SPECIFIED HEREON OR WITHIN THE SPECIFICATIONS: ALL STORM DRAIN PIPE BEDDING SHALL BE INSTALLED PER DETAIL 28A. ALL STORM DRAIN PIPES ARE MEASURED FROM CENTER OF STRUCTURES AND ENDS OF FLARED END SECTIONS.

GRADING NOTES

09C CONNECT DOWN SPOUTS TO DRAIN PIPE. (SEE ARCH. PLANS FOR EXACT NO. AND LOCATION OF DOWN SPOUTS).
09D FLARED END SECTION.
18D MATCH EXISTING PAVEMENT ELEVATIONS.
73A ADA AREA. NO MORE THAN 2% SLOPE IN ANY DIRECTION.

GRADING DETAILS

17D RIP RAP PAD
23A GRATE INLET
27E STORM DRAIN CLEAN OUT
73A SOLID LID DRAIN BASIN (NYLOPLAST)
73B DOME GRATE DRAIN BASIN (NYLOPLAST)
73C DETENTION BASIN OUTFALL STRUCTURE
73D BIORETENTION BASIN

STORMWATER SUMMARY

STORM EVENT	1 YR	2 YR	10 YR	100 YR
PRE-DEVELOPED	0.00 CFS	0.00CFS	0.16 CFS	1.90 CFS
POST-DEVELOPED	0.00 CFS	0.00 CFS	0.01 CFS	0.21 CFS
DIFFERENCE	0.00 CFS	0.00 CFS	-0.15 CFS	-1.69 CFS
POND WSE	766.53	767.02	767.87	768.64
POND VOLUME	1,948 CF	2,900 CF	6,039 CF	10,065 CF

WATER QUALITY SUMMARY
PER NYS STORMWATER MANAGEMENT DESIGN MANUAL
SECTION 4.2
WQ VOLUME REQUIRED = 2,517 CF
WQ VOLUME PROVIDED = 2,532 CF

TOP OF DETENTION BASIN = 769.50
EMERGENCY OVERFLOW WEIR = 769.25
POND VOLUME AVAILABLE = 13,838 CF (EL. 769.25)
15,496 CF (EL. 769.50)
100 YR WSE = 768.82
OUTLET ELEV = 4" ORIFICE OUTLET @ 768.25 (FOR 100 YEAR)
POND BOTTOM = 765.00

APPROXIMATE GROUNDWATER ELEVATION = 762.00

STATE OF NEW YORK ★ ANDREW D. SLYTER ★ LICENSED PROFESSIONAL ENGINEER 086379 ★ 07/15/2020

31140	7/13/20	ADS	RKN	IVJ	IVJ
CEI PROJECT NO.	INITIAL DATE	DPOR	PM	DES	DRW

Engineering Associates, Inc.
ENGINEERS • PLANNERS • SURVEYORS
LANDSCAPE ARCHITECTS
3108 SW Regency Parkway, Suite 2
Bentonville, AR 72712
(479) 273 - 9472
(479) 273-0844

THE BROADWAY GROUP, LLC
BUFFALO STREET
GOWANDA NY

GRADING PLAN

REV. DATE	SHEET NO.
7/13/20 REV-2	C3

JOB # 31140 DRAWING: 31140-GP.dwg LAST SAVED BY: IANKUN LOCATION: P:\31000\31140.0\Drawings\Design\Rev-2\31140-GP.dwg

APPENDIX B
Web Soil Survey Results & Geotechnical Investigation Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Erie County, New York

January 25, 2019

Custom Soil Resource Report
Soil Map

Map Scale: 1:735 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 35 70 140 210

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Erie County, New York
Survey Area Data: Version 18, Sep 2, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Apr 17, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CkB	Chenango gravelly loam, 3 to 8 percent slopes	2.8	100.0%
Totals for Area of Interest		**2.8**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Erie County, New York

CkB—Chenango gravelly loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9rkq
Elevation: 600 to 1,800 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Chenango and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chenango

Setting

Landform: Valley trains, terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, derived mainly from sandstone, shale, and siltstone

Typical profile

H1 - 0 to 8 inches: gravelly loam
H2 - 8 to 30 inches: very gravelly loam
H3 - 30 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Valois

Percent of map unit: 5 percent
Hydric soil rating: No

Allard

Percent of map unit: 5 percent
Hydric soil rating: No

Alton

Percent of map unit: 5 percent
Hydric soil rating: No

Castile

Percent of map unit: 5 percent
Hydric soil rating: No

Red hook

Percent of map unit: 5 percent
Hydric soil rating: No

Geotechnical Engineering Report

Dollar General Store
Gowanda, New York
June 5, 2020
Terracon Project No. J5195141

Prepared for:
The Broadway Group, LLC
Huntsville, Alabama

Prepared by:
Terracon Consultants-NY, Inc.
Buffalo, New York

June 5, 2020

The Broadway Group, LLC
216 West Side Square
Huntsville, Alabama 35804

Attn: Ms. Melissa Ballard, Development Manager
P: (256) 533-7287
E: Melissa.ballard@broadwaygroup.net

Re: Geotechnical Engineering Report
Dollar General Store
240 and 248 Buffalo Street
Gowanda, New York
Terracon Project No. J5195141

Dear Ms. Ballard:

We have completed the Geotechnical Engineering services for the above referenced project. This study was performed in general accordance with Terracon Proposal No. DG190099/PT2195-PJ5195141 dated July 24, 2019. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, floor slabs and pavements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants-NY, Inc.

Zeru B. Kiffle, E.I.T.
Staff Engineer

Michele A. Fiorillo, P.E.
Geotechnical Department Manager

REPORT TOPICS

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Note: This report was originally delivered in a web-based format. **Orange Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the ***GeoReport*** logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES
PHOTOGRAPHY LOG
SITE LOCATION AND EXPLORATION PLANS
EXPLORATION RESULTS
SUPPORTING INFORMATION

Note: Refer to each individual Attachment for a listing of contents.

Geotechnical Engineering Report

Dollar General Store
240 and 248 Buffalo Street
Gowanda, New York

Terracon Project No. J5195141

June 5, 2020

INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed Dollar General Store to be located at 240 and 248 Buffalo Street in Gowanda, New York. The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Site preparation and earthwork
- Demolition considerations
- Excavation considerations
- Dewatering considerations
- Foundation design and construction
- Floor slab design and construction
- Seismic site classification per IBC
- Frost considerations
- Pavement design and construction
- Infiltration considerations

The geotechnical engineering Scope of Services for this project included the advancement of 5 test borings within the proposed building, 3 borings in proposed pavement areas, and 1 boring within the footprint of the stormwater management areas (SMA). The borings designated as B-1 through B-5, P-1 through P-3, and SW-1, were advanced to depths ranging from approximately 6 to 16 feet below existing site grades. Three PVC pipes were installed for infiltration testing at three locations (IT-1, IT-2 and SW-1a) located in proximity to the test boring SW-1.

Maps showing the site and boring locations are shown in the **Site Location** and **Exploration Plan** sections, respectively. The boring logs and infiltration test results are included in the **Exploration Results** section.

SITE CONDITIONS

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
Parcel Information	The project is located at 240 and 248 Buffalo Street in Gowanda, New York. The center of the site is located at approximate latitude 42.4708° N and longitude 78.9362° W. See **Site Location**
Existing Improvements	Approximate 1.26-acre tract of residential-use property improved with two separate residential homes.  (Aerial Image from Google Earth Pro.)
Current Ground Cover	Open grass-covered and lightly- wooded lot.
Existing Topography (Based on ALTA Survey)	The site slopes down gently from eastern portion to the western portion, with ground surface elevations (El.) of approximately 764 to 776 feet (NADV 88).
Geology[1]	The project is located within the Erie Lowlands physiographic province. Geological mapping identifies surficial deposits at the project site as alluvium deposits and lacustrine silt and clay and the underlain bedrock as shale or siltstone of Machias Formation in the Upper Devonian unit age.

1. References: Fisher, D.W., Isachsen, Y.W., and Rickard, L.V., 1970, Geologic Map of New York State, consisting of 5 sheets: Niagara, Finger Lakes, Hudson-Mohawk, Adirondack, and Lower Hudson, New York State Museum and Science Service, Map and Chart Series No. 15, scale 1: 250,000.

We also collected photographs at the time of our field exploration program. Representative photos are provided in our **Photography Log**.

PROJECT DESCRIPTION

Our understanding of the project conditions is as follows:

Item	Description
Information Provided	The following information was provided to our office: ■ Preliminary Site Plan dated August 27, 2018 ■ Grading Plan (Sheet No. C3, Revision date January 01, 2019. ■ Site-Aerial ■ Civil Plans dated 1/31/2019 (3 pages) ■ Alta Survey dated 1/24/2019
Project Description	Construction of a Dollar General Store with associated paved parking and drive areas. A stormwater management area is proposed for the western quadrant of the site.
Proposed Structure	Approximate 9,026-square foot one-story building with associated paved parking and drive areas.
Building Construction	■ Steel frame ■ Reinforced concrete foundation ■ Slab-on-grade
Finished Floor Elevation (FFE)	El. 772.5 feet
Maximum Loads[1] (assumed)	■ Columns: 20 to 50 kips ■ Continuous Load-Bearing Walls: less than 3 kips per linear foot (klf) ■ Max. Uniform Slabs: less than 250 pounds per square foot (psf)
Grading/Slopes	■ The new building finished floor elevation (FFE) is expected to be at El. 772.5 feet. Existing grades within the proposed building footprint range from El. 766 to 770 feet. We anticipate up to 6 feet of earthwork fill may be required within the building footprint to attain the proposed FFE. ■ The bottom of the stormwater management area (SMA) is expected to be at El.763. Existing grades within the footprint of the SMA range from about El. 764 to 765 feet. An approximately 4-foot high berm is proposed around the SMA. Final slope angles of as steep as 3H:1V (Horizontal: Vertical) are expected.
Pavements (assumed)	Assumed traffic is as follows: ■ Car Parking: 1.54 equivalent Single Axle Loads (ESALs) per day ■ Drive Areas: 4.20 ESALs per day

1. Please contact our office if structural loads are significantly higher than the loads reported above.

GEOTECHNICAL CHARACTERIZATION

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, geologic setting and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of site preparation and foundation options. Conditions encountered at each exploration point are indicated on the individual logs. The individual logs can be found in the **Exploration Results** section and the GeoModel can be found in the **Figures** section of this report.

As part of our analyses, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name[1]	General Description
1	**Surface**	Topsoil
2	**Native Soil**	Mixtures of clay, silt, sand with gravel (CL-ML, ML, SM); brown, orange-brown to gray; soft to stiff or very loose to very dense
3	**Weathered bedrock**[2]	Highly weathered siltstone and/or shale, gray or black

1. The dimensions of the sampling equipment may preclude sampling particles larger than 2-inch in any dimension
2. Highly weathered bedrock was encountered in B-2 through B-5 and SW-1 at depths of about 7 to 13 feet below the existing grades. The drillers were able to sample and/or auger several feet within the highly weathered bedrock.

Groundwater Conditions

We monitored the boreholes for the presence and level of groundwater at completion of sampling and/or a while after completion of sampling. The groundwater levels at each exploration location can be found on the boring in **Exploration Results**. Summary of the groundwater table at the exploration locations are presented below.

Boring No.	Groundwater level at 1st observation (ft.)	Groundwater level at 2nd observation (ft)	Groundwater level at 3rd observation (while drilling) (ft.)
B-1	4.5 ft. at completion of sampling	---	---
B-2	7 ft. at completion of sampling on 5/21/20	7 ft. at 4 pm on 5/21/20	8 ft. at 9 am on 5/22/20 (after 1 day)

Boring No.	Groundwater level at 1st observation (ft.)	Groundwater level at 2nd observation (ft)	Groundwater level at 3rd observation (while drilling) (ft.)
B-3	3.5 ft. at completion of sampling on 5/21/20	4 ft. at 9 am on 5/22/20	---
B-4	6 ft. at completion of sampling on 5/21/20	6 ft. at 9 am on 5/22/20	---
B-5	13.5 ft. at completion of sampling on 5/21/20	4.5 ft. at 4 pm on 5/21/20	4.5 ft. at 9 am on 5/22/20 (after 1 day)
SW-1	4 ft. at completion of sampling	---	---

Note: Groundwater was not encountered at the time of drilling or upon completion in the remainder of the borings.

Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the borings were performed. Water may also become temporarily perched over low permeability layers or bedrock. Groundwater levels during construction or at other times in the life of the structure may be higher or lower than the levels indicated on the boring logs. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

GEOTECHNICAL OVERVIEW

In general, the site is suitable for the proposed construction based upon geotechnical conditions encountered during the exploration program. The proposed building may be supported on shallow foundation bearing upon compacted Structural Fill placed upon stable native soil.

Fill was not encountered at the location of the borings. It should be noted that the observations are based solely upon the results of borings completed at discrete locations. If fill and soft soils are encountered during construction, this material should be removed and replaced with compacted Structural Fill within the foundation bearing zone, which is defined as the volume below 2/3 horizontal (H) to 1 vertical (V) lines extending outward and downward from the lower edges of the footing.

The **Shallow Foundations** section addresses support of the building bearing upon compacted Structural Fill placed upon stable native soil. The **Floor Slabs** section addresses slab-on-grade support of the building. The **Pavements** section addresses recommendation for support of pavement.

Filled slopes composed of compacted Structural soils should be no steeper than one (1) vertical on three (3) horizontal. To reduce erosion potential, we recommend a diversion swale at the top of the slope to prevent off-site drainage from running onto the slope. Slopes should be vegetated as soon as possible after grading and protected from erosion until vegetation is established. Erosion control matting may be required until vegetation is established. Slope planting should consist of ground vegetation that possess deep, dense root structures that require minimum irrigation. It is the responsibility of the owner to maintain such planting.

We recommend the Geotechnical Engineer be retained to evaluate soil bearing subgrades exposed after excavation to confirm they are suitable for footing, slab, or pavement support. Subsurface conditions in the explorations have been reviewed and evaluated with respect to the proposed construction plans known to us at this time.

The **General Comments** section provides an understanding of the report limitations.

EARTHWORK

Earthwork will include clearing and grubbing, removal of topsoil and any unsuitable soft soil, excavations, and fill placement. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include critical quality criteria as necessary to render the site in the state considered in our geotechnical engineering evaluation for foundations, floor slabs and pavements.

Demolition

Although the borings did not encounter remains of buried structures (i.e. slabs; foundations; pavements; sidewalks; abandoned underground utilities and/or storage tanks; etc.), it is possible that such elements may be found during construction. Recommendations for buried structures are presented below:

- Existing structures and utilities (if encountered) beneath proposed foundations should be removed in their entirety; utilities relocated, if needed.
- Existing structures should be removed from proposed pavement or floor slab areas to a minimum depth of 3 feet below of the subgrade. Existing floor slabs (if left in place at a minimum depth of 3 feet below the bottom of the pavement or floor slab subgrade) should be broken up to promote drainage and minimize the potential for trapped water.
- The void created from removal of existing structure should be backfilled with approved Structural Fill placed and compacted in accordance with recommendations presented herein.
- Existing underground pipes may remain in-place if the top of the pipe is at least 2 ft below pavement subgrade or floor slab bottom and filled with Flowable Fill with a compressive strength between 100 and 200 psi.

- Existing piping/structures should be disconnected from other existing piping intended to be left in place and functioning, and properly capped prior to placing Flowable Fill.

Site Preparation

Prior to placing new fill, any vegetation, root mat, stumps, and soft soils should be removed. Complete stripping of the topsoil should be performed in the proposed building and new pavement areas.

Subgrades should be proof-rolled with a minimum 10-ton (static weight) smooth drum roller compactor. We recommend a minimum of two overlapping passes in one direction, followed by two overlapping passes in a direction perpendicular to the first set of passes. The intent is to compact areas with relatively loose surficial soil, to re-compact areas loosened by stripping operations, and to identify unacceptable subgrade areas. As an alternative, proof-rolling can also be performed with an adequately loaded vehicle such as a fully loaded tandem axle dump truck or other heavy, rubber-tired construction equipment weighing at least 20 tons.

Areas that exhibit excessive pumping, waving, or rutting during proof rolling should be scarified, dried, and recompacted, or undercut and replaced with compacted Structural Fill as recommended by the Geotechnical Engineer. Unstable subgrades, as identified by the Geotechnical Engineer, should be over-excavated from the building footprint, foundation bearing zones, and pavement areas to competent material and replaced with compacted Structural Fill. When excavation of unsuitable materials is required, it should be performed in a manner to limit disturbance of the underlying suitable material. The excavation should be performed under the observation of the Geotechnical Engineer to evaluate required excavation depths.

Fill Material Types

Fill material should meet the following material property requirements:

Type [1,2,3]	NYSDOT Item Number	Acceptable Location for Placement
General Fill	Embankment in Place, Item 203.03	For general site grading or as embankment fill where finished grade is no steeper than 3H:1V. General Fill should not be placed within the foundation bearing zone of settlement sensitive structures.
Underdrain Filter Material	Underdrain Filter Material, ■ Item No. 733-2001, Type 1 ■ Item 733-2002, Type 2	Generally used in drainage systems

Type [1,2,3]	NYSDOT Item Number	Acceptable Location for Placement
Structural Fill	Subbase Course Type 2, Item 304.12	Beneath foundations
Subgrade Fill	Select Granular Fill, Item 733-1101 (with the percent passing the No. 200 sieve adjusted to less than 25 percent)	Below Aggregate Base/Subbase Course in pavement and building areas.
Aggregate Base/ Subbase Course	Subbase Course Type 2, Item 304.12	Below floor slabs or pavements as aggregate base course
Crushed Stone	Crushed Stone, Item 703-0201	Generally used to level subgrades at the bottom of pipe trenches and to facilitate dewatering.
Non-Frost Susceptible (NFS) Fill	■ Select Granular Fill, Item 203.07 (with the percent passing the No. 200 sieve adjusted to 0-5 percent); ■ Stone Size Designation #2, 3, 3A, and 4A (Table 703-4 of NYSDOT Standard Specifications) [4]	Exterior slabs, sidewalks.
Lean Concrete	Not applicable	Lean Concrete should be self-compacting concrete with a compressive strength between 750 and 2,000 psi.
Flowable Fill	Controlled Low Strength Material (CLSM), NYSDOT Item 204.01	With a compressive strength between 100 and 200 psi.

1. Fill should consist of approved materials that are free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation prior to use on this site.
2. Crushed Stone should be uniform ¾-inch angular Crushed Stone wrapped in a separation geotextile (Mirafi 140N, or approved equivalent).
3. NFS Fill should contain less than 5 percent material passing No. 200 sieve size and have a maximum particle size of 3 inches. NFS Fill should wrapped in a separation geotextile (Mirafi 140N, or approved equivalent).

Excavated on-site soils are anticipated to consist primarily of fine sand, silt, clay and gravel mixtures. We do not recommend reusing excavated soils as Structural Fill. It is our opinion that excavated non-organic soils (free of roots, oversized particles, large fragments of debris, and vegetation and other deleterious materials) may be suitable for reuse as General Fill to attain proposed subgrade elevation, provided material larger than 6 inches in size is removed, and that during construction proper compaction and optimum moisture content can be achieved. If construction is performed during the wet season, it is possible the moisture content of the excavated soils is in excess of the optimum moisture content required to achieve proper compaction, and that proper compaction of the on-site soils may be very difficult to achieve. Saturated soils which cannot achieve compaction should be removed or used in non-structural areas where significant post construction settlement is acceptable. The contractor is ultimately responsible for moisture conditioning of fill/backfill materials to achieve proper compaction.

Fill Compaction Requirements

Structural and General fill should meet the following compaction requirements.

Item	Structural Fill	General Fill
Maximum Lift Thickness	12 inches or less in loose thickness when heavy, self-propelled compaction equipment is used. 6 to 8 inches in loose thickness when hand-guided equipment (i.e. jumping jack or plate compactor) is used.	Same as Structural fill
Minimum Compaction Requirements [1, 2, 3]	95% of maximum dry density below foundations and within 1 foot of finished pavement subgrade 92% of max. above foundations, below floor slabs, and more than 1 foot below finished pavement subgrade	85% of max.
Water Content Range [1]	Workable moisture levels	As required to achieve min. compaction requirements

Item	Structural Fill	General Fill

1. Maximum density and optimum water content as determined by the modified Proctor test (ASTM D 1557).
2. We recommend testing fill for moisture content and compaction during placement. Should the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested, as required, until the specified moisture and compaction requirements are achieved. The zone of fill compacted to meet this criterion should extend at least 5 feet horizontally beyond the building footprint.
3. For NFS fill material (with less than 5 percent fines), compaction testing is typically not feasible. We recommend that NFS fill be thoroughly tamped in place in horizontal lifts not to exceed 6 inches loose thickness. Compaction should be by uniform passes of compaction equipment in sufficient number, but not less than four passes, such that no further consolidation is evident. The NFS fill should not be dumped into place but should be distributed in horizontal lifts by blading and dozing in such a manner as to ensure proper placement into final position.

Utility Trench Backfill

Trench excavations should be wide enough to permit construction including backfill placement and compaction. Trenches should be backfilled with material that approximately matches the permeability characteristics of the surrounding soil to reduce the infiltration and preferential conveyance of surface water through the trench backfill. Fill placed as backfill for utilities located below the slab should consist of compacted Structural Fill or suitable bedding material.

Utility trenches are a common source of water infiltration and migration. All utility trenches that penetrate beneath the building should be effectively sealed to restrict water intrusion and flow through the trenches, which could migrate below the building. The trench backfill should incorporate an effective trench plug that extends at least 5 feet out from the face of the building exterior. The plug material should consist of cementitious flowable fill or low permeability clay. The trench plug material should be placed to surround the utility line. If used, the clay trench plug material should be placed and compacted to comply with the water content and compaction recommendations for Structural Fill stated previously in this report.

Grading and Drainage

Grades must provide effective drainage away from the building during and after construction and should be maintained throughout the life of the structure. Water retained next to the building can result in soil movements greater than those discussed in this report. Greater movements can result in unacceptable differential floor slab and/or foundation settlements, cracked slabs and walls, and roof leaks. The roof should have gutters/drains with downspouts discharging onto splash blocks at a distance of at least 10 feet from the buildings.

Exposed ground should be sloped and maintained at a minimum 5 percent away from the building for at least 10 feet beyond the perimeter of the building. Locally, flatter grades may be necessary to transition ADA access requirements for flatwork. After buildings construction and landscaping,

final grades should be verified to document effective drainage has been achieved. Grades around the structure should also be periodically inspected and adjusted as necessary as part of the structure's maintenance program. Where paving or flatwork abuts the structure a maintenance program should be established to effectively seal and maintain joints and prevent surface water infiltration.

Earthwork Construction Considerations

Shallow excavations, for the proposed structure, should be feasible with conventional construction equipment. Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of foundations and floor slabs. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over, or adjacent to, construction areas should be removed. If the subgrade freezes, desiccates, saturates, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and recompacted, prior to floor slab construction.

The groundwater table could affect over-excavation efforts, especially for over-excavation and replacement of lower strength soils (if required). Dewatering, if required, can likely be accomplished using filtered pumps placed in sump pits filled with crushed stone. If ¾-inch crushed stone is used, a geotextile separation fabric (Mirafi 140N, or approved equivalent) should be placed between the crushed stone and on-site soil.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local, and/or state regulations. The contractor should be aware that slope height, slope inclination, and excavation depth should in no instance exceed OSHA guidelines. OSHA guidelines are strictly enforced and if they are not followed, the owner, contractor, and/or earthwork and utility subcontractor could be liable and subject to substantial penalties.

The contractor must evaluate soil conditions during excavations since variations in the soil can occur across the site. We recommend that the excavations be monitored continuously for signs of deterioration such as seepage of water or sloughing of soil into the excavation. Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information and recommendations provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety, or the contractor's activities; such responsibility shall neither be implied nor inferred.

Construction Observation and Testing

The earthwork efforts should be monitored under the direction of the Geotechnical Engineer. Monitoring should include documentation of adequate removal of unsuitable fill, proofrolling and mitigation of areas delineated by the proof-roll to require mitigation.

Each lift of compacted fill should be tested, evaluated, and reworked as necessary until approved by the Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 2,500 square feet of compacted fill in the building areas and 5,000 square feet in pavement areas. One density and water content test for every 50 linear feet of compacted utility trench backfill.

In areas of foundation excavations, the bearing subgrade should be evaluated under the direction of the Geotechnical Engineer. If unanticipated conditions are encountered, the Geotechnical Engineer should prescribe mitigation options.

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer's evaluation of subsurface conditions, including assessing variations and associated design changes.

SHALLOW FOUNDATIONS

If the site has been prepared in accordance with the requirements noted in **Earthwork**, the following design parameters are applicable for shallow foundations.

Design Parameters – Compressive Loads

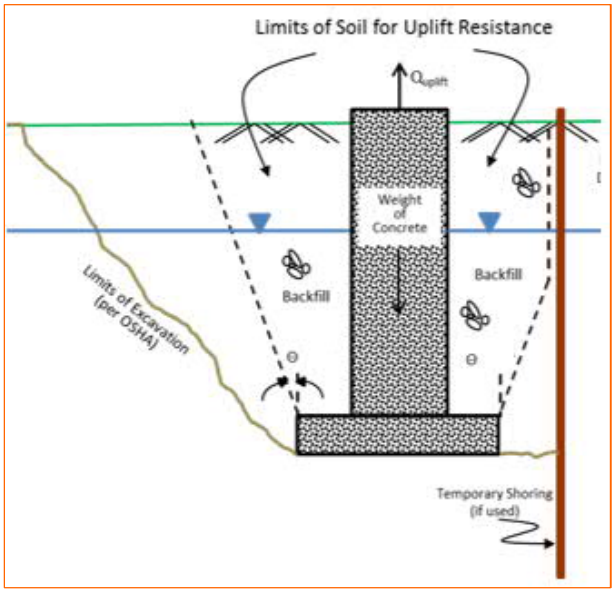
Item	Description
Maximum Net Allowable Bearing Pressure [1, 2]	2,500 psf
Required Bearing Stratum [3]	Minimum 18 inches compacted Structural Fill placed upon stable proofrolled/compacted stable subgrades The Structural Fill should be placed in two, 9-inch thick compacted lifts, and should extend a minimum lateral distance of 18 inches from the edge of the foundations.
Minimum Foundation Dimensions	Columns: 30 inches Continuous: 18 inches
Ultimate Passive Resistance [4] **(equivalent fluid pressures)**	390 pcf (compacted Structural Fill)

Item	Description
Ultimate Coefficient of Sliding Friction [5]	0.50 (Footing on compacted Structural Fill)
Minimum Embedment below Finished Grade [6]	Exterior footings in unheated areas: 48 inches Exterior footings in heated areas: 48 inches Interior footings in heated areas: 18 inches
Estimated Total Settlement from Structural Loads [2]	Less than about 1 inch
Estimated Differential Settlement [2, 7]	About 2/3 of total settlement

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. An appropriate factor of safety has been applied. These bearing pressures can be increased by 1/3 for transient loads unless those loads have been factored to account for transient conditions. Values assume that exterior grades are no steeper than 20% within 10 feet of structure.
2. Values provided are for maximum loads noted in **Project Description**.
3. Unsuitable or soft soils should be over-excavated and replaced per the recommendations presented in the **Earthwork**.
4. Use of passive earth pressures require the sides of the excavation for the spread footing foundation to be nearly vertical and the concrete placed neat against these vertical faces or that the footing forms be removed and compacted Structural Fill be placed against the vertical footing face. The Structural Fill must extend out and up from the base of the foundation at an angle of at least 60 degrees from vertical for the passive case.
5. Can be used to compute sliding resistance where foundations are placed on suitable soil/materials. Should be neglected for foundations subject to net uplift conditions.
6. Embedment necessary to minimize the effects of frost and/or seasonal water content variations. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal feet of the structure.
7. Differential settlements are as measured over a span of 50 feet.

Design Parameters - Uplift Loads

Uplift resistance of spread footings can be developed from the effective weight of the footing and the overlying soils. As illustrated on the subsequent figure, the effective weight of the soil prism defined by diagonal planes extending up from the top of the perimeter of the foundation to the ground surface at an angle, θ, of 20 degrees from the vertical can be included in uplift resistance. The maximum allowable uplift capacity should be taken as a sum of the effective weight of soil plus the dead weight of the foundation, divided by an appropriate factor of safety. A maximum total unit weight of 120 pcf should be used for the backfill. This unit weight should be reduced to 60 pcf for portions of the backfill or natural soils below the groundwater elevation.

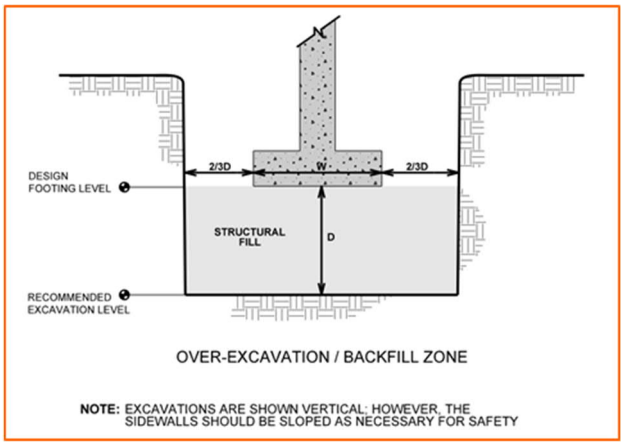


Foundation Construction Considerations

As noted in **Earthwork**, the footing excavations should be evaluated under the direction of the Geotechnical Engineer. Prior to placing concrete, the base of all foundation excavations should be free of water and loose soil. Any large cobbles and/or boulders encountered beneath the proposed foundations at the bearing grade elevation should be removed from the bearing surface, as necessary to prevent hard points, and then backfilled with properly compacted Structural Fill.

Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material, or any loose/disturbed material in the bottom of the footing excavations should be removed/reconditioned before foundation concrete is placed.

Over-excavation for removal of unsuitable soils below footings should be conducted as shown below. The over-excavation should be backfilled up to the footing base elevation, with imported Structural Fill placed, as recommended in the **Earthwork** section.



As an alternative, if unsuitable bearing soils are encountered at the base of the planned footing excavation, the excavation should be extended deeper to suitable soils, and the over-excavation should be backfilled up to the footing base elevation footings with Lean Concrete backfill placed in the excavations. The Lean Concrete should extend a minimum lateral distance of 3 inches beyond the edges of the foundation.

SEISMIC CONSIDERATIONS

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the International Building Code (IBC). Based on the soil or rock properties encountered at the site and as described on the exploration logs and results, it is our professional opinion that the **Seismic Site Classification** is **D**. Subsurface explorations at this site were extended to a maximum depth of 16 feet. The site properties below the boring depth to 100 feet were estimated based on our experience and knowledge of geologic conditions of the general area. Additional deeper borings or geophysical testing may be performed to confirm the conditions below the current boring depth.

FLOOR SLABS

Design parameters for floor slabs assume the requirements for **Earthwork** have been followed. Special attention should be given to positive drainage away from the structure and positive drainage of the Aggregate Base beneath the floor slab.

Floor Slab Design Parameters

Item	Description
Floor Slab Support [1]	Minimum 15 inches of Aggregate Base material compacted to at least 95% of Modified Proctor (ASTM D 1557) placed directly upon proofrolled stable on-site subgrade soils.
Estimated Modulus of Subgrade Reaction [2]	80 pounds per square inch per inch (psi/in) for point loads

1. Floor slabs should be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.
2. Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in **Earthwork**, and the floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower.

The use of a vapor retarder should be considered beneath concrete slabs on grade covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

Saw-cut control joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations refer to the ACI Design Manual. Joints or cracks should be sealed with a water-proof, non-extruding compressible compound specifically recommended for heavy duty concrete pavement and wet environments.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing or other means.

Floor Slab Construction Considerations

Finished subgrade within and for at least 10 feet beyond the floor slab should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become damaged or desiccated prior to construction of floor slabs, the affected material should be removed, and Structural Fill should be added to replace the resulting excavation. Final conditioning of the finished subgrade should be performed immediately prior to placement of the floor slab support course.

The Geotechnical Engineer should approve the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel and concrete. Attention should

be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

PAVEMENTS

General Pavement Comments

Pavement designs are provided for the traffic conditions and pavement life conditions as noted in **Project Description** and in the following sections of this report. A critical aspect of pavement performance is site preparation. Pavement designs, noted in this section, must be applied to the site, which has been prepared as recommended in the **Earthwork** section.

Pavement Design Parameters

Pavement designs were based on *AASHTO Guide for Design of Pavement Structures (1993)* and our experience with similar projects. The thickness of each course is a function of subgrade strength, traffic, design life, serviceability factors, and frost susceptibility.

A subgrade CBR of 3 was used for the AC pavement designs, and a modulus of subgrade reaction of 100 pci was use for the PCC pavement designs. The values were empirically derived based upon our experience with the on-site soils and our understanding of the quality of the subgrade as prescribed by the **Site Preparation** conditions as outlined in **Earthwork**. A modulus of rupture of 600 psi was used for pavement concrete.

Pavement Section Thicknesses

Frost susceptibility is a major factor in the overall pavement section thickness. The total pavement structural sections presented in this report are based also upon the expected depth of freeze, which for the project site is anticipated at 48 inches.

Because of the fine-grained nature of the in-situ soil, and possible variations across the site of subgrade material (i.e., existing fill, native soils, and compacted Structural Fill), we recommend a separation high-strength woven geotextile (such as HP270 or approved equivalent), be placed upon all new approved flexible and rigid pavement subgrades prior to placing the subbase course materials. All underground utilities should be installed prior to geotextile placement. The geotextile will provide separation (i.e., mitigate migration of fines into the overlying subbase course material, which may contribute to its degradation and loss of strength), filtration (i.e., allow for movement of water across the plane of the geotextile with limited soil loss), confinement (i.e., restrain lateral movement of the aggregate), and reinforcement.

The following tables provide options for Asphaltic Concrete and for Portland Cement Sections:

Asphaltic Concrete Design		
Layer	**Thickness (inches)**	
	Light Duty [1]	**Heavy Duty** [1]
Asphalt Top Course [2]	1.5	1.5
Asphalt Binder Course [2]	2.5	3.5
Aggregate Base Course [2]	12.0	12.0

1. See **Project Description** for more specifics regarding pavement type.
2. All materials should meet the current NYSDOT Department of Transportation (NYSDOT) Standard Specifications.
   - Asphalt Top Course – NYSDOT Section 402 for Type 12.5 F2 Top Course HMA, Item No. 402.127202
   - Asphalt Binder Course – NYSDOT Section 402 for Type 19 F9 Binder Course HMA, Item No. 402.197902
   - Aggregate Base Course – NYSDOT Section 304 for Type 2 Subbase Course, Item No. 304.12

Portland Cement Concrete Design		
Layer	**Thickness (inches)**	
	Light Duty [2,3]	**Heavy Duty** [2,3,4]
PCC [1]	6.0	8.0
Aggregate Base [1]	12.0	12.0

1. All materials should meet the current State, County, and City Department of Transportation (NYSDOT) Standard Specifications for Highway and Bridge Construction.
   - Concrete Pavement, NYSDOT Portland Cement Concrete Section 502, with a minimum compressive strength of 4,000 psi at 28 days.
   - Aggregate Base Course, NYSDOT Section 304 for Type 2 Subbase Course, Item No. 304.12
2. Proper joint spacing will be required to prevent excessive slab curling and shrinkage cracking. Joints should be sealed to prevent entry of foreign material and doweled where necessary for load transfer.
3. Where practical, we recommend early-entry cutting of crack-control joints in PCC pavements. Cutting of the concrete in its "green" state typically reduces the potential for micro-cracking of the pavements prior to the crack control joints being formed, compared to cutting the joints after the concrete has fully set. Micro-cracking of pavements may lead to crack formation in locations other than the sawed joints, and/or reduction of fatigue life of the pavement.
4. In areas of anticipated heavy traffic, fire trucks, delivery trucks, or concentrated loads (e.g. dumpster pads), and areas with repeated turning or maneuvering of heavy vehicles.

The estimated pavement sections provided in this report are minimums for the assumed design criteria, and as such, periodic maintenance should be expected. Areas for parking of heavy vehicles, concentrated turn areas, and start/stop maneuvers could require thicker pavement sections. Edge restraints (i.e. concrete curbs or aggregate shoulders) should be planned along curves and areas of maneuvering vehicles. A maintenance program that includes surface sealing, joint cleaning and sealing, and timely repair of cracks and deteriorated areas will increase the pavement's service life. As an option, thicker sections could be constructed to decrease future maintenance.

Pavement Drainage

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. In addition, the pavement subgrade should be graded to provide positive drainage within the granular base section. Appropriate sub-drainage or connection to a suitable daylight outlet should be provided to remove water from the granular subbase. Subdrains (if any) should be sloped to provide positive gravity drainage to reliable discharge points. Periodic maintenance of subdrains is required for long-term proper performance.

Openings in pavements, such as decorative landscaped areas, are sources for water infiltration into surrounding pavement systems. Water can collect in the islands and migrate into the surrounding subgrade soils thereby degrading support of the pavement. This is especially applicable for islands with raised concrete curbs, irrigated foliage, and low permeability near-surface soils. The civil design for the pavements with these conditions should include features to restrict or to collect and discharge excess water from the islands. Examples of features are edge drains connected to the storm water collection system, longitudinal subdrains, or other suitable outlet and impermeable barriers preventing lateral migration of water such as a cutoff wall installed to a depth below the pavement structure.

Pavement Maintenance

The pavement sections represent minimum recommended thicknesses and, as such, periodic maintenance should be anticipated. Therefore, preventive maintenance should be planned and provided for through an on-going pavement management program. Maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment. Maintenance consists of both localized maintenance (e.g. crack and joint sealing and patching) and global maintenance (e.g. surface sealing). Preventive maintenance is usually the priority when implementing a pavement maintenance program. Additional engineering observation is recommended to determine the type and extent of a cost-effective program. Even with periodic maintenance, some movements and related cracking may still occur, and repairs may be required.

Pavement performance is affected by its surroundings. In addition to providing preventive maintenance, the civil engineer should consider the following recommendations in the design and layout of pavements:

- Final grade adjacent to paved areas should slope down from the edges at a minimum 2%
- Subgrade and pavement surfaces should be properly sloped to promote proper surface drainage
- Drainage systems should be installed below pavements where surrounding areas are anticipated to be wet frequently
- Joint sealant and seal cracks should be installed immediately
- Seal all landscaped areas in or adjacent to pavements to reduce moisture migration to subgrade soils

STORMWATER MANAGEMENT

We understand that a stormwater management area is proposed at the site. Soil samples recovered from boring SW-1 were observed by our geologist for redoximorphic features to estimate the seasonal high-water table level in the vicinity of the proposed stormwater management area. Redoximorphic features (a gray or bluish-gray colored soil matrix) and mottling are formed by the process of reduction, translocation, and/or oxidation of iron and manganese oxides as the water table fluctuates. A soil layer exhibiting redoximorphic features can be representative of the seasonal high-water table level. Based on our observations during sampling, possible redoximorphic features were observed beginning at a depth of approximately 3 to 4 feet below existing grades. This observation, combined with groundwater measured at a depth of approximately 4 feet deep, indicates that the seasonal high-water table in the vicinity of boring SW-1 is at approximately 3 feet below existing grades.

Three PVC pipes were installed for infiltration testing (IT-1, IT-2 and SW-1a) in proximity test boring SW-1 for infiltration testing. Infiltration testing results are included in the **Exploration Results** section.

FROST CONSIDERATIONS

The soils on this site are frost susceptible, and small amounts of water can affect the performance of the slabs on-grade, sidewalks, and pavements. Exterior slabs should be anticipated to heave during winter months. If frost action needs to be eliminated in critical areas, we recommend the use of non-frost susceptible (NFS) fill or structural slabs (for instance, structural stoops in front of building doors). Placement of NFS material in large areas may not be feasible; however, the following recommendations are provided to help reduce potential frost heave:

- Provide surface drainage away from the building and slabs, and toward the site storm drainage system.
- Install drains around the perimeter of the building, stoops, below exterior slabs, and connect them to the storm drainage system.
- Grade clayey subgrades, so groundwater potentially perched in overlying more permeable subgrades, such as sand or aggregate base, slope toward a site drainage system.
- Place NFS fill as backfill beneath slabs and pavements critical to the project.
- Place a 3 horizontal to 1 vertical (3H:1V) transition zone between NFS fill and other soils.
- Place NFS materials in critical sidewalk areas.

GENERAL COMMENTS

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Natural variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence or collaboration through this system are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing.

Site safety, and cost estimating including, excavation support, and dewatering requirements/design are the responsibility of others. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

FIGURES

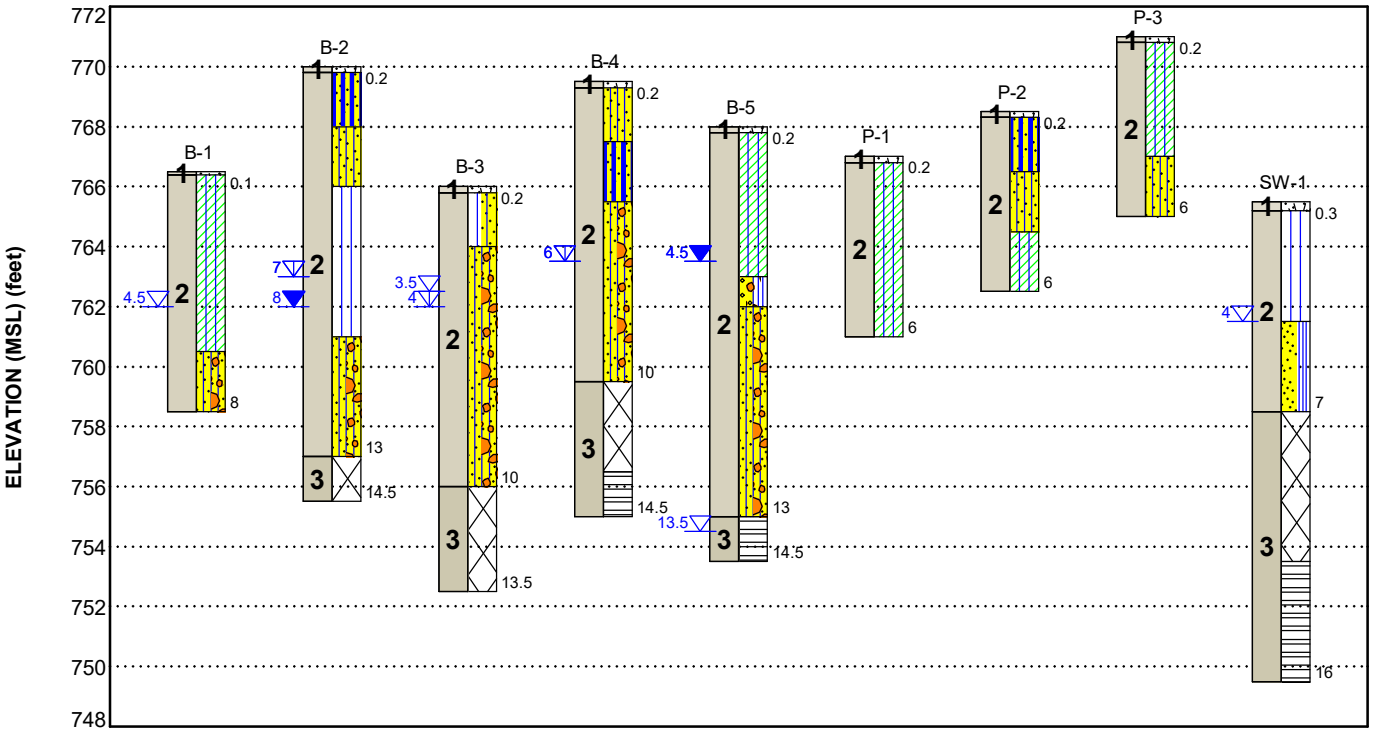
Contents:

GeoModel

GEOMODEL

Dollar General Store ■ Gowanda, NY
Terracon Project No. J5195141

Terracon GeoReport



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	Surface	Topsoil
2	Native Soil	Mixtures of clay, silt, sand with gravel (CL-ML, ML, SM); brown, orange-brown to gray; soft to stiff or very loose to very dense
3	Weathered bedrock	Highly weathered siltstone and/or shale, gray or black

LEGEND

- Topsoil
- Silty Clay
- Silty Sand with Gravel
- Sandy Silt
- Silty Sand
- Silt
- Weathered Rock
- Silt with Sand
- Highly Weathered Shale
- Well-graded Sand with Silt and Gravel
- Poorly-graded Sand with Silt

- First Water Observation
- Second Water Observation
- Third Water Observation

Groundwater levels are temporal. The levels shown are representative of the date and time of our exploration. Significant changes are possible over time.
Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project.
Numbers adjacent to soil column indicate depth below ground surface.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES

Field Exploration

Number of Explorations	Depth (feet)	Location
4 borings (B-1 through B-4)	8 to 14.5	Proposed building corners
1 boring (B-5)	14.5	Proposed building center
3 borings (P-1 through P-3)	6	Pavement Area
1 boring (SW-1)	16	Stormwater Management Area

Boring Layout and Elevations: Terracon personnel provided the boring layout. Coordinates were obtained with a handheld GPS unit (estimated horizontal accuracy of about ±20 feet) and approximate elevations were obtained from the ALTA Survey plan provided by The Broadway Group. If elevations and a more precise boring layout are desired, we recommend borings be surveyed following completion of fieldwork.

Subsurface Exploration Procedures: We advanced the borings with a track-mounted rotary drill rig using continuous hollow stem flight augers. Soil sampling was completed using a split-spoon sampler, as indicated in the boring logs. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon is driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the middle 12 inches of a normal 24-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. We observed and recorded groundwater levels during drilling and sampling. For safety purposes, all borings were backfilled with auger cuttings after their completion.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials encountered during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. Based on the material's texture and plasticity, we described and classified the soil samples in accordance with the Unified Soil Classification System. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Infiltration Testing

Three PVC pipes were installed for infiltration testing (IT-1, IT-2 and SW-1a) in proximity to SW-1 at depths ranging from approximately 3.5 to 5 feet below the existing surface. The infiltration test at each location was performed in general accordance with NYDEC Stormwater Management Design Manual - Appendix D. Infiltration Testing Requirements. The infiltration testing was performed as follow:

- Upon reaching the planned boring depth, a solid, 4-inch diameter PVC pipe was firmly seated into the bottom of the borehole.
- The pipe was filled with water to a depth of 24 inches above the bottom of the borehole and allowed to pre-soak for 24 hours to simulate saturated conditions.
- After 24 hours, water was added to the casing, as necessary, to bring the water level to a depth of 24 inches above the bottom of the borehole and the drop in the water level was monitored and measured after 1 hour.
- The monitoring process was repeated a total of four times.

Upon completion of the field testing, the pipes were removed, and the boreholes were backfilled with the soil cuttings. Infiltration test results are included in the **Exploration Results** section.

Photo 1: Facing west from eastern portion of site (between the existing homes)

Photo 2: Facing south from the northwestern corner of the site

Photo 3: Facing southeast from the northwestern corner of the site

Photo 4: Facing northwest from the eastern edge of the site (between the existing homes)

Photo 5: Facing east from the northwestern corner of the site

Photo 6: Facing southwest from the eastern edge of the site (between the existing homes)

SITE LOCATION AND EXPLORATION PLANS

Contents:

Site Location Plan
Exploration Plan with Aerial Image
Exploration Plan with Project Overlay

Note: All attachments are one page unless noted above.

SITE LOCATION

Dollar General ■ Gowanda, NY
Terracon Project No. J5195141

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: GOWANDA, NY (1/1/1976).

EXPLORATION PLAN WITH AERIAL IMAGE

Dollar General ■ Gowanda, NY

Terracon Project No. J5195141

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN WITH PROJECT OVERLAY

Dollar General ■ Gowanda, NY

Terracon Project No. J5195141

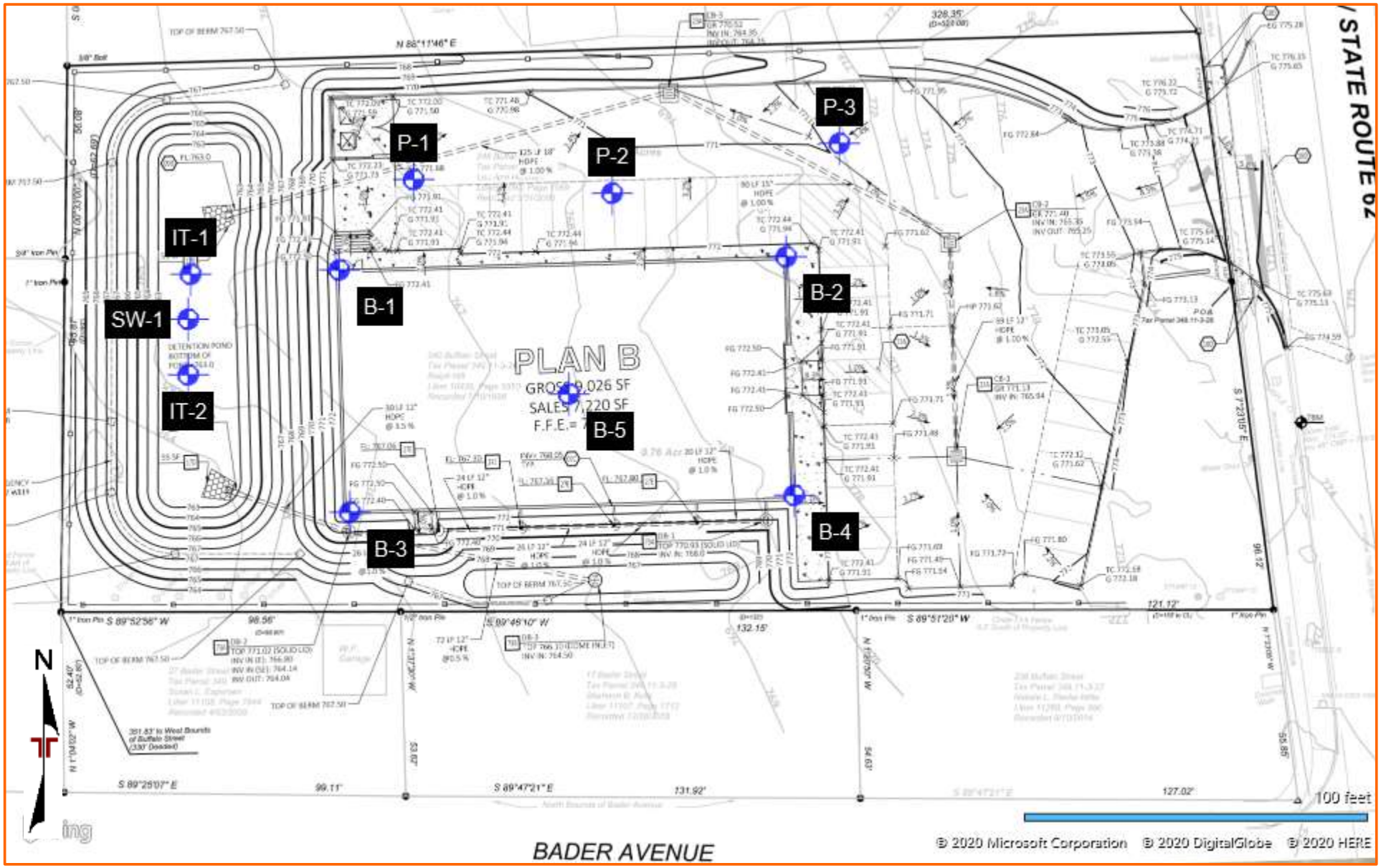


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

EXPLORATION RESULTS

Contents:

Boring Logs (9 pages)
Infiltration Test Results

Note: All attachments are one page unless noted above.

BORING LOG NO. B-1

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.4709° Longitude: -78.9364°

Approximate Surface Elev.: 766.5 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1		0.1	766.5+/-					
			TOPSOIL					
			SILTY CLAY (CL-ML), trace sand, orange-brown, soft				12	1-2-1-3 N=3
			Becomes orange-brown and gray, stiff				13	2-5-6-7 N=11
2			Becomes medium stiff	5	▽		11	3-2-2-1 N=4
		6.0	760.5+/-					
			SILTY SAND WITH GRAVEL (SM), numerous weathered siltstone fragments, gray, very dense				10	16-17-50/5"
		8.0	758.5+/-					
			Sample Spoon Penetration refusal encountered at 7.4' BGS. Auger Penetration Refusal encountered at 8 Feet					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

▽ *4.5' BGS at completion of sampling*

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-22-2020	Boring Completed: 05-22-2020
Drill Rig: CME-550X	Driller: B. Duffey
Project No.: J5195141	

BORING LOG NO. B-2

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.4709° Longitude: -78.9359°

Approximate Surface Elev.: 770 (Ft.) +/-

MODEL LAYER	DEPTH	ELEVATION (Ft.)		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1	0.2	770+/-	**TOPSOIL**					
			SANDY SILT (ML), trace clay, brown, soft				11	1-2-2-2 N=4
	2.0	768+/-						
			SILTY SAND (SM), trace clay, orange brown, loose				15	2-3-4-4 N=7
	4.0	766+/-						
2			**SILT (ML)**, trace sand, trace clay, orange brown and gray, medium stiff	5			14	1-1-3-4 N=4
			Becomes brown gray		▽		14	3-3-4-5 N=7
	9.0	761+/-			▼			
			SILTY SAND WITH GRAVEL (SM), trace siltstone fragments, brown gray, very dense				0	WOH/1.0-4-5 N=4
				10			8	10-50-50/1"
	13.0	757+/-						
3			**HIGHLY WEATHERED SILTSTONE**, gray				12	25-48-50/2"
	14.5	755.5+/-						
			Sample spoon Penetration Refusal encountered at 14.5 Feet					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:
WOH = Weight of Hammer and Rods

WATER LEVEL OBSERVATIONS

▽ *7' BGS at completion of sampling*

▽ *7' BGS at end of day*

▼ *8' BGS at 0900 on 5/22/20*

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-21-2020 | Boring Completed: 05-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5195141

BORING LOG NO. B-3

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.4707° Longitude: -78.9364°

Approximate Surface Elev.: 766 (Ft.) +/-

MODEL LAYER	DEPTH	ELEVATION (Ft.)	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1	0.2	766+/-	**TOPSOIL**					
			SILT WITH SAND (ML), trace clay, orange brown, soft				9	2-1-3-4 N=4
	2.0	764+/-						
2			**SILTY SAND WITH GRAVEL (SM)**, brown, loose to medium dense		▽		13	4-8-8-7 N=16
			saturated		▽			
				5			6	3-3-4-4 N=7
							0	2-2-2-1 N=4
			Becomes gray, contains occasional cobble fragments, very dense				2	14-50/2"
	10.0	756+/-		10				
3			**HIGHLY WEATHERED SILTSTONE**, gray				9	2-17-23-20 N=40
							2	50/4"
	13.5	752.5+/-						
			Sample spoon Penetration Refusal encountered at 13.5 Feet					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:

WATER LEVEL OBSERVATIONS

▽ *3.5' BGS at completion of sampling*

▽ *4' BGS at 0900 on 5/22/20*

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-21-2020 | Boring Completed: 05-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5195141

BORING LOG NO. B-4

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.4707° Longitude: -78.9359°

Approximate Surface Elev.: 769.5 (Ft.) +/-

MODEL LAYER	DEPTH	ELEVATION (Ft.)		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1	0.2	769.5+/-	**TOPSOIL**					
			SILTY SAND (SM), trace gravel, trace clay, orange brown, loose				15	2-2-2-2 N=4
	2.0	767.5+/-						
			SANDY SILT (ML), trace gravel, occasional clay partings, orange brown, medium stiff				14	2-3-4-5 N=7
	4.0	765.5+/-						
2			**SILTY SAND WITH GRAVEL (SM)**, trace clay, brown, loose to medium dense	5	▽		15	4-4-8-5 N=12
							7	5-5-3-3 N=8
			Becomes brown gray, very loose				7	2-1-2-2 N=3
	10.0	759.5+/-		10				
3			**HIGHLY WEATHERED SILTSTONE**, olive gray				6	4-8-8-15 N=16
	13.0	756.5+/-						
			HIGHLY WEATHERED SHALE, gray					
	14.5	755+/-					5	35-50/1"
			Sample spoon Penetration Refusal encountered at 14.5 Feet					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

▽ *6' BGS at completion of sampling*

▽ *6' BGS at 0900 on 5/22/20*

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-21-2020 | Boring Completed: 05-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5195141

BORING LOG NO. B-5

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.4708° Longitude: -78.9362°

Surface Elev.: 768 (Ft.)

MODEL LAYER	DEPTH	ELEVATION (Ft.)		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1	0.2	768	**TOPSOIL**					
			SILTY CLAY (CL-ML), trace sand, brown gray, very soft				10	WOH/1.0-1-3 N=1
			Becomes orange brown, stiff				14	2-3-6-5 N=9
	5.0	763		5	▼		15	5-6-4-5 N=10
			WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM), brown, medium dense					
	6.0	762						
2			**SILTY SAND WITH GRAVEL (SM)**, orange brown, loose to medium dense				7	6-5-4-6 N=9
							6	3-3-2-1 N=5
			Contains occasional siltstone fragments	10			4	1-8-8-5 N=16
	13.0	755			▽			
3			**HIGHLY WEATHERED SHALE**, gray				2	50/4"
	14.5	753.5						
			Sample spoon Penetration Refusal encountered at 14.5 Feet					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:
WOH = Weight of Hammer and Rods

WATER LEVEL OBSERVATIONS

▽ *13.5' BGS at completion of sampling*

▽ *4.5' BGS at end of day*

▼ *4.5' BGS at 0900 on 5/22/20*

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-21-2020 | Boring Completed: 05-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5195141

BORING LOG NO. P-1

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.471° Longitude: -78.9363°

Surface Elev.: 767 (Ft.)

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1		0.2	767					
		TOPSOIL						
2		**SILTY CLAY (CL-ML)**, trace sand, brown gray, very soft					11	1-1-1-1 N=2
		Becomes orange brown and gray, medium stiff					16	4-4-4-4 N=8
		Becomes brown gray		5			17	4-4-4-3 N=8
		6.0	761					
		Boring Terminated at 6 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

None encountered at completion of sampling

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-22-2020	Boring Completed: 05-22-2020
Drill Rig: CME-550X	Driller: B. Duffey
Project No.: J5195141	

BORING LOG NO. P-2

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.4709° Longitude: -78.9361°

Surface Elev.: 768.5 (Ft.)

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1		0.2	768.5					
		TOPSOIL						
		SANDY SILT (ML), trace clay, brown gray, very soft					13	1-1-1-1 N=2
		2.0	766.5					
2		**SILTY SAND (SM)**, trace clay, brown gray, loose					11	3-4-4-3 N=8
		4.0	764.5					
		SILTY CLAY (CL-ML), trace sand, orange brown and gray, medium stiff		5			14	3-3-2-3 N=5
		6.0	762.5					
		Boring Terminated at 6 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:

WATER LEVEL OBSERVATIONS

None encountered at completion of sampling

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-22-2020 | Boring Completed: 05-22-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5195141

BORING LOG NO. P-3

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.471° Longitude: -78.9359°

Surface Elev.: 771 (Ft.)

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1		0.2	771					
		TOPSOIL						
2		**SILTY CLAY (CL-ML)**, trace sand, brown gray, soft to medium stiff					12	1-1-1-1 N=2
							17	2-3-4-4 N=7
		4.0	767					
		SILTY SAND (SM), trace clay, brown, loose		5			16	4-3-3-4 N=6
		6.0	765					
		Boring Terminated at 6 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:

WATER LEVEL OBSERVATIONS

None encountered at completion of sampling

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-21-2020 | Boring Completed: 05-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5195141

BORING LOG NO. SW-1

PROJECT: Dollar General Store

CLIENT: The Broadway Group LLC
Huntsville, AL

SITE: 240 and 248 Buffalo Street
Gowanda, NY

LOCATION See Exploration Plan

Latitude: 42.4708° Longitude: -78.9366°

Surface Elev.: 765.5 (Ft.)

MODEL LAYER	DEPTH	ELEVATION (Ft.)		RECOVERY (In.)	FIELD TEST RESULTS
1	0.3	765	**TOPSOIL**		
2	4.0	761.5	**SILT (ML)**, trace sand, trace clay, orange brown, soft to stiff	10	1-1-2-3 N=3
				14	5-4-5-4 N=9
	7.0	758.5	**POORLY GRADED SAND WITH SILT (SP-SM)**, trace gravel, fine grained, dark gray, very loose	6	2-1-1-1 N=2
3	12.0	753.5	**HIGHLY WEATHERED SILTSTONE**, with sand, gray	13	4-17-19-13 N=36
				6	13-10-12-19 N=22
				10	5-8-13-21 N=21
	16.0	749.5	**HIGHLY WEATHERED SHALE**, black	14	50-40-50/5"
				16	10-24-37-50 N=61
			Boring Terminated at 16 Feet		

DEPTH (Ft.): 5, 10, 15

WATER LEVEL OBSERVATIONS: ▽ 4' BGS at completion of sampling

SAMPLE TYPE

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from the ALTA survey plan provide by the Broadway Group.

Notes:

WATER LEVEL OBSERVATIONS

▽ *4' BGS at completion of sampling*

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 05-22-2020 | Boring Completed: 05-22-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5195141

INFILTRATION TEST DATA SUMMARY

Project: Dollar General - Gowanda, NY
Weather: Mostly Cloudy
Presoak Date: 5/22/20

Terracon Project No.:J5195141
Tester : Blake Pilarski
Test Date: 5/27/2020

Test Location	Test Depth (Feet)	Soil Classification	Trial Number	Water Drop (inches)	Elapsed Time (hours)	Infiltration Rate (inches/hour)
SW-1a (installed at a distance of about 5 feet from SW-1)	5.5	Silt	1	0.0	1	0.0
			2	0.2	1	0.2
			3	0.1	1	0.1
			4	0.1	1	0.1
			Average infiltration rate for the four trials was 0.1 inches per hour. Infiltration rate of the final trial was 0.1 inches per hour.			
IT-1	3.0	Silt	1	0.4	1	0.4
			2	0.4	1	0.4
			3	0.2	1	0.2
			4	0.4	1	0.4
			Average infiltration rate for the four trials was 0.4 inches per hour. Infiltration rate of the final trial was 0.3 inches per hour.			
IT-2	3.5	Silt	1	0	1	0
			2	0	1	0
			3	0	1	0
			4	0	1	0
			Average infiltration rate for the four trials was 0.00 inches per hour. Infiltration rate of the final trial was 0.00 inches per hour.			

Testing was conducted in general accordance with Appendix D of the New York State Storm Water Management Design Manual.

SUPPORTING INFORMATION

Contents:

General Notes
Unified Soil Classification System
Description of Rock Properties

Note: All attachments are one page unless noted above.

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS
Dollar General Store ■ Gowanda, NY
Terracon Project No. J5195141

SAMPLING	WATER LEVEL	FIELD TESTS
Standard Penetration Test	**Water Initially Encountered** **Water Level After a Specified Period of Time** **Water Level After a Specified Period of Time** **Cave In Encountered** Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	**N** Standard Penetration Test Resistance (Blows/Ft.) **(HP)** Hand Penetrometer **(T)** Torvane **(DCP)** Dynamic Cone Penetrometer **UC** Unconfined Compressive Strength **(PID)** Photo-Ionization Detector **(OVA)** Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

LOCATION AND ELEVATION NOTES

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance		CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance		
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength Qu, (tsf)**	**Standard Penetration or N-Value Blows/Ft.**
Very Loose	0 - 3	Very Soft	less than 0.25	0 - 1
Loose	4 - 9	Soft	0.25 to 0.50	2 - 4
Medium Dense	10 - 29	Medium Stiff	0.50 to 1.00	4 - 8
Dense	30 - 50	Stiff	1.00 to 2.00	8 - 15
Very Dense	> 50	Very Stiff	2.00 to 4.00	15 - 30
		Hard	> 4.00	> 30

RELEVANCE OF SOIL BORING LOG

The soil boring logs contained within this document are intended for application to the project as described in this document. Use of these soil boring logs for any other purpose may not be appropriate.

UNIFIED SOIL CLASSIFICATION SYSTEM

Terracon GeoReport

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	Cu ≥ 4 and 1 ≤ Cc ≤ 3 [E]		GW	Well-graded gravel [F]
			Cu < 4 and/or [Cc<1 or Cc>3.0] [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F, G, H]
			Fines classify as CL or CH		GC	Clayey gravel [F, G, H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	Cu ≥ 6 and 1 ≤ Cc ≤ 3 [E]		SW	Well-graded sand [I]
			Cu < 6 and/or [Cc<1 or Cc>3.0] [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G, H, I]
			Fines classify as CL or CH		SC	Clayey sand [G, H, I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above "A"		CL	Lean clay [K, L, M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K, L, M, N]
			Liquid limit - not dried			Organic silt [K, L, M, O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K, L, M]
			PI plots below "A" line		MH	Elastic Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K, L, M, P]
			Liquid limit - not dried			Organic silt [K, L, M, Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve.

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

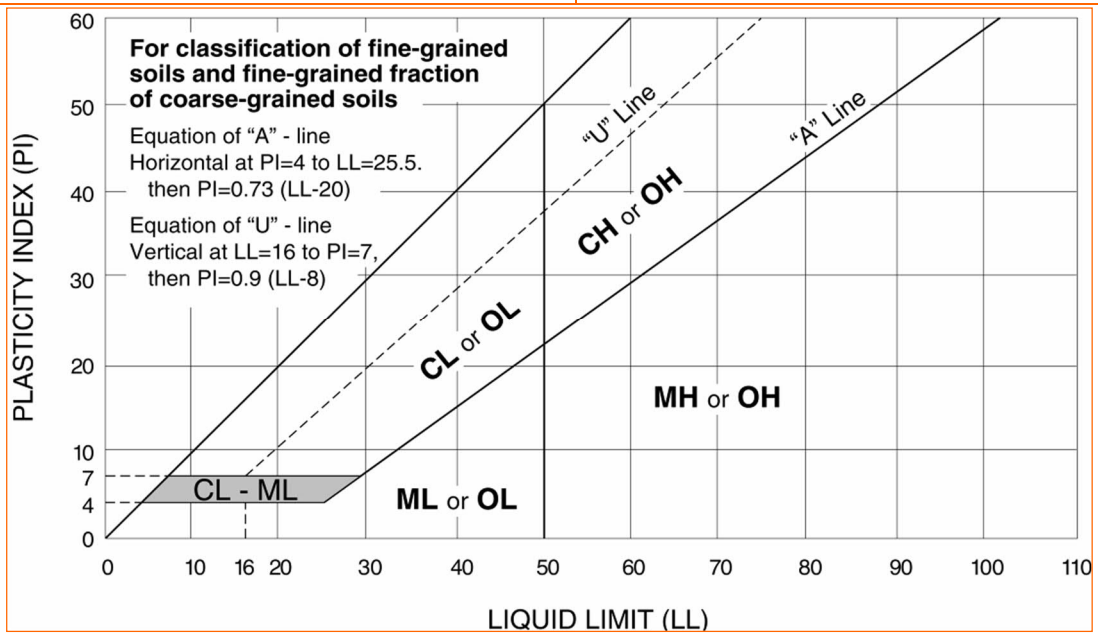
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



DESCRIPTION OF ROCK PROPERTIES

WEATHERING	
Term	**Description**
Unweathered	No visible sign of rock material weathering, perhaps slight discoloration on major discontinuity surfaces.
Slightly weathered	Discoloration indicates weathering of rock material and discontinuity surfaces. All the rock material may be discolored by weathering and may be somewhat weaker externally than in its fresh condition.
Moderately weathered	Less than half of the rock material is decomposed and/or disintegrated to a soil. Fresh or discolored rock is present either as a continuous framework or as corestones.
Highly weathered	More than half of the rock material is decomposed and/or disintegrated to a soil. Fresh or discolored rock is present either as a discontinuous framework or as corestones.
Completely weathered	All rock material is decomposed and/or disintegrated to soil. The original mass structure is still largely intact.
Residual soil	All rock material is converted to soil. The mass structure and material fabric are destroyed. There is a large change in volume, but the soil has not been significantly transported.

STRENGTH OR HARDNESS		
Description	**Field Identification**	**Uniaxial Compressive Strength, psi (MPa)**
Extremely weak	Indented by thumbnail	40-150 (0.3-1)
Very weak	Crumbles under firm blows with point of geological hammer, can be peeled by a pocket knife	150-700 (1-5)
Weak rock	Can be peeled by a pocket knife with difficulty, shallow indentations made by firm blow with point of geological hammer	700-4,000 (5-30)
Medium strong	Cannot be scraped or peeled with a pocket knife, specimen can be fractured with single firm blow of geological hammer	4,000-7,000 (30-50)
Strong rock	Specimen requires more than one blow of geological hammer to fracture it	7,000-15,000 (50-100)
Very strong	Specimen requires many blows of geological hammer to fracture it	15,000-36,000 (100-250)
Extremely strong	Specimen can only be chipped with geological hammer	>36,000 (>250)

DISCONTINUITY DESCRIPTION			
Fracture Spacing (Joints, Faults, Other Fractures)		**Bedding Spacing (May Include Foliation or Banding)**	
Description	**Spacing**	**Description**	**Spacing**
Extremely close	< ¾ in (<19 mm)	**Laminated**	< ½ in (<12 mm)
Very close	¾ in – 2-1/2 in (19 - 60 mm)	**Very thin**	½ in – 2 in (12 – 50 mm)
Close	2-1/2 in – 8 in (60 – 200 mm)	**Thin**	2 in – 1 ft. (50 – 300 mm)
Moderate	8 in – 2 ft. (200 – 600 mm)	**Medium**	1 ft. – 3 ft. (300 – 900 mm)
Wide	2 ft. – 6 ft. (600 mm – 2.0 m)	**Thick**	3 ft. – 10 ft. (900 mm – 3 m)
Very Wide	6 ft. – 20 ft. (2.0 – 6 m)	**Massive**	> 10 ft. (3 m)

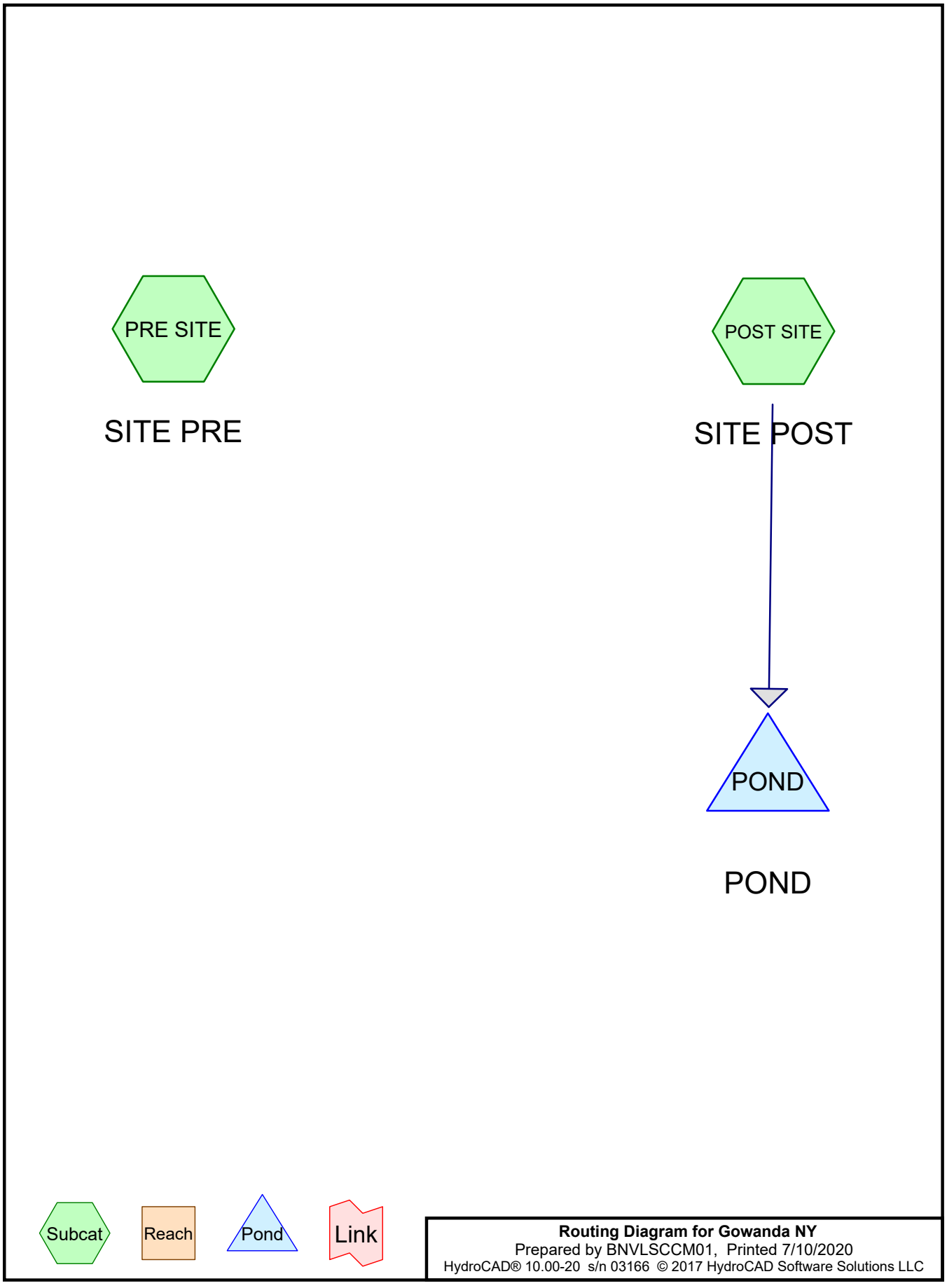
Discontinuity Orientation (Angle): Measure the angle of discontinuity relative to a plane perpendicular to the longitudinal axis of the core. (For most cases, the core axis is vertical; therefore, the plane perpendicular to the core axis is horizontal.) For example, a horizontal bedding plane would have a 0-degree angle.

ROCK QUALITY DESIGNATION (RQD) [1]	
Description	**RQD Value (%)**
Very Poor	0 - 25
Poor	25 – 50
Fair	50 – 75
Good	75 – 90
Excellent	90 - 100

1. The combined length of all sound and intact core segments equal to or greater than 4 inches in length, expressed as a percentage of the total core run length.

Reference: U.S. Department of Transportation, Federal Highway Administration, Publication No FHWA-NHI-10-034, December 2009
Technical Manual for Design and Construction of Road Tunnels – Civil Elements

APPENDIX C
HydroCAD Reports: Existing and Proposed Runoff Conditions



Routing Diagram for Gowanda NY
Prepared by BNVLSCCM01, Printed 7/10/2020

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POST SITE: SITE POST Runoff Area=55,700 sf 57.09% Impervious Runoff Depth=0.44"
Tc=5.0 min CN=77 Runoff=1.00 cfs 0.047 af

Subcatchment PRE SITE: SITE PRE Runoff Area=55,634 sf 8.99% Impervious Runoff Depth=0.01"
Flow Length=380' Slope=0.0200 '/' Tc=13.4 min CN=53 Runoff=0.00 cfs 0.001 af

Pond POND: POND Peak Elev=766.53' Storage=1,948 cf Inflow=1.00 cfs 0.047 af
Discarded=0.00 cfs 0.010 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.010 af

Summary for Subcatchment POST SITE: SITE POST

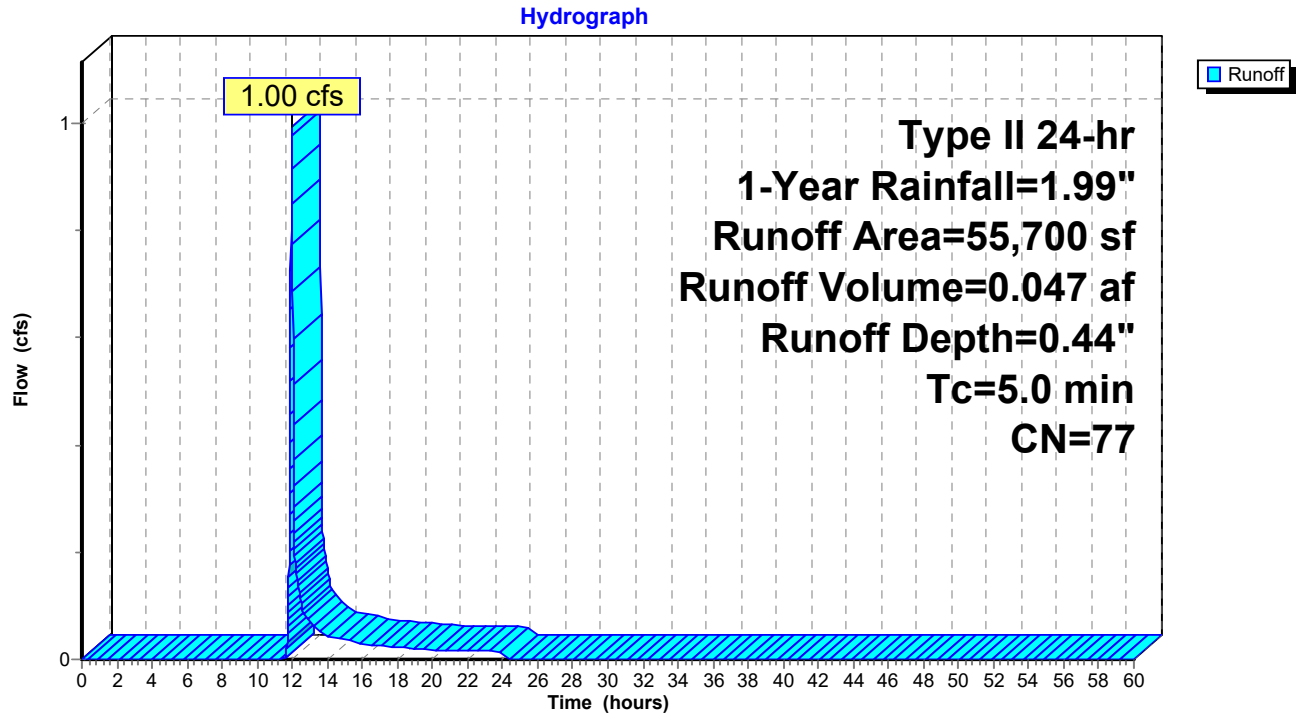
Runoff = 1.00 cfs @ 11.97 hrs, Volume= 0.047 af, Depth= 0.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.99"

Area (sf)	CN	Description
31,800	98	Paved parking, HSG A
23,900	49	50-75% Grass cover, Fair, HSG A
55,700	77	Weighted Average
23,900		42.91% Pervious Area
31,800		57.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment POST SITE: SITE POST



Hydrograph for Subcatchment POST SITE: SITE POST

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.02	0.00	0.00
2.00	0.04	0.00	0.00
3.00	0.07	0.00	0.00
4.00	0.10	0.00	0.00
5.00	0.13	0.00	0.00
6.00	0.16	0.00	0.00
7.00	0.20	0.00	0.00
8.00	0.24	0.00	0.00
9.00	0.29	0.00	0.00
10.00	0.36	0.00	0.00
11.00	0.47	0.00	**0.00**
12.00	1.32	0.14	**0.92**
13.00	1.54	0.22	0.07
14.00	1.63	0.27	0.04
15.00	1.70	0.30	0.04
16.00	1.75	0.32	0.03
17.00	1.79	0.34	0.03
18.00	1.83	0.36	0.02
19.00	1.87	0.38	0.02
20.00	1.89	0.39	0.02
21.00	1.92	0.41	0.02
22.00	1.94	0.42	0.02
23.00	1.97	0.43	0.02
24.00	**1.99**	**0.44**	0.02
25.00	1.99	0.44	0.00
26.00	1.99	0.44	0.00
27.00	1.99	0.44	0.00
28.00	1.99	0.44	0.00
29.00	1.99	0.44	0.00
30.00	1.99	0.44	0.00
31.00	1.99	0.44	0.00
32.00	1.99	0.44	0.00
33.00	1.99	0.44	0.00
34.00	1.99	0.44	0.00
35.00	1.99	0.44	0.00
36.00	1.99	0.44	0.00
37.00	1.99	0.44	0.00
38.00	1.99	0.44	0.00
39.00	1.99	0.44	0.00
40.00	1.99	0.44	0.00
41.00	1.99	0.44	0.00
42.00	1.99	0.44	0.00
43.00	1.99	0.44	0.00
44.00	1.99	0.44	0.00
45.00	1.99	0.44	0.00
46.00	1.99	0.44	0.00
47.00	1.99	0.44	0.00
48.00	1.99	0.44	0.00
49.00	1.99	0.44	0.00
50.00	1.99	0.44	0.00
51.00	1.99	0.44	0.00
52.00	1.99	0.44	0.00
53.00	1.99	0.44	0.00
54.00	1.99	0.44	0.00
55.00	1.99	0.44	0.00
56.00	1.99	0.44	0.00
57.00	1.99	0.44	0.00
58.00	1.99	0.44	0.00
59.00	1.99	0.44	0.00
60.00	1.99	0.44	0.00

Summary for Subcatchment PRE SITE: SITE PRE

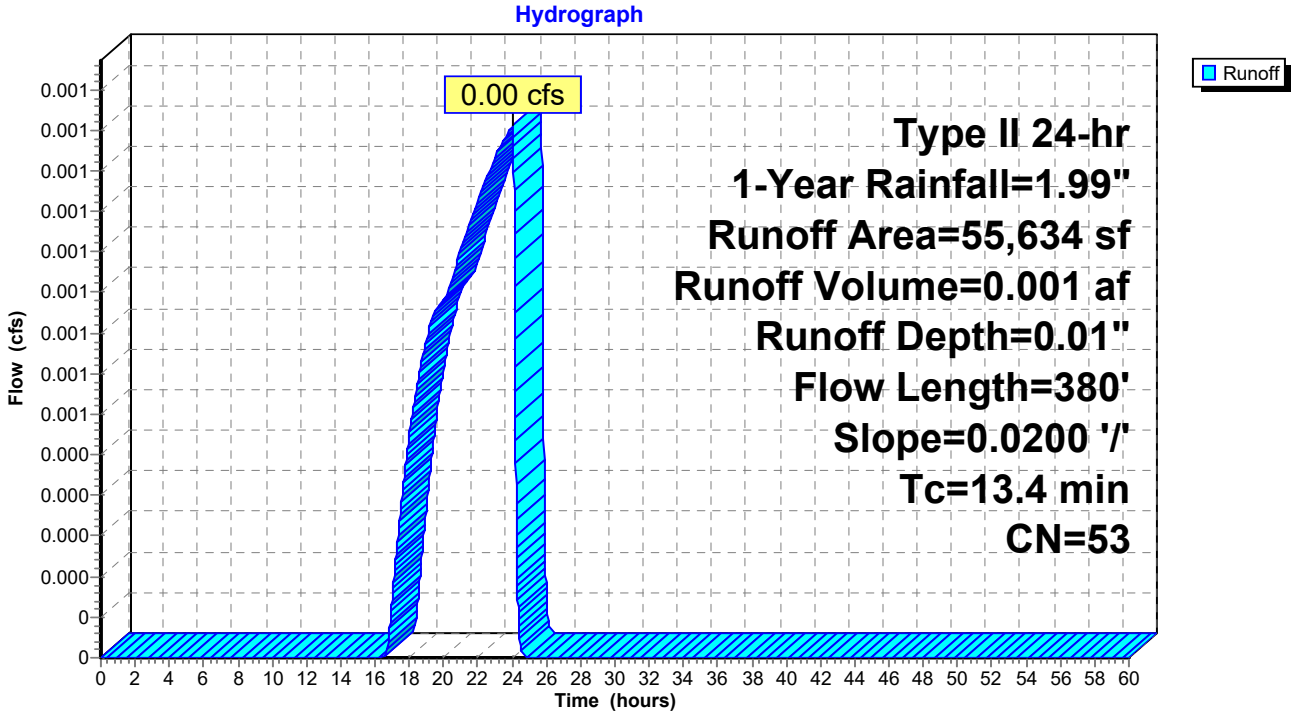
Runoff = 0.00 cfs @ 24.02 hrs, Volume= 0.001 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.99"

Area (sf)	CN	Description
5,000	98	Paved parking, HSG A
50,634	49	50-75% Grass cover, Fair, HSG A
55,634	53	Weighted Average
50,634		91.01% Pervious Area
5,000		8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0200	0.15		**Sheet Flow, Sheet flow grass** Grass: Short n= 0.150 P2= 2.36"
2.0	280	0.0200	2.28		**Shallow Concentrated Flow, Shallow Concentrated Flow** Unpaved Kv= 16.1 fps
13.4	380	Total			

Subcatchment PRE SITE: SITE PRE



Hydrograph for Subcatchment PRE SITE: SITE PRE

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.02	0.00	0.00
2.00	0.04	0.00	0.00
3.00	0.07	0.00	0.00
4.00	0.10	0.00	0.00
5.00	0.13	0.00	0.00
6.00	0.16	0.00	0.00
7.00	0.20	0.00	0.00
8.00	0.24	0.00	0.00
9.00	0.29	0.00	0.00
10.00	0.36	0.00	0.00
11.00	0.47	0.00	0.00
12.00	1.32	0.00	0.00
13.00	1.54	0.00	0.00
14.00	1.63	0.00	0.00
15.00	1.70	0.00	0.00
16.00	1.75	0.00	0.00
17.00	1.79	0.00	0.00
18.00	1.83	0.00	0.00
19.00	1.87	0.00	0.00
20.00	1.89	0.00	0.00
21.00	1.92	0.00	0.00
22.00	1.94	0.00	0.00
23.00	1.97	0.00	0.00
24.00	**1.99**	**0.01**	**0.00**
25.00	1.99	0.01	**0.00**
26.00	1.99	0.01	0.00
27.00	1.99	0.01	0.00
28.00	1.99	0.01	0.00
29.00	1.99	0.01	0.00
30.00	1.99	0.01	0.00
31.00	1.99	0.01	0.00
32.00	1.99	0.01	0.00
33.00	1.99	0.01	0.00
34.00	1.99	0.01	0.00
35.00	1.99	0.01	0.00
36.00	1.99	0.01	0.00
37.00	1.99	0.01	0.00
38.00	1.99	0.01	0.00
39.00	1.99	0.01	0.00
40.00	1.99	0.01	0.00
41.00	1.99	0.01	0.00
42.00	1.99	0.01	0.00
43.00	1.99	0.01	0.00
44.00	1.99	0.01	0.00
45.00	1.99	0.01	0.00
46.00	1.99	0.01	0.00
47.00	1.99	0.01	0.00
48.00	1.99	0.01	0.00
49.00	1.99	0.01	0.00
50.00	1.99	0.01	0.00
51.00	1.99	0.01	0.00
52.00	1.99	0.01	0.00
53.00	1.99	0.01	0.00
54.00	1.99	0.01	0.00
55.00	1.99	0.01	0.00
56.00	1.99	0.01	0.00
57.00	1.99	0.01	0.00
58.00	1.99	0.01	0.00
59.00	1.99	0.01	0.00
60.00	1.99	0.01	0.00

Summary for Pond POND: POND

Inflow Area = 1.279 ac, 57.09% Impervious, Inflow Depth = 0.44" for 1-Year event
Inflow = 1.00 cfs @ 11.97 hrs, Volume= 0.047 af
Outflow = 0.00 cfs @ 24.11 hrs, Volume= 0.010 af, Atten= 100%, Lag= 727.9 min
Discarded = 0.00 cfs @ 24.11 hrs, Volume= 0.010 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 766.53' @ 24.11 hrs Surf.Area= 1,797 sf Storage= 1,948 cf

Plug-Flow detention time= 1,453.9 min calculated for 0.010 af (22% of inflow)
Center-of-Mass det. time= 1,287.7 min (2,168.8 - 881.1)

Volume	Invert	Avail.Storage	Storage Description
#1	765.00'	15,496 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

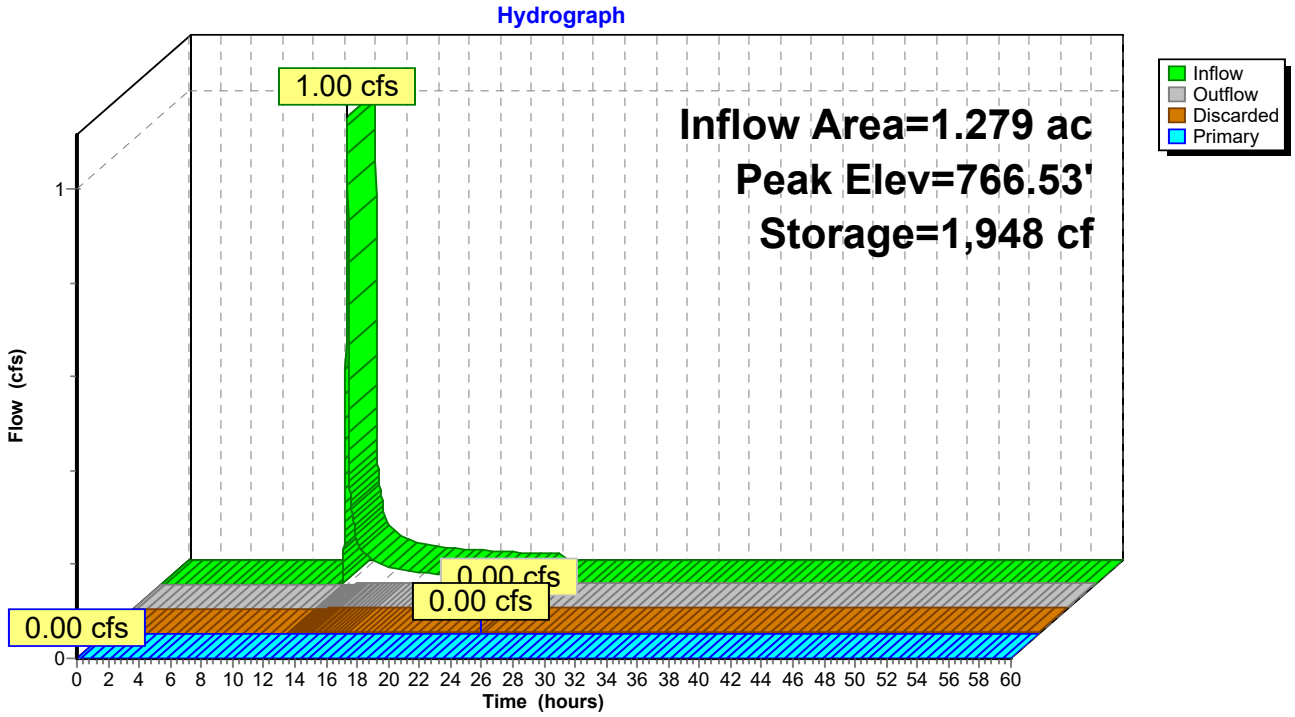
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
765.00	755	0	0
766.00	1,420	1,088	1,088
767.00	2,125	1,773	2,860
767.50	4,100	1,556	4,416
768.00	4,900	2,250	6,666
769.00	6,250	5,575	12,241
769.25	6,510	1,595	13,836
769.50	6,770	1,660	15,496

Device	Routing	Invert	Outlet Devices
#1	Discarded	765.00'	**0.050 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 762.00'
#2	Primary	768.25'	**4.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=0.00 cfs @ 24.11 hrs HW=766.53' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=765.00' (Free Discharge)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond POND: POND



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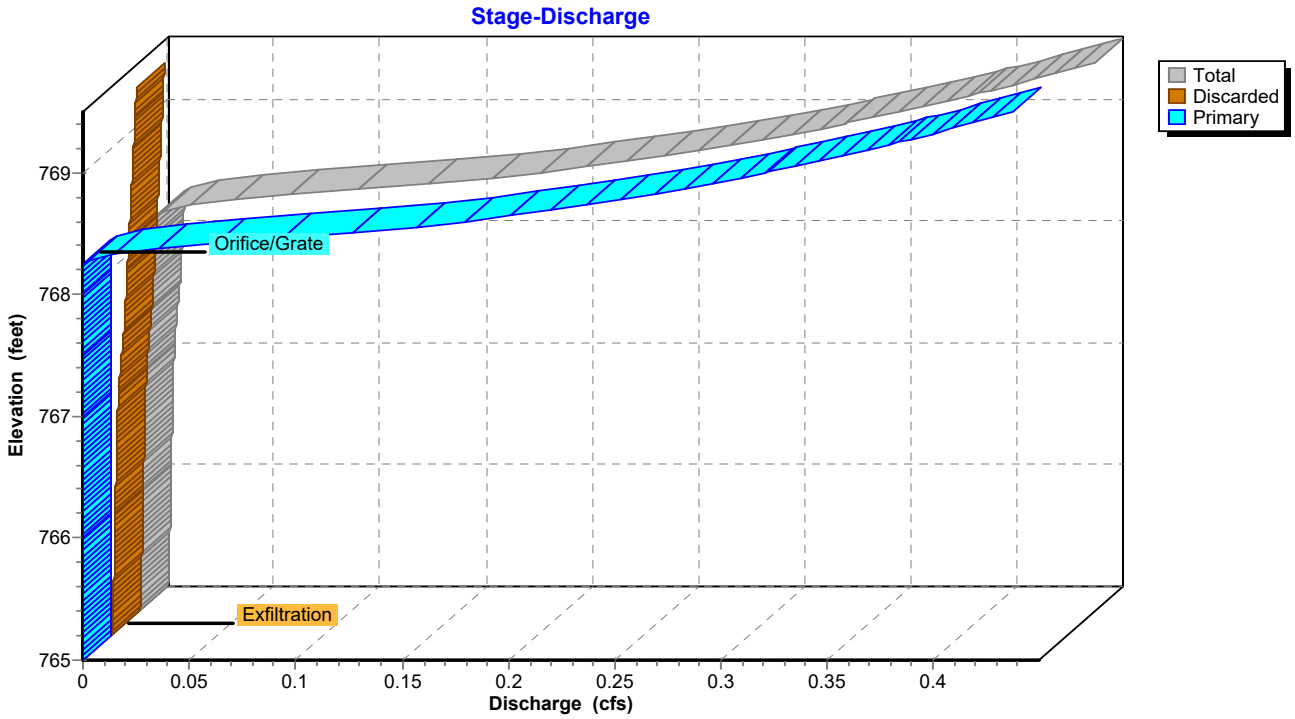
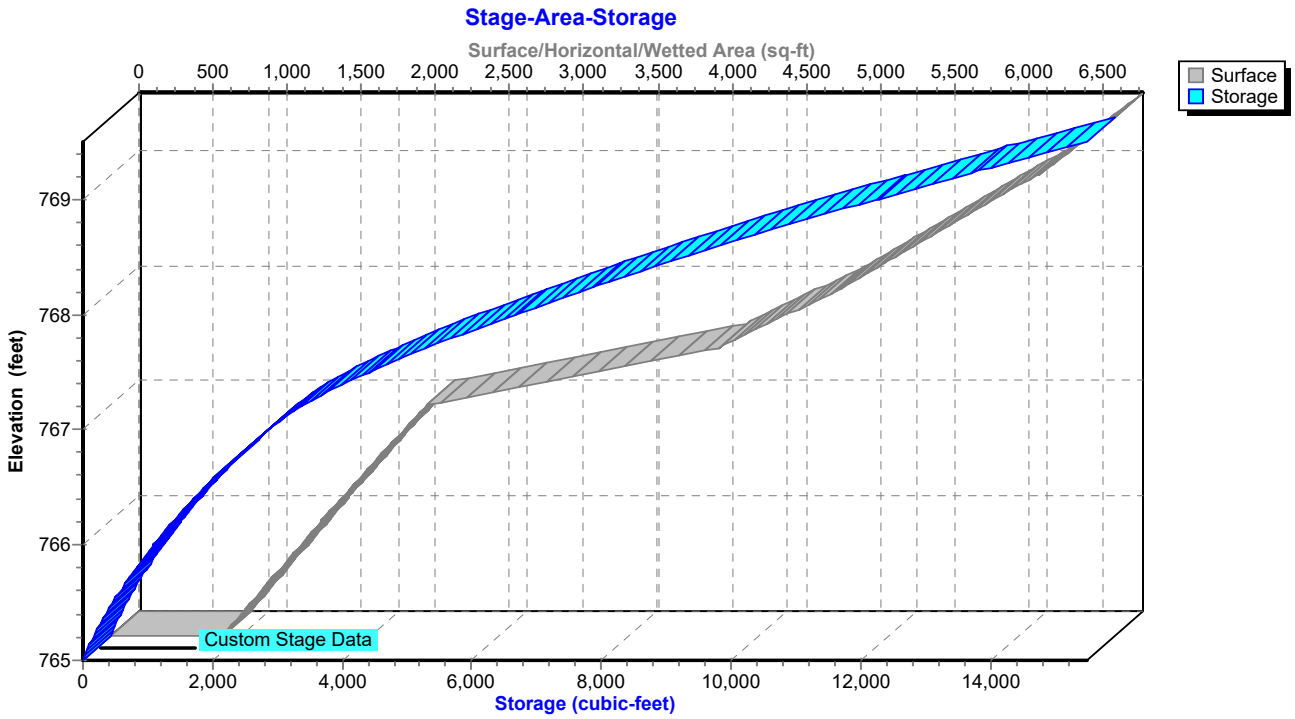


Pond POND: POND



Hydrograph for Pond POND: POND

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	765.00	0.00	0.00	**0.00**
2.00	0.00	0	765.00	0.00	0.00	0.00
4.00	0.00	0	765.00	0.00	0.00	0.00
6.00	0.00	0	765.00	0.00	0.00	0.00
8.00	0.00	0	765.00	0.00	0.00	0.00
10.00	**0.00**	0	765.00	0.00	0.00	0.00
12.00	**0.92**	461	765.50	0.00	0.00	0.00
14.00	0.04	1,208	766.08	0.00	0.00	0.00
16.00	0.03	1,453	766.24	0.00	0.00	0.00
18.00	0.02	1,622	766.35	0.00	0.00	0.00
20.00	0.02	1,751	766.42	0.00	0.00	0.00
22.00	0.02	1,852	766.48	0.00	0.00	0.00
24.00	0.02	**1,945**	**766.53**	**0.00**	**0.00**	0.00
26.00	0.00	**1,929**	**766.52**	**0.00**	**0.00**	0.00
28.00	0.00	1,909	766.51	0.00	0.00	0.00
30.00	0.00	1,889	766.50	0.00	0.00	0.00
32.00	0.00	1,870	766.49	0.00	0.00	0.00
34.00	0.00	1,850	766.48	0.00	0.00	0.00
36.00	0.00	1,831	766.47	0.00	0.00	0.00
38.00	0.00	1,812	766.46	0.00	0.00	0.00
40.00	0.00	1,792	766.45	0.00	0.00	0.00
42.00	0.00	1,773	766.44	0.00	0.00	0.00
44.00	0.00	1,754	766.42	0.00	0.00	0.00
46.00	0.00	1,736	766.41	0.00	0.00	0.00
48.00	0.00	1,717	766.40	0.00	0.00	0.00
50.00	0.00	1,698	766.39	0.00	0.00	0.00
52.00	0.00	1,680	766.38	0.00	0.00	0.00
54.00	0.00	1,661	766.37	0.00	0.00	0.00
56.00	0.00	1,643	766.36	0.00	0.00	0.00
58.00	0.00	1,625	766.35	0.00	0.00	0.00
60.00	0.00	1,607	766.34	0.00	0.00	0.00

Stage-Discharge for Pond POND: POND

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
765.00	0.00	0.00	0.00
765.05	0.00	0.00	0.00
765.10	0.00	0.00	0.00
765.15	0.00	0.00	0.00
765.20	0.00	0.00	0.00
765.25	0.00	0.00	0.00
765.30	0.00	0.00	0.00
765.35	0.00	0.00	0.00
765.40	0.00	0.00	0.00
765.45	0.00	0.00	0.00
765.50	0.00	0.00	0.00
765.55	0.00	0.00	0.00
765.60	0.00	0.00	0.00
765.65	0.00	0.00	0.00
765.70	0.00	0.00	0.00
765.75	0.00	0.00	0.00
765.80	0.00	0.00	0.00
765.85	0.00	0.00	0.00
765.90	0.00	0.00	0.00
765.95	0.00	0.00	0.00
766.00	0.00	0.00	0.00
766.05	0.00	0.00	0.00
766.10	0.00	0.00	0.00
766.15	0.00	0.00	0.00
766.20	0.00	0.00	0.00
766.25	0.00	0.00	0.00
766.30	0.00	0.00	0.00
766.35	0.00	0.00	0.00
766.40	0.00	0.00	0.00
766.45	0.00	0.00	0.00
766.50	0.00	0.00	0.00
766.55	0.00	0.00	0.00
766.60	0.00	0.00	0.00
766.65	0.00	0.00	0.00
766.70	0.00	0.00	0.00
766.75	0.00	0.00	0.00
766.80	0.00	0.00	0.00
766.85	0.00	0.00	0.00
766.90	0.00	0.00	0.00
766.95	0.00	0.00	0.00
767.00	0.00	0.00	0.00
767.05	0.00	0.00	0.00
767.10	0.00	0.00	0.00
767.15	0.00	0.00	0.00
767.20	0.00	0.00	0.00
767.25	0.00	0.00	0.00
767.30	0.01	0.01	0.00
767.35	0.01	0.01	0.00
767.40	0.01	0.01	0.00
767.45	0.01	0.01	0.00
767.50	0.01	0.01	0.00
767.55	0.01	0.01	0.00
767.60	0.01	0.01	0.00
767.65	0.01	0.01	0.00
767.70	0.01	0.01	0.00
767.75	0.01	0.01	0.00
767.80	0.01	0.01	0.00
767.85	0.01	0.01	0.00
767.90	0.01	0.01	0.00
767.95	0.01	0.01	0.00
768.00	0.01	0.01	0.00
768.05	0.01	0.01	0.00
768.10	0.01	0.01	0.00
768.15	0.01	0.01	0.00
768.20	0.01	0.01	0.00
768.25	0.01	0.01	0.00
768.30	0.01	0.01	0.01
768.35	0.03	0.01	0.02
768.40	0.06	0.01	0.05
768.45	0.09	0.01	0.08
768.50	0.13	0.01	0.12
768.55	0.16	0.01	0.15
768.60	0.19	0.01	0.18
768.65	0.21	0.01	0.20
768.70	0.23	0.01	0.22
768.75	0.25	0.01	0.24
768.80	0.27	0.01	0.26
768.85	0.29	0.01	0.28
768.90	0.30	0.01	0.29
768.95	0.32	0.01	0.31
769.00	0.33	0.01	0.32
769.05	0.35	0.01	0.33
769.10	0.36	0.01	0.35
769.15	0.37	0.01	0.36
769.20	0.38	0.01	0.37
769.25	0.39	0.01	0.38
769.30	0.41	0.01	0.39
769.35	0.42	0.01	0.41
769.40	0.43	0.01	0.42
769.45	0.44	0.01	0.43
769.50	**0.45**	**0.01**	**0.44**

Stage-Area-Storage for Pond POND: POND

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
765.00	755	0
765.05	788	39
765.10	822	79
765.15	855	121
765.20	888	164
765.25	921	210
765.30	954	256
765.35	988	305
765.40	1,021	355
765.45	1,054	407
765.50	1,088	461
765.55	1,121	516
765.60	1,154	573
765.65	1,187	631
765.70	1,221	691
765.75	1,254	753
765.80	1,287	817
765.85	1,320	882
765.90	1,353	949
765.95	1,387	1,017
766.00	1,420	1,088
766.05	1,455	1,159
766.10	1,491	1,233
766.15	1,526	1,308
766.20	1,561	1,386
766.25	1,596	1,465
766.30	1,631	1,545
766.35	1,667	1,628
766.40	1,702	1,712
766.45	1,737	1,798
766.50	1,773	1,886
766.55	1,808	1,975
766.60	1,843	2,066
766.65	1,878	2,159
766.70	1,914	2,254
766.75	1,949	2,351
766.80	1,984	2,449
766.85	2,019	2,549
766.90	2,054	2,651
766.95	2,090	2,755
767.00	2,125	2,860
767.05	2,322	2,971
767.10	2,520	3,092
767.15	2,717	3,223
767.20	2,915	3,364
767.25	3,113	3,515
767.30	3,310	3,675
767.35	3,508	3,846
767.40	3,705	4,026
767.45	3,903	4,216
767.50	4,100	4,416
767.55	4,180	4,623
767.60	4,260	4,834
767.65	4,340	5,049
767.70	4,420	5,268
767.75	4,500	5,491
767.80	4,580	5,718
767.85	4,660	5,949
767.90	4,740	6,184
767.95	4,820	6,423
768.00	4,900	6,666
768.05	4,967	6,913
768.10	5,035	7,163
768.15	5,102	7,416
768.20	5,170	7,673
768.25	5,238	7,933
768.30	5,305	8,197
768.35	5,373	8,464
768.40	5,440	8,734
768.45	5,508	9,008
768.50	5,575	9,285
768.55	5,642	9,565
768.60	5,710	9,849
768.65	5,777	10,136
768.70	5,845	10,427
768.75	5,913	10,721
768.80	5,980	11,018
768.85	6,048	11,319
768.90	6,115	11,623
768.95	6,183	11,930
769.00	6,250	12,241
769.05	6,302	12,555
769.10	6,354	12,871
769.15	6,406	13,190
769.20	6,458	13,512
769.25	6,510	13,836
769.30	6,562	14,163
769.35	6,614	14,492
769.40	6,666	14,824
769.45	6,718	15,159
769.50	**6,770**	**15,496**

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POST SITE: SITE POST Runoff Area=55,700 sf 57.09% Impervious Runoff Depth=0.65"
Tc=5.0 min CN=77 Runoff=1.52 cfs 0.070 af

Subcatchment PRE SITE: SITE PRE Runoff Area=55,634 sf 8.99% Impervious Runoff Depth=0.04"
Flow Length=380' Slope=0.0200 '/' Tc=13.4 min CN=53 Runoff=0.00 cfs 0.004 af

Pond POND: POND Peak Elev=767.02' Storage=2,900 cf Inflow=1.52 cfs 0.070 af
Discarded=0.00 cfs 0.013 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.013 af

Summary for Subcatchment POST SITE: SITE POST

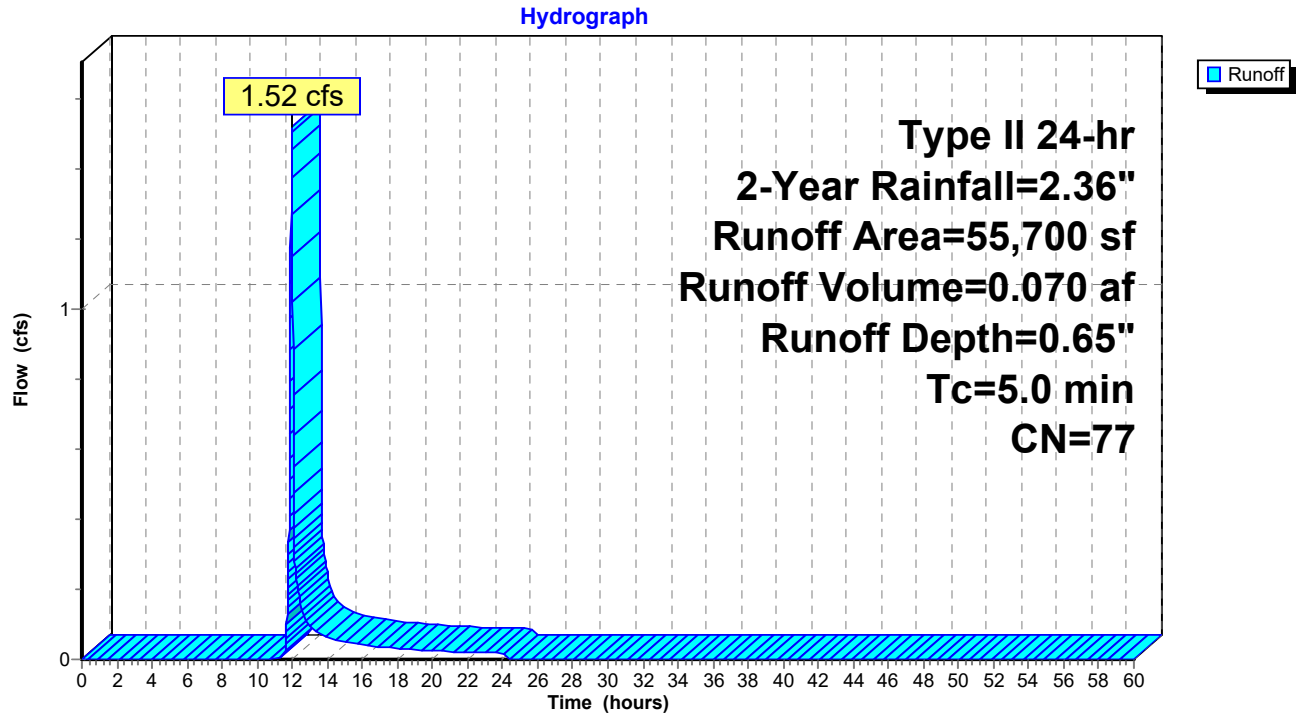
Runoff = 1.52 cfs @ 11.97 hrs, Volume= 0.070 af, Depth= 0.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Year Rainfall=2.36"

Area (sf)	CN	Description
31,800	98	Paved parking, HSG A
23,900	49	50-75% Grass cover, Fair, HSG A
55,700	77	Weighted Average
23,900		42.91% Pervious Area
31,800		57.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment POST SITE: SITE POST



Hydrograph for Subcatchment POST SITE: SITE POST

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.02	0.00	0.00
2.00	0.05	0.00	0.00
3.00	0.08	0.00	0.00
4.00	0.11	0.00	0.00
5.00	0.15	0.00	0.00
6.00	0.19	0.00	0.00
7.00	0.23	0.00	0.00
8.00	0.28	0.00	0.00
9.00	0.35	0.00	0.00
10.00	0.43	0.00	0.00
11.00	0.55	0.00	**0.00**
12.00	1.56	0.24	**1.37**
13.00	1.82	0.36	0.10
14.00	1.94	0.41	0.06
15.00	2.01	0.46	0.05
16.00	2.08	0.49	0.04
17.00	2.13	0.52	0.04
18.00	2.17	0.54	0.03
19.00	2.21	0.57	0.03
20.00	2.25	0.59	0.02
21.00	2.28	0.60	0.02
22.00	2.31	0.62	0.02
23.00	2.33	0.64	0.02
24.00	**2.36**	**0.65**	0.02
25.00	2.36	0.65	0.00
26.00	2.36	0.65	0.00
27.00	2.36	0.65	0.00
28.00	2.36	0.65	0.00
29.00	2.36	0.65	0.00
30.00	2.36	0.65	0.00
31.00	2.36	0.65	0.00
32.00	2.36	0.65	0.00
33.00	2.36	0.65	0.00
34.00	2.36	0.65	0.00
35.00	2.36	0.65	0.00
36.00	2.36	0.65	0.00
37.00	2.36	0.65	0.00
38.00	2.36	0.65	0.00
39.00	2.36	0.65	0.00
40.00	2.36	0.65	0.00
41.00	2.36	0.65	0.00
42.00	2.36	0.65	0.00
43.00	2.36	0.65	0.00
44.00	2.36	0.65	0.00
45.00	2.36	0.65	0.00
46.00	2.36	0.65	0.00
47.00	2.36	0.65	0.00
48.00	2.36	0.65	0.00
49.00	2.36	0.65	0.00
50.00	2.36	0.65	0.00
51.00	2.36	0.65	0.00
52.00	2.36	0.65	0.00
53.00	2.36	0.65	0.00
54.00	2.36	0.65	0.00
55.00	2.36	0.65	0.00
56.00	2.36	0.65	0.00
57.00	2.36	0.65	0.00
58.00	2.36	0.65	0.00
59.00	2.36	0.65	0.00
60.00	2.36	0.65	0.00

Summary for Subcatchment PRE SITE: SITE PRE

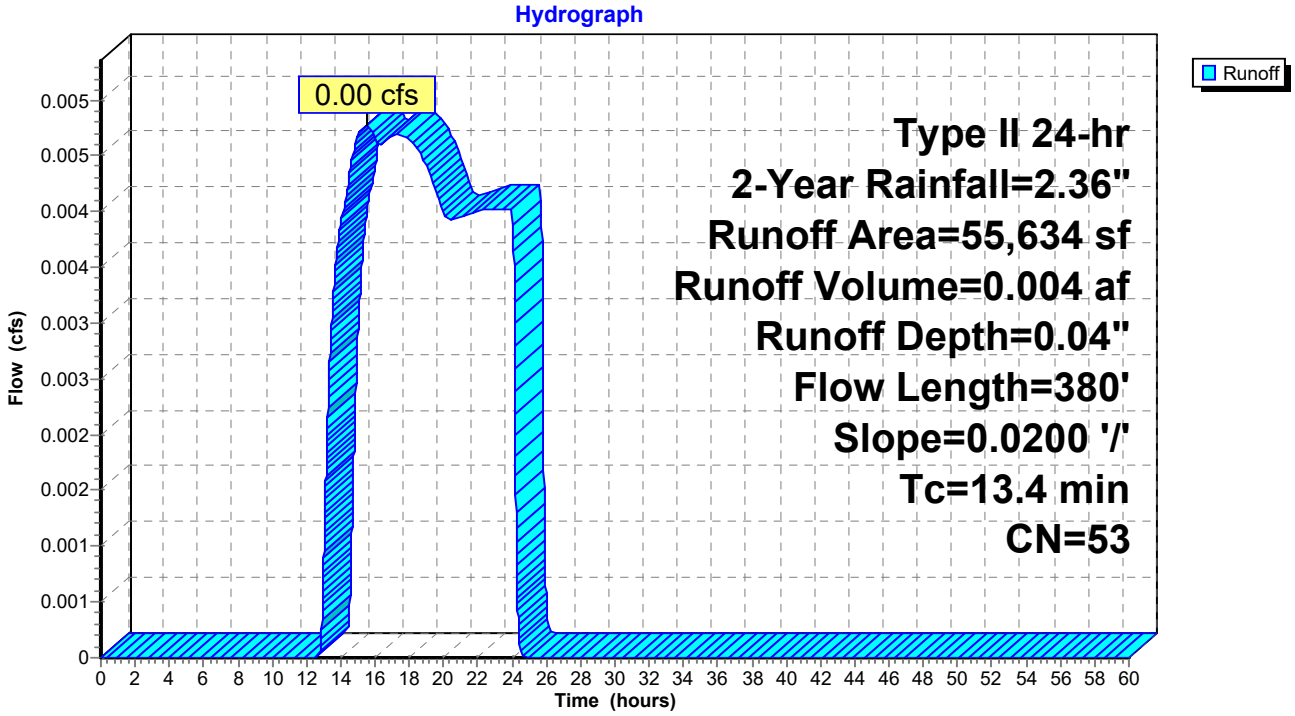
Runoff = 0.00 cfs @ 15.47 hrs, Volume= 0.004 af, Depth= 0.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Year Rainfall=2.36"

Area (sf)	CN	Description
5,000	98	Paved parking, HSG A
50,634	49	50-75% Grass cover, Fair, HSG A
55,634	53	Weighted Average
50,634		91.01% Pervious Area
5,000		8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0200	0.15		**Sheet Flow, Sheet flow grass** Grass: Short n= 0.150 P2= 2.36"
2.0	280	0.0200	2.28		**Shallow Concentrated Flow, Shallow Concentrated Flow** Unpaved Kv= 16.1 fps
13.4	380	Total			

Subcatchment PRE SITE: SITE PRE



Hydrograph for Subcatchment PRE SITE: SITE PRE

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.02	0.00	0.00
2.00	0.05	0.00	0.00
3.00	0.08	0.00	0.00
4.00	0.11	0.00	0.00
5.00	0.15	0.00	0.00
6.00	0.19	0.00	0.00
7.00	0.23	0.00	0.00
8.00	0.28	0.00	0.00
9.00	0.35	0.00	0.00
10.00	0.43	0.00	0.00
11.00	0.55	0.00	0.00
12.00	1.56	0.00	0.00
13.00	1.82	0.00	0.00
14.00	1.94	0.00	0.00
15.00	2.01	0.01	**0.00**
16.00	2.08	0.01	**0.00**
17.00	2.13	0.01	0.00
18.00	2.17	0.02	0.00
19.00	2.21	0.02	0.00
20.00	2.25	0.02	0.00
21.00	2.28	0.03	0.00
22.00	2.31	0.03	0.00
23.00	2.33	0.03	0.00
24.00	**2.36**	**0.04**	0.00
25.00	2.36	0.04	0.00
26.00	2.36	0.04	0.00
27.00	2.36	0.04	0.00
28.00	2.36	0.04	0.00
29.00	2.36	0.04	0.00
30.00	2.36	0.04	0.00
31.00	2.36	0.04	0.00
32.00	2.36	0.04	0.00
33.00	2.36	0.04	0.00
34.00	2.36	0.04	0.00
35.00	2.36	0.04	0.00
36.00	2.36	0.04	0.00
37.00	2.36	0.04	0.00
38.00	2.36	0.04	0.00
39.00	2.36	0.04	0.00
40.00	2.36	0.04	0.00
41.00	2.36	0.04	0.00
42.00	2.36	0.04	0.00
43.00	2.36	0.04	0.00
44.00	2.36	0.04	0.00
45.00	2.36	0.04	0.00
46.00	2.36	0.04	0.00
47.00	2.36	0.04	0.00
48.00	2.36	0.04	0.00
49.00	2.36	0.04	0.00
50.00	2.36	0.04	0.00
51.00	2.36	0.04	0.00
52.00	2.36	0.04	0.00
53.00	2.36	0.04	0.00
54.00	2.36	0.04	0.00
55.00	2.36	0.04	0.00
56.00	2.36	0.04	0.00
57.00	2.36	0.04	0.00
58.00	2.36	0.04	0.00
59.00	2.36	0.04	0.00
60.00	2.36	0.04	0.00

Summary for Pond POND: POND

Inflow Area = 1.279 ac, 57.09% Impervious, Inflow Depth = 0.65" for 2-Year event
Inflow = 1.52 cfs @ 11.97 hrs, Volume= 0.070 af
Outflow = 0.00 cfs @ 24.11 hrs, Volume= 0.013 af, Atten= 100%, Lag= 728.2 min
Discarded = 0.00 cfs @ 24.11 hrs, Volume= 0.013 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 767.02' @ 24.11 hrs Surf.Area= 2,197 sf Storage= 2,900 cf

Plug-Flow detention time= 1,457.3 min calculated for 0.013 af (19% of inflow)
Center-of-Mass det. time= 1,301.6 min (2,169.1 - 867.5)

Volume	Invert	Avail.Storage	Storage Description
#1	765.00'	15,496 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

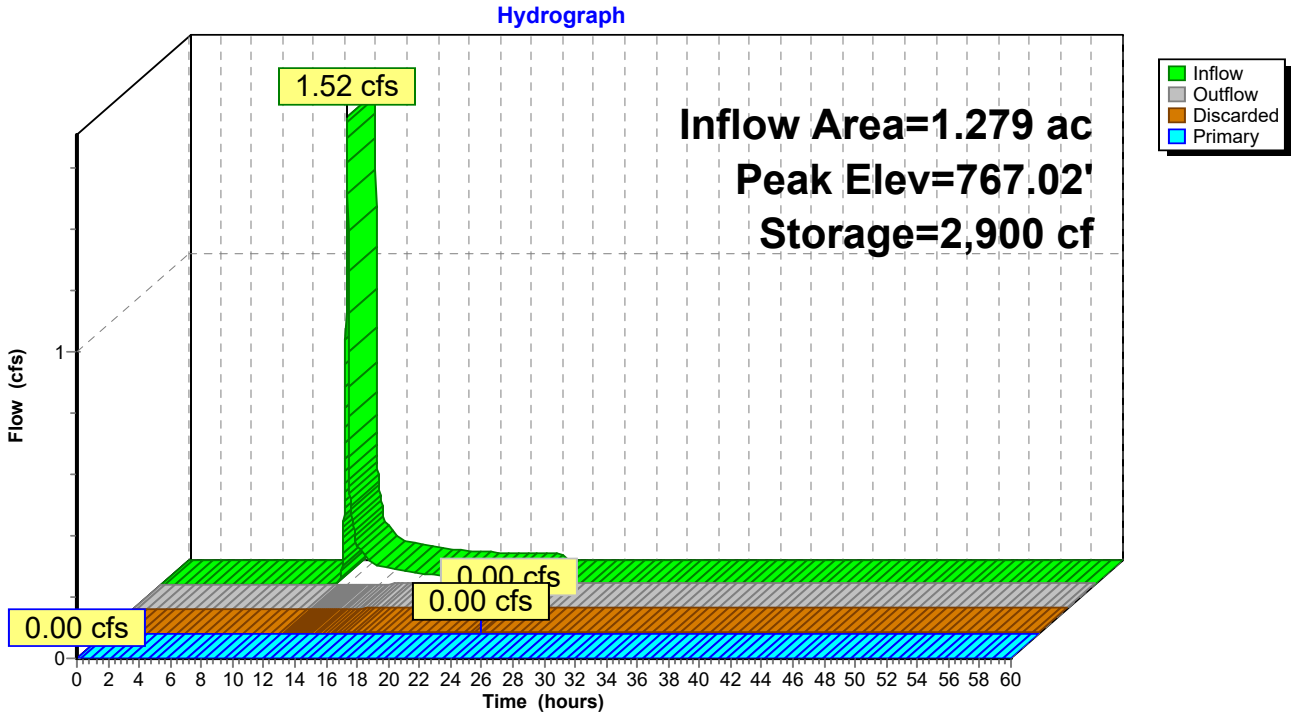
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
765.00	755	0	0
766.00	1,420	1,088	1,088
767.00	2,125	1,773	2,860
767.50	4,100	1,556	4,416
768.00	4,900	2,250	6,666
769.00	6,250	5,575	12,241
769.25	6,510	1,595	13,836
769.50	6,770	1,660	15,496

Device	Routing	Invert	Outlet Devices
#1	Discarded	765.00'	**0.050 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 762.00'
#2	Primary	768.25'	**4.0" Vert. Orifice/Grate** C= 0.600

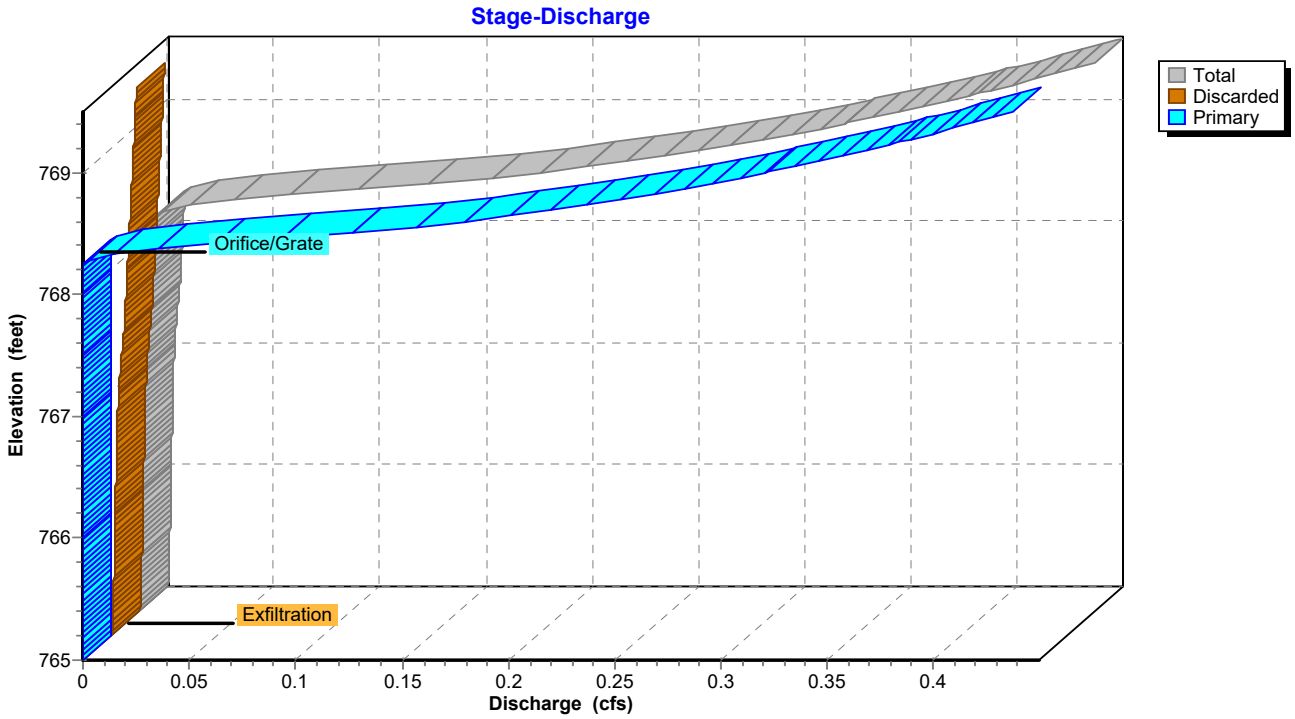
Discarded OutFlow Max=0.00 cfs @ 24.11 hrs HW=767.02' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=765.00' (Free Discharge)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)

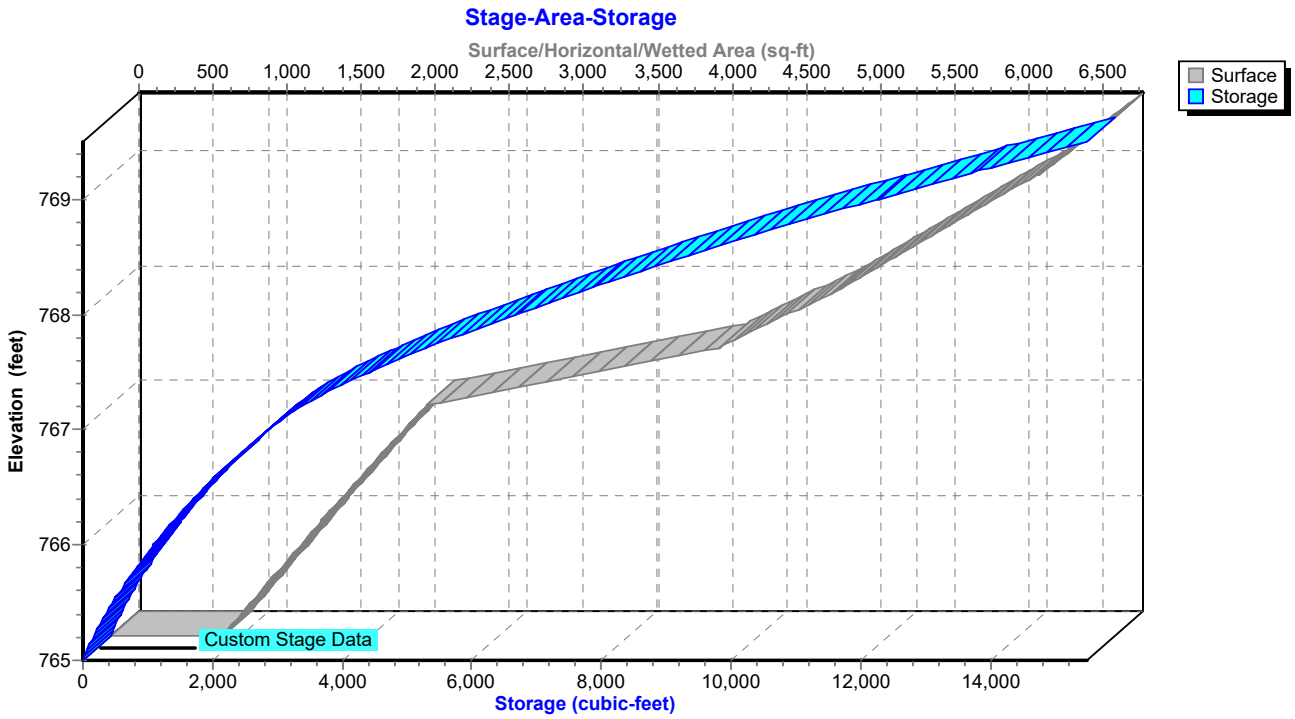
Pond POND: POND



Pond POND: POND



Pond POND: POND



Hydrograph for Pond POND: POND

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	765.00	0.00	0.00	**0.00**
2.00	0.00	0	765.00	0.00	0.00	0.00
4.00	0.00	0	765.00	0.00	0.00	0.00
6.00	0.00	0	765.00	0.00	0.00	0.00
8.00	0.00	0	765.00	0.00	0.00	0.00
10.00	**0.00**	0	765.00	0.00	0.00	0.00
12.00	**1.37**	814	765.80	0.00	0.00	0.00
14.00	0.06	1,885	766.50	0.00	0.00	0.00
16.00	0.04	2,224	766.68	0.00	0.00	0.00
18.00	0.03	2,456	766.80	0.00	0.00	0.00
20.00	0.02	2,631	766.89	0.00	0.00	0.00
22.00	0.02	2,769	766.96	0.00	0.00	0.00
24.00	0.02	**2,896**	**767.02**	**0.00**	**0.00**	0.00
26.00	0.00	**2,876**	**767.01**	**0.00**	**0.00**	0.00
28.00	0.00	2,851	767.00	0.00	0.00	0.00
30.00	0.00	2,826	766.98	0.00	0.00	0.00
32.00	0.00	2,802	766.97	0.00	0.00	0.00
34.00	0.00	2,777	766.96	0.00	0.00	0.00
36.00	0.00	2,753	766.95	0.00	0.00	0.00
38.00	0.00	2,728	766.94	0.00	0.00	0.00
40.00	0.00	2,704	766.93	0.00	0.00	0.00
42.00	0.00	2,680	766.91	0.00	0.00	0.00
44.00	0.00	2,656	766.90	0.00	0.00	0.00
46.00	0.00	2,632	766.89	0.00	0.00	0.00
48.00	0.00	2,609	766.88	0.00	0.00	0.00
50.00	0.00	2,585	766.87	0.00	0.00	0.00
52.00	0.00	2,562	766.86	0.00	0.00	0.00
54.00	0.00	2,538	766.84	0.00	0.00	0.00
56.00	0.00	2,515	766.83	0.00	0.00	0.00
58.00	0.00	2,492	766.82	0.00	0.00	0.00
60.00	0.00	2,469	766.81	0.00	0.00	0.00

Stage-Discharge for Pond POND: POND

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
765.00	0.00	0.00	0.00
765.05	0.00	0.00	0.00
765.10	0.00	0.00	0.00
765.15	0.00	0.00	0.00
765.20	0.00	0.00	0.00
765.25	0.00	0.00	0.00
765.30	0.00	0.00	0.00
765.35	0.00	0.00	0.00
765.40	0.00	0.00	0.00
765.45	0.00	0.00	0.00
765.50	0.00	0.00	0.00
765.55	0.00	0.00	0.00
765.60	0.00	0.00	0.00
765.65	0.00	0.00	0.00
765.70	0.00	0.00	0.00
765.75	0.00	0.00	0.00
765.80	0.00	0.00	0.00
765.85	0.00	0.00	0.00
765.90	0.00	0.00	0.00
765.95	0.00	0.00	0.00
766.00	0.00	0.00	0.00
766.05	0.00	0.00	0.00
766.10	0.00	0.00	0.00
766.15	0.00	0.00	0.00
766.20	0.00	0.00	0.00
766.25	0.00	0.00	0.00
766.30	0.00	0.00	0.00
766.35	0.00	0.00	0.00
766.40	0.00	0.00	0.00
766.45	0.00	0.00	0.00
766.50	0.00	0.00	0.00
766.55	0.00	0.00	0.00
766.60	0.00	0.00	0.00
766.65	0.00	0.00	0.00
766.70	0.00	0.00	0.00
766.75	0.00	0.00	0.00
766.80	0.00	0.00	0.00
766.85	0.00	0.00	0.00
766.90	0.00	0.00	0.00
766.95	0.00	0.00	0.00
767.00	0.00	0.00	0.00
767.05	0.00	0.00	0.00
767.10	0.00	0.00	0.00
767.15	0.00	0.00	0.00
767.20	0.00	0.00	0.00
767.25	0.00	0.00	0.00
767.30	0.01	0.01	0.00
767.35	0.01	0.01	0.00
767.40	0.01	0.01	0.00
767.45	0.01	0.01	0.00
767.50	0.01	0.01	0.00
767.55	0.01	0.01	0.00
767.60	0.01	0.01	0.00
767.65	0.01	0.01	0.00
767.70	0.01	0.01	0.00
767.75	0.01	0.01	0.00
767.80	0.01	0.01	0.00
767.85	0.01	0.01	0.00
767.90	0.01	0.01	0.00
767.95	0.01	0.01	0.00
768.00	0.01	0.01	0.00
768.05	0.01	0.01	0.00
768.10	0.01	0.01	0.00
768.15	0.01	0.01	0.00
768.20	0.01	0.01	0.00
768.25	0.01	0.01	0.00
768.30	0.01	0.01	0.01
768.35	0.03	0.01	0.02
768.40	0.06	0.01	0.05
768.45	0.09	0.01	0.08
768.50	0.13	0.01	0.12
768.55	0.16	0.01	0.15
768.60	0.19	0.01	0.18
768.65	0.21	0.01	0.20
768.70	0.23	0.01	0.22
768.75	0.25	0.01	0.24
768.80	0.27	0.01	0.26
768.85	0.29	0.01	0.28
768.90	0.30	0.01	0.29
768.95	0.32	0.01	0.31
769.00	0.33	0.01	0.32
769.05	0.35	0.01	0.33
769.10	0.36	0.01	0.35
769.15	0.37	0.01	0.36
769.20	0.38	0.01	0.37
769.25	0.39	0.01	0.38
769.30	0.41	0.01	0.39
769.35	0.42	0.01	0.41
769.40	0.43	0.01	0.42
769.45	0.44	0.01	0.43
769.50	**0.45**	**0.01**	**0.44**

Stage-Area-Storage for Pond POND: POND

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
765.00	755	0
765.05	788	39
765.10	822	79
765.15	855	121
765.20	888	164
765.25	921	210
765.30	954	256
765.35	988	305
765.40	1,021	355
765.45	1,054	407
765.50	1,088	461
765.55	1,121	516
765.60	1,154	573
765.65	1,187	631
765.70	1,221	691
765.75	1,254	753
765.80	1,287	817
765.85	1,320	882
765.90	1,353	949
765.95	1,387	1,017
766.00	1,420	1,088
766.05	1,455	1,159
766.10	1,491	1,233
766.15	1,526	1,308
766.20	1,561	1,386
766.25	1,596	1,465
766.30	1,631	1,545
766.35	1,667	1,628
766.40	1,702	1,712
766.45	1,737	1,798
766.50	1,773	1,886
766.55	1,808	1,975
766.60	1,843	2,066
766.65	1,878	2,159
766.70	1,914	2,254
766.75	1,949	2,351
766.80	1,984	2,449
766.85	2,019	2,549
766.90	2,054	2,651
766.95	2,090	2,755
767.00	2,125	2,860
767.05	2,322	2,971
767.10	2,520	3,092
767.15	2,717	3,223
767.20	2,915	3,364
767.25	3,113	3,515
767.30	3,310	3,675
767.35	3,508	3,846
767.40	3,705	4,026
767.45	3,903	4,216
767.50	4,100	4,416
767.55	4,180	4,623
767.60	4,260	4,834
767.65	4,340	5,049
767.70	4,420	5,268
767.75	4,500	5,491
767.80	4,580	5,718
767.85	4,660	5,949
767.90	4,740	6,184
767.95	4,820	6,423
768.00	4,900	6,666
768.05	4,967	6,913
768.10	5,035	7,163
768.15	5,102	7,416
768.20	5,170	7,673
768.25	5,238	7,933
768.30	5,305	8,197
768.35	5,373	8,464
768.40	5,440	8,734
768.45	5,508	9,008
768.50	5,575	9,285
768.55	5,642	9,565
768.60	5,710	9,849
768.65	5,777	10,136
768.70	5,845	10,427
768.75	5,913	10,721
768.80	5,980	11,018
768.85	6,048	11,319
768.90	6,115	11,623
768.95	6,183	11,930
769.00	6,250	12,241
769.05	6,302	12,555
769.10	6,354	12,871
769.15	6,406	13,190
769.20	6,458	13,512
769.25	6,510	13,836
769.30	6,562	14,163
769.35	6,614	14,492
769.40	6,666	14,824
769.45	6,718	15,159
769.50	**6,770**	**15,496**

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POST SITE: SITE POST Runoff Area=55,700 sf 57.09% Impervious Runoff Depth=1.36"
Tc=5.0 min CN=77 Runoff=3.25 cfs 0.145 af

Subcatchment PRE SITE: SITE PRE Runoff Area=55,634 sf 8.99% Impervious Runoff Depth=0.25"
Flow Length=380' Slope=0.0200 '/' Tc=13.4 min CN=53 Runoff=0.16 cfs 0.027 af

Pond POND: POND Peak Elev=767.87' Storage=6,039 cf Inflow=3.25 cfs 0.145 af
Discarded=0.01 cfs 0.027 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.027 af

Summary for Subcatchment POST SITE: SITE POST

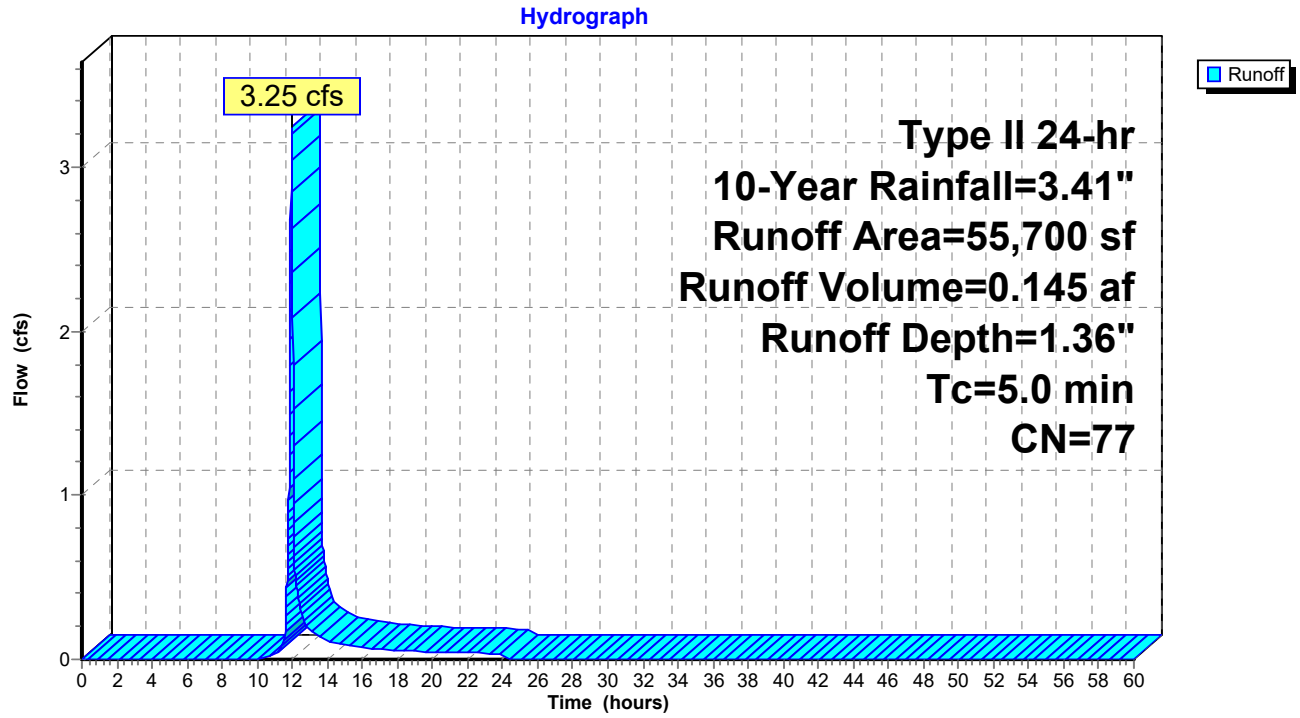
Runoff = 3.25 cfs @ 11.97 hrs, Volume= 0.145 af, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.41"

Area (sf)	CN	Description
31,800	98	Paved parking, HSG A
23,900	49	50-75% Grass cover, Fair, HSG A
55,700	77	Weighted Average
23,900		42.91% Pervious Area
31,800		57.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment POST SITE: SITE POST



Hydrograph for Subcatchment POST SITE: SITE POST

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.04	0.00	0.00
2.00	0.08	0.00	0.00
3.00	0.12	0.00	0.00
4.00	0.16	0.00	0.00
5.00	0.21	0.00	0.00
6.00	0.27	0.00	0.00
7.00	0.34	0.00	0.00
8.00	0.41	0.00	0.00
9.00	0.50	0.00	0.00
10.00	0.62	0.00	0.00
11.00	0.80	0.01	**0.03**
12.00	2.26	0.59	**2.85**
13.00	2.63	0.82	0.18
14.00	2.80	0.93	0.11
15.00	2.91	1.01	0.09
16.00	3.00	1.07	0.07
17.00	3.07	1.12	0.06
18.00	3.14	1.17	0.06
19.00	3.20	1.21	0.05
20.00	3.25	1.25	0.04
21.00	3.29	1.28	0.04
22.00	3.33	1.31	0.04
23.00	3.37	1.34	0.04
24.00	**3.41**	**1.36**	0.04
25.00	3.41	1.36	0.00
26.00	3.41	1.36	0.00
27.00	3.41	1.36	0.00
28.00	3.41	1.36	0.00
29.00	3.41	1.36	0.00
30.00	3.41	1.36	0.00
31.00	3.41	1.36	0.00
32.00	3.41	1.36	0.00
33.00	3.41	1.36	0.00
34.00	3.41	1.36	0.00
35.00	3.41	1.36	0.00
36.00	3.41	1.36	0.00
37.00	3.41	1.36	0.00
38.00	3.41	1.36	0.00
39.00	3.41	1.36	0.00
40.00	3.41	1.36	0.00
41.00	3.41	1.36	0.00
42.00	3.41	1.36	0.00
43.00	3.41	1.36	0.00
44.00	3.41	1.36	0.00
45.00	3.41	1.36	0.00
46.00	3.41	1.36	0.00
47.00	3.41	1.36	0.00
48.00	3.41	1.36	0.00
49.00	3.41	1.36	0.00
50.00	3.41	1.36	0.00
51.00	3.41	1.36	0.00
52.00	3.41	1.36	0.00
53.00	3.41	1.36	0.00
54.00	3.41	1.36	0.00
55.00	3.41	1.36	0.00
56.00	3.41	1.36	0.00
57.00	3.41	1.36	0.00
58.00	3.41	1.36	0.00
59.00	3.41	1.36	0.00
60.00	3.41	1.36	0.00

Summary for Subcatchment PRE SITE: SITE PRE

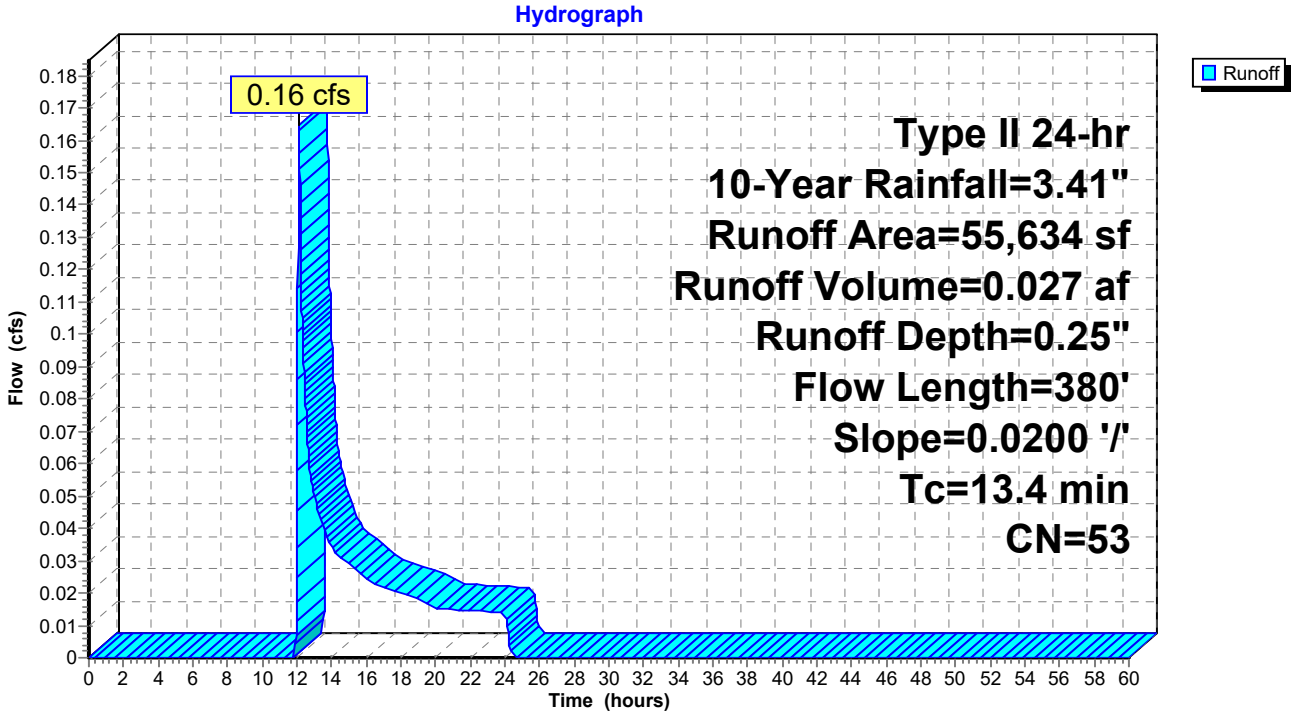
Runoff = 0.16 cfs @ 12.12 hrs, Volume= 0.027 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.41"

Area (sf)	CN	Description
5,000	98	Paved parking, HSG A
50,634	49	50-75% Grass cover, Fair, HSG A
55,634	53	Weighted Average
50,634		91.01% Pervious Area
5,000		8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0200	0.15		**Sheet Flow, Sheet flow grass** Grass: Short n= 0.150 P2= 2.36"
2.0	280	0.0200	2.28		**Shallow Concentrated Flow, Shallow Concentrated Flow** Unpaved Kv= 16.1 fps
13.4	380	Total			

Subcatchment PRE SITE: SITE PRE



Hydrograph for Subcatchment PRE SITE: SITE PRE

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.04	0.00	0.00
2.00	0.08	0.00	0.00
3.00	0.12	0.00	0.00
4.00	0.16	0.00	0.00
5.00	0.21	0.00	0.00
6.00	0.27	0.00	0.00
7.00	0.34	0.00	0.00
8.00	0.41	0.00	0.00
9.00	0.50	0.00	0.00
10.00	0.62	0.00	0.00
11.00	0.80	0.00	0.00
12.00	2.26	0.03	**0.05**
13.00	2.63	0.08	**0.05**
14.00	2.80	0.11	0.03
15.00	2.91	0.13	0.03
16.00	3.00	0.15	0.02
17.00	3.07	0.17	0.02
18.00	3.14	0.18	0.02
19.00	3.20	0.20	0.02
20.00	3.25	0.21	0.02
21.00	3.29	0.22	0.01
22.00	3.33	0.23	0.01
23.00	3.37	0.24	0.01
24.00	**3.41**	**0.25**	0.01
25.00	3.41	0.25	0.00
26.00	3.41	0.25	0.00
27.00	3.41	0.25	0.00
28.00	3.41	0.25	0.00
29.00	3.41	0.25	0.00
30.00	3.41	0.25	0.00
31.00	3.41	0.25	0.00
32.00	3.41	0.25	0.00
33.00	3.41	0.25	0.00
34.00	3.41	0.25	0.00
35.00	3.41	0.25	0.00
36.00	3.41	0.25	0.00
37.00	3.41	0.25	0.00
38.00	3.41	0.25	0.00
39.00	3.41	0.25	0.00
40.00	3.41	0.25	0.00
41.00	3.41	0.25	0.00
42.00	3.41	0.25	0.00
43.00	3.41	0.25	0.00
44.00	3.41	0.25	0.00
45.00	3.41	0.25	0.00
46.00	3.41	0.25	0.00
47.00	3.41	0.25	0.00
48.00	3.41	0.25	0.00
49.00	3.41	0.25	0.00
50.00	3.41	0.25	0.00
51.00	3.41	0.25	0.00
52.00	3.41	0.25	0.00
53.00	3.41	0.25	0.00
54.00	3.41	0.25	0.00
55.00	3.41	0.25	0.00
56.00	3.41	0.25	0.00
57.00	3.41	0.25	0.00
58.00	3.41	0.25	0.00
59.00	3.41	0.25	0.00
60.00	3.41	0.25	0.00

Summary for Pond POND: POND

Inflow Area = 1.279 ac, 57.09% Impervious, Inflow Depth = 1.36" for 10-Year event
Inflow = 3.25 cfs @ 11.97 hrs, Volume= 0.145 af
Outflow = 0.01 cfs @ 24.10 hrs, Volume= 0.027 af, Atten= 100%, Lag= 728.2 min
Discarded = 0.01 cfs @ 24.10 hrs, Volume= 0.027 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 767.87' @ 24.10 hrs Surf.Area= 4,691 sf Storage= 6,039 cf

Plug-Flow detention time= 1,461.9 min calculated for 0.027 af (19% of inflow)
Center-of-Mass det. time= 1,319.8 min (2,164.4 - 844.6)

Volume	Invert	Avail.Storage	Storage Description
#1	765.00'	15,496 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

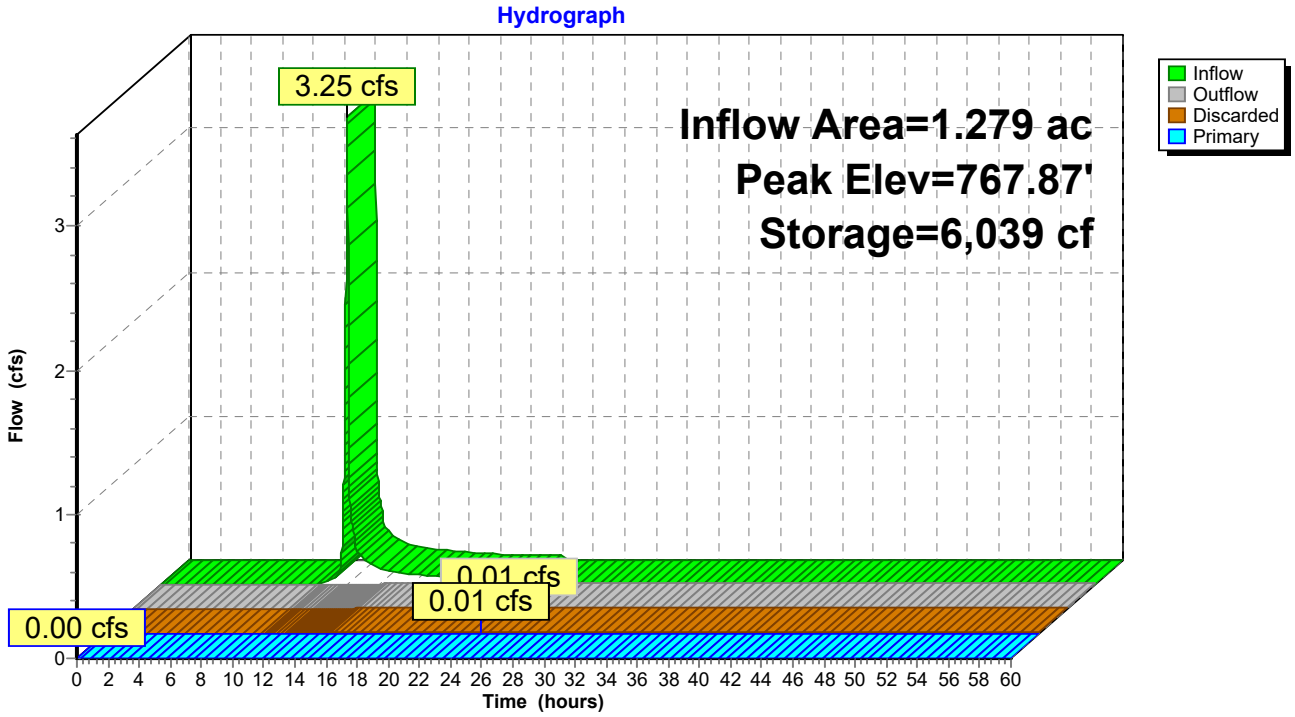
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
765.00	755	0	0
766.00	1,420	1,088	1,088
767.00	2,125	1,773	2,860
767.50	4,100	1,556	4,416
768.00	4,900	2,250	6,666
769.00	6,250	5,575	12,241
769.25	6,510	1,595	13,836
769.50	6,770	1,660	15,496

Device	Routing	Invert	Outlet Devices
#1	Discarded	765.00'	**0.050 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 762.00'
#2	Primary	768.25'	**4.0" Vert. Orifice/Grate** C= 0.600

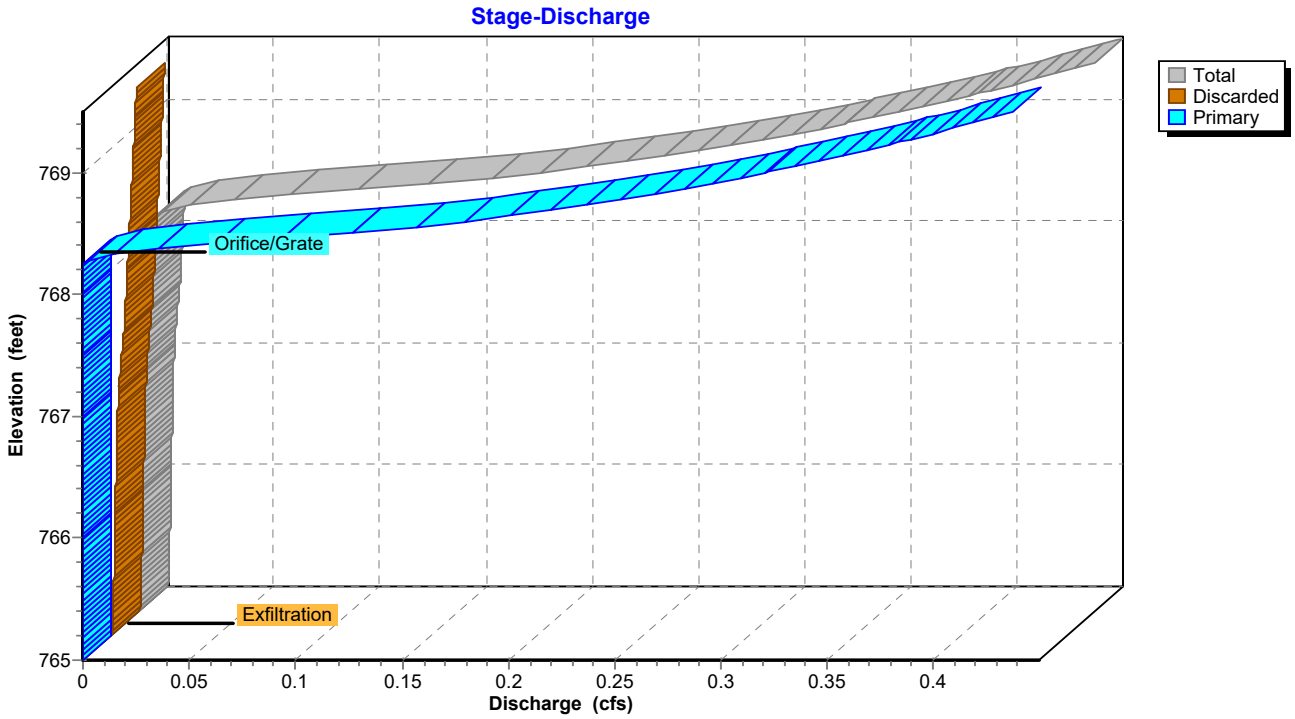
Discarded OutFlow Max=0.01 cfs @ 24.10 hrs HW=767.87' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=765.00' (Free Discharge)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)

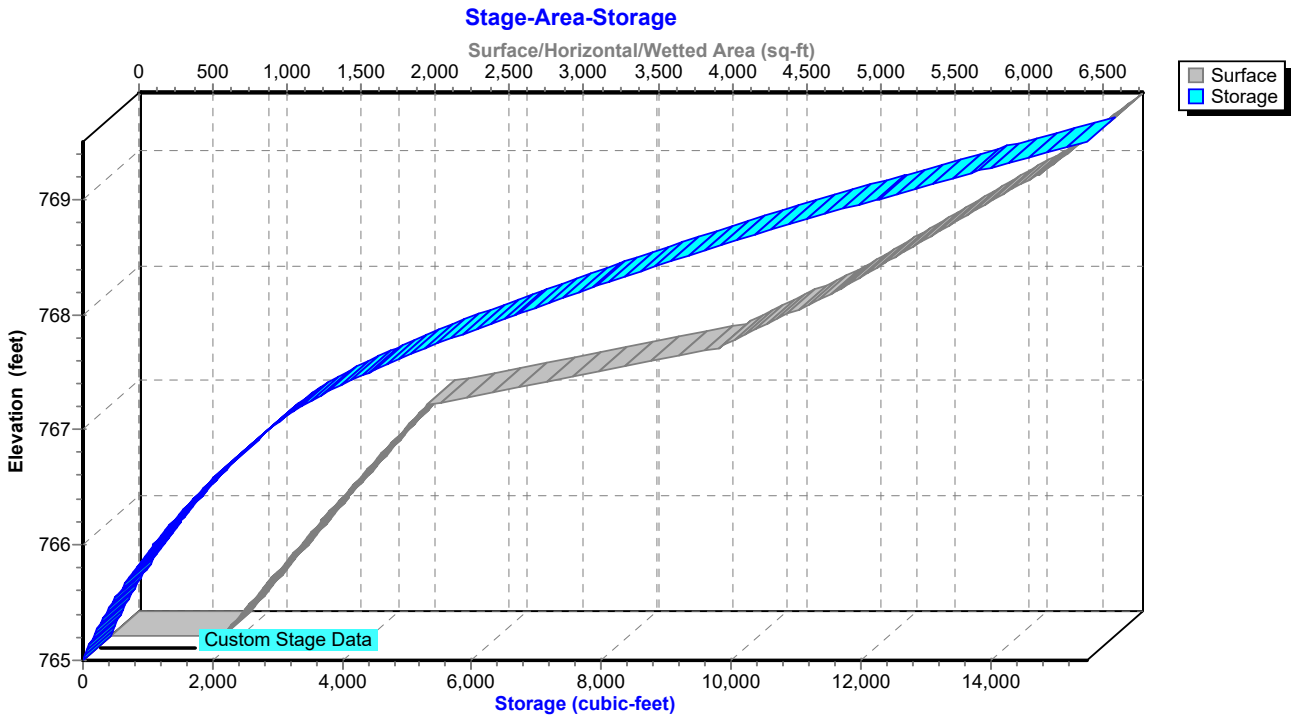
Pond POND: POND



Pond POND: POND



Pond POND: POND



Hydrograph for Pond POND: POND

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	765.00	0.00	0.00	**0.00**
2.00	0.00	0	765.00	0.00	0.00	0.00
4.00	0.00	0	765.00	0.00	0.00	0.00
6.00	0.00	0	765.00	0.00	0.00	0.00
8.00	0.00	0	765.00	0.00	0.00	0.00
10.00	**0.00**	0	765.00	0.00	0.00	0.00
12.00	**2.85**	2,179	766.66	0.00	0.00	0.00
14.00	0.11	4,254	767.46	0.01	0.01	0.00
16.00	0.07	4,867	767.61	0.01	0.01	0.00
18.00	0.06	5,278	767.70	0.01	0.01	0.00
20.00	0.04	5,582	767.77	0.01	0.01	0.00
22.00	0.04	5,818	767.82	0.01	0.01	0.00
24.00	0.04	**6,033**	**767.87**	**0.01**	**0.01**	0.00
26.00	0.00	**5,990**	**767.86**	**0.01**	**0.01**	0.00
28.00	0.00	5,938	767.85	0.01	0.01	0.00
30.00	0.00	5,886	767.84	0.01	0.01	0.00
32.00	0.00	5,834	767.83	0.01	0.01	0.00
34.00	0.00	5,783	767.81	0.01	0.01	0.00
36.00	0.00	5,731	767.80	0.01	0.01	0.00
38.00	0.00	5,680	767.79	0.01	0.01	0.00
40.00	0.00	5,629	767.78	0.01	0.01	0.00
42.00	0.00	5,579	767.77	0.01	0.01	0.00
44.00	0.00	5,529	767.76	0.01	0.01	0.00
46.00	0.00	5,478	767.75	0.01	0.01	0.00
48.00	0.00	5,429	767.74	0.01	0.01	0.00
50.00	0.00	5,379	767.72	0.01	0.01	0.00
52.00	0.00	5,330	767.71	0.01	0.01	0.00
54.00	0.00	5,281	767.70	0.01	0.01	0.00
56.00	0.00	5,232	767.69	0.01	0.01	0.00
58.00	0.00	5,183	767.68	0.01	0.01	0.00
60.00	0.00	5,135	767.67	0.01	0.01	0.00

Stage-Discharge for Pond POND: POND

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
765.00	0.00	0.00	0.00
765.05	0.00	0.00	0.00
765.10	0.00	0.00	0.00
765.15	0.00	0.00	0.00
765.20	0.00	0.00	0.00
765.25	0.00	0.00	0.00
765.30	0.00	0.00	0.00
765.35	0.00	0.00	0.00
765.40	0.00	0.00	0.00
765.45	0.00	0.00	0.00
765.50	0.00	0.00	0.00
765.55	0.00	0.00	0.00
765.60	0.00	0.00	0.00
765.65	0.00	0.00	0.00
765.70	0.00	0.00	0.00
765.75	0.00	0.00	0.00
765.80	0.00	0.00	0.00
765.85	0.00	0.00	0.00
765.90	0.00	0.00	0.00
765.95	0.00	0.00	0.00
766.00	0.00	0.00	0.00
766.05	0.00	0.00	0.00
766.10	0.00	0.00	0.00
766.15	0.00	0.00	0.00
766.20	0.00	0.00	0.00
766.25	0.00	0.00	0.00
766.30	0.00	0.00	0.00
766.35	0.00	0.00	0.00
766.40	0.00	0.00	0.00
766.45	0.00	0.00	0.00
766.50	0.00	0.00	0.00
766.55	0.00	0.00	0.00
766.60	0.00	0.00	0.00
766.65	0.00	0.00	0.00
766.70	0.00	0.00	0.00
766.75	0.00	0.00	0.00
766.80	0.00	0.00	0.00
766.85	0.00	0.00	0.00
766.90	0.00	0.00	0.00
766.95	0.00	0.00	0.00
767.00	0.00	0.00	0.00
767.05	0.00	0.00	0.00
767.10	0.00	0.00	0.00
767.15	0.00	0.00	0.00
767.20	0.00	0.00	0.00
767.25	0.00	0.00	0.00
767.30	0.01	0.01	0.00
767.35	0.01	0.01	0.00
767.40	0.01	0.01	0.00
767.45	0.01	0.01	0.00
767.50	0.01	0.01	0.00
767.55	0.01	0.01	0.00
767.60	0.01	0.01	0.00
767.65	0.01	0.01	0.00
767.70	0.01	0.01	0.00
767.75	0.01	0.01	0.00
767.80	0.01	0.01	0.00
767.85	0.01	0.01	0.00
767.90	0.01	0.01	0.00
767.95	0.01	0.01	0.00
768.00	0.01	0.01	0.00
768.05	0.01	0.01	0.00
768.10	0.01	0.01	0.00
768.15	0.01	0.01	0.00
768.20	0.01	0.01	0.00
768.25	0.01	0.01	0.00
768.30	0.01	0.01	0.01
768.35	0.03	0.01	0.02
768.40	0.06	0.01	0.05
768.45	0.09	0.01	0.08
768.50	0.13	0.01	0.12
768.55	0.16	0.01	0.15
768.60	0.19	0.01	0.18
768.65	0.21	0.01	0.20
768.70	0.23	0.01	0.22
768.75	0.25	0.01	0.24
768.80	0.27	0.01	0.26
768.85	0.29	0.01	0.28
768.90	0.30	0.01	0.29
768.95	0.32	0.01	0.31
769.00	0.33	0.01	0.32
769.05	0.35	0.01	0.33
769.10	0.36	0.01	0.35
769.15	0.37	0.01	0.36
769.20	0.38	0.01	0.37
769.25	0.39	0.01	0.38
769.30	0.41	0.01	0.39
769.35	0.42	0.01	0.41
769.40	0.43	0.01	0.42
769.45	0.44	0.01	0.43
769.50	**0.45**	**0.01**	**0.44**

Stage-Area-Storage for Pond POND: POND

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
765.00	755	0
765.05	788	39
765.10	822	79
765.15	855	121
765.20	888	164
765.25	921	210
765.30	954	256
765.35	988	305
765.40	1,021	355
765.45	1,054	407
765.50	1,088	461
765.55	1,121	516
765.60	1,154	573
765.65	1,187	631
765.70	1,221	691
765.75	1,254	753
765.80	1,287	817
765.85	1,320	882
765.90	1,353	949
765.95	1,387	1,017
766.00	1,420	1,088
766.05	1,455	1,159
766.10	1,491	1,233
766.15	1,526	1,308
766.20	1,561	1,386
766.25	1,596	1,465
766.30	1,631	1,545
766.35	1,667	1,628
766.40	1,702	1,712
766.45	1,737	1,798
766.50	1,773	1,886
766.55	1,808	1,975
766.60	1,843	2,066
766.65	1,878	2,159
766.70	1,914	2,254
766.75	1,949	2,351
766.80	1,984	2,449
766.85	2,019	2,549
766.90	2,054	2,651
766.95	2,090	2,755
767.00	2,125	2,860
767.05	2,322	2,971
767.10	2,520	3,092
767.15	2,717	3,223
767.20	2,915	3,364
767.25	3,113	3,515
767.30	3,310	3,675
767.35	3,508	3,846
767.40	3,705	4,026
767.45	3,903	4,216
767.50	4,100	4,416
767.55	4,180	4,623
767.60	4,260	4,834
767.65	4,340	5,049
767.70	4,420	5,268
767.75	4,500	5,491
767.80	4,580	5,718
767.85	4,660	5,949
767.90	4,740	6,184
767.95	4,820	6,423
768.00	4,900	6,666
768.05	4,967	6,913
768.10	5,035	7,163
768.15	5,102	7,416
768.20	5,170	7,673
768.25	5,238	7,933
768.30	5,305	8,197
768.35	5,373	8,464
768.40	5,440	8,734
768.45	5,508	9,008
768.50	5,575	9,285
768.55	5,642	9,565
768.60	5,710	9,849
768.65	5,777	10,136
768.70	5,845	10,427
768.75	5,913	10,721
768.80	5,980	11,018
768.85	6,048	11,319
768.90	6,115	11,623
768.95	6,183	11,930
769.00	6,250	12,241
769.05	6,302	12,555
769.10	6,354	12,871
769.15	6,406	13,190
769.20	6,458	13,512
769.25	6,510	13,836
769.30	6,562	14,163
769.35	6,614	14,492
769.40	6,666	14,824
769.45	6,718	15,159
769.50	**6,770**	**15,496**

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POST SITE: SITE POST Runoff Area=55,700 sf 57.09% Impervious Runoff Depth=3.28"
Tc=5.0 min CN=77 Runoff=7.69 cfs 0.349 af

Subcatchment PRE SITE: SITE PRE Runoff Area=55,634 sf 8.99% Impervious Runoff Depth=1.24"
Flow Length=380' Slope=0.0200 '/' Tc=13.4 min CN=53 Runoff=1.90 cfs 0.132 af

Pond POND: POND Peak Elev=768.64' Storage=10,065 cf Inflow=7.69 cfs 0.349 af
Discarded=0.01 cfs 0.035 af Primary=0.20 cfs 0.149 af Outflow=0.21 cfs 0.183 af

Summary for Subcatchment POST SITE: SITE POST

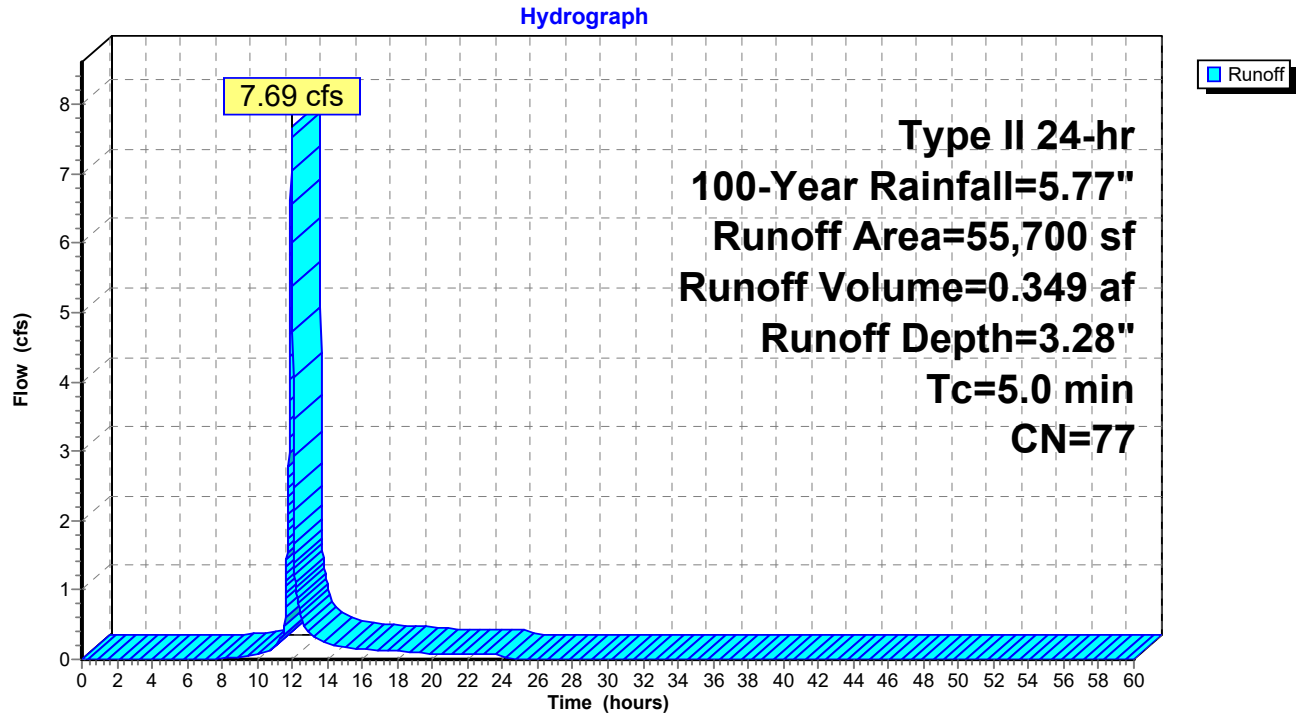
Runoff = 7.69 cfs @ 11.96 hrs, Volume= 0.349 af, Depth= 3.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.77"

Area (sf)	CN	Description
31,800	98	Paved parking, HSG A
23,900	49	50-75% Grass cover, Fair, HSG A
55,700	77	Weighted Average
23,900		42.91% Pervious Area
31,800		57.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment POST SITE: SITE POST



Hydrograph for Subcatchment POST SITE: SITE POST

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.13	0.00	0.00
3.00	0.20	0.00	0.00
4.00	0.28	0.00	0.00
5.00	0.36	0.00	0.00
6.00	0.46	0.00	0.00
7.00	0.57	0.00	0.00
8.00	0.69	0.00	0.01
9.00	0.85	0.02	0.03
10.00	1.04	0.06	0.07
11.00	1.36	0.15	**0.18**
12.00	3.83	1.68	**6.58**
13.00	4.45	2.17	0.39
14.00	4.73	2.40	0.24
15.00	4.92	2.56	0.19
16.00	5.08	2.69	0.15
17.00	5.20	2.79	0.13
18.00	5.31	2.89	0.11
19.00	5.41	2.97	0.10
20.00	5.49	3.04	0.08
21.00	5.57	3.10	0.08
22.00	5.64	3.16	0.08
23.00	5.71	3.22	0.07
24.00	**5.77**	**3.28**	0.07
25.00	5.77	3.28	0.00
26.00	5.77	3.28	0.00
27.00	5.77	3.28	0.00
28.00	5.77	3.28	0.00
29.00	5.77	3.28	0.00
30.00	5.77	3.28	0.00
31.00	5.77	3.28	0.00
32.00	5.77	3.28	0.00
33.00	5.77	3.28	0.00
34.00	5.77	3.28	0.00
35.00	5.77	3.28	0.00
36.00	5.77	3.28	0.00
37.00	5.77	3.28	0.00
38.00	5.77	3.28	0.00
39.00	5.77	3.28	0.00
40.00	5.77	3.28	0.00
41.00	5.77	3.28	0.00
42.00	5.77	3.28	0.00
43.00	5.77	3.28	0.00
44.00	5.77	3.28	0.00
45.00	5.77	3.28	0.00
46.00	5.77	3.28	0.00
47.00	5.77	3.28	0.00
48.00	5.77	3.28	0.00
49.00	5.77	3.28	0.00
50.00	5.77	3.28	0.00
51.00	5.77	3.28	0.00
52.00	5.77	3.28	0.00
53.00	5.77	3.28	0.00
54.00	5.77	3.28	0.00
55.00	5.77	3.28	0.00
56.00	5.77	3.28	0.00
57.00	5.77	3.28	0.00
58.00	5.77	3.28	0.00
59.00	5.77	3.28	0.00
60.00	5.77	3.28	0.00

Summary for Subcatchment PRE SITE: SITE PRE

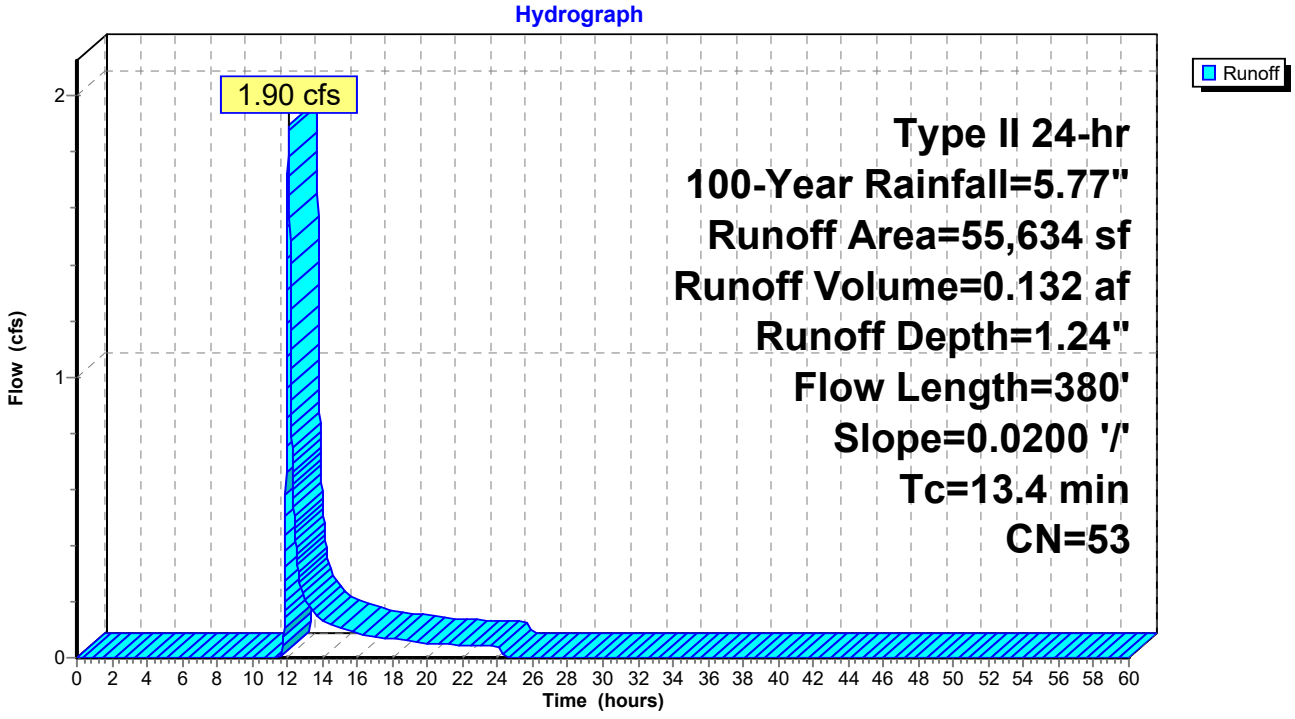
Runoff = 1.90 cfs @ 12.07 hrs, Volume= 0.132 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.77"

Area (sf)	CN	Description
5,000	98	Paved parking, HSG A
50,634	49	50-75% Grass cover, Fair, HSG A
55,634	53	Weighted Average
50,634		91.01% Pervious Area
5,000		8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0200	0.15		**Sheet Flow, Sheet flow grass** Grass: Short n= 0.150 P2= 2.36"
2.0	280	0.0200	2.28		**Shallow Concentrated Flow, Shallow Concentrated Flow** Unpaved Kv= 16.1 fps
13.4	380	Total			

Subcatchment PRE SITE: SITE PRE



Hydrograph for Subcatchment PRE SITE: SITE PRE

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.13	0.00	0.00
3.00	0.20	0.00	0.00
4.00	0.28	0.00	0.00
5.00	0.36	0.00	0.00
6.00	0.46	0.00	0.00
7.00	0.57	0.00	0.00
8.00	0.69	0.00	0.00
9.00	0.85	0.00	0.00
10.00	1.04	0.00	0.00
11.00	1.36	0.00	0.00
12.00	3.83	0.39	**1.42**
13.00	4.45	0.62	**0.21**
14.00	4.73	0.74	0.13
15.00	4.92	0.83	0.11
16.00	5.08	0.90	0.08
17.00	5.20	0.96	0.07
18.00	5.31	1.01	0.07
19.00	5.41	1.06	0.06
20.00	5.49	1.10	0.05
21.00	5.57	1.14	0.05
22.00	5.64	1.17	0.05
23.00	5.71	1.21	0.04
24.00	**5.77**	**1.24**	0.04
25.00	5.77	1.24	0.00
26.00	5.77	1.24	0.00
27.00	5.77	1.24	0.00
28.00	5.77	1.24	0.00
29.00	5.77	1.24	0.00
30.00	5.77	1.24	0.00
31.00	5.77	1.24	0.00
32.00	5.77	1.24	0.00
33.00	5.77	1.24	0.00
34.00	5.77	1.24	0.00
35.00	5.77	1.24	0.00
36.00	5.77	1.24	0.00
37.00	5.77	1.24	0.00
38.00	5.77	1.24	0.00
39.00	5.77	1.24	0.00
40.00	5.77	1.24	0.00
41.00	5.77	1.24	0.00
42.00	5.77	1.24	0.00
43.00	5.77	1.24	0.00
44.00	5.77	1.24	0.00
45.00	5.77	1.24	0.00
46.00	5.77	1.24	0.00
47.00	5.77	1.24	0.00
48.00	5.77	1.24	0.00
49.00	5.77	1.24	0.00
50.00	5.77	1.24	0.00
51.00	5.77	1.24	0.00
52.00	5.77	1.24	0.00
53.00	5.77	1.24	0.00
54.00	5.77	1.24	0.00
55.00	5.77	1.24	0.00
56.00	5.77	1.24	0.00
57.00	5.77	1.24	0.00
58.00	5.77	1.24	0.00
59.00	5.77	1.24	0.00
60.00	5.77	1.24	0.00

Summary for Pond POND: POND

Inflow Area = 1.279 ac, 57.09% Impervious, Inflow Depth = 3.28" for 100-Year event
Inflow = 7.69 cfs @ 11.96 hrs, Volume= 0.349 af
Outflow = 0.21 cfs @ 14.57 hrs, Volume= 0.183 af, Atten= 97%, Lag= 156.4 min
Discarded = 0.01 cfs @ 14.57 hrs, Volume= 0.035 af
Primary = 0.20 cfs @ 14.57 hrs, Volume= 0.149 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 768.64' @ 14.57 hrs Surf.Area= 5,761 sf Storage= 10,065 cf

Plug-Flow detention time= 578.7 min calculated for 0.183 af (52% of inflow)
Center-of-Mass det. time= 462.4 min (1,281.6 - 819.3)

Volume	Invert	Avail.Storage	Storage Description
#1	765.00'	15,496 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

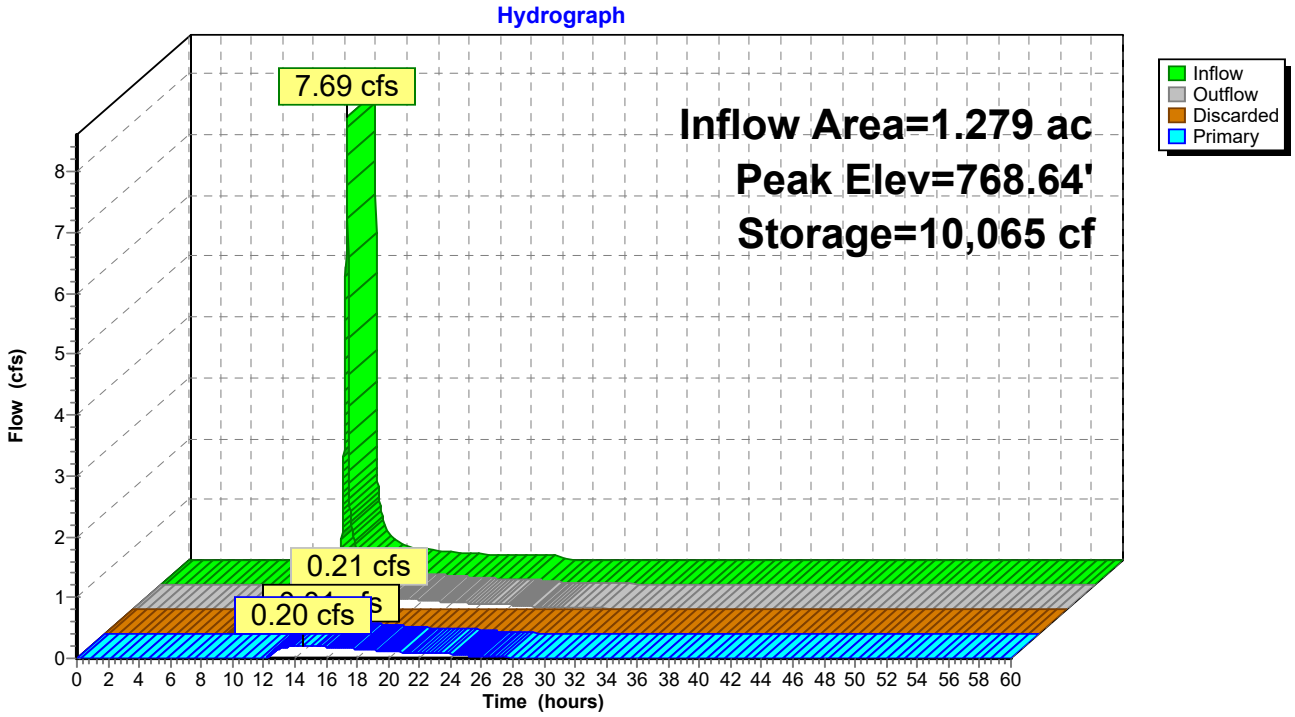
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
765.00	755	0	0
766.00	1,420	1,088	1,088
767.00	2,125	1,773	2,860
767.50	4,100	1,556	4,416
768.00	4,900	2,250	6,666
769.00	6,250	5,575	12,241
769.25	6,510	1,595	13,836
769.50	6,770	1,660	15,496

Device	Routing	Invert	Outlet Devices
#1	Discarded	765.00'	**0.050 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 762.00'
#2	Primary	768.25'	**4.0" Vert. Orifice/Grate** C= 0.600

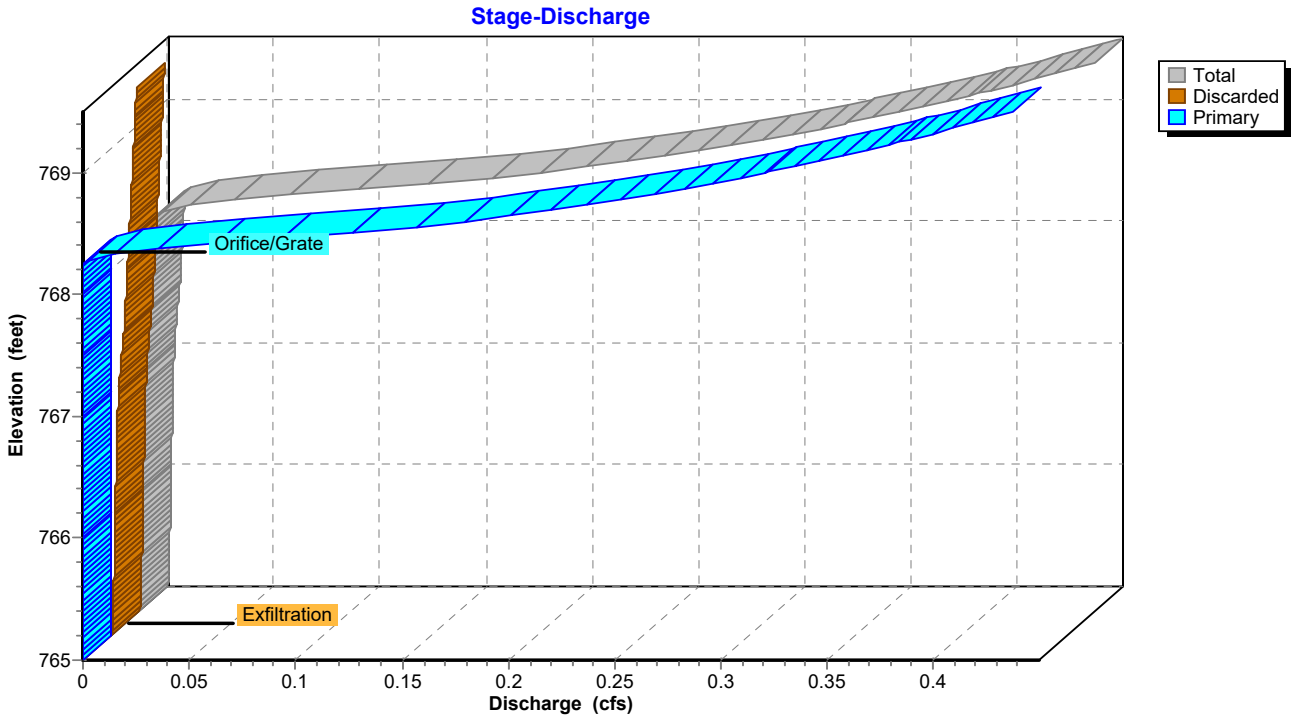
Discarded OutFlow Max=0.01 cfs @ 14.57 hrs HW=768.64' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.20 cfs @ 14.57 hrs HW=768.64' (Free Discharge)
↑—**2=Orifice/Grate** (Orifice Controls 0.20 cfs @ 2.26 fps)

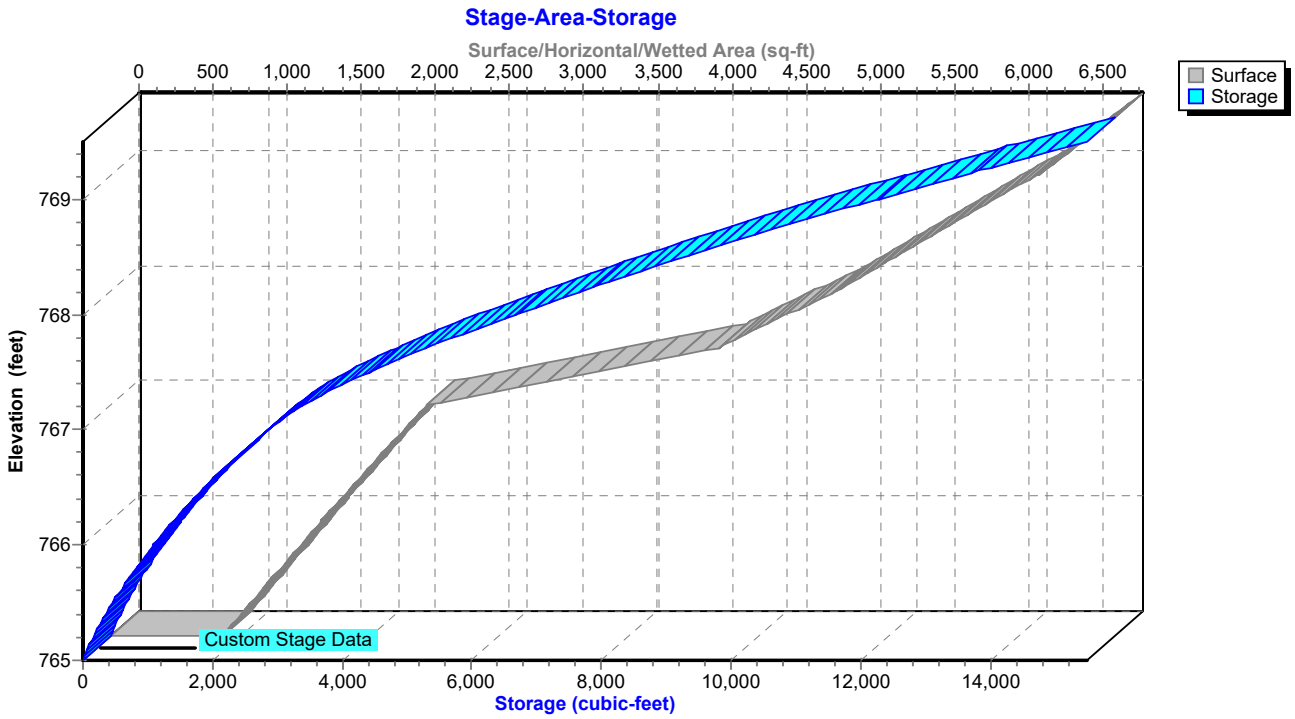
Pond POND: POND



Pond POND: POND



Pond POND: POND



Hydrograph for Pond POND: POND

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	765.00	0.00	0.00	0.00
2.00	0.00	0	765.00	0.00	0.00	0.00
4.00	0.00	0	765.00	0.00	0.00	0.00
6.00	0.00	0	765.00	0.00	0.00	0.00
8.00	0.01	11	765.01	0.00	0.00	0.00
10.00	**0.07**	244	765.29	0.00	0.00	0.00
12.00	**6.58**	6,448	767.96	0.01	0.01	0.00
14.00	0.24	**10,039**	**768.63**	**0.20**	**0.01**	**0.20**
16.00	0.15	**9,931**	**768.61**	**0.20**	**0.01**	**0.19**
18.00	0.11	9,569	768.55	0.16	0.01	0.15
20.00	0.08	9,251	768.49	0.12	0.01	0.12
22.00	0.08	9,044	768.46	0.10	0.01	0.09
24.00	0.07	8,933	768.44	0.08	0.01	0.07
26.00	0.00	8,535	768.36	0.04	0.01	0.03
28.00	0.00	8,322	768.32	0.02	0.01	0.01
30.00	0.00	8,188	768.30	0.02	0.01	0.01
32.00	0.00	8,095	768.28	0.01	0.01	0.00
34.00	0.00	8,019	768.27	0.01	0.01	0.00
36.00	0.00	7,952	768.25	0.01	0.01	0.00
38.00	0.00	7,891	768.24	0.01	0.01	0.00
40.00	0.00	7,830	768.23	0.01	0.01	0.00
42.00	0.00	7,770	768.22	0.01	0.01	0.00
44.00	0.00	7,710	768.21	0.01	0.01	0.00
46.00	0.00	7,650	768.20	0.01	0.01	0.00
48.00	0.00	7,591	768.18	0.01	0.01	0.00
50.00	0.00	7,532	768.17	0.01	0.01	0.00
52.00	0.00	7,473	768.16	0.01	0.01	0.00
54.00	0.00	7,414	768.15	0.01	0.01	0.00
56.00	0.00	7,355	768.14	0.01	0.01	0.00
58.00	0.00	7,297	768.13	0.01	0.01	0.00
60.00	0.00	7,239	768.11	0.01	0.01	0.00

Stage-Discharge for Pond POND: POND

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
765.00	0.00	0.00	0.00
765.05	0.00	0.00	0.00
765.10	0.00	0.00	0.00
765.15	0.00	0.00	0.00
765.20	0.00	0.00	0.00
765.25	0.00	0.00	0.00
765.30	0.00	0.00	0.00
765.35	0.00	0.00	0.00
765.40	0.00	0.00	0.00
765.45	0.00	0.00	0.00
765.50	0.00	0.00	0.00
765.55	0.00	0.00	0.00
765.60	0.00	0.00	0.00
765.65	0.00	0.00	0.00
765.70	0.00	0.00	0.00
765.75	0.00	0.00	0.00
765.80	0.00	0.00	0.00
765.85	0.00	0.00	0.00
765.90	0.00	0.00	0.00
765.95	0.00	0.00	0.00
766.00	0.00	0.00	0.00
766.05	0.00	0.00	0.00
766.10	0.00	0.00	0.00
766.15	0.00	0.00	0.00
766.20	0.00	0.00	0.00
766.25	0.00	0.00	0.00
766.30	0.00	0.00	0.00
766.35	0.00	0.00	0.00
766.40	0.00	0.00	0.00
766.45	0.00	0.00	0.00
766.50	0.00	0.00	0.00
766.55	0.00	0.00	0.00
766.60	0.00	0.00	0.00
766.65	0.00	0.00	0.00
766.70	0.00	0.00	0.00
766.75	0.00	0.00	0.00
766.80	0.00	0.00	0.00
766.85	0.00	0.00	0.00
766.90	0.00	0.00	0.00
766.95	0.00	0.00	0.00
767.00	0.00	0.00	0.00
767.05	0.00	0.00	0.00
767.10	0.00	0.00	0.00
767.15	0.00	0.00	0.00
767.20	0.00	0.00	0.00
767.25	0.00	0.00	0.00
767.30	0.01	0.01	0.00
767.35	0.01	0.01	0.00
767.40	0.01	0.01	0.00
767.45	0.01	0.01	0.00
767.50	0.01	0.01	0.00
767.55	0.01	0.01	0.00
767.60	0.01	0.01	0.00
767.65	0.01	0.01	0.00
767.70	0.01	0.01	0.00
767.75	0.01	0.01	0.00
767.80	0.01	0.01	0.00
767.85	0.01	0.01	0.00
767.90	0.01	0.01	0.00
767.95	0.01	0.01	0.00
768.00	0.01	0.01	0.00
768.05	0.01	0.01	0.00
768.10	0.01	0.01	0.00
768.15	0.01	0.01	0.00
768.20	0.01	0.01	0.00
768.25	0.01	0.01	0.00
768.30	0.01	0.01	0.01
768.35	0.03	0.01	0.02
768.40	0.06	0.01	0.05
768.45	0.09	0.01	0.08
768.50	0.13	0.01	0.12
768.55	0.16	0.01	0.15
768.60	0.19	0.01	0.18
768.65	0.21	0.01	0.20
768.70	0.23	0.01	0.22
768.75	0.25	0.01	0.24
768.80	0.27	0.01	0.26
768.85	0.29	0.01	0.28
768.90	0.30	0.01	0.29
768.95	0.32	0.01	0.31
769.00	0.33	0.01	0.32
769.05	0.35	0.01	0.33
769.10	0.36	0.01	0.35
769.15	0.37	0.01	0.36
769.20	0.38	0.01	0.37
769.25	0.39	0.01	0.38
769.30	0.41	0.01	0.39
769.35	0.42	0.01	0.41
769.40	0.43	0.01	0.42
769.45	0.44	0.01	0.43
769.50	**0.45**	**0.01**	**0.44**

Stage-Area-Storage for Pond POND: POND

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
765.00	755	0
765.05	788	39
765.10	822	79
765.15	855	121
765.20	888	164
765.25	921	210
765.30	954	256
765.35	988	305
765.40	1,021	355
765.45	1,054	407
765.50	1,088	461
765.55	1,121	516
765.60	1,154	573
765.65	1,187	631
765.70	1,221	691
765.75	1,254	753
765.80	1,287	817
765.85	1,320	882
765.90	1,353	949
765.95	1,387	1,017
766.00	1,420	1,088
766.05	1,455	1,159
766.10	1,491	1,233
766.15	1,526	1,308
766.20	1,561	1,386
766.25	1,596	1,465
766.30	1,631	1,545
766.35	1,667	1,628
766.40	1,702	1,712
766.45	1,737	1,798
766.50	1,773	1,886
766.55	1,808	1,975
766.60	1,843	2,066
766.65	1,878	2,159
766.70	1,914	2,254
766.75	1,949	2,351
766.80	1,984	2,449
766.85	2,019	2,549
766.90	2,054	2,651
766.95	2,090	2,755
767.00	2,125	2,860
767.05	2,322	2,971
767.10	2,520	3,092
767.15	2,717	3,223
767.20	2,915	3,364
767.25	3,113	3,515
767.30	3,310	3,675
767.35	3,508	3,846
767.40	3,705	4,026
767.45	3,903	4,216
767.50	4,100	4,416
767.55	4,180	4,623
767.60	4,260	4,834
767.65	4,340	5,049
767.70	4,420	5,268
767.75	4,500	5,491
767.80	4,580	5,718
767.85	4,660	5,949
767.90	4,740	6,184
767.95	4,820	6,423
768.00	4,900	6,666
768.05	4,967	6,913
768.10	5,035	7,163
768.15	5,102	7,416
768.20	5,170	7,673
768.25	5,238	7,933
768.30	5,305	8,197
768.35	5,373	8,464
768.40	5,440	8,734
768.45	5,508	9,008
768.50	5,575	9,285
768.55	5,642	9,565
768.60	5,710	9,849
768.65	5,777	10,136
768.70	5,845	10,427
768.75	5,913	10,721
768.80	5,980	11,018
768.85	6,048	11,319
768.90	6,115	11,623
768.95	6,183	11,930
769.00	6,250	12,241
769.05	6,302	12,555
769.10	6,354	12,871
769.15	6,406	13,190
769.20	6,458	13,512
769.25	6,510	13,836
769.30	6,562	14,163
769.35	6,614	14,492
769.40	6,666	14,824
769.45	6,718	15,159
769.50	**6,770**	**15,496**

APPENDIX D
Water Quality Calculations
NYSDEC Runoff Reduction Sheets (RRv)

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A		55%
B		40%
C		30%
D	**1.28**	20%
Total Area	1.28	
Calculate the Minimum RRv		
S =	**0.20**	
Impervious =	0.73	*acre*
Precipitation	1	*in*
Rv	0.95	
Minimum RRv	**503**	***ft3***
	0.01	af

Version 1.8
Last Updated: 11/09/2015

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....	No

Design Point:	Site	
P=	1.00	*inch*

Manually enter P, Total Area and Impervious Cover.

Breakdown of Subcatchments

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Description
1	0.21	0.21	100%	0.95	724	Bioretention
2	0.52	0.52	100%	0.95	1,793	Bioretention
3						
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	0.73	0.73	100%	0.95	**2,517**	**Subtotal 1**
Total	0.73	0.73	100%	0.95	**2,517**	**Initial WQv**

Identify Runoff Reduction Techniques By Area

Technique	Total Contributing Area *(Acre)*	Contributing Impervious Area *(Acre)*	Notes
Conservation of Natural Areas	0.00	0.00	*minimum 10,000 sf*
Riparian Buffers	0.00	0.00	*maximum contributing length 75 feet to 150 feet*
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	*Up to 100 sf directly connected impervious area may be subtracted per tree*
Total	**0.00**	**0.00**	

Recalculate WQv after application of Area Reduction Techniques

	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Runoff Coefficient Rv	WQv *(ft^3)*
"<<Initial WQv"	0.73	0.73	100%	0.95	2,517
Subtract Area	0.00	0.00			
WQv adjusted after Area Reductions	**0.73**	**0.73**	100%	0.95	2,517
Disconnection of Rooftops		0.00			
Adjusted WQv after Area Reduction and Rooftop Disconnect	0.73	0.73	100%	0.95	**2,517**
WQv reduced by Area Reduction techniques					0

Runoff Reduction Volume and Treated volumes						
	Runoff Reduction Techiques/Standard SMPs		**Total Contributing Area**	**Total Contributing Impervious Area**	**WQv Reduced (RRv)**	**WQv Treated**
			(acres)	**(acres)**	**cf**	**cf**
Area/Volume Reduction	Conservation of Natural Areas	RR-1	0.00	0.00		
	Sheetflow to Riparian Buffers/Filter Strips	RR-2	0.00	0.00		
	Tree Planting/Tree Pit	RR-3	0.00	0.00		
	Disconnection of Rooftop Runoff	RR-4		0.00		
	Vegetated Swale	RR-5	0.00	0.00	0	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	0.00	0.00	0	
	Rain Barrel/Cistern	RR-8	0.00	0.00	0	
	Porous Pavement	RR-9	0.00	0.00	0	
	Green Roof (Intensive & Extensive)	RR-10	0.00	0.00	0	
Standard SMPs w/RRv Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	0.00	0.00	0	0
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4				
	Bioretention & Infiltration Bioretention	F-5	0.73	0.73	1013	1505
	Dry swale	O-1	0.00	0.00	0	0
Standard SMPs	Micropool Extended Detention (P-1)	P-1				
	Wet Pond (P-2)	P-2				
	Wet Extended Detention (P-3)	P-3				
	Multiple Pond system (P-4)	P-4				
	Pocket Pond (p-5)	P-5				
	Surface Sand filter (F-1)	F-1				
	Underground Sand filter (F-2)	F-2				
	Perimeter Sand Filter (F-3)	F-3				
	Organic Filter (F-4	F-4				
	Shallow Wetland (W-1)	W-1				
	Extended Detention Wetland (W-2	W-2				
	Pond/Wetland System (W-3)	W-3				
	Pocket Wetland (W-4)	W-4				
	Wet Swale (O-2)	O-2				
Totals by Area Reduction →			0.00	0.00	0	
Totals by Volume Reduction →			0.00	0.00	0	
Totals by Standard SMP w/RRV →			0.73	0.73	1013	1505
Totals by Standard SMP →			0.00	0.00		0
Totals (Area + Volume + all SMPs) →			0.73	0.73	1,013	1,505
	Impervious Cover √	okay				

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor &

Design Point:	**Site**

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
1	0.21	0.21	1.00	0.95	724.19	1.00	Bioretention
Enter Impervious Area Reduced by Disconnection of Rooftops			100%	0.95	724	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						*ft^3*	

Soil Information			
Soil Group	D		
Soil Infiltration Rate	0.05	*in/hour*	*Okay*
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		724	*ft^3*	
Enter Depth of Soil Media	*df*	2.5	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.5	*ft*	*6 inches max.*
Enter Filter Time	*tf*	2	*days*	
Required Filter Area	***Af***	**603**	***ft^2***	

Determine Actual Bio-Retention Area			
Filter Width	10	*ft*	
Filter Length	61	*ft*	
Filter Area	610	*ft^2*	
Actual Volume Provided	732	*ft^3*	

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?		No	Select Practice	
RRv	293			
RRv applied	**293**	***ft^3***	***This is 40% of the storage provided or WQv whichever is less.***	
Volume Treated	431	*ft^3*	*This is the portion of the WQv that is not reduced in the practice.*	
Volume Directed	0	*ft^3*	This volume is directed another practice	
Sizing √	OK		*Check to be sure Area provided ≥ Af*	

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor & Schueler, 1996)

Design Point:	**Site**

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
2	0.52	0.52	1.00	0.95	1793.22	1.00	Bioretention
Enter Impervious Area Reduced by Disconnection of Rooftops			100%	0.95	1,793	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						*ft^3*	

Soil Information			
Soil Group	D		
Soil Infiltration Rate	0.05	*in/hour*	*Okay*
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		1,793	*ft^3*	
Enter Depth of Soil Media	*df*	2.5	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.5	*ft*	*6 inches max.*
Enter Filter Time	*tf*	2	*days*	
Required Filter Area	***Af***	**1494**	***ft^2***	

Determine Actual Bio-Retention Area			
Filter Width	15	*ft*	
Filter Length	100	*ft*	
Filter Area	1500	*ft^2*	
Actual Volume Provided	1800	*ft^3*	

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?			Select Practice	
RRv	720			
RRv applied	**720**	***ft^3***	***This is 40% of the storage provided or WQv whichever is less.***	
Volume Treated	1,073	*ft^3*	*This is the portion of the WQv that is not reduced in the practice.*	
Volume Directed	0	*ft^3*	This volume is directed another practice	
Sizing √	OK		*Check to be sure Area provided ≥ Af*	

Bioretention Worksheet

Total RRv Applied	1,012.80
Total Area	0.73
Total Impervious Area	0.73
Total Volume Treated	1,504.61
Rooftop Disconnect Impervious Area Total	0.00

NOI QUESTIONS

#	NOI Question	Reported Value	
		cf	af
28	Total Water Quality Volume (WQv) Required	2517	*0.058*
30	Total RRV Provided	1013	*0.023*
31	Is RRv Provided ≥WQv Required?	No	
32	Minimum RRv	503	*0.012*
32a	Is RRv Provided ≥ Minimum RRv Required?	Yes	
33a	Total WQv Treated	1505	*0.035*
34	Sum of Volume Reduced & Treated	2517	*0.058*
34	Sum of Volume Reduced and Treated	2517	*0.058*
35	Is Sum RRv Provided and WQv Provided ≥WQv Required?	Yes	

Apply Peak Flow Attenuation			
36	Channel Protection	*Cpv*	
37	Overbank	*Qp*	
37	Extreme Flood Control	*Qf*	
	Are Quantity Control requirements met?		

Appendix H
Trip Generation Data/Estimates

Graph Look Up

Query | Filter

DATA SOURCE:
Trip Gen Manual, 10th Ed + Supplement

SEARCH BY LAND USE CODE:
814

LAND USE GROUP:
(800-899) Retail

LAND USE :
814 - Variety Store

LAND USE SUBCATEGORY:
All Sites

INDEPENDENT VARIABLE (IV):
1000 Sq. Ft. GFA

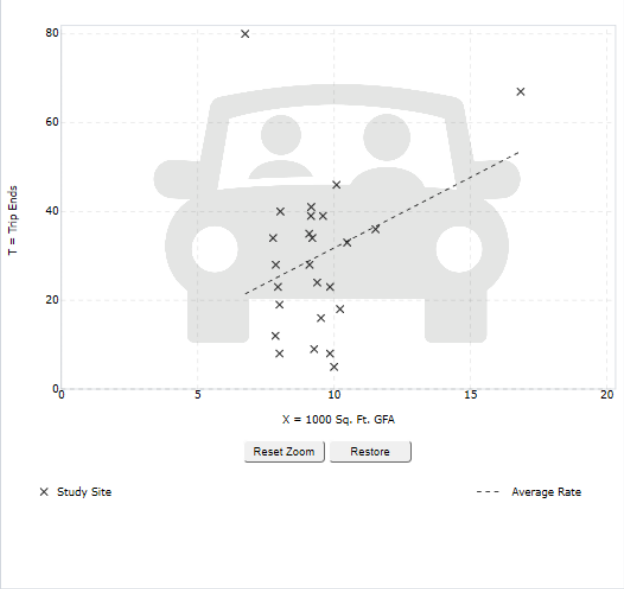
TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffi

SETTING/LOCATION:
General Urban/Suburban

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Variety Store (814) Click for more details

Independent Variable:
1000 Sq. Ft. GFA

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
25

Avg. 1000 Sq. Ft. GFA:
9

Average Rate:
3.18

Range of Rates:
0.50 - 11.87

Standard Deviation:
2.01

Fitted Curve Equation:
Not Given

R^2:
****

Directional Distribution:
57% entering, 43% exiting

Graph Look Up

Query | Filter

DATA SOURCE:
Trip Gen Manual, 10th Ed + Supplement

SEARCH BY LAND USE CODE:
814

LAND USE GROUP:
(800-899) Retail

LAND USE :
814 - Variety Store

LAND USE SUBCATEGORY:
All Sites

INDEPENDENT VARIABLE (IV):
1000 Sq. Ft. GFA

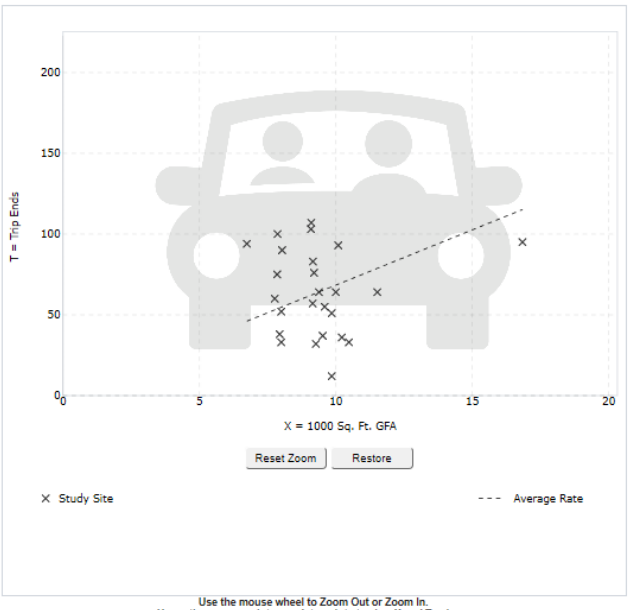
TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffi

SETTING/LOCATION:
General Urban/Suburban

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Variety Store (814) Click for more details

Independent Variable:
1000 Sq. Ft. GFA

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
25

Avg. 1000 Sq. Ft. GFA:
9

Average Rate:
6.84

Range of Rates:
1.22 - 13.95

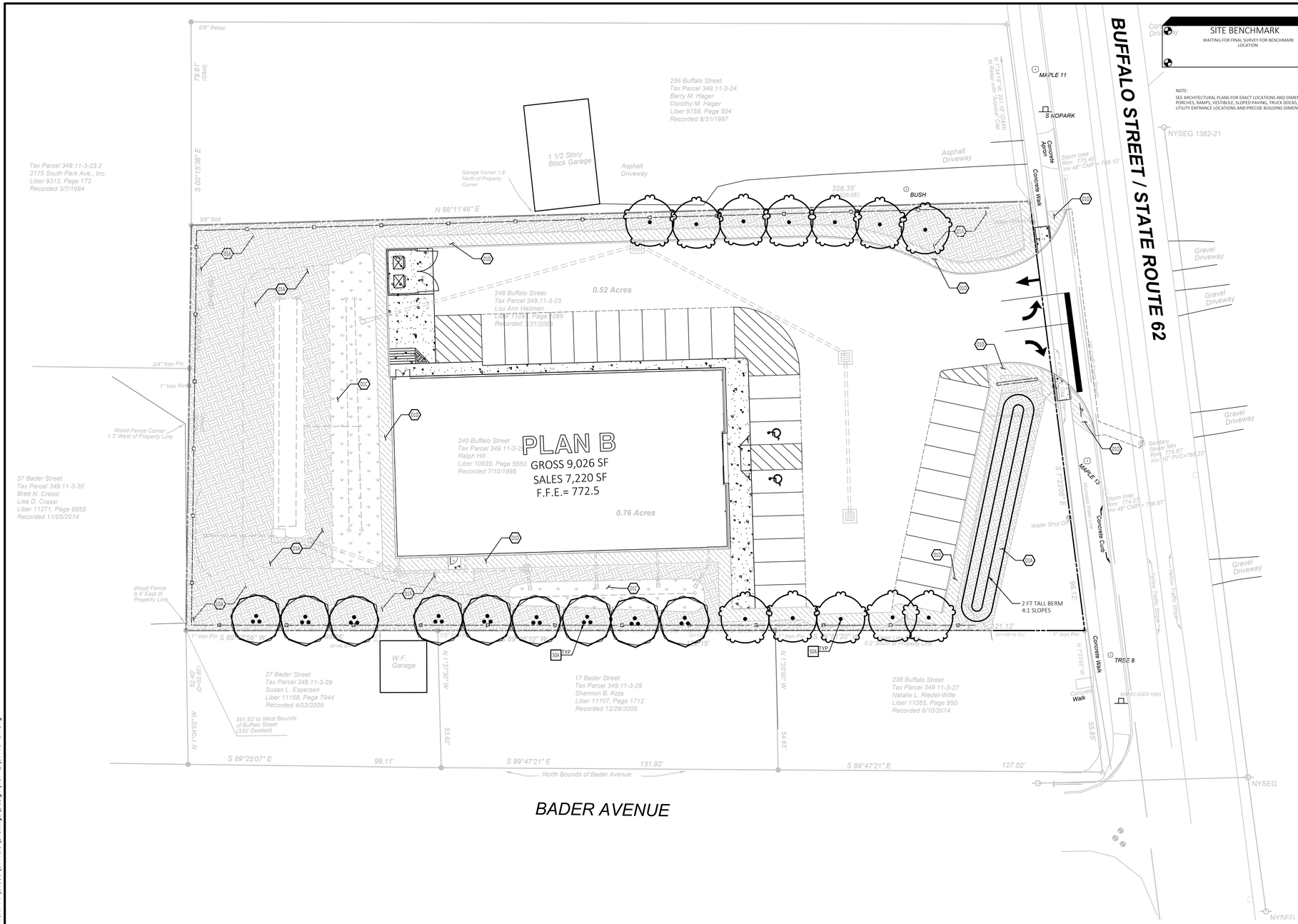
Standard Deviation:
3.19

Fitted Curve Equation:
Not Given

R^2:
****

Directional Distribution:
52% entering, 48% exiting

Appendix I
Revised Landscaping Plan



811 Know what's below. Call before you dig.

N

0 20' 30' 40'
SCALE IN FEET

LEGEND

EXISTING

- FOUND IRON STAKE
- SET 3/4" REBAR WITH CAP
- POINT OR ANGLE POINT
- WATER VALVE
- POWER POLE
- MM MILE MARKER
- P.O.B. POINT OF BEGINNING

PROPOSED

- PROPERTY LINE/RIGHT OF WAY LINE
- STORM DRAIN
- SEED MIX OVER 4" OF TOPSOIL (PER NYSDOT STANDARDS FOR ROW RESTORATION)
- SOD OVER 4" OF TOPSOIL
- BIORETENTION POND PLANTING SOIL PER NYSDOT STANDARD SPECIFICATION ITEM 208.0103 WITH HYDRAULIC CONDUCTIVITY OF 0.5 FT/DAY

PLANTING NOTES

01A SEEDED GREEN AREA. (NYSDOT LAWN MIX 'C')
01C BIORETENTION POND PLANTING SOIL PER NYSDOT STANDARD SPECIFICATION ITEM 208.0103 WITH HYDRAULIC CONDUCTIVITY OF 0.5 FT/DAY
01D SODDED GREEN AREA.

LANDSCAPE DETAILS

50A TREE PLANTING

PLANT_SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME	CONT	HEIGHT	DETAIL
	12	White Spruce / Picea glauca	B & B	6 ft in ht at planting	50A
	9	White Cedar / Chamacyparis thyoides	B & B	6 ft in ht at planting	50A

GENERAL PLANTING NOTES

1. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL PROPOSED LANDSCAPING IS INSTALLED IN ACCORDANCE WITH PLANS, DETAILS, SPECIFICATIONS (IF APPLICABLE) AND ALL LOCAL CODES AND REQUIREMENTS.
2. CONTRACTOR TO INSPECT SITE AND VERIFY CONDITIONS AND DIMENSIONING PRIOR TO PROCEEDING WITH WORK DESCRIBED HERE IN. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO BEGINNING ANY CONSTRUCTION.
3. QUANTITIES PROVIDED IN THE PLANT LIST ARE FOR GENERAL USE ONLY. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL PLANT AND LANDSCAPE MATERIAL QUANTITIES. SYMBOL COUNT ON PLAN TAKES PRECEDENCE OVER TABLE QUANTITIES.
4. IMMEDIATELY AFTER AWARD OF CONTRACT, NOTIFY THE OWNER'S REPRESENTATIVE AND/OR THE LANDSCAPE ARCHITECT OF UNAVAILABILITY OF SPECIFIED PLANT MATERIAL FROM COMMERCIAL NURSERIES. THE OWNER'S REPRESENTATIVE AND/OR LANDSCAPE ARCHITECT WILL PROVIDE ALTERNATE PLANT MATERIAL SELECTIONS IF UNAVAILABILITY OCCURS. SUCH CHANGES SHALL NOT ALTER THE ORIGINAL BID PRICE UNLESS A CREDIT IS DUE TO THE OWNER.
5. ALL PLANT MATERIALS TO CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.1.
6. CONTAINER GROWN STOCK SHOULD HAVE GROWN IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL TOGETHER.
7. ANY PLANT SUBSTITUTIONS, RELOCATION, OR REQUIRED CHANGE SHALL REQUIRE THE WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT OR OWNER.
8. THE OWNER'S REPRESENTATIVE AND/OR LANDSCAPE ARCHITECT RESERVE THE RIGHT TO REFUSE ANY MATERIAL THEY DEEM UNACCEPTABLE.
9. COORDINATE WITH PROJECT REPRESENTATIVE FOR DISTURBED SITE TREATMENTS OUTSIDE LANDSCAPE IMPROVEMENTS. SEE CIVIL PLANS FOR SOIL STABILIZATION FOR EROSION CONTROL.
10. IF REQUIRED, CONTRACTOR TO ENSURE THAT AN AUTOMATED IRRIGATION SYSTEM THAT PROVIDES COMPLETE COVERAGE OF THE SITE IS INSTALLED PRIOR TO INSTALLING TREES/PALMS (SEE IRRIGATION PLAN SHEET IF PROVIDED). IF NO PLAN IS PROVIDED THE CONTRACTOR SHALL SUBMIT A PROPOSED DESIGN TO THE LANDSCAPE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. THE PROPOSED DESIGN MUST HAVE AN APPROVED BACKFLOW DEVICE AND RAIN SENSOR INSTALLED TO STOP IRRIGATION DURING RAIN EVENTS. CONTRACTOR SHALL ENSURE THAT THERE IS POSITIVE DRAINAGE AND NO PONDING OF WATER AT ROOT AREA.
11. ALL HARDSCAPE MATERIALS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
12. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND FOUR INCHES OF TOPSOIL APPLIED. IF ADEQUATE TOPSOIL IS NOT AVAILABLE ON SITE, THE CONTRACTOR SHALL PROVIDE TOPSOIL, APPROVED BY THE OWNER, AS NEEDED. THE AREA SHALL THEN BE SEEDED/SODDED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS. ANY RELOCATED TREES SHALL BE MAINTAINED UNTIL SUCH POINT AS TREE IS RE-ESTABLISHED. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE PROJECT SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
13. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR 1) TO VERIFY THE LOCATIONS OF UTILITY LINES AND ADJACENT TO THE WORK AREA 2) TO PROTECT OF ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD 3) TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE CONSTRUCTION AT NO COST TO THE OWNER.
14. WEED MAT IS REQUIRED IN LANDSCAPED ISLANDS AS SPECIFIED.
15. ALL PLANT MATERIAL QUANTITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE COVERAGE OF ALL PLANTING BEDS AT SPACING SHOWN.
16. IF A SWPPP PLAN IS PROVIDED THIS PLAN IS TO BE IMPLEMENTED COOPERATIVELY WITH SWPPP PLAN, AS NEEDED, TO MAXIMIZE THE EFFECTIVENESS OF THE SWPPP PLAN FOR THIS SITE.
17. THE CONTRACTOR IS ENCOURAGED TO COMPLETE TEMPORARY OR PERMANENT SEEDING OR SODDING IN STAGES FOR SOIL STABILIZATION AS AREAS ARE COMPLETED AFTER GRADING.
18. SEEDING ON SLOPES: HYDROSEED WITH GRASS SEED AS INDICATED ON PLANS. SEE LEGEND FOR SPECIFIC GRASS SEED TYPE. SEEDING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER BED PREPARATION. HYDROSEED MIXTURE SHALL CONTAIN CELLULOSE MULCH APPLIED AT A RATE OF 2,000 LBS./ACRE, WITH A MAXIMUM OF 50 LBS./100 GAL. OF WATER. IF SEEDING IS DELAYED AFTER MIXING 1/2 - 2 HOURS ADD AN ADDITIONAL 50% OF SEED MIX, IF DELAY IS LONGER THAN 2 HOURS, BEGIN WITH NEW MIXTURE. ALL SLOPES 2:1 OR GREATER SHALL BE COVERED WITH EROSION CONTROL BLANKET AS SHOWN IN THE EROSION CONTROL BLANKET DETAIL. SEE SPECIFICATIONS FOR SEED ESTABLISHMENT REQUIREMENTS.
19. ALL PLANT MATERIAL IN TREE HOLDING AREAS SHALL BE MANUALLY WATERED/IRRIGATED TO KEEP MOIST UNTIL PLANTED.
20. CONTRACTOR SHALL PROVIDE EXPANSION AND CONTROL JOINTS ON ALL LANDSCAPE SPECIFIC CONCRETE PROJECTS (SEE HARDSCAPE PLAN FOR DETAILS).

REGISTERED LANDSCAPE ARCHITECT · RADOSLAV K. NEDKOV · STATE OF NEW YORK · 9/16/20 · 001283

31140	9/16/20	ADS	RKN	IVJ	IVJ
CEI PROJECT NO.	INITIAL DATE	DPOR	PM	DES	DRW

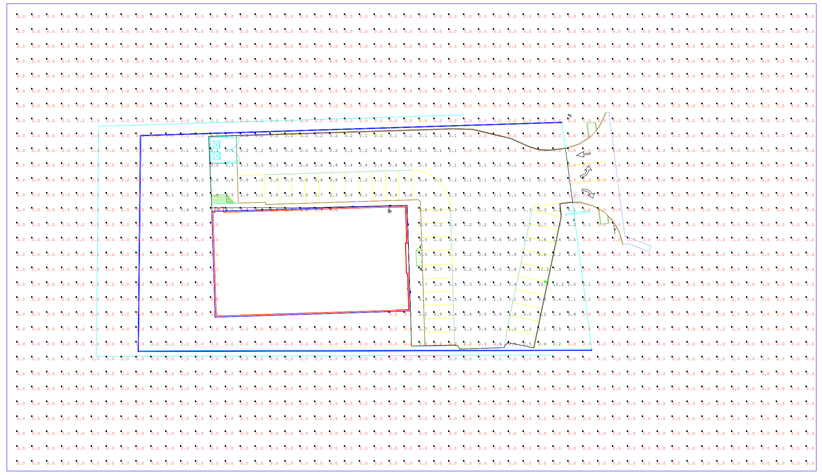
CEI Engineering Associates, Inc.
ENGINEERS • PLANNERS • SURVEYORS
LANDSCAPE ARCHITECTS
3108 SW Regency Parkway, Suite 2 (479) 273 - 9472
Bentonville, AR 72712 (479) 273-0844

THE BROADWAY GROUP, LLC
BUFFALO STREET
GOWANDA NY

LANDSCAPE PLAN	REV. DATE 9/16/20 REV-2	SHEET NO. L1

JOB # 31140 DRAWING: 31140-SP.dwg LAST SAVED BY: iJANKUN LOCATION: P:\31000\31140.0\Drawings\Design\Rev-2\31140-SP.dwg

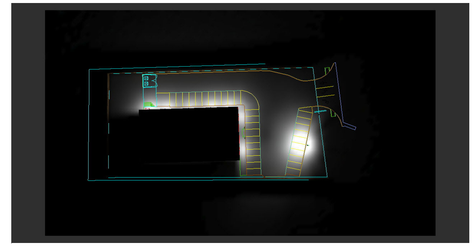
Appendix J
Revised Photometric Plan

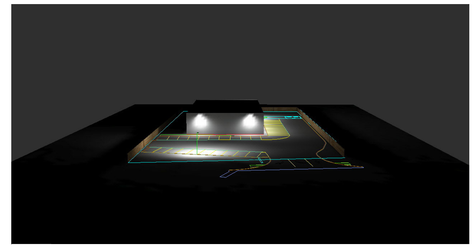


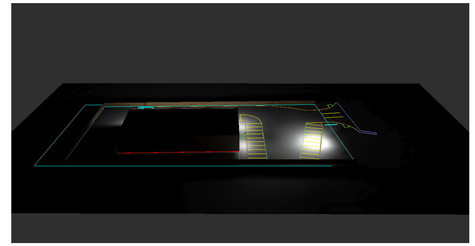
Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	7	G	SINGLE	5816.2	0.950	LEDS- WP-FC-4550-5K - Wall Pack, Full Cut-off, 5K
	1	HP-S	SINGLE	16462	0.950	LEDS-AL-150W-T4-5K-S - Single Pole Mt, 150w, type 4, 5K, Shielded

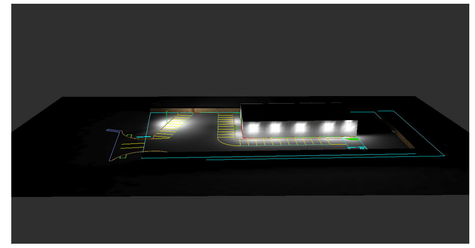
Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Site	Illuminance	Fc	0.20	15.7	0.0	N.A.	N.A.
Parking Lot	Illuminance	Fc	1.26	15.7	0.0	N.A.	N.A.

Luminaire Location Summary		
LumNo	Label	Z
1	HP-S	16
2	G	16
3	G	16
4	G	16
5	G	16
6	G	16
7	G	16
8	G	16





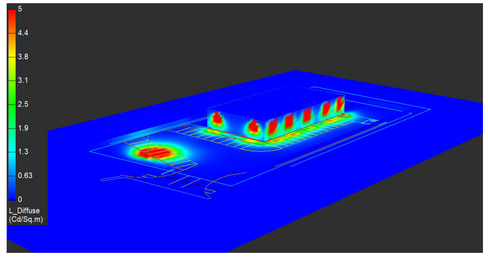


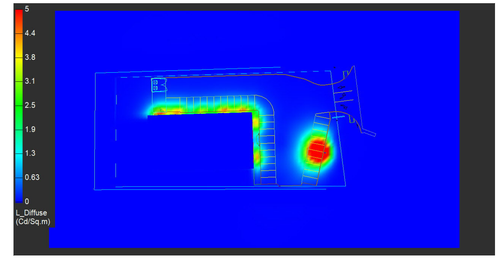


Notes:

Plan Notes:
Calculations at Ground Level (10' x 10' Grid Spacing). Refer to luminaire location summary for mounting heights of each fixture. Pole mounted fixtures include a 2ft concrete base. Mounting heights indicated on luminaire location summary is a total A.F.G. height.

General Notes:
Due to changing lighting ordinances it is the contractors resposibility to submit the site photometrics & luminaire specs to the local inspector before ordering to ensure this plan complies with local lighting ordinances. This lighting design is based on information supplied by others. Changes in electrical supply, area geometry & objects within the lighted area may produce illumination values different from the predicted results shown on this layout. This layout is based on .IES files that were lab tested or computer generated, actual results may vary.





LEDS LLC

#	Date	Comments

Revisions

Drawn By: BMF, LC
Checked By:
Date:7/16/2020
Scale:

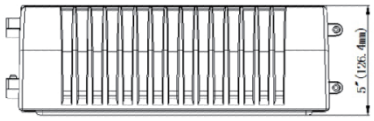
Dollar General -

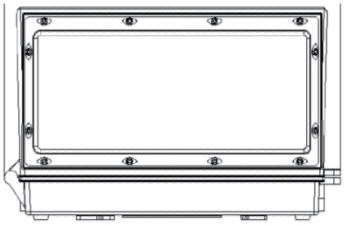
Gowanda 20622

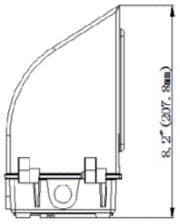
Full Cut-off Wall Packs

Dimension
16 x 11 x 9

45W LED Full Cut-off







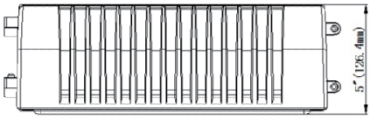
Structure Features
- Shell materials: Aluminum & Glass
- Finish: Dark Bronze/White
- Net Weight: 2.9Kg (6.4 lbs)
- Product Size: 354.8mm *207.8mm*126.4mm
- Carton Size: 390mm*267mm*185mm

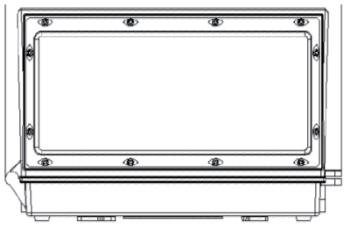
Full Cut-off Series

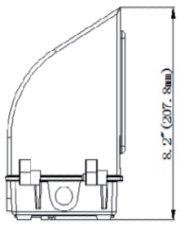
Order Code	Part Number	Watts	Lumens	CCT	Input	Voltage
WP1113	WP-FC-4550-MV	45	4800	5000	>80	120-277
WP1114	WP-FC-7050-MV	70	7200	5000	>80	120-277

Dimension
16 x 11 x 9

70W LED Full Cut-off







Structure Features
- Shell materials: Aluminum & PC.
- Finish: Dark Bronze/White
- Net weight: 3.0Kg (6.61 lbs)
- Product Size: 354.8mm *207.8mm*126.4mm
- Carton Size: 390mm*267mm*185mm

Wall Pack Light Series:

The LEDS Wall Packs are perfect for new construction, retrofit and lighting upgrade solutions. High output and top of the line specifications. Available in multiple wattage and lumen output configurations to meet any lighting application.

Features:
- Lumileds LEDs: High efficacy, long life.
- High efficiency driver: 120V – 277V
- Diecast aluminum construction for superior thermal management.
- Premium optics for even light distribution, utilization and control.
- 5-Year warranty

LUMILEDS The Brighter Choice

c UL us LISTED E354939

DLC QPL LISTED

5 YEAR LIMITED WARRANTY

FC CE

RoHS

WET LOCATION

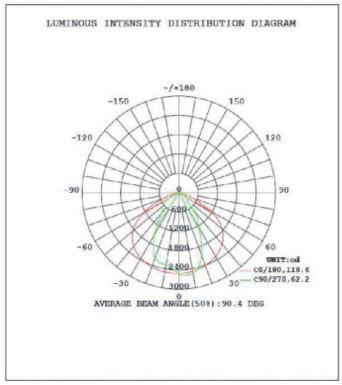
N8774 Firelane 1 • Menasha, WI 54952
Phone: 920-840-6054 • Fax: 920-840-6424 • www.leds-llc.com

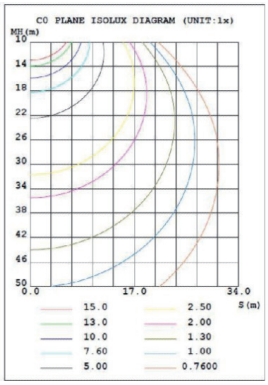
45W & 70W Full Cut-off Wall Pack

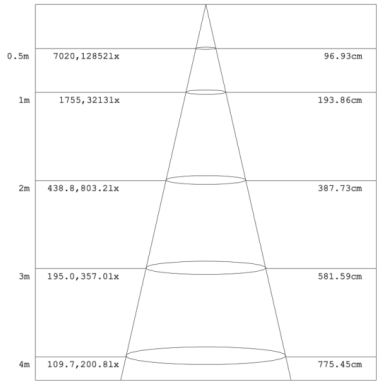
Technical Parameters (45 Watt)

WP-FC-4550-MV			
Power	45W	Lighting Angle	60° x 90°
Input Voltage	AC120-277V	LED Brightness Decay	<5% / 6000 hrs
PF	>0.95	Working Life	>50000 hrs
Driver Efficiency	>90%	Working Temperature	-30 - +45°C
Luminous Flux	4800 Lm	Storage Temperature	-40 - +80°C
Color Temperature	4000K/5000K	Protection Level	Wet Location / IP65
CRI	Ra>80	Cable	Input Connect, No cable

Photometry (45 Watt)



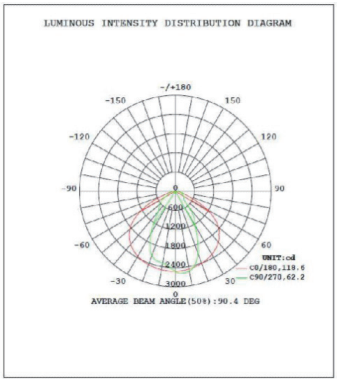


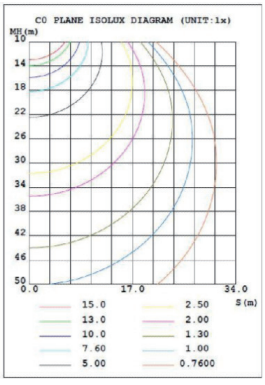


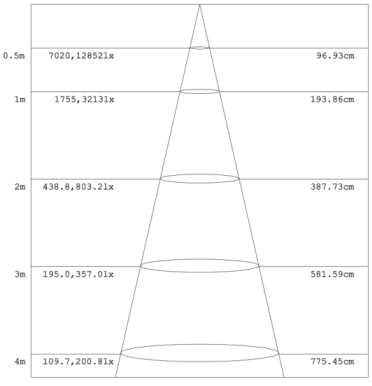
Technical Parameters (70 Watt)

WP-FC-7050-MV			
Power	70W	Lighting Angle	62° x 118°
Input Voltage	AC100-277V	LED Brightness Decay	<5% / 6000 hrs
PF	>0.95	Working Life	>50000 hrs
Driver Efficiency	>90%	Working Temperature	-30 - +45°C
Luminous Flux	7340 Lm	Storage Temperature	-40 - +80°C
Color Temperature	4000K/5000K	Protection Level	Wet Location / IP65
CRI	Ra>70	Cable	Input Connect, No cable

Photometry (70 Watt)







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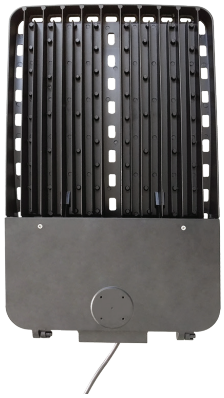
Area Lights

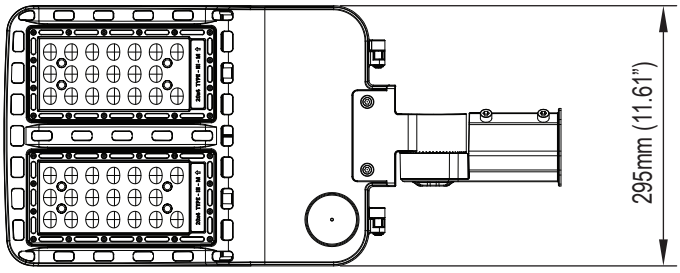
Front View

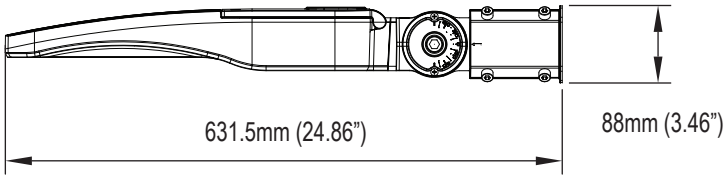


Back View

Structure Features

- Shell materials: Aluminum & PC.
- Finish: Dark Bronze/White
- Net Weight: 2.9Kg (6.4 lbs)
- Product Size: 631.5mm *295mm*88mm
- Carton Size: 390mm*267mm*185mm





Area Light Series (Parking Lot)

Order Code	Part Number	Watts	Lumens	CCT	Input	Voltage
AL1110	AL-15050-MV	150	18000	5000	>80	120-277
AL1112	AL-24050-MV	240	28000	5000	>80	120-277

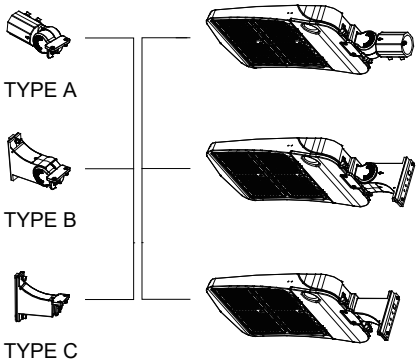
150W MOUNTING BRACKETS:

Mount Type	Order Code	Part #
Slip Fitter (A)	AL5550	AL-SF-001
Square Pole Mount (B)	AL5551	AL-SP-001
Round Pole Mount (C)	AL5552	AL-RP-001

240W MOUNTING BRACKETS:

Mount Type	Order Code	Part #
Slip Fitter (A)	AL6660	AL-SF-240
Square Pole Mount (B)	AL6661	AL-SP-240
Round Pole Mount (C)	AL6662	AL-RP-240

There are 5 optional brackets for this fixture. The following is shoebox fixtures with different brackets.



Area Light Series:

The LEDS Area Lights are perfect for new construction, retrofit and lighting upgrade solutions. High output and top of the line specifications. Available in multiple wattage and lumen output configurations to meet any lighting application. Type 4 & 5 available.

Features:

- Lumileds LEDs: High efficacy, long life
- High efficiency driver: 120V – 277V
- Die-cast aluminum construction for superior thermal management.
- Premium optics for even light distribution, Utilization and control.
- 5-Year warranty

LUMILEDS The Brighter Choice

c UL us LISTED E354939

DLC QPL LISTED

5 YEAR LIMITED WARRANTY

FC CE RoHS WET LOCATION

N8774 Firelane 1 • Menasha, WI 54952
Phone: 920-840-6054 • Fax: 920-840-6424 • www.leds-llc.com

Appendix K
Revised Civil Engineering Site Development Plans

SITE DEVELOPMENT PLANS

THE BROADWAY GROUP, LLC

BUFFALO STREET

GOWANDA NY

GENERAL NOTES:

A. TOPOGRAPHIC BOUNDARY SURVEY, INCLUDING PROPERTY LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, SITE TOPOGRAPHY WITH SPOT ELEVATIONS, OUTSTANDING PHYSICAL FEATURES AND EXISTING STRUCTURE LOCATIONS WAS PROVIDED BY THE FOLLOWING COMPANY, AS A CONTRACTOR TO THE SELLER/OWNER:

TOPOGRAPHY: DANIEL L. BARRY LAND SURVEYOR LLC
92 BAXTER AVENUE
LAKEWOOD, NY 14750
PHONE: 716-763-1254
FAX: 716-763-0915

CEI ENGINEERING AND ITS ASSOCIATES WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF THE SURVEY OR FOR DESIGN ERRORS OR OMISSIONS RESULTING FROM SURVEY INACCURACIES.

B. ALL PHASES OF SITE WORK FOR THIS PROJECT SHALL MEET OR EXCEED THE OWNER / DEVELOPER SITE WORK SPECIFICATIONS.

C. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF EXISTING STRUCTURES, RELATED UTILITIES, PAVING, UNDERGROUND STORAGE TANKS AND ANY OTHER EXISTING IMPROVEMENTS AS NOTED. SEE SITE WORK SPECIFICATIONS.

D. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.

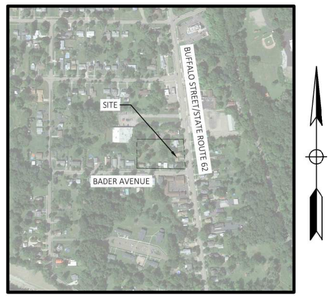
E. THE GENERAL CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.

F. WARRANTY/DISCLAIMER: THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER THE ENGINEER NOR ITS PERSONNEL CAN OR DO WARRANT THESE DESIGNS OR PLANS AS CONSTRUCTED EXCEPT IN THE SPECIFIC CASES WHERE THE ENGINEER INSPECTS AND CONTROLS THE PHYSICAL CONSTRUCTION ON A CONTEMPORANEOUS BASIS AT THE SITE.

G. SAFETY NOTICE TO CONTRACTOR: IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.

H. ALL CONSTRUCTION IN STATE HIGHWAY DEPARTMENT RIGHT-OF-WAY SHALL BE COORDINATED WITH THE HIGHWAY DEPARTMENT RESIDENT ENGINEER.

I. WETLANDS NOTE: ANY DEVELOPMENT, EXCAVATION, CONSTRUCTION, OR FILLING IN A U.S. CORPS OF ENGINEERS DESIGNATED WETLAND IS SUBJECT TO LOCAL, STATE AND FEDERAL APPROVALS. THE CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS AND/OR RESTRICTIONS AND ANY VIOLATION WILL BE SUBJECT TO FEDERAL PENALTY. THE CONTRACTOR SHALL HOLD THE OWNER/DEVELOPER, THE ENGINEER AND THE LOCAL GOVERNING AGENCIES HARMLESS AGAINST SUCH VIOLATION.



Vicinity Map

Not to Scale

PLAN INDEX:

C0 COVER SHEET
C1 DEMOLITION PLAN
C2 SITE AND UTILITY PLAN
C3 GRADING PLAN
C4 EROSION CONTROL PLAN
C5 EROSION CONTROL NOTES
C6 DETAIL SHEET 1
C7 DETAIL SHEET 2
C8 DETAIL SHEET 3
L1 LANDSCAPE PLAN

APPROVED DATE

VILLAGE OF GOWANDA, NY _____

ERIE COUNTY _____

RESOURCE LIST:

ERIE COUNTY ENVIRONMENT & PLANNING
95 FRANKLINK SUITE 1000,
BUFFALO, NY 14202
OFFICE: 716-858-8390

ENGINEERING
MARK BUR
VILLAGE ENGINEER
27 EAST MAIN STREET
GOWANDA, NY 14070
PHONE: 716-498-3280
EMAIL: MCBURR@CATTCO.ORG

NOTICE TO BIDDERS:

ALL QUESTIONS REGARDING THE PREPARATION OF THE GENERAL CONTRACTOR'S BID SHALL BE DIRECTED TO THE OWNER'S CONSTRUCTION DEPARTMENT. SUBCONTRACTORS MUST DIRECT THEIR QUESTIONS THROUGH THE GENERAL CONTRACTOR. THE CONSULTING ARCHITECT AND/OR THE CONSULTING ENGINEER SHALL NOT BE CONTACTED DIRECTLY WITHOUT PRIOR AUTHORIZATION FROM THE OWNER/DEVELOPER.

FLOOD CERTIFICATION:

THIS PROPERTY IS NOT LOCATED WITHIN ANY PRESENTLY ESTABLISHED 100-YEAR FLOOD PLAIN, AS SHOWN BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP FOR THE VILLAGE OF GOWANDA, COMMUNITY PANEL NUMBER 36029C0756G EFFECTIVE DATE 9/26/2008.

CEI CONTACT:

RADOSLAV NEDKOV
CEI ENGINEERING ASSOCIATES, INC.
550 TOWNSHIP LINE ROAD. SUITE 450
BLUE BELL, PA 19422
PROJECT MANAGER
RNEDKOV@CEIENG.COM
PHONE: (479) 254-1423

DEVELOPER

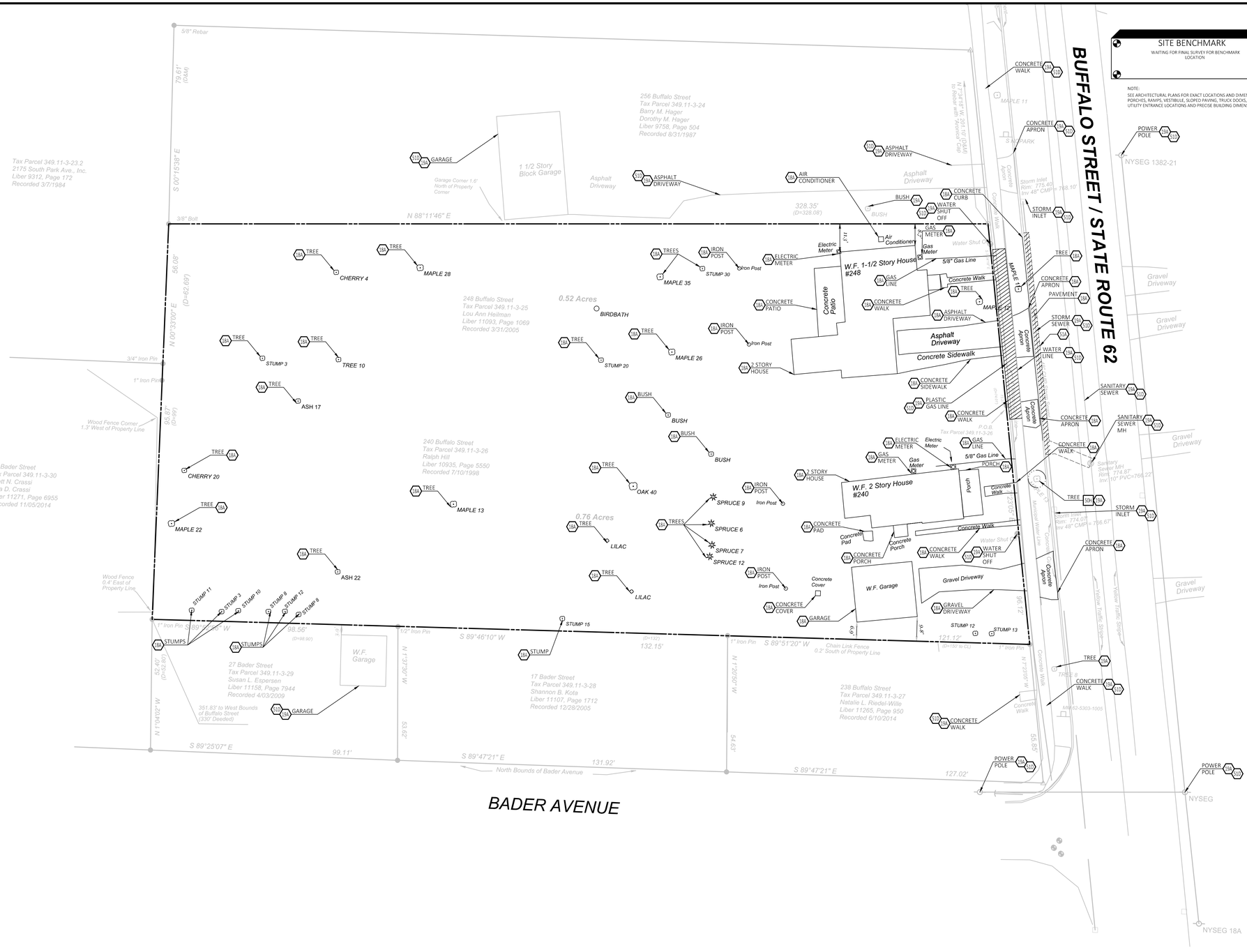
MELISSA BALLARD
THE BROADWAY GROUP, LLC
132 HOLMES AVE. NE
HUNTSVILLE, AL 35801
PHONE: 256-533-7287

CEI Engineering Associates, Inc.
ENGINEERS • PLANNERS • SURVEYORS
LANDSCAPE ARCHITECTS
3108 SW Regency Parkway, Suite 2 (479) 273 - 9472
Bentonville, AR 72712 (479) 273-0844

STATE OF NEW YORK ANDREW D. SLYTER LICENSED PROFESSIONAL ENGINEER 084378
06/18/2020

JOB NO.: 31140
DWG NAME: 31140 CS
DATE 6/16/20 1:54 PM REV-1
SHEET NO. C0

Arkansas * California * Minnesota * Pennsylvania * Texas



LEGEND

EXISTING

- FOUND IRON STAKE
- SET 3/4" REBAR WITH CAP
- POINT OR ANGLE POINT
- WATER VALVE
- POWER POLE
- MM MILE MARKER
- P.O.B. POINT OF BEGINNING

GENERAL DEMOLITION NOTES

A. THE SITE WORK FOR THIS PROJECT SHALL MEET OR EXCEED THE PLAN SET AND CLIENT'S STANDARDS.

B. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF THE EXISTING STRUCTURES, RELATED UTILITIES, PAVING, UNDERGROUND STORAGE TANKS AND ANY OTHER EXISTING IMPROVEMENTS AS NOTED. SEE SITE WORK SPECIFICATIONS.

C. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.

D. THE GENERAL CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.

E. ENGINEER'S NOTICE TO CONTRACTOR
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

DEMOLITION NOTES

18A EXISTING TO BE REMOVED.
19A EXISTING TO REMAIN.
51A LIMITS OF SAWCUT AND PAVEMENT REMOVAL.
51D PROTECT EXISTING STRUCTURES AND/OR PIPES DURING DEMOLITION AND CONSTRUCTION PHASES.

DEMOLITION DETAILS

50H TREE PROTECTION

31140	6/16/20	ADS	RKN	IVJ	IVJ
CEI PROJECT NO.	INITIAL DATE	DPOR	PM	DES	DRW

Engineering Associates, Inc.
ENGINEERS • PLANNERS • SURVEYORS
LANDSCAPE ARCHITECTS
3108 SW Regency Parkway, Suite 2
Bentonville, AR 72712
(479) 273 - 9472
(479) 273-0844

THE BROADWAY GROUP, LLC

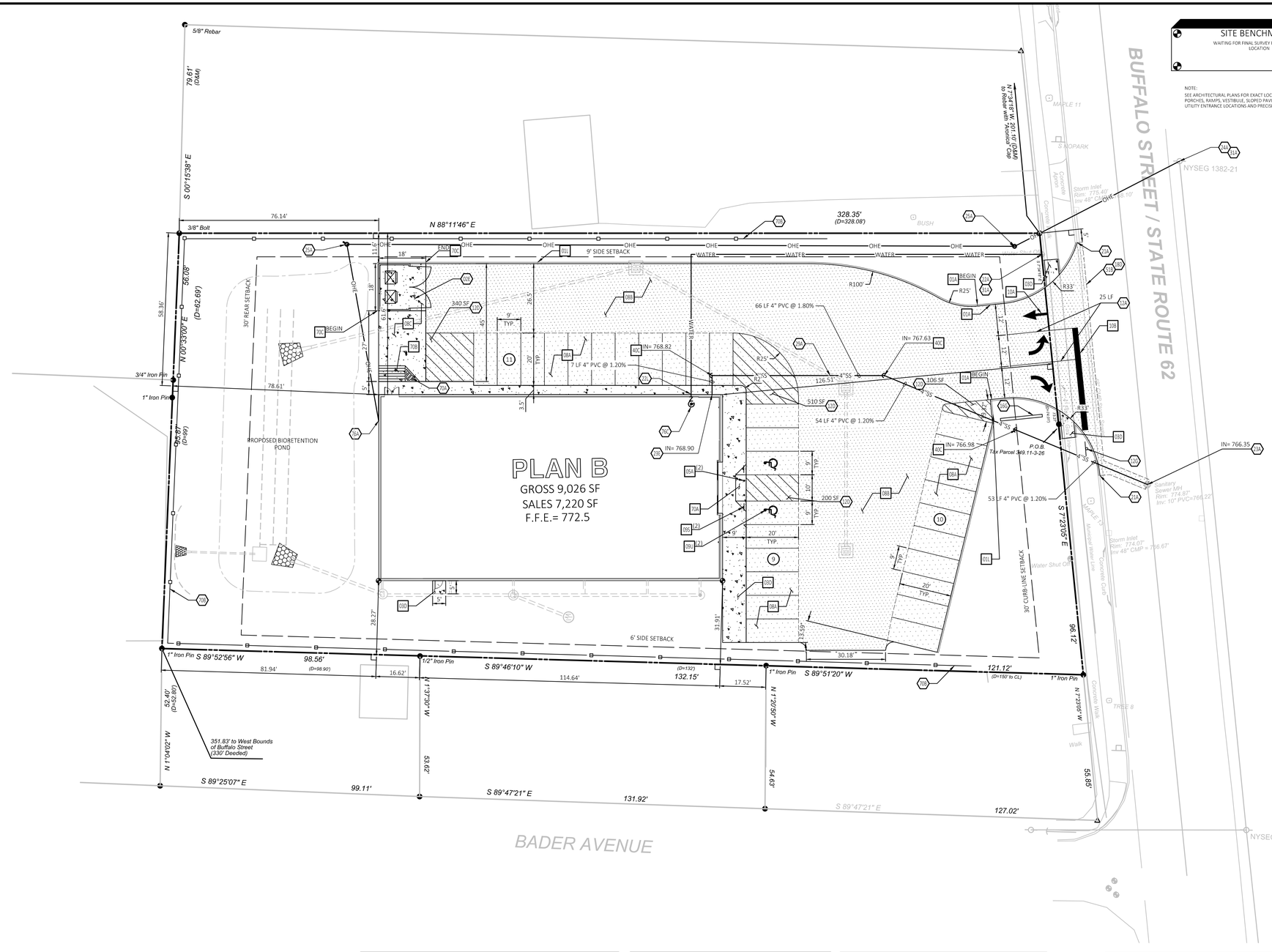
BUFFALO STREET
GOWANDA NY

DEMO PLAN

REV DATE	SHEET NO.
6/16/20 REV-1	C1

STATE OF NEW YORK
ANDREW D. SLYTER
LICENSED PROFESSIONAL ENGINEER
096378
06/18/2020

JOB # 31140 DRAWING: 31140-SP.dwg LAST SAVED BY: IANKUN LOCATION: P:\31000\31140.01\Drawings\Design\Rev-1\31140-SP.dwg



SITE BENCHMARK

WAITING FOR FINAL SURVEY FOR BENCHMARK LOCATION

NOTE:
SEE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF PORCHES, RAMPS, VESTIBULE, SLOPED PAVING, TRUCK DOCKS, BUILDING UTILITY ENTRANCE LOCATIONS AND PRECISE BUILDING DIMENSIONS.

811 Know what's **below.** **Call** before you dig.

N

0 20' 30' 40'
SCALE IN FEET

LEGEND

EXISTING

- FOUND IRON STAKE
- SET 3/4" REBAR WITH CAP
- POINT OR ANGLE POINT
- WATER VALVE
- POWER POLE
- MM MILE MARKER
- P.O.B. POINT OF BEGINNING

PROPOSED

- PROPERTY LINE/RIGHT OF WAY LINE
- (#) PROPOSED PARKING SPACES
- STORM DRAIN
- OHE OVERHEAD ELECTRIC SERVICE
- X"W WATER SERVICE
- SS" SANITARY SEWER SERVICE

GENERAL SITE NOTES

A. ALL DIMENSIONS SHOWN ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

B. ALL CURB RETURN RADII SHALL BE 3' OR 10', AS SHOWN TYPICAL ON THIS PLAN, UNLESS OTHERWISE NOTED.

C. PAVEMENT SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL 08A OVER THE ENTIRE CUSTOMER PARKING LOT AREA AND 08B OVER ALL TRUCK AND DELIVERY APPROACH DRIVES.

D. ALL PARKING LOT SIGN BASE SUPPORTS SHALL BE INSTALLED PER DETAIL 12F.

E. ALL ACCESSIBLE PARKING STALLS SHALL HAVE SIGNAGE INSTALLED PER DETAIL 09S.

F. GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING POSTAL DELIVERY METHOD WITH LOCAL JURISDICTION IF A PHYSICAL MAILBOX IS REQUIRED. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE PURCHASE, LOCATION, PLACEMENT, AND INSTALLATION.

G. DRIVEWAY CONSTRUCTION WITHIN ROAD RIGHT-OF-WAY SHALL MEET VILLAGE OF GOWANDA REQUIREMENTS.

H. CONTRACTOR CHOICE FOR BITUMINOUS OR CONCRETE PARKING SURFACING WITH OWNER APPROVAL. SURFACING MUST MEET PAVEMENT SECTION REQUIREMENTS PER DETAILS 08A, 08B, AND 08C.

SITE NOTES

02E TRASH DUMPSTER ENCLOSURE (PER ARCH. PLANS).
12A 4 INCH TRAFFIC YELLOW LANE STRIPE (SEE LENGTH INDICATED AT SYMBOL).
12D 4 INCH WIDE PAINTED YELLOW STRIPES. 2.0 FOOT O.C. @ 45 DEGREES (SEE SIZE INDICATED AT SYMBOL).
12G STOP SIGN.
16G PROPOSED BUSINESS SIGN.
18D MATCH EXISTING PAVEMENT ELEVATIONS.
21A TAPER CURB TO MATCH EXISTING CURB.
21B TAPER CURB FROM 6 INCHES TO 0 INCHES OVER 2 FEET
22A POINT OF CONNECTION - WATER SERVICE (PER LOCAL CODES).
22L DOMESTIC WATER SERVICE ENTRY PER ARCH. PLANS (SEE SIZES THIS SHEET).
23A POINT OF CONNECTION - SANITARY SEWER SERVICE (PER LOCAL CODES).
23E SANITARY SEWER SERVICE ENTRY (PER ARCH. PLANS).
24A POINT OF CONNECTION FOR ELECTRICAL SERVICE (PER ELECTRIC COMPANY REQUIREMENTS).
25A PROPOSED POWER POLE.
29A MAINTAIN MIN. 18 INCHES VERTICAL SEPARATION.
31A LOCATION FOR THIS UTILITY AS SHOWN IS FOR DRAWING PURPOSES ONLY. CONTRACTOR SHALL VERIFY THE EXACT LOCATION IN FIELD PRIOR TO THE CONSTRUCTION OF THE PROPOSED UTILITY LINE TO BE CONNECTED. CONTRACTOR SHALL NOTIFY CEI ENGINEERING IF THE DESIGN AS SHOWN IS NOT ACHIEVABLE.
51B LIMITS OF SAWCUT AND PAVEMENT REMOVAL
70A 4" WIDE SAFETY YELLOW ON ALL SIDEWALK EDGES ABUTTING SAME COLORED PAVEMENT
70B PRIVACY FENCE (PER ARCH. PLANS).
76A ELECTRICAL SERVICE ENTRY (PER ARCH. PLANS)
76C WATER METER (PER ARCH. PLANS)

SITE DATA TABLE

		%
SITE AREA	55,584 SF / 1.28 AC±	100
PROPOSED BUILDING AREA	9,026 SF	16.24

ACCESSIBLE PARKING

VAN PARKING	1	REQUIRED	1	PROVIDED
ACCESSIBLE PARKING	1	REQUIRED	1	PROVIDED
TOTAL	2	REQUIRED	2	PROVIDED

PARKING RATIO

	BUILDING SQ.FT.	REQUIRED	PROVIDED
TOTAL	9,100	46	30
REQUIRED PARKING RATIO	1 SPACE PER 200 SF		

STRIPING LEGEND

YELLOW CURBING & BOLLARDS - PARKING LOT	SURFACES SHOULD BE CLEAN, DRY, AND METAL SURFACES FREE OF HEAVY RUST. TWO (2) COATS OF SHERWIN WILLIAMS - KEM 4000 ACRYLIC ALKYD ENAMEL SAFETY YELLOW B55Y300
STRIPING - PARKING LOT	SURFACES SHOULD BE CLEAN AND DRY. TOP COAT SHERWIN WILLIAMS - PRO MAR TRAFFIC MARKING PAINT YELLOW TM5495.
HANDICAP PARKING - PARKING LOT	SURFACES SHOULD BE CLEAN AND DRY. TOP COAT SHERWIN WILLIAMS - PRO MAR TRAFFIC MARKING PAINT "HC" BLUE.

ESTIMATED SITE QUANTITIES

DESCRIPTION	QUANTITY	UNIT
CONCRETE CURB & GUTTER	54	LF
REINFORCED REVERSED CURB	38	LF
ASPHALT CURB	99	LF
CONCRETE SIDEWALK	2,270	SF
STANDARD DUTY ASPHALT PAVING	6555	SF
HEAVY DUTY ASPHALT PAVING	12,325	SF
HEAVY DUTY CONCRETE PAVING	810	SF

ESTIMATED ROW QUANTITIES

DESCRIPTION	QUANTITY	UNIT
CONCRETE CURB & GUTTER	66	LF
CONCRETE SIDEWALK	85	SF
HEAVY DUTY ASPHALT PAVING	1015	SF

SITE DETAILS

01A CONCRETE CURB & GUTTER
01L ASPHALT CURB
03D CONCRETE SIDEWALK
05A GUARD POST
08A STANDARD DUTY ASPHALT PAVING
08B HEAVY DUTY ASPHALT PAVING
08C HEAVY DUTY CONCRETE PAVING
09S ACCESSIBLE / VAN ACCESSIBLE PARKING SIGN
09U ACCESSIBLE PARKING SYMBOL
10A TRAFFIC FLOW ARROW
10B STOP BAR
40C SANITARY SEWER CLEAN-OUT
70A 90° PARKING, ACCESSIBLE PARKING AND PEDESTRIAN RAMP IN SIDEWALK
70B CONCRETE RAMP AT STOCK ROOM DOOR.
70C REINFORCED REVERSED CURB

STATE OF NEW YORK
ANDREW D. SLYFER
LICENSED PROFESSIONAL ENGINEER
086378-1
06/18/2020

31140	6/16/20	ADS	RKN	IVJ	IVJ
CEI PROJECT NO.	INITIAL DATE	DPOR	PM	DES	DRW

Engineering Associates, Inc.
ENGINEERS • PLANNERS • SURVEYORS
LANDSCAPE ARCHITECTS
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Bentonville, AR 72712
(479) 273 - 9472
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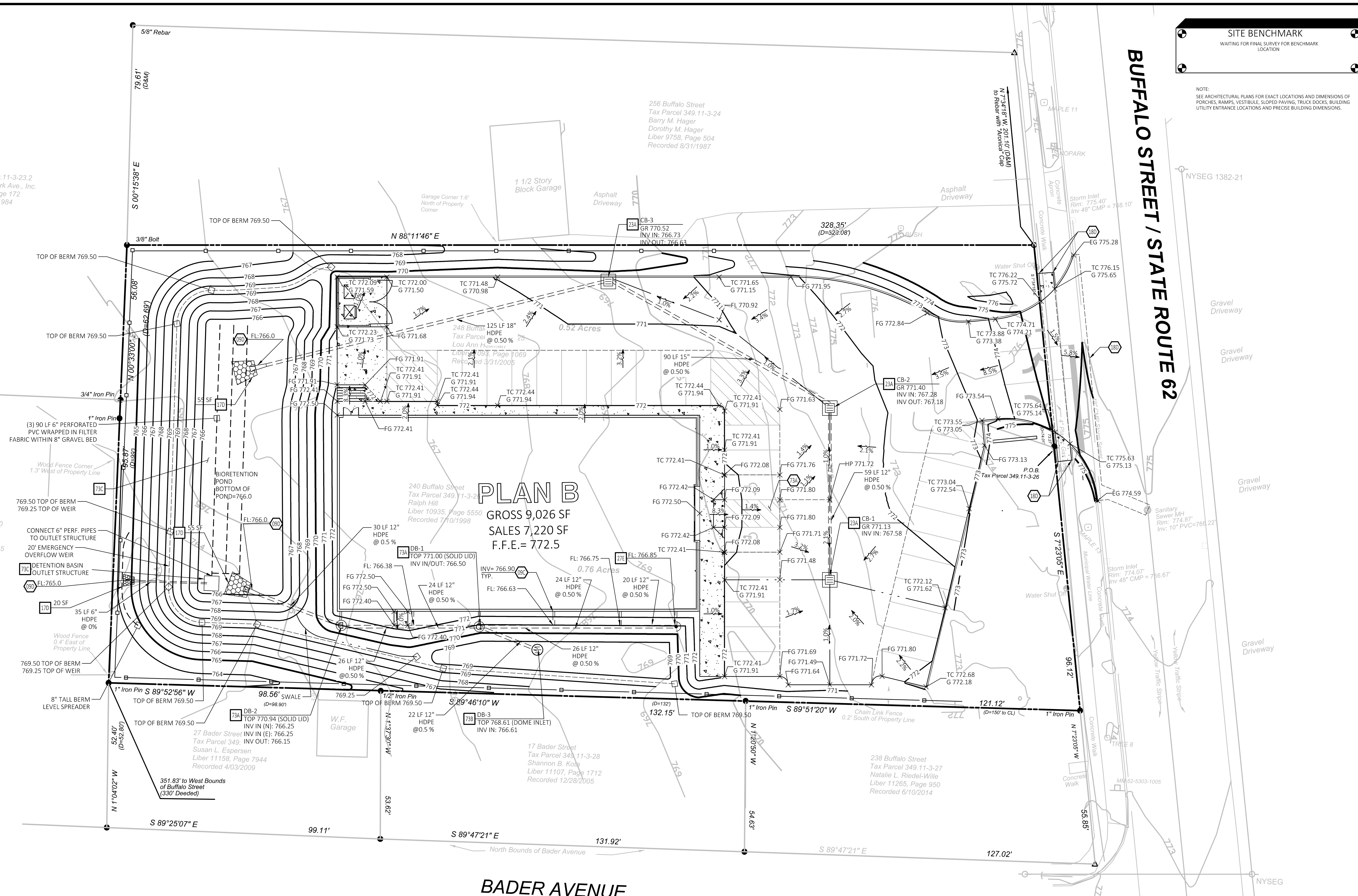
THE BROADWAY GROUP, LLC
BUFFALO STREET
GOWANDA NY

SITE AND UTILITY PLAN | REV DATE 6/16/20 REV-1 | SHEET NO. C2

JOB # 31140 DRAWING: 31140--SP.dwg LAST SAVED BY: IJANKUN LOCATION: P:\31000\31140.01\Drawings\Design\Rev--1\31140--SP.dwg



SITE BENCHMARK

WAITING FOR FINAL SURVEY FOR BENCHMARK LOCATION

NOTE:
SEE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF PORCHES, RAMPS, VESTIBULE, SLOPED PAVING, TRUCK DOCKS, BUILDING UTILITY ENTRANCE LOCATIONS AND PRECISE BUILDING DIMENSIONS.

Know what's **below.**
Call before you dig.

N

0 20' 30' 40'
SCALE IN FEET

LEGEND

EXISTING

- FOUND IRON STAKE
- SET 3/4" REBAR WITH CAP
- POINT OR ANGLE POINT
- WATER VALVE
- POWER POLE
- MM — MILE MARKER
- P.O.B. — POINT OF BEGINNING

PROPOSED

- PROPERTY LINE/RIGHT OF WAY LINE
- GRADE BREAK
- FLOW LINE
- XXX — CONTOUR ELEVATIONS
- STORM DRAIN
- x XX.XX — SPOT ELEVATIONS:
  TC = TOP OF CURB
  G = GUTTER
  FL = FLOW
  INV = INVERT

GENERAL GRADING NOTES

A. PRIOR TO INSTALLATION OF STORM OR SANITARY SEWER, THE CONTRACTOR SHALL EXCAVATE, VERIFY, AND CALCULATE ALL CROSSINGS AND INFORM THE OWNER AND THE ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION. THE ENGINEER WILL BE HELD HARMLESS IN THE EVENT THE ENGINEER IS NOT NOTIFIED OF DESIGN CONFLICTS.

B. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND 4" OF TOPSOIL APPLIED. IF ADEQUATE TOPSOIL IS NOT AVAILABLE ON SITE, THE CONTRACTOR SHALL PROVIDE TOPSOIL, APPROVED BY THE OWNER, AS NEEDED. THE AREA SHALL THEN BE SEEDED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS (SEE LANDSCAPE PLAN FOR SEED MIX AND PROPER APPLICATION RATE). ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE PROJECT SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

C. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES.

D. UNLESS OTHERWISE SHOWN, CALLED OUT OR SPECIFIED HEREON OR WITHIN THE SPECIFICATIONS: ALL STORM DRAIN PIPE BEDDING SHALL BE INSTALLED PER DETAIL 28A. ALL STORM DRAIN PIPES ARE MEASURED FROM CENTER OF STRUCTURES AND ENDS OF FLARED END SECTIONS.

GRADING NOTES

09C CONNECT DOWN SPOUTS TO DRAIN PIPE. (SEE ARCH. PLANS FOR EXACT NO. AND LOCATION OF DOWN SPOUTS).
09D FLARED END SECTION.
18D MATCH EXISTING PAVEMENT ELEVATIONS.
73A ADA AREA. NO MORE THAN 2% SLOPE IN ANY DIRECTION.

GRADING DETAILS

17D RIP RAP PAD
23A GRATE INLET
27E STORM DRAIN CLEAN OUT
73A SOLID LID DRAIN BASIN (NYLOPLAST)
73B DOME GRATE DRAIN BASIN (NYLOPLAST)
73C BIORETENTION BASIN AND OUTFALL STRUCTURE

STORMWATER SUMMARY

STORM EVENT	1 YR	2 YR	10 YR	100 YR
PRE-DEVELOPED	0.00 CFS	0.00CFS	0.16 CFS	1.90 CFS
POST-DEVELOPED	0.00 CFS	0.00 CFS	0.00 CFS	0.28 CFS
DIFFERENCE	0.00 CFS	0.00 CFS	-0.16 CFS	-1.62 CFS
POND WSE	766.89	767.20	768.07	768.82
POND VOLUME	2,973 CF	4,162 CF	7,924 CF	11,741 CF

WATER QUALITY SUMMARY
PER NYS STORMWATER MANAGEMENT DESIGN MANUAL
SECTION 4.2
WQ VOLUME REQUIRED = 3097 CF
WQ VOLUME PROVIDED = 3230 CF

TOP OF BASIN = 769.50
EMERGENCY OVERFLOW WEIR = 769.25
POND VOLUME AVAILABLE = 14,150 CF (EL. 769.25)
15,620 CF (EL. 769.50)
100 YR WSE = 768.82
WQ ELEV = 768.25
OUTLET ELEV = 4" ORIFICE OUTLET @ 768.25 (FOR 100 YEAR)
POND BOTTOM = 766.00
WQ VOLUME DRAIN TIME = 42 HOURS (MAX. 48 HOURS)

BIORETENTION POND:
APPROXIMATE GROUNDWATER ELEVATION = 762.00
BOTTOM OF 8" CLEAN WASHED NO. 67 GRAVEL BED = 764.00
TOP OF 8" GRAVEL BED = 764.67
(6" PERFORATED PIPES WRAPPED IN FILTER FABRIC WITHIN GRAVEL BED)
BOTTOM OF BIORETENTION PLANTING SOIL = 764.67
TOP OF BIORETENTION PLANTING SOIL (BOTTOM OF POND) = 766.00
BIORETENTION PLANTING SOIL CONSISTING OF PREDOMINANTLY SAND WITH MINIMUM PERMEABILITY OF 6 IN/HR
WATER QUALITY FLOW FROM POND CONTROLLED BY PERFORATED PIPES AND 5/8" ORIFICE

STATE OF NEW YORK · ANDREW D. SLYTER · 084378-1 · LICENSED PROFESSIONAL ENGINEER
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THE BROADWAY GROUP, LLC
BUFFALO STREET
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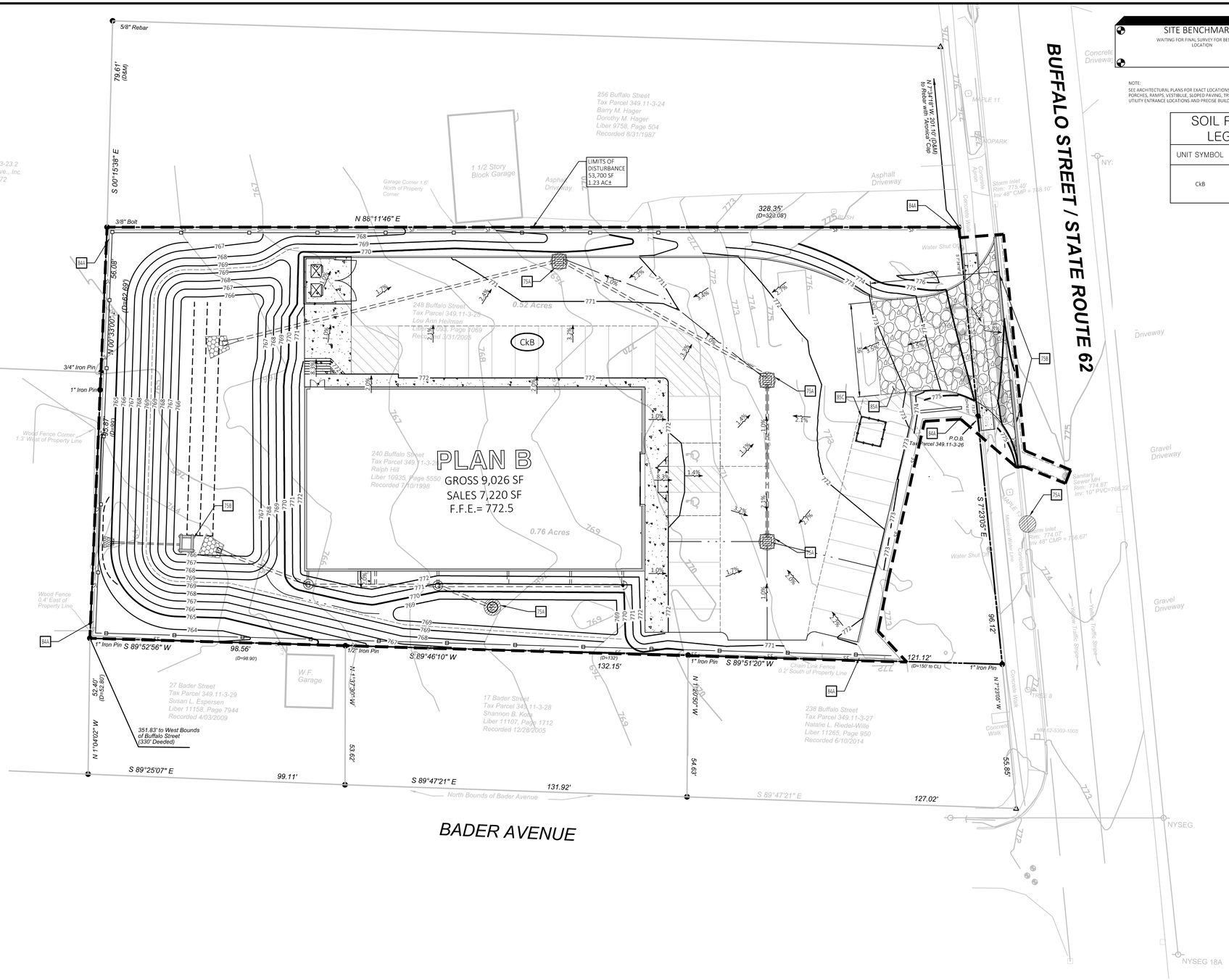
GRADING PLAN

REV DATE 6/18/20 REV-1
SHEET NO. C3



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SOIL REPORT LEGEND

UNIT SYMBOL	UNIT NAME
CkB	CHENANGO GRAVELLY LOAM, 3 TO 8 PERCENT SLOPES

811 Know what's **below.** **Call** before you dig.

0 20' 30' 40'
SCALE IN FEET

LEGEND

EXISTING

- FOUND IRON STAKE
- SET 3/4" REBAR WITH CAP
- POINT OR ANGLE POINT
- WATER VALVE
- POWER POLE
- MM MILE MARKER
- P.O.B. POINT OF BEGINNING

PROPOSED LEGEND

- PROPERTY LINE/RIGHT OF WAY LINE
- LIMITS OF DISTURBANCE
- SF SILT FENCE
- GRADE BREAK
- FLOW LINE
- XXX CONTOUR ELEVATIONS
- INLET PROTECTION

GENERAL EROSION CONTROL NOTES

1. SEE SHEET C5 FOR EROSION CONTROL NOTES.

EROSION DETAILS

75A TEMPORARY DANDY BAG INLET PROTECTION
75B SWP-CI (BIG RED) OR APPROVED EQUAL
84A TEMPORARY SILT FENCE
85A TEMPORARY STONE CONSTRUCTION ENTRANCE
85C TEMPORARY CONCRETE WASH OUT.

STATE OF NEW YORK
ANDREW D. SLYTER
LICENSED PROFESSIONAL ENGINEER
098378
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EROSION CONTROL PLAN

REV. DATE	SHEET NO.
6/18/20 REV-1	C4

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SPDES CONSTRUCTION ACTIVITY REQUIREMENTS

A. STORM WATER POLLUTION PREVENTION PLAN

THE PERMITTEE(S) (OWNER OR OPERATOR) MUST IMPLEMENT THE EROSION CONTROL/SWPPP AND THE REQUIREMENTS OF THIS PART. THE STORMWATER MANAGEMENT PRACTICES (SMPS) IDENTIFIED IN THE PLANS AND IN THIS PERMIT MUST BE INSTALLED, INSPECTED, AND MAINTAINED IN AN APPROPRIATE AND FUNCTIONAL MANNER IN ACCORDANCE WITH THE NYS DEC SPDES GENERAL PERMIT.

THE OWNER OR OPERATOR MUST KEEP THE SWPPP CURRENT SO THAT IT AT ALL TIMES ACCURATELY DOCUMENTS THE EROSION AND SEDIMENT CONTROLS PRACTICES THAT ARE BEING USED OR WILL BE USED DURING CONSTRUCTION, AND ALL POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES THAT WILL BE CONSTRUCTED ON THE SITE. AT A MINIMUM, THE OWNER OR OPERATOR SHALL AMEND THE SWPPP:

a. WHENEVER THE CURRENT PROVISIONS PROVE TO BE INEFFECTIVE IN MINIMIZING POLLUTANTS IN STORMWATER DISCHARGES FROM THE SITE;

b. WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OR OPERATION AT THE CONSTRUCTION SITE THAT HAS OR COULD HAVE AN EFFECT ON THE DISCHARGE OF POLLUTANTS; AND

c. TO ADDRESS ISSUES OR DEFICIENCIES IDENTIFIED DURING AN INSPECTION BY THE QUALIFIED INSPECTOR, THE DEPARTMENT OR OTHER REGULATORY AUTHORITY.

B. EROSION PREVENTION PRACTICES

1. THE PERMITTEE(S) MUST PLAN FOR AND IMPLEMENT APPROPRIATE CONSTRUCTION PHASING, VEGETATIVE BUFFER STRIPS, HORIZONTAL SLOPE GRADING, AND OTHER CONSTRUCTION PRACTICES THAT MINIMIZE EROSION, SO THAT THE INSPECTION AND MAINTENANCE REQUIREMENTS OF PART IV OF THE GENERAL SPDES PERMIT ARE COMPLIED WITH. THE LOCATION OF AREAS NOT TO BE DISTURBED MUST BE DELINEATED (E.G. WITH FLAGS, STAKES, SIGNS, SILT FENCE ETC.) ON THE DEVELOPMENT SITE BEFORE WORK BEGINS.

2. OFFSITE RUNOFF SHALL BE DIVERTED FROM HIGHLY ERODIBLE SOILS AND STEEP SLOPES TO STABLE AREAS.

3. ONLY AREAS REQUIRED FOR IMMEDIATE CONSTRUCTION ACTIVITY SHALL BE CLEARED. LARGE PROJECTS SHOULD BE CLEARED AND GRADED AS CONSTRUCTION PROGRESSES. AREAS EXCEEDING TWO ACRES IN SIZE SHOULD NOT BE DISTURBED WITHOUT A SEQUENCING PLAN THAT REQUIRES PRACTICES TO BE INSTALLED AND THE SOIL STABILIZED, AS DISTURBANCE BEYOND THE TWO ACRES CONTINUES. MASS CLEARINGS AND GRADING OF THE ENTIRE SITE SHOULD BE AVOIDED.

4. THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH THAT DRAINS WATER FROM A CONSTRUCTION SITE, OR DIVERTS WATER AROUND A SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE TO ANY SURFACE WATER. STABILIZATION MUST BE COMPLETED WITHIN 24 HOURS OF CONNECTING TO A SURFACE WATER.

5. PIPE OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION BEFORE CONNECTION TO A SURFACE WATER.

6. WHEN POSSIBLE, ALL SLOPES MUST BE GRADED IN SUCH A FASHION SO THAT TRACKING MARKS MADE FROM HEAVY EQUIPMENT ARE PERPENDICULAR TO THE SLOPE.

7. ALL AREAS DISTURBED DURING CONSTRUCTION MUST BE RESTORED AS DETAILED IN THESE REQUIREMENTS. THE TYPE OF PERMANENT RESTORATION SHALL BE CLEARLY SHOWN ON THE PLANS INCLUDING BUT NOT LIMITED TO SOD, SEED, IMPERVIOUS COVER AND STRUCTURES. A MINIMUM OF 6 INCHES OF TOPSOIL MUST BE INSTALLED PRIOR TO PERMANENT RESTORATION. AREAS IN WHICH THE TOP SOIL HAS BEEN PLACED AND FINISH GRADED OR AREAS THAT HAVE BEEN DISTURBED AND OTHER GRADING OR SITE BUILDING CONSTRUCTION OPERATIONS ARE NOT ACTIVELY UNDERWAY MUST BE TEMPORARILY OR PERMANENTLY RESTORED AS SET FORTH IN THE FOLLOWING REQUIREMENTS.

B. RESTABILIZE DISTURBED AREAS AS SOON AS POSSIBLE AFTER CONSTRUCTION IS COMPLETED. ON SITES GREATER THAN TWO ACRES, WAITING UNTIL ALL DISTURBED AREAS ARE READY FOR SEEDING IS UNACCEPTABLE. FOURTEEN DAYS (14) SHALL BE THE MAXIMUM EXPOSURE PERIOD. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. EXCEPT AS NOTED BELOW, ALL SITES SHALL BE SEEDED AND STABILIZED WITH EROSION CONTROL MATERIALS, SUCH AS STRAW MULCH, JUTE MESH, OR EXCELSIOR, INCLUDING AREAS WHERE CONSTRUCTION HAS BEEN SUSPENDED OR SECTIONS COMPLETED.

C. ALL SLOPES STEEPER THAN 3:1 (H:V), OR 33.3%, AS WELL AS PERIMETER DIKES, SEDIMENT BASINS OR TRAPS, AND EMBANKMENTS SHALL, UPON COMPLETION, BE IMMEDIATELY STABILIZED WITH SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES (RECP). AREAS OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM SHALL NOT BE DISTURBED. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.

D. FOR ACTIVE CONSTRUCTION AREAS SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS AND AREAS WITHIN 50 FT. OF A BUILDING UNDER CONSTRUCTION, A PERIMETER SEDIMENT CONTROL SYSTEM CONSISTING, FOR EXAMPLE, OF SILT FENCING OR HAY BALES, SHALL BE INSTALLED AND MAINTAINED TO CONTAIN SOIL. EXPOSED DISTURBED AREAS ADJACENT TO A CONVEYANCE THAT PROVIDES RAPID OFFSITE DISCHARGE OF SEDIMENT, SUCH AS A CUT SLOPE AT AN ENTRANCE, SHALL BE COVERED WITH PLASTIC OR GEOTEXTILE TO PREVENT SOIL LOSS UNTIL IT CAN BE STABILIZED. STABILIZED CONSTRUCTION ENTRANCES WILL BE MAINTAINED TO CONTROL VEHICLE TRACKING MATERIAL OFF SITE.

E. ON THE CUT SIDE OF ROADS, DITCHES SHALL BE STABILIZED IMMEDIATELY WITH ROCK RIP-RAP OR OTHER NON-ERODIBLE LINERS (E.G. ROLLED EROSION CONTROL PRODUCTS), OR WHERE APPROPRIATE, VEGETATIVE MEASURES SUCH AS SOD.

F. PERMANENT SEEDING SHOULD OPTIMALLY BE UNDERTAKEN IN THE SPRING FROM MARCH THROUGH MAY, AND IN LATE SUMMER AND EARLY FALL FROM SEPTEMBER TO OCTOBER 15. DURING THE PEAK SUMMER MONTHS AND IN THE FALL AFTER OCTOBER 15, WHEN SEEDING IS FOUND TO BE IMPRACTICABLE, AN APPROPRIATE TEMPORARY MULCH SHALL BE APPLIED. PERMANENT SEEDING MAY BE UNDERTAKEN DURING THE SUMMER IF PLANS PROVIDE FOR ADEQUATE WATERING. TEMPORARY SEEDING WITH RYE CAN BE UTILIZED THROUGH NOVEMBER.

G. TEMPORARY SEDIMENT TRAPPING DEVICES SHALL NOT BE REMOVED UNTIL PERMANENT STABILIZATION IS ESTABLISHED IN ALL CONTRIBUTORY DRAINAGE AREAS. SIMILARLY, STABILIZATION SHALL BE ESTABLISHED PRIOR TO CONVERTING SEDIMENT TRAPS/BASINS INTO PERMANENT (POSTCONSTRUCTION) STORMWATER MANAGEMENT PRACTICES.

H. WHERE TEMPORARY WORK ROADS OR HAUL ROADS CROSS STREAM CHANNELS, ADEQUATE WATERWAY OPENINGS SHALL BE CONSTRUCTED USING SPANS, CULVERTS, WASHED ROCK BACKFILL, OR OTHER ACCEPTABLE, CLEAN METHODS THAT WILL ENSURE THAT ROAD CONSTRUCTION AND THEIR USE DO NOT RESULT IN TURBIDITY AND SEDIMENT DOWNSTREAM. ALL CROSSING ACTIVITIES AND APPURTENANCES ON STREAMS REGULATED BY ARTICLE 15 OF THE ENVIRONMENTAL CONSERVATION LAW SHALL BE IN COMPLIANCE WITH A PERMIT ISSUED PURSUANT TO ARTICLE 15 OF THE ECL.

I. MAXIMUM CREATED SLOPE SHALL BE NO STEEPER THAN 2 FOOT HORIZONTAL TO 1 FOOT VERTICAL FOR CUT AND FILL.

J. ALL SEEDED AREAS MUST BE EITHER MULCHED AND DISC ANCHORED, HYDRO-MULCHED, OR COVERED BY EROSION CONTROL BLANKET TO REDUCE EROSION AND PROTECT THE SEED. TEMPORARY OR PERMANENT MULCH MUST BE DISC ANCHORED AND APPLIED AT A UNIFORM RATE OF 2 TONS PER ACRE AND HAVE 90% COVERAGE.

K. THE DISTURBED AREA WILL BE RE-DISTURBED WITHIN A SIX MONTH PERIOD, TEMPORARY VEGETATIVE COVER SHALL BE REQUIRED CONSISTING OF AN APPROVED SEED MIXTURE AND APPLICATION RATE.

L. IF THE DISTURBED AREA WILL NOT BE RE-DISTURBED WITHIN A SIX MONTH PERIOD, PERMANENT VEGETATIVE COVER SHALL BE REQUIRED CONSISTING OF AN APPROVED SEED MIXTURE AND APPLICATION RATE.

M. ALL AREAS THAT WILL NOT HAVE MAINTENANCE DONE SUCH AS MOWING AS PART OF THE FINAL DESIGN SHALL BE PERMANENTLY RESTORED USING AN APPROVED SEED MIXTURE AND APPLICATION RATE.

N. RESTORATION OF DISTURBED WETLAND AREAS SHALL BE ACCOMPLISHED USING AN APPROVED SEED MIXTURE AND APPLICATION RATE.

8. ALL EROSION CONTROL MEASURES MUST BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED IN ACCORDANCE WITH CITY REQUIREMENTS. IF CONSTRUCTION OPERATIONS OR NATURAL EVENTS DAMAGE OR INTERFERE WITH ANY EROSION CONTROL MEASURES, THEY SHALL BE RESTORED TO SERVE THEIR INTENDED FUNCTION.

9. ADDITIONAL EROSION CONTROL MEASURES SHALL BE ADDED AS NECESSARY TO EFFECTIVELY PROTECT THE NATURAL RESOURCES OF THE CITY. THE TEMPORARY AND PERMANENT EROSION CONTROL PLANS SHALL BE REVISED AS NEEDED BASED ON CURRENT SITE CONDITIONS AND TO COMPLY WITH ALL APPLICABLE REQUIREMENTS.

SPDES CONSTRUCTION ACTIVITY REQUIREMENTS (CONT.)

C. SEDIMENT CONTROL PRACTICES

1. SEDIMENT CONTROL PRACTICES MUST BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UPGRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE PRACTICES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED IN ACCORDANCE WITH FINAL STABILIZATION.

2. IF THE DOWN GRADIENT TREATMENT SYSTEM IS OVERLOADED, ADDITIONAL UPGRADIENT SEDIMENT CONTROL PRACTICES MUST BE INSTALLED TO ELIMINATE THE OVERLOADING, AND THE SWPPP MUST BE AMENDED TO IDENTIFY THESE ADDITIONAL PRACTICES.

3. THERE SHALL BE NO UNBROKEN SLOPE LENGTH OF GREATER THAN 75 FEET FOR SLOPES WITH A GRADE OF 3:1 OR STEEPER.

4. ALL STORM DRAIN INLETS MUST BE PROTECTED BY APPROPRIATE SMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED. THESE DEVICES MUST BE MAINTAINED UNTIL FINAL STABILIZATION IS ACHIEVED. INLET PROTECTION MAY BE REMOVED IF A SPECIFIC SAFETY CONCERN (STREET FLOODING/FREEZING) HAS BEEN IDENTIFIED.

5. TEMPORARY SOIL STOCKPILES MUST HAVE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS ON THE DOWN GRADIENT SIDE OF THE STOCKPILE AND SHALL NOT BE PLACED AT LEAST TWENTY FIVE (25) FEET FROM ANY ROAD, WETLAND, PROTECTED WATER, DRAINAGE CHANNEL, OR STORM WATER INLETS. STOCKPILES MAY NOT BE LEFT FOR MORE THAN FOURTEEN (14) DAYS WITHOUT BEING STABILIZED WITH MULCH, VEGETATION, TARPS OR OTHER APPROVED MEANS.

6. VEHICLE TRACKING OF SEDIMENT FROM THE PROJECT SHALL BE MINIMIZED BY APPROVED BMP'S. THESE SHALL BE INSTALLED AND MAINTAINED AT THE CITY APPROVED ENTRANCES. INDIVIDUAL LOTS SHALL EACH BE REQUIRED TO INSTALL AND MAINTAIN ENTRANCES THROUGHOUT THE CONSTRUCTION BUILDING UNTIL A PAVED DRIVEWAY IS INSTALLED.

7. SEDIMENT THAT HAS WASHED OR TRACKED FROM THE SITE BY MOTOR VEHICLES OR EQUIPMENT SHALL BE CLEANED FROM THE PAVED SURFACES THROUGHOUT THE DURATION OF CONSTRUCTION.

8. SILT FENCE OF OTHER APPROVED SEDIMENT CONTROL DEVICES MUST BE INSTALLED IN ALL AREAS AS SHOWN ON THE SWPPP.

9. SILT FENCE OR OTHER APPROVED SEDIMENT CONTROL DEVICES SHALL BE REQUIRED ALONG THE ENTIRE CURB LINE, EXCEPT FOR APPROVED OPENINGS WHERE CONSTRUCTION ENTRANCE WILL BE INSTALLED OR DRAINAGE FLOWS AWAY FROM THE CURB. THIS DEVICE MUST BE MAINTAINED UNTIL FINAL STABILIZATION IS ACHIEVED.

10. DUST CONTROL MEASURES, SUCH AS APPLICATION OF WATER MUST BE PERFORMED PERIODICALLY DUE TO WEATHER, CONSTRUCTION ACTIVITY, AND/OR AS DIRECTED BY THE CITY.

11. FLOWS FROM DIVERSION CHANNELS OR PIPES (TEMPORARY OR PERMANENT) MUST BE ROUTED TO SEDIMENTATION BASINS OR APPROPRIATE ENERGY DISSIPATERS TO PREVENT THE TRANSPORT OF SEDIMENT TO OUTFLOW OR LATERAL CONVEYORS AND TO PREVENT EROSION AND SEDIMENT BUILDUP WHEN RUNOFF FLOWS INTO THE CONVEYORS.

12. A CONCRETE WASHOUT SHALL BE INSTALLED ON PROJECTS THAT REQUIRE THE USE OF CONCRETE. ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM OPERATORS TO UTILIZE THE PROPER FACILITIES.

13. ALL SEDIMENT CONTROL MEASURES SHALL BE USED AND MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED ACCORDANCE WITH CITY REQUIREMENTS. IF CONSTRUCTION OPERATIONS OR NATURAL EVENTS DAMAGE OR INTERFERE WITH ANY EROSION CONTROL MEASURES, THEY MUST BE RESTORED TO SERVE THEIR INTENDED FUNCTION.

14. ADDITONAL SEDIMENT CONTROL MEASURES SHALL BE ADDED AS NECESSARY TO EFFECTIVELY PROTECT THE NATURAL RESOURCES OF THE CITY. THE TEMPORARY AND PERMANENT EROSION CONTROL PLANS SHALL BE REVISED AS NEEDED BASED ON CURRENT SITE CONDITIONS AND TO COMPLY WITH ALL APPLICABLE REQUIREMENTS.

15. RESTRICT CLEARING AND GRADING WITHIN 20 FEET OF AN EXISTING WETLAND BOUNDARY TO PROVIDE FOR A PROTECTIVE BUFFER STRIP OF NATURAL VEGETATION.

D. DEWATERING AND BASIN DRAINING

1. DEWATERING OR BASIN DRAINING (E.G., PUMPED DISCHARGES, TRENCH/DITCH CUTS FOR DRAINAGE) RELATED TO THE CONSTRUCTION ACTIVITY THAT MAY HAVE TURBID OR SEDIMENT LADEN DISCHARGE WATER MUST BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN ON THE PROJECT SITE WHENEVER POSSIBLE. IF THE WATER CANNOT BE DISCHARGED TO A SEDIMENTATION BASIN PRIOR TO ENTERING THE SURFACE WATER, IT MUST BE TREATED WITH THE APPROPRIATE BMPS, SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE RECEIVING WATER OR DOWNSTREAM LANDOWNERS. THE PERMITTEE(S) MUST ENSURE THAT DISCHARGE POINTS ARE ADEQUATELY PROTECTED FROM EROSION AND SCOUR. THE DISCHARGE MUST BE DISPERSED OVER NATURAL ROCK RIPRAP, SAND BAGS, PLASTIC SHEETING OR OTHER ACCEPTED ENERGY DISSIPATION MEASURES. ADEQUATE SEDIMENTATION CONTROL MEASURES ARE REQUIRED FOR DISCHARGE WATER THAT CONTAINS SUSPENDED SOLIDS.

2. ALL WATER FROM DEWATERING OR BASIN DRAINING ACTIVITIES MUST BE DISCHARGED IN A MANNER THAT DOES NOT CAUSE NUISANCE CONDITIONS, EROSION IN RECEIVING CHANNELS OR ON DOWNSLOPE PROPERTIES, OR INUNDATION IN WETLANDS CAUSING SIGNIFICANT ADVERSE IMPACT TO THE WETLAND.

E. INSPECTIONS AND MAINTENANCE

1. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITY, THE OWNER OR OPERATOR MUST IDENTIFY THE CONTRACTOR(S) AND SUBCONTRACTOR(S) THAT WILL BE RESPONSIBLE FOR INSTALLING, CONSTRUCTING, REPAIRING, REPLACING, INSPECTING AND MAINTAINING THE EROSION AND SEDIMENT CONTROL PRACTICES INCLUDED IN THE SWPPP; AND THE CONTRACTOR(S) AND SUBCONTRACTOR(S) THAT WILL BE RESPONSIBLE FOR CONSTRUCTING THE POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES INCLUDED IN THE THE OWNER OR OPERATOR SHALL HAVE EACH OF THE CONTRACTORS AND SUBCONTRACTORS IDENTIFY AT LEAST ONE PERSON FROM THEIR COMPANY THAT WILL BE RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP. THIS PERSON SHALL BE KNOWN AS THE TRAINED CONTRACTOR. THE OWNER OR OPERATOR SHALL ENSURE THAT AT LEAST ONE TRAINED CONTRACTOR IS ON SITE ON A DAILY BASIS WHEN SOIL DISTURBANCE ACTIVITIES ARE BEING PERFORMED.

2. A TRAINED CONTRACTOR MUST ROUTINELY INSPECT THE CONSTRUCTION SITE WITHIN 24 HOURS AFTER A RUNOFF-PRODUCING RAINFALL EVENT (0.5 INCHES OR GREATER) AND A MINIMUM OF ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION.

3. FOR CONSTRUCTION SITES WHERE SOIL DISTURBANCE ACTIVITIES HAVE BEEN TEMPORARILY SUSPENDED (E.G. WINTER SHUTDOWN) AND TEMPORARY STABILIZATION MEASURES HAVE BEEN APPLIED TO ALL DISTURBED AREAS, THE QUALIFIED INSPECTOR SHALL CONDUCT A SITE INSPECTION AT LEAST ONCE EVERY THIRTY (30) CALENDAR THE OWNER OR OPERATOR SHALL NOTIFY THE DOW WATER (SPDES) PROGRAM CONTACT AT THE REGIONAL OFFICE (SEE CONTACT INFORMATION IN APPENDIX F) OR, IN AREAS UNDER THE JURISDICTION OF A REGULATED, TRADITIONAL LAND USE CONTROL MS4, THE REGULATED, TRADITIONAL LAND USE CONTROL MS4 (PROVIDED THE REGULATED, TRADITIONAL LAND USE CONTROL MS4 IS NOT THE OWNER OR OPERATOR OF THE CONSTRUCTION ACTIVITY) IN WRITING PRIOR TO REDUCING THE FREQUENCY OF INSPECTIONS.

4. FOR CONSTRUCTION SITES WHERE SOIL DISTURBANCE ACTIVITIES HAVE BEEN SHUT DOWN WITH PARTIAL PROJECT COMPLETION, THE QUALIFIED INSPECTOR CAN STOP CONDUCTING INSPECTIONS IF ALL AREAS DISTURBED AS OF THE PROJECT SHUTDOWN DATE HAVE ACHIEVED FINAL STABILIZATION AND ALL POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES REQUIRED FOR THE COMPLETED PORTION OF THE PROJECT HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE SWPPP AND ARE OPERATIONAL. THE OWNER OR OPERATOR SHALL NOTIFY THE DOW WATER (SPDES) PROGRAM CONTACT AT THE REGIONAL OFFICE (SEE CONTACT INFORMATION IN APPENDIX F OF GENERAL PERMIT) OR, IN AREAS UNDER THE JURISDICTION OF A REGULATED, TRADITIONAL LAND USE CONTROL MS4, THE REGULATED, TRADITIONAL LAND USE CONTROL MS4 (PROVIDED THE REGULATED, TRADITIONAL LAND USE CONTROL MS4 IS NOT THE OWNER OR OPERATOR OF THE CONSTRUCTION ACTIVITY) IN WRITING PRIOR TO THE SHUTDOWN. IF SOIL DISTURBANCE ACTIVITIES ARE NOT RESUMED WITHIN 2 YEARS FROM THE DATE OF SHUTDOWN, THE OWNER OR OPERATOR SHALL HAVE THE QUALIFIED INSPECTOR PERFORM A FINAL INSPECTION AND CERTIFY THAT ALL DISTURBED AREAS HAVE ACHIEVED FINAL STABILIZATION, AND ALL TEMPORARY, STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN REMOVED; AND THAT ALL POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE SWPPP BY SIGNING THE “FINAL STABILIZATION” AND “POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICE” CERTIFICATION STATEMENTS ON THE NOT. THE OWNER OR OPERATOR SHALL THEN SUBMIT THE COMPLETED NOT FORM TO THE ADDRESS IN PART II.A.1 OF THE GENERAL PERMIT.

SPDES CONSTRUCTION ACTIVITY REQUIREMENTS (CONT.)

5. AT A MINIMUM, THE QUALIFIED INSPECTOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL PRACTICES AND POLLUTION PREVENTION MEASURES TO ENSURE INTEGRITY AND EFFECTIVENESS, ALL POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES UNDER CONSTRUCTION TO ENSURE THAT THEY ARE CONSTRUCTED IN CONFORMANCE WITH THE SWPPP, ALL AREAS OF DISTURBANCE THAT HAVE NOT ACHIEVED FINAL STABILIZATION, ALL POINTS OF DISCHARGE TO NATURAL SURFACE WATERBODIES LOCATED WITHIN, OR IMMEDIATELY ADJACENT TO, THE PROPERTY BOUNDARIES OF THE CONSTRUCTION SITE, AND ALL POINTS OF DISCHARGE FROM THE CONSTRUCTION SITE. THE QUALIFIED INSPECTOR SHALL INVESTIGATE AND COMPLY WITH THE FOLLOWING INSPECTION AND MAINTENANCE REQUIREMENTS.

A. ALL SILT FENCES SHALL BE REPAIRED, REPLACED, OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 6 INCHES AT THE HEIGHT OF THE FENCE. THESE REPAIRS SHALL BE MADE WITH 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

B. SURFACE WATERS, INCLUDING DRAINAGE DITCHES AND CONVEYANCE SYSTEMS, MUST BE INSPECTED FOR EVIDENCE OF SEDIMENT BEING DEPOSITED BY EROSION. THE PERMITTEE SHALL REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS, INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS, AND RESTABILIZE THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOILS. THE REMOVAL AND STABILIZATION SHALL BEGIN WITHIN 1 DAY OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. THE PERMITTEE SHALL USE ALL REASONABLE EFFORTS TO OBTAIN ACCESS. IF PRECLUDED, REMOVAL AND STABILIZATION SHALL TAKE PLACE WITHIN 7 CALENDAR DAYS OF OBTAINING ACCESS. THE PERMITTEE IS RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND FEDERAL AUTHORITIES AND RECEIVING ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK.

C. CONSTRUCTION SITE VEHICLE EXIT LOCATIONS SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING ONTO PAVED SURFACES. TRACKED SEDIMENT SHALL BE REMOVED FROM ALL OFF-SITE PAVED SURFACES WITHIN 24 HOURS OF DISCOVERY, OR IF APPLICABLE, WITHIN A SHORTER TIME.

D. THE PERMITTEE(S) ARE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT SMPS, AS WELL AS ALL EROSION PREVENTION AND SEDIMENT CONTROL SMPS, FOR THE DURATION OF THE CONSTRUCTION WORK AT THE SITE. THE PERMITTEE(S) ARE RESPONSIBLE UNTIL ANOTHER PERMITTEE HAS ASSUMED CONTROL OVER ALL AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED OR THE SITE HAS UNDERGONE FINAL STABILIZATION, AND A NOT HAS BEEN SUBMITTED TO THE NYS DEC.

E. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED IN A MANNER AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS (E.G., FUGITIVE SEDIMENT IN STREETS COULD BE WASHED INTO STORM SEWERS BY THE NEXT RAIN AND/OR POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS).

F. ALL INFILTRATION AREAS MUST BE INSPECTED TO ENSURE THAT NO SEDIMENT FROM ONGOING CONSTRUCTION ACTIVITIES IS REACHING THE INFILTRATION AREA AND THESE AREAS ARE PROTECTED FROM COMPACTION DUE TO CONSTRUCTION EQUIPMENT DRIVING ACROSS THE INFILTRATION AREA.

6. THE QUALIFIED INSPECTOR SHALL PREPARE AN INSPECTION REPORT SUBSEQUENT TO EACH AND EVERY INSPECTION. AT A MINIMUM, THE INSPECTION REPORT SHALL INCLUDE AND/OR ADDRESS THE FOLLOWING:

a. DATE AND TIME OF INSPECTION;

b. NAME AND TITLE OF PERSON(S) PERFORMING INSPECTION;

c. A DESCRIPTION OF THE WEATHER AND SOIL CONDITIONS (E.G. DRY, WET, SATURATED) AT THE TIME OF THE INSPECTION;

d. A DESCRIPTION OF THE CONDITION OF THE RUNOFF AT ALL POINTS OF DISCHARGE FROM THE CONSTRUCTION SITE. THIS SHALL INCLUDE IDENTIFICATION OF ANY DISCHARGES OF SEDIMENT FROM THE CONSTRUCTION SITE. INCLUDE DISCHARGES FROM CONVEYANCE SYSTEMS (I.E. PIPES, CULVERTS, DITCHES, ETC.) AND OVERLAND FLOW;

e. A DESCRIPTION OF THE CONDITION OF ALL NATURAL SURFACE WATERBODIES LOCATED WITHIN, OR IMMEDIATELY ADJACENT TO, THE PROPERTY BOUNDARIES OF THE CONSTRUCTION SITE WHICH RECEIVE RUNOFF FROM DISTURBED AREAS. THIS SHALL INCLUDE IDENTIFICATION OF ANY DISCHARGES OF SEDIMENT TO THE SURFACE WATERBODY;

f. IDENTIFICATION OF ALL EROSION AND SEDIMENT CONTROL PRACTICES AND POLLUTION PREVENTION MEASURES THAT NEED REPAIR OR MAINTENANCE;

g. IDENTIFICATION OF ALL EROSION AND SEDIMENT CONTROL PRACTICES AND POLLUTION PREVENTION MEASURES THAT WERE NOT INSTALLED PROPERLY OR ARE NOT FUNCTIONING AS DESIGNED AND NEED TO BE REINSTALLED OR REPLACED;

h. DESCRIPTION AND SKETCH OF AREAS WITH ACTIVE SOIL DISTURBANCE ACTIVITY, AREAS THAT HAVE BEEN DISTURBED BUT ARE INACTIVE AT THE TIME OF THE INSPECTION, AND AREAS THAT HAVE BEEN STABILIZED (TEMPORARY AND/OR FINAL) SINCE THE LAST INSPECTION;

i. CURRENT PHASE OF CONSTRUCTION OF ALL POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES AND IDENTIFICATION OF ALL CONSTRUCTION THAT IS NOT IN CONFORMANCE WITH THE SWPPP AND TECHNICAL STANDARDS;

j. CORRECTIVE ACTION(S) THAT MUST BE TAKEN TO INSTALL, REPAIR, REPLACE OR MAINTAIN EROSION AND SEDIMENT CONTROL PRACTICES AND POLLUTION PREVENTION MEASURES; AND TO CORRECT DEFICIENCIES IDENTIFIED WITH THE CONSTRUCTION OF THE POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICE(S);

k. IDENTIFICATION AND STATUS OF ALL CORRECTIVE ACTIONS THAT WERE REQUIRED BY PREVIOUS INSPECTION; AND

l. DIGITAL PHOTOGRAPHS, WITH DATE STAMP, THAT CLEARLY SHOW THE CONDITION OF ALL PRACTICES THAT HAVE BEEN IDENTIFIED AS NEEDING CORRECTIVE ACTIONS. THE QUALIFIED INSPECTOR SHALL ATTACH PAPER COLOR COPIES OF THE DIGITAL PHOTOGRAPHS TO THE INSPECTION REPORT BEING MAINTAINED ONSITE WITHIN SEVEN (7) CALENDAR DAYS OF THE DATE OF THE INSPECTION. THE QUALIFIED INSPECTOR SHALL ALSO TAKE DIGITAL PHOTOGRAPHS, WITH DATE STAMP, THAT CLEARLY SHOW THE CONDITION OF THE PRACTICE(S) AFTER THE CORRECTIVE ACTION HAS BEEN COMPLETED. THE QUALIFIED INSPECTOR SHALL ATTACH PAPER COLOR COPIES OF THE DIGITAL PHOTOGRAPHS TO THE INSPECTION REPORT THAT DOCUMENTS THE COMPLETION OF THE CORRECTIVE ACTION WORK WITHIN SEVEN (7) CALENDAR DAYS OF THAT INSPECTION.

7. WITHIN ONE BUSINESS DAY OF THE COMPLETION OF AN INSPECTION, THE QUALIFIED INSPECTOR SHALL NOTIFY THE OWNER OR OPERATOR AND APPROPRIATE CONTRACTOR OR SUBCONTRACTOR IDENTIFIED IN PART III.A.6. OF THIS PERMIT OF ANY CORRECTIVE ACTIONS THAT NEED TO BE TAKEN. THE CONTRACTOR OR SUBCONTRACTOR SHALL BEGIN IMPLEMENTING THE CORRECTIVE ACTIONS WITHIN ONE BUSINESS DAY OF THIS NOTIFICATION AND SHALL COMPLETE THE CORRECTIVE ACTIONS IN A REASONABLE TIME FRAME.

F. FINAL STABILIZATION

1. THE PERMITTEE(S) MUST ENSURE FINAL STABILIZATION OF THE PROJECT. FINAL STABILIZATION CAN BE ACHIEVED IN ONE OF THE FOLLOWING WAYS.

2. ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND ALL SOILS WILLS BE STABILIZED BY A UNIFORM PERENNIAL VEGETATIVE OVER WITH A DENSITY OF AT LEAST 70 PERCENT OVER THE ENTIRE PERVIOUS SURFACE AREA, OR OTHER EQUIVALENT MEANS NECESSARY TO PREVENT SOIL FAILURE UNDER EROSIVE CONDITIONS AND:

A. ALL DRAINAGE DITCHES, CONSTRUCTED TO DRAIN WATER FROM THE SITE AFTER CONSTRUCTION IS COMPLETE, MUST BE STABILIZED TO PRECLUDE EROSION;

B. ALL TEMPORARY SYNTHETIC, AND STRUCTURAL EROSION PREVENTION AND SEDIMENT CONTROL SMP'S (SUCH AS SILT FENCES/ DIKES) MUST BE REMOVED AS PART OF THE SITE FINAL STABILIZATION;

C. THE PERMITTEE MUST CLEAN OUT ALL SEDIMENT FROM CONVEYANCES AND FROM TEMPORARY SEDIMENTATION BASINS THAT ARE TO BE USED AS PERMANENT WATER QUALITY MANAGEMENT BASINS. SEDIMENT MUST BE STABILIZED TO PREVENT IT FROM WASHING BACK INTO THE BASIN, CONVEYANCES OR DRAINAGE WAYS DISCHARGING OFF-SITE OR TO SURFACE WATERS. THE CLEANOUT OF PERMANENT BASINS MUST BE SUFFICIENT TO RETURN THE BASIN TO DESIGN CAPACITY.

H. TRAINING

1. TRAINING IS REQUIRED FOR THOSE THAT ARE RESPONSIBLE FOR PREPARATION OF THE SWPPP, MANAGEMENT OF THE CONSTRUCTION SITE AND INSPECTIONS.

2. THE SWPPP MUST PROVIDE A CHAIN OF COMMAND SHOWING WHO PREPARED THE SWPPP AND WHO IS RESPONSIBLE FOR THE MANAGEMENT OF THE CONSTRUCTION SITE AND INSPECTIONS.

3. TRAINED INSPECTORS SHALL MEET THE QUALIFIED INSPECTOR QUALIFICATIONS IDENTIFIED IN APPENDIX A OF THE GENERAL PERMIT.

BROADWAY GROUP RETAIL - GOWANDA, NY - SITE INTRO.

THE IMPLEMENTATION AND MAINTENANCE OF THE SWPPP WILL PROVIDE THE CONTRACTOR AND OWNER WITH THE FRAMEWORK TO REDUCE SOIL EROSION AND MINIMIZE POLLUTANTS IN THE STORM WATER DURING CONSTRUCTION.

THE SWPPP WILL DEFINE THE CHARACTERISTICS OF THE SITE AND THE TYPE OF CONSTRUCTION TO OCCUR; INCLUDE A SITE PLAN SHOWING THE CONSTRUCTION; DESCRIBE THE PRACTICES THAT WILL BE USED TO CONTROL EROSION AND THE RELEASE OF POLLUTANTS IN THE STORM WATER, INDICATE A SCHEDULE TO HELP ENSURE THAT THE PRACTICES INDICATED ARE IMPLEMENTED AND TO HELP EVALUATE THE EFFECTIVENESS OF THE PRACTICES IN REDUCING EROSION AND POLLUTANTS DISCHARGED FROM THE SITE; AND TO DESCRIBE THE FINAL STABILIZATION MEASURES REQUIRED TO HELP MINIMIZE EROSION AND OTHER STORM WATER IMPACTS AFTER CONSTRUCTION.

PROJECT DESCRIPTION

THE PROPOSED DEVELOPMENT WILL DISTURB 1.23 ACRES AND CONSIST OF A NEW RETAIL BUILDING (9,026 SF) WITH BITUMINOUS PARKING LOT, CONCRETE SIDEWALKS AND STORMWATER IMPROVEMENTS. THE PROPOSED LOT IS 1.28 ACRES LOCATED IN ERIE COUNTY, IN GOWANDA, NY AT THE INTERSECTION OF STATE ROUTE 62 AND BADER AVENUE.

RUNOFF FROM ALL NEW IMPERVIOUS SURFACES WILL BE COLLECTED WITH A SERIES OF CATCH BASINS IN THE PARKING AREA AND ROUTED TO A BIORENTION POND LOCATED IN THE WEST OF PROPOSED LOT

EXISTING CONDITIONS & SOIL DESCRIPTION

THE SITE DRAINS TO THE WEST WITH SLOPES AROUND 3.0%. THE SITE IS BORDERED BY STATE ROUTE 62 TO THE EAST, BADER AVENUE TO THE SOUTH AND PRIVATE PROPERTIES TO THE NORTH AND WEST. THERE ARE TWO RESIDENTIAL HOUSES ON THE SITE. THE SITE CONTAINS GRAVEL, ASPHALT AND CONCRETE AREAS, AS WELL AS PERVIOUS AREAS CONSISTING OF RURAL VEGETATION.

SOILS IN THE PROJECT AREA PRIMARILY CONSIST OF CHENANGO GRAVELLY LOAM (CkB), 3 TO 8 PERCENT SLOPES. ALL ARE CLASSIFIED IN THE HYDROLOGIC SOIL GROUP B AND IS CONSIDERED TO BE MEDIUM-DRAINING.

THE SITE DOES NOT DRAIN TO A 303(D) SEGMENT OF A WATERBODY IMPAIRED BY POLLUTANTS RELATED TO CONSTRUCTION ACTIVITY.

STORM WATER POLLUTION PREVENTION PLAN IMPLEMENTATION

PLAN COORDINATION:

THE OWNER OR OPERATOR SHALL HAVE EACH OF THE CONTRACTORS AND SUBCONTRACTORS IDENTITY AT LEAST ONE PERSON FROM THEIR COMPANY THAT WILL BE RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP WHO SHALL BE KNOWN AS A TRAINED CONTRACTOR. THE OWNER OR OPERATOR SHALL ENSURE THAT AT LEAST ONE TRAINED CONTRACTOR IS ON SITE ON A DAILY BASIS WHEN SOIL DISTURBANCE ACTIVITIES ARE BEING PERFORMED.

THE TRAINED CONTRACTORS WILL BE RESPONSIBLE FOR IMPLEMENTING AND MONITORING THE STORM WATER POLLUTION PREVENTION PLAN DURING CONSTRUCTION. THIS WILL INCLUDE OVERSEEING THE MAINTENANCE OF THE SMPS THAT ARE IMPLEMENTED, PROVIDE INSPECTIONS AND MONITORING OF THE SMPS, IDENTIFY AND CORRECT ANY DEFICIENCIES IN THE SWPPP, AND MONITOR THAT ANY CHANGES TO THE CONSTRUCTION PLANS ARE ADDRESSED BY THE STORM WATER POLLUTION PREVENTION PLAN.

STORM WATER MANAGEMENT CONTROLS

TEMPORARY AND PERMANENT EROSION CONTROL MEASURES:

A LIST OF STABILIZATION MEASURES HAS BEEN TABULATED BELOW AND THE LOCATIONS OF THESE MEASURES ARE SHOWN ON THE ATTACHED EROSION CONTROL PLAN. THIS PROJECT WILL USE A NUMBER OF SMP'S TO HELP CONTROL EROSION AND SEDIMENT. THOSE MEASURES INCLUDE:

75A TEMPORARY DANDY BAG INLET PROTECTION
75B SWP-CI (BIG RED) OR APPROVED EQUAL
84A TEMPORARY SILT FENCE
85A TEMPORARY STONE CONSTRUCTION ENTRANCE
85C TEMPORARY CONCRETE WASH OUT.

DETAILS FOR THESE CAN BE FOUND ON THE DETAILS SHEETS.

ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 7 DAYS.

SEE THE GRADING PLAN AND LANDSCAPE SPECIFICATIONS FOR FINAL RESTORATION AND TURF COVERAGE OF THE SITE.

AFTER ALL AREAS ARE FINAL GRADED, THE ENTIRE SITE SHALL BE SEEDED AND FERTILIZED. EROSION CONTROL BLANKETS AND FIBER LOGS SHALL BE INSTALLED (MAXIMUM SPACING 75 FEET) WHERE SLOPES WITH GRADES GREATER THAN 3 TO 1, OR WHERE CONCENTRATED FLOWS WILL OCCUR.

AREAS FLOWING INTO THE STORM WATER CONVEYANCE SYSTEM WILL BE STABILIZED THE DAY THE STRUCTURES ARE INSTALLED. CATCH BASIN SEDIMENT BAGS WILL BE INSTALLED THE SAME DAY AND LEFT IN PLACE UNTIL THE PROJECT IS COMPLETED. SEDIMENTS SHALL BE REMOVED AND DISPOSED OF WHEN ½ THE CAPACITY IS REACHED.

TOPSOIL STOCKPILES WILL BE STABILIZED WITH TEMPORARY SEED, MULCH AND FERTILIZER WITHIN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY THAT CREATED THE STOCKPILE.

DUST WILL BE CONTROLLED BY WATER APPLICATION AND/OR SWEEPING AS NEEDED.

VEGETATIVE BUFFERS WILL BE MAINTAINED AT THE PERIMETER OF THE SITE.

GRADING OPERATIONS SHOULD INCORPORATE HORIZONTAL SLOPE TRACKING WHEN POSSIBLE TO HELP REDUCE EROSION.

CONSTRUCTION ENTRANCE TO BE INSTALLED PRIOR TO START OF CONSTRUCTION.

ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. A COMPACTED CLAY LINER THAT DOES NOT ALLOW WASHOUT LIQUIDS TO ENTER GROUND WATER IS CONSIDERED AN IMPERMEABLE LINER.

CONSTRUCTION PRACTICES TO MINIMIZE STORM WATER CONTAMINATION:

ALL NON-HAZARDOUS WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURE LOCATION, PREFERABLY A LOCKABLE METAL DUMPSTER, AT THE END OF EACH DAY. ALL TRASH AND CONSTRUCTION DEBRIS SHOULD BE DEPOSITED IN THE DUMPSTER AT THE END OF EACH DAY AND WILL BE EMPTIED AS NECESSARY. NO CONSTRUCTION MATERIALS SHALL BE BURIED ON-SITE. A LICENSED SANITARY WASTE MANAGEMENT COMPANY WILL COLLECT ALL SANITARY WASTE FROM PORTABLE UNITS. GOOD HOUSEKEEPING AND SPILL CONTROL PRACTICES SHOULD BE FOLLOWED TO MINIMIZE STORM WATER CONTAMINATION.

THE FOLLOWING SMPS WILL BE USED:

- FERTILIZER SHALL NOT BE STORED ON-SITE. ALL UNUSED PORTIONS SHALL BE PLACED IN A SEALED BIN AND REMOVED FROM THE SITE BY APPLICATOR.
- ALL VEHICLES AND EQUIPMENT USED ON-SITE SHALL BE IN GOOD WORKING ORDER AND REGULARLY INSPECTED FOR LEAKS.
- PETROLEUM PRODUCTS SHALL BE STORED IN LABELED AND SEALED CONTAINERS.
- SPILL KITS SHALL BE MADE AVAILABLE AT ALL FUELING AREAS. THE CONTRACTOR SHOULD ALSO USE SECONDARY CONTAINMENT MEASURES ON-SITE.
- ALL ASPHALT PRODUCTS USED ON SITE SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- ALL PAINT CONTAINERS AND CURING COMPOUNDS WILL BE KEPT IN TIGHTLY SEAL CONTAINERS, AND PROPERLY DISPOSED OF AFTER USE. EXCESS PAINT CANNOT BE DISCHARGED INTO THE STORM WATER SYSTEM.
- SPILL CONTAINMENT MATERIALS (SAW DUST, KITTY LITTER OIL ABSORBENT PRODUCTS, GLOVES, TRASH LINERS) SHALL BE KEPT ON-SITE INCASE OF A SPILL. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY UPON DISCOVERY.
- CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT ONLY IN DESIGNATED AREAS, OR ARE NOT ALLOWED TO WASH OUT ON-SITE.
- ALL WORK AREAS SHOULD BE KEPT GRADED RELATIVELY SMOOTH TO PREVENT CONCENTRATED FLOWS AND THE FORMATION OF RUTS AND GULLEYS, AND THE COLLECTION OF STORM WATER.
- A STABILIZED ROCK CONSTRUCTION ENTRANCE SHALL BE MAINTAINED.
- ALL ADJACENT PAVED SURFACES AND STREETS SHALL BE SWEPT DAILY TO REMOVE ALL DUST AND SEDIMENTS. OPEN-AIR BROOMS WILL BE ALLOWED ONLY IF THE DUST AND SEDIMENTS ARE WET.
- TRUCKS HAULING SOILS TO AND FROM THE SITE SHALL COVER THEIR LOADS.

GENERAL EROSION NOTES

A. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE NORTH CAROLINA STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (SPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.

B. THE TEMPORARY PARKING AND STORAGE AREA SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AREA, EQUIPMENT CLEANING AREA, EMPLOYEE BREAK AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS AND TOILET FACILITIES. THE EXACT LOCATIONS SHALL BE COORDINATED WITH THE OWNER'S CONSTRUCTION MANAGER.

C. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DISPOSED OF IN A MANNER THAT PREVENTS CONTACT BETWEEN THESE MATERIALS AND STORM WATER THAT IS DISCHARGED FROM THE SITE.

D. MAINTAIN ON THE SITE OR HAVE READILY AVAILABLE SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS TO CONTAIN AND CLEAN UP FUEL OR CHEMICAL SPILLS AND LEAKS.

E. DUST ON THE SITE SHALL BE CONTROLLED BY SPRAYING WATER ON DRY AREAS OF THE SITE. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.

F. NO RUBBISH, TRASH, GARBAGE OR OTHER SUCH MATERIALS SHALL BE DISCHARGED INTO DRAINAGE DITCHES OR WATERS OF THE STATE.

G. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.

H. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY WILL STOP FOR AT LEAST 7 DAYS, SHALL BE TEMPORARILY SEEDED AS SOON AS POSSIBLE.

I. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE LANDSCAPING PLAN.

J. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE. THE EXACT LOCATIONS SHALL BE COORDINATED WITH THE OWNERS CONSTRUCTION MANAGER.

K. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

L. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE BIORETENTION POND AFTER THE STABILIZATION OF THE SITE AND ALSO ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS.

M. IF SOIL STOCKPILING IS EMPLOYED ON THE SITE, SILT FENCES SHALL BE USED TO HELP CONTAIN THE SEDIMENT.

N. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.

O. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE DISPOSED AFTER FINAL STABILIZATION IS ACHIEVED. FINAL STABILIZATION HAS OCCURRED WHEN ALL SOIL DISTURBING ACTIVITIES ARE COMPLETED AND A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70% OF THE COVER FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES HAS BEEN EMPLOYED.

P. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, STRAW BALES, ETC.) TO HELP PREVENT EROSION AND STORM WATER POLLUTION.

Q. ALL OFF-SITE CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACKFILLING OF TRENCHES FOR STORM DRAINS & UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.

R. CONCRETE TRUCKS SHALL HAVE A SELF CONTAINED WASHOUT SYSTEM SO THEY ARE NOT WASHING OUT ON THE GROUND.

MAINTENANCE

ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A RAINFALL EVENT, AND SHOULD BE CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR SHALL BE REPLACED IF THEY SHOW SIGNS OF DETERIORATION.

2. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED.

3. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES 6 INCHES IN HEIGHT ON THE SILT FENCE.

4. THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.

5. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.

SEQUENCE OF CONSTRUCTION:
1. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
2. CONSTRUCT THE SILT FENCES ON THE SITE.
3. PREPARE TEMPORARY PARKING AND STORAGE AREA.
4. CLEAR AND GRUB THE SITE.
5. BEGIN GRADING THE SITE AND CONSTRUCT THE BIORETENTION POND.
6. START CONSTRUCTION OF BUILDING PAD AND STRUCTURES.
7. PROTECT THE BIORETENTION POND FROM COMPACTION.
8. TEMPORARILY SEED DENUDED AREAS.
9. INSTALL UTILITIES AND UNDERDRAINS.
10. PREPARE SITE FOR PAVING.
11. PAVE SITE.
12. COMPLETE GRADING AND INSTALL PERMANENT SOD AND PLANTING.
13. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES (ONLY IF SITE IS STABILIZED).

STATE OF NEW YORK · ANDREW D. SLYTER · LICENSED PROFESSIONAL ENGINEER · 084378-1
06/18/2020

31140	6/16/20	ADS	RKN	IVJ	IVJ
CEI PROJECT NO.	INITIAL DATE	DPOR	PM	DES	DRW

CEI Engineering Associates, Inc.
ENGINEERS • PLANNERS • SURVEYORS
LANDSCAPE ARCHITECTS
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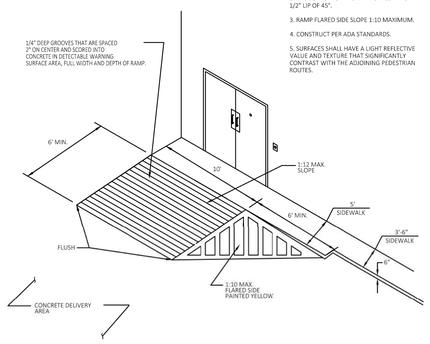
THE BROADWAY GROUP, LLC
BUFFALO STREET
GOWANDA NY

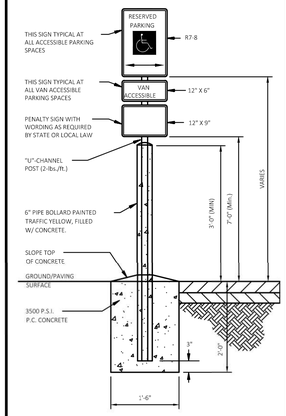
EROSION CONTROL NOTES | REV DATE 6/16/20 REV-1 | SHEET NO. C5

JOB # 31140 DRAWING: 31140-GP.dwg LAST SAVED BY: IJANKUN LOCATION: P:\31000\31140.0\Drawings\Design\Rev-1\31140-GP.dwg



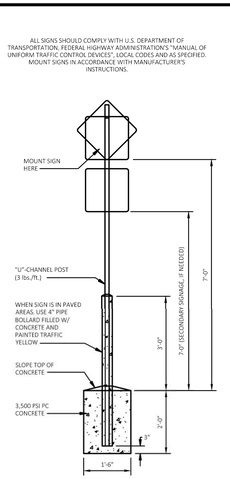
RAMP AT STOCK ROOM DOOR

N.T.S. 108



ACCESSIBLE / VAN ACCESSIBLE PARKING SIGN

N.T.S. 105



SIGN BASE

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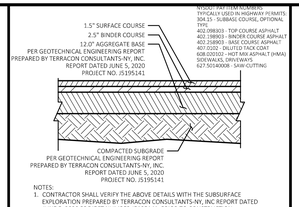
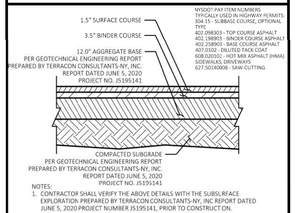


STANDARD DUTY ASPHALT PAVING

N.T.S. 084

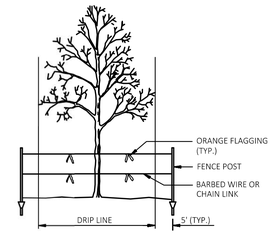


HEAVY DUTY ASPHALT PAVING

N.T.S. 088

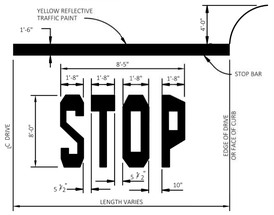
TREE PROTECTION NOTES:

1. ALL TREES SHOWN ON THIS PLAN TO BE RETAINED SHALL BE PROTECTED DURING ALL PHASES OF DEMOLITION/CONSTRUCTION WITH TEMPORARY FENCING. IT SHALL BE THE GENERAL CONTRACTORS RESPONSIBILITY TO COORDINATE WITH LANDSCAPE CONTRACTOR.
2. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING). CLEARING SHALL BE DONE BY HAND.
3. FENCES SHALL COMPLETELY SURROUND TREE OR CLUSTERS OF TREES; SHALL BE LOCATED 5' FROM THE OUTERMOST LIMITS OF THE TREE BRANCHES (DRIP LINE); AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION BY CONTRACTOR. PROJECT IN ORDER TO PREVENT THE FOLLOWING:
   A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS.
   B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL) OR TRENCHING.
   C. WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT.
   D. OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES.
4. EXCEPTIONS TO INSTALLING FENCES 5' FROM TREE DRIP LINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   A. WHERE PERMEABLE PAVING IS TO BE INSTALLED: ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   B. WHERE TREES ARE CLOSE TO THE PROPOSED BUILDING, ERECT THE FENCE NO CLOSER THAN 6 FEET TO THE BUILDING.
5. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 4 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FEET (OR TO THE LIMITS OF LOWER BRANCHES) IN ADDITION TO THE REDUCED FENCING PROVIDED.
6. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN AREAS OF UNPROTECTED ROOT ZONES (UNDER DRIP LINES), THOSE AREAS SHOULD BE COVERED WITH 4 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION.
7. ALL GRADING WITHIN PROTECTED ROOT ZONE AREAS SHALL BE DONE BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE. PRIOR TO GRADING, RELOCATE PROTECTIVE FENCING TO 2 FEET BEHIND THE GRADE CHANGE AREA. NO ROOT OVER 1 INCH DIAMETER WILL BE CUT.
8. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED WITH A CLEAN CUT FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL IMMEDIATELY. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
9. PRIOR TO EXCAVATION OR GRADE CUTTING WITHIN TREE DRIP LINES, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE DAMAGE TO REMAINING ROOTS.
10. TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES SHOULD BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. TREE CROWNS SHOULD BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
11. NO CONDUIT OR UTILITIES CAN BE INSTALLED WITHIN TREE PROTECTION AREAS. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
12. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIP LINE OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE. GRADING LIMITED TO 3 INCH CUT.
13. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.
14. ALL PRUNING MUST BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES) BY A CERTIFIED ARBORIST AND SHALL BE APPROVED AND SUPERVISED BY OWNERS REPRESENTATIVE OR PROJECT URBAN FORESTER.
15. DAMAGE TO TREES OR ANY NATURAL RESOURCE DUE TO CONTRACTOR'S NEGLIGENCE DURING THE CONSTRUCTION PHASE SHALL BE APPRAISED BY THE OWNERS REPRESENTATIVE AND ORDERED REPAIRED, REPLACED, OR COMPENSATED.



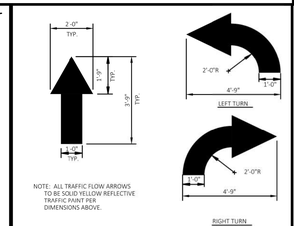
TREE PROTECTION

N.T.S. 094



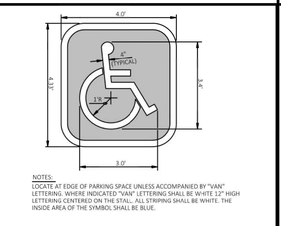
STOP BAR

N.T.S. 108



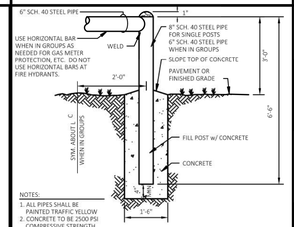
TRAFFIC FLOW ARROW

N.T.S. 104



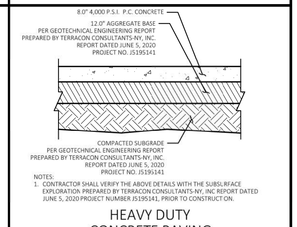
ACCESSIBLE PARKING SYMBOL

N.T.S. 060



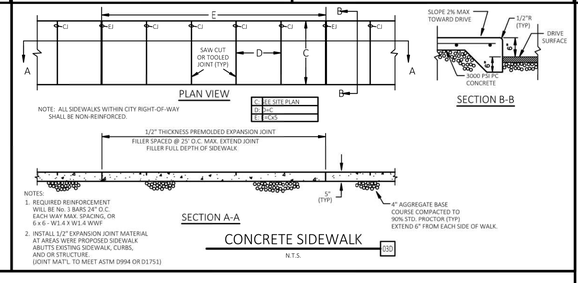
GUARD POST

N.T.S. 054 058 05C 050



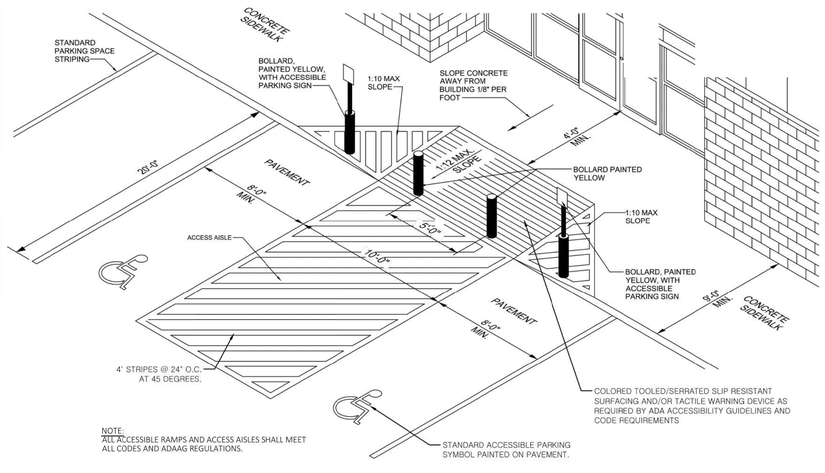
HEAVY DUTY CONCRETE PAVING

N.T.S. 08C



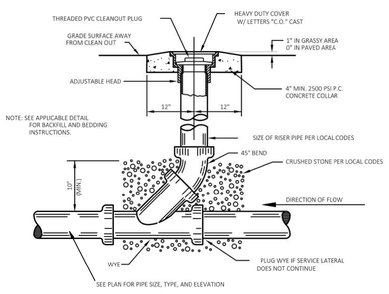
CONCRETE SIDEWALK

N.T.S. 035



90° PARKING, ACCESSIBLE PARKING, & PED. RAMP IN SIDEWALK

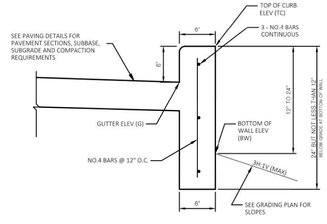
N.T.S. 704



SANITARY SEWER CLEAN-OUT

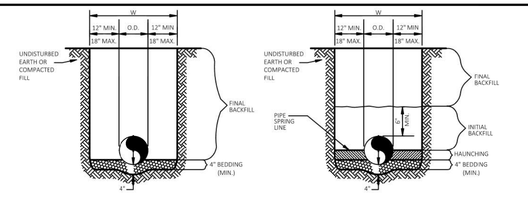
N.T.S. 06C

1. THE BASE COURSE & SUBGRADE SHALL BE COMPACTED PER THE GEOTECHNICAL ENGINEER RECOMMENDATIONS IN THE FIELD DURING CONSTRUCTION.
2. THE CONTRACTOR SHALL CONTACT THE GEOTECHNICAL ENGINEER TO OBSERVE PROOF-ROLLING OF THE BASE & SUBGRADE PRIOR TO THE INSTALLATION OF PAVING.
3. CONTRACTOR SHALL MODIFY OR UNDERCUT PER ONSITE GEOTECHINICAL ENGINEER RECOMMENDATIONS.
4. PAVEMENT SHALL BE PER [STATE] DOT STANDARDS & SPECIFICATIONS.



REINFORCED REVERSED CURB

N.T.S. 10C



RIGID PIPE

N.T.S. 28A

FLEXIBLE PIPE

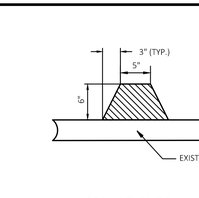
N.T.S. 28A

GENERAL NOTES

1. BEDDING SHALL BE CLASS I-A WORKED BY HAND. IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I-B COMPACTED TO 85% STANDARD PROCTOR. (SEE SPECIFICATIONS FOR GRADATION)
2. HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I-A OR CLASS I-B OR CLASS II COMPACTED TO 85% PROCTOR.
3. INITIAL BACKFILL SHALL BE CLASS I-A WORKED BY HAND, OR CLASS I-B OR CLASS II COMPACTED TO 85% STANDARD PROCTOR.
4. INITIAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS III COMPACTED TO 90% STANDARD PROCTOR.
5. FINAL BACKFILL SHALL BE CLASS I, II, OR III COMPACTED AS NOTED IN NOTES 3. AND 4.
6. FINAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS IV-A COMPACTED TO 95% STANDARD PROCTOR.
7. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321-89.
8. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV-A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
9. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
10. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES. (SEE SPECIFICATIONS)

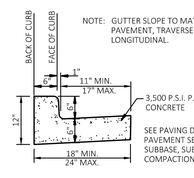
STORM SEWER TRENCH AND BEDDING

N.T.S.



ASPHALT CURB

N.T.S. 01L



NOTE: GUTTER SLOPE TO MATCH ADJACENT PAVEMENT, TRAVERSE AND LONGITUDINAL.

SEE PAVING DETAILS FOR PAVEMENT SECTIONS, SUBBASE, SUBGRADE AND COMPACTION REQUIREMENTS.

TYPE "A" CONCRETE CURB AND GUTTER

N.T.S. 01A

STATE OF NEW YORK
ANDREW D. SLYTER
LICENSED PROFESSIONAL ENGINEER
086378
06/18/2020

31140	6/16/20	ADS	RKN	IVI	IVI
CEI PROJECT NO.	INITIAL DATE	DPOR	PM	DES	DRW

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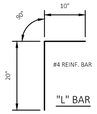
THE BROADWAY GROUP, LLC
BUFFALO STREET
GOWANDA NY

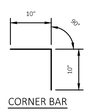
DETAIL SHEET 1

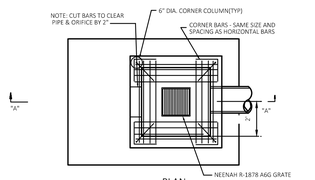
REV. DATE	SHEET NO.
6/16/20 REV-1	C6

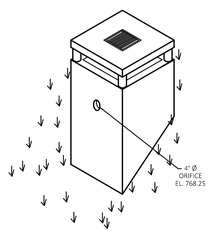
JOB # 31140 DRAWING: 31140 CS.dwg LAST SAVED BY: IVANKUN LOCATION: P:\31000\31140.01\Drawings\Design\Rev-1\31140 CS.dwg

GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER
2. ALL #4 & #5 REINFORCING BARS TO HAVE 1-1/2" COVER, LARGER SIZES TO HAVE 2" COVER.
3. SEE GRADING AND DRAINAGE PLAN FOR PIPE SIZES, LOCATIONS, AND FLOW LINES.
4. PIPES SHALL CONNECT TO THE ENDS OR SIDES OF THE INLET. CONNECTION SHALL NOT BE MADE AT CORNERS OF INLET.
5. ALL REINFORCING BARS TO BE GRADE 60.









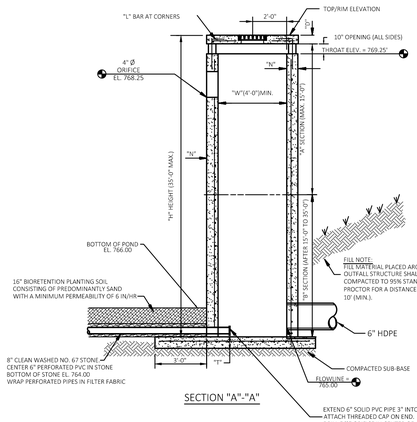
REINFORCEMENT SCHEDULE, BASE	
SECTION	
"A"	#4's @ 6" E.W.
"B"	#6's @ 6" E.W.

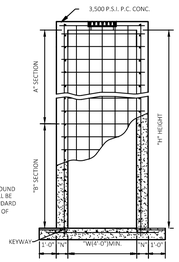
TABLE OF 'W' DIMENSIONS			
PIPE SIZE	SKEW OF CROSS DRAIN		
SINGLE	STRAIGHT	30°	45°
⌀ 24"	4'-0"	4'-0"	4'-10"
30"	4'-0"	4'-7"	5'-8"
36"	4'-0"	5'-3"	6'-5"
42"	5'-3"	5'-11"	7'-3"
48"	5'-10"	6'-7"	8'-0"
60"	7'-0"	7'-10"	9'-8"
DOUBLE	FOR "A" SECTION ONLY		
24"	7'-0"	7'-10"	9'-5"
30"	8'-2"	9'-2"	11'-0"
36"	9'-4"	10'-6"	12'-6"
42"	10'-6"	11'-10"	14'-2"
48"	11'-8"	13'-2"	15'-10"

REINFORCEMENT SCHEDULE, WALLS			
SECTION	WIDTH ("W")	HOR.	VERT.
"A"	4'	#4's @ 9"	#4's @ 10"
	BETWEEN 4' & 7'	#5's @ 9"	#4's @ 10"
	GREATER THAN 7'	#5's @ 4 1/2"	#4's @ 10"
"B"	4'	#4's @ 6"	#4's @ 10"
	BETWEEN 4' & 7'	#6's @ 6"	#4's @ 10"

TABLE OF "T" & "N" DIMENSIONS				
SECTION	WIDTH ("W")	"T"	"N"	"O"
"A"	BETWEEN 4' & 7'	6" + PIPE THICKNESS	8"	6"
	GREATER THAN 7'	6" + PIPE THICKNESS	8"	8"
"B"	4'	6" + PIPE THICKNESS	8"	8"
	BETWEEN 4' & 7'	6" + PIPE THICKNESS	10"	8"

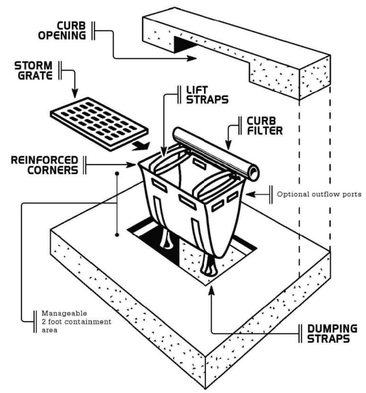
REINFORCEMENT SCHEDULE, TOP		
DIMENSIONS	STEEL	SPECIAL PATTERN
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W2 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W2 = 7' OR GREATER	#4'S @ 6" E.W.	DIAGONAL @ COVER
W1 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER
W2 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER



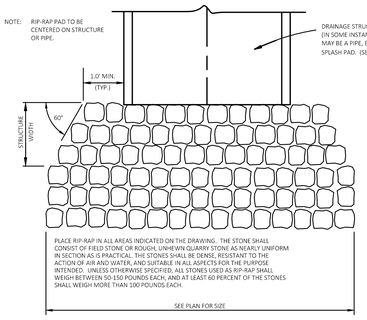


BIORETENTION BASIN & OUTFALL STRUCTURE
N.T.S. 73C

DANDY CURB SACK™



TEMPORARY DANDY BAG INLET PROTECTION
N.T.S. 73A



RIP-RAP PAD
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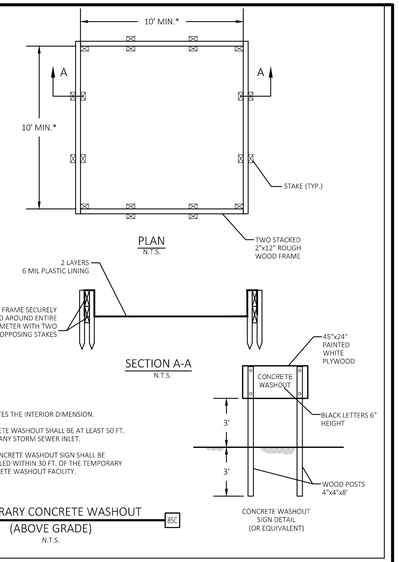
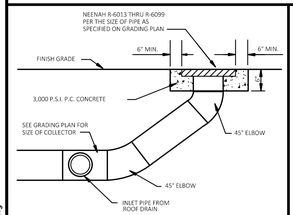
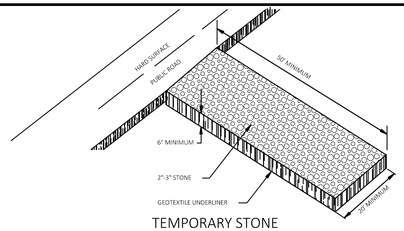


NOTES:
1. *DENOTES THE INTERIOR DIMENSION.
2. CONCRETE WASHOUT SHALL BE AT LEAST 50 FT. FROM ANY STORM SEWER INLET.
3. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

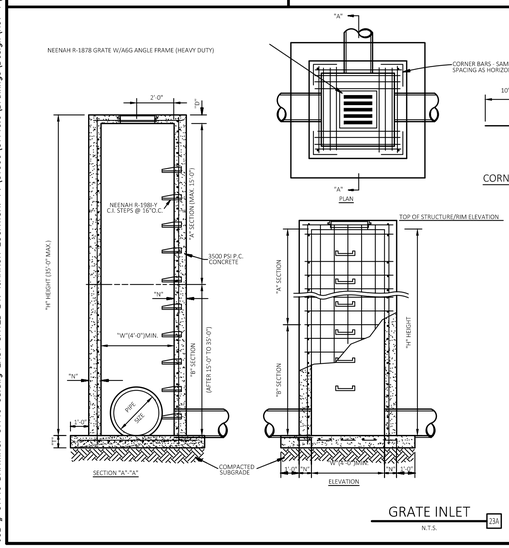
TEMPORARY CONCRETE WASHOUT (ABOVE GRADE)
N.T.S. 85C



STORM DRAIN CLEAN-OUT
N.T.S. 74E



TEMPORARY STONE CONSTRUCTION ENTRANCE
N.T.S. 85A



GRATE INLET
N.T.S. 83A

GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER
2. ALL #4 & #5 REINFORCING BARS TO HAVE 1-1/2" COVER, LARGER SIZES TO HAVE 2" COVER.
3. SEE GRADING AND DRAINAGE PLAN FOR PIPE SIZES, LOCATIONS, AND FLOW LINES.
4. PIPES SHALL CONNECT TO THE ENDS OR SIDES OF THE INLET. CONNECTION SHALL NOT BE MADE AT CORNERS OF INLET.
5. ALL REINFORCING BARS TO BE GRADE 60.

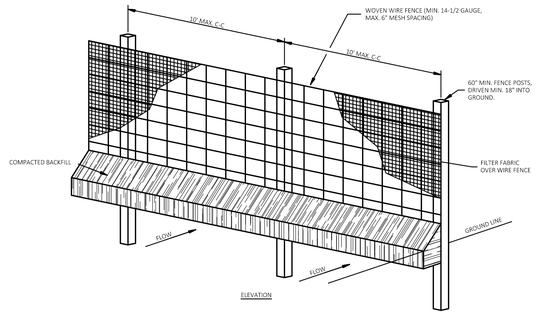
REINFORCEMENT SCHEDULE, BASE	
SECTION	
"A"	#4's @ 6" E.W.
"B"	#6's @ 6" E.W.

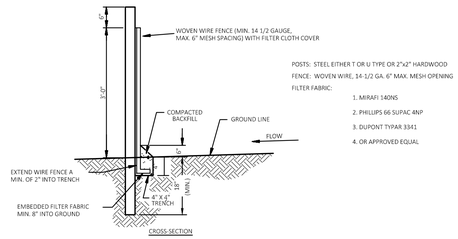
TABLE OF 'W' DIMENSIONS			
PIPE SIZE	SKEW OF CROSS DRAIN		
SINGLE	STRAIGHT	30°	45°
⌀ 24"	4'-0"	4'-0"	4'-10"
30"	4'-0"	4'-7"	5'-8"
36"	4'-0"	5'-3"	6'-5"
42"	5'-3"	5'-11"	7'-3"
48"	5'-10"	6'-7"	8'-0"
60"	7'-0"	7'-10"	9'-8"
DOUBLE	FOR "A" SECTION ONLY		
24"	7'-0"	7'-10"	9'-5"
30"	8'-2"	9'-2"	11'-0"
36"	9'-4"	10'-6"	12'-6"
42"	10'-6"	11'-10"	14'-2"
48"	11'-8"	13'-2"	15'-10"

REINFORCEMENT SCHEDULE, WALLS			
SECTION	WIDTH ("W")	HOR.	VERT.
"A"	4'	#4's @ 9"	#4's @ 10"
	BETWEEN 4' & 7'	#5's @ 9"	#4's @ 10"
	GREATER THAN 7'	#5's @ 4 1/2"	#4's @ 10"
"B"	4'	#4's @ 6"	#4's @ 10"
	BETWEEN 4' & 7'	#6's @ 6"	#4's @ 10"

TABLE OF "T" & "N" DIMENSIONS				
SECTION	WIDTH ("W")	"T"	"N"	"O"
"A"	BETWEEN 4' & 7'	6" + PIPE THICKNESS	8"	6"
	GREATER THAN 7'	6" + PIPE THICKNESS	8"	8"
"B"	4'	6" + PIPE THICKNESS	8"	8"
	BETWEEN 4' & 7'	6" + PIPE THICKNESS	10"	8"

REINFORCEMENT SCHEDULE, TOP		
DIMENSIONS	STEEL	SPECIAL PATTERN
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W2 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W2 = 7' OR GREATER	#4'S @ 6" E.W.	DIAGONAL @ COVER
W1 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER
W2 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER





POSTS: STEEL EITHER T OR U TYPE OR 2"x2" HARDWOOD
FENCE: WOVEN WIRE, 14-1/2 GA. 6" MAX. MESH OPENING
FILTER FABRIC:
1. MIRAFI 140NS
2. PHILLIPS 66 SUPAC 4NP
3. DUPONT TYPAR 3341
4. OR APPROVED EQUAL

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NOTED IN THE EROSION CONTROL PLAN. COLLECTED MATERIAL SHALL BE REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

TEMPORARY SILT FENCE
N.T.S. 84E

SWP-CI "Big Red"

Curb Inlet Protector
By ASP Enterprises and Storm Water Products
Temporary and Reusable Solutions for Sediment Control

A.S.P. ENTERPRISES. INC.
Your GeoSource Distributor

- Reusable Curb Inlet Protection
- Environmentally Friendly
- Drops out sediment by dissipating the water energy

"Big Red" Filter Advantages:

- **Easy to Install**
- **Versatile for a variety of curb inlets**
- **Reusable and Extremely easy to clean**
- **Made from 90% Inert Recycled Materials**

The SWP-CI "Big Red" Filter is a **REUSABLE** inlet protector that keeps out sediment throughout the entire construction project. There are no pockets to fill, no velcro bags, no assembly etc. Simply place in front of the inlet, make sure it lays in the contour, and you are DONE!

Simple installation also translates into simple removal, cleanup and re-use at the next project or phase. Maintenance is simple as well by lifting the unit from the inlet, shaking the mud off of it, removing the sediment on the concrete, and placing the unit back. If it is severely filled with sediment, wash it out in a vegetated area and it is as good as new.

All of these features and benefits combine to make the SWP-CI "Big Red" curb inlet protector the **perfect choice** for all curb inlet applications. It comes in 54" long for single curb inlets and 104" lengths for double curb inlets.

- **High Flow Rate**
- **Made of Durable High-Strength Geotextile**
- **Fully Reusable**
- **Made of Recycled Materials**

SWP-CI "Big Red"

Curb Inlet Protector
By ASP Enterprises and Storm Water Products

A.S.P. ENTERPRISES. INC.
Your GeoSource Distributor

Specifications:
1. Infill Material: shredded recycled rubber tires
2. Weight: approx. 10 lbs per linear foot
3. Diameter: approx. 8"

Geotextile fabric made of durable high flow fabric with the following properties:

Property	Test Method	Units		Typical Value
Weight	ASTM D5261	oz/sq. yd		9.3
Grab Tensile Strength	ASTM D4632	lb	warp	250
			fill	290
Tear Strength (Trapezoid)	ASTM D4533	lb	warp	60
			fill	50
Burst	ASTM D3786	psi		440

(Efforts were made to determine flow rate-the fabric exceeded all capacities of the testing equipment)

ASP Enterprises and Storm Water Products assumes no liability for the accuracy or completeness of this information or for the ultimate use by the purchaser. ASP and SWP disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials or information furnished herewith. This document should not be construed as engineering advice.

SWP-CI (BIG RED)
N.T.S. 75B

STATE OF NEW YORK
ANDREW D. SLYTER
LICENSED PROFESSIONAL ENGINEER
086378
06/18/2020

31140	6/16/20	ADS	RKN	IVI	IVI
CEI PROJECT NO.	INITIAL DATE	DPDR	PM	DES	DRW

Engineering Associates, Inc.
ENGINEERS • PLANNERS • SURVEYORS
LANDSCAPE ARCHITECTS

3108 SW Regency Parkway, Suite 2
Bentonville, AR 72712
(479) 273 - 9472
(479) 273-0844

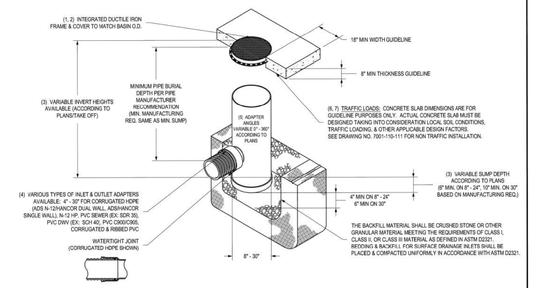
THE BROADWAY GROUP, LLC
BUFFALO STREET
GOWANDA NY

DETAIL SHEET 2

REV. DATE	SHEET NO.
6/16/20 REV-1	C7

JOB # 31140 DRAWING: 31140 CS.dwg LAST SAVED BY: IJANKUN LOCATION: P:\31000\31140.0\Drawings\Design\Rev-1\31140 CS.dwg

NYLOPLAST DRAIN BASIN WITH SOLID COVER



1 - 8" - 30" SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED FOR PLAN DETAILS. RIBBIS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), ASTM F477 FOR SOLID WALL PVC.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 12" - 30" SOLID COVERS SHALL MEET H-20 LOAD RATING.
7 - 8" & 10" SOLID COVERS ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY; NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

DRAWN BY	EBC	MATERIAL	
DATE	09-14-07		
REVISED BY	MIH	PROJECT NO./NAME	
DATE	03-11-10		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

Nyloplast
3126 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

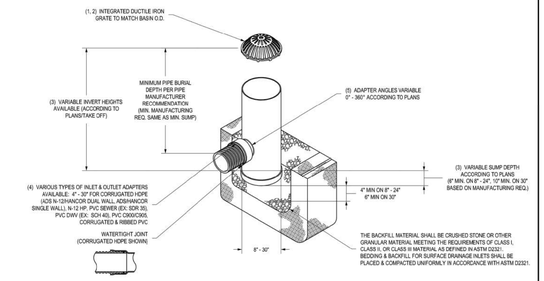
TITLE: DRAIN BASIN WITH SOLID COVER
QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-298 REV D

8301315SLPLAST

24" SOLID LID DRAIN BASIN
N.T.S.
7301

NYLOPLAST DRAIN BASIN WITH DOME GRATE



1 - 8" - 30" DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 8" & 10" DOME GRATES FIT ONTO THE DRAIN BASING WITH THE USE OF A 7" DIAMETER TOP. SEE DRAWING NO. 7001-110-065.
3 - DRAIN BASINS TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RIBBIS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), ASTM F477 FOR SOLID WALL PVC.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 8" - 30" DOME GRATES HAVE NO LOAD RATING.

DRAWN BY	EBC	MATERIAL	
DATE	03-25-10		
REVISED BY	MIH	PROJECT NO./NAME	
DATE	03-11-10		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

Nyloplast
3126 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: DRAIN BASIN WITH DOME GRATE
QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-297 REV D

8301315SLPLAST

24" DOME GRATE DRAIN BASIN
N.T.S.
7304

STATE OF NEW YORK
ANDREW D. SLYTER
LICENSED PROFESSIONAL ENGINEER
096137
06/18/2020

31140	6/16/20	ADS	RKN	IVI	IVI
CEI PROJECT NO.	INITIAL DATE	DPOR	PM	DES	DRW

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Bentonville, AR 72712
(479) 273 - 9472
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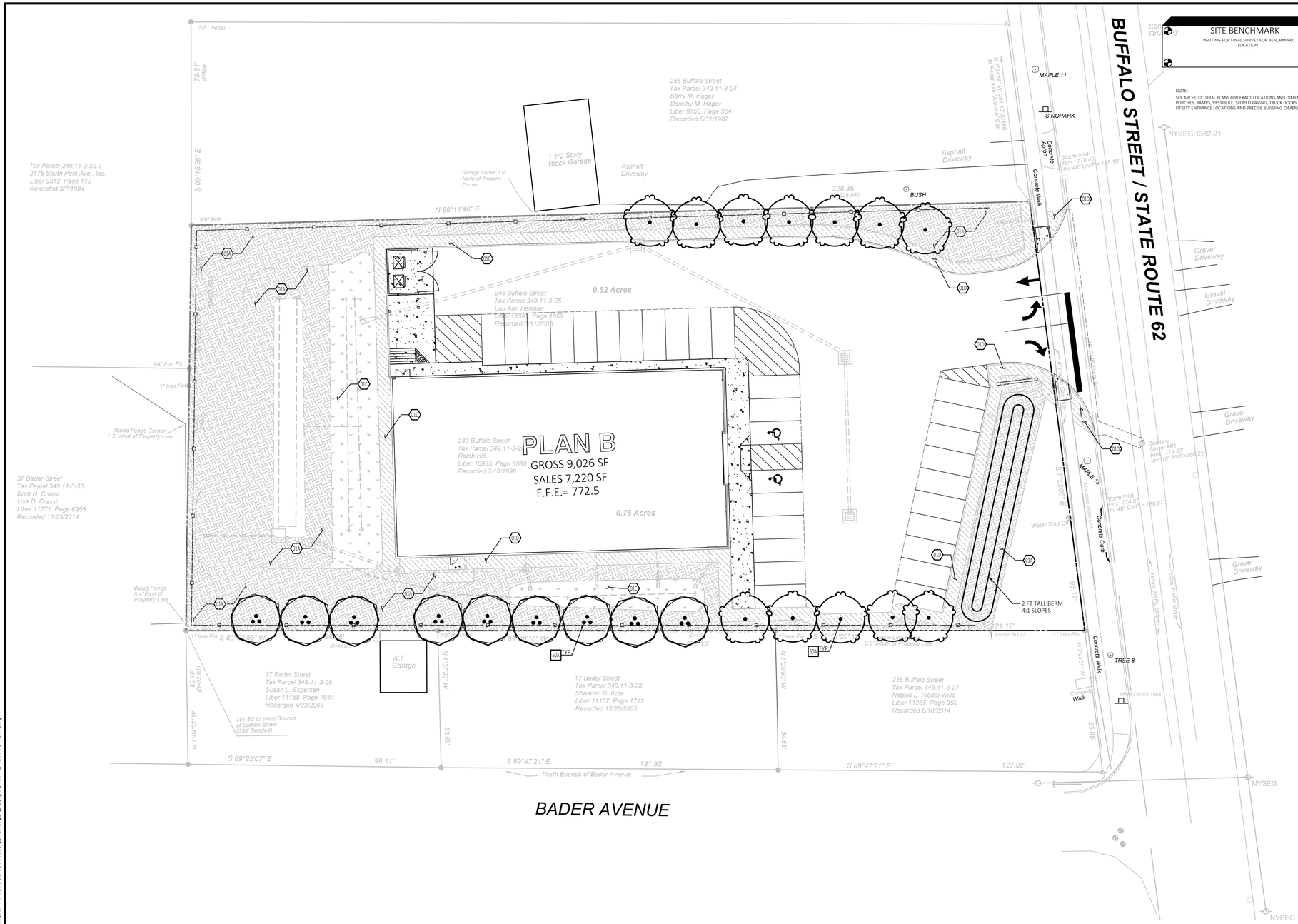
THE BROADWAY GROUP, LLC
BUFFALO STREET
GOWANDA NY

DETAIL SHEET 3

REV DATE	SHEET NO.
6/16/20 REV-1	C8



811 Know what's below. Call before you dig.

N

0 20' 30' 40'
SCALE IN FEET

LEGEND

EXISTING

- FOUND IRON STAKE
- SET 3/4" REBAR WITH CAP
- POINT OR ANGLE POINT
- WATER VALVE
- POWER POLE
- MM MILE MARKER
- P.O.B. POINT OF BEGINNING

PROPOSED

- PROPERTY LINE/RIGHT OF WAY LINE
- STORM DRAIN
- SEED MIX OVER 4" OF TOPSOIL (PER NYSDOT STANDARDS FOR ROW RESTORATION)
- SOD OVER 4" OF TOPSOIL
- BIORETENTION POND PLANTING SOIL PER NYSDOT STANDARD SPECIFICATION ITEM 208.0103 WITH HYDRAULIC CONDUCTIVITY OF 0.5 FT/DAY

PLANTING NOTES

01A SEEDED GREEN AREA. (NYSDOT LAWN MIX 'C')
01C BIORETENTION POND PLANTING SOIL PER NYSDOT STANDARD SPECIFICATION ITEM 208.0103 WITH HYDRAULIC CONDUCTIVITY OF 0.5 FT/DAY
01D SODDED GREEN AREA.

LANDSCAPE DETAILS

50A TREE PLANTING

PLANT_SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME	CONT	HEIGHT	DETAIL
	12	White Spruce / Picea glauca	B & B	6 ft in ht at planting	50A
	9	White Cedar / Chamacyparis thyoides	B & B	6 ft in ht at planting	50A

GENERAL PLANTING NOTES

1. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL PROPOSED LANDSCAPING IS INSTALLED IN ACCORDANCE WITH PLANS, DETAILS, SPECIFICATIONS (IF APPLICABLE) AND ALL LOCAL CODES AND REQUIREMENTS.
2. CONTRACTOR TO INSPECT SITE AND VERIFY CONDITIONS AND DIMENSIONING PRIOR TO PROCEEDING WITH WORK DESCRIBED HERE IN. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO BEGINNING ANY CONSTRUCTION.
3. QUANTITIES PROVIDED IN THE PLANT LIST ARE FOR GENERAL USE ONLY. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL PLANT AND LANDSCAPE MATERIAL QUANTITIES. SYMBOL COUNT ON PLAN TAKES PRECEDENCE OVER TABLE QUANTITIES.
4. IMMEDIATELY AFTER AWARD OF CONTRACT, NOTIFY THE OWNER'S REPRESENTATIVE AND/OR THE LANDSCAPE ARCHITECT OF UNAVAILABILITY OF SPECIFIED PLANT MATERIAL FROM COMMERCIAL NURSERIES. THE OWNER'S REPRESENTATIVE AND/OR LANDSCAPE ARCHITECT WILL PROVIDE ALTERNATE PLANT MATERIAL SELECTIONS IF UNAVAILABILITY OCCURS. SUCH CHANGES SHALL NOT ALTER THE ORIGINAL BID PRICE UNLESS A CREDIT IS DUE TO THE OWNER.
5. ALL PLANT MATERIALS TO CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.1.
6. CONTAINER GROWN STOCK SHOULD HAVE GROWN IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL TOGETHER.
7. ANY PLANT SUBSTITUTIONS, RELOCATION, OR REQUIRED CHANGE SHALL REQUIRE THE WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT OR OWNER.
8. THE OWNER'S REPRESENTATIVE AND/OR LANDSCAPE ARCHITECT RESERVE THE RIGHT TO REFUSE ANY MATERIAL THEY DEEM UNACCEPTABLE.
9. COORDINATE WITH PROJECT REPRESENTATIVE FOR DISTURBED SITE TREATMENTS OUTSIDE LANDSCAPE IMPROVEMENTS. SEE CIVIL PLANS FOR SOIL STABILIZATION FOR EROSION CONTROL.
10. IF REQUIRED, CONTRACTOR TO ENSURE THAT AN AUTOMATED IRRIGATION SYSTEM THAT PROVIDES COMPLETE COVERAGE OF THE SITE IS INSTALLED PRIOR TO INSTALLING TREES/PALMS (SEE IRRIGATION PLAN SHEET IF PROVIDED). IF NO PLAN IS PROVIDED THE CONTRACTOR SHALL SUBMIT A PROPOSED DESIGN TO THE LANDSCAPE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. THE PROPOSED DESIGN MUST HAVE AN APPROVED BACKFLOW DEVICE AND RAIN SENSOR INSTALLED TO STOP IRRIGATION DURING RAIN EVENTS. CONTRACTOR SHALL ENSURE THAT THERE IS POSITIVE DRAINAGE AND NO PONDING OF WATER AT ROOT AREA.
11. ALL HARDSCAPE MATERIALS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
12. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND FOUR INCHES OF TOPSOIL APPLIED. IF ADEQUATE TOPSOIL IS NOT AVAILABLE ON SITE, THE CONTRACTOR SHALL PROVIDE TOPSOIL, APPROVED BY THE OWNER, AS NEEDED. THE AREA SHALL THEN BE SEEDED/SODDED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS. ANY RELOCATED TREES SHALL BE MAINTAINED UNTIL SUCH POINT AS TREE IS RE-ESTABLISHED. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE PROJECT SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
13. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR 1) TO VERIFY THE LOCATIONS OF UTILITY LINES AND ADJACENT TO THE WORK AREA 2) TO PROTECT OF ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD 3) TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE CONSTRUCTION AT NO COST TO THE OWNER.
14. WEED MAT IS REQUIRED IN LANDSCAPED ISLANDS AS SPECIFIED.
15. ALL PLANT MATERIAL QUANTITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE COVERAGE OF ALL PLANTING BEDS AT SPACING SHOWN.
16. IF A SWPPP PLAN IS PROVIDED THIS PLAN IS TO BE IMPLEMENTED COOPERATIVELY WITH SWPPP PLAN, AS NEEDED, TO MAXIMIZE THE EFFECTIVENESS OF THE SWPPP PLAN FOR THIS SITE.
17. THE CONTRACTOR IS ENCOURAGED TO COMPLETE TEMPORARY OR PERMANENT SEEDING OR SODDING IN STAGES FOR SOIL STABILIZATION AS AREAS ARE COMPLETED AFTER GRADING.
18. SEEDING ON SLOPES: HYDROSEED WITH GRASS SEED AS INDICATED ON PLANS. SEE LEGEND FOR SPECIFIC GRASS SEED TYPE. SEEDING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER BED PREPARATION. HYDROSEED MIXTURE SHALL CONTAIN CELLULOSE MULCH APPLIED AT A RATE OF 2,000 LBS./ACRE, WITH A MAXIMUM OF 50 LBS./100 GAL. OF WATER. IF SEEDING IS DELAYED AFTER MIXING 1/2 - 2 HOURS ADD AN ADDITIONAL 50% OF SEED MIX, IF DELAY IS LONGER THAN 2 HOURS, BEGIN WITH NEW MIXTURE. ALL SLOPES 2:1 OR GREATER SHALL BE COVERED WITH EROSION CONTROL BLANKET AS SHOWN IN THE EROSION CONTROL BLANKET DETAIL. SEE SPECIFICATIONS FOR SEED ESTABLISHMENT REQUIREMENTS.
19. ALL PLANT MATERIAL IN TREE HOLDING AREAS SHALL BE MANUALLY WATERED/IRRIGATED TO KEEP MOIST UNTIL PLANTED.
20. CONTRACTOR SHALL PROVIDE EXPANSION AND CONTROL JOINTS ON ALL LANDSCAPE SPECIFIC CONCRETE PROJECTS (SEE HARDSCAPE PLAN FOR DETAILS).

REGISTERED LANDSCAPE ARCHITECT · RADOSLAV K. NEDKOV · STATE OF NEW YORK · 9/16/20 · 001283

31140	9/16/20	ADS	RKN	IVJ	IVJ
CEI PROJECT NO.	INITIAL DATE	DPOR	PM	DES	DRW

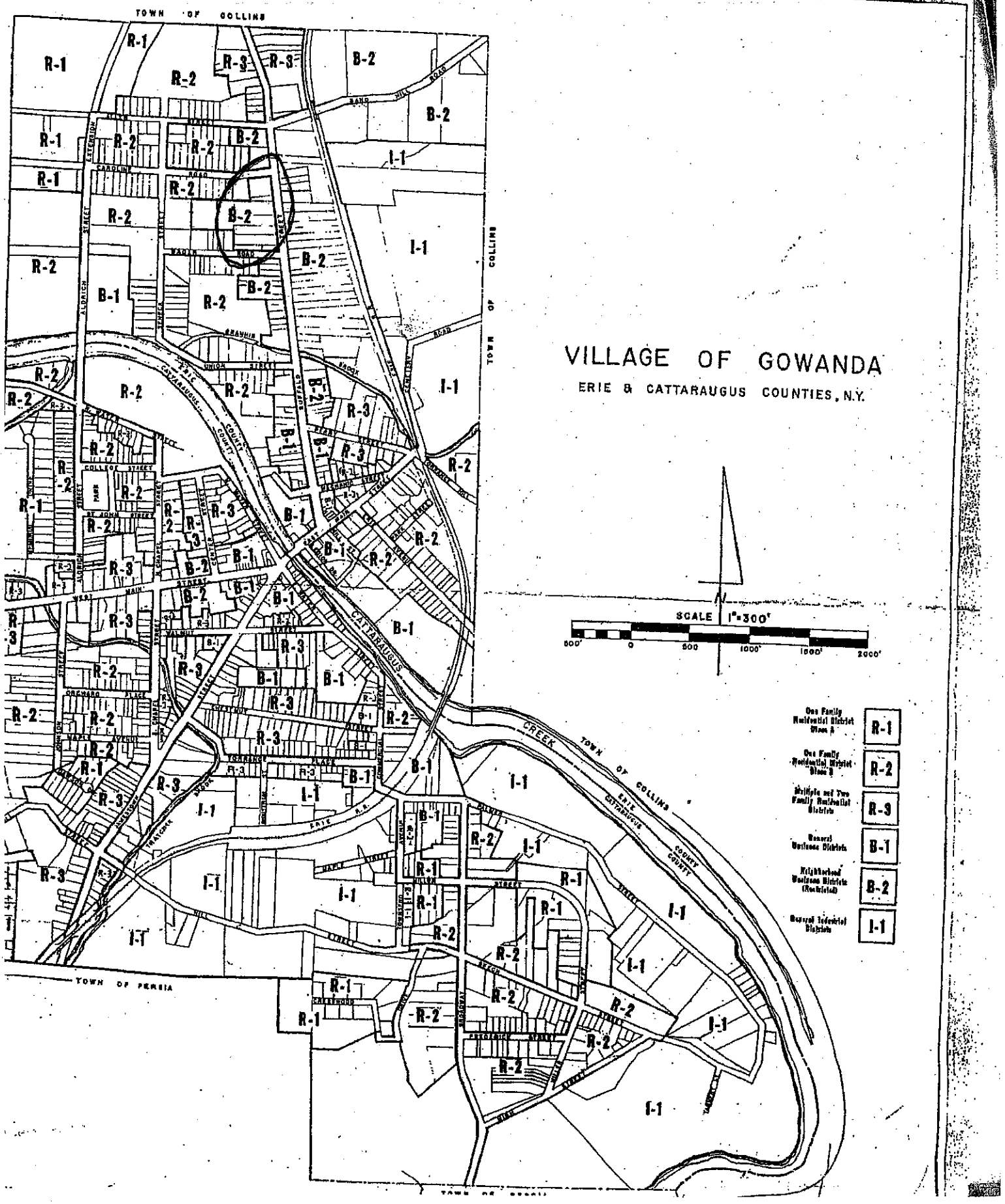
CEI Engineering Associates, Inc.
ENGINEERS • PLANNERS • SURVEYORS
LANDSCAPE ARCHITECTS
3108 SW Regency Parkway, Suite 2 (479) 273 - 9472
Bentonville, AR 72712 (479) 273-0844

THE BROADWAY GROUP, LLC
BUFFALO STREET
GOWANDA NY

LANDSCAPE PLAN	REV. DATE 9/16/20 REV-2	SHEET NO. L1

JOB # 31140 DRAWING: 31140-SP.dwg LAST SAVED BY: iJANKUN LOCATION: P:\31000\31140.0\Drawings\Design\Rev-2\31140-SP.dwg

Appendix L
Village of Gowanda Zoning Information


VILLAGE OF GOWANDA
ERIE & CATTARAUGUS COUNTIES, N.Y.
TOWN OF COLLINS
TOWN OF PERRIA
SCALE 1"=300'
500' 0 500 1000' 1500' 2000'
One Family Residential District Class A R-1
One Family Residential District Class B R-2
Multiple and Two Family Residential Districts R-3
General Business District B-1
Neighborhood Business District (Restricted) B-2
General Industrial Districts I-1

1. Front yard depth - thirty (30) feet from curb line.

2. Side yard width, minimum six (6) feet, but not less than fifteen (15) feet total, both sides.

3. Rear yard depth - thirty (30) feet.

4. Hospitals, sanitariums, rest homes, philanthropic, and eleemosynary institutions and similar uses upon approval of the Planning Board and Board of Trustees.

§ 30.24 R-3 districts, multiple residential districts

The following regulations shall apply in all R-3 districts.

A. Uses permitted.

1. All uses permitted in R-1 and R-2 districts.

2. Multiple family dwelling.

3. Tourist home.

4. Clubs and lodges, excepting such clubs and lodges the chief activity of which is a service customarily carried on as a business or primarily for gain. In conjunction with such club or lodge a dining room may be permitted provided it is incidental to the activities of said club or lodge and is conducted for the benefit of the members thereof only, and further provided no sign is displayed advertising such activity.

5. Fraternity and sorority houses.

6. Any use not herein specified is not permitted.

B. Building height limit.

Three (3) stories but not exceeding forty (40) feet.

C. Percentage of lot coverage.

All buildings including accessory buildings shall not cover more than fifty (50) per cent of the area of the lot.

D. Yard required.

Yards of the following minimum depths shall be provided.

1. Front yard - thirty (30) feet from curb line.

2. Side yard, six (6) feet but not less than fifteen (15) feet total both sides, except for buildings over twenty-five (25) feet in height, one foot additional for each two feet or fraction thereof of height over twenty-five (25) feet.

3. Rear yard, thirty (30) feet.

E. Automobile storage or parking space.

In connection with every multiple-family dwelling there shall be provided automobile storage or parking space equal to not less than three hundred (300) square feet for each family unit in such dwelling, provided, however, that no front yard shall be used for the open-air parking or storage of any vehicle.

§ 30.25 B-1 districts, general business districts, regulations

The following regulations shall apply in all B-1 districts.

A. Uses permitted.

1. Stores and shops for the conduct of any retail business.

2. Personal service shops, hand laundries.

3. Banks, offices, studios.

4. Shops for custom work. Shops for making articles or products to be sold at retail on the premises.

5. Restaurants, cafes, tea rooms, and similar establishments.

6. Theaters, assembly halls, billiard or pool parlors, bowling alleys or other public recreation uses.

7. Hotels.

8. Motor vehicle salesrooms.

9. Garage or filling station.

10. Funeral directing.

Local Law #2-1997 adds item submitted

Funeral home

See 30.106 Local Law #8 1994

11. Parkway or bus passenger station , telegraph office, electric substation, printing plant candy shop and machine shop.

12. Wholesale business.

Storage in bulk or warehouse for, such material as building material, contractors'equipment, clothing, cotton, drugs, dry goods, feed, food, furniture, hardware, ice, machinery, metals, oil and petroleum in quantities less than tank car lots, paint and paint supplies, pipe, rubber, ship supplies, tobacco, or wood.

13. Accessory buildings and accessory uses.

14. Any use not herein specified is not permitted; this includes but is not limited to conversion of the first floor business areas into individual or multiple dwelling areas.

B. Uses permitted with a special use permit subject to requirements of Sec. 30.45.

1. Any use of a light industrial nature is permitted which involves only the processing, assembly, packaging or storage of previously refined materials, provided that at no time will such use result in or cause:

   a. Dissemination of noise, vibration, odor, dust, smoke, observable gas or fumes, or other atmospheric pollutant beyond the boundaries of the immediate site of the building in which such use is conducted.

   b. Hazard of fire or explosion or other physical hazard, to any person, building or vegetation.

   c. Radiation or interference with radio or television reception beyond the boundaries of the immediate site of the building in which such use is conducted, or scientific testing of instruments which required the flying of aircraft in the vicinity in such manner as to constitute a public nuisance.

   d. A harmful discharge of waste materials.

   e. Unusual traffic hazards or congestion, due to type of vehicles required.

   No radio or television towers or radar screen shall be erected without specific approval of the Board of Appeals which shall give due regard to the effect of any installa-

tion upon public safety or health, and the harmonious relations of such installation with regard to the surrounding land and buildings.

2. The following uses are examples which may be permissible:

a. Bakers and baked goods manufacturing provided that adequate safeguards against the dissemination of odor are provided.

(1) Bookbinders, engravers, lithographers.
(2) Clock and watch manufacturing.
(3) Electronic and electrical small parts manufacturing.
(4) Furniture repairs, finishing and upholstering.
(5) Jewelry manufacturing.
(6) Machine shops for small parts.
(7) Optical goods manufacturing.

b. Fabrication of paper products such as, but not limited to: packaging material, office and household supplies, stationery, toys, etc.

c. Fabrication of wood and wood and metal products such as, but not limited to: boats, boxes, homes, cabinets, and woodworking, furniture and toys, etc.

d. Food and associated industries such as, but not limited to: bakeries, bottling of food and beverages, food and cereal mixing and milling, food processing, food sundry manufacturing, etc.

e. The manufacturing and processing of pharmaceutical and cosmetic products.

f. The manufacturing and processing of plastics and chemical products.

C. Building height limit.

No building shall be erected to a height in excess of fifty (50) feet.

D. Required lot area.

No minimum.

E. Percentage of lot coverage.

No minimum.

F. Yards required.

1. Front yard - none required.*

2. Side yards - not required except that where lot adjoins another district the side yard requirements of the adjoining district must be followed.

G. Setback for B-1 district.

No building shall be erected or altered to be nearer the street line upon which it fronts, than the average setback of any business building on the same side of the street within the block.

H. Off-street parking.

Automobile storage and parking space shall be one space for each two hundred (200) feet of floor area in retail use.

§ 30.26 B-2 districts, restricted business districts, regulations

The following regulations shall apply in all B-2 districts.

A. Uses permitted.

1. Mobile homes located in mobile home parks of not less than twenty (20) acres. Individual mobile home lots shall conform to all required area, coverage and yard restrictions for single family dwellings in R-3 residential districts.

2. Stores and shops for the conduct of any retail business.

3. Personal service shops, hand laundries.

4. Banks, offices, studios.

5. Shops for custom work, for making articles or products to be sold at retail on the premises.

6. Funeral directing.

*See § 30.35 for front yard transition requirements.

7. Accessory buildings and accessory uses.

8. Any use not herein specified is not permitted; this includes but is not limited to conversion of the first floor business areas into individual or multiple dwelling areas.

B. Uses permitted with a special use permit subject to requirements of Section 30.45.

1. Any use of a light industrial nature is permitted which involves only the processing, assembly, packaging or storage of previously refined materials provided that at no time will such use result in or cause:

   a. Dissemination of noise, vibration, odor, dust, smoke, observable gas or fumes, or other atmospheric pollutant beyond the boundaries of the immediate site of the building in which such use is conducted.

   b. Hazard of fire or explosion or other physical hazard, to any person, building or vegetation.

   c. Radiation or interference with radio or television reception beyond the boundaries of the immediate site of the building in which such use is conducted, or scientific testing of instruments which required the flying of aircraft in the vicinity I such manner as to constitute a public nuisance.

   d. A harmful discharge of waste materials.

   e. Unusual traffic hazards or congestion, due to type of vehicles required.

   No radio or television towers or radar screen shall be erected without specific approval of the Board of Appeals which shall give due regard to the effect of any installation upon public safety or health, and the harmonious relations of such installation with regard to the surrounding land and buildings.

2. The following uses are examples which may be permissible:

   a. Bakers and baked goods manufacturing provided that adequate safeguards against the dissemination of odor are provided.

      1) Bookbinders, engravers, lithographers.
      2) Clock and watch manufacturing.

(3) Electronic and electrical small parts manufacturing.
(4) Furniture repairs, finishing and upholstering.
(5) Jewelry manufacturing.
(6) Machine shops for small parts.
(7) Optical goods manufacturing.

b. Fabrication of paper products such as, but not limited to: packaging material, office and household supplies, stationery, toys, etc.

c. Fabrication of wood and wood and metal products such as, but not limited to: boats, boxes, homes, cabinets, and woodworking, furniture and toys, etc.

d. Food and associated industries such as, but not limited to: bakeries, bottling of food and beverages, food and cereal mixing and milling, food processing, food sundry manufacturing, etc.

e. The manufacturing and processing of pharmaceutical and cosmetic products.

f. The manufacturing and processing of plastics and chemical products.

C. Building height limit.

Three (3) stories but not exceeding forty (40) feet.

D. Percentage of lot coverage.

All buildings including accessory buildings shall not cover more than fifty (50) per cent of the area of the lot.

E. Yards required.

Each lot shall have front, side, and rear yards not less than the depths or width following:

1. Front yard - (See Subdivision F of this section).

2. Side yard-width - minimum of six (6) feet, but not less than fifteen (15) feet total.

3. Rear yard depth -thirty (30) feet.

F. Setback for B-2 districts.

No building shall be erected or altered to be nearer the street line upon which it fronts than the average setback of any building on the same side of the street within the block.

G. Off-street parking.

Automobile storage and parking space shall be one space for each two hundred (200) square feet of floor area in retail use.

§ 30.27 I-1 districts, general industrial districts, regulations*

The following regulations shall apply in all I-1 districts.

A. Uses permitted.

1. All industrial uses not otherwise prohibited by law.

2. Junk yards or automobile wrecking yards, scrap iron, scrap paper or rag storage, sorting or baling, provided they are conducted within a building or where entirely enclosed within a solid fence at least six (6) feet high.

B. Uses prohibited.

1. All uses of land, buildings, and structures or industrial processes that may be noxious or injurious by reason of the production or emission of dust, smoke, refuse matter, odor, gas, provided, however, that any uses may be permitted if approved by the Board of Appeals and subject to the securing of a permit therefor and to such conditions, restrictions, and safeguards as may be deemed necessary by said Board for the purpose of protecting the health, safety, morals or the general welfare of the community.

2. Any use not herein specified is not permitted.

*See Subdivision B of § 30.25 and Subdivision B of § 30.26 which permit, under a special use permit, certain light industries in the B-1, General Business Districts and B-2, Restricted Business Districts, respectively.

C. Building height limit.

Three (3) stories or fifty (50) feet.

D. Yards required.

1. There shall be a side yard along the side of every lot in a I-1 district not less than ten (10) feet provided, however, any lot bordering a residential district on a side yard shall have a side yard of a width not less than ten (10) feet or the minimum width as required in said adjacent residential district, whichever is greater.

2. There shall be a rear yard on every lot of an I-1 district of not less than twenty-five (25) feet.

3. Every building or portion thereof which is designed, intended to be used or is used for dwelling purposes shall comply with the front, side and rear yard requirements of the least restricted district in which such dwellings are permitted.

E. Lot area and percentage of lot coverage of dwellings.

All regulations as to required lot area and percentage of lot coverage which are prescribed for the least restricted residential district shall apply to all dwellings hereafter erected in any I-1 district.

F. Off-street parking.

1. Automobile storage and parking space shall be one space for each employee for maximum number of employees in any one shift.

§ 30.28 Planned development districts

In planned development districts established as hereinafter provided, land and buildings may be used for any lawful purpose including, but not restricted to garden apartments, shopping centers and motels as authorized by the Village Board, in compliance with the following procedure:

1. Planned development districts shall comprise at least three (3) acres.

2. Application for establishment of a planned development district shall be made to the Village Board. The Village Board shall refer the application to the Village Planning Board for consideration.

3. The Planning Board shall require the applicant to furnish such preliminary plans, drawings, and specifications as may be required for an understanding of the proposed development. In reaching its decision on the proposed development, the Planning Board shall consider among other things, the need for the proposed use in the proposed location, the existing character of the neighborhood in which the use would be located and the safeguards provided to minimize possible detrimental effects of the proposed use on adjacent property.

4. The Planning Board shall approve with modifications, or disapprove such application and shall report its decision to the Village Board.

5. The Village Board shall hold a public hearing on the proposal, with public notice as provided by law in the case of an amendment to this Chapter.

6. The Village Board may then amend this Chapter so as to define the boundaries of the Planned Development District, but such action shall have the effect only of granting permission for development of the specific proposed use in accordance with the specifications, plans and elevations filed with the Village Board. In the event the Planning Board has disapproved such proposal, or approved with modifications which the applicant is not willing to make, an affirmative vote of at least three (3) members of the Village Board shall be required to establish such Planned Development District. No Planned Development District shall be established without a public hearing and notice provided for in Paragraph 5 of this section.

§ 30.29 MF Districts, Medical facilities districts, regulations

The following regulations shall apply in all MF districts.

A. Uses permitted.

1. Hospitals.

2. Medical and dentistry offices.

3. Accessory buildings and accessory uses.

4. Any use not herein specified is not permitted.

B. Building height limit.

Two stories but not exceeding thirty-five (35) feet.

C. Minimum floor area.

Eight hundred (800) square feet.

D. Percentage of lot coverage.

All buildings including accessory buildings shall not cover more than forty (40) per cent of the area of the lot.

E. Yards required.

Except as provided in Paragraph 4 of this Subdivision, each lot shall have front, side and rear yards not less that the following depths or widths:

1. Front yard depth -- one hundred (100) feet from curb line.

2. Side yard width -- minimum six (6) feet but not less than fifteen (15) feet total, both sides.

3. Rear yard depth -- thirty (30) feet.

4. Exceptions: The above side yard requirements shall not apply to areas occupied by walk-through structures connecting buildings in the district which are in separate ownership and which are located on separately owned parcels of land (as, for example, connecting structures between medical office buildings and a hospital). No yards shall be required for a side of a building abutting on the lot line between it and a building to which it is interconnected.

F. Off-street parking.

Automobile storage and parking space shall be one space for each two-hundred fifty (250) square feet of above grade building area. [§ 30.29 added LL #1, 1992.]

ARTICLE III

GENERAL PROVISIONS

§ 30.31 Nonconforming uses

The lawful use of any building or land existing at the time of the enactment of this Chapter may be continued. A nonconforming use shall not be extended or enlarged, or nonconforming building constructed or reconstructed, except as a special exception by the Board of Appeals as hereinafter provided.

[Next page is 30.23.]